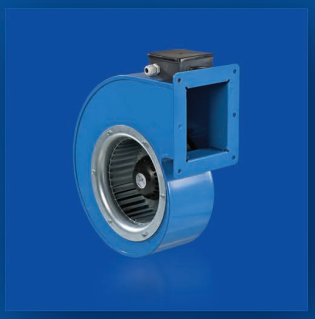
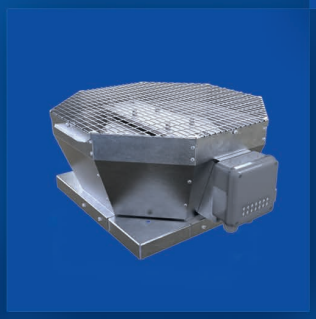
INDUSTRIAL AND COMMERCIAL VENTILATION







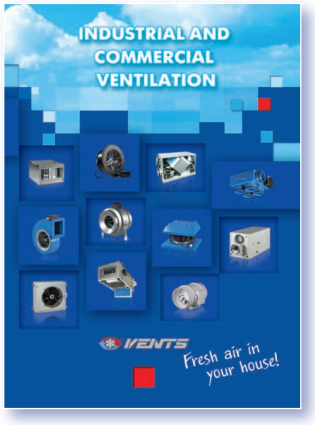




VENTS

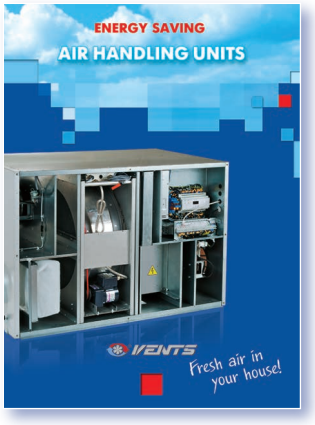
2023

Fresh air in your house!



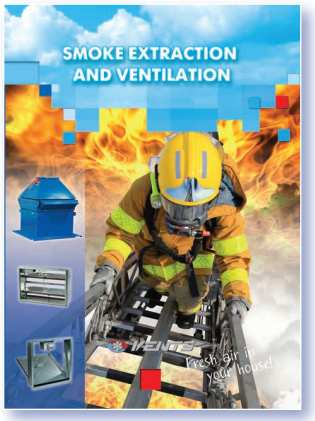
Industrial and commercial ventilation (Catalogue no. 1)

Industrial and commercial ventilation components - fans for round and rectangular ducts, sound-insulated, axial and roof fans, air handling units with heat recovery, air heating units, accessories.



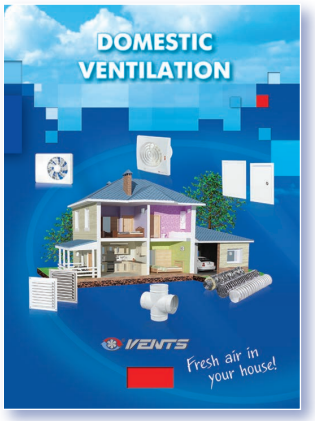
Energy saving ventilation Air handling units (Catalogue no. 2)

Energy saving supply and exhaust units and air handling units with heat recovery with air capacity up to 6500 m^3/h.



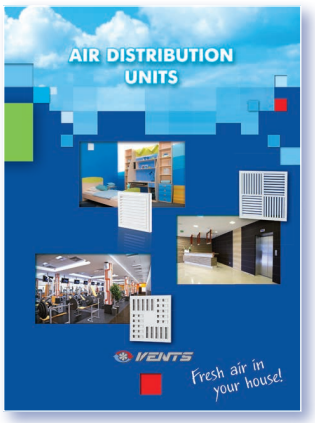
Smoke extraction and ventilation (Catalogue no. 5)

Smoke protection systems of buildings and premises.



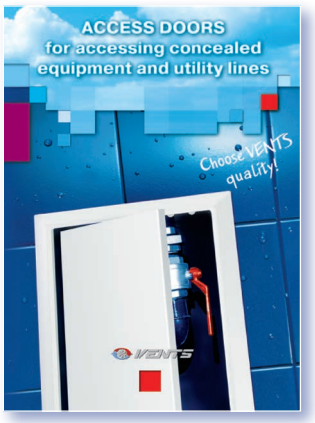
Domestic ventilation (Catalogue no. 6)

Domestic ventilation:
fans, mono-pipe exhaust kitchen and bathroom fans,
air distribution units, air ducts and fittings, access doors, ventilation kits.



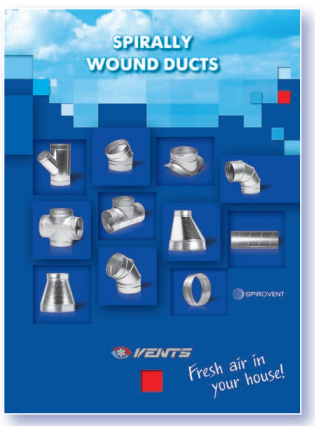
Air distribution units (Catalogue no. 9)

Plastic and metal air distribution products (grilles, disk valves, diffusers, etc.) for ventilation, air conditioning and heating.



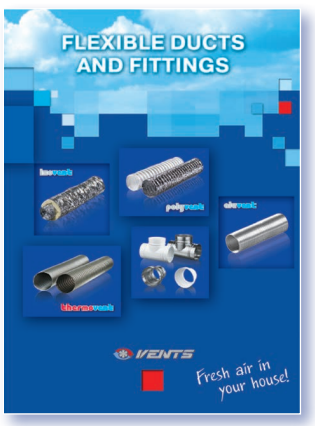
Access doors (Catalogue no. 10)

Plastic and metal access doors for accessing concealed equipment and utility lines. Special offers for ceramic tiles.



Spirally wound ducts (Catalogue no. 13)

SPIROVENT spiral seam vent ducts and fittings of 100 to 1600 mm diameter.



Flexible ducts and fittings for ventilation, air conditioning and heating (Catalogue no. 14)

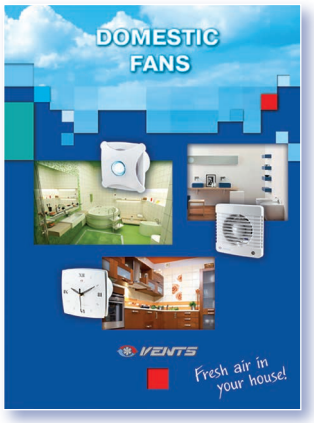
Flexible and semi-flexible air ducts made of polymeric materials, aluminium, galvanized or stainless steel, metal fittings for ventilation, air conditioning, heating, gas handling and abrasive particles aspiration.

Air handling units
AirVENTS
(Catalogue no. 3)

Energy saving air handling units with air flow up to 40 000 m^3/h, for use in large residential, industrial and commercial objects.

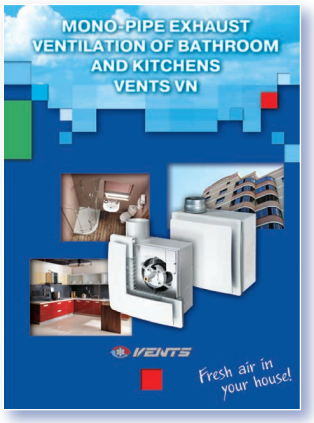
Energy saving ventilation
Geothermal systems
GEO VENTS
(Catalogue no. 4)

Energy saving system GEO VENTS with use of the earth's surface layers heat.
High ventilation system energy efficiency and low operating costs.



Domestic fans
(Catalogue no. 7)

Domestic fans with air flow up to 365 m^3/h with extra functions: timer, humidity sensor, motion sensor, etc.
Applied for premises up to 30 m^2.

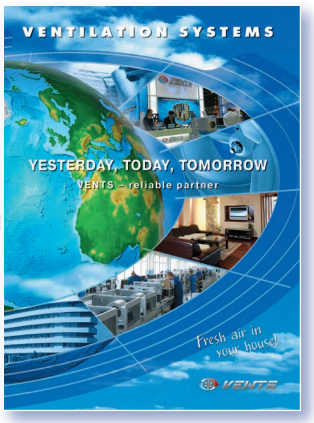


VENTS VN
Mono-pipe exhaust ventilation
(Catalogue no. 8)

Exhaust ventilation in houses with mono-pipe ventilation system based on VENTS VN fans.

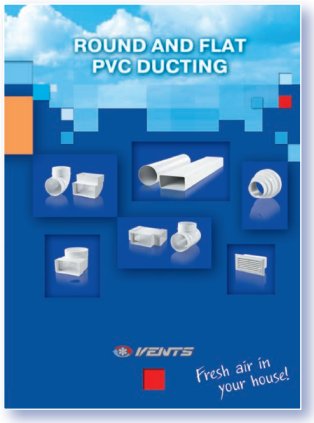
Energy saving ventilation. Single room energy recovery ventilators MICRA.
(Catalogue no.11)

MICRA single room ventilators with energy regeneration for efficient ventilation and lowest investments in ready-built and brand new premises.



VENTS presentation catalogue
(Catalogue no.12)

VENTS mission is to bring fresh air to your house and surround you with the world of comfortable microclimate.



Round and flat PVC ducting
(Catalogue no. 15)

Flat and round PVC ducts PLASTIVENT for ventilation of residential, office and commercial premises and connection of exhaust ventilation equipment (kitchen extractors, hoods, exhaust boxes, etc).
Wide product range of fittings.

Energy saving ventilation. Single room energy recovery ventilators TwinFresh.
(Catalogue no.16)

Single room reverse ventilators with energy regeneration TwinFresh for efficient ventilation and lowest investments in ready-built and brand new premises.

2023 CATALOGUES
VENTS

Catalogue section

Page

ROUND INLINE FANS

VENTS TT
Inline mixed-flow fan
page 26

VENTS TT PRO
Inline mixed-flow fan
page 30

VENTS TT PRO EC
Inline mixed-flow fan
with EC motor
page 36

VENTS Quietline
Inline mixed-flow fan
page 40

VENTS Boost
Inline mixed-flow fan
page 44

VENTS Boost EC
Inline mixed-flow fan
with EC motor
page 50

VENTS VK/VK Duo
Duct centrifugal fan
page 56

VENTS VK EC
Duct centrifugal fan
with EC motor
page 62

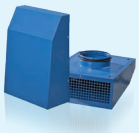
VENTS VK VMS 125
Multiple-inlet centrifugal fan
page 66

VENTS VKM
Inline centrifugal fan
page 68

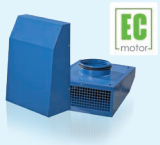
VENTS VKM EC
Inline centrifugal fan
with EC motor
page 76

VENTS VKMz
Inline centrifugal fan
page 82

VENTS VC
Inline centrifugal fan
page 86



VENTS VCN
Exhaust centrifugal fan
page 90



VENTS VCN EC
Exhaust centrifugal fan
with EC motor
page 94

VENTS VKP
Centrifugal fan
page 98

VENTS VP
Centrifugal ceiling fan
page 100

VENTS VKP mini
Compact centrifugal fan
page 102

RECTANGULAR INLINE FANS

VENTS VKPF
Inline centrifugal fan
page 116

VENTS VKPFI
Inline centrifugal heat- and
sound-insulated fan
page 116

ELECTRICAL ACCESSORIES

TS-1-90
External temperature controller for chimney fans

page **485**

CO2-1, CO2-2
CO_2 sensors

page **488**

CM, LM, TF, LF
Electric actuators BELIMO

page **492**

CO2 DRWQ 40200
CO_2 sensors

page **486**

VOC DPWQ 30600
sensors

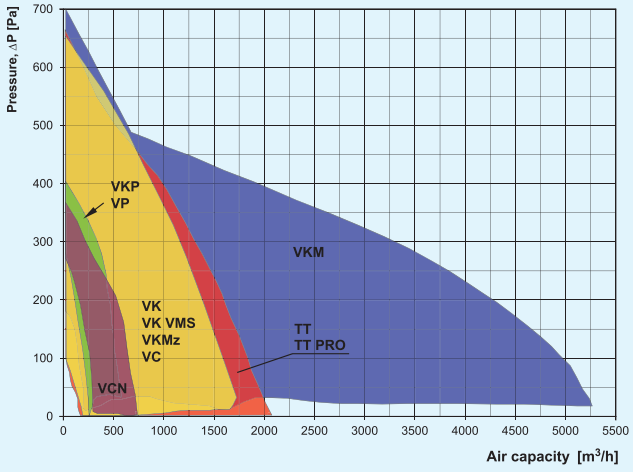
page **490**

QUICK FAN SELECTION

For the detailed fan selection program please refer www.ventilation-system.com

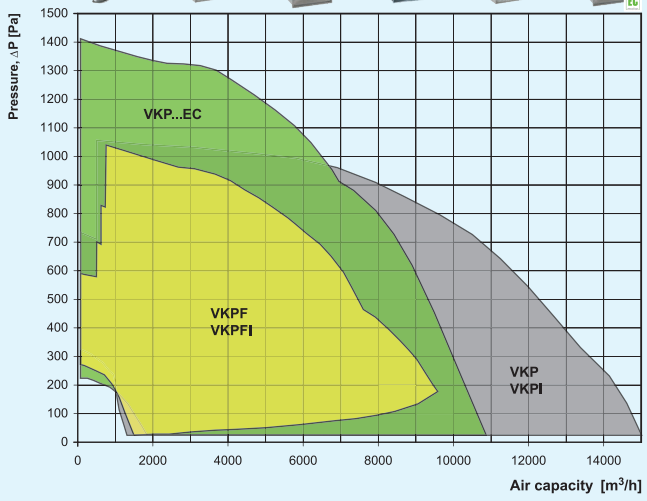
Inline fan series

TT PRO..., TT..., VK..., VKVMS..., VKM..., VKMEC..., VKMz..., VC..., VCN..., VKP..., VP...



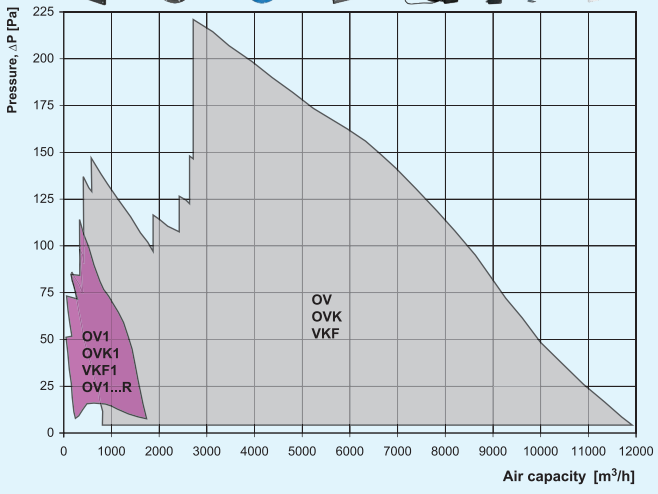
Inline fan series

VKPF..., VKPFI..., VKP..., VKPI..., VKP...EC



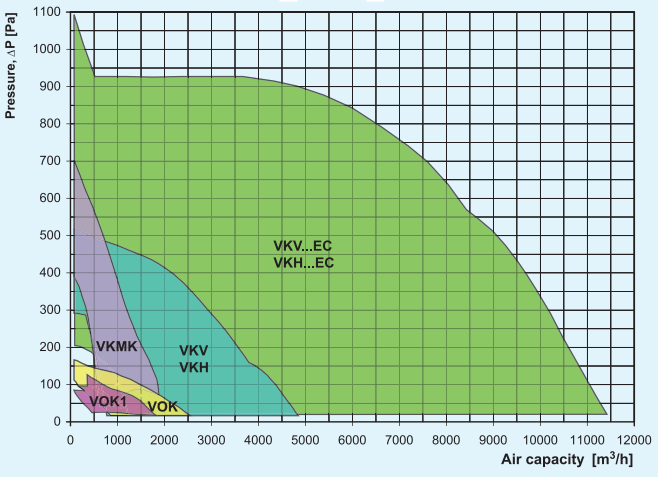
Axial fan series

OV..., OVK..., VKF..., OV1..., OVK1..., VKOM..., OV1...R



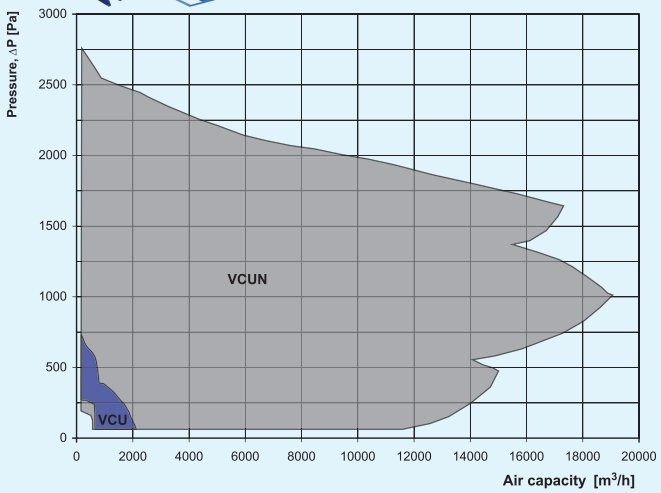
Roof fan series

VKV..., VKH..., VKV...EC, VKH...EC, VKMK..., VOK..., VOK1...



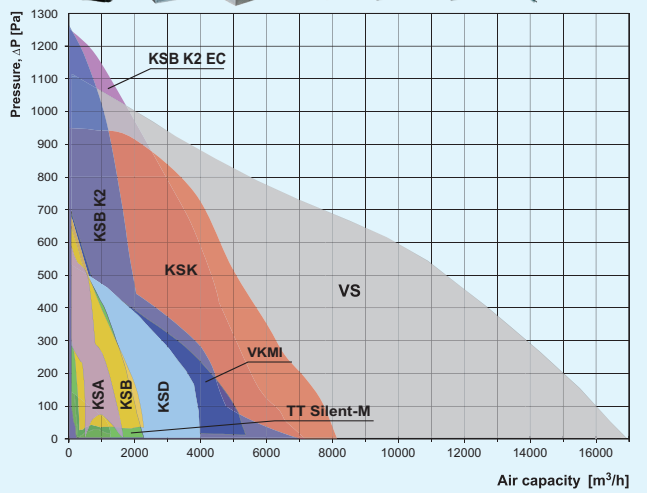
Centrifugal fan series

VCU..., VCUN...



Sound-insulated fan series

TT Silent-M..., VS..., KSA..., KSB..., KSD..., KSK..., VKMI...



WELCOME TO THE WORLD OF VENTS!

- The company's product range includes over 50,000 items
- Over the years the company has produced 100 million fans
- The production facilities spread across 150,000 square meters of territory
- The company employs more than 3,500 professionals involved in the entire life cycle of creating ventilation equipment – from concept to high-tech product
- Among other assets the facilities include the climatic equipment research and development centre and a suite of state-of-the-art laboratories manned by 200 engineers
- The company utilises the latest metal and polymer processing technology
- 99 % of our products are made in-house
- We are the only company in the industry which develops and builds 85 % of its ventilation equipment components

Being the world's ventilation leader VENTS offers a wide range of cutting-edge ventilation equipment to satisfy most demanding customers. Since the inception, the company's products have become popular in more than 100 countries worldwide while the VENTS brand has earned a solid reputation for quality, reliability and innovation. Every tenth domestic fan in the world rolled off the assembly line of the VENTS factory. Every time you buy a product carrying the VENTS brand you can be confident that you have made the right choice. Thanks to a comprehensive range of ventilation equipment for home, commercial and industrial applications you can always find the necessary equipment and components to suit your needs. The climatic engineering and design solutions department is tasked with developing bespoke ventilation and air conditioning systems for even the most challenging projects.

Technology of the future

The VENTS factory is not just about state-of-the-art production lines equipped with processing machines from the leading global suppliers. Today this is a full-on research and development facility spreading across 150,000 square metres of territory which includes a climatic equipment research and development centre and a comprehensive suite of state-of-the-art laboratories.

The full-time staff of more than 200 engineers are continuously seeking to improve the VENTS products. The company utilises cutting-edge metal and polymer processing technology manufacturing 99 % of its products in-house.

We are the only company in the industry which develops and builds 85 % of its ventilation equipment components including electric motors, heat exchangers as well as control and automation equipment.

Getting better every day

The world of today is nothing but stable or permanent. Each day the market comes up with new expectations with regards to ventilation equipment quality and performance. Therefore, VENTS places a strong emphasis on constant development and improvement.

To this end the company has adopted a policy which includes continuous upgrades to its process equipment fleet, implementing the latest in manufacturing technology, and holding regular training workshops for its staff. Not only does this help us keep abreast with the times – these efforts help us to exceed our customers' expectations.

Uncompromising quality

VENTS maintains a stringent quality control system to make sure that its products always meet most demanding international standards as confirmed by numerous certificates issued by the world's largest and most reputable organisations for quality control.The VENTS production process is certified according to ISO 9001:2015 international standard for quality management systems of organizations and enterprises. The company operates in accordance with all the applicable environmental standards and continuously implements new technology in order to ensure compliance with the latest environmental regulations.

Energy efficiency and energy saving

Energy resources are finite and costly. This is why energy-saving is among the company's top priorities. We pay a special attention to using heat and electricity in the most efficient manner which helps us reduce the environmental footprint of the manufacturing process and develop more competitive products. The outstanding energy efficiency and low power consumption of our ventilation equipment are achieved by using high-performance EC motors and heat exchangers.

Human resources: a valuable asset

Besides maintaining technical leadership and developing new technology the company also values the people that it owes its success to.

Today VENTS employs more than 3,500 professionals involved in the entire life cycle of ventilation equipment creation – from concept to high-tech product. The company strives to create a comfortable working environment for its employees to maximise their performance and encourage their professional and personal development.

Responsible corporate citizen

Being a responsible corporate citizen VENTS takes an active part in various academic and charity initiatives. The company has a long history of cooperation with a number of educational establishments extending its support to talented youth.

The company takes an active part in student competitions and workshops sharing its wealth of practical knowledge and providing access to state-of-the-art ventilation equipment. The company employees participate in a range of charitable events and sporting competitions on a regular basis.

Following the customer's lead

VENTS uses its extensive research and technical capabilities to develop bespoke ventilation products and solutions for its customers from around the world.

Our products have earned a reputation for reliability being used in polar regions and in the Sahara desert, in the jungle of South-Eastern Asia and in the Pamir mountains.

Wherever our customers are they can always depend on prompt delivery thanks to our worldwide network of strategically located logistics centres.

The company's newest arrivals are presented by its engineers at numerous international exhibitions every year.

Welcome to the world of modern ventilation by VENTS!

VENTILATION IN OUR LIFE

What Is Ventilation?

Ventilation is a set of actions and techniques used to arrange air exchange and to provide a specific air medium condition in the premises and in working places. Ventilation maintains desirable indoor climatic parameters in compliance with set hygienic norms and technology requirements.

What Is Ventilation Required For?

We are surrounded with air and breathe in and out 20 000 litres of air every day. How much healthy is the air we breath in? There is a range of aspects to determine air quality.

- **Oxygen and carbon dioxide concentration in the air.** Oxygen decrease and carbon dioxide cause stuffiness in the premises.
- **Concentration of harmful substances and dust in the air.** High concentration of dust, tobacco smoke and other substances in the air is harmful for health and can cause various lung and skin diseases.
- **Odours.** Bad smell causes discomfort and irritates.
- **Air humidity.** Too high or low humidity makes us feel uncomfortable and even may provoke acute conditions. Air humidity is important also for inner climate. For instance, doors, window frames, furniture may shrink because of too low humidity in winter and get swollen in humid environments, e.g. in swimming-pools, bathrooms.
- **Air temperature.** The comfortable indoor temperature is within 21-23 °C. Higher or lower temperatures influence physical and mental activity and health condition.
- **Air motion.** Increased air motion in the premises causes drafts and low air motion causes air blanketing. Any of these factors influence our well-being.

Ventilation system arrangement

Properly arranged ventilation system is the only solution in this situation. It provides supply of filtered air in summer and supply of filtered and warmed up air in winter as well as extract stale air removal from the premises.

Any ventilation system must include synchronous fresh air supply and extract air exhaust thus ensuring the ideal air balance in the room. In case of poor or unsufficient air intake from outside the oxygen content decreases, humidity and dustiness level increase. If exhaust ventilation is not provided or it is not efficient, polluted air, smells, humidity and harmful substances are not removed.

One more important factor for properly arranged ventilation system is joint operation of supply and exhaust air vents. If indoor ventilation is provided by air exhaust only, e.g. by an extract bathroom fan, the only possible air supply source is the gaps in windows, doors and construction elements. This uncontrollable air supply results in dust ingress, smells and draughts.

Ventilation grilles in the bathroom doors, wall or window vents, open windows are the only natural supply air sources that may compensate for air extraction. However mechanical ventilation is the only solution to provide central air supply in the rooms.

Calculation of the required air exchange. Ventilation design recommendations

Calculation of air exchange according to air exchange rate:

Ventilation air volume is determined for each premise separately considering concentration of harmful substances. Alternatively, ventilation air volume calculated be set according to the research results. If the nature and concentration of harmful substances is not possible to determine, air exchanged is calculated as following:

$$L = V_{prem.} * Ach \quad [m^3/h],$$

where **V prem.** – premise volume [m^3];

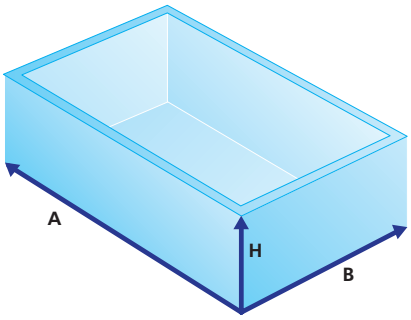
Ach – minimum air exchange per hour, refer air exchange table.

How to determine a premise volume?

Use a simple formula:

length x width x height = volume of the premises in cubic meters

A x B x H = V [m³]



Example: a premise with 7 m length, 4 m width and 2.8 m height. To determine the air volume required for ventilation of this premises, calculate the room volume 7x4x2.8=78.4 m³. After that determine the required efficiency of the fan using the following tables of recommended ventilation rate.

Calculation of air exchange according to number of inhabitants:

$$L = L_1 * N_L \quad [m^3/hour],$$

where L_1 – rated value for air volume per one person, m³/h*person;
N_L – number of inhabitants in the premises

20-25 m³/h per one person at low physical activity
45 m³/h per one person at light physical activity
60 m³/h per one person at heavy physical activity

Calculation of air exchange with vapor emission:

$$L = \frac{D}{(d_v - d_n) * \rho} \quad [m^3/hour]$$

D: moisture, g/hour
d_v: moisture content in the exhaust air, gram of water/kg of air
d_n: moisture content in the intake air, gram of water/kg of air
ρ: air density, kg/m³ (at 20 °C = 1.205 kg/m³)

Calculation of air exchange to remove excessive heat:

$$L = \frac{Q}{\rho * C_p * (t_v - t_n)} \quad [m^3/hour]$$

Q: heat emission in the premises, kW
t_v: exhaust air temperature, °C
t_n: intake air temperature, °C
ρ: air density [kg/m³] at 20°C = 1.205 kg/m³
C_p: heat capacity of air [kJ/(kg.K)] at 20 °C; C_p=1.005 kJ/(kg.K)

Air ventilation rate:

	Premise	Air exchange rate
Domestic premises	Living room of apartments or hostel residential premises	3 m³/h for 1 m² in residential premises
	Kitchen in flat or hostel	6-8
	Bathroom	7-9
	Shower cabin	7-9
	WC	8-10
	Home laundry room	7
	Cloakroom	1.5
	Storeroom	1
	Garage	4-8
	Cellar	4-6
Industrial premises and large premises	Theatre, cinema, confrence hall	20-40 m³ per each visitor
	Office	5-7
	Bank	2-4
	Restaurant	8-10
	Bar, café, pub, billiard room	9-11
	Professional kitchen	10-15
	Supermarket	1.5-3
	Chemist's	3
	Garages and vehicle repair shops	6-8
	Public WC	10-12 (or 100 m³ per each WC pan)
	Dance halls and disco clubs	8-10
	Smoking rooms	10
	Server rooms	5-10
	Sport hall	80 m³ or more for each sportsman and 20 m³ or more for each viewer
	Hair dresser's	
	Up to 5 working places	2
	More than 5 working places	3
	Warehouses	1-2
	Laundryroom	10-13
	Swimming pool	10-20
	Industrial painting shop	25-40
	Machine shop	3-5
	School classroom	3-8

Calculation of air exchange depending on maximum permissible concentration of aggressive substances in the air:

$$L = \frac{G_{CO_2}}{U_{PDK} - U_P} \quad [m^3/hour]$$

G_{CO2}: CO_2 release amount [l/hour]
U_{PDK}: CO_2 maximum permissible concentration, l/m³
U_P: gas concentration in the intake air, l/hour

CO_2 permissible concentration norms, l/m³

Permanent residential premises		1.0
Hospitals and child care centers		0.7
Periodically occupied premises		1.25
Short stay premises		2,0
Open air:	Populations centers (village)	0.33
	Small towns	0.4
	Big cities	0.5

What is pressure loss?

Air resistance in ventilation system is mainly determined by air speed in this system. Air resistance grows directly proportional to air flow. This phenomenon is known as pressure loss. Static pressure produced by a fan causes air motion in the ventilation system with a certain resistance. The higher the ventilation resistance in the system, the less air flow of the fan is. Friction losses for air in air ducts as well as resistance of the networking equipment (a filter, silencer, heater, valves and dampers, etc.) can be calculated using the tables and diagrams contained in the catalogue. Total pressure loss is equal to all pressure loss values in a ventilation system.

Recommended air motion speed rate inside the air ducts:

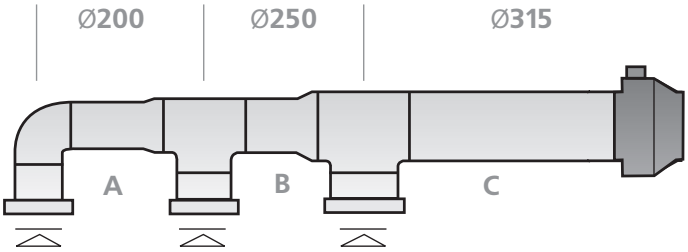
Type	Air speed, m/s
Main air ducts	6,0 - 8,0
Side branches	4,0 - 5,0
Air distribution ducts	1.5 - 2,0
Supply ceiling grilles	1.0 – 3,0
Extract grilles	1.5 – 3,0

Calculation of air speed in the air ducts:

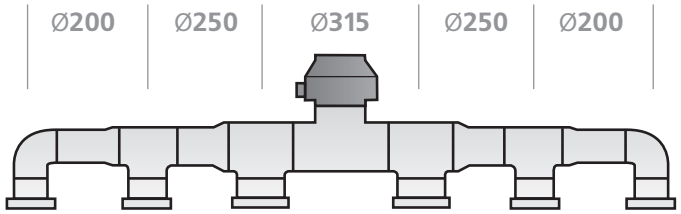
$$V = \frac{L}{3600 * F} \quad (m/s)$$

L – air flow [m³/hour];
F – duct cross section [m²];

Recommendation 1.
Pressure loss in the duct system can be reduced due to larger duct section which provides relatively even air speed in the whole system. The figure below shows how to provide relatively even air speed in the duct system with the minimum pressure loss.



Recommendation 2.
Fpr long systems with many ventilation grilles, install a fan in the middle of the network. Such solution has several advantages. On the one hand, pressure losses are reduced, on the other hand, smaller ducts are used.



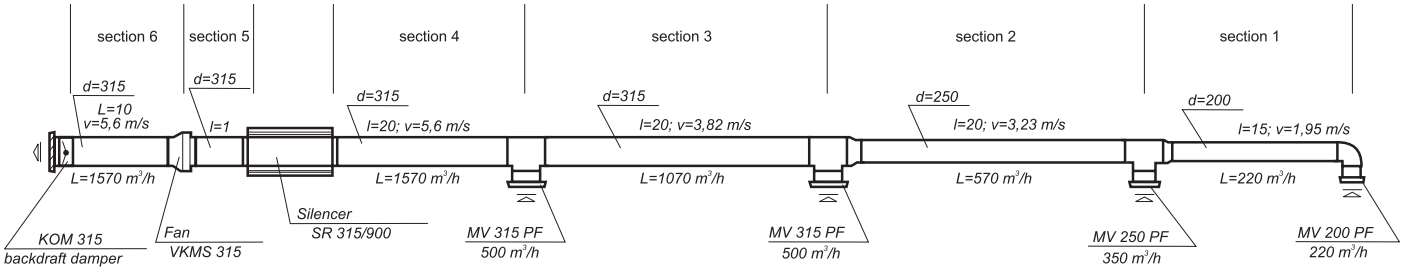
Ventilation system calculation example:
Start the calculation with the system drafting, showing the location of the air duct, ventilation grilles, fans and also the air duct section lengths between T-joint. Then calculate the air flow at each section.

To calculate the pressure loss in the sections 1-6, use the pressure loss diagram for round air ducts. For that the required air duct diameters and pressure loss shall be determined under condition of permissible air sped in the duct.

Section 1: air flow is 200 m³/h. Suppose that the air duct diameter is 200 mm and air speed is 1.95 m/s, then the pressure loss is 0.21 Pa/m x 15 m = 3 Pa(refer to the pressure loss diagram for the air ducts).

Section 2: the same calculations shall be performed considering that the air speed through this section is 220+350=570 m³/h. Suppose that the air duct diameter is 250 mm and air speed is 3.23 m/s, then the pressure loss is 0.9 Pa/m x 20 m = 18 Pa.

Section 3: air flow through this section is 1070 m³/h. Suppose that the air duct diameter is 315 mm and air speed is 3.82 m/s, then the pressure loss is 1.1 Pa/m x 20 m = 22 Pa.



Section 4: air flow through this section is 1570 m³/h. Suppose that the air duct diameter is 315 mm and air speed is 5.6 m/s, then the pressure loss is 2.3 Pa/m x 20 m = 46 Pa.

Section 5: air flow through this section is 1570 m³/h. Suppose that the air duct diameter is 315 mm and air speed is 5.6 m/s, then the pressure loss is 2.3 Pa/m x 1 m = 23 Pa.

Section 6: air flow through this section is 1570 m³/h. Suppose that the air duct diameter is 315 mm and air speed is 5.6 m/s, then the pressure loss is 2.3 Pa/m x 10 m = 23 Pa. The total air pressure in the ductwork system is 114.3 Pa.

As the last section pressure loss calculation is over, you can start calculating pressure loss in the network elements as silencer SR 315/900 (16 Pa) and in the backdraft damper KOM 315 (22 Pa). Calculate also pressure loss in the branches to the grilles. The total air resistance in 4 branches makes 8 Pa.

Pressure loss calculation in air duct T-joints.

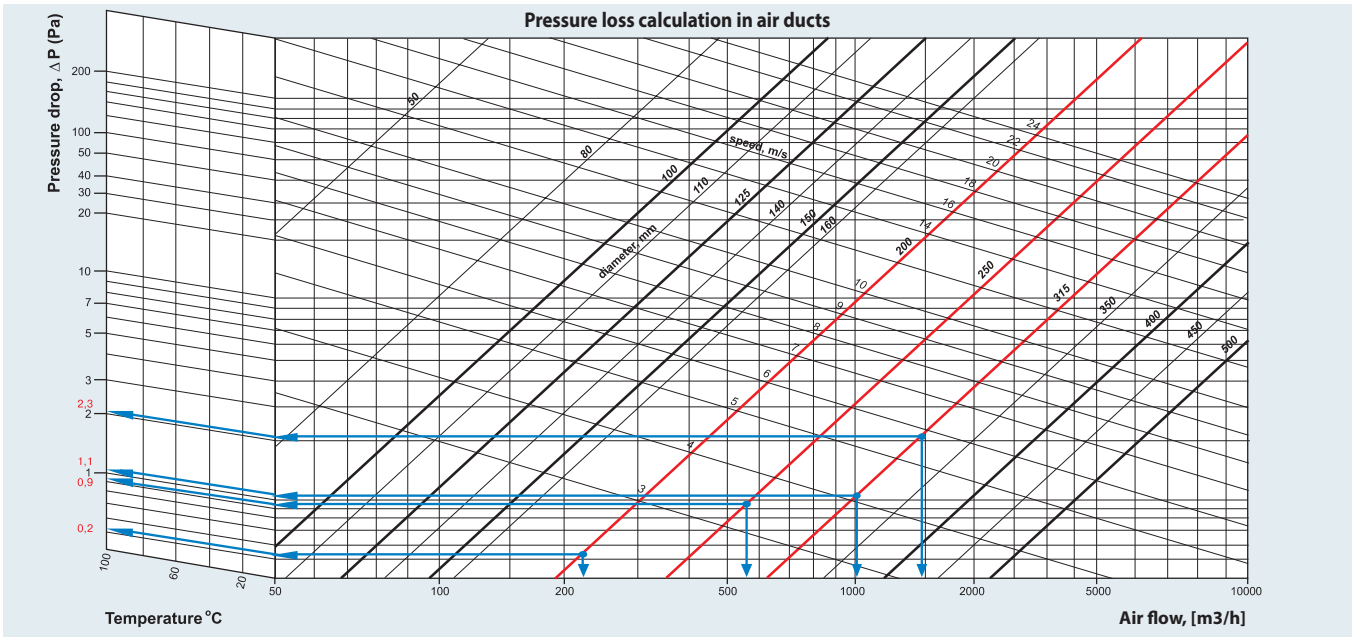
The diagram enables calculation of the pressure loss in the branches on the basis of bend angle, air duct diameter and air flow.

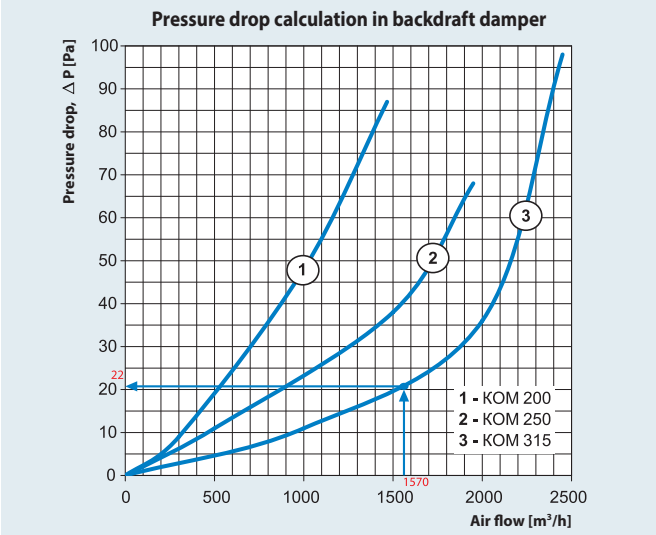
Example. Calculate the pressure loss for 90° bend, Ø 250 mm and air flow 500 m³/h. For that find the intersection point of the vertical line that shows the air flow with the vertical line. Find the pressure loss on the vertical line on the left for 90° pipe bend which makes 2 Pa.

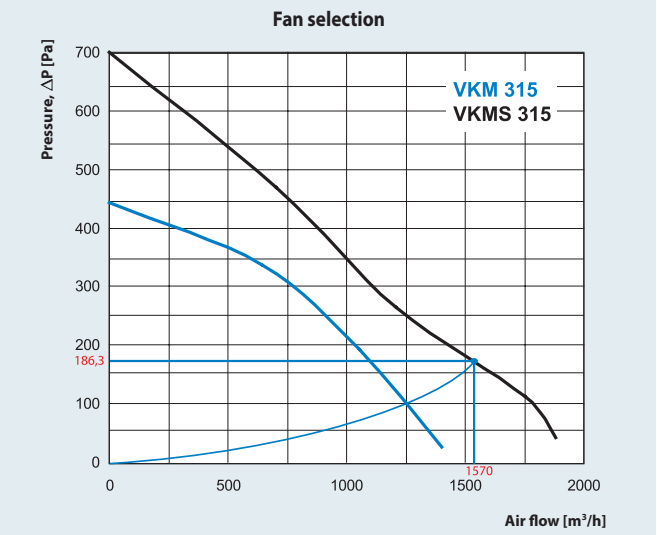
Suppose we install the PF ceiling diffusers with air resistance 26 Pa.

Now let us sum up all the pressure losses for the sraight air duct section, network elements, bends and grilles. The target value is 186.3 Pa.

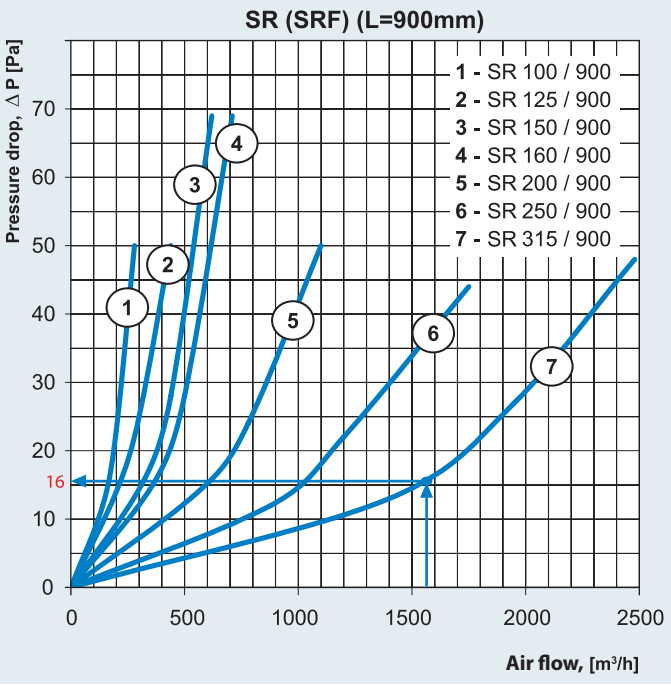
After all calculations we come to the conclusion that we need an exhaust fan with air flow 1570 m³/h at the air resistance 186.3 Pa. Considering all the required operating parameters the VENTS VKMS 315 fan is the best solution.



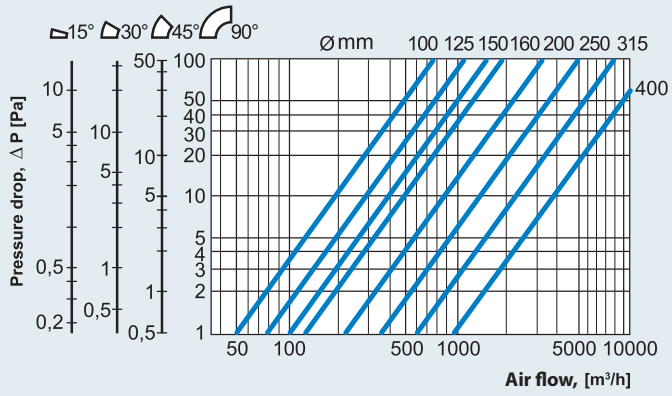




Calculation of pressure loss in silencers

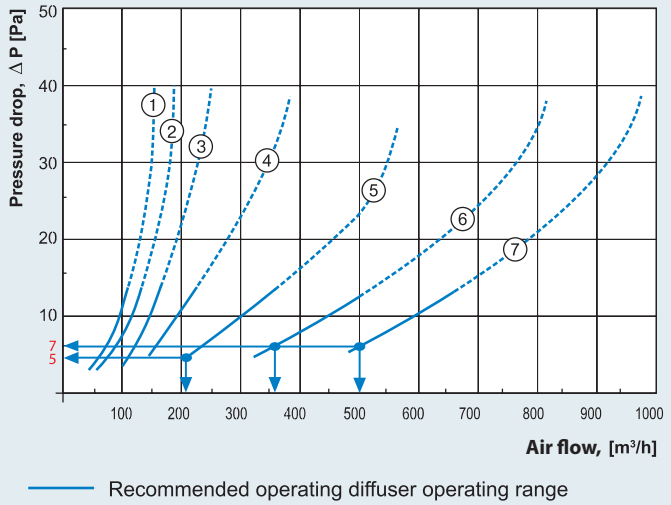


Calculation of pressure loss in the air duct T-joints



Calculation of pressure loss in air duct diffusers

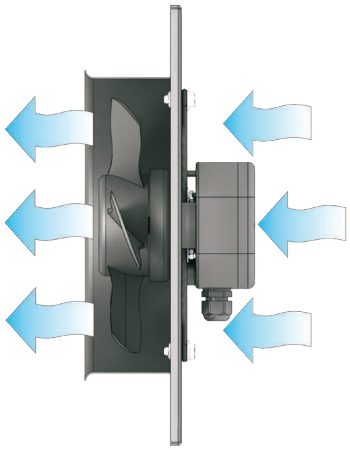
① *MV 80 PFs* ② *MV 100 PFs* ③ *MV 125 PFs* ④ *MV 150 PFs* ⑤ *MV 200 PFs* ⑥ *MV 250 PFs* ⑦ *MV 315 PFs*



Fan types:

Fans are mechanical units designed for air transportation in the ducts, direct air supply or air exhaust from the premises. Air is moved due to the pressure drop between the fan inlet and outlet vent.

An axial fan has the form a cylindrical-cased wheel with the impeller fixed to a bushing at some angle to rotation plane. As the impeller blades rotate air is trapped betwen and is moved further axially. Air is hardly moved in the radial direction. The axial fan blades are mostly set directly on the motor shaft.

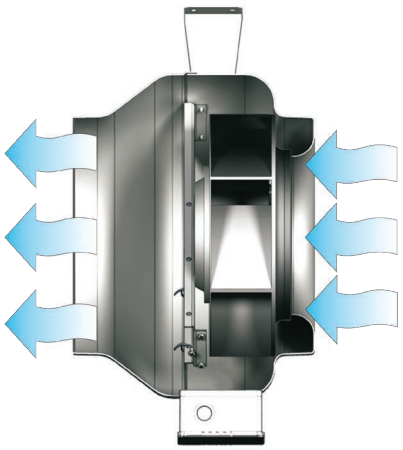


Application:

- air supply and air extract through openings or assembled to max. 3 m air ducts at low air dynamic resistance in the system.

A mixed-flow fan is able to move air along the motor shaft. Such fans are widely applied in the ventilation systems with round air ducts.

Round inline fans are available in standard sizes ranging from 100 up to 450 mm with the air flow range from 250 to 5200 m³/h. The impellers with backward-curved blades are powered by the asynchronous external rotor motors. The ball bearings are rated for long service life. The fan casing may be made of plastic, polymer-coated or galvanized steel and has good corrosion-resistant properties and a nice look.



Application:

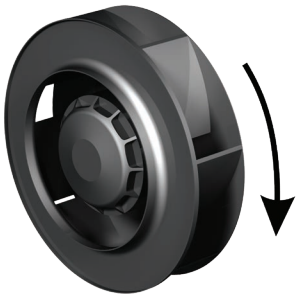
- air exhaust and supply in long ventilation systems with high air dynamic resistance.

A centrifugal fan consists of an impeller and a scroll casing. An impeller is a hollow cylinder with mounted blades inside, circumferentially fixed with disk plates. The hub

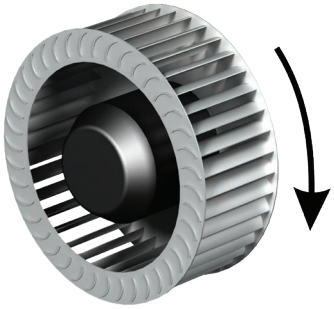
for mounting the impeller on the shaft is located at the center of the strengthening ring.

During the impeller operation air is trapped between the blades, gets compressed and is moved from the center. Under centrifugal force air is transported to the scroll casing and then moved to the exhaust pipe. The centrifugal fans are equipped with forward or backward curved blades. Backward curved blades enable up to 20 % energy saving. Another important privilege of backward-curved blades is their high air overload capability.

Centrifugal fans with forward-curved blades ensure the same air flow and pressure characteristics as the backward-curved blades do but they require smaller impeller diameter and lower speed. So they are able to attain the required result demanding less space and producing less noise.



Backward curved blades



Forward curved blades

Application:

- air exhaust and supply in ventilation systems with long air ductworks and high air dynamic resistance.

Fan speed control

Fan speed is controlled with thyristor or transformer speed controllers.

Thyristor speed control.

Thyristor speed controllers provide smooth manual motor speed control and air flow control respectively. Operation of the thyristor speed controllers is based on output voltage control with a triac voltage regulator.

Several fans may be connected to one controller if their total current does not exceed the maximum permissible controller current.

Thyristor controllers are featured with high control efficiency and accuracy. When operating in low-speed mode the fans with thyristor speed control may generate unusual noise, so the thyristor speed controllers are not recommended for low-speed applications. Low-voltage motor application results in reducing bearings service life. The recommended speed control range is 60 % till 100 %.

Transformer speed control.

Transformer speed controller operation is based on a five-step power transformer that regulates power supply voltage to the fan motors with permanent voltage frequency.

Transformer controllers are designed for voltage-controlled motors. Several fans may be connected to one power transformer if their total current does not exceed the maximum permissible controller current.

When operating in low-speed mode the fans with transformer speed control generate no unusual noise. However the motor bearings service life can be reduced as a result of continuous low-voltage operation mode (speed 1 or 2).

Fan motors

External rotor motors

External rotor motor design is similar to asynchronous motor design but the motor rotor is located outside of the stator winding and the stator with the windings is located in the motor centre. Such original modification ensures the unit compact size. The motor shaft is placed on ball bearings that are fixed inside the stator. The impeller is attached to the rotor casing. Such design provides air cooling of the motor which allows using the fans in the wide temperature range. All the motors and impellers are statically and dynamically balanced at the manufacturing facility.

EC motor powered equipment

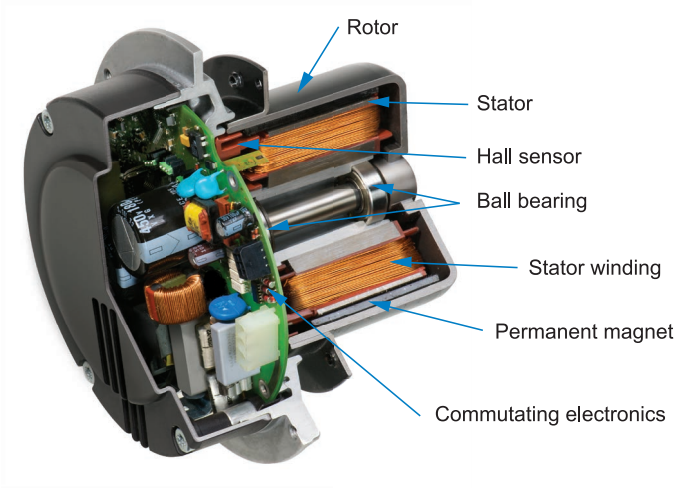
EC motor is an electric motor driven by electronically commutated direct current controller that has no friction or wear parts such as commutator and brushes found in standard direct current motors. This function is performed by maintenance-free EC-controller PCB. New electric motors are featured with high efficiency and the total controllable speed range. EC motor electronic controller enables extra functions as speed control depending on temperature, pressure or other parameters.

EC motor advantages:

- efficient operation at any motor speed up to zero;
- low heat emission;
- compact size due to external rotor motor design;
- maximum motor speed dos not depend on the mains power supply frequency and operation both at 50 and 60 Hz is possible;
- high efficiency at low speed;
- data exchange between PC and fan enable setting and controlling operating parameters;
- central control of several fans integrated into a single system.

Custom designed software provides high accuracy control of the fans integrated into network.

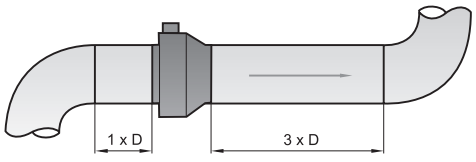
The LED-display of the computer shows all the system parameters and the operation mode can be set individually for each fan in the network. Operating parameters of a specific fan integrated into the network can be centrally corrected to match the ventilation system parameters. Such technology provides adjusting the ventilation system in compliance with the customer requirements.



General mounting recommendations

To reduce air pressure losses associated with air turbulence provide a straight air duct at the fan inlet and outlet. The minimum straight segment length must be at least 1 air duct diameter at inlet and 3 air duct diameters at outlet. No filters or other similar equipment is allowed inside the air ducts. For rectangular ducts the respective air duct diameter is calculated as follows:

$$D=\sqrt{\frac{4*H*W}{\pi}}$$



D = air duct diameter
H = air duct height
W = air duct width

Fan noise characteristics

Noise characteristics of the equipment are shown in the tables indicating:

- Sound-power level LWA in dBA i frequency bands to inlet, outlet and environment of the fan.
- The total sound power level dBA at 3 m distance.

The frequency band has eight wave groups. Each group has a definite mediumd frequency: 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1000 Hz, 2 kHz, 4 kHz and 8 kHz. Any noise is distributed to definite frequency bands and the sound energy is dissipated to various frequency.

The sound produced by the operating fan is spread along the air duct, partially attenuates inside the unit and penetrates through the grilles inside the premise. Ventilation system design is based on acoustic calculation which is an integral part of any premise ventilation design. The calculation is aimed to define the octave-frequency band in the operating points and the required sound attenuation level by means of comparing this spectrum with the permissible values according to hygienic regulations. After selection of construction and acoustic means for sound attenuation the expected sound-pressure levels are tested to check the efficiency in the selected operating points.

dBa	Characteristics	Sound source
0	no noise	
5	almost not audible	
10		low leaves rustling
15	hardly audible	medium leaves rustling
20		human whisper (1 m distance)
25	quiet	human whisper (1 m distance)
30		whisper, wall clock ticking
		standard sound level for residential premises from 23.00 till 07.00
35	quite audible	low speech
40		conventional speech
		standard sound level for residential premises from 07.00 till 23.00
45		conventional conversation
50	definitely audible	conversation, typing
55		standard for A office premises (EN)
60	noisy	office standard
65		loud conversation (1 m)
70		several loud conversations (1 m)
75		shout, laughter
80	very noisy	shouting, operating motorcycle with a silencer
85		loud shouting, operating motorcycle with a silencer
90		Loud shouts, freight car (7 m)
95		moving subway train (7 m)
100	extremely noisy	Orchestra, subway car (abruptly), thunder
		Maximum permissible sound pressure for headphones of a personal stereo (according to European norms)
105		inside an airplane (before 1980s)
110		helicopter
115		sandblaster (1 m)
120	almost unbearable	pneumatic hammer (1 m)
130	Pain threshold	airplane at start

What is IP?

While selecting equipment type and its mounting place ensure compliance of operating conditions to the indicated ingress protection parameters. Any electrical appliance must meet two ingress protection demands: ensure safety to the user and service personnel and to protect the electrical components located inside the appliance against environmental impact, i.e. Ingress Protection (IP). IP rating refers to dust-proof and moisture protection of the equipment and its electrical safety.

Information regarding protection rating marked IP and two digits indicating protectiont degree is specified in technical documentation and on casing of the equipment, i.e. IP20 or IP65. The first digit shows the degree of protection against access to hazardous objects. Protection characteristics defined by the first digit is stated in the table 1. The second digit shows the degree of protection against water ingress and its characteristics are stated in the table 2.

Table 1

First digit	Protection characteristics	Description
x	No ingress protection	Oped construction, no dust protection and protection against contact with current-carrying parts.
1	Large-scale objects protection	Protection from objects equal to or greater than 50 mm and hand accidental touch to current-carrying parts.
2	Medium-size objects protection	Protection from objects equal to or greater than 12 mm. and fingers touch to current-carrying parts.
3	Small-size objects protection	Protection from objects equal to or greater than 2,5 mm and entry by tools, wires or fingers.
4	Sand protection	Protection from objects equal to or greater than 1 mm and entry by tools, wires or fingers.
5	Dust protection	Significant dust quantity can be accumulated inside the casing which does not disturb the rated operation. Full protection against touch to current-carrying parts.
6	Dust-tight protection	No dust penetration inside the equipment.

Table 2

Second digit	Protection characteristics	Description
x	No ingress protection	Open construction with no protection against water.
1	Protection against vertically dripping water	Water drops dripping vertically do not damage equipment.
2	Protection from vertically dripping water (15° tilted)	Water drops falling vertically at 15° do not damage equipment.
3	Protection from sprayed water	Water falling as a spray at any angle up to 60° from the vertical shall have no harmful effect.
4	Protection from splashed water	Water splashing against the enclosure from any direction shall have no harmful effects for the equipment in the casing.
5	Protection from jetting water	Water projected by a nozzle against enclosure from any direction shall have no harmful effects for the equipment in the casing.
6	Protection from powerfully jetting water	Water projected in powerful jets against the enclosure from any direction shall have no harmful effects for the equipment in the casing.
7	Protection against temporary immersion in water	Ingress of water in harmful quantity shall not be possible when the equipment is immersed in water.
8	Protection against complete, permamnent immersion in water	The equipment is suitable for continuous immersion in water under conditions which shall be specified by the manufacturer.

Certification

CE	CE-marked equipment means that the goods are produced in compliance with the quality and safety standards provided by EU regulations for the current item (marked by the manufacturer).		Mark of conformity to the Ukrainian Quality Standards and electrical safety issued by Ukrtest.
GS	Mark of conformity to the European Quality Standards and electrical safety issued by Association for Technical Inspection (Technischer Überwachungsverein, Germany).	PG	Mark of conformity of the goods subject to obligatory certification in DSTR sustem as well as technical norms and standards acting at Russian Federation.
B	Mark of conformity to the Polish Quality Standards and electrical safety issued by PCBC (Polish center for testing and certification).		Insulation class: double insulation.
	Mark of conformity to the Slovak Quality Standards and electrical safety issued by EVPU (Slovakia).	IP 34	Applicance ingress protection rating (refer to tables 1, 2).

ROUND INLINE FANS

VENTS TT
inline mixed-flow fan
Air flow – up to 520 m³/h

page 26

VENTS TT PRO
inline mixed-flow fan
Air flow – up to 2050 m³/h

page 30

VENTS TT PRO EC
inline mixed-flow fan
Air flow – up to 1970 m³/h

page 36

VENTS Quietline
inline mixed-flow fan
Air flow – up to 375 m³/h

page 40

VENTS Boost
inline centrifugal fan
Air flow – up to 5700 m³/h

page 44

VENTS Boost EC
inline centrifugal fan
Air flow – up to 3350 m³/h

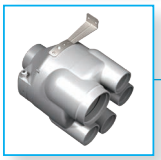
page 50

VENTS VK/VK Duo
inline centrifugal fan
Air flow – up to 1700 m³/h

page 56

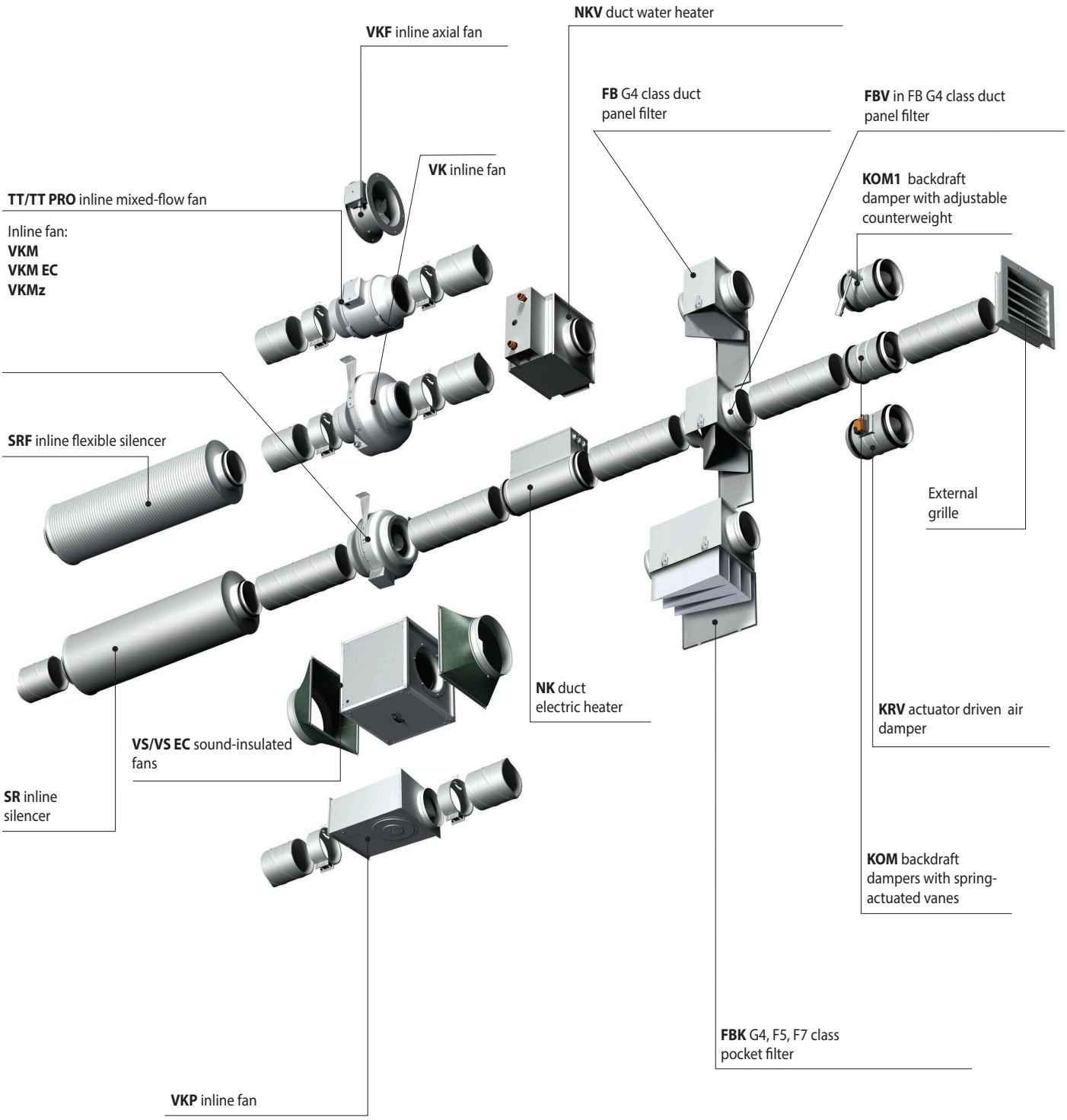
VENTS VK EC
inline centrifugal fan
Air flow – up to 1500 m³/h

page 62



VENTS VK VMS 125
multiple-inlet centrifugal fan
Air flow – up to 355 m³/h

page 66


NKV duct water heater
VKF inline axial fan
FB G4 class duct panel filter
FBV in FB G4 class duct panel filter
VK inline fan
KOM1 backdraft damper with adjustable counterweight
TT/TT PRO inline mixed-flow fan
Inline fan:
VKM
VKM EC
VKMz
SRF inline flexible silencer
External grille
NK duct electric heater
KRV actuator driven air damper
VS/VS EC sound-insulated fans
SR inline silencer
KOM backdraft dampers with spring-actuated vanes
FBK G4, F5, F7 class pocket filter
VKP inline fan

SELECTION TABLE FOR ROUND ITEMS

	d=100 mm	d=125 mm	d=150 mm	d=160 mm	d=200 mm	d=250 mm	d=315 mm
Fans	TT 100	TT 125/TT 125 S	TT 150	TT 160		TT 250	TT 315
	TT PRO 100	TT PRO 125	TT PRO 150	TT PRO 160	TT PRO 200	TT PRO 250	TT PRO 315
	VK 100 Q	VK 125 Q			VK 200	VK 250 Q	VK 315
	VK 100	VK 125	VK 150	VK 160	VKS 200	VK 250	VKS 315
	VKM 100 Q	VKM 125 Q			VKM 200	VKM 250 Q	VKM 315
	VKM 100/100 E	VKM 125/125 E	VKM 150	VKM 160	VKMS 200	VKM 250	VKMS 315
				VKM 160 EC	VKM 200 EC	VKM 250 EC	VKM 315 EC
	VKMz 100 Q	VKMz 125 Q			VKMz 200 Q	VKMz 250 Q	VKMz 315 Q
	VKMz 100	VKMz 125	VKMz 150	VKMz 160	VKMz 200	VKMz 250	VKMz 315
	VC 100 Q	VC 125 Q			VC 200	VC 250 Q	VC 315
	VC 100	VC 125	VC 150	VC 160	VCS 200	VC 250	VCS 315
	VCN 100	VCN 125	VCN 150	VCN 160	VCN 200		
	VKP 100 mini						
	VKP 100	VKP 125	VKP 150	VKP 160	KSB 200	KSB 250	KSB 315
		VKP 125/100x2 VKP 125/100x4	VKP 150/125x2				
	KSB 100	KSB 125	KSB 150	KSB 160	KSB 200 S		
					VKF 2E 200	VKF 2E 250	VKF 2E 300
						VKF 4E 250	VKF 4E 300
	VP 100 B VP 100	VP 125 B VP 125					
Filters	FB 100	FB 125	FB 150	FB 160	FB 200	FB 250	FB 315
	FBV 100	FBV 125	FBV 150	FBV 160	FBV 200	FBV 250	FBV 315
	FBK 100-4	FBK 125-4	FBK 150-4	FBK 160-4	FBK 200-4	FBK 250-4	FBK 315-4
	FBK 100-5	FBK 125-5	FBK 150-5	FBK 160-5	FBK 200-5	FBK 250-5	FBK 315-5
	FBK 100-7	FBK 125-7	FBK 150-7	FBK 160-7	FBK 200-7	FBK 250-7	FBK 315-7
Heaters							
electric	NK 100 0,6-1	NK 125 0,6-1	NK 150 1,2-1	NK 160 1,2-1	NK 200 1,2-1	NK 250 1,2-1	NK 315 1,2-1
			NK 150 1,7-1	NK 160 1,7-1 NK 160 2,0-1	NK 200 1,7-1 NK 200 2,0-1	NK 250 2,0-1	NK 315 2,0-1
	NK 100 0,8-1	NK 125 0,8-1	NK 150 2,4-1	NK 160 2,4-1	NK 200 2,4-1	NK 250 2,4-1	NK 315 2,4-1
	NK 100 1,2-1	NK 125 1,2-1	NK 150 3,4-1	NK 160 3,4-1	NK 200-3,4-1	NK 250-3,0-1	NK 315 3,6-3
	NK 100 1,6-1	NK 125 1,6-1	NK 150 3,6-3	NK 160 3,6-3	NK 200 3,6-3	NK 250 3,6-3	NK 315 6,0-3
	NK 100-1,8-1	NK 125 2,4-1	NK 150 5,1-3	NK 160 5,1-3	NK 200 5,1-3	NK 250 6,0-3	NK 315 9,0-3
			NK 150 6,0-3	NK 160 6,0-3	NK 200 6,0-3	NK 250 9,0-3	
water heaters	NKV 100-2	NKV 125-2	NKV 150-2	NKV 160-2	NKV 200-2	NKV 250-2	NKV 315-2
	NKV 100-4	NKV 125-4	NKV 150-4	NKV 160-4	NKV 200-4	NKV 250-4	NKV 315-4
Silencers	SR 100	SR 125	SR 150	SR 160	SR 200	SR 250	SR 315
	SRF 100	SRF 125	SRF 150	SRF 160	SRF 200	SRF 250	SRF 315
Dampers	KOM 100	KOM 125	KOM 150	KOM 160	KOM 200	KOM 250	KOM 315
	KOM1 100	KOM1 125	KOM1 150	KOM1 160	KOM1 200	KOM1 250	KOM1 315
	KR 100	KR 125	KR 150	KR 160	KR 200	KR 250	KR 315
	KRV 100	KRV 125	KRV 150	KRV 160	KRV 200	KRV 250	KRV 315
Flexible connectors	VVG 100	VVG 125	VVG 150	VVG 160	VVG 200	VVG 250	VVG 315
Clamps	CZK 100	CZK 125	CZK 150	CZK 160	CZK 200	CZK 250	CZK 315
	CZ 100	CZ 125	CZ 150	CZ 160	CZ 200	CZ 250	CZ 315
	C 100	C 125	C 150	C 160	C 200	C 250	C 315
	CB 100	CB 125	CB 150	CB 160	CB 200	CB 250	CB 315
Speed controllers							
thyristor speed controllers	RS series	RS series	RS series	RS series	RS series	RS series	RS series
transformer speed controllers	RSA series	RSA series	RSA series	RSA series	RSA series	RSA series	RSA series

Series
VENTS TT

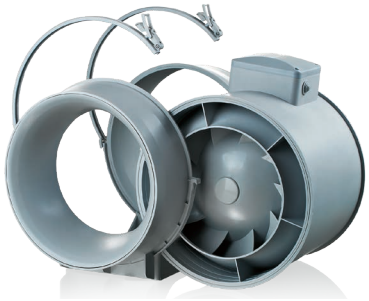
Inline mixed-flow fans with the air flow up to **520 m³/h**

Application

The VENTS TT and fans are featured with wide capabilities and high performance of axial and centrifugal fans and are specifically designed for supply and exhaust ventilation of premises requiring high pressure, powerful air flow and low noise level. The fans are compatible with round air ducts from Ø 100 to 160 mm. Exhaust ventilation systems based on the VENTS TT fans are the best solution for ventilation of bathrooms and kitchens and other humid premises as well for ventilation of flats, cottages, shops, cafes, etc.

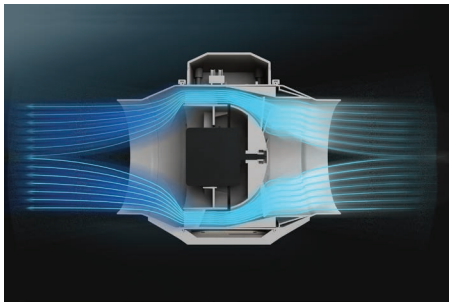
Design

The casing is made of high-quality durable plastic. The removable impeller and motor block with a terminal box is fixed to the casing assembled with the spigots by means of special clamps with latches. This makes the fan maintenance fast and easy. The fan maintenance does not require total disassembling. Just pull out the central block from the casing and perform required servicing. All the models may be equipped with a regulated timer with turn-off delay adjustable from 2 to 30 min.



Motor

The models of VENTS TT series are equipped with a single phase motor and are available in two speed modifications. Some dimension types are available with a more powerful motor (VENTS TT...S).
The motors have thermal overheating protection to prevent the motor overload. The ball bearings extend the motor service life up to 40 000 hrs. at non-stop operation. The motor has IPX4 ingress protection rating.



Speed control

The double-speed motors are controlled with a built-in switch (V option) or an external switch for multi-speed fans (available upon separate order).

TT fan with a three-position speed switch

An integrated speed controller (option P), an external TRIAC or autotransformer speed controller (available upon separate order) are used for smooth speed control when connected to the maximum speed terminal.

Designation key

Series	Air duct diameter	Options
VENTS TT	100; 125; 150; 160	**S**: high-powered motor. **T**: adjustable timer from 2 to 30 minutes. **U**: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Temperature-based operation logic. **Un**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4 m cable. Temperature-based operation logic. **U1**: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Timer-based operation logic. **U1n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4 m cable. Timer-based operation logic. **U2n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4 m cable. Temperature-based switching on/off. **R1**: power cord with mains plug. **V**: threeposition speed switch. **P**: integrated smooth speed controller.

ErP data	
Overall efficiency	η [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	kW
Current	A
Air flow	m^3/h
Static pressure	Pa
Speed	n/min^{-1}
Specific ratio	SR

Accessories

Silencer | Filters | Heaters | Backdraft damper | Air shutter | Clamps | Temperature regler | Speed switches

TT fan with a built-in speed controller

Mounting

The fans are suitable for mounting at any angle and point of the system. Several fans may be installed inside one system. Several fans may be installed inside one system:

– **parallel** mounting to increase air flow;

TTP kit for parallel connection

– **in series mounting** to increase operating pressure;

TTS kit for series connection

The fan case is equipped with a flat mounting plate to attach the fan to the wall. The mounting box may be installed in any position to facilitate mounting and wiring.

The fan with electronic module of the temperature sensor and speed controller (U option).

The ideal solution for ventilation of the premises with high demands to permanent indoor temperature level, e.g. greenhouses.

The fan with the electronic module of the temperature sensor and the speed controller is used for automatic speed control (air flow regulation) depending on the air temperature in the ventilation duct or inside a room.

The electronic module of the front panel incorporates:

– the speed control knob for the setting the impeller speed;

– the thermostat control knob for setting the temperature set point.

– thermostat LED light.

Three modifications are possible:

– temperature sensor integrated inside a fan duct (U/U1/U2 option);

– external temperature sensor fixed on 4 m power cable (Un/U1n option).

Operating logic of the fan with the electronic module of the temperature sensor and speed controller

Set the desired air temperature (set point of the thermostat) with the thermostat control knob. Set the required minimum impeller speed (air flow) with the speed control knob. The motor switches to maximum speed (maximum air flow) as the temperature reaches and exceeds the set temperature set point. The motor switches to the pre-set speed as the temperature drops down below the set temperature point.

To avoid the frequent motor switching, e.g. when the temperature in the supply air duct is equal to the threshold value, the switching delay time is activated.

There are two switch delay patterns for various cases:

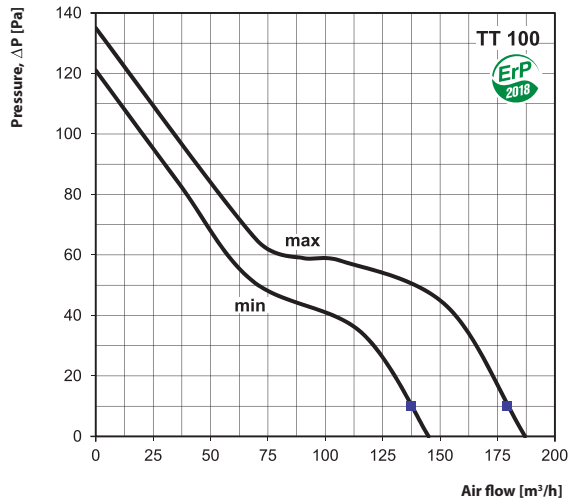
1. The temperature sensor-based switch delay (U option): the motor switches to higher speed as the air temperature exceeds 2 °C above the set thermostat set point. The motor revers to the pre-set lower speed as the air temperature drops below the thermostat set point.

This pattern is used to keep air temperature to within 2 °C. In this case the fan switches are rare.

2. The timer-based switch delay (U1 option): as the air temperature exceeds the set thermostat set point, the motor switches to higher speed and the switch delay timer is activated for 5 min. The motor reverts to lower speed as the air temperature drops down below the thermostat set point and only after the timer countdown.

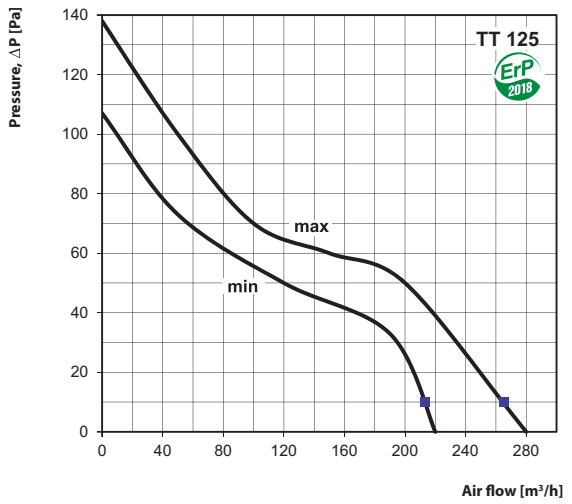
This pattern is used for exact air temperature control. The fan changes its speed more often as compared to the temperature sensor-based switch delay, however the minimum timer interval is 5 minutes.

VENTS TT



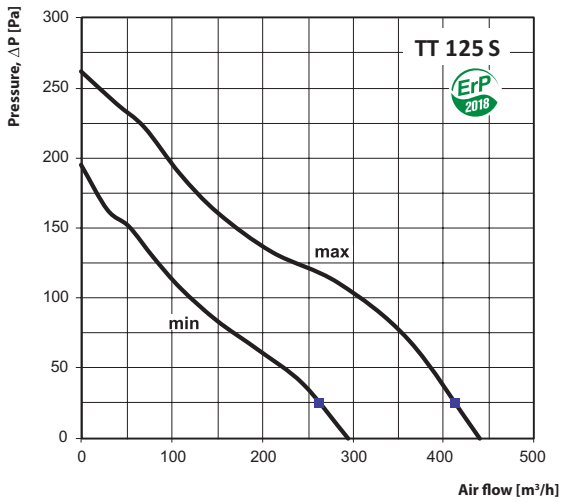
	Hz	general	63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound power level, A-filter applied												
			Octave frequency band, Hz								**Sound pressure level at 3 meters, A-filter applied**	**Sound pressure level at 1 meters, A-filter applied**
Min speed												
L_{WA} to inlet	dBA	54	16	28	51	45	49	41	35	24	33	43
L_{WA} to outlet	dBA	53	15	27	50	44	48	40	35	23	32	42
L_{WA} to environment	dBA	48	11	23	44	40	43	36	31	21	27	37
Max speed												
L_{WA} to inlet	dBA	64	23	35	61	58	56	48	43	30	43	53
L_{WA} to outlet	dBA	63	22	34	60	57	55	48	42	29	42	52
L_{WA} to environment	dBA	56	17	29	53	51	50	43	38	26	36	46

VENTS TT



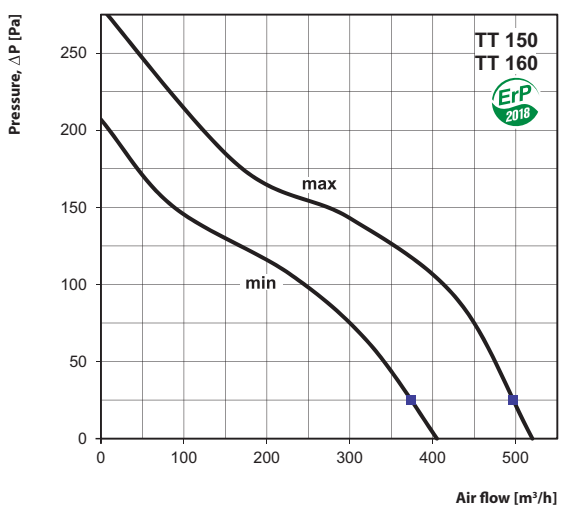
	Hz	general	63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound power level, A-filter applied												
			Octave frequency band, Hz								**Sound pressure level at 3 meters, A-filter applied**	**Sound pressure level at 1 meters, A-filter applied**
Min speed												
L_{WA} to inlet	dBA	53	17	30	48	48	48	43	35	22	33	43
L_{WA} to outlet	dBA	52	16	29	47	47	47	43	34	21	32	42
L_{WA} to environment	dBA	49	13	26	43	44	44	40	32	20	28	38
Max speed												
L_{WA} to inlet	dBA	62	28	38	57	58	57	52	43	29	42	52
L_{WA} to outlet	dBA	61	27	37	55	57	56	51	42	29	41	51
L_{WA} to environment	dBA	58	23	33	51	53	52	48	40	27	37	47

VENTS TT



	Hz	general	63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound power level, A-filter applied												
			Octave frequency band, Hz								**Sound pressure level at 3 meters, A-filter applied**	**Sound pressure level at 1 meters, A-filter applied**
Min speed												
L_{WA} to inlet	dBA	56	28	38	53	51	49	46	37	24	36	46
L_{WA} to outlet	dBA	55	27	37	52	50	48	45	37	23	35	45
L_{WA} to environment	dBA	52	23	33	47	46	44	42	34	21	31	41
Max speed												
L_{WA} to inlet	dBA	67	38	49	63	63	60	57	50	38	47	57
L_{WA} to outlet	dBA	66	38	48	61	62	59	56	48	37	46	56
L_{WA} to environment	dBA	63	34	45	58	58	56	53	46	35	42	52

VENTS TT



	Hz	general	63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound power level, A-filter applied												
			Octave frequency band, Hz								**Sound pressure level at 3 meters, A-filter applied**	**Sound pressure level at 1 meters, A-filter applied**
Min speed												
L_{WA} to inlet	dBA	66	35	46	63	60	57	53	43	28	45	55
L_{WA} to outlet	dBA	65	34	45	62	59	56	53	43	28	44	54
L_{WA} to environment	dBA	54	24	35	50	49	47	44	36	23	34	44
Max speed												
L_{WA} to inlet	dBA	75	42	52	71	69	67	64	56	43	54	64
L_{WA} to outlet	dBA	74	41	50	70	69	66	63	56	42	53	63
L_{WA} to environment	dBA	64	32	41	59	58	57	54	48	36	43	53

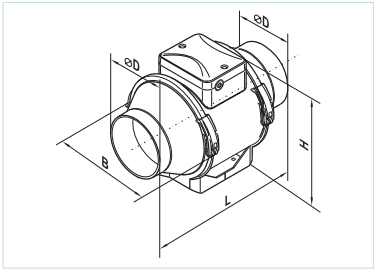
Technical data

	TT 100		TT 125		TT 125 S		TT 150/TT 160	
Speed	min	max	min	max	min	max	min	max
Voltage [V/50 (60) Hz]	1~230		1~230		1~230		1~230	
Power [W]	21	33	23	37	32	60	30	60
Current [A]	0.11	0.21	0.18	0.27	0.14	0.27	0.17	0.27
Max. air flow [m^3/h]	145	187	220	280	295	440	405	520
RPM [min^{-1}]	2180	2385	1950	2455	1850	2510	1680	2460
Noise level at 3 m [dBA]	27	36	28	37	31	42	33	44
Transported air temperature [°C]	-25...+60		-25...+60		-25...+60		-25...+60	
SEC class	C		B		C		B	
Protection rating	IPX4		IPX4		IPX4		IPX4	

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

Fan overall dimensions

Type	Dimensions [mm]				Mass [kg]
	ØD	B	H	L	
TT 100	96	167	190	246	1.45
TT 125	123	167	190	246	1.79
TT 125 S	123	223	250	295	3.14
TT 150	146	223	250	295	3.19
TT 160	158	233	250	295	3.22



Mounting examples

in the bathroom

in the office

parallel mounting of the fans in storage room increases air capacity

Series
VENTS TT PRO

Inline mixed-flow fans with the air flow up to **2050 m³/h**

Application

The **VENTS TT PRO** fans are featured with wide capabilities and high performance of axial and centrifugal fans and are specifically designed for supply and exhaust ventilation of premises requiring high pressure, powerful air flow and low noise level. The fans are compatible with round air ducts from Ø 100 to 315 mm. Exhaust ventilation systems based on the VENTS TT PRO fans are the best solution for ventilation of bathrooms and kitchens and other humid premises as well for ventilation of flats, cottages, shops, cafes, etc.

Design

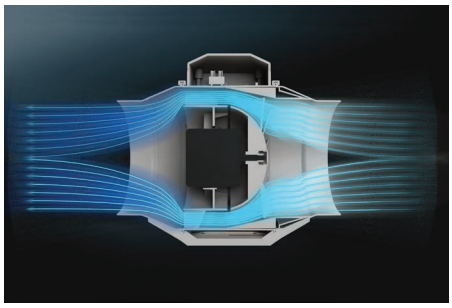
The fan casing is made of low flammable polypropylene. The inlet spigot is equipped with a collector to enable smooth air inlet to the fan. The hemispheric impeller shape and specially profiled blades increase the air flow circular velocity and provide higher pressure and capacity as compared to standard axial fans. The diffuser, the specially profiled impeller and the directing vanes at outlet from the fan casing distribute air flow in such a way as to attain the best combination of high performance, enhanced pressure and low noise.

The removable central unit with a motor, an impeller and a terminal box is attached to the spigots by special clamps with latches. This makes fan maintenance easy and convenient. You do not need to disassemble the entire fan – simply remove the central unit from the casing for service operations. All models of the VENTS TT PRO series can be equipped with an adjustable turn-off delay timer with a delay from 2 to 30 minutes.

Motor

The models of VENTS TT PRO series are equipped with single phased double-speed motors with low energy demand.

The motors have thermal overheating protection to prevent the motor overload. The ball bearings extend the motor service life up to 40 000 hrs. at non-stop operation. The motor has IPX4 ingress protection rating.



Speed control

The double-speed motors are controlled with a built-in switch (V option) or an external switch for multi-speed fans (available upon separate order).

TT PRO fan with a three-position speed switch

An integrated speed controller (option P), an external

Designation key

Series	Air duct diameter	Options
VENTS TT PRO	100; 125; 150; 160; 200; 250; 315	**T**: adjustable timer from 2 to 30 minutes. **U**: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Temperature-based operation logic. **Un**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4 m cable. Temperature-based operation logic. **U1**: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Timer-based operation logic. **U1n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4 m cable. Timer-based operation logic. **U2n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4 m cable. Temperature-based switching on/off. **R1**: power cord with mains plug. **V**: threeposition speed switch (for TT PRO series fans only). **P**: built-in smooth speed controller.

ErP data	
Overall efficiency	η [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	kW
Current	A
Air flow	m^3/h
Static pressure	Pa
Speed	n/min^{-1}
Specific ratio	SR

Accessories

Silencer | Filters | Heaters | Backdraft damper | Air shutter | Clamps | Temperature regler | Speed switches

TRIAC or autotransformer speed controller (available upon separate order) are used for smooth speed control when connected to the maximum speed terminal.

TT PRO fan with a built-in speed controller

Mounting

The fans are suitable for mounting at any angle and point of the system. Several fans may be installed inside one system. Several fans may be installed inside one system:

– **parallel** mounting to increase air flow;

TTP kit for parallel connection

– **in series mounting** to increase operating pressure;

TTS kit for series connection

The fan case is equipped with a flat mounting plate to attach the fan to the wall. The mounting box may be installed in any position to facilitate mounting and wiring.

The fan with electronic module of the temperature sensor and speed controller (U option).

The ideal solution for ventilation of the premises with high demands to permanent indoor temperature level, e.g. greenhouses.

The fan with the electronic module of the temperature sensor and the speed controller is used for automatic speed control (air flow regulation) depending on the air temperature in the ventilation duct or inside a room.

The electronic module of the front panel incorporates:

– the speed control knob for the setting the impeller speed;

– the thermostat control knob for setting the temperature set point.

– thermostat LED light.

Three modifications are possible:

– temperature sensor integrated inside a fan duct (U/U1/U2 option);

– external temperature sensor fixed on 4 m power cable (Un/U1n option).

Operating logic of the fan with the electronic module of the temperature sensor and speed controller

Set the desired air temperature (set point of the thermostat) with the thermostat control knob. Set the required minimum impeller speed (air flow) with the speed control knob. The motor switches to maximum speed (maximum air flow) as the temperature reaches and exceeds the set temperature set point. The motor switches to the pre-set speed as the temperature drops down below the set temperature point.

To avoid the frequent motor switching, e.g. when the temperature in the supply air duct is equal to the threshold value, the switching delay time is activated.

There are two switch delay patterns for various cases:

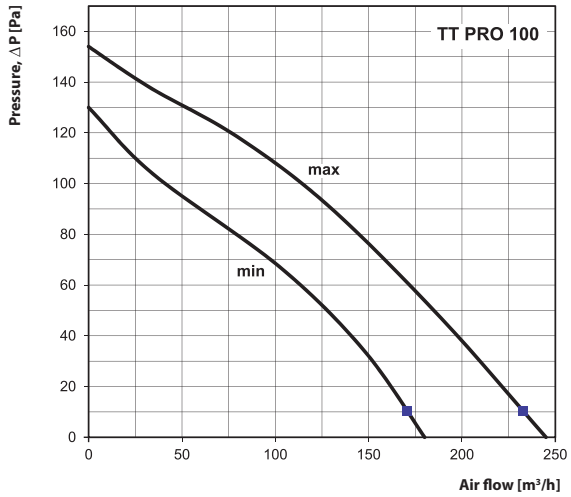
1. The temperature sensor-based switch delay (U option): the motor switches to higher speed as the air temperature exceeds 2 °C above the set thermostat set point. The motor revers to the pre-set lower speed as the air temperature drops below the thermostat set point.

This pattern is used to keep air temperature to within 2 °C. In this case the fan switches are rare.

2. The timer-based switch delay (U1 option): as the air temperature exceeds the set thermostat set point, the motor switches to higher speed and the switch delay timer is activated for 5 min. The motor reverts to lower speed as the air temperature drops down below the thermostat set point and only after the timer countdown.

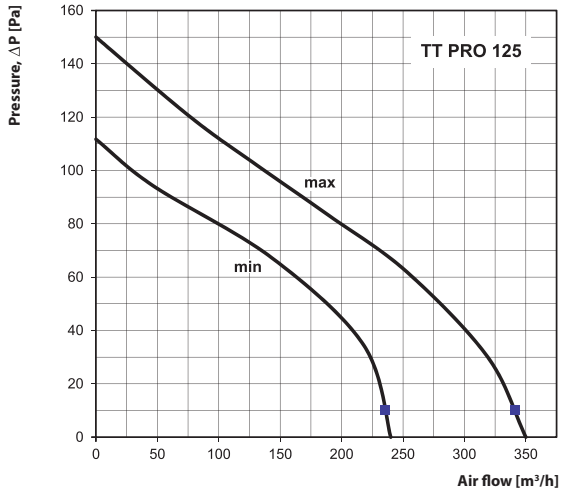
This pattern is used for exact air temperature control. The fan changes its speed more often as compared to the temperature sensor-based switch delay, however the minimum timer interval is 5 minutes.

VENTS TT PRO



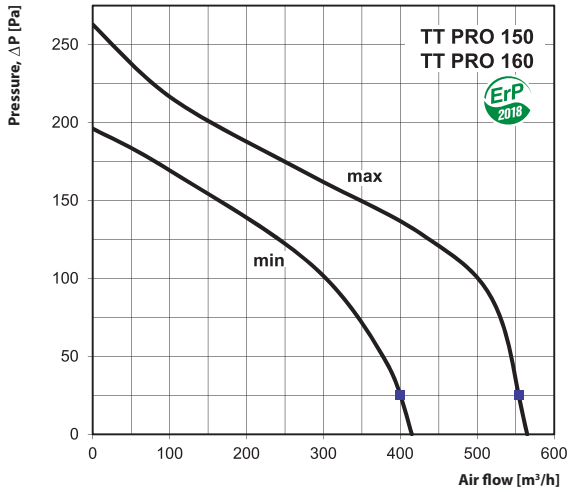
Sound power level, A-filter applied												Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		general	Octave frequency band, Hz										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
Min speed													
L_{WA} to inlet	dBA	54	19	35	50	49	44	37	25	17		33	43
L_{WA} to outlet	dBA	53	17	34	50	49	43	36	24	17		32	42
L_{WA} to environment	dBA	47	14	29	43	43	39	33	22	15		27	37
Max speed													
L_{WA} to inlet	dBA	59	24	34	53	54	53	48	37	26		38	48
L_{WA} to outlet	dBA	57	23	33	52	52	52	47	37	26		37	47
L_{WA} to environment	dBA	52	18	29	46	48	47	43	33	23		32	42

VENTS TT PRO



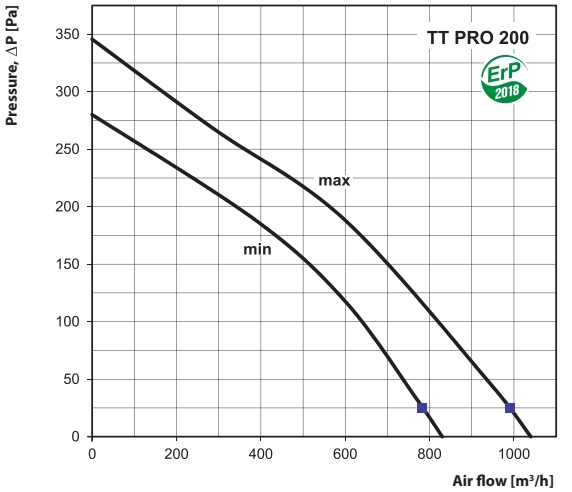
Sound power level, A-filter applied												Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		general	Octave frequency band, Hz										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
Min speed													
L_{WA} to inlet	dBA	54	26	38	52	50	44	38	27	17		34	44
L_{WA} to outlet	dBA	54	25	37	51	49	43	38	28	18		33	43
L_{WA} to environment	dBA	49	21	32	46	45	40	35	25	16		29	39
Max speed													
L_{WA} to inlet	dBA	60	20	31	57	51	51	50	39	27		39	49
L_{WA} to outlet	dBA	59	20	31	56	51	51	49	39	26		38	48
L_{WA} to environment	dBA	54	16	27	51	46	47	45	36	24		34	44

VENTS TT PRO



Sound power level, A-filter applied												Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		general	Octave frequency band, Hz										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
Min speed													
L_{WA} to inlet	dBA	59	31	45	54	52	54	48	35	29		38	48
L_{WA} to outlet	dBA	63	37	49	56	56	60	48	39	30		42	52
L_{WA} to environment	dBA	52	21	30	48	48	45	42	34	23		32	42
Max speed													
L_{WA} to inlet	dBA	69	38	51	57	62	60	66	49	44		48	58
L_{WA} to outlet	dBA	72	42	55	66	67	68	65	53	45		52	62
L_{WA} to environment	dBA	65	23	37	56	59	57	61	47	35		44	54

VENTS TT PRO



Sound power level, A-filter applied												Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		general	Octave frequency band, Hz										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
Min speed													
L_{WA} to inlet	dBA	66	38	50	58	59	60	59	55	45		45	55
L_{WA} to outlet	dBA	64	40	50	54	58	59	57	51	44		43	53
L_{WA} to environment	dBA	60	27	42	49	54	55	54	46	34		39	49
Max speed													
L_{WA} to inlet	dBA	71	41	50	63	64	65	64	62	52		50	60
L_{WA} to outlet	dBA	70	43	52	61	66	64	63	58	51		50	60
L_{WA} to environment	dBA	65	34	43	54	60	60	60	53	41		45	55

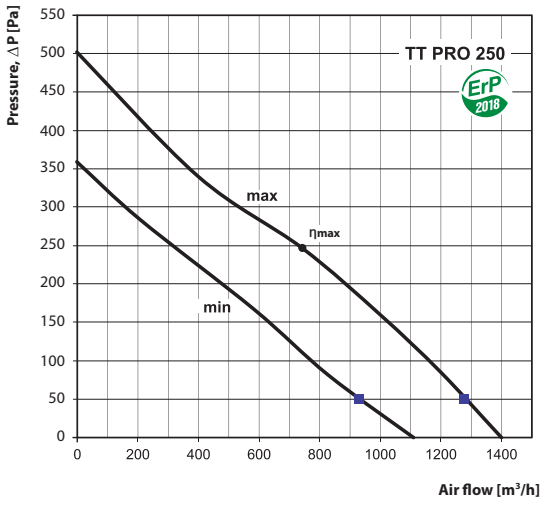
Technical data

	TT PRO 100		TT PRO 125		TT PRO 150/ TT PRO 160	
Speed	min	max	min	max	min	max
Voltage [V/50 (60) Hz]	1~230		1~230		1~230	
Power [W]	23	25	25	29	42	50
Current [A]	0.10	0.11	0.11	0.13	0.19	0.22
Max. air flow [m³/h]	180	245	240	350	415	565
RPM [min⁻¹]	2050	2620	1630	2300	1940	2620
Noise level at 3 m [dBA]	27	32	29	34	32	44
Transported air temperature [°C]	60		60		60	
SEC class	C		B		B	
Protection rating	IPX4		IPX4		IPX4	

	TT PRO 200		TT PRO 250		TT PRO 315	
Speed	min	max	min	max	min	max
Voltage [V/50 (60) Hz]	1~230		1~230		1~230	
Power [W]	76	108	125	177	230	320
Current [A]	0.34	0.48	0.54	0.79	1.0	1.42
Max. air flow [m³/h]	830	1040	1110	1400	1570	2050
RPM [min⁻¹]	1915	2380	1955	2440	1890	2430
Noise level at 3 m [dBA]	39	45	44	51	41	52
Transported air temperature [°C]	60		60		60	
SEC class	B		-		-	
Protection rating	IPX4		IPX4		IPX4	

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

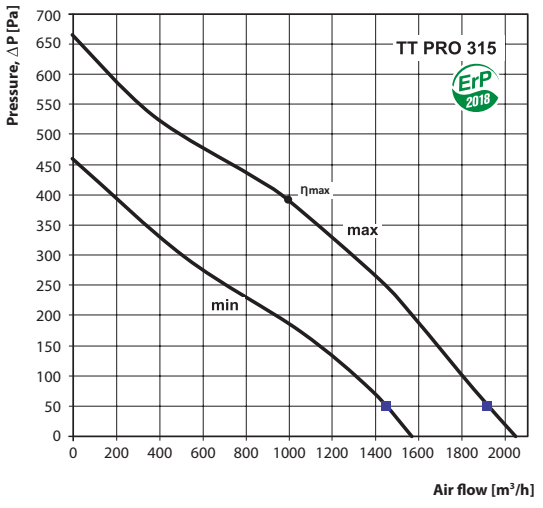
VENTS TT PRO



Sound power level, A-filter applied											Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		general	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
Min speed												
L_{WA} to inlet	dBA	72	48	57	63	66	69	64	54	45	52	62
L_{WA} to outlet	dBA	75	48	56	64	70	71	66	56	45	54	64
L_{WA} to environment	dBA	65	32	51	57	61	59	56	45	32	44	54
Max speed												
L_{WA} to inlet	dBA	78	52	62	66	71	75	72	62	52	58	68
L_{WA} to outlet	dBA	81	52	60	66	76	77	74	63	52	60	70
L_{WA} to environment	dBA	72	35	50	63	69	66	63	53	40	51	61

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
30.6	A	Static	49.2	No	0.171	0.79	742	247	2465	1

VENTS TT PRO

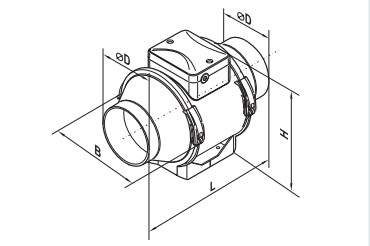


Sound power level, A-filter applied											Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		general	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
Min speed												
L_{WA} to inlet	dBA	72	43	54	62	67	66	67	58	47	52	62
L_{WA} to outlet	dBA	70	45	57	59	64	66	63	56	46	50	60
L_{WA} to environment	dBA	62	28	51	53	57	57	54	46	36	41	51
Max speed												
L_{WA} to inlet	dBA	80	50	59	68	73	77	74	70	59	60	70
L_{WA} to outlet	dBA	78	51	60	66	70	75	71	66	57	58	68
L_{WA} to environment	dBA	72	37	51	66	66	67	65	58	48	52	62

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
34.4	A	Static	50	No	0.322	1.45	996	392	2380	1

Fan overall dimensions

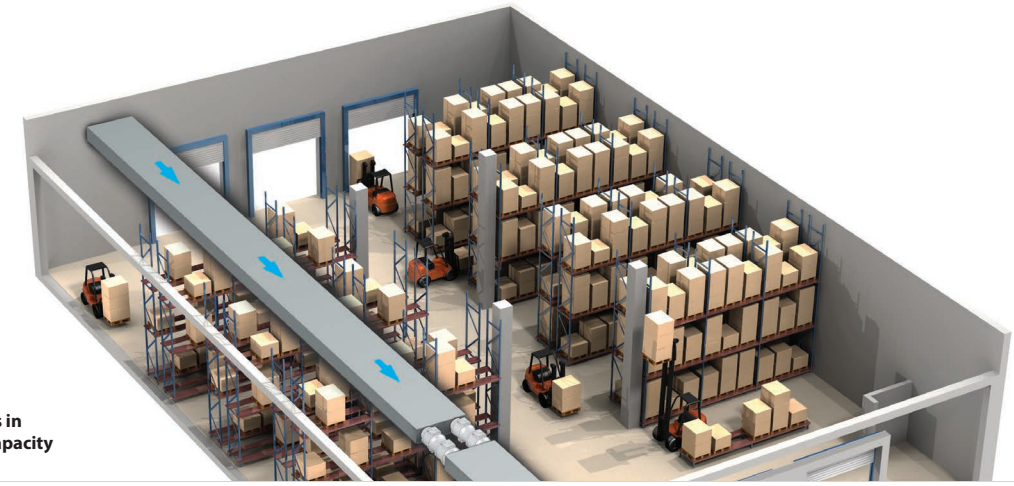
Type	Dimensions [mm]				Mass [kg]
	ØD	B	H	L	
TT PRO 100	97	195.8	226	302.5	1.75
TT PRO 125	123	195.6	226	258.5	2.15
TT PRO 150	148	220.1	247	289	2.95
TT PRO 160	158	220.1	247	289	3.25
TT PRO 200	199	239	261	295.5	3.95
TT PRO 250	247	287	323	383	7.80
TT PRO 315	310	362	408	445	11.95



Mounting examples

in the bathroom

in the office



parallel mounting of the fans in storage room increases air capacity

Series

VENTS TT PRO EC

Inline mixed-flow fans with the air flow up to **1970 m³/h**

Application

VENTS TT PRO EC fans combine the versatility and outstanding performance of both axial and centrifugal fans producing a powerful air flow and high pressure while retaining the signature energy-efficiency and response of EC motors.

Integration of several fans into a single computer-controlled system with sensor feedback combined with speed control across the entire dynamic range.

Designed for supply and exhaust ventilation systems requiring high energy efficiency, excellent response, high pressure and air flow rate while keeping noise under control – such as high-humidity commercial and industrial spaces (e.g. bathrooms and kitchens) as well as flats, villas, shops and cafes.

Compatible with air ducts from 100 to 315 mm in diameter.

Design

The casing of VENTS TT PRO EC fan is made of low-combustible polypropylene. The removable central unit with a motor, impeller and terminal box is attached to the fittings by means of special mounting brackets with integral latches. This helps to make the fan maintenance extremely simple and convenient. Fan service no longer requires major disassembly and dismantling of the fan: all you have to do is remove the main unit from the casing and carry out the maintenance as required.

The inlet fitting has a profiled header which ensures smooth air flow into the fan. Conically shaped impellers with specially profiled blades cause circular velosity rise, that resuts in airflow boost and pressure increase comparing to conventional design.

The fan outlet combination of a diffuser, specially designed impeller and rectifier allow for the optimim air distribution: high air flow and pressure without excessive noise.

Motor

The fans feature high-efficiency electronically commutated (EC) direct current motors. These state-of-the-art units offer excellent energy efficiency. In addition to that EC motors combine high performance and optimum response over the entire speed range. The performance efficiency of electronically commutated motors reaches a staggering 90 %.

Speed control

The fans are controlled by means of a 0-10 V control signal while the performance regulation is based on the feedback from the temperature, smoke and other sensors as well as other vital parameter settings. As the control signal changes the EC fan changes speed accordingly to supply the exact air amount required by the ventilation system.

The maximum fan speed does not depend on the electric mains frequency enabling compatibility with both 50 Hz and 60 Hz networks. The fans can be easily combined into a single computer-controlled network. Special software allows for precise control over the operating parameters of the network units. All the system parameters can be monitored from the computer screen allowing to program operating parameters for each fan on the network individually.

Installation

The fans are intended for installation in matching diameter air ducts at any point of the ventilation system without limitation to mounting angle.

The fan casing has a flat mounting plate for a secure wall mounting.

Electrical connection and installation must be performed in accordance with the instruction manual and the electrical connections diagram applied to the terminal box.

A single system may have several fans installed in parallel to boost the output capacity or in series to boost the working pressure.

Designation key

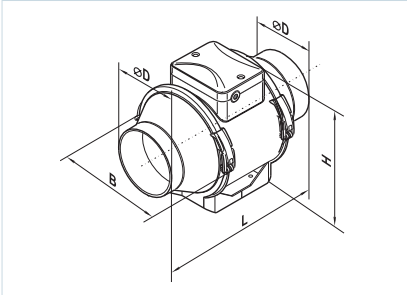
Series	Air duct diameter	Options	Motor type
VENTS TT PRO	100; 125; 150; 160; 200; 250; 315	**U**: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Temperature-based operation logic. **Un**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4 m cable. Temperature-based operation logic. **U2n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4 m cable. Temperature-based switching on/off. **P**: built-in smooth speed controller.	**EC**: synchronous electronically commutated motor

Accessories

Silencer | Filters | Heaters | Backdraft damper | Air shutter | Clamps | Temperature regler | Speed switches

Fan overall dimensions:

Type	Dimensions [mm]				Mass [kg]
	ØD	B	H	L	
TT PRO 100 EC	97	192	241	303	1.75
TT PRO 125 EC	123	193	241	259	2.15
TT PRO 150 EC	148	217	289	254	2.95
TT PRO 160 EC	158	217	289	254	3.25
TT PRO 200 EC	197	239	296	278	3.95
TT PRO 250 EC	247	288	339	383	7.80
TT PRO 315 EC	309	360	423	443	11.95

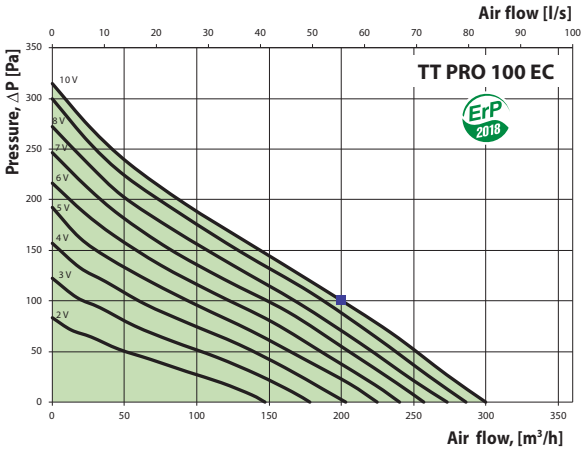


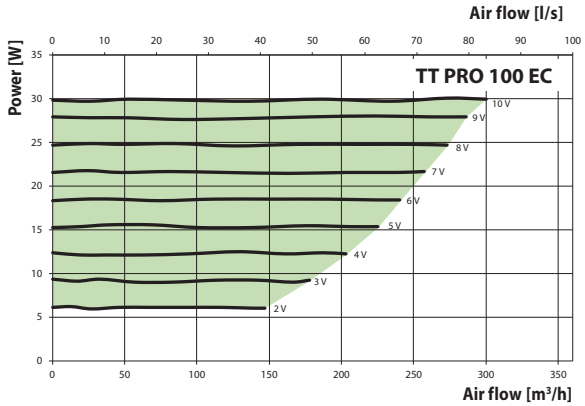
Technical data:

	TT PRO 100 EC	TT PRO 125 EC
Voltage [V/50 Hz]	1~230	1~230
Power [W]	30	40
Current [A]	0.29	0.37
Max. air flow [m³/h]	300	450
RPM [min⁻¹]	3680	3750
Sound pressure level at 3 m distance [dBA]	47	49
Transported air temperature [°C]	-25...+55	-25...+55
SEC class	B	B
Protection rating	IPX4	IPX4

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

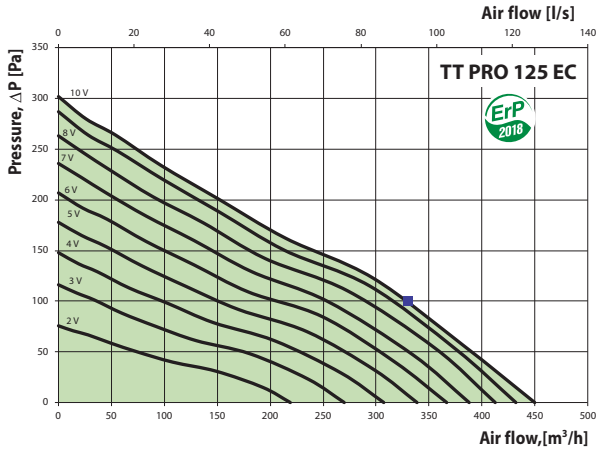
VENTS TT PRO EC

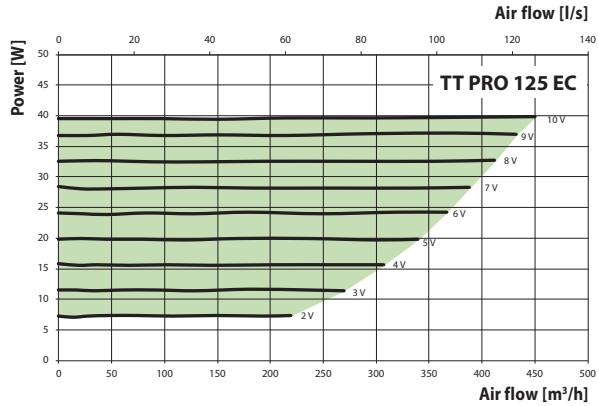




Sound power level, A-filter applied											Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		general	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	74	42	55	62	70	69	66	58	52	54	63
L_{WA} to outlet	dBA	69	33	42	59	66	63	62	57	50	49	59
L_{WA} to environment	dBA	67	27	45	55	65	62	60	49	38	47	57

VENTS TT PRO EC





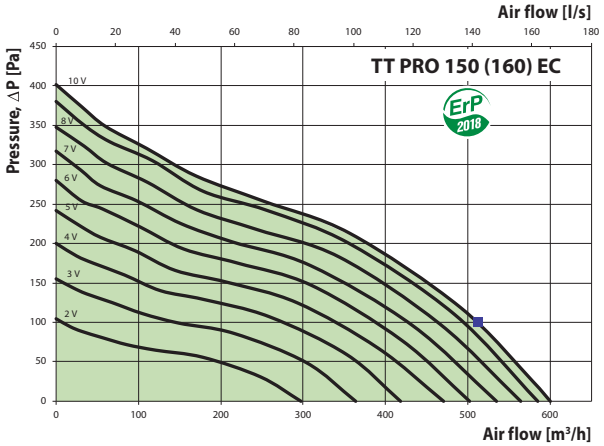
Sound power level, A-filter applied											Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		general	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	76	36	46	60	75	66	65	61	54	56	66
L_{WA} to outlet	dBA	74	34	48	61	70	69	64	60	53	53	63
L_{WA} to environment	dBA	70	33	48	56	68	63	60	52	42	49	59

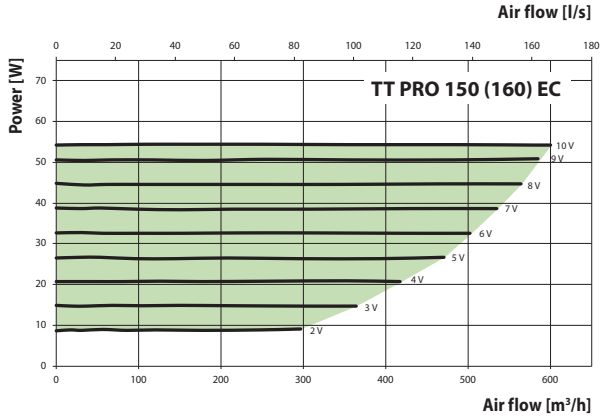
Technical data:

	TT PRO 150 (160) EC	TT PRO 200 EC
Voltage [V/50 Hz]	1~230	1~230
Power [W]	55	123
Current [A]	0.48	1.02
Max. air flow [m^3/h]	600	1040
RPM [min^{-1}]	3390	3390
Sound pressure level at 3 m distance [dBA]	46	49
Transported air temperature [°C]	-25...+55	-25...+55
SEC class	B	-
Protection rating	IPX4	IPX4

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

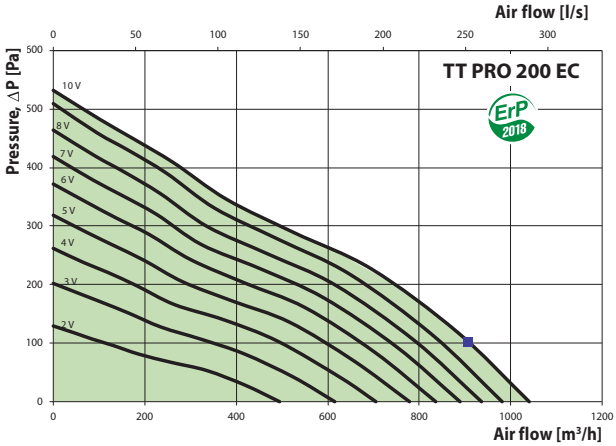
VENTS TT PRO EC

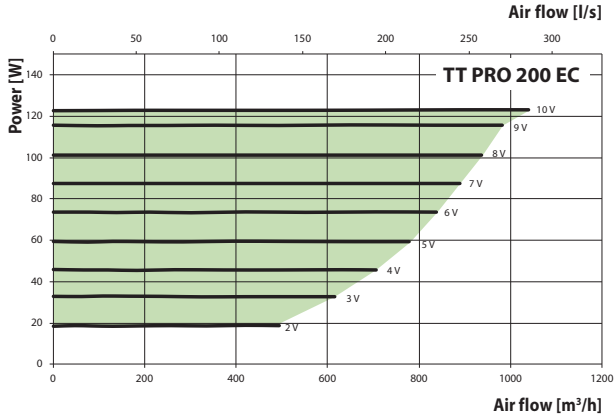




		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		general	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	70	37	43	58	65	63	65	59	52	50	60
L_{WA} to outlet	dBA	68	41	45	52	60	63	63	59	52	47	57
L_{WA} to environment	dBA	67	32	44	59	63	59	58	51	43	46	56

VENTS TT PRO EC





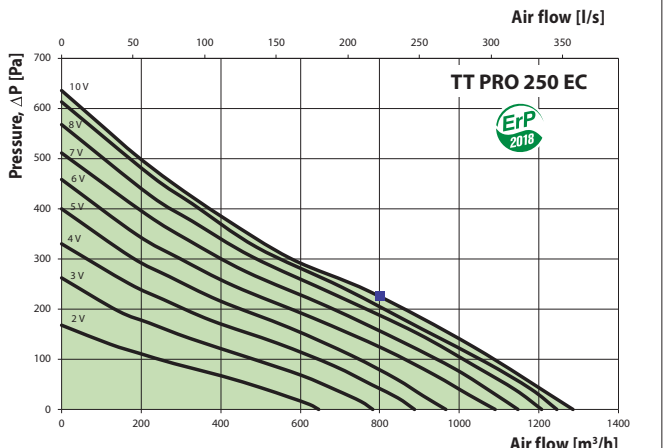
		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		general	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	76	36	45	57	70	69	72	69	59	56	63
L_{WA} to outlet	dBA	76	48	49	56	69	71	71	70	60	56	65
L_{WA} to environment	dBA	69	35	42	54	65	65	65	58	43	49	59

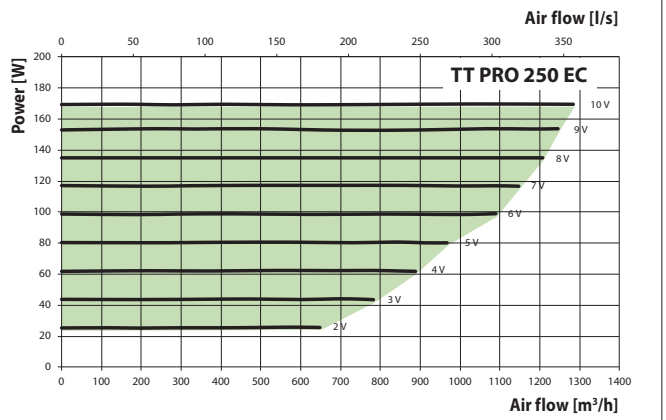
Transported:

	TT PRO 250 EC	TT PRO 315 EC
Voltage [V/50 Hz]	1~230	1~230
Power [W]	169	284
Current [A]	1.38	1.25
Max. air flow [m³/h]	1285	1970
RPM [min⁻¹]	2870	2826
Sound pressure level at 3 m distance [dBA]	53	55
Transported air temperature [°C]	-25...+55	-25...+55
SEC class	-	-
Protection rating	IPX4	IPX4

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

VENTS TT PRO EC

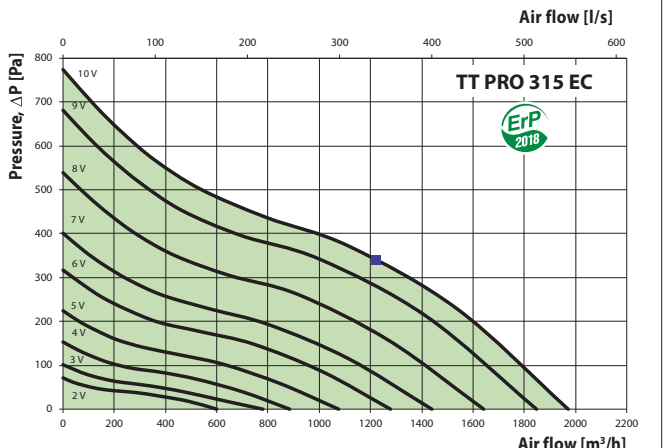


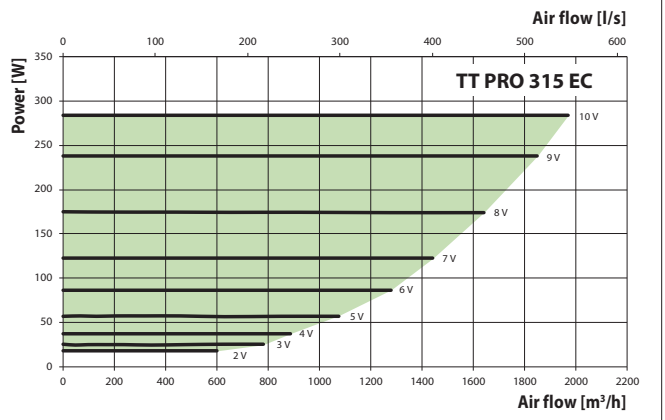


■ Sound power level, A-filter applied

	Hz	general	Octave frequency band, Hz								Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
			63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	81	43	51	64	77	77	77	69	62	61	71
L_{WA} to outlet	dBA	81	49	54	67	75	78	77	72	62	61	71
L_{WA} to environment	dBA	73	53	49	56	66	71	68	55	43	53	63

VENTS TT PRO EC





■ Sound power level, A-filter applied

	Hz	general	Octave frequency band, Hz								Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
			63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	81	42	54	64	74	78	75	70	63	61	70
L_{WA} to outlet	dBA	83	43	54	72	77	78	78	73	66	63	72
L_{WA} to environment	dBA	75	37	48	60	68	73	68	60	48	55	65

Series
VENTS Quietline

Inline axial fans with air flow up to **375 m³/h**

Applications

- Innovative stylish extract or supply fans for enhanced comfort level.
- Continuous or periodic ventilation of bathroom, showers, kitchens and other utility spaces.
- Maximum air flow combined with low noise level ensures an ideal room microclimate.
- Exhaust or supply ventilation depending on fan installation in the system.
- Designed for plastic (flexible) ducts.
- Transportation of low and medium air flow volumes for small distances at low air resistance in the ventilation system.
- Compatible with Ø 100, 125 and 150 mm air ducts.

Motor

- Reliable ball bearing motor with low energy demand from 4.5 W.
- VENTS Quietline models are equipped with a single-phase single or two speed motor (Quietline Duo and Quietline Extra modifications).
- The integrated thermal overheating protection prevents motor overload.
- The motor rests on rubber anti-vibration connectors to ensure low-noise operation of the fan (except for VENTS Quietline 150 Q).

Operation modes of fans with timer

Operation modes for T modifications of VENTS Quietline 100, VENTS Quietline 125, VENTS Quietline 150 and VENTS Quietline 150 Extra models are selected by setting the DIP switch in required position.

Mode 1

- The fan is turned off by default. The fan starts operating at the low speed when the switch is closed.

Mode 2

- The fan is turned off by default. The fan starts operating at the high speed when the switch is closed.

Mode 3 (two-speed mode)

- The fan operates at the low speed by default. The fan switches to the high speed when the switch is closed.

Mode 4 (automatic interval mode)

- The fan operates at the low speed by default. The fan switches to the high speed each set time period (adjustable from 1 to 15 hours) and operates up to 30 min to ventilate the premise with maximum capacity. After that the fan models back to the continuous operation at low speed.

Control

Manual speed control:

- The fan is controlled by a room light switch. It is not included in the delivery package.
- Speed control is performed with RS-1-300 or RS-1-400 thyristor speed controller (applicable for the models without timer). Optionally, speed control for VENTS Quietline 100 Duo, VENTS Quietline 125 Duo, VENTS Quietline 150 Duo, VENTS Quietline 150 Extra may be performed with P2-1-300 speed switch (for details, see Electrical Accessories).

Automatic speed control:

- With **BU-1-60** electronic control unit (for details, see Electrical Accessories). Available upon separate order.
- With timer T (integrated turn-off delay timer keeps the fan operating 2 up to 30 minutes after turning the fan off).

Mounting features

- The fan is mounted into a matching duct size. Fastening with clamps in case of flexible duct connection.
- The mounting bracket enables fan installation on both horizontal and vertical flat surfaces (**Quietline-k** model).
- Serial mounting of two fans boosts the operation pressure.
- For 12 V low-voltage motor fan connection to 220 V/50 Hz power mains use the step-down transformer TRF 220/12-25 (available upon separate order).

Designation key

Series	Air duct diameter	Motor	Options
Vents Quietline: inline axial fan **Vents Quietline-k**: inline axial fan with bracket	100; 125; 150	**B**: low-noise low-powered motor **Duo**: two speed motor **Extra**: two speed high-powered motor **12**: power supply with 12 V	**K**: back valve **T**: turn-off delay timer **R**: power cable with a IEC C14 socket

Accessories

Diffusers and air disk valves | Air ducts | Grilles and hoods | Backdraft damper | Speed controllers | Control unit

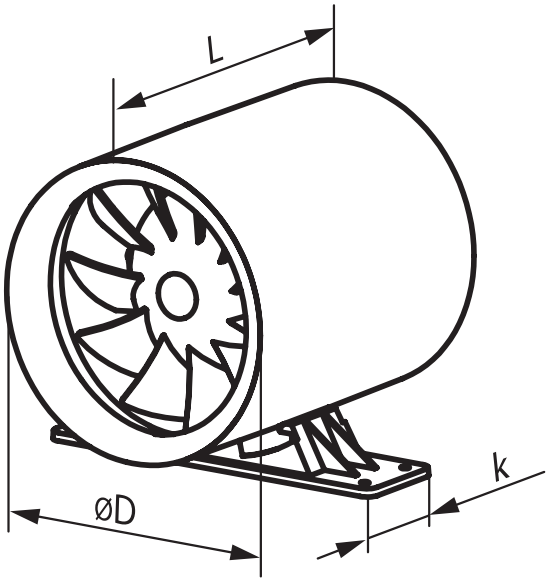
Design

- The casing and the impeller are made of high-quality durable plastic.
- The exhaust spigot is fitted with specially designed air flow rectifiers to reduce air turbulence, noise level and increase air pressure.

- The impeller design enhances fan efficiency and ensures low-noise operation of the fan.
- Ingress protection rating IPX4.

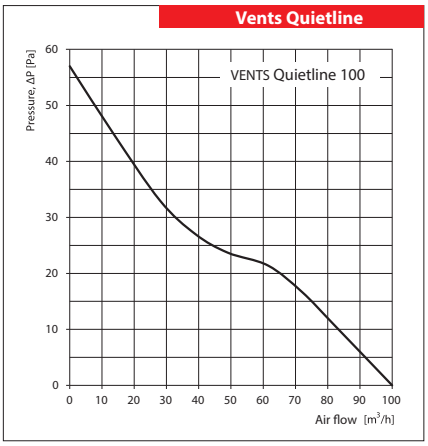
Overall dimensions [mm]

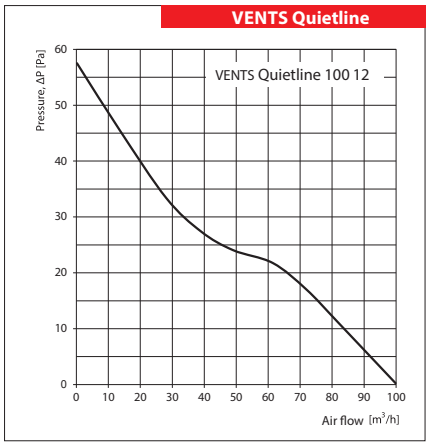
Model	L	Ø D	k
VENTS Quietline 100	137.5	99	-
VENTS Quietline-k 100	137.5	99	54
VENTS Quietline 125	161.5	125	-
VENTS Quietline-k 125	161.5	125	53.5
VENTS Quietline 150	182	150	-
VENTS Quietline-k 150	182	150	54

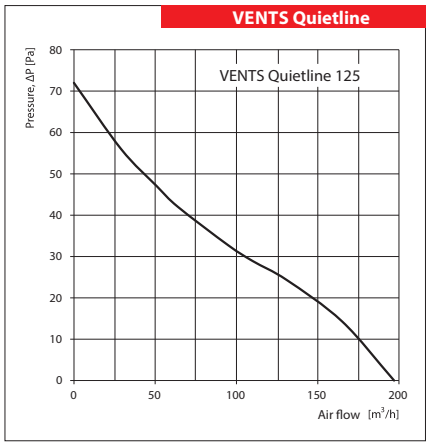


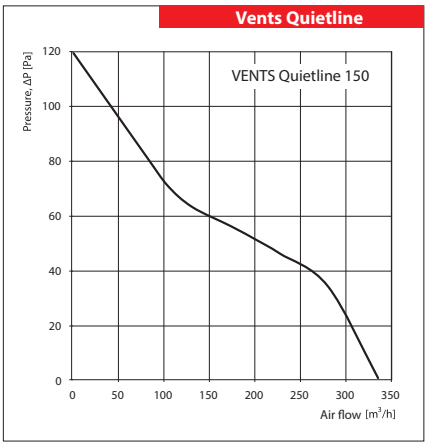
Technical data

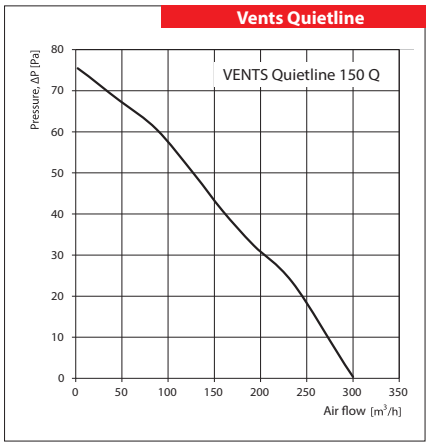
	VENTS Quietline 100	VENTS Quietline 100 12	VENTS Quietline 125	VENTS Quietline 150	VENTS Quietline 150 Q
Speed	-	-	-	-	-
Voltage [V/50 Hz]	1~230	12	1~230	1~230	
Power Consumption [W]	7.5	7.5	13	22	26
Current [A]	0.049	0.99	0.085	0.095	0.085
RPM [min^{-1}]	2100	2100	2250	2250	1900
Maximum air flow [m^3/h]	100	100	197	335	305
Sound Pressure Level at 3 m [dBA]	25	25	32	39	37
Mass [kg]	0.61	0.61	0.75	1.3	



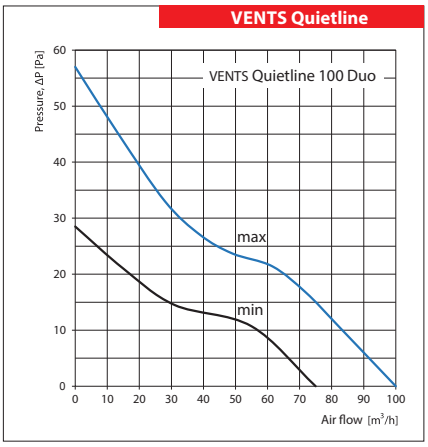


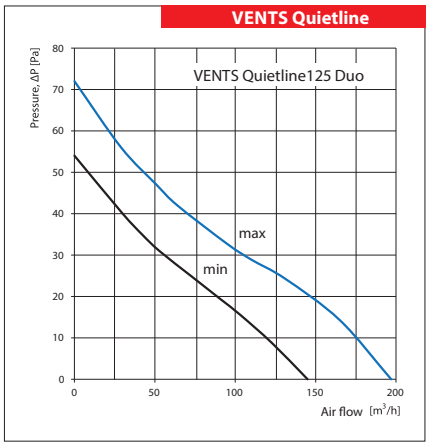


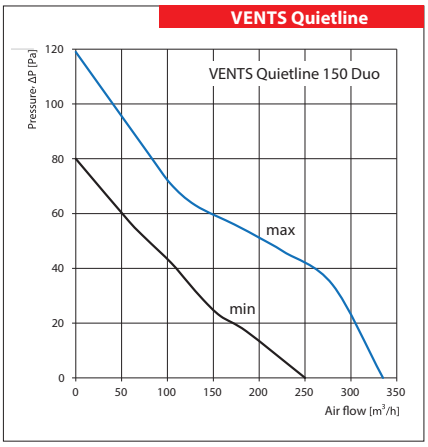


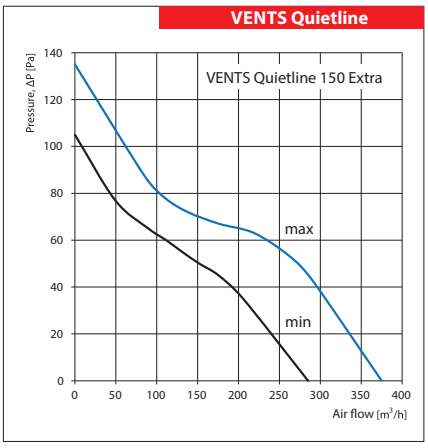


	VENTS Quietline 100 Duo		VENTS Quietline 125 Duo		VENTS Quietline 150 Duo		VENTS Quietline 150 Extra	
Speed	min	max	min	max	min	max	min	max
Voltage [V/50 Hz]	1~230		1~230		1~230		1~230	
Power Consumption [W]	4.5	7.5	10	13	19	22	22	25
Current [A]	0.029	0.049	0.065	0.085	0.087	0.095	0.103	0.109
RPM [min^{-1}]	1650	2100	1950	2250	1950	2250	2300	2600
Maximum air flow [m^3/h]	75	100	145	197	250	335	285	375
Sound Pressure Level at 3 m [dBA]	22	25	29	32	36	39	36	41
Mass [kg]	0.61		0.75		1.3		1.3	









Mounting examples

Series
VENTS Boost 150-250

Series
VENTS Boost 355-400

Inline fans in a polymer casing with the air flow of up to **3350 m³/h**

Application

The units are intended for supply, exhaust and supply and exhaust ventilation systems requiring a powerful air flow: commercial, office and other public or industrial premises as well as rooms with high humidity. The fans are compatible with Ø 150, 160, 200, 250, 355 and 400 mm air ducts.

Design

The casing is made of polymer (for models 355 and 400, the casing is additionally reinforced with a metal housing). Due to the conically-shaped polymer impeller with specially profiled blades the air stream circular velocity increases, which results in higher air flow and pressure as compared to characteristics of standard axial fans.

The specially designed diffuser, impeller and airflow rectifier at the fan outlet provide smooth air flow distribution and enable the best combination of high air flow, increased pressure and low noise. The fan casing is equipped with an airtight terminal box for connection to power mains.

Motor

The VENTS Boost fans are equipped with single-phase high-efficiency three-speed asynchronous motors with low power consumption.

The motor is equipped with thermal switches for overheating protection.

The ball bearings ensure a long service life (about 40 000 hours of continuous operation). The motor ingress protection rating is IPX4.

Speed control

The three-speed motor can be controlled using a built-in switch (option V) or an external switch P3-5.0 (purchased separately).

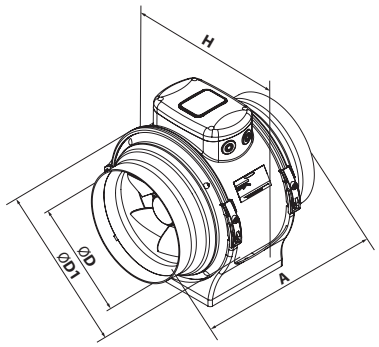
Mounting

The fans can be mounted at any place and at any angle within the ductwork system. Several fans can be installed in one system in parallel to attain higher air flow or in series to increase operating pressure in the system. The fan casing is equipped with fixing brackets for floor, wall or ceiling mounting.

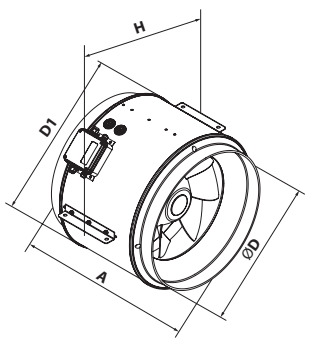
The fans can be mounted using KM-Boost brackets of the appropriate size (purchased separately, available for 355 and 400 models).

Overall dimensions

Model	Dimensions [mm]			
	A	Ø D	D1	H
Boost 150	301	149	247	267
Boost 200	302	199	293	308
Boost 250	293	249	327	342
Boost 355	388	350	390	450
Boost 400	388	395	441	500



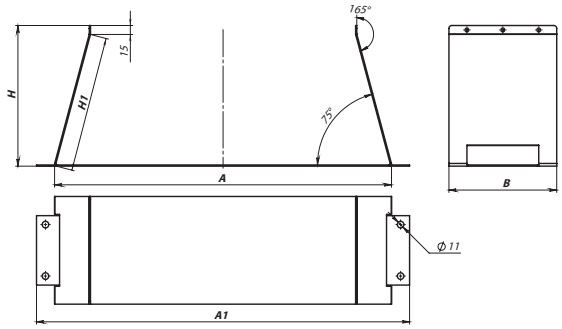
VENTS Boost 150-250



VENTS Boost 355-400

Overall dimensions of brackets

Model	Dimensions [mm]				
	A	A1	H	H1	B
KM-Boost 355	506	567	213	204	180
KM-Boost 400	563	624	235	228	180



Designation key

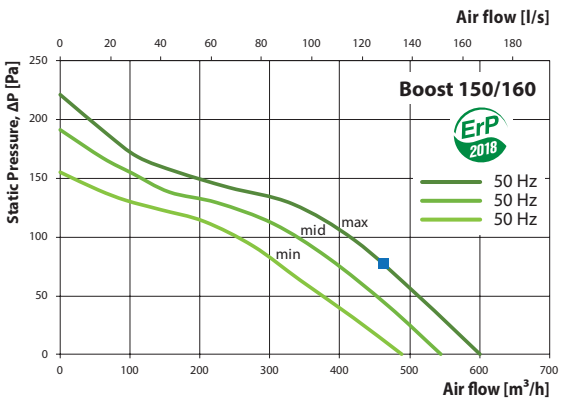
Series	Duct diameter	Options
VENTS Boost	150; 160; 200; 250; 355; 400	**R**: power cord with a mains plug **V**: step speed controller

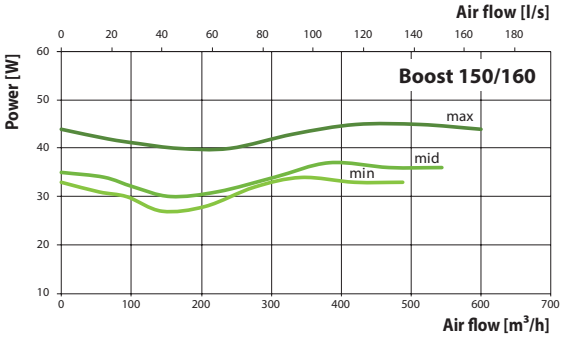
Technical data

Coming soon

	Boost 150/160			Boost 200		
Speed	Min	Mid	Max	Min	Mid	Max
Voltage [V]	1~230					
Frequency [Hz]	50					
Power [W]	34	37	45	82	101	113
Current [A]	0.15	0.16	0.20	0.37	0.45	0.51
Max. airflow [m^3/h]	488	544	600	752	978	1140
Max. airflow [l/s]	136	151	167	209	272	317
RPM [min^{-1}]	2550	2704	2816	1866	2400	2738
Sound pressure level at 3 m distance [dBA]	34	35	37	37	40	42
Maximum transported air temperature [°C]	-25...+55					
Protection rating	IPX4					
Motor protection rating	IP20					

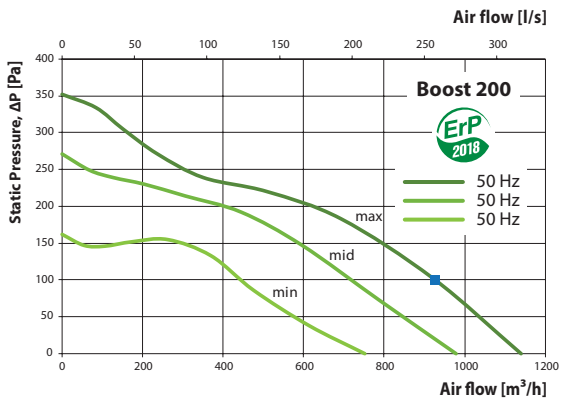
VENTS Boost

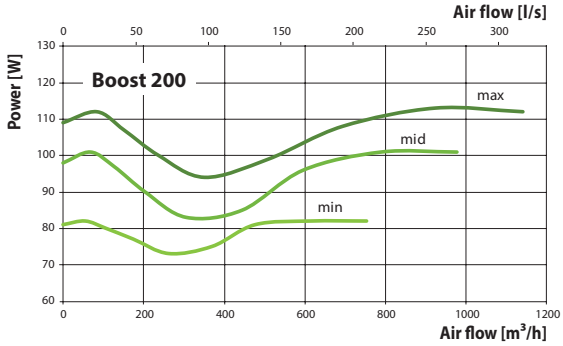




Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	69	34	38	56	67	61	60	56	48	49	59
L_{WA} to outlet	dBA	69	34	39	58	64	66	59	59	51	49	59
L_{WA} to environment	dBA	57	34	29	41	55	50	49	40	28	37	47

VENTS Boost





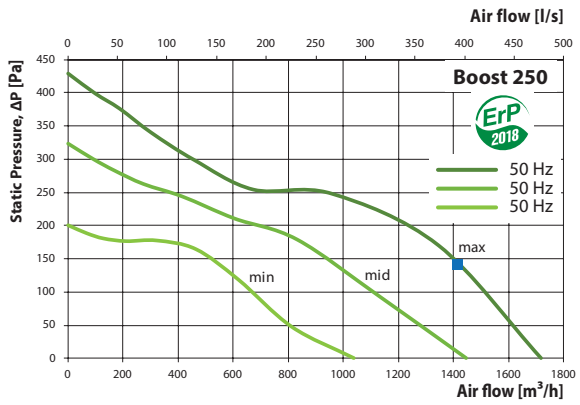
Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	77	52	73	75	60	51	47	51	42	56	66
L_{WA} to outlet	dBA	79	50	72	78	62	48	46	54	46	59	69
L_{WA} to environment	dBA	63	42	60	58	47	40	35	34	28	42	52

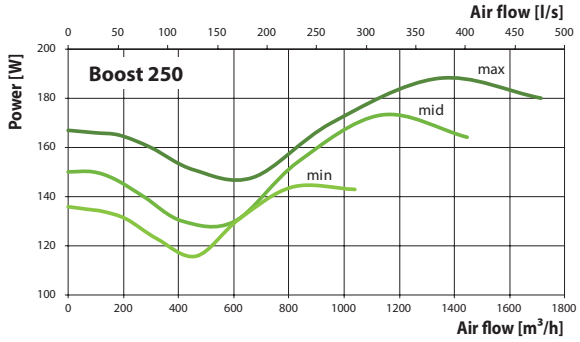
Technical data

Coming soon

	Boost 250		
Speed	Min	Mid	Max
Voltage [V]		1~230	
Frequency [Hz]		50	
Power [W]	144	173	188
Current [A]	0.70	0.81	0.84
Max. airflow [m^3/h]	1038	1447	1715
Max. airflow [l/s]	288	402	476
RPM [min^{-1}]	2292	2626	2876
Sound pressure level at 3 m distance [dBA]	39	41	43
Maximum transported air temperature [°C]		-25...+55	
Protection rating		IPX4	
Motor protection rating		IP20	

VENTS Boost



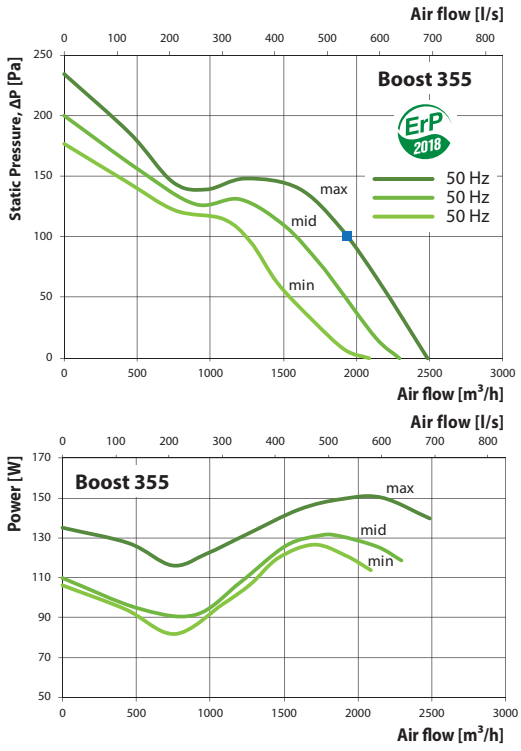


Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	78	53	74	76	61	51	47	51	42	58	68
L_{WA} to outlet	dBA	81	51	74	80	63	49	47	54	47	60	70
L_{WA} to environment	dBA	64	43	61	59	48	41	35	35	29	43	53

Technical data

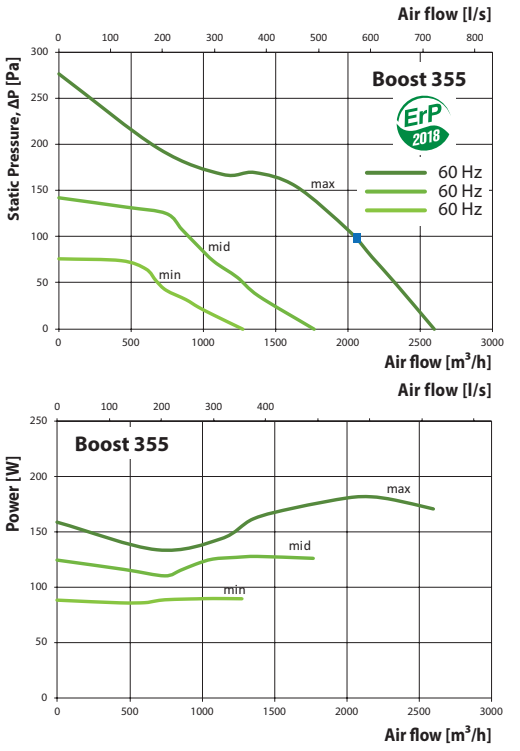
	Boost 355					
Speed	Min	Mid	Max	Min	Mid	Max
Voltage [V]	1~230					
Frequency [Hz]	50			60		
Power [W]	126	131	150	90	128	182
Current [A]	0.60	0.58	0.66	0.43	0.60	0.85
Max. airflow [m³/h]	2090	2296	2485	1277	1771	2600
Max. airflow [l/s]	581	638	690	355	492	722
RPM [min⁻¹]	1350	1400	1470	996	1360	1632
Sound pressure level at 3 m distance [dBA]	38	38	43	37	38	43
Maximum transported air temperature [°C]	-25...+55					
Protection rating	IPX4					
Motor protection rating	IP20					

VENTS Boost



Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	69	50	61	63	60	63	60	56	48	49	59
L_{WA} to outlet	dBA	69	56	61	63	61	65	59	54	48	49	59
L_{WA} to environment	dBA	63	42	49	61	53	57	50	46	35	43	53

VENTS Boost

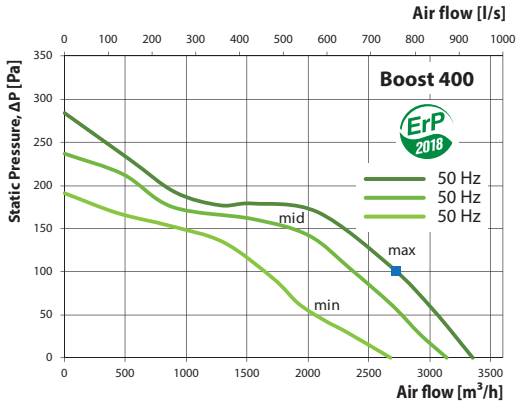


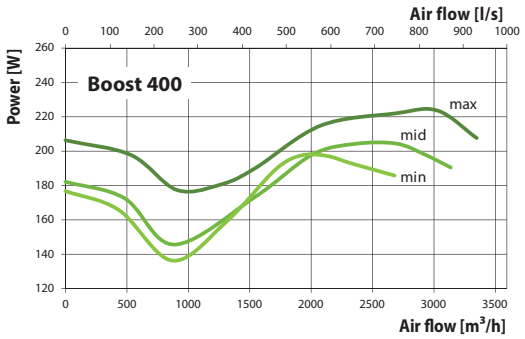
Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	69	50	61	63	60	63	60	56	48	49	59
L_{WA} to outlet	dBA	69	56	61	63	61	65	59	54	48	49	59
L_{WA} to environment	dBA	63	42	49	61	53	57	50	46	35	43	53

Technical data

	Boost 400					
Speed	Min	Mid	Max	Min	Mid	Max
Voltage [V]	1~230					
Frequency [Hz]	50			60		
Power [W]	197	204	224	146	208	300
Current [A]	0.91	0.90	0.98	0.73	1.00	1.40
Max. airflow [m^3/h]	2677	3136	3350	1846	2401	3390
Max. airflow [l/s]	744	871	931	513	667	942
RPM [min^{-1}]	1320	1390	1446	1000	1320	1566
Sound pressure level at 3 m distance [dBA]	40	42	43	38	42	43
Maximum transported air temperature [°C]	-25...+55					
Protection rating	IPX4					
Motor protection rating	IP20					

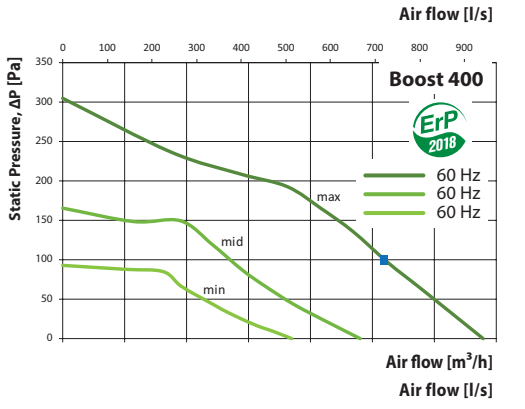
VENTS Boost

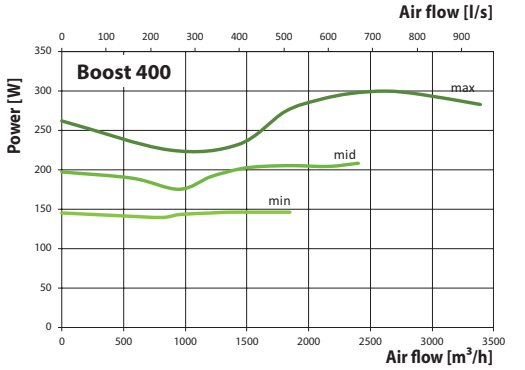




Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	71	57	62	66	65	64	61	55	47	51	61
L_{WA} to outlet	dBA	73	57	65	63	67	68	63	59	51	52	62
L_{WA} to environment	dBA	64	45	52	53	57	60	54	48	38	43	53

VENTS Boost





Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	71	57	62	66	65	64	61	55	47	51	61
L_{WA} to outlet	dBA	73	57	65	63	67	68	63	59	51	52	62
L_{WA} to environment	dBA	64	45	52	53	57	60	54	48	38	43	53

Series
VENTS Boost 150-250 EC

Series
VENTS Boost 315-400 EC

Inline fans in a polymer casing with the air flow of up to **5700 m³/h**

Application
Inline fans for supply and extract ventilation of various commercial and industrial premises requiring powerful air flow. The fans are compatible with Ø 150, 200, 250, 315, 355 and 400 mm air ducts.

Design
The casing is made of polymer (for models 315, 355 and 400, the casing is additionally reinforced with a metal housing). Due to the conically-shaped polymer impeller with specially profiled blades the air stream circular velocity increases, which results in higher air flow and pressure as compared to characteristics of standard axial fans.
The specially designed diffuser, impeller and airflow rectifier at the fan outlet provide smooth air flow distribution and enable the best combination of high air flow, increased pressure and low noise. The fan casing is equipped with an airtight terminal box for connection to power mains.

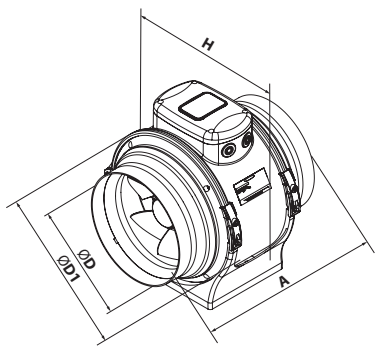
Motor
The units are equipped with highly efficient electronically commutated DC motors.
These state-of-the-art motors are the most advanced solution in energy efficiency today. EC motors are characterised with high performance and optimum control across the entire speed range. In addition to that, the efficiency of the electronically commutated motor reaches very impressive levels of up to 90 %.

Speed control
The fan is controlled using a 0-10 V control signal. When the control signal value changes, the EC fan changes its rotation speed and provides air flow required for the ventilation system. Several fans can be integrated into a single computer-driven control system. Custom designed software provides high accuracy control of the fans integrated into a network. The computer display shows all the system parameters and the operation mode can be set individually for each fan in the network.

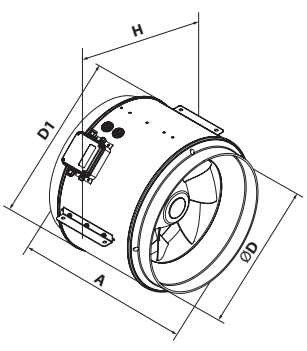
Mounting
The fans can be mounted at any place and at any angle within the ductwork system. Several fans can be installed in one system in parallel to attain higher air flow or in series to increase operating pressure in the system. The fan casing is equipped with fixing brackets for floor, wall or ceiling mounting.
The fans can be mounted using KM-Boost brackets of the appropriate size (purchased separately, available for 315, 355 and 400 models).

Overall dimensions

Model	Dimensions [mm]			
	A	Ø D	D1	H
Boost 150 EC	301	149	247	267
Boost 200 EC	302	199	293	308
Boost 250 EC	293	249	327	342
Boost 315 EC S	388	313	390	450
Boost 355 EC Boost 355 EC S	388	350	390	450
Boost 400 EC	388	395	441	500



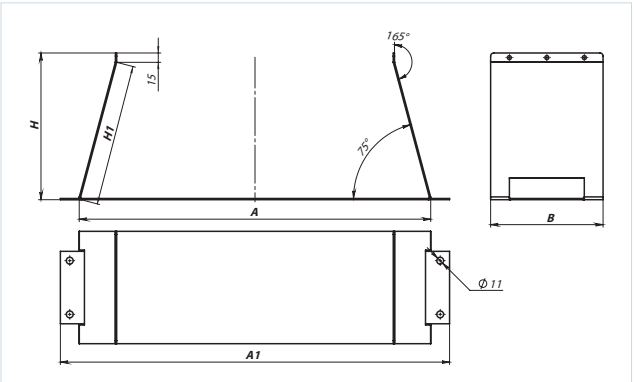
VENTS Boost 150-250 EC



VENTS Boost 315-400 EC

Overall dimensions of brackets

Model	Dimensions [mm]				
	A	A1	H	H1	B
KM-Boost 355	506	567	213	204	180
KM-Boost 400	563	624	235	228	180

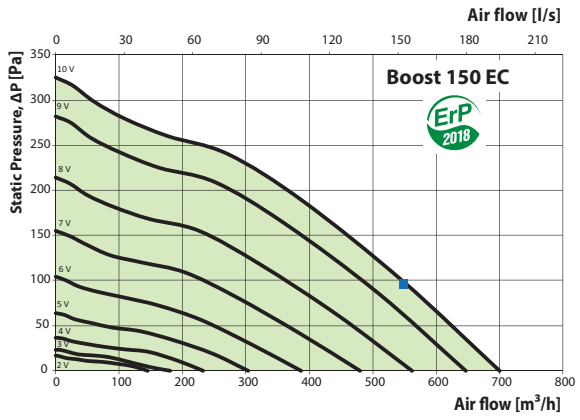


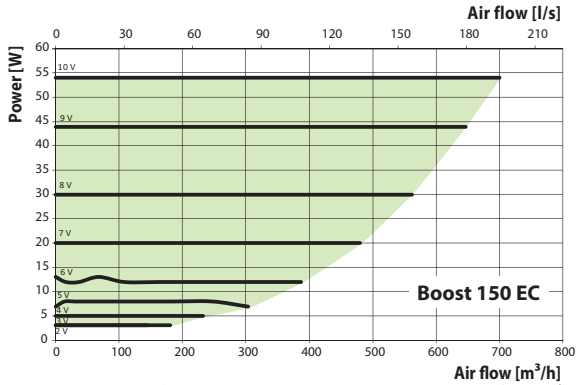
Technical data

Coming soon

	Boost 150 EC	Boost 200 EC
Voltage [V]	1~220-240	1~220-240
Frequency [Hz]	50/60	50/60
Power [W]	54	121
Current [A]	0.48	0.96
Maximum air flow [m³/h]	700	1250
Maximum air flow [l/s]	194	347
RPM [min⁻¹]	3700	3110
Sound pressure level at 3 m distance [dBA]	39	50
Maximum transported air temperature [°C]	-25...+55	-25...+55
Protection rating	IPX4	IPX4
Motor protection rating	IP44	IP44

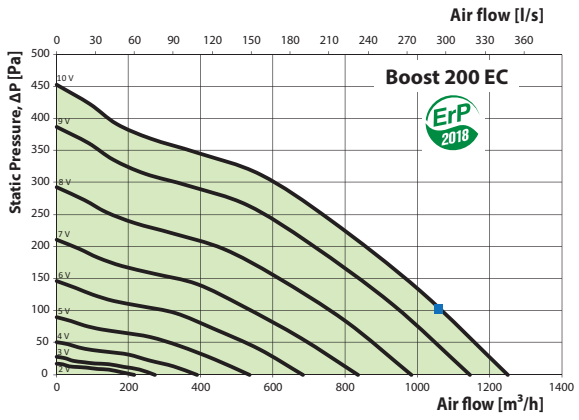
VENTS Boost

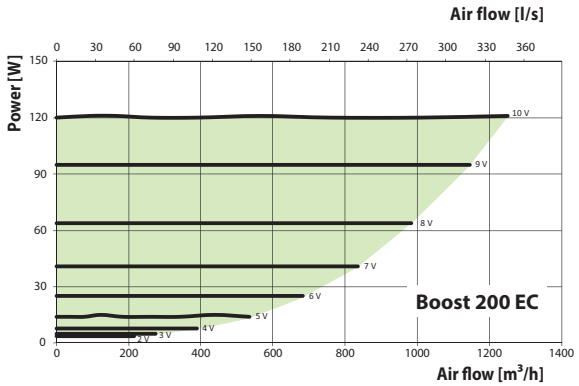




Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	70	45	65	68	55	46	43	47	38	49	59
L_{WA} to outlet	dBA	71	43	64	70	56	43	42	49	42	51	61
L_{WA} to environment	dBA	59	39	57	55	45	39	33	33	27	39	49

VENTS Boost





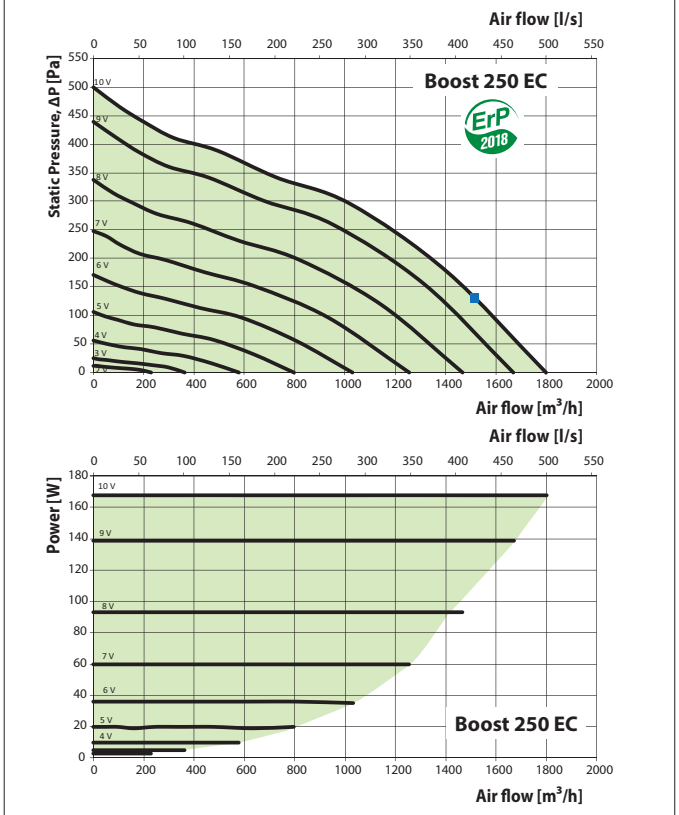
Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	78	53	62	70	73	72	70	64	53	57	67
L_{WA} to outlet	dBA	81	57	65	73	77	74	71	64	54	60	70
L_{WA} to environment	dBA	71	47	50	63	66	66	62	55	44	50	60

Technical data

Coming soon

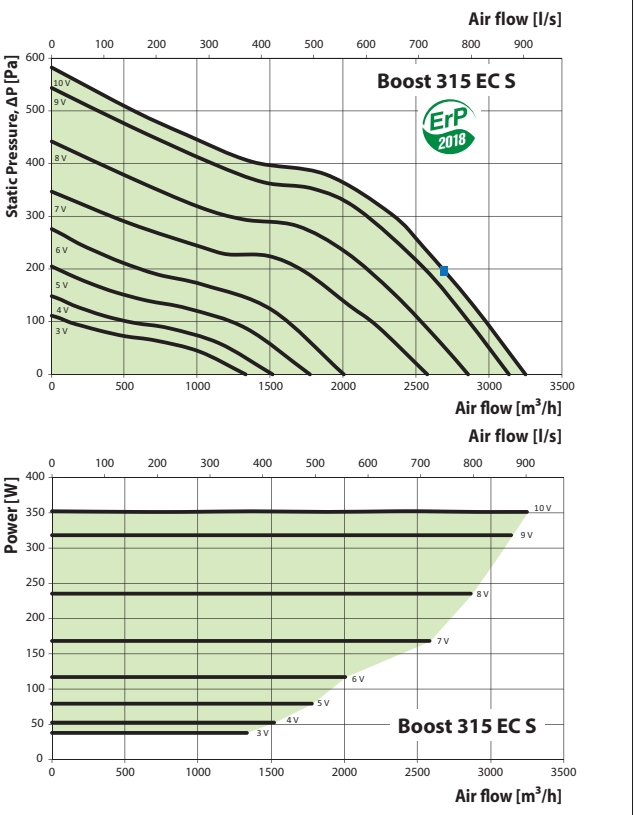
	Boost 250 EC	Boost 315 EC S
Voltage [V]	1~220-240	1~220-240
Frequency [Hz]	50/60	50
Power [W]	168	353
Current [A]	1.34	1.56
Maximum air flow [m³/h]	1800	3250
Maximum air flow [l/s]	500	903
RPM [min⁻¹]	3282	2424
Sound pressure level at 3 m distance [dBA]	49	55
Maximum transported air temperature [°C]	-25...+55	-25...+55
Protection rating	IPX4	IPX4
Motor protection rating	IP44	IP44

VENTS Boost



Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	77	73	74	69	64	55	49	49	43	57	67
L_{WA} to outlet	dBA	78	75	74	69	66	56	53	52	42	58	68
L_{WA} to environment	dBA	70	60	56	66	65	44	43	31	24	49	59

VENTS Boost

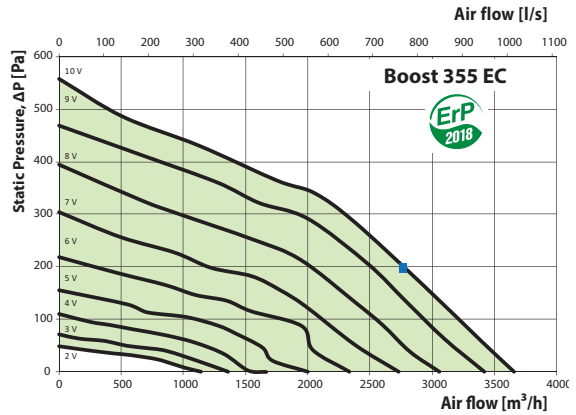


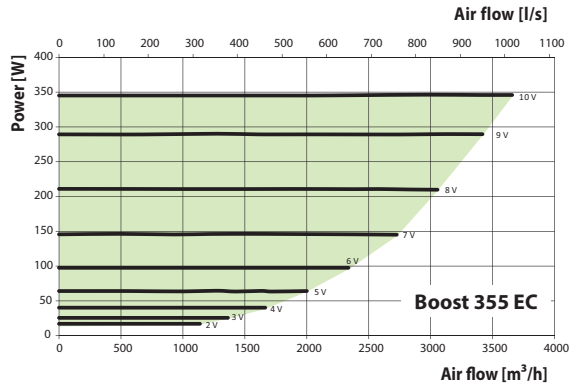
Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	83	73	76	75	75	78	74	69	61	63	73
L_{WA} to outlet	dBA	85	70	79	75	77	81	76	71	64	65	75
L_{WA} to environment	dBA	76	56	64	67	70	71	68	63	53	55	65

Technical data

	Boost 355 EC	Boost 355 EC S
Voltage [V]	1~230	1~230
Frequency [Hz]	50	50
Power [W]	353	701
Current [A]	1.56	3.10
Maximum air flow [m³/h]	3685	4630
Maximum air flow [l/s]	1024	1286
RPM [min⁻¹]	2470	3175
Sound pressure level at 3 m distance [dBA]	55	60
Maximum transported air temperature [°C]	-25...+55	-25...+55
Protection rating	IPX4	IPX4
Motor protection rating	IP44	IP44

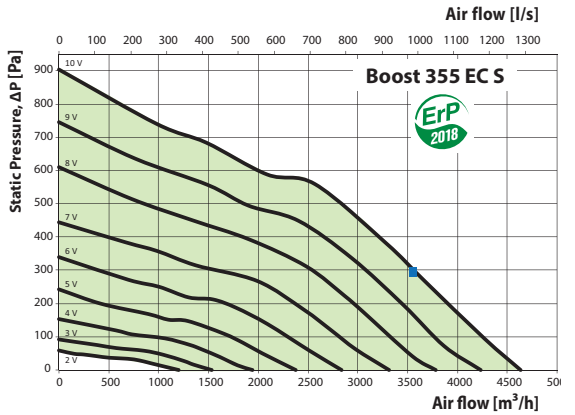
VENTS Boost

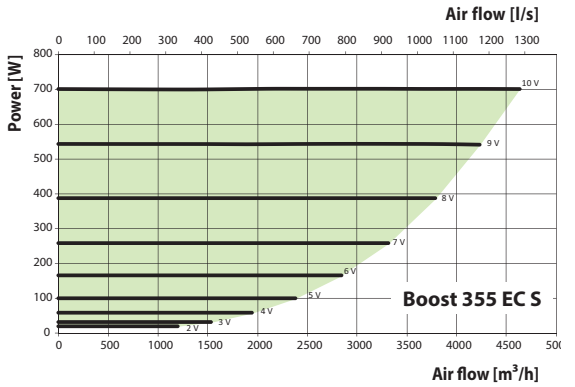




Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	83	73	76	75	75	78	74	69	61	63	73
L_{WA} to outlet	dBA	85	70	79	75	77	81	76	71	64	65	75
L_{WA} to environment	dBA	76	56	64	67	70	71	68	63	53	55	65

VENTS Boost



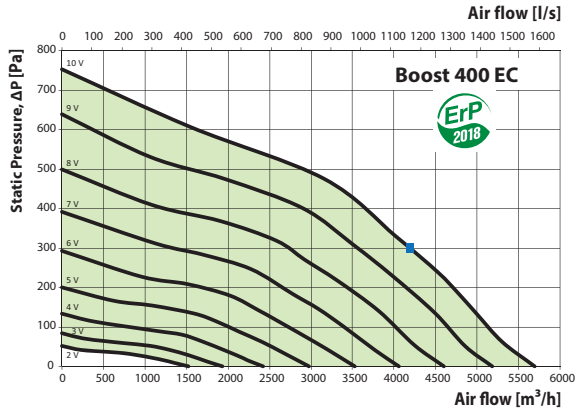


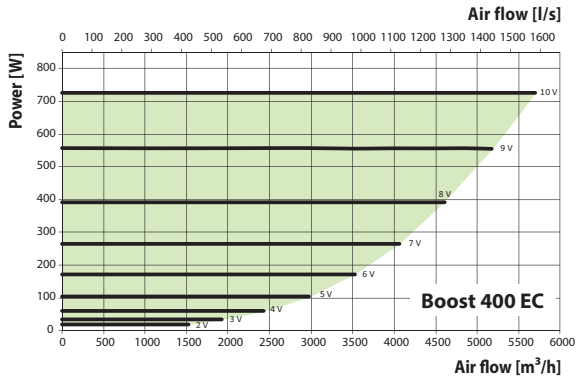
Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	88	74	82	79	79	83	80	75	66	68	78
L_{WA} to outlet	dBA	90	72	83	79	81	86	82	77	70	70	80
L_{WA} to environment	dBA	80	45	63	66	73	77	74	68	57	60	70

Technical data

	Boost 400 EC
Voltage [V]	1~230
Frequency [Hz]	50
Power [W]	726
Current [A]	4.8
Maximum air flow [m³/h]	5700
Maximum air flow [l/s]	1583
RPM [min⁻¹]	2580
Sound pressure level at 3 m distance [dBA]	60
Maximum transported air temperature [°C]	-25...+55
Protection rating	IPX4
Motor protection rating	IP44

VENTS Boost





Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	87	70	77	78	81	81	79	74	67	66	76
L_{WA} to outlet	dBA	88	62	76	78	83	84	80	75	66	68	78
L_{WA} to environment	dBA	80	59	66	69	74	77	72	67	58	60	70

Series

VENTS VK
VENTS VK Duo

Inline centrifugal fans in plastic casing with the air flow up to **1700 m³/h**

Applications

VK fans are applied for supply and exhaust ventilation systems of commercial, office and other premises. Compatible with Ø 100, 125, 150, 200, 250 and 315 mm round air ducts. Models marked VK...Q are supplied with quiet motors for low-noise applications. Due to the corrosion-resistant durable plastic casing, these models are the perfect solution for the installation in exhaust ventilation systems in humid premises such as bathrooms, kitchens etc.

Design

The fan casing is made of high quality and high strength plastic. Tight mounting box.

Motor

The centrifugal impeller with backward curved blades is powered by a single-phase external rotor motor. The motor is equipped with self-resetting overheating protection. Some standard sizes are available with a high-powered motor, see the VKS modifications. The motor is equipped with ball bearings for a long service life designed for at least 40 000 operating hours. For precise features, safe operation and low noise, each impeller is dynamically balanced while assembly. Motor protection rating is IP 44.

The double-speed models (Duo) are equipped with asynchronous electric external rotor motors and centrifugal impellers with forward curved blades. The impellers are dynamically balanced. Double-speed control.

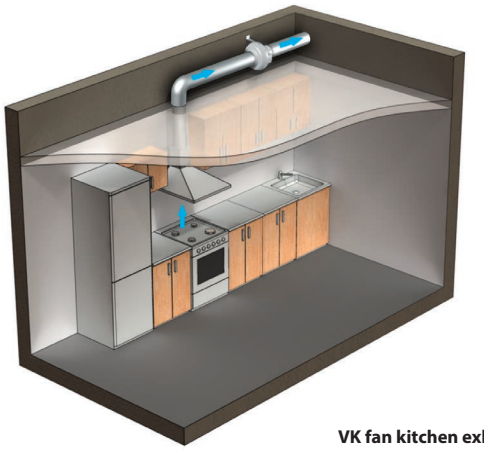
Speed control

Smooth or step speed control with a thyristor or autotransformer speed controller. Several fans may be connected to one speed controller provided that the total power and operating current do not exceed the rated speed controller parameters.

Two-speed models are controlled with the external speed switch P2-10 (available separately).

Mounting

The fan is mounted to the wall or ceiling with mounting brackets included into delivery set or with PVK holders, specially ordered accessory. The fan can be mounted at any angle. Electric connection and installation shall be performed in compliance with the manual and the wiring diagram on the terminal box.



VK fan kitchen exhaust ventilation example

Designation key

Series		Duct diameter	Options
VENTS VK	**S**: high-powered motor	100; 125; 150*; 200; 250; 315	**Duo**: double-speed motor. **Q**: low-powered motor. **U**: speed controller with an electronic thermostat and a temperature sensor integrated into the air duct. Equipped with a power cord and an electric plug. Temperature-based operation logic. **Un**: speed controller with an electronic thermostat and external temperature sensor fixed on 4 m cable. Equipped with a power cord and an electric plug. Temperature-based operation logic. **U1**: speed controller with an electronic thermostat and a temperature sensor integrated into the air duct. Equipped with a power cord and an electric plug. Timer-based operation logic. **U1n**: speed controller with an electronic thermostat and external temperature sensor fixed on 4 m cable. Equipped with a power cord and an electric plug. Timer-based operation logic. **U2n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4 m cable. Temperature-based switching on/off. **V**: speed switch (for Duo models). **R1**: power cord with mains plug. **P**: built-in smooth speed controller.

* VK 150 model is compatible with the air ducts both Ø 150 and 160 mm

Accessories

Silencer | Filters | Heaters | Backdraft damper | Air shutter | Speed controllers | Speed switch

Fan with electronic temperature and control module (U option)

The ideal solution for ventilation of the premises requiring permanent temperature control, i.e. greenhouses. The fan with the electronic temperature and speed control module provides automatic control of the motor speed (air flow) depending on air temperature in the air duct or in the room.

The front panel of the electronic module has the following control knobs:

– speed control knob for setting the motor speed

– thermostat control knob for setting the temperature set point

– thermostat indicator light

The fan is available in two modifications:

– with the temperature sensor integrated inside the fan air duct (U/U1 option)

– with the external temperature sensor fixed on the cable, 4 m long (Un/U1n/U2n).

Control logic of the fan with the electronic temperature and speed control module

Set the desired air temperature (thermostat set point) by turning the thermostat control knob. Set the required minimum impeller speed (air flow) by turning the speed control knob. The motor switches to maximum speed (maximum air flow) as the temperature reaches and exceeds the set temperature set point. The motor switches to the pre-set lower speed as the temperature drops down below the temperature set point. To avoid frequent motor speed switches when the air temperature in the duct is equal to the set temperature point, the speed switch delay is activated. There are two switch delay patterns for various cases:

1. The temperature sensor-based switch delay (U option): the motor switches to higher speed as the air temperature exceeds 2 °C above the set thermostat set point. The motor revers to the preset lower speed as the air temperature drops below the thermostat set point. This pattern is used to keep air temperature to within 2 °C. In this case the motor speed switches are rare.

2. The timer-based switch delay (U1 option): as the air temperature exceeds the set thermostat set point, the motor switches to higher speed and the switch delay timer is activated for 5 min. The motor reverts to lower speed as the air temperature drops down below the thermostat set point and only after 5 minuts timer countdown.

This pattern is used for exact air temperature control. The speed switches for the fan with U1 option are more frequent as compared to the operating logic of the fan with U option, however the minimum operating cycle at one speed is 5 minutes.

Example for temperature sensor delay pattern:

Initial conditions:

- rated speed is set as 60 % of the maximum speed
- operating threshold is set as 25 °C
- air temperature in the duct is 20 °C

motor operates with the rated speed =60 %

▼

- air temperature in the duct rises

motor operates with the rated speed =60 %

▼

- air temperature in the duct reaches 27 °C

motor switches to the speed =100 %

▼

- air temperature in the duct goes down

mototr operates with the speed =100 %

▼

- temperature in the duct reaches 25 °C again

motor switches to the preset rated speed =60 %

Example for timer delay pattern:

Initial conditions:

- rated speed is set as 60 % of maximum speed
- operating threshold is set as 25 °C
- air temperature in the duct is 20 °C

motor operates with the rated speed =60 %

▼

- the temperature in the duct rises, reaches 25 °C and keeps rising

▼

- fan switches to the maximum speed =100 % and the delay timer switches on again for 5 minutes

▼

- the temperature in the duct goes down

the motor operates with the maximum speed =100 %

▼

- the temperature in the duct reaches 25 °C and keeps rising

▼

- after the timer stops, the motor switches to the preset rated speed (=60 %). After the speed switch, the timer switches on again for 5 minutes.

▼

- the temperature in the duct rises, reaches 25 °C and keeps rising

▼

- after the timer stops, the motor switches to the maximum speed (=100 %). After the speed switch, the delay timer switches on again for 5 minutes

Thus, in timer delay pattern the delay timer activates every time when the fan speed changes.

Vents VK...U with electronic temperature and speed module

Bracket for easy installation (supplied with the fan)

VENTS VK...P with built-in speed controller

VENTS VK...R with power cord

Technical data

	VK 100 Q		VK 100		VK 125 Q		VK 125		VK 150	
Voltage [V]	1~230		1~230		1~230		1~230		1~230	
Frequency [Hz]	50	60	50	60	50	60	50	60	50	60
Power [W]	62	63	80	81	61	64	79	81	80	84
Current [A]	0.38	0.38	0.34	0.34	0.38	0.4	0.34	0.35	0.35	0.37
Maximum air flow [m³/h]	205	210	250	290	260	270	355	370	460	505
RPM [min⁻¹]	2650	2710	2820	2890	2610	2680	2800	2830	2725	2840
Noise level at 3 m [dBA]	36	36	40	41	36	37	40	41	42	43
Transported air temperature [°C]	-25...+55	-25...+50	-25...+55	-25...+50	-25...+55	-25...+50	-25...+55	-25...+50	-25...+55	-25...+50
SEC class	C	-	C	-	C	-	B	-	B	-
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

VENTS VK

VK 100 Q
Sound-power level, A - weighted

	Hz	Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	77	55	69	75	67	62	58	52	42	56	66
L_{WA} to outlet	dBA	76	62	69	74	66	59	55	51	40	55	65
L_{WA} to environment	dBA	57	26	45	47	51	52	49	40	31	36	46

VK 100
Sound-power level, A - weighted

	Hz	Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	83	60	75	81	73	67	63	57	46	62	72
L_{WA} to outlet	dBA	82	67	75	80	72	64	60	55	44	61	71
L_{WA} to environment	dBA	61	28	49	51	55	57	53	44	34	40	50

VENTS VK

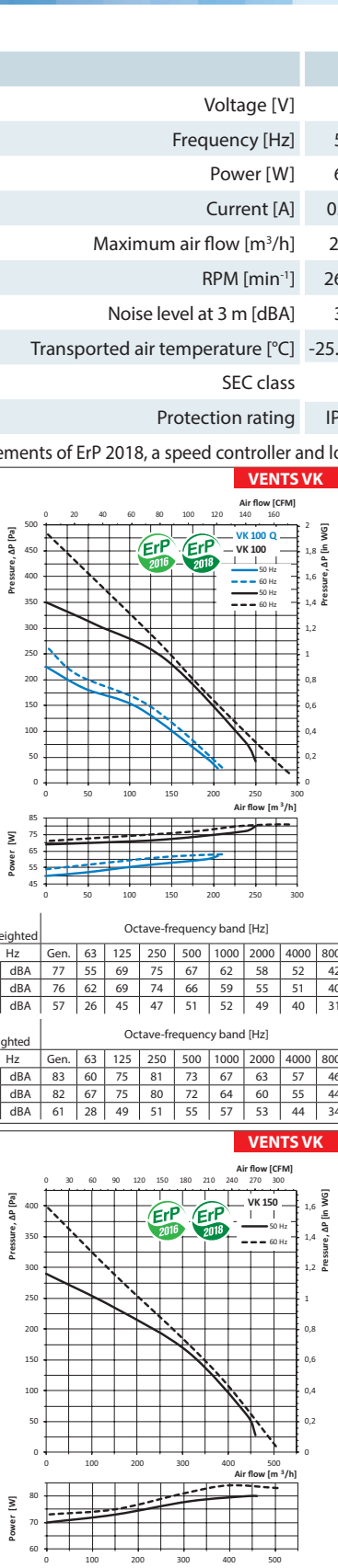
VK 125 Q
Sound-power level, A - weighted

	Hz	Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	78	52	70	76	67	63	60	55	46	57	67
L_{WA} to outlet	dBA	77	59	70	75	66	60	58	53	45	56	66
L_{WA} to environment	dBA	56	27	40	48	51	50	50	40	28	36	46

VK 125
Sound-power level, A - weighted

	Hz	Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	84	56	76	82	72	68	65	59	50	63	73
L_{WA} to outlet	dBA	83	63	76	81	71	65	62	57	49	62	72
L_{WA} to environment	dBA	60	29	44	52	55	54	54	44	31	40	50

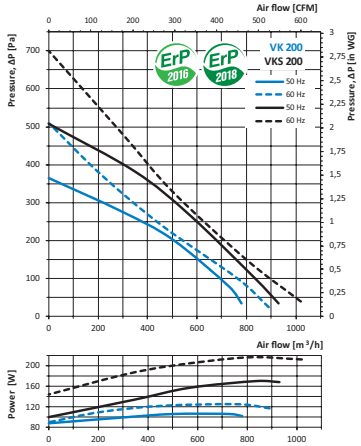
VENTS VK



VK 150
Sound-power level, A - weighted

	Hz	Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	90	53	87	86	75	74	71	68	54	69	79
L_{WA} to outlet	dBA	90	53	88	85	72	71	66	65	52	69	79
L_{WA} to environment	dBA	63	26	46	55	57	57	57	47	35	42	52

VENTS VK



VK 200
Sound-power level, A - weighted

	Hz	Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	85	47	74	81	77	77	78	70	59	65	75
L_{WA} to outlet	dBA	83	44	73	77	75	75	78	70	60	63	73
L_{WA} to environment	dBA	66	27	48	59	61	61	59	51	39	46	56

VKS 200
Sound-power level, A - weighted

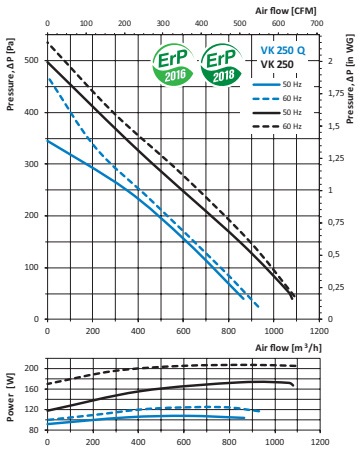
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	90	49	78	87	81	81	82	74	63	69	79
L_{WA} to outlet	dBA	87	46	77	81	79	79	82	74	64	67	77
L_{WA} to environment	dBA	68	29	52	60	63	63	62	53	39	48	58

Technical data

	VK 200		VKS 200		VK 250 Q		VK 250		VK 315	VKS 315
Voltage [V]	1~230		1~230		1~230		1~220-240		1~230	1~230
Frequency [Hz]	50	60	50	60	50	60	50	60	50	50
Power [W]	107	132	173	216	108	135	173	207	200	310
Current [A]	0.47	0.58	0.76	0.94	0.47	0.9	0.76	0.9	0.88	1.36
Maximum air flow [m³/h]	780	890	930	1020	865	930	1080	1090	1340	1700
RPM [min⁻¹]	2660	2765	2125	2155	2560	2570	2090	2120	2655	2590
Noise level at 3 m [dBA]	46	46	48	49	47	48	49	50	48	57
Transported air temperature [°C]	-25...+55	-25...+50	-25...+55	-25...+45	-25...+55	-25...+50	-25...+55	-25...+50	-25...+55	-25...+45
SEC class	B	-	B	-	B	-	B	-	-	-
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

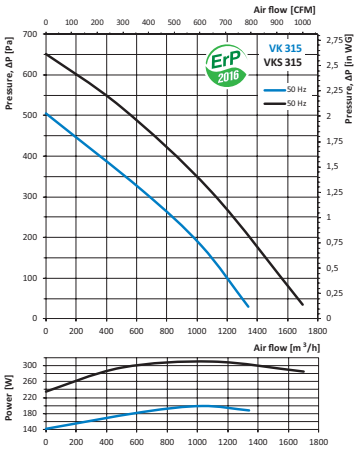
VENTS VK



VK 250 Q Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	89	53	76	74	78	84	85	80	70	69	79
L_{WA} to outlet	dBA	89	56	68	78	75	83	86	79	71	68	78
L_{WA} to environment	dBA	68	36	50	60	63	62	61	56	42	47	57

VK 250 Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	90	61	78	85	83	85	81	77	65	70	80
L_{WA} to outlet	dBA	88	64	77	73	82	84	82	77	63	68	78
L_{WA} to environment	dBA	69	35	49	61	64	64	62	50	39	49	59

VENTS VK



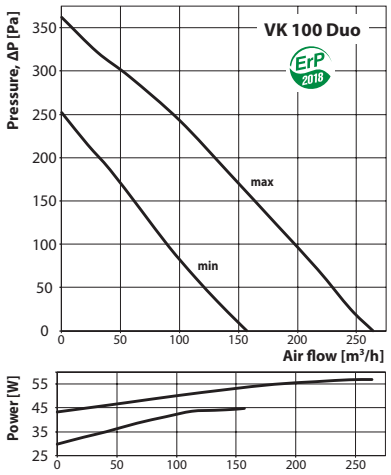
VK 315 Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	86	51	73	71	75	81	82	77	68	66	76
L_{WA} to outlet	dBA	87	55	66	76	73	81	84	77	69	66	76
L_{WA} to environment	dBA	69	30	48	59	63	65	62	52	38	48	58

VKS 315 Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	93	56	80	78	82	88	89	84	74	73	83
L_{WA} to outlet	dBA	93	59	72	82	79	87	90	83	75	72	82
L_{WA} to environment	dBA	78	33	54	63	71	73	73	63	55	57	67

Technical data

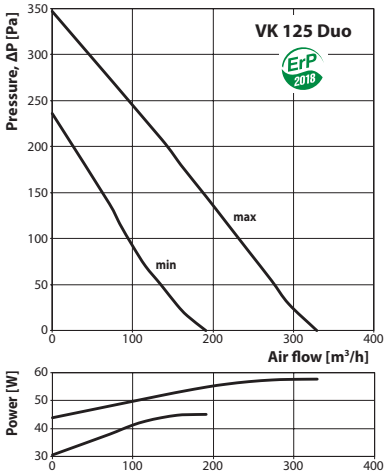
	VK 100 Duo		VK 125 Duo		VK 150 Duo		VK 200 Duo	
Speed	min	max	min	max	min	max	min	max
Voltage [V/50 Hz]	1~ 230							
Power [W]	45	57	45	58	46	59	83	95
Current [A]	0.21	0.25	0.21	0.26	0.22	0.26	0.37	0.43
Maximum air flow [m³/h]	157	264	191	329	264	445	430	741
RPM [min⁻¹]	1820	2440	1810	2380	1805	2420	1920	2470
Noise level at 3 m [dBA]	38		39		40		42	
Transported air temperature [°C]	-25...+55							
SEC class	D		D		D		C	
Protection rating	IPX4							

VENTS VK Duo



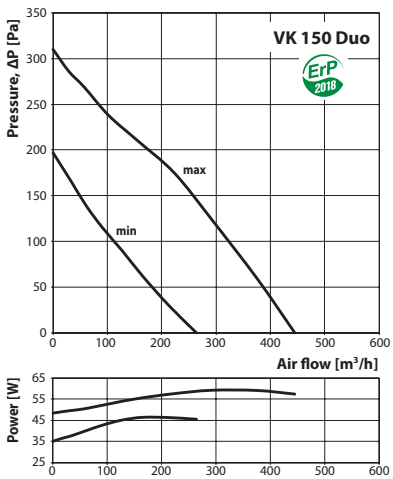
A-weighted sound pressure level		A-weighted sound power level										Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
		General	Octave-frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	79	57	71	77	69	64	60	54	43		58	68
L_{WA} to outlet	dBA	79	64	72	77	69	61	57	53	42		58	68
L_{WA} to environment	dBA	58	27	46	48	53	54	50	41	32		38	48

VENTS VK Duo



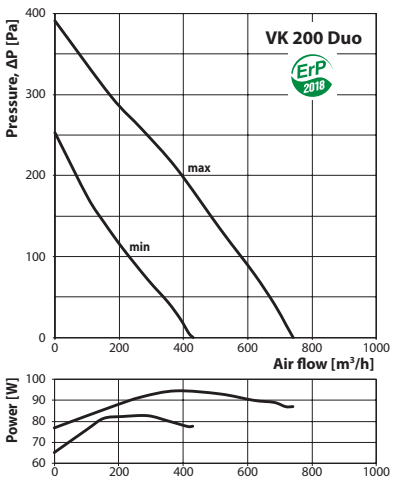
A-weighted sound pressure level		A-weighted sound power level										Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
		General	Octave-frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	81	59	74	79	72	66	62	56	45		61	71
L_{WA} to outlet	dBA	79	64	72	77	69	61	58	53	42		58	68
L_{WA} to environment	dBA	59	27	48	49	53	55	51	43	33		39	49

VENTS VK Duo



A-weighted sound pressure level		A-weighted sound power level										Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
		General	Octave-frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	88	52	85	84	74	73	70	67	53		67	77
L_{WA} to outlet	dBA	86	51	84	82	69	68	63	62	50		66	76
L_{WA} to environment	dBA	61	25	45	53	55	55	55	46	34		40	50

VENTS VK Duo

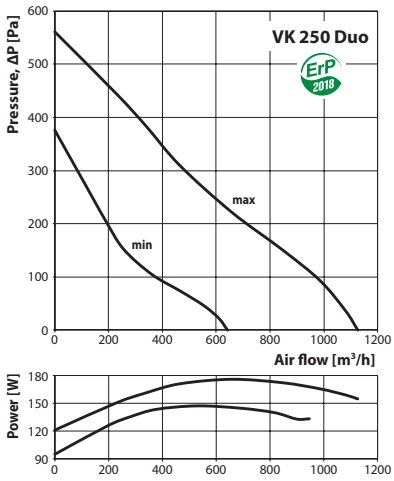


A-weighted sound pressure level		A-weighted sound power level										Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
		General	Octave-frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	81	45	70	77	73	73	74	67	56		61	71
L_{WA} to outlet	dBA	79	41	69	72	71	71	73	66	56		58	68
L_{WA} to environment	dBA	62	25	45	55	57	57	55	48	37		42	52

Technical data

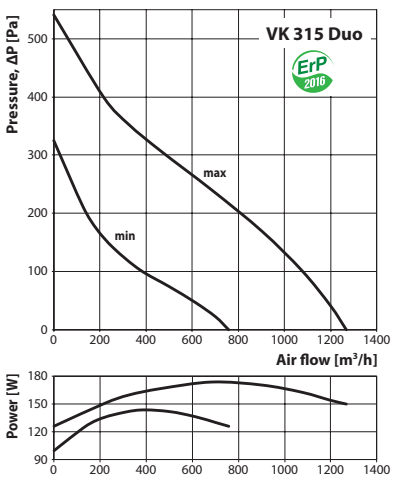
	VK 250 Duo		VK 315 Duo	
Speed	min	max	min	max
Voltage [V/50 Hz]	1~ 230			
Power [W]	147	176	143	173
Current [A]	0.66	0.76	0.68	0.76
Maximum air flow [m³/h]	642	1126	758	1268
RPM [min⁻¹]	1940	2370	1870	2410
Noise level at 3 m [dBA]	46		48	
Transported air temperature [°C]	-25...+55			
SEC class	C		-	
Protection rating	IPX4			

VENTS VK Duo



A-weighted sound pressure level		General	Octave-frequency band [Hz]								Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	86	51	73	71	75	81	82	77	67	66	76
L_{WA} to outlet	dBA	87	54	66	76	73	81	83	77	69	66	76
L_{WA} to environment	dBA	67	35	49	59	62	61	60	55	41	46	56

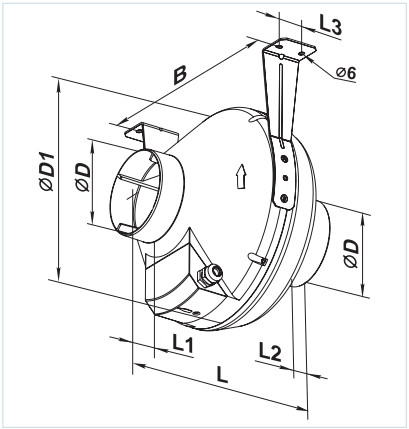
VENTS VK Duo



A-weighted sound pressure level		General	Octave-frequency band [Hz]								Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	90	54	77	75	79	85	86	81	71	70	80
L_{WA} to outlet	dBA	89	56	68	78	75	83	86	79	71	68	78
L_{WA} to environment	dBA	69	37	51	61	64	63	62	57	43	48	58

Fan overall dimensions

Model	Dimensions [mm]							Weight [kg]
	ØD	ØD1	B	L	L1	L2	L3	
VK 100 Q / VK 100 / VK 100 Duo	100	250	270	230	30	27	30	2.01
VK 125 Q / VK 125 / VK 125 Duo	125	250	270	220	30	27	30	2.2
VK 150 / VK 150 Duo	150 /160	300	310	286	30	30	30	2.45
VK 200 / VK 200 Duo	200	340	354	276	30	30	40	3.0
VKS 200	200	340	354	276	30	30	40	4.3
VK 250 Q / VK 250 / VK 250 Duo	250	340	354	265	30	30	40	4.3
VK 315 / VK 315 Duo	315	400	414	276	40	55	40	4.85
VKS 315	315	400	414	276	40	55	40	4.85



Series

VENTS VK EC

Inline centrifugal fans in plastic casing with the air flow up to **1500 m³/h**

Applications

Supply and exhaust ventilation and air conditioning systems of various premises requiring cost-saving controllable ventilation. The best ventilation solution for exhaust ventilation of bathrooms, kitchens and other humid premises. Compatible with Ø 100, 125, 150, 200, 250 and 315 mm round air ducts.

Design

Durable, impact-resistant and corrosion-free ABS-plastic casing. Airtight terminal box for connection to power mains.

Motor

High-efficient electronically commutated direct current motors with backward curved blades. Such motors are the most state-of-the-art energy saving solution. Power consumption of EC motors is 35 % less as compared to standard motors. The fans with EC motors have excellent aerodynamic performance and low-noise operation. EC motors are featured with high performance and total speed controllable range. High efficiency reaching 90 % is the premium advantage of the electronically-commutated motors. The motors are equipped with ball bearings designed for at least 40 000 operating hours.

Speed control

The fan is operated with an external 0-10 V control signal. The air flow is controlled depending on air temperature, pressure level, smoke content, etc.The speed of the EC motor changes proportionally to fluctuations of the control parameter and the fan delivers a required air volume to the ventilation system. Maximum fan speed does not depend on the current frequency. The fan is compatible both with 50 or 60 Hz power mains. The fans may be integrated into a unified data processing control system. The specially designed software provides precise control of all the fans integrated into the system.

Mounting

The fans are designed for duct mounting in any point of the ventilation system with the casing mounted at any angle. In case of vertical mounting a protective outer hood must be installed on the top. Fixation to the floor wall or ceiling is performed with the supplied mounting brackets. Electric connection and installation must be performed in compliance with the manual and the wiring diagram on the terminal box.

Mounting bracket for easy installation supplied with the fan

VENTS VK EC...P with an integrated speed controller

VENTS VK EC...R with a power cable

Designation key

Series	Duct diameter	Motor	Options
VENTS VK	100; 125; 150; 200; 250; 315	EC: synchronous electronically commutated motor	**P**: built-in smooth speed controller

Accessories


Silencer


Filters


Heaters


Backdraft damper

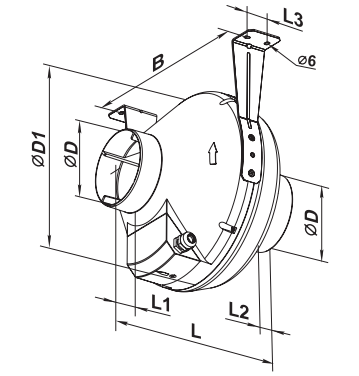

Air shutter


Clamp


Speed controller

Overall dimensions

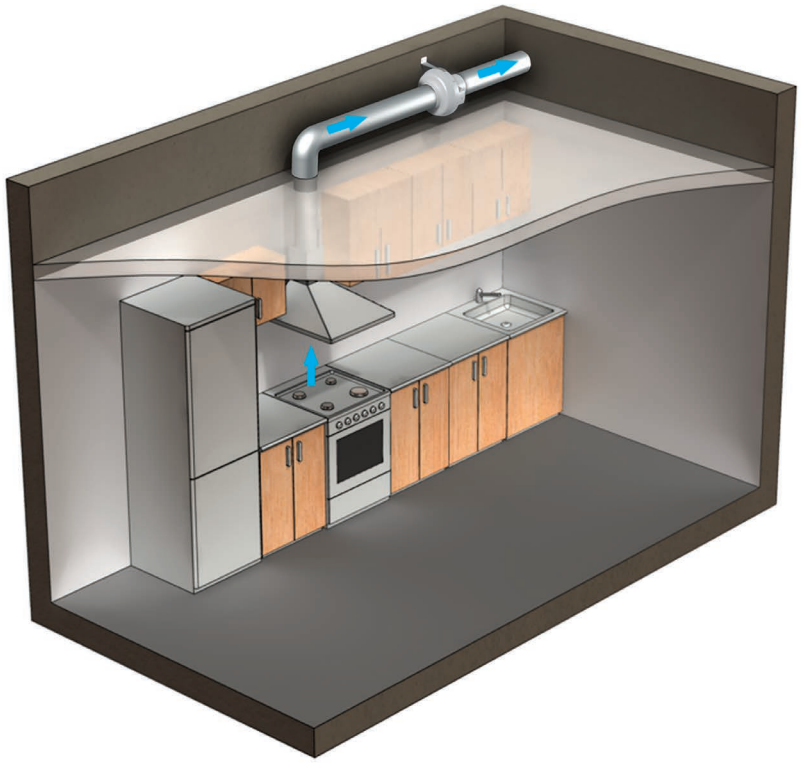
Model	Dimensions [mm]							Mass [kg]
	ØD	ØD1	B	L	L1	L2	L3	
VK 100 EC	100	250	270	230	30	27	30	2.0
VK 125 EC	125	250	270	220	30	27	30	2.2
VK 150 EC	150 /160	300	310	286	30	30	30	2.5
VK 200 EC	200	340	354	276	30	30	40	3.0
VK 250 EC	250	340	354	265	30	30	40	4.3
VK 315 EC	315	400	414	276	40	55	40	4.9



Technical data

	VK 100 EC	VK 125 EC	VK 150 EC	VK 200 EC	VK 250 EC	VK 315 EC
Voltage [V/50 (60) Hz]				1~230		
Power [W]	82	84	82	84	165	165
Current [A]	0.62	0.64	0.63	0.64	1.10	1.15
Max. air flow [m³/h]	340	420	630	885	1250	1500
RPM [min⁻¹]	3400	3600	3400	2700	2600	2500
Sound pressure level at 3 m distance [dBA]	40	42	45	47	48	48
Transported air temperature [°C]	-25...+60	-25...+60	-25...+60	-25...+60	-25...+60	-25...+60
SEC class	B				-	
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

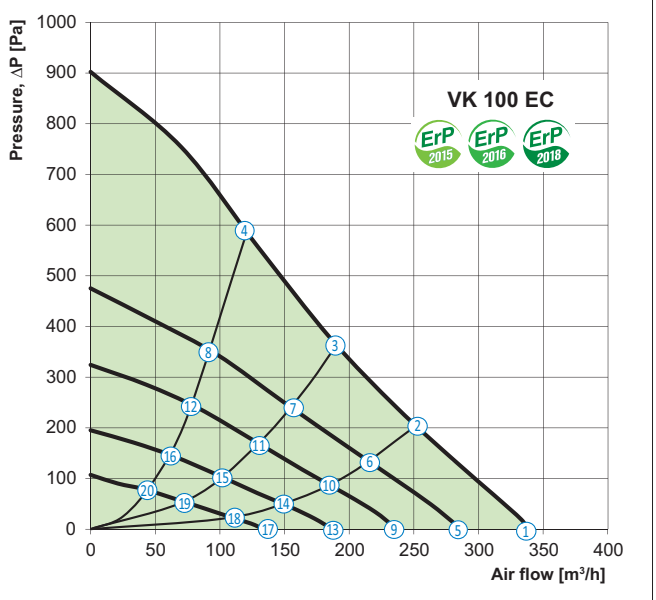


VK EC fan kitchen ventilation example

ErP data	
Overall efficiency	η, %
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	kW
Current	A
Air flow	m³/h
Static pressure	Pa
Speed	n/min⁻¹
Specific ratio	SR

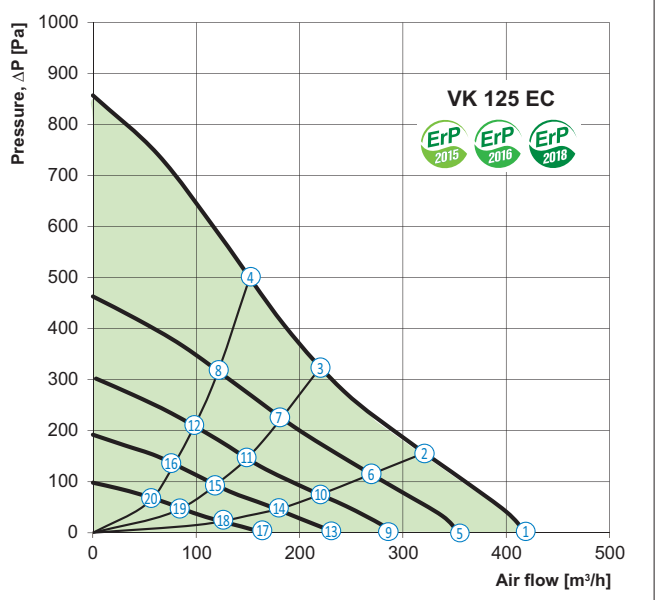
Point	Power [W]					
	VK 100 EC	VK 125 EC	VK 150 EC	VK 200 EC	VK 250 EC	VK 315 EC
1	82	84	82	84	152	149
2	82	82	82	84	161	164
3	81	82	82	83	165	165
4	81	81	82	82	154	158
5	51	51	54	51	121	94
6	50	50	57	54	131	106
7	45	48	53	58	140	112
8	40	45	49	55	125	104
9	32	31	32	28	76	74
10	30	30	33	32	83	83
11	28	29	31	32	89	90
12	25	24	27	31	78	84
13	17	18	17	16	37	37
14	16	17	17	18	40	39
15	15	16	17	18	43	45
16	13	14	16	17	38	41
17	8	8	9	8	16	17
18	8	8	9	8	17	19
19	7	7	8	9	18	19
20	6	7	8	8	16	17

VENTS VK EC



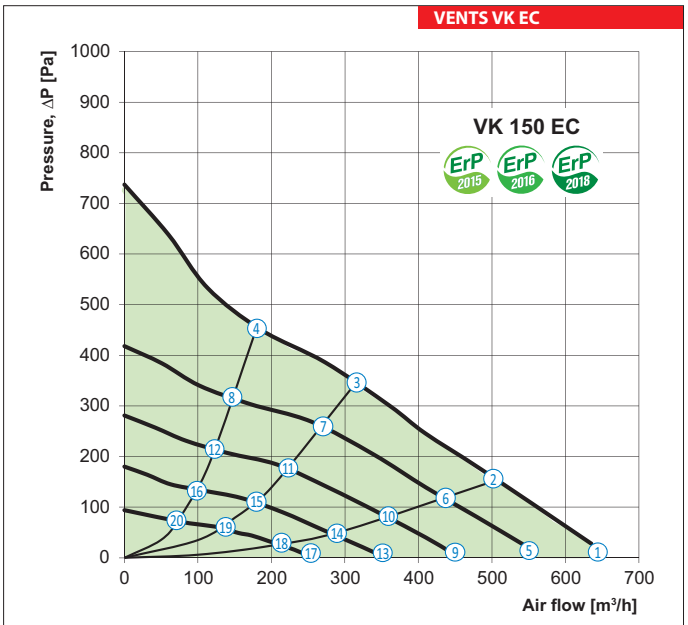
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	85	62	77	83	75	69	65	59	48		64	74
L_{WA} to outlet	dBA	84	69	77	82	74	66	62	57	46		63	73
L_{WA} to environment	dBA	61	29	44	52	56	55	54	44	31		40	50

VENTS VK EC



		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	87	59	79	86	75	71	68	62	52		67	77
L_{WA} to outlet	dBA	86	66	79	85	74	68	65	60	50		66	76
L_{WA} to environment	dBA	62	26	46	55	56	57	57	47	35		42	52

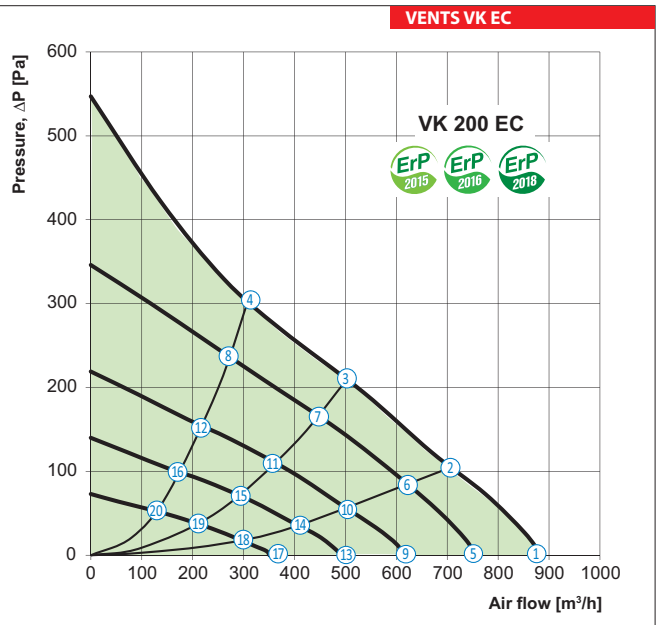
VENTS VK EC



		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	93	55	90	89	77	76	73	70	56		72	82
L_{WA} to outlet	dBA	93	55	91	88	74	73	68	67	54		72	82
L_{WA} to environment	dBA	66	26	48	58	61	60	59	51	39		45	55

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
42	A	Static	56.7	No	0.164	1.14	754	293	2484	1

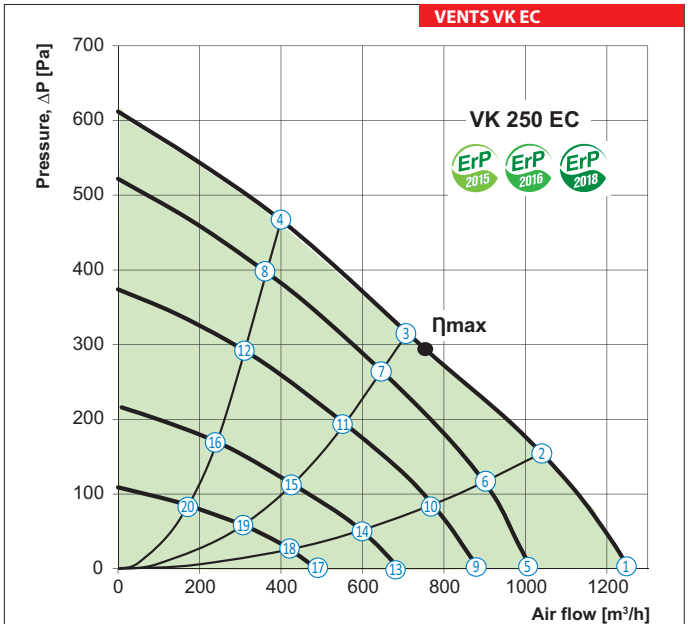
VENTS VK EC



		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	87	48	76	84	79	79	80	72	61		67	77
L_{WA} to outlet	dBA	85	45	75	79	77	77	80	72	62		64	74
L_{WA} to environment	dBA	67	27	49	60	62	61	60	52	39		47	57

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
42.3	A	Static	62.1	No	0.164	1.14	1021	247	2472	1

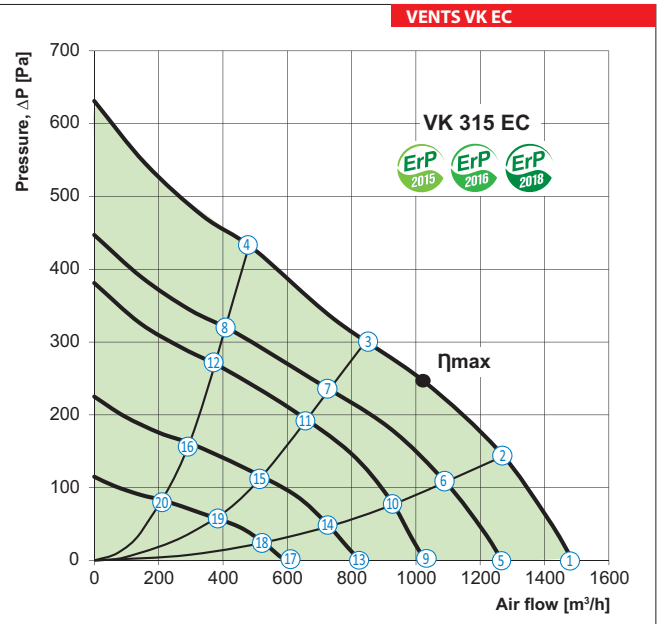
VENTS VK EC



		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	89	60	77	84	82	84	80	76	64		69	79
L_{WA} to outlet	dBA	87	63	76	72	81	83	81	76	62		67	77
L_{WA} to environment	dBA	68	30	49	58	62	65	61	52	38		48	58

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
42	A	Static	56.7	No	0.164	1.14	754	293	2484	1

VENTS VK EC

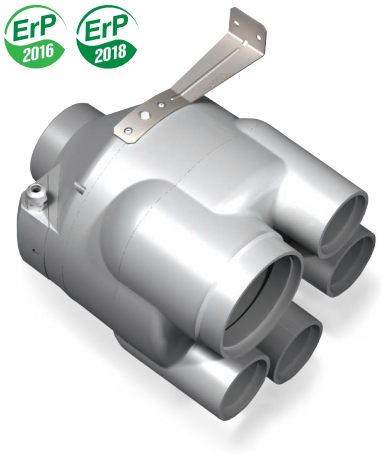


		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	86	51	73	71	75	81	82	77	68		66	76
L_{WA} to outlet	dBA	87	55	66	76	73	81	84	77	69		67	77
L_{WA} to environment	dBA	69	30	48	56	62	64	64	56	49		48	58

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
42.3	A	Static	62.1	No	0.164	1.14	1021	247	2472	1

Series

VK VMS 125



Multiple-inlet centrifugal fan in plastic casing with the air flow up to **355 m³/h**

Applications

VK VMS 125 is a multiple-inlet fan designed for simultaneous air exhaust from up to 5 premises. It is a perfect solution for bathroom units, kitchens and other residential and small commercial premises requiring exhaust ventilation in high humidity conditions. The fan is equipped with four Ø 80 mm inlet branch pipes and one Ø 125 mm intake branch pipe.

Design

The fan is equipped with a high-quality plastic casing and an airtight terminal box.

Motor

The impeller with backward curved blades is powered by single phase motor with external rotor and overheating protection with automatic restart. The motor is equipped with ball bearings for long service life designed for at least 40 000 hours.

Speed control

Smooth or step speed control with a thyristor or autotransformer speed controller. Several fans may be connected to one speed controller provided that the total power and operating current do not exceed the rated speed controller parameters.

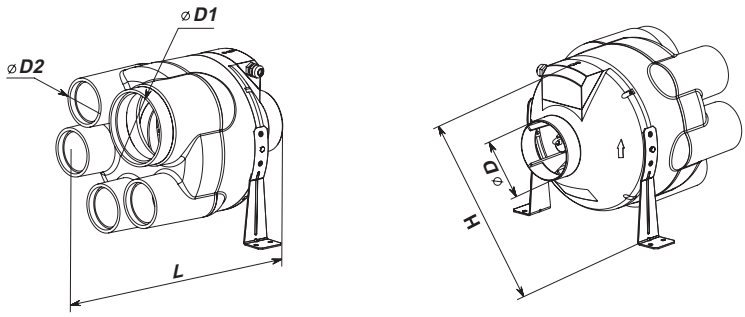
Mounting

Easy to mount. Mounting at any angle to wall or ceiling is performed by means of fastening brackets.

VK VMS 125 R model equipped with a power cord

Fan overall dimensions

Type	Dimensions [mm]					Mass [kg]
	ØD	ØD1	ØD2	H	L	
VK VMS 125	125	124	79	281	317	2.99



Designation key

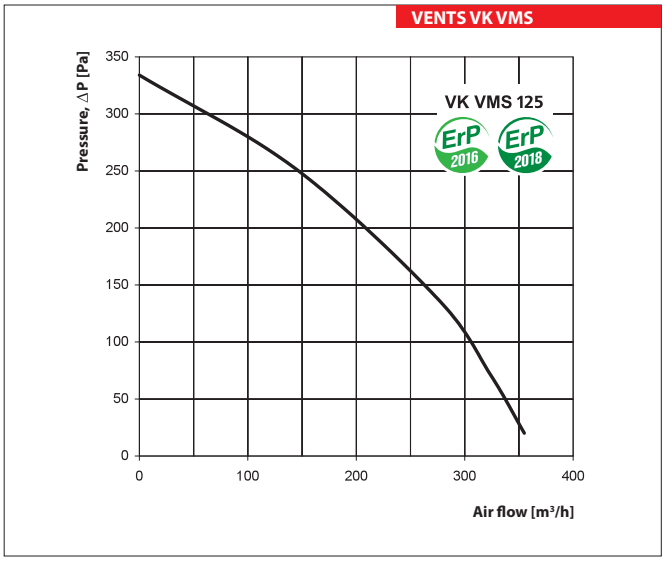
Series	Air duct diameter	Options
VENTS VK VMS	125	**R1**: power cord with a mains plug

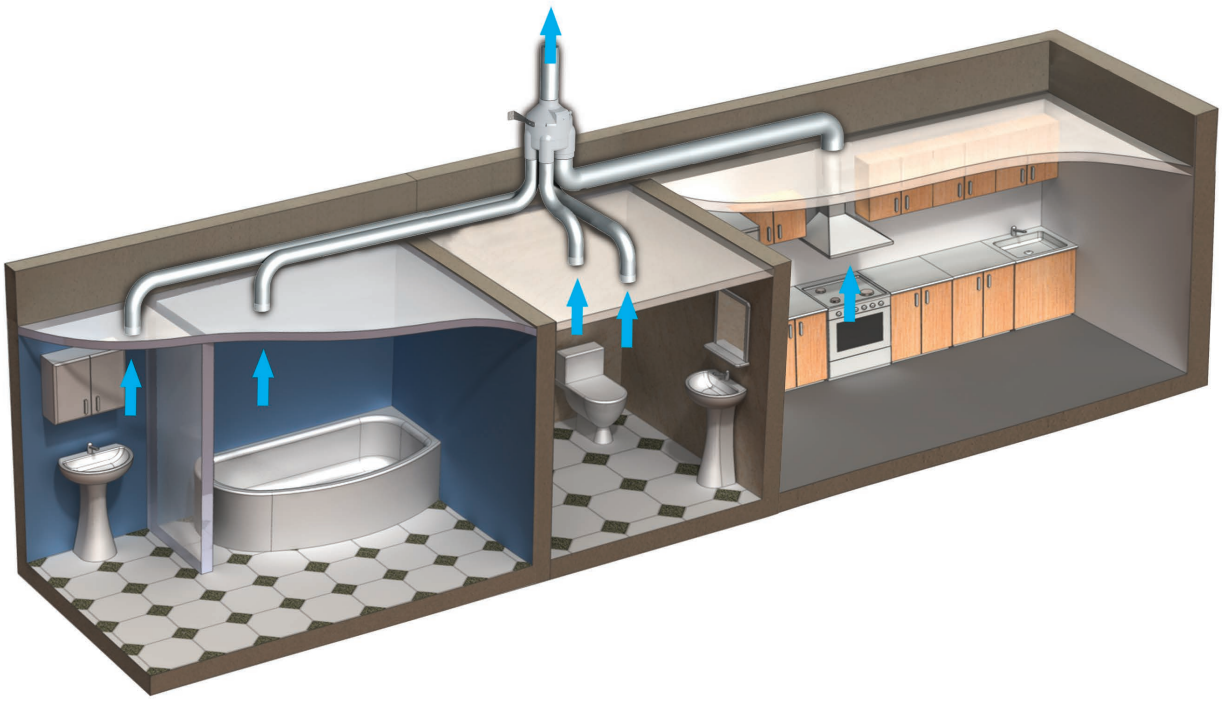
Accessories

Silencer | Clamp | Air shutter | Speed controllers

Technical data

	VK VMS 125
Voltage [V/50 Hz]	1~230
Power [W]	79
Current [A]	0.34
Max. air flow [m³/h]	355
RPM [min⁻¹]	2800
Noise level at 3 m [dBA]	46
Transported air temperature [°C]	-25...+55
SEC class	C
Protection rating	IPX4





VK VMS fan flat ventilation example

Series
VENTS VKM 100-315

Series
VENTS VKM 355-450

Inline centrifugal fans in steel casing with air flow
up to **5260 m³/h**

Applications
Supply and exhaust ventilation systems for commercial, office and other public or industrial premises. The steel casing provides reliable operation in case of outdoor installation. For premises with high requirements to the noise level we suggest units in low-noise modification (VKM...Q).

Design
The fan casing is made of steel with polymeric coating.

Motor
The impeller with backward curved blades is powered by the single phase motor with external rotor and overheating protection with automatic restart. Some standard sizes are available with high-powered motors (VKMS). **The VKM...E models are equipped with an energy-efficient motor with low energy demand.** The motor is equipped with ball bearings for long service life designed for at least 40000 hours. For precise features, safe operation and low noise, each turbine is dynamically balanced while assembly. Motor protection rating is IP44.

Speed control
Smooth or step speed control with a thyristor or an autotransformer speed controller. Several fans may be connected to one speed controller provided that the total power and operating current do not exceed the rated speed controller parameters. The VKM...P models are equipped with a built-in speed controller (available for diameters 100...315).

Mounting
Mounting to wall or ceiling at any angle is performed with fastening brackets supplied with the unit. The fan is powered through the external terminal box. Electric connection and installation shall be performed in compliance with the manual and wiring diagram on the terminal box.

VKM fan with electronic temperature and control module
The ideal solution for ventilation of the premises requiring permanent temperature control, i.e. greenhouses. The fan with the electronic temperature and speed control module provides automatic control of the motor speed (air flow) depending on air temperature in the air duct or in the room.
The front panel of the electronic module has the following control knobs:
– speed control knob for setting the motor speed
– thermostat control knob for setting the temperature set point
– thermostat indicator light
VKM...Un - the model with an external temperature sensor fixed on a 4 m cable (Un/U2n option). The temoerature sensor has mechanial protection.

Designation key

Series		Air duct diameter	Options
VENTS VKM	**S**: high-powered motor	100; 125; 150; 160; 200; 250; 315; 355; 400; 450	**E**: low energy demand motor. **Q**: low-powered motor. **Un**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Temperature-based operation logic. **U2n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Temperature-based switching on/off. **R1**: power cord with a mains plug. **P**: integrated smooth speed controller.

Accessories

Silencer | Filters | Heaters | Backdraft damper | Air shutter | Clamp | Speed controllers

Fan overall dimensions

Type	Dimensions [mm]								Weight [kg]	Fig. no.
	ØD	ØD1	B	B1	L	L1	L2	L3		
VKM 100 Q	98	255	310	270	205	20	25	30	2,9	1
VKM 100	98	255	310	270	205	20	25	30	3,2	1
VKM 125 Q	123	255	310	270	205	20	25	30	2,9	1
VKM 125	123	255	310	270	205	20	25	30	3,2	1
VKM 150	149	345	395	355	200	20	20	40	5,1	1
VKMS 150	149	345	395	355	230	20	20	40	5,6	1
VKM 160	159	305	360	320	220	25	25	30	5,0	1
VKMS 160	158	340	390	350	245	25	20	40	6,4	1
VKM 200	198	345	395	355	255	25	30	40	6,6	1
VKMS 200	198	345	395	355	255	25	30	40	8,3	1
VKM 250 E	248	345	395	355	250	25	30	40	6,2	1
VKM 250	248	345	395	355	250	25	30	40	8,4	1
VKM 315	314	405	455	415	260	30	30	40	8,0	1
VKMS 315	314	405	455	415	290	30	30	40	8,8	1
VKM 355 Q	353	460	522	522	506	60	60	70	18,8	2
VKM 400	398	570	663	634	570	60	60	70	25,1	2
VKM 450	448	608	700	670	644	60	60	80	27,26	2

VKM 100 – VKM 315

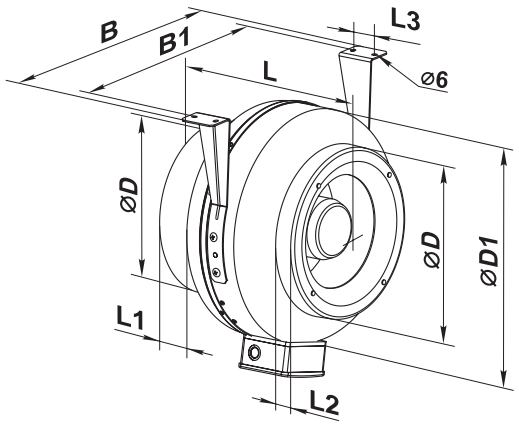


Fig. 1

VKM 355 – VKM 450

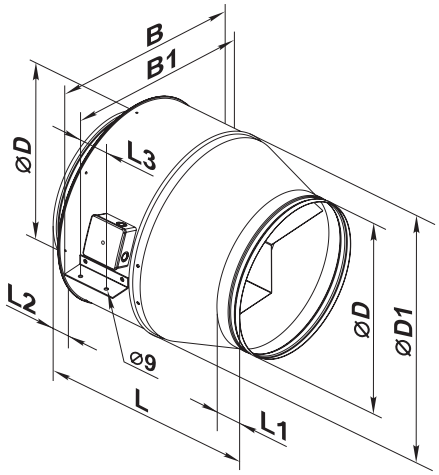


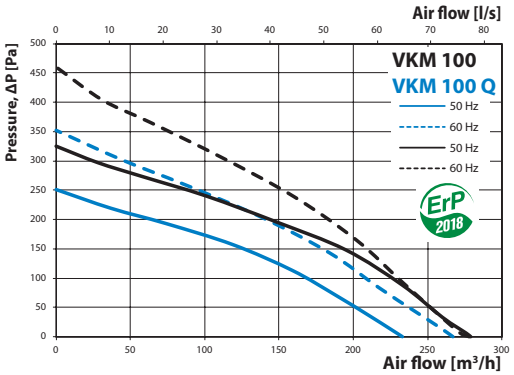
Fig. 2

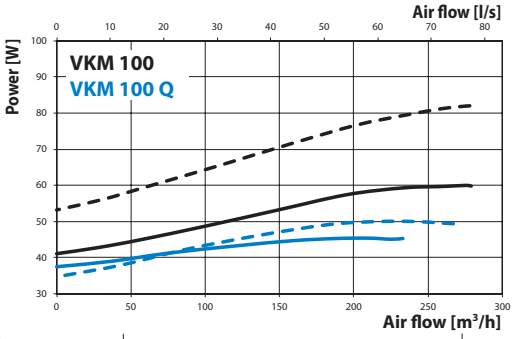
Technical data

	VKM 100 Q		VKM 100	
Nominal voltage [VAC]	1~220-240			
Frequency [Hz]	50	60	50	60
Power [W]	45	50	60	82
Current [A]	0.24	0.23	0.28	0.36
Max. air flow [m³/h]	233	267	279	278
RPM [min⁻¹]	2780	3300	2840	3320
Noise level at 3 m [dBA]	38	39	40	41
Transported air temperature [°C]	-25...+45			
SEC class	C	-	C	-
Protection rating	IPX4			

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

VENTS VKM





VKM 100 Q Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	78	56	70	77	68	63	59	53	43	58	68
L_{WA} to outlet	dBA	77	63	70	75	67	60	56	52	41	57	67
L_{WA} to environment	dBA	59	27	47	49	53	54	51	42	32	38	48

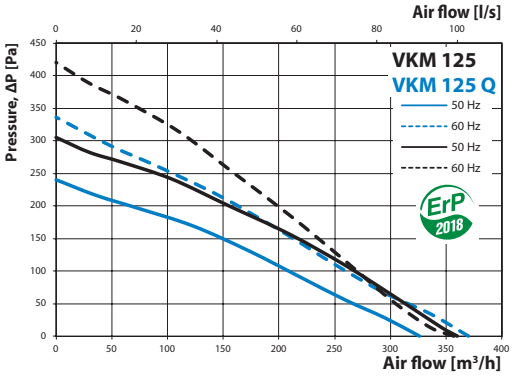
VKM 100 Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	84	56	76	82	72	68	65	59	50	63	73
L_{WA} to outlet	dBA	83	63	76	81	71	65	62	57	49	62	72
L_{WA} to environment	dBA	60	29	44	52	55	54	54	44	31	40	50

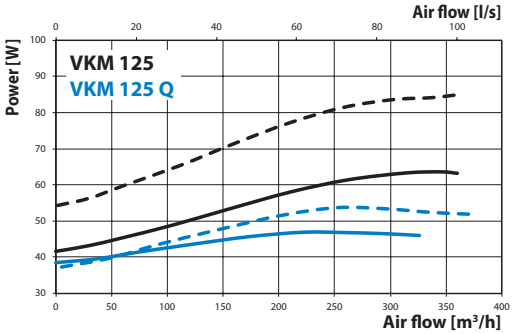
Technical data

	VKM 125 Q		VKM 125	
Nominal voltage [VAC]	1~220-240			
Frequency [Hz]	50	60	50	60
Power [W]	47	54	64	85
Current [A]	0.25	0.24	0.29	0.37
Max. air flow [m³/h]	326	370	360	357
RPM [min⁻¹]	2760	3240	2840	3300
Noise level at 3 m [dBA]	37	38	40	42
Transported air temperature [°C]	-25...+45			
SEC class	C	-	C	-
Protection rating	IPX4			

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

VENTS VKM





VKM 125 Q Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	79	57	71	77	69	64	60	54	43	58	68
L_{WA} to outlet	dBA	78	64	71	76	68	61	57	53	41	58	68
L_{WA} to environment	dBA	58	27	46	48	52	53	50	41	32	37	47

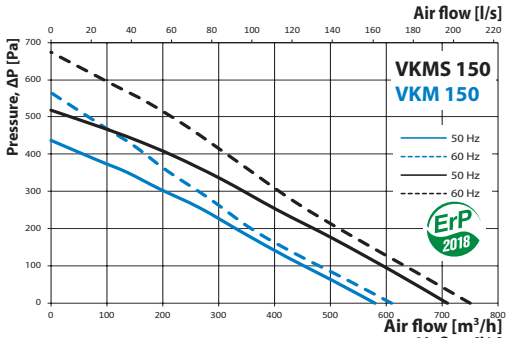
VKM 125 Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	83	60	75	81	73	67	63	57	46	62	72
L_{WA} to outlet	dBA	82	67	75	80	72	64	60	55	44	61	71
L_{WA} to environment	dBA	61	28	49	51	55	57	53	44	34	40	50

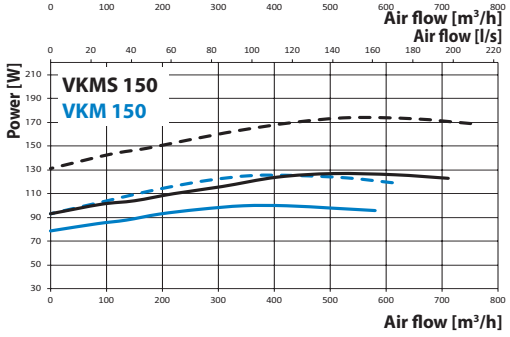
Technical data

	VKM 150		VKMS 150	
Nominal voltage [VAC]	1~220-240			
Frequency [Hz]	50	60	50	60
Power [W]	100	125	127	174
Current [A]	0.45	0.55	0.55	0.76
Max. air flow [m³/h]	580	610	710	750
RPM [min⁻¹]	2700	3100	2760	3150
Noise level at 3 m [dBA]	45	46	48	49
Transported air temperature [°C]	-25...+45			
SEC class	C	-	C	-
Protection rating	IPX4			

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

VENTS VKM





VKM 150 Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	90	53	87	86	75	74	71	68	54	69	79
L_{WA} to outlet	dBA	90	53	88	85	72	71	66	65	52	69	79
L_{WA} to environment	dBA	66	28	49	58	60	60	60	50	37	45	55

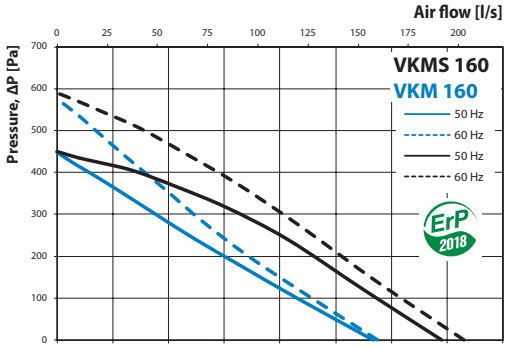
VKMS 150 Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	94	56	91	90	79	78	75	71	57	74	84
L_{WA} to outlet	dBA	94	56	92	89	76	75	69	68	55	74	84
L_{WA} to environment	dBA	68	29	51	61	63	63	63	52	39	48	58

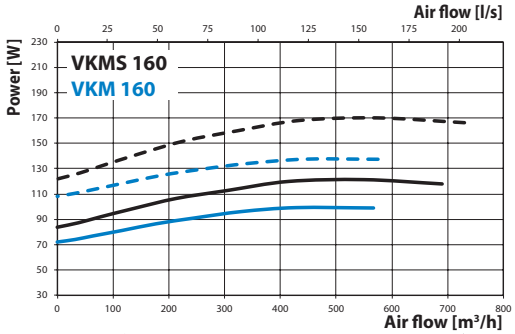
Technical data

	VKM 160		VKMS 160	
Nominal voltage [VAC]	1~220-240			
Frequency [Hz]	50	60	50	60
Power [W]	99	137	121	170
Current [A]	0.44	0.61	0.53	0.75
Max. air flow [m³/h]	567	575	690	730
RPM [min⁻¹]	2770	3160	2800	3210
Noise level at 3 m [dBA]	45	47	48	49
Transported air temperature [°C]	-25...+45			
SEC class	C	-	C	-
Protection rating	IPX4			

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

VENTS VKM





VKM 160 Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	88	52	85	84	74	73	70	67	53	68	78
L_{WA} to outlet	dBA	87	51	85	82	70	69	64	63	50	67	77
L_{WA} to environment	dBA	65	28	48	58	58	60	59	51	38	45	55

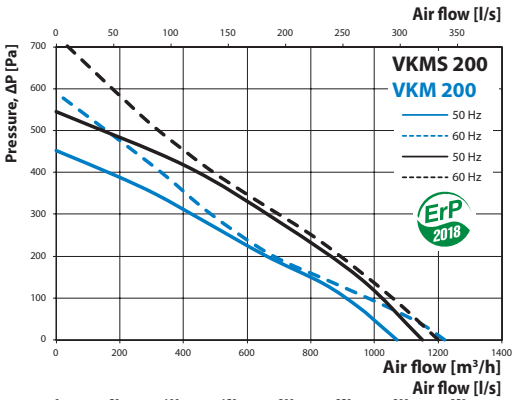
VKMS 160 Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	93	55	90	89	78	77	74	71	56	73	83
L_{WA} to outlet	dBA	93	55	92	88	75	74	69	68	54	73	83
L_{WA} to environment	dBA	68	29	51	60	63	63	63	52	38	48	58

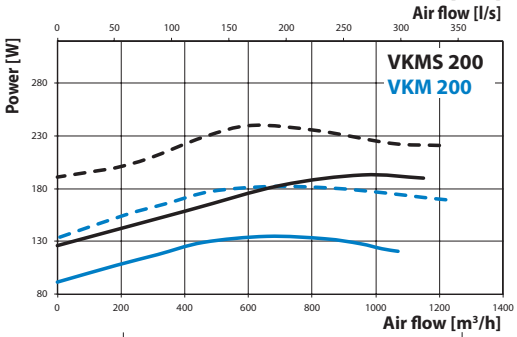
Technical data

	VKM 200		VKMS 200	
Nominal voltage [VAC]	1~220-240			
Frequency [Hz]	50	60	50	60
Power [W]	135	182	193	240
Current [A]	0.59	0.79	0.84	1.05
Max. air flow [m³/h]	1070	1220	1150	1200
RPM [min⁻¹]	2710	3120	2780	2850
Noise level at 3 m [dBA]	48	50	49	49
Transported air temperature [°C]	-25...+45			
SEC class	C	-	-	-
Protection rating	IPX4			

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

VENTS VKM





VKM 200 Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	90	49	78	87	81	81	82	74	63	69	79
L_{WA} to outlet	dBA	87	46	77	81	79	79	82	74	64	67	77
L_{WA} to environment	dBA	68	29	52	60	63	63	62	53	39	48	58

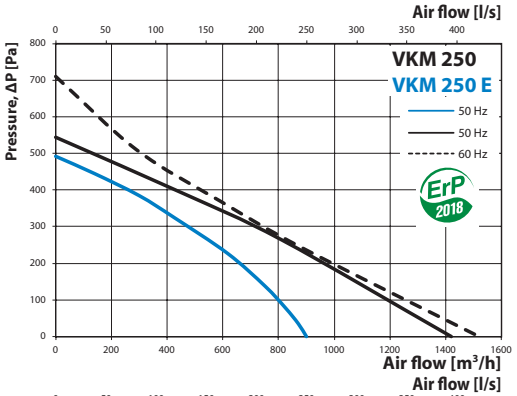
VKMS 200 Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	95	56	92	91	79	78	75	72	57	74	84
L_{WA} to outlet	dBA	94	56	92	89	75	74	69	68	54	74	84
L_{WA} to environment	dBA	70	29	52	62	64	64	64	53	39	49	59

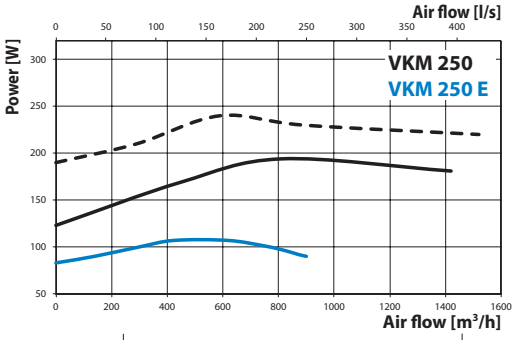
Technical data

	VKM 250 E	VKM 250	
Nominal voltage [VAC]	1~220-240		
Frequency [Hz]	50	50	60
Power [W]	95	194	240
Current [A]	0.47	0.85	1.05
Max. air flow [m³/h]	900	1420	1520
RPM [min⁻¹]	2050	2790	2860
Noise level at 3 m [dBA]	47	50	51
Transported air temperature [°C]	-25...+45		
SEC class	C	-	-
Protection rating	IPX4		

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

VENTS VKM





VKM 250 E Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	89	60	76	83	81	83	79	75	64	68	78
L_{WA} to outlet	dBA	87	63	75	72	80	82	80	75	62	66	76
L_{WA} to environment	dBA	67	34	48	59	62	62	60	49	38	47	57

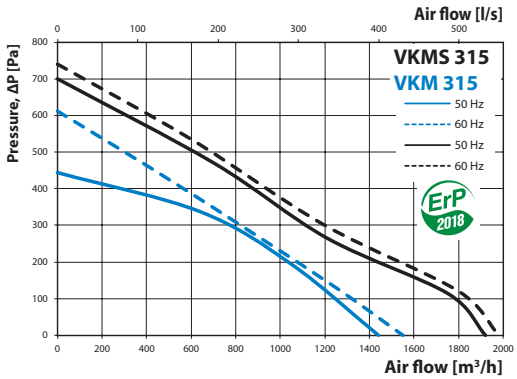
VKM 250 Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	90	61	78	85	83	85	81	77	65	70	80
L_{WA} to outlet	dBA	88	64	77	73	82	84	82	77	63	68	78
L_{WA} to environment	dBA	71	38	52	62	66	65	64	58	44	50	60

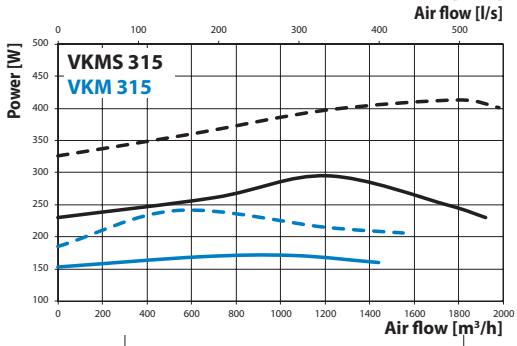
Technical data

	VKM 315		VKMS 315	
Nominal voltage [VAC]	1~220-240			
Frequency [Hz]	50	60	50	60
Power [W]	171	241	295	413
Current [A]	0.77	1.05	1.34	1.8
Max. air flow [m³/h]	1440	1550	1920	1980
RPM [min⁻¹]	2600	2850	2720	2780
Noise level at 3 m [dBA]	52	53	54	55
Transported air temperature [°C]	-25...+45			
SEC class	-	-	-	-
Protection rating	IPX4			

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

VENTS VKM





VKM 315 Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	92	62	80	87	85	87	83	79	66	71	81
L_{WA} to outlet	dBA	91	66	79	75	84	87	84	79	65	70	80
L_{WA} to environment	dBA	72	37	51	64	67	67	65	53	41	52	62

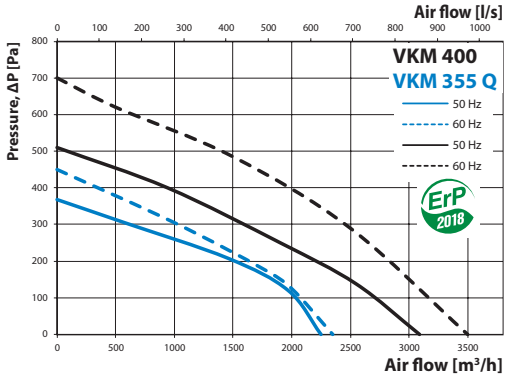
VKMS 315 Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	94	63	81	88	86	88	84	80	68	73	83
L_{WA} to outlet	dBA	92	67	81	77	86	88	86	81	66	72	82
L_{WA} to environment	dBA	74	38	53	66	69	69	67	54	42	54	64

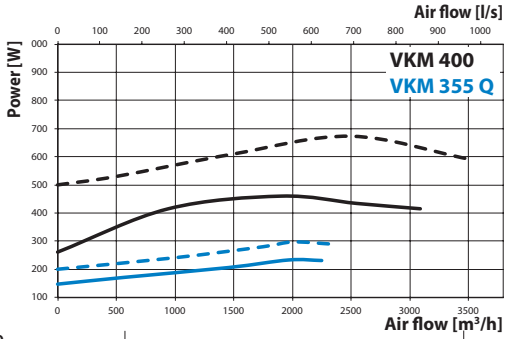
Technical data

	VKM 355 Q		VKM 400	
Nominal voltage [VAC]	1~220-240			
Frequency [Hz]	50	60	50	60
Power [W]	233	297	460	673
Current [A]	1.06	1.30	2.23	3.05
Max. air flow [m³/h]	2250	2350	3090	3500
RPM [min⁻¹]	1375	1620	1370	1585
Noise level at 3 m [dBA]	58	59	61	64
Transported air temperature [°C]	-25...+45		-40...+80	-40...+55
SEC class	-	-	-	-
Protection rating	IPX4			

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

VENTS VKM





VKM 355 Q Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	92	62	80	87	85	87	83	79	66	71	81
L_{WA} to outlet	dBA	91	66	79	75	84	87	84	79	65	70	80
L_{WA} to environment	dBA	72	37	51	64	67	67	65	53	41	52	62

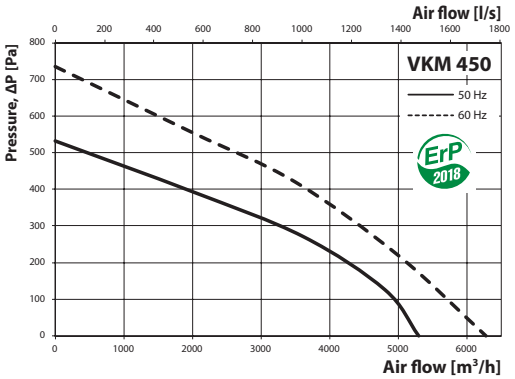
VKM 400 Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	97	59	84	82	86	92	93	88	78	77	87
L_{WA} to outlet	dBA	96	61	75	85	82	90	94	86	78	76	86
L_{WA} to environment	dBA	81	35	57	66	75	77	77	66	58	61	71

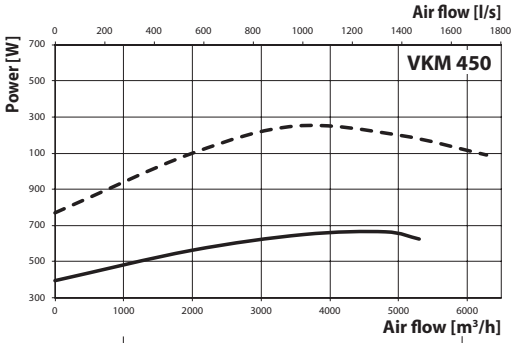
Technical data

	VKM 450	
Nominal voltage [VAC]	1~220-240	
Frequency [Hz]	50	60
Power [W]	665	1250
Current [A]	2.89	5.40
Max. air flow [m³/h]	5300	6280
RPM [min⁻¹]	1265	1560
Noise level at 3 m [dBA]	65	73
Transported air temperature [°C]	-40...+70	-25...+60
SEC class	-	-
Protection rating	IPX4	

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

VENTS VKM





VKM 200 Sound-power level		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	98	59	85	83	87	93	94	89	78	78	88
L_{WA} to outlet	dBA	98	63	76	87	84	92	95	88	80	78	88
L_{WA} to environment	dBA	86	37	60	70	79	81	81	70	61	65	75

Series
VENTS VKM EC

Series
VENTS VKM 355-400 EC

Inline centrifugal fans with the air flow
up to **4790 m³/h** in steel casing

Application
Supply and exhaust ventilation systems for commercial, office and other public or industrial premises. EC motors applied in in VKM fans reduce energy demand by about 35 % and ensure high aerodynamic performance and low noise level. Such characteristics are of special importance for ventilation of public premises as banks, supermarkets, restaurants, hotels, installation close to residential buildings and for domestic application, e.g. ventilation of private pools. EC motors enable integration of several fans into a unified networks and their centralized control. The steel casing ensures reliable operation of the fan in case of its outside installation. The fans are designed for connection to Ø 100, 125, 150, 160, 200, 250, 315, 355 and 400 mm air ducts.

Design
The fan casing is made of polymer coated steel. New technologies for manufacture of the fan components let attain the total casing air tightness.

Motor
The impellers with backward curved blades are powered with a high efficient electronically commutated (EC) direct current motor with external rotor. As of today, such motor type is the most advanced solution for energy saving. EC motors are featured by high performance and the best speed controllable range. Premium efficiency reaching up to 90 % is the absolute advantage of electronically commutated motors. The motors are equipped with ball bearings for longer service life of the fan (40 000 hours). For precise features, safe operation and low noise, each turbine is dynamically balanced while assembly. Motor ingress protection rating IP44.

Speed control
The fan is controlled with the external control signal 0-10 V (air flow control as a function of temperature, pressure, smoke conditions and other parameters). Should the control value get changed, the EC motor adjusts its speed and the fan boosts as much air flow to the ventilation system as required. Maximum speed of the fan does not depend on the current frequency and it can operate at 50 or 60 Hz mains supply. The fans may be integrated into the unified dispatch system. The respective software enables to control all the fan integrated into the system. The computer displays all the system parameters. Each fan in the system may be individually adjusted.

Mounting
The fans may be installed at any angle. The fixing brackets that are included into the delivery set are used to facilitate the fan mounting to the wall. The fan is connected to power mains through the external terminal box.

Designation key

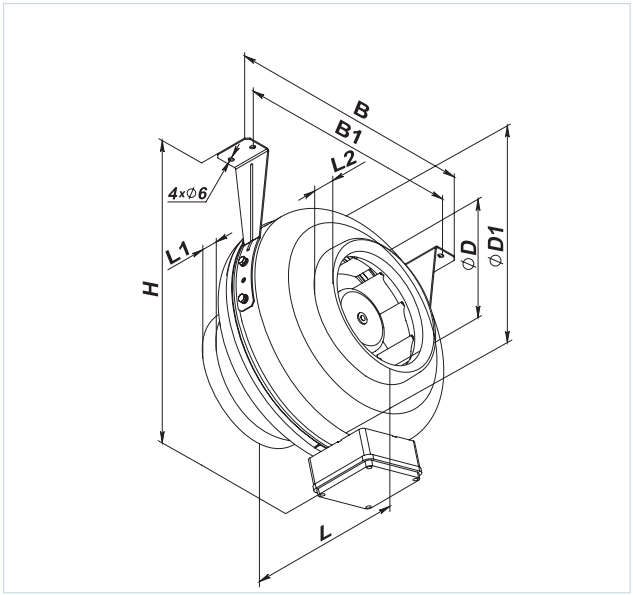
Series	Air duct diameter	Motor	Options
VENTS VKM **VENTS VKMS**: High-power version	100; 125; 150; 160; 200; 250; 315, 355, 400	**EC**: electronically commutated synchronous motor	**Un**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Temperature-based operation logic. **U2n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Temperature-based switching on/off. **R1**: power cord with a mains plug. **P**: integrated smooth speed controller.

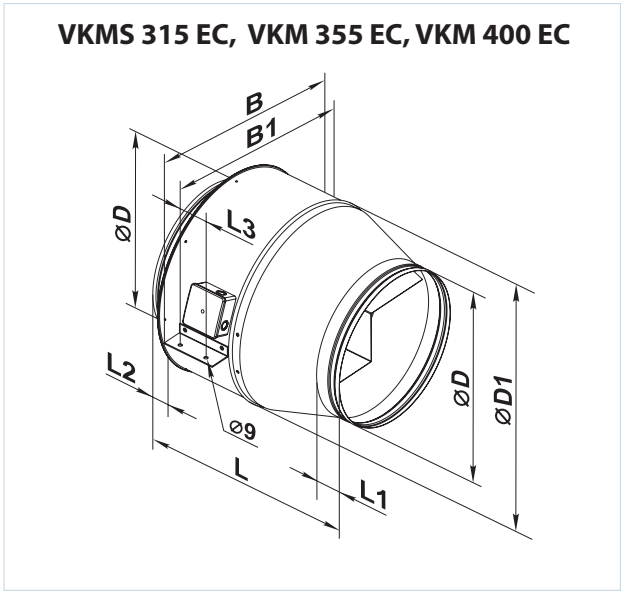
Accessories

Silencer | Filters | Heaters | Backdraft damper | Air shutter | Clamp | Speed controller

Overall dimensions

Model	Dimensions [mm]									Mass [kg]
	ØD	ØD1	H	B	B1	L	L1	L2	L3	
VKM 100 EC	98	255	340	310	270	203	20	25	30	3.45
VKM 125 EC	123	255	340	310	270	203	20	25	30	3.58
VKM 150 EC	149	305	365	360	320	240	25	25	30	4.7
VKM 160 EC	159	305	365	360	320	240	25	25	30	4.9
VKM 200 EC	198	345	435	395	355	245	25	30	40	5.7
VKMS 200 EC	198	345	435	395	355	255	25	30	40	5.7
VKM 250 EC	248	345	435	395	355	250	25	30	40	5.1
VKM 315 EC	314	405	465	455	415	260	30	30	40	7.3
VKMS 315 EC	313	409	-	502	472	462	60	60	50	9.4
VKM 355 EC	353	459	-	552	522	562	60	60	70	15.8
VKM 400 EC	398	568	-	663	633	599	60	60	70	18.7





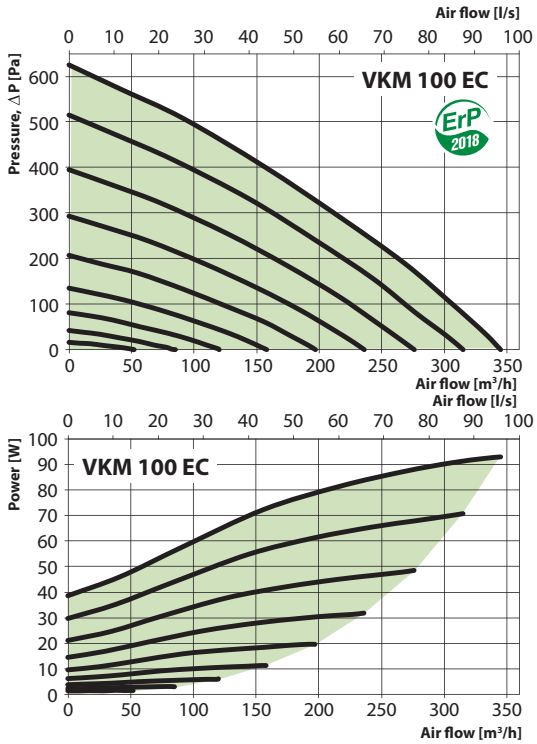
Technical data

	VKM 100 EC	VKM 125 EC	VKM 150 EC	VKM 160 EC	VKM 200 EC	VKMS 200 EC
Voltage [V/50 (60) Hz]			1~230			
Power [W]	90	83	107	108	83	100
Current [A]	0.70	0.58	0.89	0.90	0.63	0.74
Max. air flow [m³/h]	345	480	700	785	845	1010
RPM [min⁻¹]	3600	3400	3060	3030	2500	2400
Noise level at 3 m [dBA]	44	45	48	48	47	48
Transported air temperature [°C]			-25...+60			
SEC class	B	B	B	B	B	B
Protection rating			IPX4			

	VKM 250 EC	VKM 315 EC	VKMS 315 EC	VKM 355 EC	VKM 400 EC
Voltage [V/50 (60) Hz]			1~230		
Power [W]	164	164	183	693	704
Current [A]	1.15	1.15	1.44	3.07	3.13
Max. air flow [m³/h]	1230	1370	1820	3450	4790
RPM [min⁻¹]	2900	2900	2780	2768	2206
Noise level at 3 m [dBA]	46	48	49	62	67
Transported air temperature [°C]			-25...+60		
SEC class	-	-	-	-	-
Protection rating			IPX4		

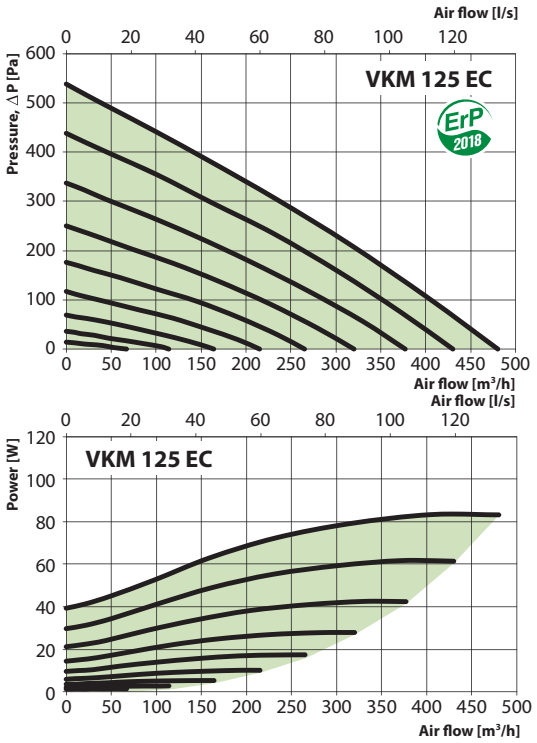
To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

VENTS VKM EC



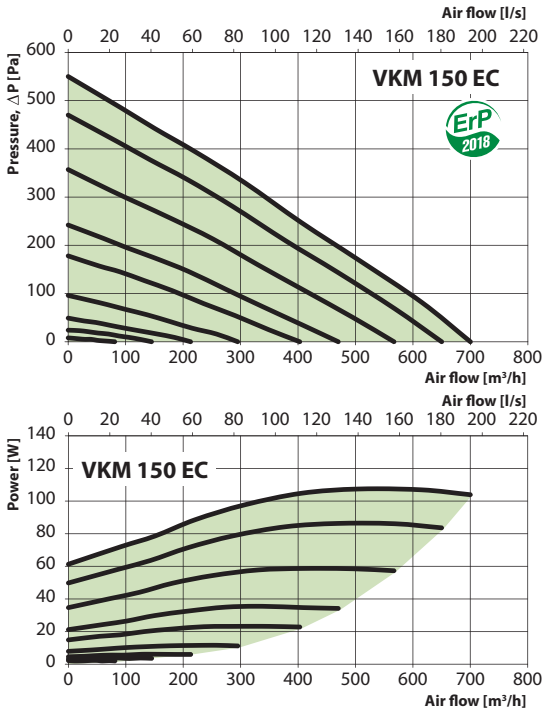
Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	90	66	82	89	80	74	70	63	51	70	80
L_{WA} to outlet	dBA	89	73	82	88	79	70	66	61	49	69	79
L_{WA} to environment	dBA	65	31	47	56	60	59	58	47	33	44	54

VENTS VKM EC



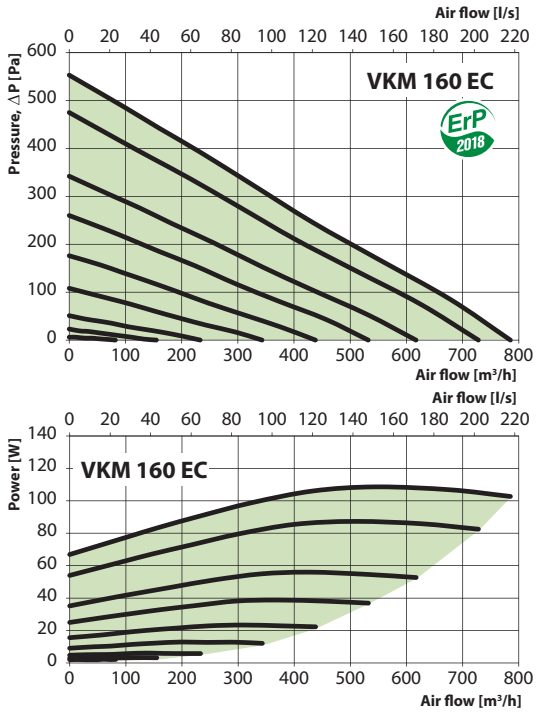
Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	91	62	83	90	79	74	71	65	54	71	81
L_{WA} to outlet	dBA	90	69	83	89	78	71	68	63	52	70	80
L_{WA} to environment	dBA	65	27	48	58	59	60	60	49	37	45	55

VENTS VKM EC



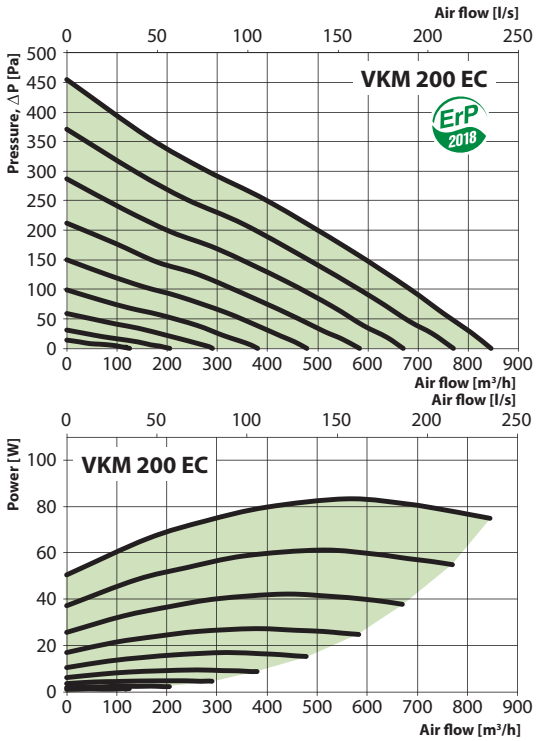
Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	89	52	86	85	74	72	70	67	54	68	78
L_{WA} to outlet	dBA	87	51	85	82	70	68	64	63	51	66	76
L_{WA} to environment	dBA	69	28	50	61	64	63	62	54	41	48	58

VENTS VKM EC



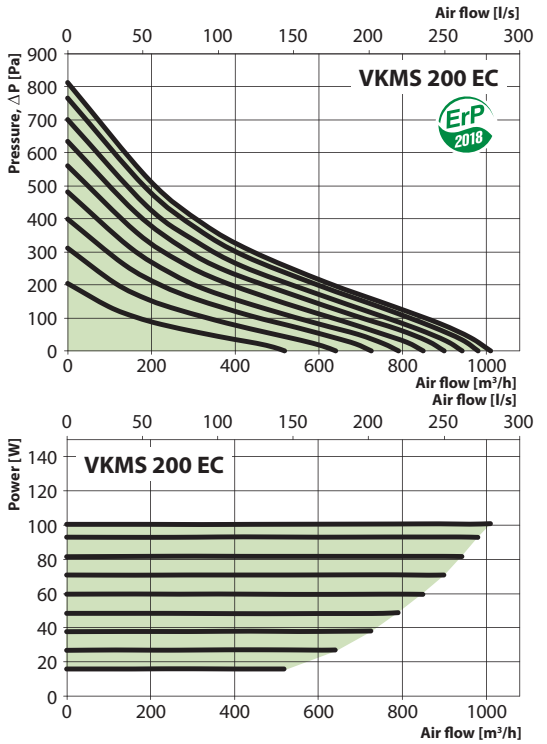
Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	89	81	87	79	72	68	62	50	54	68	78
L_{WA} to outlet	dBA	88	81	86	78	69	65	60	48	51	67	77
L_{WA} to environment	dBA	69	50	59	64	63	61	50	36	41	48	58

VENTS VKM EC



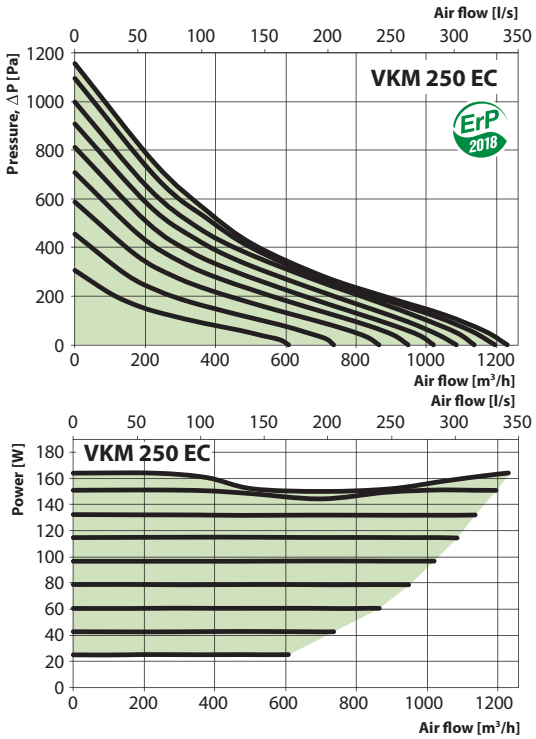
Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	87	48	76	84	79	79	80	72	61	67	77
L_{WA} to outlet	dBA	85	45	75	79	77	77	80	72	62	64	74
L_{WA} to environment	dBA	67	27	49	60	62	61	60	52	39	47	57

VENTS VKM EC



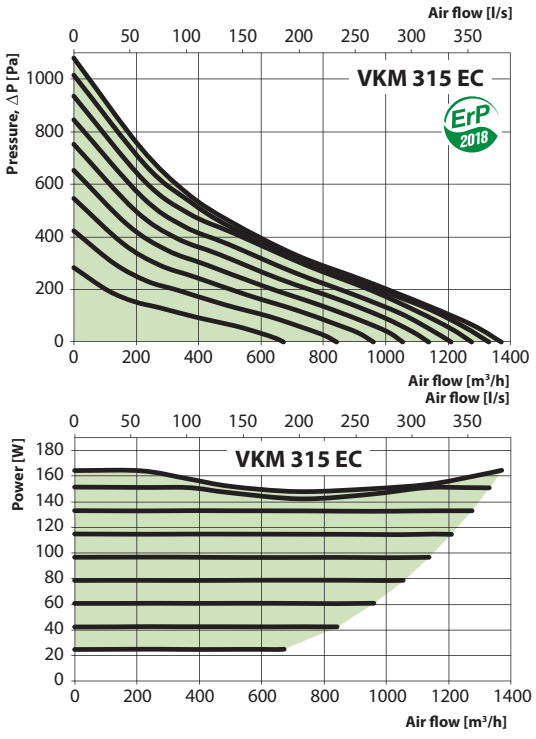
Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	93	63	80	88	85	87	84	79	67	72	82
L_{WA} to outlet	dBA	89	65	77	74	83	84	83	77	64	68	78
L_{WA} to environment	dBA	68	30	49	58	62	65	61	52	38	48	58

VENTS VKM EC



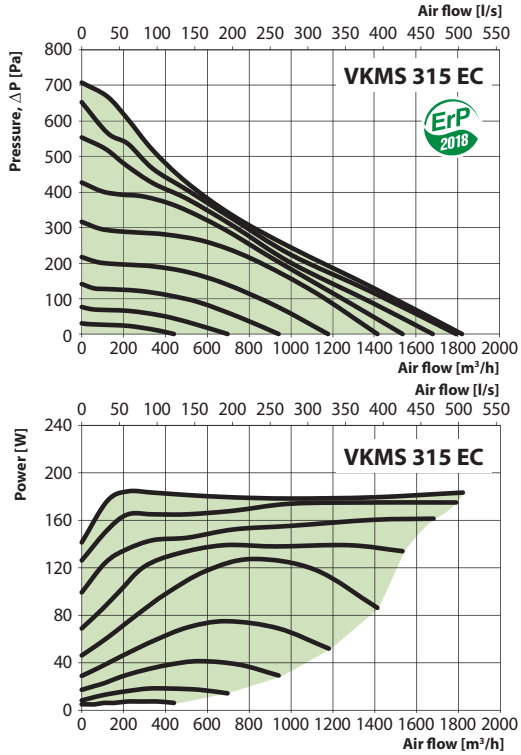
Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	90	61	77	85	83	84	81	76	65	69	79
L_{WA} to outlet	dBA	89	65	77	74	83	85	83	78	64	69	79
L_{WA} to environment	dBA	67	29	48	57	60	63	59	51	37	46	56

VENTS VKM EC



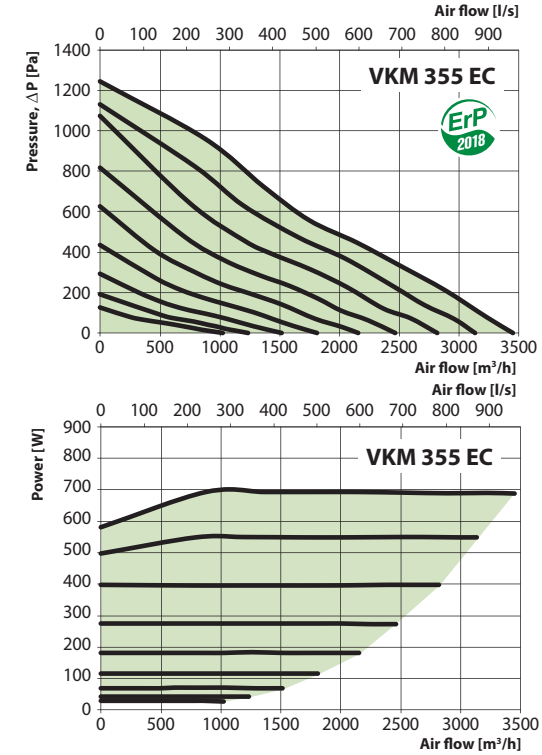
Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	86	51	73	71	75	81	82	77	68	66	76
L_{WA} to outlet	dBA	87	55	66	76	73	81	84	77	69	67	77
L_{WA} to environment	dBA	69	30	48	56	62	64	64	56	49	48	58

VENTS VKM EC



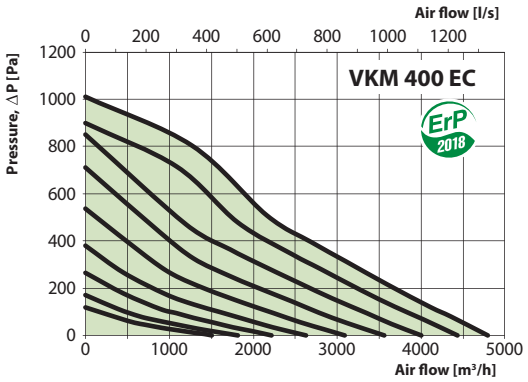
Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	92	62	79	87	85	86	83	78	66	71	81
L_{WA} to outlet	dBA	90	65	78	74	84	85	84	78	64	69	79
L_{WA} to environment	dBA	69	31	49	59	63	66	62	53	39	49	59

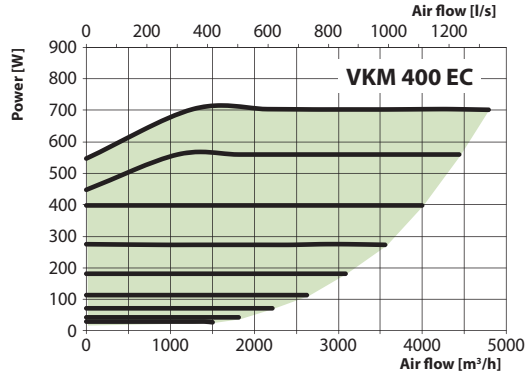
VENTS VKM EC



Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	90	59	67	79	84	85	83	80	64	69	79
L_{WA} to outlet	dBA	88	61	70	75	83	84	78	72	57	67	77
L_{WA} to environment	dBA	83	69	75	70	73	79	72	73	49	62	72

VENTS VKM EC





Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	98	62	73	84	91	94	91	86	73	77	87
L_{WA} to outlet	dBA	94	62	73	79	85	91	86	80	68	73	83
L_{WA} to environment	dBA	87	45	63	81	81	82	80	71	58	67	77

Series
VENTS VKMz

Inline centrifugal fans in galvanized casing with the air flow up to **1540 m³/h**

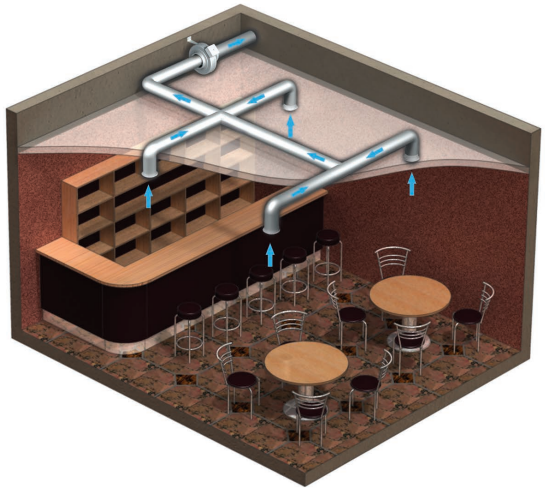
Applications
Supply and exhaust ventilation systems for commercial, office and other public or industrial premises. For premises with high requirements to noise level we offer units in low-noise modification (VKMz...Q).

Design
The fan casing is made of galvanized steel.

Motor
The impeller with backward curved blades is powered by the single phase motor with external rotor and overheating protection with automatic restart. Some standard sizes are available with high-powered motors (VKMS). The motor is equipped with ball bearings for long service life designed for at least 40000 hours. For precise features, safe operation and low noise, each turbine is dynamically balanced while assembly. Motor protection rating is IP44.

Speed control
Smooth or step speed control with a thyristor or autotransformer speed controller. Several fans may be connected to one speed controller provided that the total power and operating current do not exceed the rated speed controller parameters.

Mounting
Mounting at any angle to wall or ceiling is performed with fastening brackets supplied with the unit. The fan is powered by means of the external terminal box. Electric connection and mounting shall be performed in compliance with the manual and wiring diagram on the terminal box.



VKMz fan catering ventilation example

Designation key

Series		Air duct diameter	Options
VENTS VKMz	**S**: high-powered motor	100; 125; 150; 160; 200; 250; 315	**Q**: low-powered motor. **R1**: power cord with a mains plug.

Accessories


Silencer


Filters


Heaters


Backdraft damper


Air shutter


Clamp


Speed controllers

Technical data

	VKMz 100 Q		VKMz 100		VKMz 125 Q		VKMz 125		VKMz 150		VKMSz 150	
Voltage, [V]	1~220-240		1~220-240		1~220-240		1~220-240		1~220-240		1~220-240	
Frequency [Hz]	50	60	50	60	50	60	50	60	50	60	50	60
Power [W]	42	51	62	77	60	61	78	79	64	78	127	174
Current [A]	0.19	0.23	0.28	0.34	0.37	0.37	0.34	0.34	0.29	0.34	0.56	0.77
Max. air flow [m³/h]	230	250	250	265	230	240	330	340	455	475	710	750
RPM [min⁻¹]	2732	3258	2812	3294	2605	2720	2820	2880	2780	3216	2760	3144
Noise level at 3 m [dBA]	35	36	46	47	35	36	46	46	44	45	48	49
Transported air temperature [°C]	-25...+55	-25...+50	-25...+55	-25...+50	-25...+55	-25...+50	-25...+55	-25...+50	-25...+50		-25...+60	
SEC class	C		C		C		C		C	-	C	-
Unit protection rating	IPX4		IPX4		IPX4		IPX4		IPX4		IPX4	
Motor protection rating	IP44		IP44		IP44		IP44		IP44		IP44	

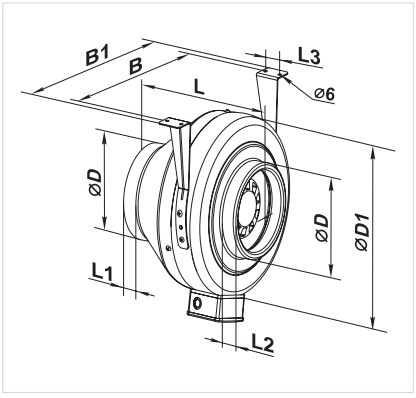
To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

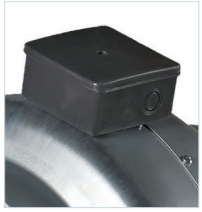
	VKMz 160		VKMz 200 Q		VKMz 200		VKMSz 200		VKMz 250 Q		VKMz 250		VKMz 315 Q		VKMz 315	
Voltage, [V]	1~220-240		1~220-240		1~220-240		1~220-240		1~220-240		1~220-240		1~220-240		1~220-240	
Frequency [Hz]	50	60	50	60	50	60	50	60	50	60	50	60	50	60	50	60
Power [W]	78	81	130	174	144	193	186	240	134	175	152	202	151	205	185	238
Current [A]	0.34	0.35	0.56	0.77	0.63	0.85	0.81	1.05	0.59	0.77	0.66	0.88	0.66	0.89	0.81	1.04
Max. air flow [m³/h]	455	460	900	970	1000	1045	1110	1140	980	1030	1070	1100	1330	1370	1540	1580
RPM [min⁻¹]	2760	2820	2814	3558	2824	3164	2810	3222	2785	2880	2765	2560	2680	2750	2730	2870
Noise level at 3 m [dBA]	46	46	48	49	50	50	50	50	51	51	52	52	52	52	53	54
Transported air temperature [°C]	-25...+55	-25...+50	-25...+50						-25...+50				-25...+50		-25...+45	
SEC class	B		B		B		B		B		B		-		-	
Unit protection rating	IPX4		IPX4		IPX4		IPX4		IPX4		IPX4		IPX4		IPX4	
Motor protection rating	IP44		IP44		IP44		IP44		IP44		IP44		IP44		IP44	

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

Fan overall dimensions

Type	Dimensions [mm]								Mass [kg]
	ØD	ØD1	B	B1	L	L1	L2	L3	
VKMz 100 Q	98	237	253	293	202	23	22	30	2.5
VKMz 100	98	237	253	293	202	23	22	30	2.8
VKMz 125 Q	123	237	253	293	202	23	22	30	2.7
VKMz 125	123	237	253	293	202	23	22	30	2.9
VKMz 150	149	274	290	330	170	20	20	30	3.2
VKMSz 150	149	345	355	395	230	20	20	40	4.8
VKMz 160	158	278	294	334	200	25	23	30	3.2
VKMz 200 Q	198	339	355	380	245	25	29	40	5.5
VKM(S)z 200	198	339	355	395	245	25	29	40	5.8
VKMz 250 Q	249	332	340	395	213	25	29	40	5.1
VKMz 250	249	332	340	380	213	25	29	40	5.1
VKMz 315 Q	313	402	410	450	308	33	55	40	6.5
VKMz 315	313	402	410	450	308	33	55	40	6.5



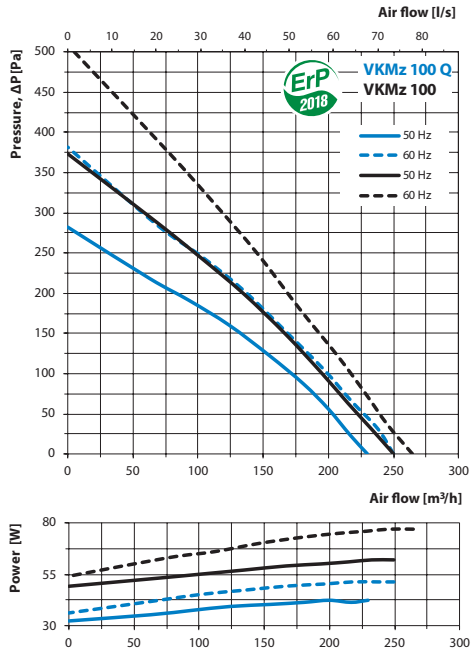


External terminal box for power supply

Fastening bracket for easy mounting supplied with the fan

VENTS VKMz...R is equipped with a power cable

VENTS VKMz



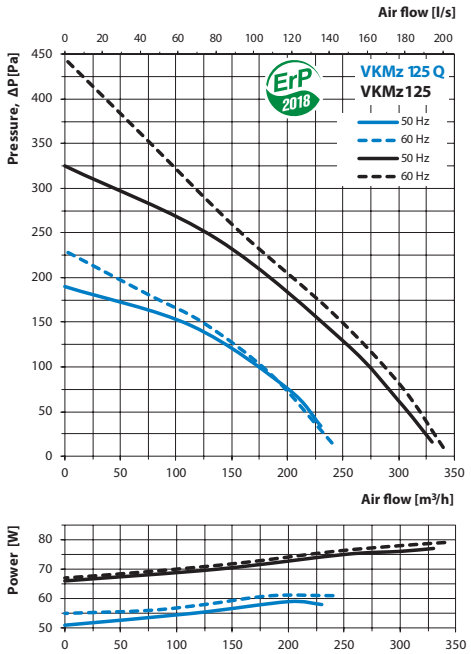
VKMz 100 Q

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	63	51	57	56	57	51	46	40	29
L_{wA} to outlet	dBA	65	54	62	58	61	57	50	45	33
L_{wA} to environment	dBA	55	19	14	21	34	42	41	29	17

VKMz 100

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	72	47	67	68	67	60	54	53	42
L_{wA} to outlet	dBA	73	56	67	72	66	63	58	57	42
L_{wA} to environment	dBA	64	43	60	57	41	24	6	17	24

VENTS VKMz



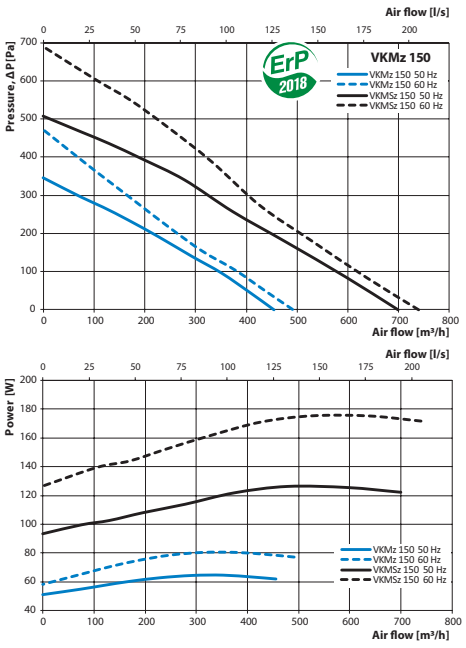
VKMz 125 Q

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	59	31	52	54	53	49	46	35	30
L_{wA} to outlet	dBA	61	35	53	56	60	51	49	35	34
L_{wA} to environment	dBA	64	46	60	59	43	33	15	30	28

VKMz 125

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	75	56	63	68	69	64	61	52	41
L_{wA} to outlet	dBA	75	58	71	74	72	65	65	56	47
L_{wA} to environment	dBA	64	52	64	59	48	36	23	30	27

VENTS VKMz



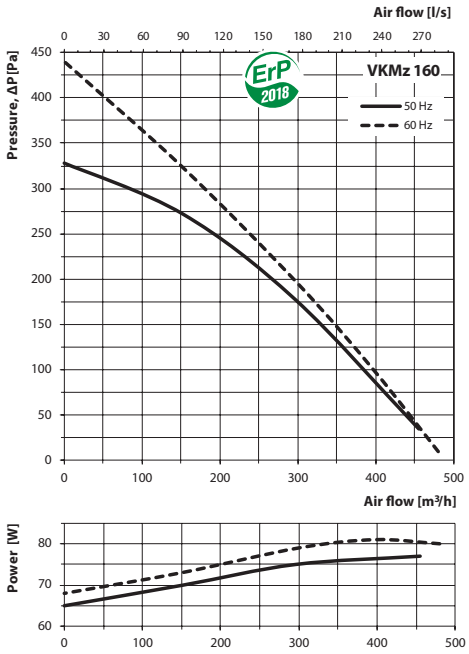
VKMz 150
Sound-power level

		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	80	57	72	78	70	64	60	54	44	59	69
L_{wA} to outlet	dBA	79	64	72	77	69	61	57	53	42	58	68
L_{wA} to environment	dBA	60	28	48	50	55	56	52	43	33	40	50

VKMSz 150

		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	94	56	91	90	79	78	75	71	57	74	84
L_{wA} to outlet	dBA	94	56	92	89	76	75	69	68	55	74	84
L_{wA} to environment	dBA	68	29	51	61	63	63	63	52	39	48	58

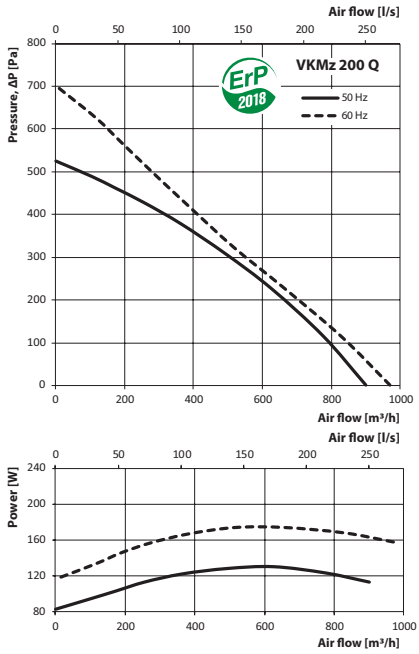
VENTS VKMz



VKMz 160
Sound-power level

		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	69	42	67	66	63	61	58	48	35
L_{wA} to outlet	dBA	72	46	69	65	68	64	63	50	40
L_{wA} to environment	dBA	60	41	60	53	36	20	18	30	24

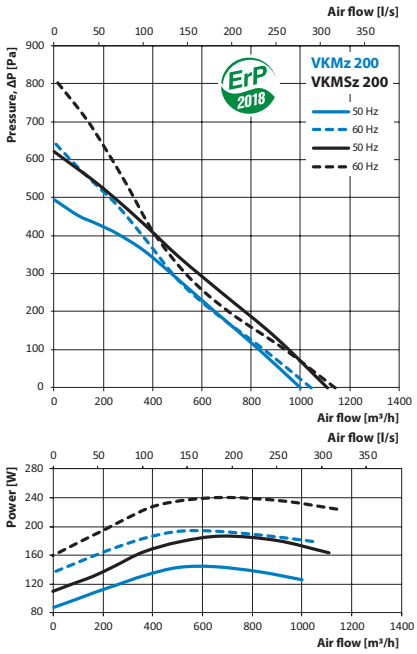
VENTS VKMz



VKMz 200 Q

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	76	47	68	65	70	67	59	58	50
L_{wA} to outlet	dBA	76	49	71	69	72	63	63	60	53
L_{wA} to environment	dBA	64	46	61	57	48	32	27	48	42

VENTS VKMz



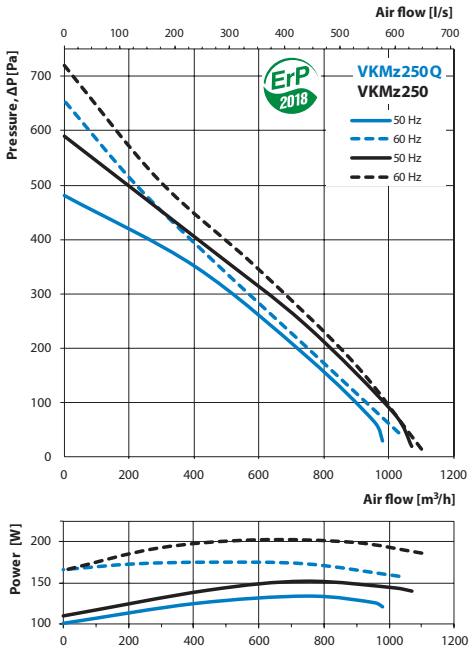
VKMSz 200

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	76	47	68	65	70	67	59	58	50
L_{wA} to outlet	dBA	76	49	71	69	72	63	63	60	53
L_{wA} to environment	dBA	64	46	61	57	48	32	27	48	42

VKMz 200

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	73	51	66	68	71	67	64	58	52
L_{wA} to outlet	dBA	79	51	73	69	74	67	65	60	50
L_{wA} to environment	dBA	68	47	64	64	46	32	30	44	42

VENTS VKMz



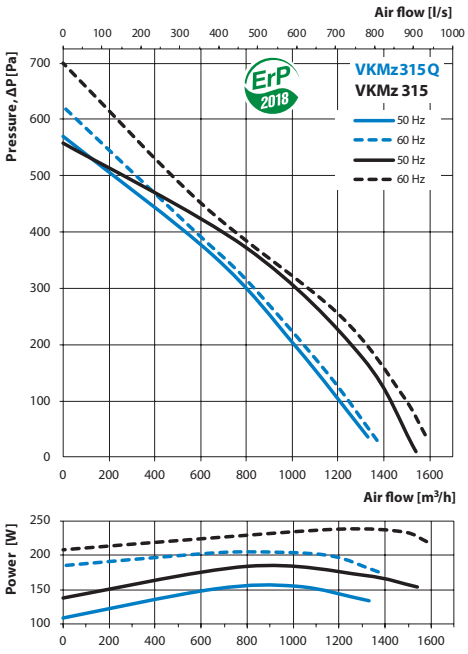
VKMz 250 Q

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	69	46	59	61	65	62	58	60	54
L_{wA} to outlet	dBA	74	49	59	63	66	67	62	64	56
L_{wA} to environment	dBA	60	42	54	54	44	37	37	52	45

VKMz 250

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	75	60	66	67	67	67	63	56	45
L_{wA} to outlet	dBA	76	60	73	71	69	65	66	59	46
L_{wA} to environment	dBA	65	58	62	60	47	43	40	47	36

VENTS VKMz



VKMz 315 Q

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	70	35	53	61	65	67	61	58	56
L_{wA} to outlet	dBA	74	41	54	64	73	70	65	62	60
L_{wA} to environment	dBA	59	35	49	53	50	46	51	50	50

VKMz 315

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	77	53	66	71	69	68	66	63	60
L_{wA} to outlet	dBA	78	58	71	74	72	71	71	63	63
L_{wA} to environment	dBA	70	55	66	61	57	48	54	56	51

Series
VENTS VC

Inline centrifugal inline fans with the air flow up to **1880 m³/h**

Applications
Supply and exhaust ventilation systems for commercial, office and other public or industrial premises. For premises with high requirements to noise level, we offer units in low-noise modification (VC...Q).

Design
Fan casing is made of steel with polymeric coating. Various fan modifications for surface or flush mounting are available.

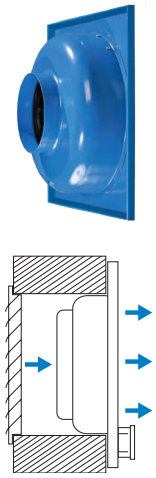
Motor
The plastic impeller with backward curved blades is powered by means of the single phase motor with external rotor and overheating protection with automatic restart. For some dimension types high-powered motors are available (VC...S). Motor is equipped with ball bearings for longer service life designed for at least 40 000 hours. For precise features, safe operation and low noise, each turbine is dynamically balanced while assembly. Motor protection rating IP44.

Speed control
Smooth or step speed control with a thyristor or autotransformer speed controller. Several fans may be connected to one speed controller provided that the total power and operating current do not exceed the rated speed controller parameters.

Mounting
Fan is designed for surface wall mounting (VC...PN and VC...VN models) or through-the-wall mounting (VC... PK and VC...VK) depending on design modification (see below). The fan is mounted to the wall with the mounting plate. The fan is powered through the external terminal box. Electric connection and installation shall be performed in compliance with the manual and wiring diagram on the terminal box.

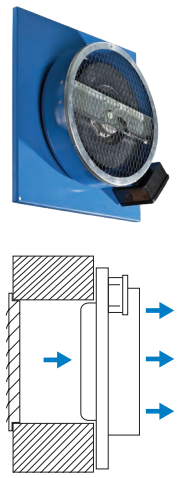
VC-PK

Supply fan for flush wall mounting



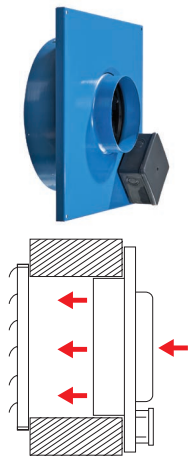
VC-PN

Supply fan for surface wall mounting



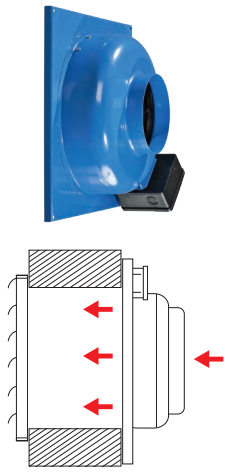
VC-VK

Exhaust fan for flush mounting



VC-VN

Exhaust fan for surface wall mounting



Designation key

Series		Modification	Mounting option	Air duct diameter	Options
VENTS VC	**S**: high-powered motor	**V**: exhaust; **P**: supply.	**N**: surface wall mounting; **K**: through-the-wall duct mounting.	100; 125; 150; 160; 200; 250; 315	**Q**: low-powered motor

ErP data	
Overall efficiency	η [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	kW
Current	A
Air flow	m^3/h
Static pressure	Pa
Speed	n/min^{-1}
Specific ratio	SR

Accessories

Silencer | Filters | Heaters | Backdraft damper | Air shutter | Speed controllers

Technical data

	VC 100 Q	VC 100	VC 125 Q	VC 125	VC 150	VC 160
Voltage [V/50 Hz]	1~230	1~230	1~230	1~230	1~230	1~230
Power [W]	60	73	60	75	98	98
Current [A]	0.37	0.32	0.37	0.33	0.43	0.43
Max. air flow [m^3/h]	210	270	255	355	555	555
RPM [min^{-1}]	2620	2830	2535	2800	2705	2660
Noise level at 3 m [dBA]	36	47	36	47	47	47
Transported air temperature [°C]	-25...+55	-25...+55	-25...+55	-25...+55	-25...+55	-25...+55
SEC class	C	C	C	C	B	B
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4

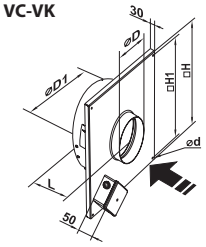
Technical data

	VC 200	VCS 200	VC 250 Q	VC 250	VC 315	VCS 315
Voltage [V/50 Hz]	1~230	1~230	1~230	1~230	1~230	1~230
Power [W]	154	193	158	194	171	296
Current [A]	0.67	0.84	0.69	0.85	0.77	1.34
Max. air flow [m^3/h]	950	1100	1190	1310	1400	1880
RPM [min^{-1}]	2375	2780	2315	2790	2600	2720
Noise level at 3 m [dBA]	48	51	52	52	52	54
Transported air temperature [°C]	-25...+50	-25...+45	-25...+50	-25...+50	-25...+50	-25...+45
SEC class	B	-	-	-	-	-
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4

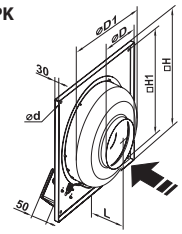
Fan overall dimensions

Type	Dimensions [mm]						Mass [kg]
	ØD	ØD1	Ød	H	H1	L	
VC 100 Q	98	249	6.1	310	295	115	3.1
VC 100	98	249	6.1	310	295	115	3.2
VC 125 Q	123	249	6.1	310	295	115	3.1
VC 125	123	249	6.1	310	295	115	3.2
VC 150	149	300	6.1	400	385	115	4.8
VC 160	159	300	6.1	400	385	115	4.9
VC 200	198	339	6.1	400	385	138	6.1
VCS 200	198	339	6.1	400	385	138	6.1
VC 250 Q	248	339	6.1	400	385	138	7.1
VC 250	248	339	6.1	400	385	138	7.2
VC 315	315	399	6.1	460	445	146	7.8
VCS 315	315	399	6.1	460	445	180	7.8

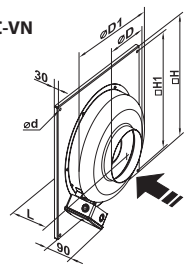
VC-VK



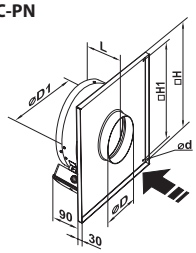
VC-PK



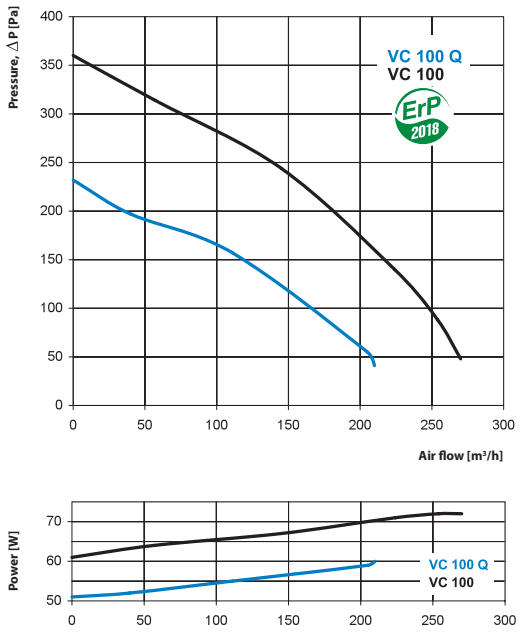
VC-VN



VC-PN



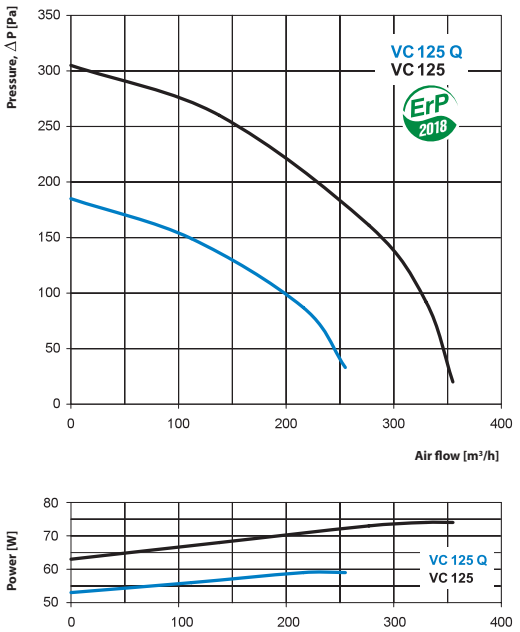
VENTS VC



VC 100 Q

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	62	52	60	56	60	48	48	41	28
L_{wA} to outlet	dBA	67	49	57	58	60	54	52	45	30
L_{wA} to environment	dBA	55	19	16	23	36	39	42	30	19
VC 100	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	74	49	66	70	67	62	53	52	40
L_{wA} to outlet	dBA	77	48	69	73	68	61	57	53	47
L_{wA} to environment	dBA	63	43	63	57	40	27	6	20	25

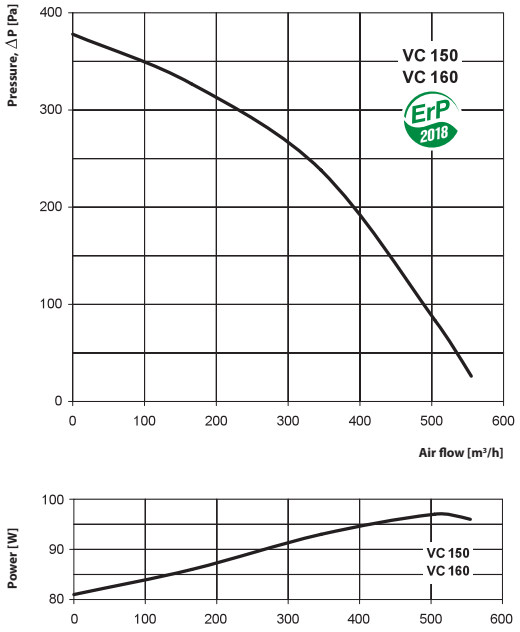
VENTS VC



VC 125 Q

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	61	32	53	55	55	49	45	36	30
L_{wA} to outlet	dBA	58	37	54	57	54	52	50	36	34
L_{wA} to environment	dBA	64	44	64	59	41	32	15	32	26
VC 125	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	75	57	65	67	70	66	61	53	42
L_{wA} to outlet	dBA	76	63	69	66	68	70	65	52	42
L_{wA} to environment	dBA	65	54	60	59	46	36	21	29	25

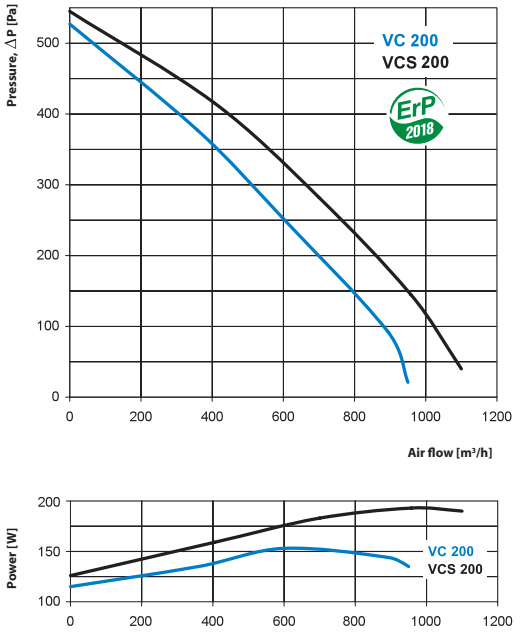
VENTS VC



VC 150

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	70	45	66	64	67	61	59	50	38
L_{wA} to outlet	dBA	71	48	69	67	65	67	62	53	42
L_{wA} to environment	dBA	62	39	62	54	39	19	17	28	20
VC 160	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	72	44	64	64	63	61	59	48	35
L_{wA} to outlet	dBA	72	43	66	68	66	65	63	50	42
L_{wA} to environment	dBA	64	42	59	55	36	18	15	30	22

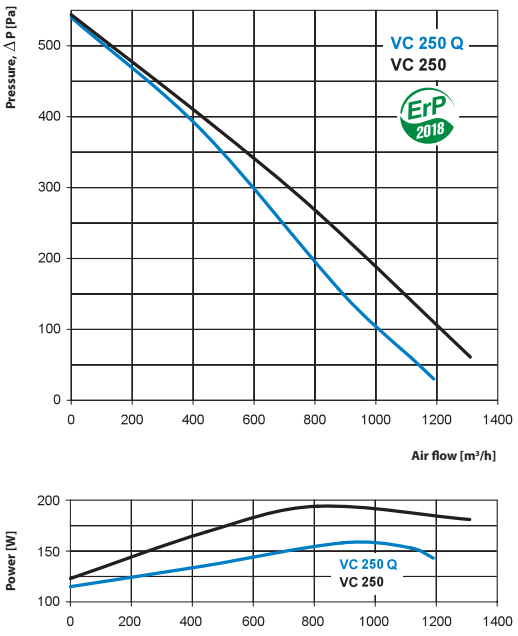
VENTS VC



VC 200

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	77	47	68	67	72	67	59	59	50
L_{wA} to outlet	dBA	76	53	69	71	73	69	67	62	52
L_{wA} to environment	dBA	64	46	61	57	50	33	26	44	39
VCS 200	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	73	47	70	72	71	64	63	58	51
L_{wA} to outlet	dBA	80	52	70	75	72	64	64	62	54
L_{wA} to environment	dBA	64	49	66	61	47	33	29	45	42

VENTS VC



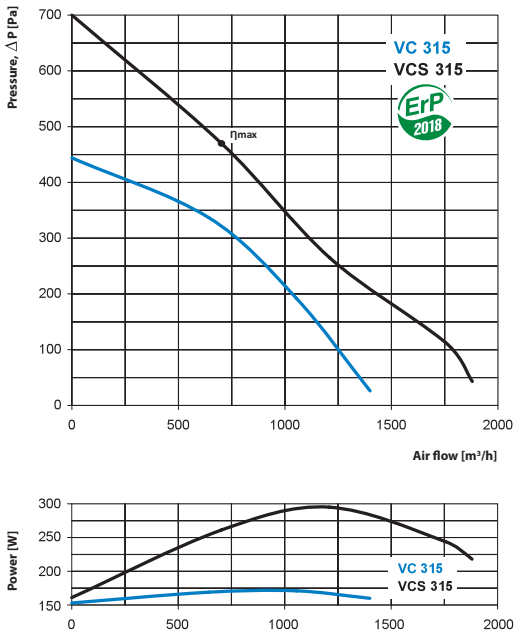
VC 250 Q

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	69	45	58	61	64	63	59	60	55
L_{wA} to outlet	dBA	74	47	64	62	63	66	60	67	59
L_{wA} to environment	dBA	61	43	57	55	45	37	37	51	44

VC 250

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	74	57	64	67	70	67	62	54	44
L_{wA} to outlet	dBA	73	62	67	67	68	71	61	54	48
L_{wA} to environment	dBA	67	56	63	59	50	42	39	45	38

VENTS VC



VC 315

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	69	35	51	62	69	64	61	60	54
L_{wA} to outlet	dBA	73	38	55	62	70	68	65	58	60
L_{wA} to environment	dBA	58	36	49	52	51	43	50	53	47

VCS 315

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	74	53	68	71	70	68	64	62	59
L_{wA} to outlet	dBA	78	55	71	73	73	73	65	62	59
L_{wA} to environment	dBA	68	54	65	63	53	46	54	58	53

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
46.9	A	Static	64.2	No	0.226	0.99	702	470	2780	1

Series
VENTS VCN

Exhaust centrifugal fans in steel casing with the air capacity up to **710 m³/h** for outdoor surface mounting

Applications
Exhaust ventilation systems for commercial, office and other public or industrial premises for extraction of air with temperatures up to 55 °C. Direct air exhaust is provided.

Design
Steel casing with polymeric coating ensures motor protection against direct humidity exposure in case of the unit outdoor mounting. The fan bottom has a bird and rodent proof guard. Air is exhausted vertically down.

Motor
The centrifugal impeller with backward curved blades is powered by the single phase motor with external rotor and overheating protection with automatic restart. The motor is equipped with ball bearings for long service life designed for at least 40 000 hours. For precise features, safe operation and low noise, each turbine is dynamically balanced while assembly. Motor protection rating IP44.

Speed control
Smooth or step speed control with a thyristor or autotransformer speed controller. Several fans may be connected to one speed controller provided that the total power and operating current do not exceed the rated speed controller parameters.

Mounting
The fan is designed for outdoor surface wall mounting and connection to round duct of the respective diameter. The fan is powered through the external terminals. Electric connection and mounting shall be performed in compliance with the manual and wiring diagram provided in unit operation manual.

The motor is protected against direct water drops and solid objects

VCN fan WC ventilation example

Designation key

Series	Air duct diameter
VENTS VCN	100; 125; 150; 160; 200

Accessories

Silencer | Backdraft damper | Air shutter | Clamps | Speed controllers | Sensor

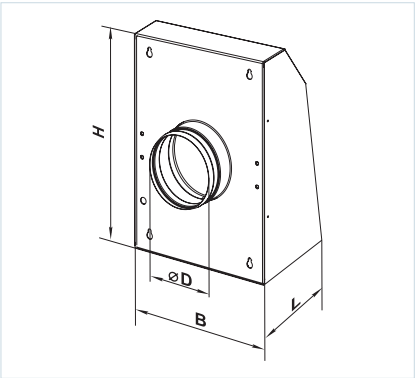
Technical data

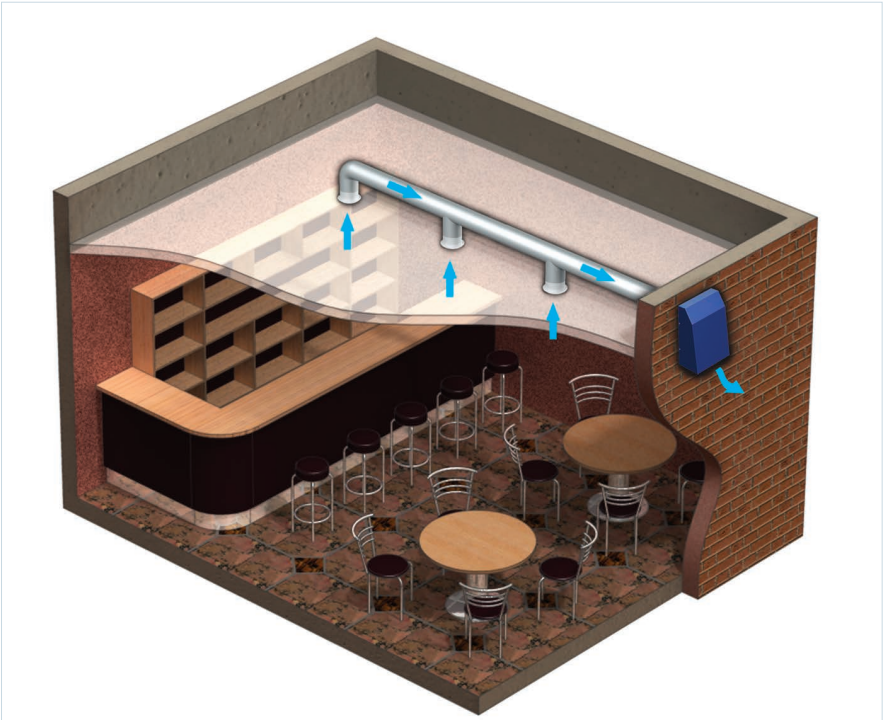
	VCN 100 VCN 100 K		VCN 125 VCN 125 K		VCN 150 VCN 150 K		VCN 160 VCN 160 K		VCN 200 VCN 200 K	
Voltage, [V]	1~230		1~230		1~230		1~230		1~230	
Frequency [Hz]	50	60	50	60	50	60	50	60	50	60
Power [W]	71	92	75	98	96	100	95	96	96	97
Current [A]	0.31	0.4	0.33	0.43	0.42	0.44	0.41	0.42	0.42	0.42
Max. air flow [m^3/h]	325 (295*)	350 (320*)	485 (450*)	500 (465*)	630 (565*)	650 (595*)	650 (590*)	685 (625*)	700 (640*)	710 (650*)
RPM [min^{-1}]	2530	2625	2475	2570	2400	2270	2440	2400	2515	2555
Noise level at 3 m [dBA]	54	54	54	54	58	58	60	60	62	62
Transported air temperature [°C]	55	55	55	55	55	55	55	55	55	55
SEC class	C		B		B		B		B	
Protection rating	IPX4		IPX4		IPX4		IPX4		IPX4	

* – for the models with an integrated backdraft damper (VCN ... K)

Fan overall dimensions

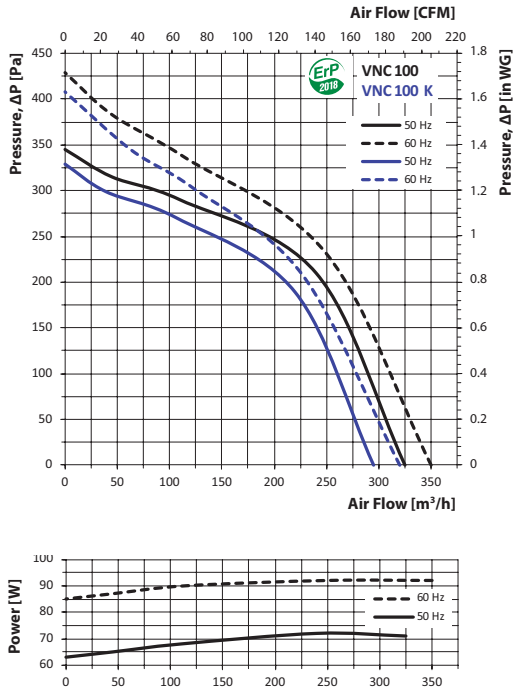
Type	Dimensions [mm]				Mass [kg]
	ØD	B	H	L	
VCN 100	99	260	355	138	3.82
VCN 125	124	260	355	138	3.82
VCN 150	149	300	400	138,2	4.53
VCN 160	159	300	400	138,2	4.53
VCN 200	199	300	400	138,2	4.62





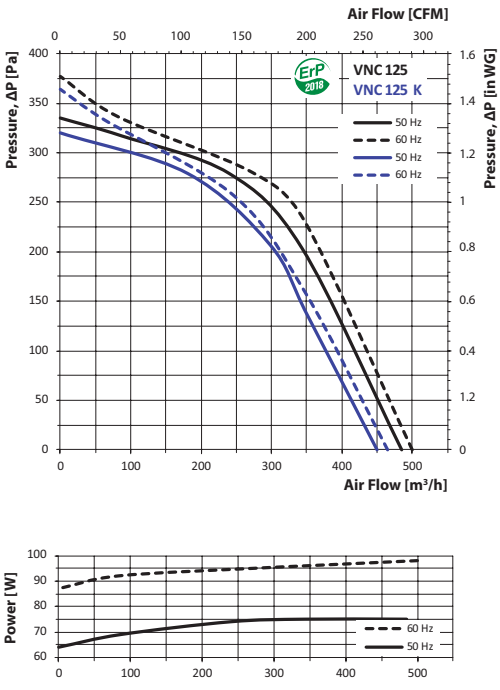
VCN fan catering ventilation example

VENTS VCN



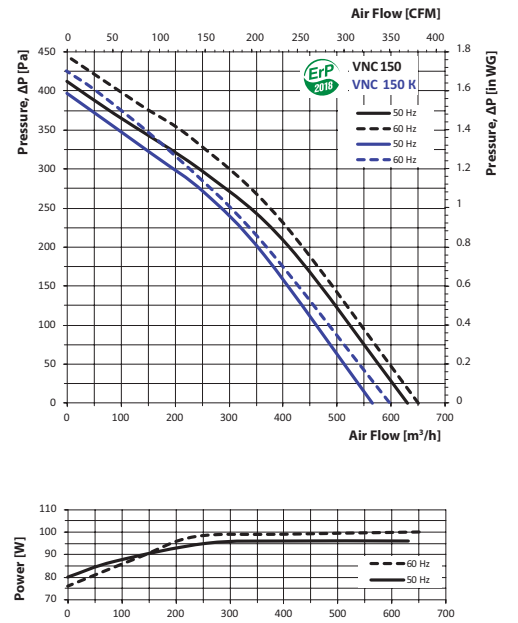
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	60	46	52	58	58	58	51	40	28
L_{wA} to environment	dBA	58	39	40	49	55	60	56	43	35

VENTS VCN



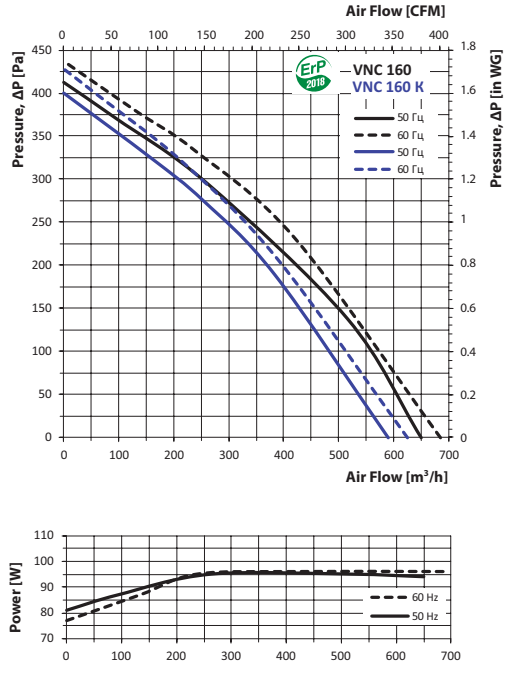
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	58	48	54	59	56	57	52	42	29
L_{wA} to environment	dBA	59	41	41	52	55	58	54	46	35

VENTS VCN



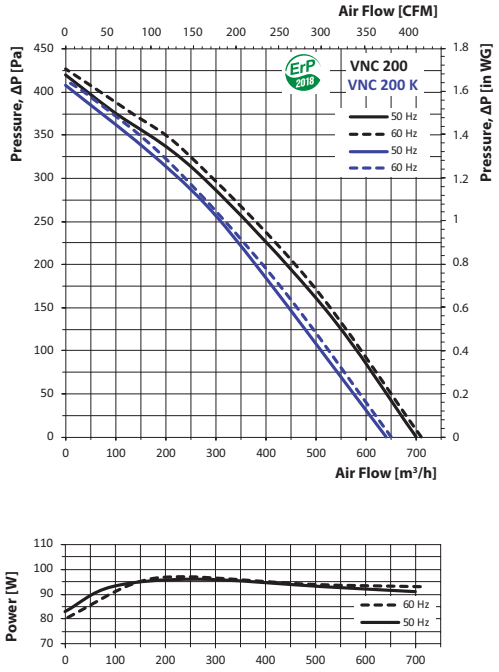
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	57	45	53	54	57	56	46	38	19
L_{wA} to environment	dBA	56	48	38	48	52	54	49	39	32

VENTS VCN



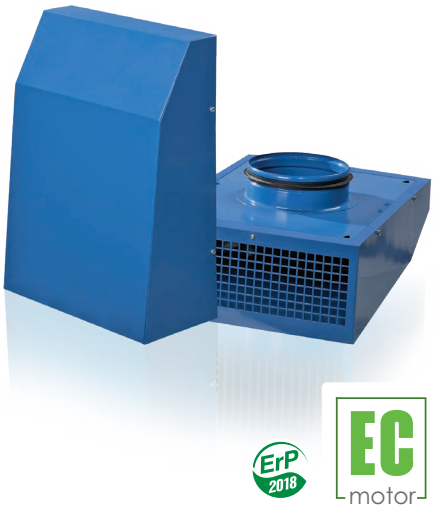
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	55	44	54	55	58	54	46	36	18
L_{wA} to environment	dBA	54	46	39	49	51	53	49	42	31

VENTS VCN



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	59	48	55	50	58	58	48	41	23
L_{wA} to environment	dBA	55	47	39	51	55	53	52	38	33

Series
VENTS VCN EC



Exhaust centrifugal fan in steel casing with air flow up to **755 m³/h** for outdoor surface mounting

The motor is protected against direct ingress of moisture and foreign objects

Application
Exhaust ventilation systems for commercial, office and other public or industrial premises for extraction of air with temperatures up to 40 °C. Direct air exhaust is provided.

Design
Steel casing with polymeric coating ensures motor protection against direct humidity exposure in case of the unit outdoor mounting. The fan bottom has a bird and rodent proof guard. Air is exhausted vertically down.

Motor
The units are equipped with high-efficient EC motors with an external rotor and an impeller with backward curved blades. These state-of-the-art motors offer the very best in energy efficiency today.
EC motors are characterised with high performance and optimum control across the entire speed range. In addition to that, the efficiency of the electronically commutated motor reaches very impressive levels of up to 90 %.

Speed control
The fan is controlled with the external control signal 0-10 V (capacity control is performed depending on the required level of productivity, temperature, humidity, pressure and other parameters). Should the control value factor get changed, the EC motor changes its speed and the fan boosts as much air flow to the ventilation system as required.
Maximum fan speed does not depend on the available current frequency and is suitable for operation both at 50 and 60 Hz. Several fans can be integrated into a single computer-driven control system. Custom designed software provides high accuracy control of the fans integrated into a network.

Installation
The fan is designed for outdoor surface wall mounting and connection to round duct of the respective diameter. The fan is powered through the external terminals. Electric connection and mounting shall be performed in compliance with the manual and wiring diagram provided in unit operation manual.

VCN fan WC ventilation example

Designation key

Series	Air duct diameter	Motor type	Options
VENTS VCN	100; 125; 150; 160; 200	**EC**: electronically commutated	**C**: high-powered motor

Accessories


Silencer


Backdraft damper


Air shutter


Clamps

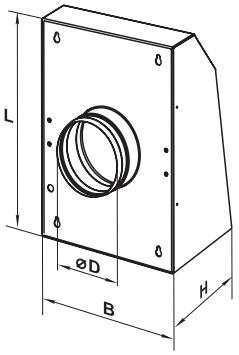

Speed controller

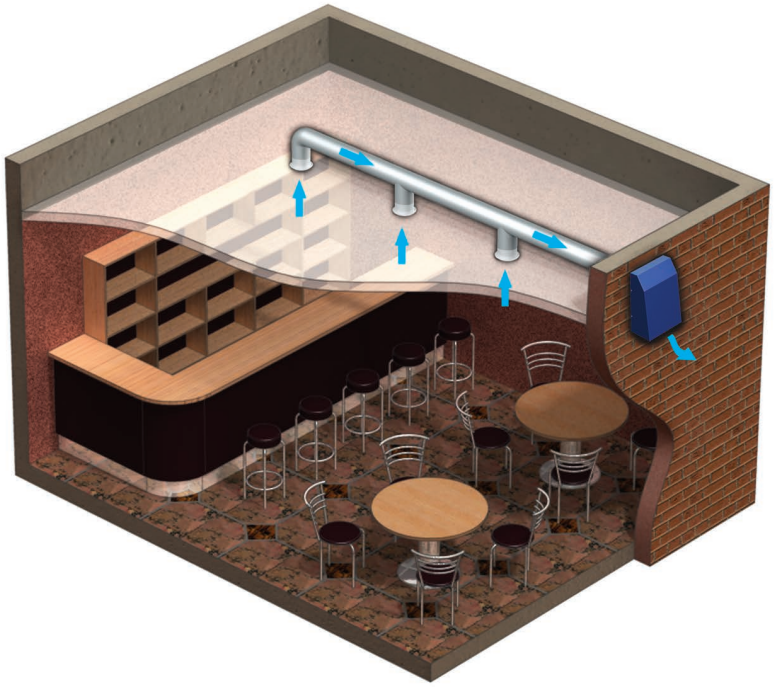
Technical data

	VCN 100 EC	VCN 125 EC	VCN 150 EC	VCN 160 EC	VCN 200 EC	VCN 200 EC C
Voltage [V] at 50 Hz	1~230	1~230	1~230	1~230	1~230	1~230
Power [W]	89	103	92	92	79	102
Current [A]	0.53	0.83	0.75	0.75	0.67	0.86
Maximum air flow [m^3/h]	313	480	550	585	535	755
RPM [min^{-1}]	3460	3600	2840	2840	2680	2800
Sound pressure level at 3 m distance [dBA]	55	57	56	55	55	58
Maximum transported air temperature [°C]	-25...+40	-25...+40	-25...+40	-25...+40	-25...+40	-25...+40
SEC class	B	B	B	B	B	B
Ingress protection rating	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4

Overall dimensions of fans

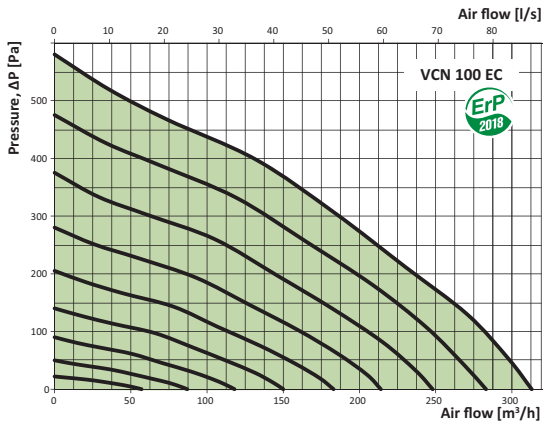
Model	Dimensions [mm]				Mass [kg]
	ØD	L	B	H	
VCN 100 EC	100	355	260	140	3.6
VCN 125 EC	125	355	260	140	3.6
VCN 150 EC	150	400	300	140	4.7
VCN 160 EC	160	400	300	140	4.7
VCN 200 EC	200	400	300	140	4.7
VCN 200 EC C	200	400	326	181.4	5.3

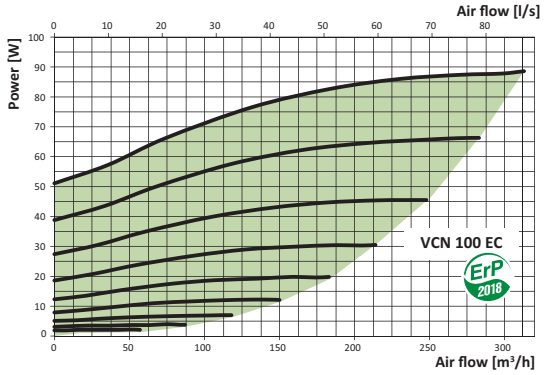




VCN fan catering ventilation example

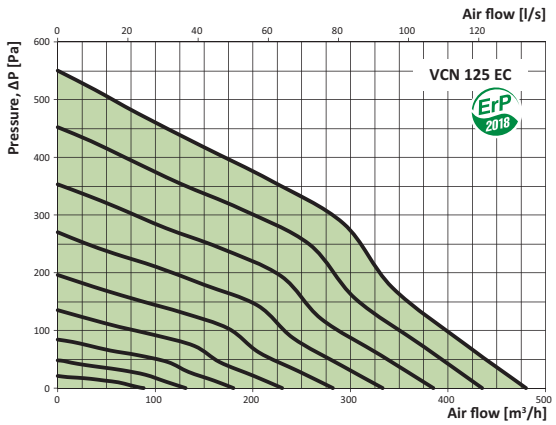
VENTS VCN 100 EC

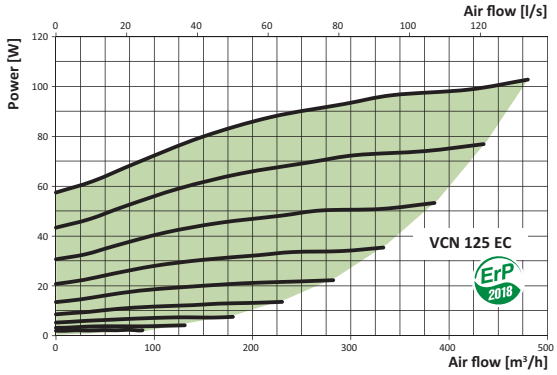




A-weighted sound power level		Octave frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	71	60	57	62	65	67	62	56	49	50	60
L_{wA} to environment	dBA	76	33	44	62	73	68	68	62	51	55	65

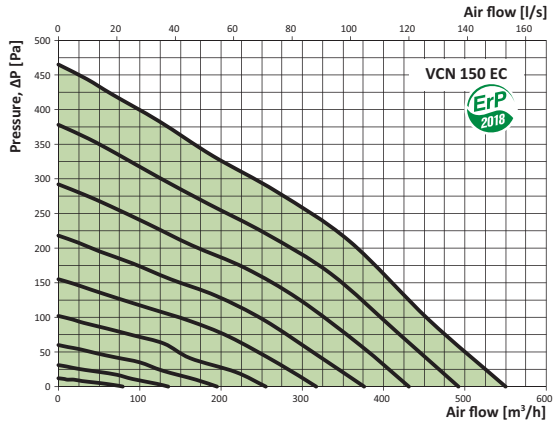
VENTS VCN 125 EC

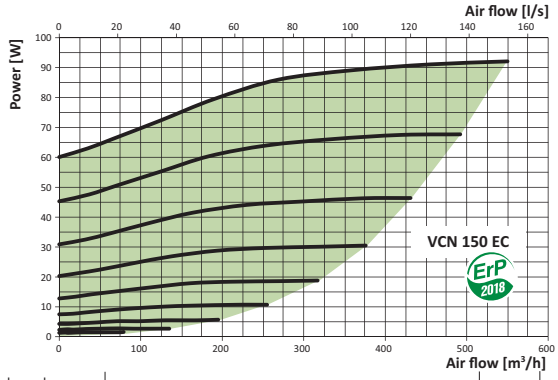




A-weighted sound power level		Octave frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	73	62	59	64	67	69	64	58	51	52	62
L_{wA} to environment	dBA	78	34	45	64	75	71	71	64	53	57	67

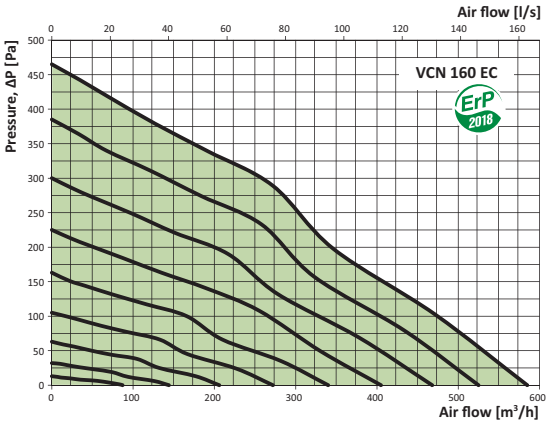
VENTS VCN 150 EC

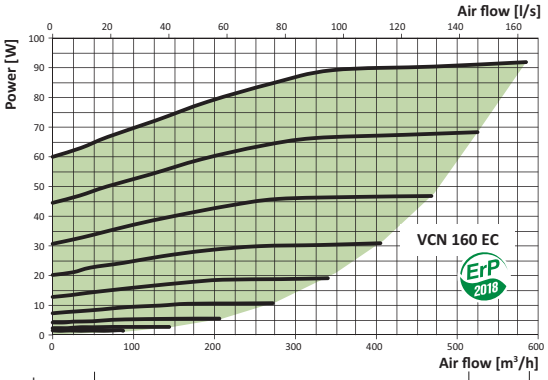




A-weighted sound power level		Octave frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	80	68	65	72	76	71	70	67	61	59	69
L_{wA} to environment	dBA	77	43	53	66	72	70	71	66	60	56	66

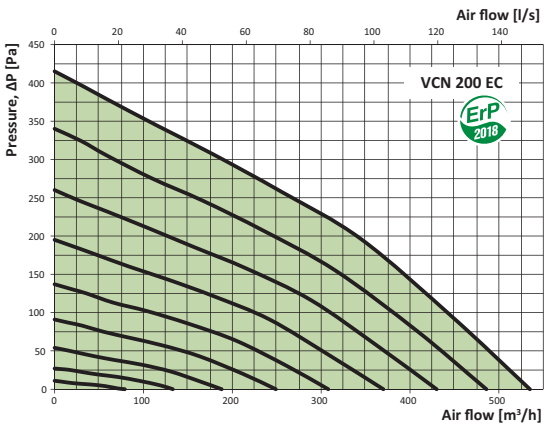
VENTS VCN 160 EC

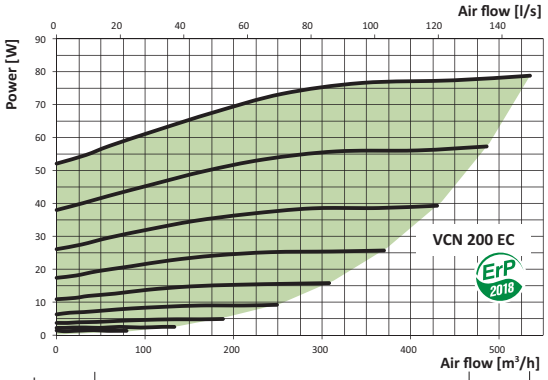




A-weighted sound power level		Octave frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	79	62	68	73	74	72	66	64	56	58	68
L_{wA} to environment	dBA	76	40	52	68	71	70	68	61	52	55	65

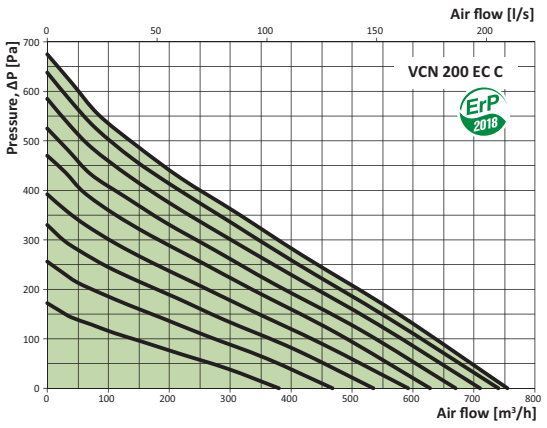
VENTS VCN 200 EC

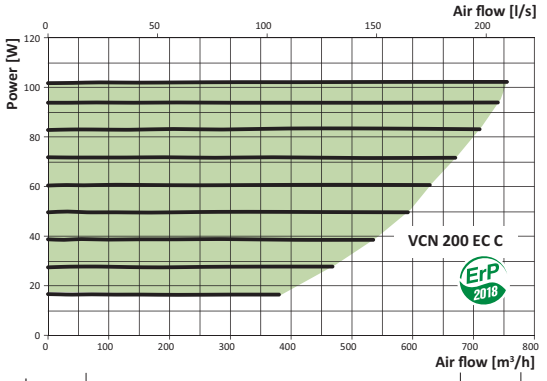




A-weighted sound power level		Octave frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	79	59	61	67	76	71	69	67	60	58	68
L_{wA} to environment	dBA	75	42	52	65	71	69	70	65	59	55	65

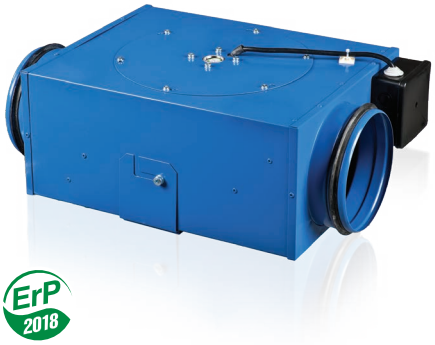
VENTS VCN 200 EC C





A-weighted sound power level		Octave frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	82	61	63	69	80	73	71	69	62	61	71
L_{wA} to environment	dBA	79	44	55	68	74	72	73	68	62	58	68

Series
VENTS VKP



Centrifugal fans in the steel casing with the air flow up to **553 m³/h (50 Hz)** and **610 m³/h (up to 60 Hz)** for round ducts

Applications
Supply and exhaust ventilation systems for commercial, office and other public or industrial premises with limited installation space. Suitable for connection with Ø 100 and up to 160 mm round ducts.

Design
The fan casing is made of steel with polymeric coating. The removable cover provides easy access to the motor, thus ensuring easy mounting as well as the fan and the air ducts maintenance without dismounting.

Motor
The centrifugal impeller with backward curved blades is powered by means of the single phase motor with external rotor and overheating protection with automatic restart. The motor is equipped with ball bearings for long service life designed for at least 40 000 hours. For precise features, safe operation and low noise, each turbine is dynamically balanced while assembly. Motor protection rating IP44.

Speed control
Smooth or step speed control with a thyristor or autotransformer speed controller. Several fans may be connected to one speed controller provided that the total power and operating current do not exceed the rated speed controller parameters.

Mounting
Mounting at any angle to wall is performed with fastening bracket supplied with the unit. The fan is powered through the external terminal box. Electric supply and mounting shall be performed in compliance with the manual and wiring diagram on the terminal box.

External terminal box for power supply

Easy access to motor without fan dismounting

Technical data

	VKP 100		VKP 125		VKP 150 VKP 160	
Voltage [V]	1~230		1~230		1~230	
Frequency [Hz]	50	60	50	60	50	60
Power [W]	58	79	58	81	85	107
Current [A]	0.26	0.35	0.26	0.36	0.38	0.47
Max. air flow [m³/h]	240	250	340	355	553	610
RPM [min⁻¹]	2500	2730	2500	2750	2600	2810
Noise level at 3 m [dBA]	47	48	48	49	50	52
Transported air temperature [°C]	-25...+50	-25...+50	-25...+50	-25...+50	-25...+40	-25...+40
SEC class	C	C	B	B	B	B
Protection rating	IPX4		IPX4		P X4	

Designation key

Series	Exhaust spigot diameter	/	Intake spigot diameter	*	Number of intake spigots
VENTS VKP	100; 125; 150; 160		100; 125; 150; 160		_(by default) 1; 2; 4

Accessories

Silencer · Filters · Heaters · Backdraft damper · Air shutter · Speed controllers

Fan overall dimensions

Type	Dimensions [mm]								Mass [kg]	Fig. no.
	ØD	ØD1	B	H	H1	L	L1	L2		
VKP 100	99	–	252	133	–	420	–	321	4.65	1
VKP 125	124	–	252	133	–	420	–	321	4.55	1
VKP 150	149	–	305	170	–	480	–	382	6.35	1
VKP 160	159	–	305	170	–	480	–	382	6.60	1
VKP 125/100*2	124	99	252	133	–	420	–	321	2.84	2
VKP 125/100*4	124	99	252	133	191	–	376	321	2.84	3
VKP 150/125*2	149	124	300	170	–	480	–	382	6.33	2

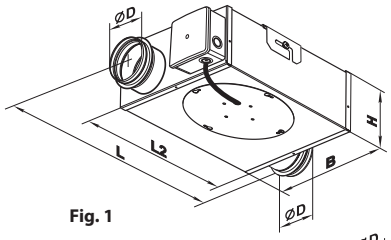


Fig. 1

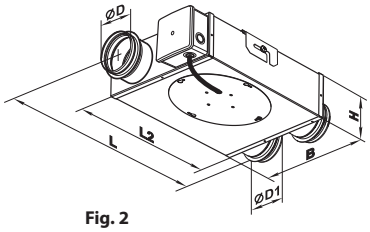


Fig. 2

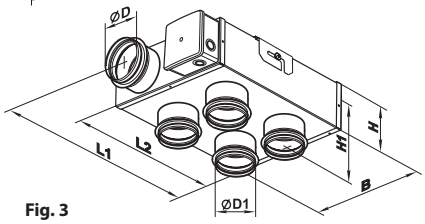
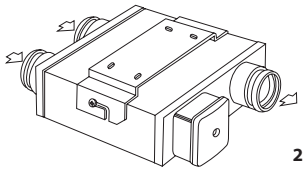
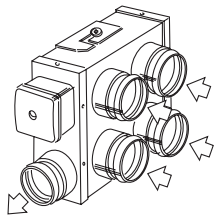


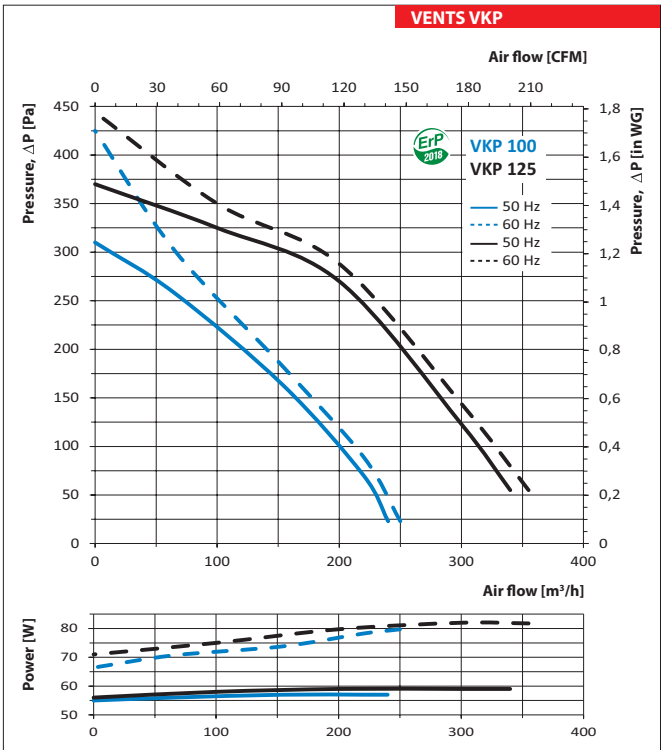
Fig. 3



2 inlets – 1 outlet



4 inlets – 1 outlet

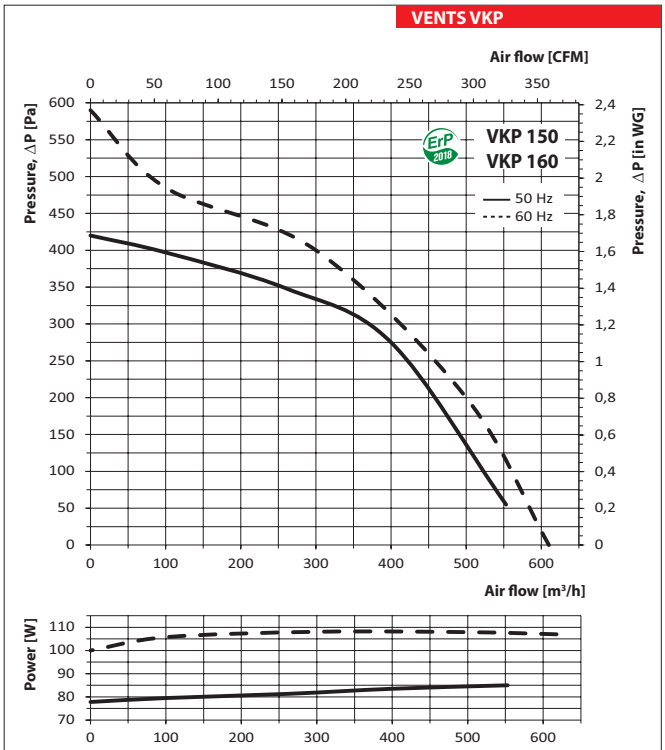


VKP 100

Sound-power level	Hz	Gen	63	125	250	500	1000	2000	4000	8000
		Octave-frequency band [Hz]								
L_{wA} to inlet	dBA	58	53	55	53	51	51	54	53	48
L_{wA} to outlet	dBA	66	51	51	54	56	64	61	56	52
L_{wA} to environment	dBA	51	38	37	42	43	46	41	40	32

VKP 125

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	63	53	51	56	56	53	54	51	49
L_{wA} to outlet	dBA	65	49	49	59	57	62	61	56	53
L_{wA} to environment	dBA	48	38	40	42	41	43	42	37	33



VKP 150

Sound-power level	Hz	Gen	63	125	250	500	1000	2000	4000	8000
		Octave-frequency band [Hz]								
L_{wA} to inlet	dBA	62	51	51	58	56	54	54	52	51
L_{wA} to outlet	dBA	66	45	46	60	56	61	61	55	54
L_{wA} to environment	dBA	49	36	38	44	44	42	41	38	35

VKP 160

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	64	52	51	59	57	54	55	54	50
L_{wA} to outlet	dBA	69	47	46	58	59	65	61	57	55
L_{wA} to environment	dBA	52	40	37	42	43	44	43	36	33

Series
VENTS VP

Centrifugal ceiling fans
with the air flow
up to **485 m³/h (50 Hz)**
up to **531 m³/h (60 Hz)** in steel casing
with a plastic front panel

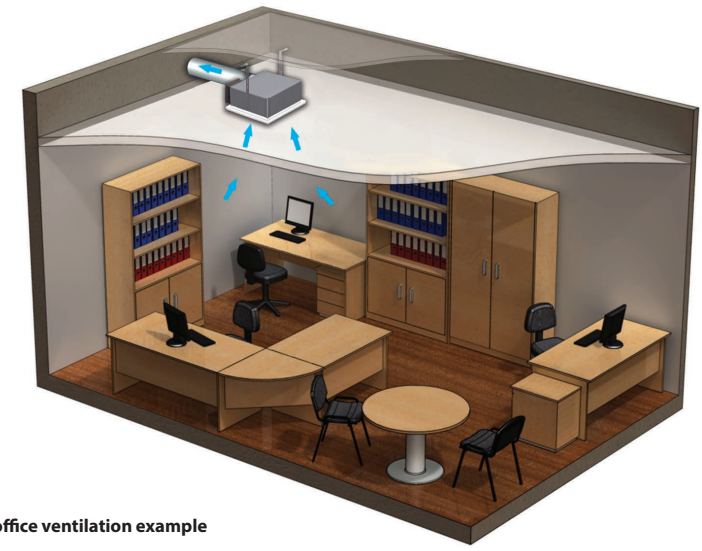
Application
Designed for exhaust ventilation systems of commercial, office and other public or industrial premises with limited space for installation in a false ceiling. Designed for connection to Ø 100 and 125 mm round air ducts.

Design
The fan casing is made of galvanized steel and the decorative front plate is made of ABS plastic and fitted with a filter. The front plate design ensures easy access to the filter without any tools. The fan is equipped with a backdraft damper to prevent back air flow. The damper blades are opened by air pressure generated by the fan and are closed with a spring.

Motor
Single phase external rotor motor with a centrifugal impeller and backward curved blades.
The motor is equipped with built-in overheating protection with automatic restart. The motor ball bearings ensure 40 000 hours service life. For precise features, safe operation and low noise, each impeller is dynamically balanced while assembly. Motor ingress protection rating IP44.

Speed control
Smooth or step speed control with a thyristor or autotransformer speed controller. Several fans may be connected to one speed controller provided that the total power and operating current do not exceed the rated speed controller parameters.

Mounting
The fan is mounted between the floor framing and false ceiling with brackets. The distance from the floor framing to the false ceiling may range from 165 mm to 390 mm. The fan is connected to power mains through the external terminal block. Electric connections and installation operations must be in compliance with installation guidelines and wiring diagram.



VP fan office ventilation example

Designation key

Series	Flange diameter	Options
VENTS VP	100; 125; 150	**K**: backdraft damper **Q**: low-powered motor

Accessories


Silencer


Speed controllers


Sensor

Technical data

	VP 100 K Q		VP 100 K		VP 125 K Q		VP 125 K		VP 150 K	
Voltage [V]	1~230		1~230		1~230		1~230		1~230	
Frequency [Hz]	50	60	50	60	50	60	50	60	50	60
Power [W]	58	66	61	79	56	58	61	81	112	136
Current [A]	0.28	0.29	0.26	0.35	0.34	0.35	0.26	0.36	0.5	0.6
Max. air flow [m³/h]	170	185	240	250	225	240	310	320	485	531
RPM [min⁻¹]	2300	2570	2500	2730	2300	2570	2500	2740	2465	2550
Noise level at 3 m [dBA]	42	43	47	48	43	44	48	49	52	53
Transported air temperature [°C]	-25...+45		-25...+50		-25...+45		-25...+50		-25...+50	
SEC class	C		C		C		C		C	
Protection rating	IPX4		IPX4		IPX4		IPX4		IPX4	

Fan overall dimensions

Type	Dimensions [mm]					Mass [kg]	Fig.no.
	ØD	B	H	H1	L		
VP 100 KQ	100	240	160	189	305	3.4	1
VP 100 K	100	240	160	189	305	3.4	1
VP 125 KQ	125	240	160	189	305	3.4	1
VP 125 K	125	240	160	189	305	3.4	1
VP 150 K	149	355	180	215	419	6.5	2

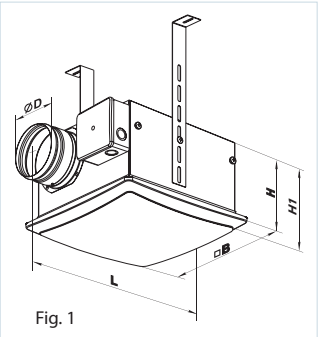


Fig. 1

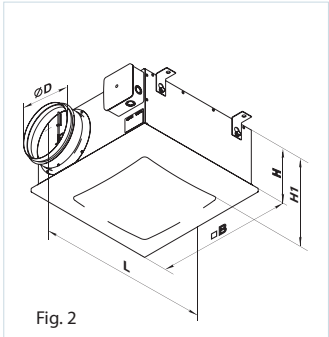
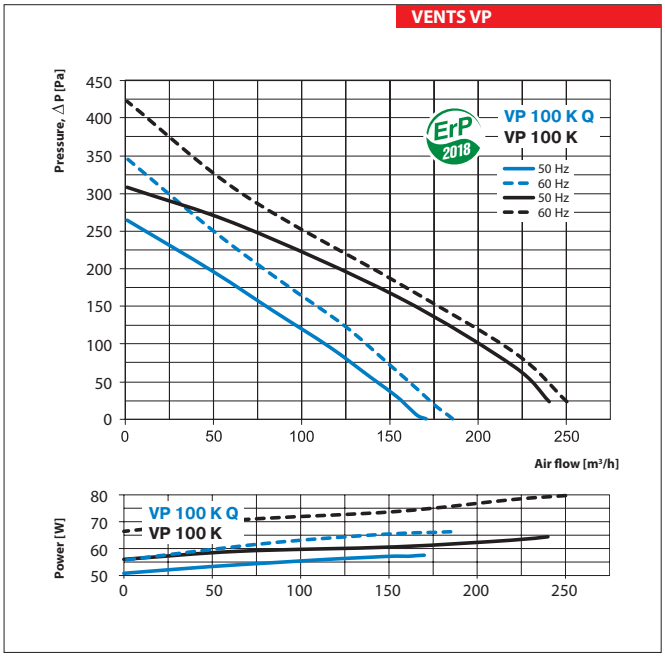
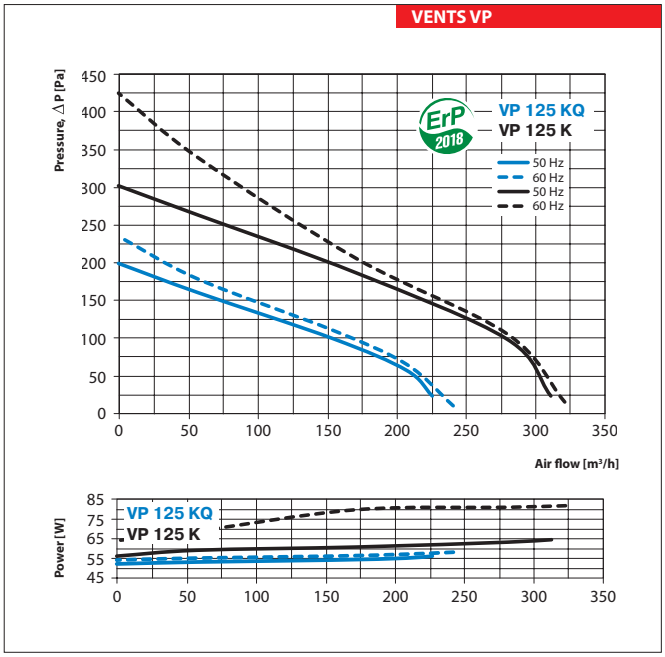
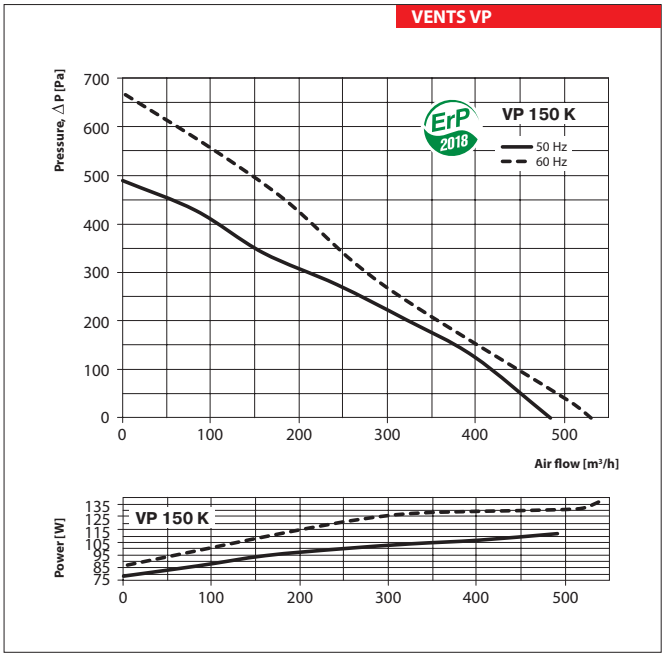


Fig. 2







Series

VENTS VKP mini

Compact centrifugal fans in steel casing with the air flow up to **783 m³/h** with permanent air flow maintenaning at alternating pressure in the system

Applications

Supply and exhaust ventilation systems for commercial, office and other public or industrial premises with limited installation space. For connection with round ducts from 80 to 200 mm in diameter. Various casing modifications with the number of inlets from 1 to 6 enable using one fan for air exhaust from several premises simultaneously. This makes ventilation system mounting much easier.

Design

The fan casing is made of steel with polymeric coating. The minimum casing height enables fan mounting in a limited space. The removable cover provides free access to the motor, ensures easy mounting and enables the fan and air ducts maintenance without dismounting.

Motor

Single-phase one-, two- or three-speed motor with external rotor and centrifugal impeller with forward curved blades of galvanized steel.
Motor is equipped with incorporated overheating protection with automatic restart and ball bearings for long service life designed for at least 40 000 hours.
For precise features, safe operation and low noise, each turbine is dynamically balanced while assembly.
Motor protection rating IP44.

Speed control

For single-speed models, smooth or stepped speed control is provided by means of an external thyristor or autotransformer controller (available upon separate order).
The Duo two-speed models are controlled by an external switch for two-speed fans (available upon separate order).
The three-speed models X3 are controlled by an external switch for multi-speed fans (available upon separate order).

Mounting

Mounting at any angle to the wall is performed with the fastening bracket supplied with the unit. The fan is powered through the external terminal box. Electric connection and mounting shall be performed in compliance with the manual and wiring diagram on the terminal box.

Easy access to motor without fan dismounting

External terminal box for power supply

Designation key

Series	Exhaust spigot diameter	/	Intake spigot diameter	*	Number of intake spigots	Type	Motor options
VENTS VKP	80; 100; 125; 150; 200		80; 100; 125; 150; 200		_ 1 (by default); 2; 4; 5; 6	**mini**	_: single-speed **Duo**: double-speed **X3**: three-speed **S**: high-powered motor

Accessories

Backdraft damper

Air shutter

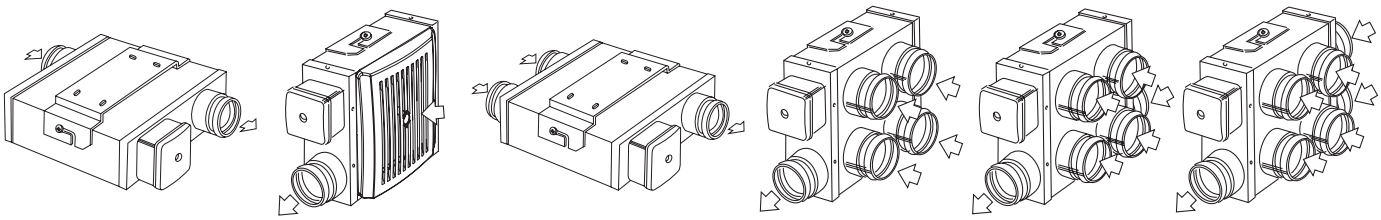
Clamps

Temperature regler

Speed switch

Sensor

VKP mini fan modifications

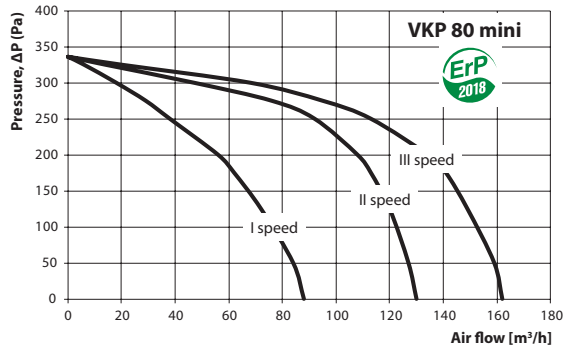


1 inlet – 1 outlet | 1 inlet – 1 outlet (with decorative grille) | 2 inlets – 1 outlet | 4 inlets – 1 outlet | 5 inlets – 1 outlet | 6 inlets – 1 outlet

Technical data

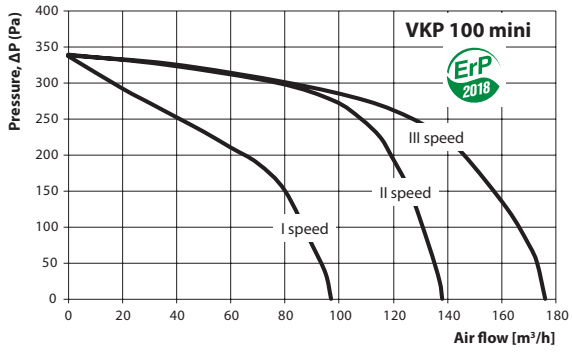
	VKP 80 mini X3			VKP 100 mini X3		
Speed	1	2	3	1	2	3
Voltage [V/50 Hz]	1~230					
Power [W]	20	26	45	20	26	45
Current [A]	0.32	0.34	0.4	0.32	0.34	0.4
Max. air flow [m³/h]	88	130	162	97	138	176
RPM [min⁻¹]	1400	1800	2600	1400	1800	2600
Sound pressure level at 3 m distance [dBA]	32	35	43	33	36	44
Transported air temperature [°C]	+50					
SEC class	C					
Protection rating	IPX4					

VKP mini



		A-weighted sound power level										Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
		General	Octave-frequency band, Hz										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	74	44	62	61	64	69	69	66	58		54	64
L_{WA} to outlet	dBA	74	46	56	64	62	68	70	65	59		53	63
L_{WA} to environment	dBA	64	40	48	54	58	59	57	52	46		43	53

VKP mini

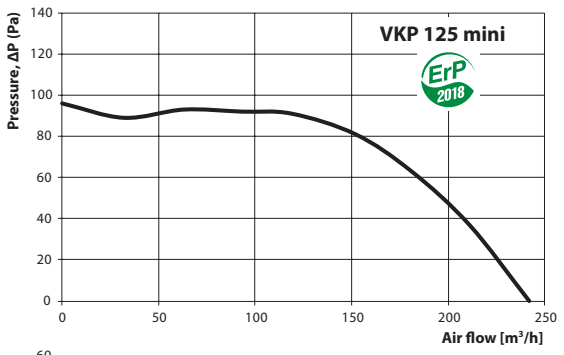


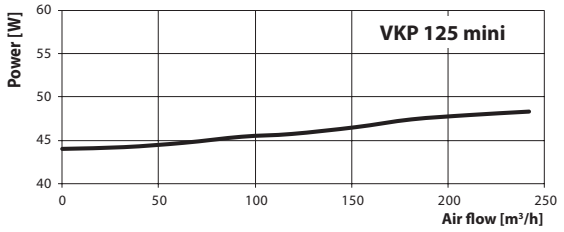
		A-weighted sound power level										Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
		General	Octave-frequency band, Hz										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	76	45	64	62	65	70	71	67	59		55	65
L_{WA} to outlet	dBA	75	47	57	65	63	69	72	66	60		55	65
L_{WA} to environment	dBA	65	41	49	55	59	60	58	53	47		44	54

Technical data

	VKP 125 mini	VKP 125 mini C
Speed	1	1
Voltage [V/50 Hz]	1~230	
Power [W]	48	127
Current [A]	0.22	0.55
Max. air flow [m³/h]	242	414
RPM [min⁻¹]	1430	2800
Sound pressure level at 3 m distance [dBA]	37	47
Transported air temperature [°C]	+50	
SEC class	C	
Protection rating	IPX4	

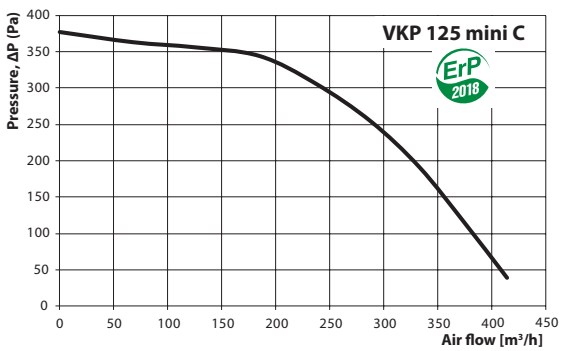
VKP mini

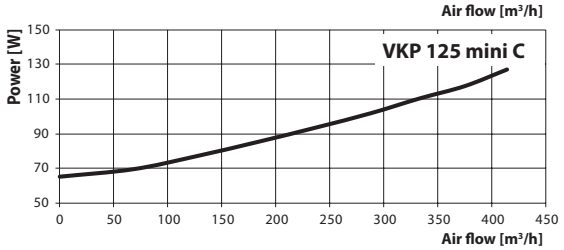




A-weighted sound power level													
		General	Octave-frequency band, Hz									Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	67	39	56	55	57	62	62	59	52		47	57
L_{WA} to outlet	dBA	67	41	50	57	55	61	63	58	53		46	56
L_{WA} to environment	dBA	58	36	43	48	52	53	51	47	41		37	47

VKP mini



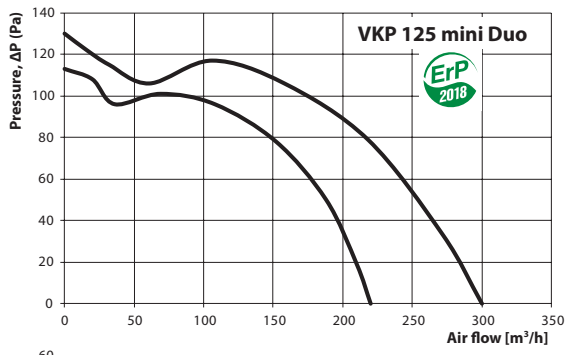


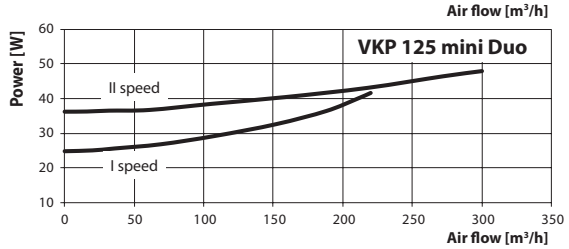
A-weighted sound power level													
		General	Octave-frequency band, Hz									Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	78	46	66	66	68	73	74	70	61		58	68
L_{WA} to outlet	dBA	79	50	62	69	66	72	76	71	63		59	69
L_{WA} to environment	dBA	67	42	51	57	61	62	61	56	49		47	57

Technical data

	VKP 125 mini Duo		VKP 150 mini
Speed	1	2	1
Voltage [V/50 Hz]	1~230		1~230
Power [W]	42	48	113
Current [A]	0.18	0.22	0.52
Max. air flow [m³/h]	220	300	536
RPM [min⁻¹]	1960	2610	1050
Sound pressure level at 3 m distance [dBA]	39	45	46
Transported air temperature [°C]	+50		
SEC class	C		
Protection rating	IPX4		

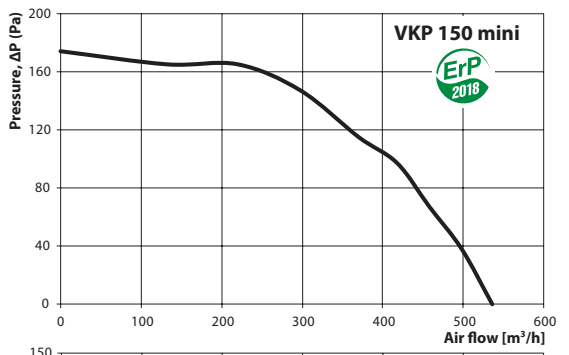
VKP mini

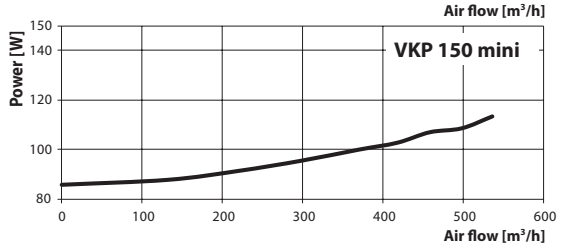




A-weighted sound power level												Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
		General	Octave-frequency band, Hz										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	76	45	64	63	66	70	71	67	59		55	65
L_{WA} to outlet	dBA	76	47	59	66	63	69	72	68	60		55	65
L_{WA} to environment	dBA	65	41	50	55	59	60	59	54	47		45	55

VKP mini



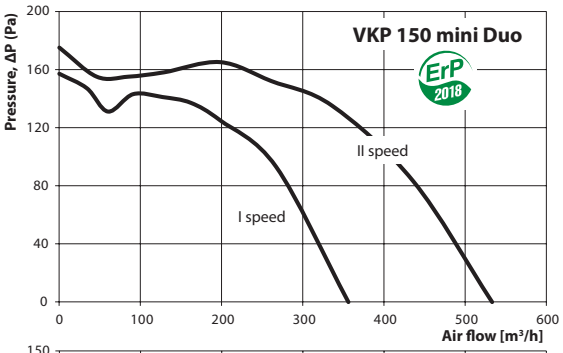


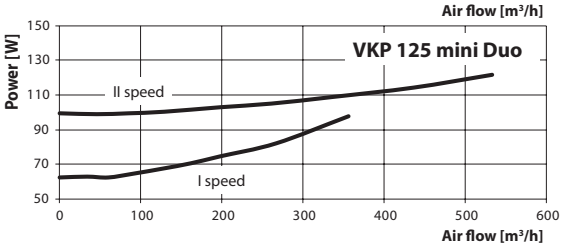
A-weighted sound power level												Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
		General	Octave-frequency band, Hz										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	76	45	64	63	66	70	71	67	59		55	65
L_{WA} to outlet	dBA	78	48	61	67	65	71	74	70	62		57	67
L_{WA} to environment	dBA	66	41	50	56	60	61	60	54	48		46	56

Technical data

	VKP 150 mini Duo		VKP 200 mini
Speed	1	2	1
Voltage [V/50 Hz]			
Power [W]	98	122	139
Current [A]	0.43	0.56	0.61
Max. air flow [m³/h]	356	533	783
RPM [min⁻¹]	750	870	950
Sound pressure level at 3 m distance [dBA]	45	46	47
Transported air temperature [°C]	+50		
SEC class	C		
Protection rating	IPX4		

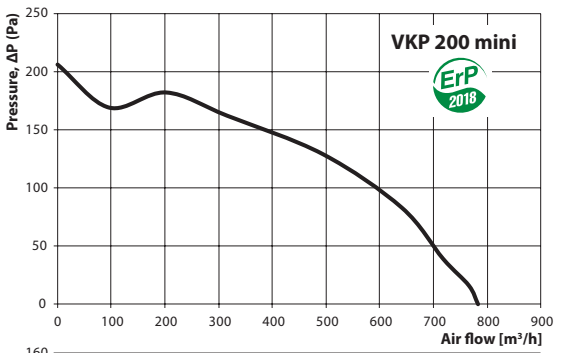
VKP mini

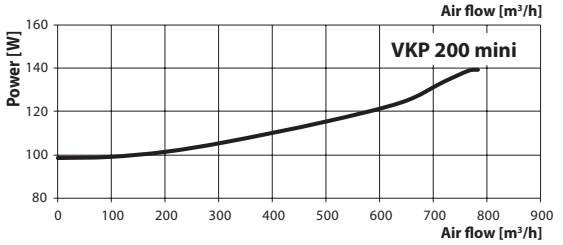




		A-weighted sound power level									Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
		General	Octave-frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	76	45	64	63	66	70	71	67	59	55	65
L_{WA} to outlet	dBA	77	49	59	66	65	71	73	68	62	56	66
L_{WA} to environment	dBA	66	42	49	55	59	61	61	56	45	46	56

VKP mini



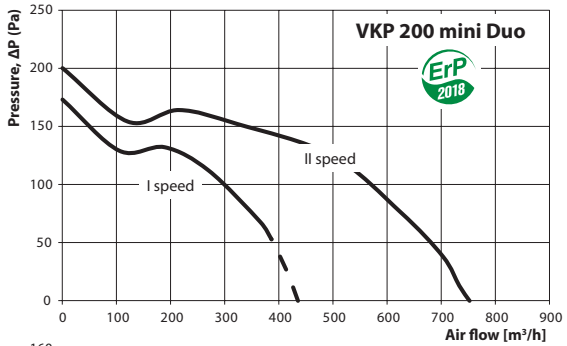


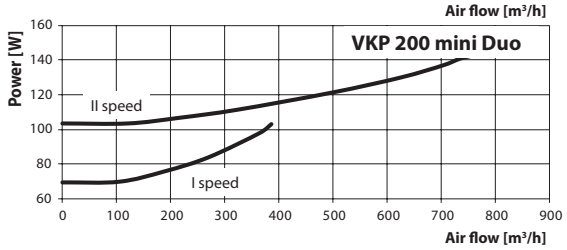
		A-weighted sound power level									Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
		General	Octave-frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	79	47	67	66	69	74	75	71	62	59	69
L_{WA} to outlet	dBA	79	50	60	67	66	73	75	70	63	58	68
L_{WA} to environment	dBA	67	43	50	56	60	62	62	57	46	47	57

Technical data

	VKP 200 mini Duo	
Speed	1	2
Voltage [V/50 Hz]		
Power [W]	103	142
Current [A]	0.45	0.63
Max. air flow [m³/h]	460	752
RPM [min⁻¹]	770	1200
Sound pressure level at 3 m distance [dBA]	46	48
Transported air temperature [°C]	+50	
SEC class	C	
Protection rating	IPX4	

VKP mini





		A-weighted sound power level									Sound pressure level @ 3 m, A-filter applied	Sound pressure level @ 1 m, A-filter applied
		General	Octave-frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	80	48	68	67	70	75	76	71	63	60	70
L_{wA} to outlet	dBA	79	51	61	68	67	74	75	70	63	59	69
L_{wA} to environment	dBA	68	43	51	57	61	63	63	58	47	48	58

Fan overall dimensions

Type	Dimensions [mm]								Mass [kg]	Fig.no.
	ØD	ØD1	B	H	H1	L	L1	L2		
VKP 80 mini X3	79	79	252	90	–	351	–	253	2.0	3
VKP 100 mini X3	99	99	252	110	–	351	–	253	3.37	3
VKP 80 P mini X3	79	–	252	90	126	–	297	253	2.0	1
VKP 100 P mini X3	99	–	252	90	144	–	297	253	3.37	1
VKP 80/80*2 mini X3	79	79	252	90	–	351	–	253	3.28	5
VKP 100/100*2 mini X3	99	99	252	110	–	351	–	253	3.48	5
VKP 80/80*4 mini X3	79	79	252	90	136	–	297	253	3.28	2
VKP 100/100*4 mini X3	99	99	252	110	166	–	297	253	3.48	2
VKP 100/80*2 mini X3	99	79	252	110	–	351	–	253	3.48	5
VKP 100/80*4 mini X3	99	79	252	110	166	–	297	253	3.48	2
VKP 80/80*5 mini X3	79	79	252	90	136	351	–	253	3.28	4
VKP 80/80*6 mini X3	79	79	252	90	136	351	–	253	3.30	6
VKP 100/80*6 mini X3	99	79	252	110	166	351	–	253	3.73	6
VKP 100/80*5 mini X3	99	79	252	110	166	351	–	253	3.73	4
VKP 100/100*5 mini X3	99	99	252	110	166	351	–	253	3.73	4
VKP 100/100*6 mini X3	99	99	252	110	166	351	–	253	3.73	6
VKP 125 mini	124	124	270	141	–	397	–	299	5.20	7
VKP 125 mini C	124	124	270	141	–	397	–	299	5.80	7
VKP 125 mini Duo	124	124	303	152	–	430	–	330	6.00	7
VKP 150 mini	149	149	340	207	–	447	–	350	7.10	7
VKP 150 mini Duo	149	149	340	207	–	447	–	350	7.70	7
VKP 200 mini	198	198	362	222	–	494	–	397	8.80	7
VKP 200 mini Duo	198	198	362	222	–	494	–	397	8.80	7

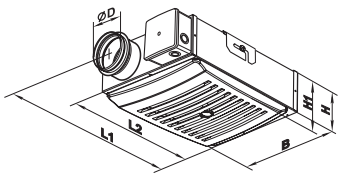


Fig. 1

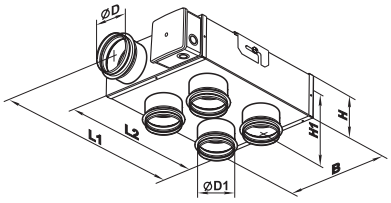


Fig. 2

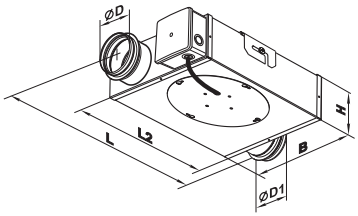


Fig. 3

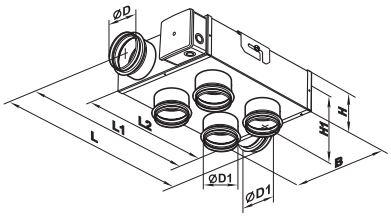


Fig. 4

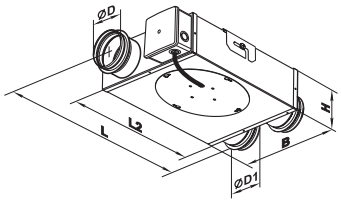


Fig. 5

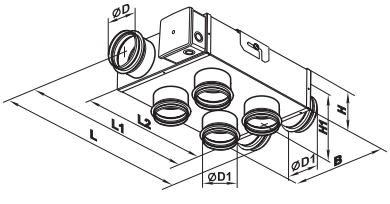


Fig. 6

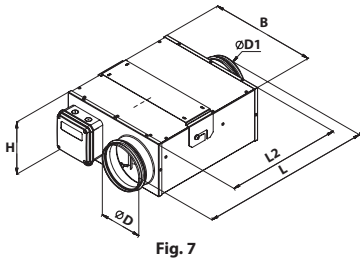
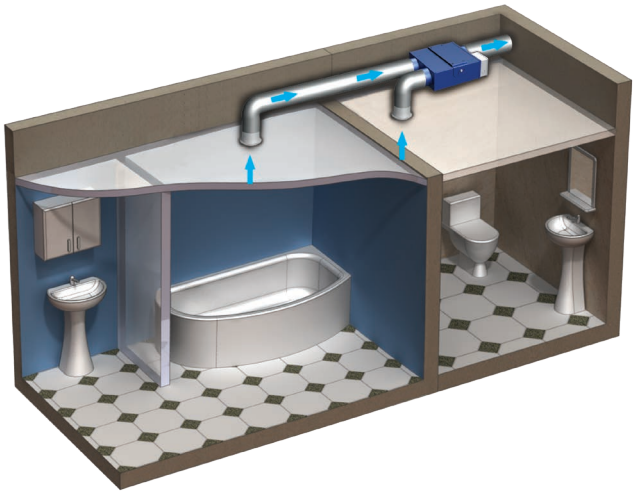


Fig. 7

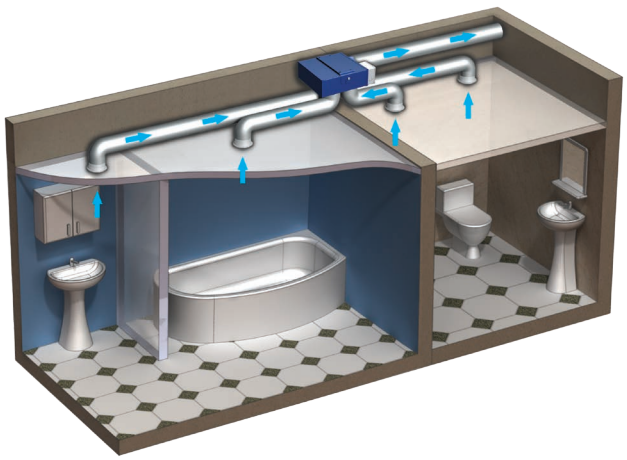
VKP mini ventilation examples

▶ 1 inlet – 1 outlet

▶ 2 inlets – 1 outlet



▶ 4 inlets – 1 outlet



ELECTRICAL ACCESSORIES COMPATIBILITY

Accessory	TT PRO 100	TT PRO 125	TT PRO 150	TT PRO 160	TT PRO 200	TT PRO 250	TT PRO 315	TT 100	TT 125	TT 1125 S	TT 150	TT 160	TT PRO 100 EC	TT PRO 125 EC	TT PRO 150 EC	TT PRO 160 EC	TT PRO 200 EC	TT PRO 250 EC	TT PRO 315 EC
Thyristor speed controllers																			
RS-1-300																			
RS-1-400																			
RS-1 N (V)																			
RS-1,5 N (V)																			
RS-2 N (V)																			
RS-2,5 N (V)																			
RS-0,5-PS																			
RS-1,5-PS																			
RS-2,5-PS																			
RS-4,0-PS																			
RS-3,0-T																			
RS-5,0-T																			
RS-10,0-T																			
RS-3,0-TA																			
RS-5,0-TA																			
RS-10,0-TA																			
Transformer speed controllers																			
RSA5E-2-P																			
RSA5E-2-M																			
RSA5E-3-M																			
RSA5E-4-M																			
RSA5E-12-M																			
RSA5E-1,5-T																			
RSA5E-3,5-T																			
RSA5E-5,0-T																			
RSA5E-8,0-T																			
RSA5E-10,0-T																			
RSA5D-1,5-T																			
RSA5D-3,5-T																			
RSA5D-5-M																			
RSA5D-8-M																			
RSA5D-10-M																			
RSA5D-12-M																			
Frequency speed controllers																			
VFED-200-TA																			
VFED-400-TA																			
VFED-750-TA																			
VFED-1100-TA																			
VFED-1500-TA																			
Controllers																			
RTS-1-400	●	●	●	●	●	●	●	●	●	●	●	●							
RTSD-1-400	●	●	●	●	●	●	●	●	●	●	●	●							
TST-1-300	●	●	●	●	●	●		●	●	●	●	●							
TSTD-1-300	●	●	●	●	●	●		●	●	●	●	●							
RT-10	●	●	●	●	●	●	●	●	●	●	●	●							
Multi-speed fan switches																			
P2-5,0	●	●	●	●	●	●	●	●	●	●	●	●							
P3-5,0																			
P5-5,0																			
P2-1-300	●	●	●	●	●	●	●	●	●	●	●	●							
P3-1-300																			
SP3-1																			
EC motors controllers																			
R-1/010													●	●	●	●	●	●	●
Sensors																			
T-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●							
TH-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●							
TF-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●							
TP-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●							

Accessory	VK 100 Q	VK 100	VK 125 Q	VK 125	VK VMS 125	VK 150	VK 200	VKS 200	VK 250 Q	VK 250	VK 315	VKS 315	VK 100 EC	VK 125 EC	VK 150 EC	VK 200 EC	VK 250 EC	VK 315 EC
Thyristor speed controllers																		
RS-1-300	●	●	●	●	●	●	●	●	●	●	●	●						
RS-1-400	●	●	●	●	●	●	●	●	●	●	●	●						
RS-1 N (V)	●	●	●	●	●	●	●	●	●	●	●							
RS-1,5 N (V)	○	○	○	○	○	○	○	○	○	○	○	●						
RS-2 N (V)	○	○	○	○	○	○	○	○	○	○	○	○						
RS-2,5 N (V)	○	○	○	○	○	○	○	○	○	○	○	○						
RS-0,5-PS	●	●	●	●	●	●	●		●									
RS-1,5-PS	○	○	○	○	○	○	○	●	○	●	●	●						
RS-2,5-PS	○	○	○	○	○	○	○	○	○	○	○	○						
RS-4,0-PS							○	○	○	○	○	○						
RS-3,0-T	○	○	○	○	○	○	○	○	○	○	○	○						
RS-5,0-T								○		○	○	○						
RS-10,0-T												○						
RS-3,0-TA	○	○	○	○	○	○	○	○	○	○	○	○						
RS-5,0-TA								○		○	○	○						
RS-10,0-TA												○						
Transformer speed controllers																		
RSA5E-2-P	●	●	●	●	●	●	●	●	●	●	●	●						
RSA5E-2-M	●	●	●	●	●	●	●	●	●	●	●	●						
RSA5E-3-M	○	○	○	○	○	○	○	○	○	○	○	○						
RSA5E-4-M	○	○	○	○	○	○	○	○	○	○	○	○						
RSA5E-12-M	○	○	○	○	○	○	○	○	○	○	○	○						
RSA5E-1,5-T	●	●	●	●	●	●	●	●	●	●	●	●						
RSA5E-3,5-T	○	○	○	○	○	○	○	○	○	○	○	○						
RSA5E-5,0-T	○	○	○	○	○	○	○	○	○	○	○	○						
RSA5E-8,0-T	○	○	○	○	○	○	○	○	○	○	○	○						
RSA5E-10,0-T	○	○	○	○	○	○	○	○	○	○	○	○						
RSA5D-1,5-T																		
RSA5D-3,5-T																		
RSA5D-5-M																		
RSA5D-8-M																		
RSA5D-10-M																		
RSA5D-12-M																		
Frequency speed controllers																		
VFED-200-TA																		
VFED-400-TA																		
VFED-750-TA																		
VFED-1100-TA																		
VFED-1500-TA																		
Controllers																		
RTS-1-400																		
RTSD-1-400																		
TST-1-300																		
TSTD-1-300																		
RT-10	●	●	●	●	●	●	●	●	●	●	●	●						
Multi-speed fan switches																		
P2-5,0																		
P3-5,0																		
P5-5,0																		
P2-1-300																		
P3-1-300																		
SP3-1																		
EC motors controllers																		
R-1/010													●	●	●	●	●	●
Sensors																		
T-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●						
TH-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●						
TF-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●						
TP-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●						

Accessory	VKM 100 Q	VKM 100	VKM 125 Q	VKM 125	VKM 150 E	VKM 150	VKMS 150	VKM 160	VKMS 160	VKM 200	VKMS 200	VKM 250 E	VKM 250	VKM 315	VKMS 315	VKM 355 Q	VKM 400	VKM 450
Thyristor speed controllers																		
RS-1-300	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
RS-1-400	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
RS-1 N (V)	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
RS-1,5 N (V)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	●		
RS-2 N (V)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
RS-2,5 N (V)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	
RS-0,5-PS	●	●	●	●	●	●		●										
RS-1,5-PS	○	○	○	○	○	○	●	○	●	●	●	●	●	●	●	●		
RS-2,5-PS	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	
RS-4,0-PS						○	○	○	○	○	○	○	○	○	○	○	○	●
RS-3,0-T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
RS-5,0-T							○		○	○	○	○	○	○	○	○	○	○
RS-10,0-T															○	○	○	○
RS-3,0-TA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
RS-5,0-TA							○		○	○	○	○	○	○	○	○	○	○
RS-10,0-TA															○	○	○	○
Transformer speed controllers																		
RSA5E-2-P	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
RSA5E-2-M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
RSA5E-3-M	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	●
RSA5E-4-M	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RSA5E-12-M	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RSA5E-1,5-T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
RSA5E-3,5-T	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	●
RSA5E-5,0-T	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RSA5E-8,0-T	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RSA5E-10,0-T	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RSA5D-1,5-T																		
RSA5D-3,5-T																		
RSA5D-5-M																		
RSA5D-8-M																		
RSA5D-10-M																		
RSA5D-12-M																		
Frequency speed controllers																		
VFED-200-TA																		
VFED-400-TA																		
VFED-750-TA																		
VFED-1100-TA																		
VFED-1500-TA																		
Controllers																		
RTS-1-400																		
RTSD-1-400																		
TST-1-300																		
TSTD-1-300																		
RT-10	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
Multi-speed fan switches																		
P2-5,0																		
P3-5,0																		
P5-5,0																		
P2-1-300																		
P3-1-300																		
SP3-1																		
EC motors controllers																		
R-1/010																		
Sensors																		
T-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
TH-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
TF-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
TP-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		

Accessory	VKM 100 EC	VKM 125 EC	VKM 150 EC	VKM 160 EC	VKM 200 EC	VKMS 200 EC	VKM 250 EC Q	VKM 250 EC	VKM 315 EC
Thyristor speed controllers									
RS-1-300									
RS-1-400									
RS-1 N (V)									
RS-1,5 N (V)									
RS-2 N (V)									
RS-2,5 N (V)									
RS-0,5-PS									
RS-1,5-PS									
RS-2,5-PS									
RS-4,0-PS									
RS-3,0-T									
RS-5,0-T									
RS-10,0-T									
RS-3,0-TA									
RS-5,0-TA									
RS-10,0-TA									
Transformer speed controllers									
RSA5E-2-P									
RSA5E-2-M									
RSA5E-3-M									
RSA5E-4-M									
RSA5E-12-M									
RSA5E-1,5-T									
RSA5E-3,5-T									
RSA5E-5,0-T									
RSA5E-8,0-T									
RSA5E-10,0-T									
RSA5D-1,5-T									
RSA5D-3,5-T									
RSA5D-5-M									
RSA5D-8-M									
RSA5D-10-M									
RSA5D-12-M									
Frequency speed controllers									
VFED-200-TA									
VFED-400-TA									
VFED-750-TA									
VFED-1100-TA									
VFED-1500-TA									
Controllers									
RTS-1-400									
RTSD-1-400									
TST-1-300									
TSTD-1-300									
RT-10									
Multi-speed fan switches									
P2-5,0									
P3-5,0									
P5-5,0									
P2-1-300									
P3-1-300									
SP3-1									
EC motors controllers									
R-1/010	●	●	●	●	●	●	●	●	●
Sensors									
T-1,5 N									
TH-1,5 N									
TF-1,5 N									
TP-1,5 N									

● recommended
○ suitable

	VKMz 100 Q	VKMz 100	VKMz 125 Q	VKMz 125	VKMz 150	VKMz 160	VKMz 200 Q	VKMz 200	VKMz 250 Q	VKMz 250	VKMz 315 Q	VKMz 315	VC 100 Q	VC 100	VC 125 Q	VC 125	VC 150	VC 160	VC 200	VCS 200	VC 250 Q	VC 250	VC 315	VCS 315
Thyristor speed controllers																								
RS-1-300	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
RS-1-400	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
RS-1 N (V)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
RS-1,5 N (V)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●
RS-2 N (V)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RS-2,5 N (V)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RS-0,5-PS	●	●	●	●	●	●							●	●	●	●	●	●						
RS-1,5-PS	○	○	○	○	○	○	●	●	●	●	●	●	○	○	○	○	○	○	●	●	●	●	●	●
RS-2,5-PS	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RS-4,0-PS							○	○	○	○	○	○					○	○	○	○	○	○	○	○
RS-3,0-T	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RS-5,0-T							○	○	○	○	○	○							○	○	○	○	○	○
RS-10,0-T																								○
RS-3,0-TA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RS-5,0-TA							○	○	○	○	○	○							○	○	○	○	○	○
RS-10,0-TA																								○
Transformer speed controllers																								
RSA5E-2-P	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
RSA5E-2-M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
RSA5E-3-M	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RSA5E-4-M	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RSA5E-12-M	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RSA5E-1,5-T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
RSA5E-3,5-T	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RSA5E-5,0-T	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RSA5E-8,0-T	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RSA5E-10,0-T	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
RSA5D-1,5-T																								
RSA5D-3,5-T																								
RSA5D-5-M																								
RSA5D-8-M																								
RSA5D-10-M																								
RSA5D-12-M																								
Frequency speed controllers																								
VFED-200-TA																								
VFED-400-TA																								
VFED-750-TA																								
VFED-1100-TA																								
VFED-1500-TA																								
Controllers																								
RTS-1-400																								
RTSD-1-400																								
TST-1-300																								
TSTD-1-300																								
RT-10	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Multi-speed fan switches																								
P2-5,0																								
P3-5,0																								
P5-5,0																								
P2-1-300																								
P3-1-300																								
SP3-1																								
EC motors controllers																								
R-1/010																								
Sensors																								
T-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
TH-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
TF-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
TP-1,5 N	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

	VCN 100	VCN 125	VCN 150	VCN 160	VCN 200	VCN 100 EC	VCN 125 EC	VCN 150 EC	VCN 160 EC	VCN 200 EC	VCN 200 EC S	VKP 100	VKP 125	VKP 125/100x2	VKP 125/100x4	VKP 150	VKP 150/125x2	VKP 160	VP 100 KQ	VP 100 K	VP 125 KQ	VP 125 K
Thyristor speed controllers																						
RS-1-300	●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●
RS-1-400	●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●
RS-1 N (V)	●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●
RS-1,5 N (V)	○	○	○	○	○							○	○	○	○	○	○	○	○	○	○	○
RS-2 N (V)	○	○	○	○	○							○	○	○	○	○	○	○	○	○	○	○
RS-2,5 N (V)	○	○	○	○	○							○	○	○	○	○	○	○	○	○	○	○
RS-0,5-PS	●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●
RS-1,5-PS	○	○	○	○	○							○	○	○	○	○	○	○	○	○	○	○
RS-2,5-PS			○	○	○											○	○	○	○		○	
RS-4,0-PS			○	○	○																	
RS-3,0-T			○	○	○											●	●	●	○		○	
RS-5,0-T																						
RS-10,0-T																						
RS-3,0-TA			○	○	○											●	●	●	○		○	
RS-5,0-TA																						
RS-10,0-TA																						
Transformer speed controllers																						
RSA5E-2-P	●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●
RSA5E-2-M	●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●
RSA5E-3-M	○	○	○	○	○							○	○	○	○	○	○	○	○	○	○	○
RSA5E-4-M	○	○	○	○	○							○	○	○	○	○	○	○	○	○	○	○
RSA5E-12-M	○	○	○	○	○							○	○	○	○	○	○	○	○	○	○	○
RSA5E-1,5-T	●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●
RSA5E-3,5-T	○	○	○	○	○							○	○	○	○	○	○	○	○	○	○	○
RSA5E-5,0-T	○	○	○	○	○							○	○	○	○	○	○	○	○	○	○	○
RSA5E-8,0-T	○	○	○	○	○							○	○	○	○	○	○	○	○	○	○	○
RSA5E-10,0-T	○	○	○	○	○							○	○	○	○	○	○	○	○	○	○	○
RSA5D-1,5-T																						
RSA5D-3,5-T																						
RSA5D-5-M																						
RSA5D-8-M																						
RSA5D-10-M																						
RSA5D-12-M																						
Frequency speed controllers																						
VFED-200-TA																						
VFED-400-TA																						
VFED-750-TA																						
VFED-1100-TA																						
VFED-1500-TA																						
Controllers																						
RTS-1-400																						
RTSD-1-400																						
TST-1-300																						
TSTD-1-300																						
RT-10	●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●
Multi-speed fan switches																						
P2-5,0																						
P3-5,0																						
P5-5,0																						
P2-1-300																						
P3-1-300																						
SP3-1																						
EC motors controllers																						
R-1/010						●	●	●	●	●	●											
Sensors																						
T-1,5 N	●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●
TH-1,5 N	●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●
TF-1,5 N	●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●
TP-1,5 N	●	●	●	●	●							●	●	●	●	●	●	●	●	●	●	●

	VKP 80 mini X3	VKP 100 mini X3	VKP 80 R mini X3	VKP 100 R mini X3	VKP 80/80*2 mini X3	VKP 100/100*2 mini X3	VKP 80/80*4 mini X3	VKP 100/100*4 mini X3	VKP 100/80*2 mini X3	VKP 100/80*4 mini X3	VKP 80/80*5 mini X3	VKP 80/80*6 mini X3	VKP 100/80*6 mini X3	VKP 100/80*5 mini X3	VKP 100/100*5 mini X3	VKP 100/100*6 mini X3	VKP 125 mini	VKP 125C mini	VKP 125 mini Duo	VKP 150 mini	VKP 150 mini Duo	VKP 200 mini	VKP 200 mini Duo
Thyristor speed controllers																							
RS-1-300																	●	●		●		●	
RS-1-400																	●	●		●		●	
RS-1 N (V)																	●	●		●		●	
RS-1,5 N (V)																							
RS-2 N (V)																							
RS-2,5 N (V)																							
RS-0,5-PS																							
RS-1,5-PS																							
RS-2,5-PS																							
RS-4,0-PS																							
RS-3,0-T																							
RS-5,0-T																							
RS-10,0-T																							
RS-3,0-TA																							
RS-5,0-TA																							
RS-10,0-TA																							
Transformer speed controllers																							
RSA5E-2-P																							
RSA5E-2-M																							
RSA5E-3-M																							
RSA5E-4-M																							
RSA5E-12-M																							
RSA5E-1,5-T																							
RSA5E-3,5-T																							
RSA5E-5,0-T																							
RSA5E-8,0-T																							
RSA5E-10,0-T																							
RSA5D-1,5-T																							
RSA5D-3,5-T																							
RSA5D-5-M																							
RSA5D-8-M																							
RSA5D-10-M																							
RSA5D-12-M																							
Frequency speed controllers																							
VFED-200-TA																							
VFED-400-TA																							
VFED-750-TA																							
VFED-1100-TA																							
VFED-1500-TA																							
Controllers																							
RTS-1-400	●	●																					
RTSD-1-400	●	●																					
TST-1-300	●	●																					
TSTD-1-300	●	●																					
RT-10	●	●																					
Multi-speed fan switches																							
P2-5,0																			●		●		●
P3-5,0	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●							
P5-5,0																							
P2-1-300																			●		●		●
P3-1-300	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●							
SP3-1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●							
EC motors controllers																							
R-1/010																							
Sensors																							
T-1,5 N	●	●															●	●		●		●	
TH-1,5 N	●	●															●	●		●		●	
TF-1,5 N	●	●															●	●		●		●	
TP-1,5 N	●	●															●	●		●		●	

● recommended
○ suitable

RECTANGULAR INLINE FANS

VENTS VKPF and VENTS VKPFI series

Inline centrifugal fans with forward curved blades and the air flow up to 9540 m³/h designed for supply and exhaust ventilation systems for commercial, office and other public or industrial premises. VKPFI models are sound- and heat-insulated. Compatible with 400x200, 500x250, 500x300, 600x300, 600x350, 700x400, 800x500, 900x500, 1000x500 mm rectangular air ducts.

VENTS VKP...EC

Inline centrifugal inline fans equipped with EC motors and backward curved blades with the air capacity up to 10850 m³/h. Designed for supply and exhaust ventilation systems for commercial, office and other public or industrial premises. VKPI...EC models are sound- and heat-insulated. Compatible with 600x300, 600x350, 700x400, 800x500, 1000x500 mm rectangular air ducts.

VENTS VKP and VENTS VKPI series

Inline centrifugal inline fans with backward curved blades and the air flow up to 15000 m³/h. Designed for supply and exhaust ventilation systems. VKPI models are sound- and heat-insulated. Compatible with 400x200, 500x250, 500x300, 600x300, 600x350, 1000x500 mm rectangular air ducts.

VENTS VKPF
inline centrifugal fan

Air flow – up to 9540 m³/h

page 116

VENTS VKPFI
inline sound- and heat-insulated centrifugal fan

Air flow – up to 9540 m³/h

page 116

VENTS VKP EC
inline centrifugal fan with EC motor

Air flow – up to 11190 m³/h

page 124

VENTS VKP
inline centrifugal fan

Air flow – up to 15000 m³/h

page 134

VENTS VKPI
inline sound- and heat-insulated centrifugal fan

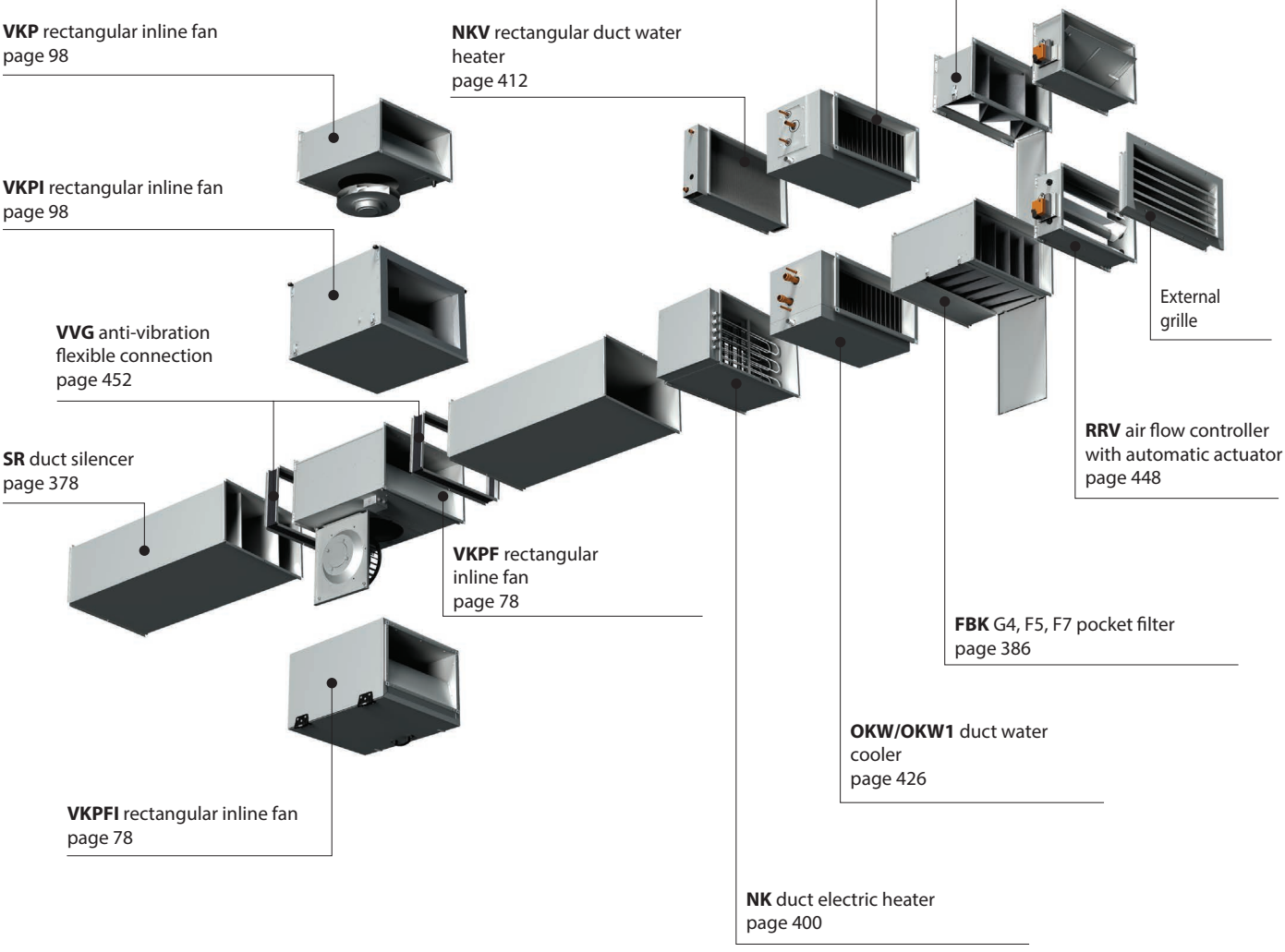
Air flow – up to 2970 m³/h

page 134

VENTS VKPI EC
inline centrifugal fan with EC motor

Air flow – up to 11190 m³/h

page 142


FB G4 class rectangular panel filter page 386
OKF/OKF1 duct freon coolers page 426
VKP rectangular inline fan page 98
NKV rectangular duct water heater page 412
VKPI rectangular inline fan page 98
External grille
VVG anti-vibration flexible connection page 452
RRV air flow controller with automatic actuator page 448
SR duct silencer page 378
VKPF rectangular inline fan page 78
FBK G4, F5, F7 pocket filter page 386
OKW/OKW1 duct water cooler page 426
VKPFI rectangular inline fan page 78
NK duct electric heater page 400

SELECTION TABLE FOR RECTANGULAR ITEMS

	400x200	500x250	500x300	600x300	600x350	700x400	800x500	900x500	1000x500
Fans	VKPF 4E 400*200	VKPF 4E 500*250	VKPF 4E 500*300	VKPF 4E 600*300	VKPF 4E 600*350	VKPF 4D 700*400	VKPF 6D 800*500	VKPF 6D 900*500	VKPF 6D 1000*500
	VKPF 4D 400*200	VKPF 4D 500*250	VKPF 4D 500*300	VKPF 4D 600*300	VKPF 4D 600*350		VKPF 4D 800*500		
	VKPFI 4E 400*200	VKPFI 4E 500*250	VKPFI 4E 500*300	VKPFI 4E 600*300	VKPFI 4E 600*350	VKPFI 4D 700*400	VKPFI 6D 800*500	VKPFI 6D 900*500	VKPFI 6D 1000*500
	VKPFI 4D 400*200	VKPFI 4D 500*250	VKPFI 4D 500*300	VKPFI 4D 600*300	VKPFI 4D 600*350		VKPFI 4D 800*500		
	VKP 400x200 M1 EC	VKP 500x250 M1 EC	VKP 500x300 L1 EC	VKP 600x300 M1 EC	VKP 600x350 L3 EC	VKP 700x400 M1 EC	VKP 800x500 M3 EC	VKP 900x500 L3 EC	VKP 1000x500 L3 EC
	VKP 400x200 L1 EC	VKP 500x250 L1 EC				VKP 700x400 L3 EC	VKP 800x500 L3 EC		
	VKP 2E 400*200	VKP 2E 500*250	VKP 4E 500*300	VKP 4E 600*300	VKP 4E 600*350				
			VKP 4D 500*300	VKP 4D 600*300	VKP 4D 600*350				
	VKPI 2E 400*200	VKPI 2E 500*250	VKPI 4E 500*300	VKPI 4E 600*300	VKPI 4E 600*350				
			VKPI 4D 500*300	VKPI 4D 600*300	VKPI 4D 600*350				
Filters	FB 400x200	FB 500x250	FB 500x300	FB 600x300	FB 600x350	FB 700x400	FB 800x500	FB 900x500	FB 1000x500
	FBK 400x200-4	FBK 500x250-4	FBK 500x300-4	FBK 600x300-4	FBK 600x350-4	FBK 700x400-4	FBK 800x500-4	FBK 900x500-4	FBK 1000x500-4
	FBK 400x200-5	FBK 500x250-5	FBK 500x300-5	FBK 600x300-5	FBK 600x350-5	FBK 700x400-5	FBK 800x500-5	FBK 900x500-5	FBK 1000x500-5
	FBK 400x200-7	FBK 500x250-7	FBK 500x300-7	FBK 600x300-7	FBK 600x350-7	FBK 700x400-7	FBK 800x500-7	FBK 900x500-7	FBK 1000x500-7
Heaters									
electric heaters	NK 400x200-4,5-3	NK 500x250-6,0-3	NK 500x300-6,0-3	NK 600x300-9,0-3	NK 600x350-9,0-3	NK 700x400-18-3	NK 800x500-27-3	NK 900x500-45-3	NK 1000x500-45-3
	NK 400x200-6,0-3	NK 500x250-7,5-3	NK 500x300-7,5-3	NK 600x300-12,0-3	NK 600x350-12,0-3	NK 700x400-27-3	NK 800x500-36-3	NK 900x500-54-3	NK 1000x500-54-3
	NK 400x200-7,5-3	NK 500x250-9,0-3	NK 500x300-9,0-3	NK 600x300-15,0-3	NK 600x350-15,0-3	NK 700x400-36-3	NK 800x500-54-3		
	NK 400x200-9,0-3	NK 500x250-10,5-3	NK 500x300-10,5-3	NK 600x300-18,0-3	NK 600x350-18,0-3				
	NK 400x200-10,5-3	NK 500x250-12,0-3	NK 500x300-12,0-3	NK 600x300-21,0-3	NK 600x350-21,0-3				
	NK 400x200-12,0-3	NK 500x250-15,0-3	NK 500x300-15,0-3	NK 600x300-24,0-3	NK 600x350-24,0-3				
	NK 400x200-15,0-3	NK 500x250-18,0-3	NK 500x300-18,0-3						
		NK 500x250-21,0-3	NK 500x300-21,0-3						
water heater	NKV 400x200-2	NKV 500x250-2	NKV 500x300-2	NKV 600x300-2	NKV 600x350-2	NKV 700x400-2	NKV 800x500-2	NKV 900x500-2	NKV 1000x500-2
	NKV 400x200-4	NKV 500x250-4	NKV 500x300-4	NKV 600x300-4	NKV 600x350-4	NKV 700x400-3	NKV 800x500-3	NKV 900x500-3	NKV 1000x500-3
Coolers									
water coolers	OKW 400C200-3	OKW 500C250-3	OKW 500C300-3	OKW 600C300-3	OKW 600C350-3	OKW 700x400-3	OKW 800x500-3	OKW 900x500-3	OKW 1000x500-3
	OKW1 400C200-3	OKW1 500C250-3	OKW1 500C300-3	OKW1 600C300-3	OKW1 600C350-3	OKW1 700x400-3	OKW1 800x500-3	OKW1 900x500-3	OKW1 1000x500-3
Freon coolers	OKF 400C200-3	OKF 500C250-3	OKF 500C300-3	OKF 600C300-3	OKF 600C350-3	OKF 700x400-3	OKF 800x500-3	OKF 900x500-3	OKF 1000x500-3
	OKF1 400C200-3	OKF1 500C250-3	OKF1 500C300-3	OKF1 600C300-3	OKF1 600C350-3	OKF1 700x400-3	OKF1 800x500-3	OKF1 900x500-3	OKF1 1000x500-3
Silencers	SR 400x200	SR 500x250	SR 500x300	SR 600x300	SR 600x350	SR 700x400	SR 800x500	SR 900x500	SR 1000x500
Dampers and air flow controllers	KR 400x200	KR 500x250	KR 500x300	KR 600x300	KR 600x350				
	KRA 400x200	KRA 500x250	KRA 500x300	KRA 600x300	KRA 600x350				
	KOM1 400x200	KOM1 500x250	KOM1 500x300	KOM1 600x300	KOM1 600x350				
	RRV 400x200	RRV 500x250	RRV 500x300	RRV 600x300	RRV 600x350	RRV 700x400	RRV 800x500	RRV 900x500	RRV 1000x500
	KG 400x200	KG 500x250	KG 500x300	KG 600x300	KG 600x350	KG 700x400	KG 800x500	KG 900x500	KG 1000x500
Flexible connectors	VVG 400x200	VVG 500x250	VVG 500x300	VVG 600x300	VVG 600x350	VVG 700x400	VVG 800x500	VVG 900x500	VVG 1000x500
Plate heat exchangers	PR 400x200	PR 500x250	PR 500x300	PR 600x300	PR 600x350	PR 700x400	PR 800x500	PR 900x500	PR 1000x500
Mixing chambers	SKRA 400x200	SKRA 500x250	SKRA 500x300	SKRA 600x300	SKRA 600x350	SKRA 700x400	SKRA 800x500	SKRA 900x500	SKRA 1000x500
Speed controllers									
thyristor type	RS series	RS series	RS series	RS series	RS series	RS series	RS series	RS series	RS series
transformer type	RSA series	RSA series	RSA series	RSA series	RSA series	RSA series	RSA series	RSA series	RSA series
frequency type	VFED series	VFED series	VFED series	VFED series	VFED series	VFED series	VFED series	VFED series	VFED series

Series
VENTS VKPF

Inline centrifugal fans with the air flow up to **9540 m³/h** for rectangular ducts

Series
VENTS VKPFI

Inline sound- and heat-insulated centrifugal fans with the air flow up to **9540 m³/h** for rectangular ducts

Applications
Supply and exhaust ventilation systems for commercial, office and other public or industrial premises with limited installation space. Designed for connection with 400*200, 500*250, 500*300, 600*300, 600*350, 700*400, 800*500, 900*500, 1000*500 mm rectangular air ducts.

Design
The fan casing is made of galvanized steel. VKPFI models are sound- and heat-insulated with 50 mm layer of mineral wool.

Motor
The impeller with forward curved blades made of galvanized steel is powered by 4- or 6-pole external rotor asynchronous motor. Such modification ensures high air flow capacity and relatively significant differential pressure. For thermal overheating protection the thermal contacts with leaded outside terminals are incorporated in the motor winding for connection with the external protection devices. The motor is equipped with the ball bearings for long service life. For precise features, safe operation and low noise, each impeller is dynamically balanced while assembly. Motor protection rating IP44.

Speed control
Smooth or step speed control with a thyristor or autotransformer speed controller. Several fans may be connected to one speed controller provided that the total power and operating current do not exceed the rated speed controller parameters.

Mounting
The fans are designed for inline rectangular air duct mounting and require no special fixing in case of direct connection. In case of connection through the flexible connectors the fan is fixed to a building by means of supports, suspension brackets or fixation brackets. The fans can be mounted in any position with respect to the pointer direction on the casing. Access for the fan maintenance shall be provided. The fan is powered through the external terminals. The casing is provided with the removable access door for maintenance.

Designation key

Series		Motor modification		Flange diameter [W*H]
		Number of poles	Phase	
VENTS VKPF	**I**: sound- and heat-insulated casing	4 6	**E**: single phase **D**: three phases	400*200; 500*250; 500*300; 600*300; 600*350; 700*400; 800*500; 900*500; 1000*500

ErP data	
Overall efficiency	η [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	kW
Current	A
Air flow	m^3/h
Static pressure	Pa
Speed	n/min^{-1}
Specific ratio	SR

Accessories

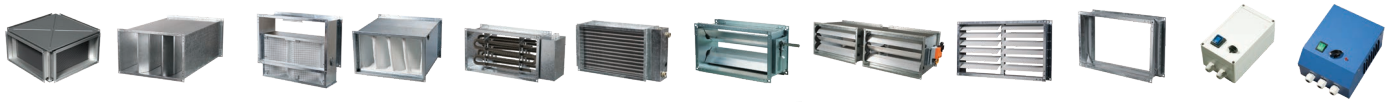


Plate heat exchanger · Silencer · Filters · Heaters · Air flow controller · Mixing chamber · Gravity louvre shutter · Flexible connectors · Speed controllers

Technical data

	VKPF/ VKPFI 4E 400*200	VKPF/ VKPFI 4D 400*200	VKPF/ VKPFI 4E 500*250	VKPF/ VKPFI 4D 500*250	VKPF/ VKPFI 4E 500*300
Voltage [V/50 Hz]	1~230	3~400	1~230	3~400	1~230
Power [W]	295	282	535	570	710
Current [A]	1.32	0.60	2.49	0.94	3.10
Max. air flow [m³/h]	1440	1470	1750	1850	2350
RPM [min⁻¹]	1350	1300	1250	1270	1230
Noise level at 3 m [dBA]	50/42*	52/43*	53/44*	54/44*	57/47*
Transported air temperature [°C]	-25...+40	-25...+45	-20...+40	-20...+40	-25...+70
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4

*Parameter for VKPFI model

Technical data

	VKPF/ VKPFI 4D 500*300	VKPF/ VKPFI 4E 600*300	VKPF/ VKPFI 4D 600*300	VKPF/ VKPFI 4E 600*350	VKPF/ VKPFI 4D 600*350
Voltage [V/50 Hz]	3~400	1~230	3~400	1~230	3~400
Power [W]	855	1240	1560	2840	2460
Current [A]	1.70	6.45	2.73	13.90	3.93
Max. air flow [m³/h]	2350	2950	3740	4260	5020
RPM [min⁻¹]	1300	1210	1310	1260	1300
Noise level at 3 m [dBA]	56/47*	59/51*	57/50*	59/51*	60/52*
Transported air temperature [°C]	-20...+50	-25...+50	-25...+65	-20...+40	-20...+40
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4

*Parameter for VKPFI model

Technical data

	VKPF/ VKPFI 4D 700*400	VKPF/ VKPFI 4D 800*500	VKPF/ VKPFI 6D 800*500	VKPF/ VKPFI 6D 900*500	VKPF/ VKPFI 6D 1000*500
Voltage [V/50 Hz]	3~400	3~400	3~400	3~400	3~400
Power [W]	3630	5850	2790	3870	3870
Current [A]	6.00	9.35	5.18	7.0	7.0
Max. air flow [m³/h]	6450	8120	7610	9540	9540
RPM [min⁻¹]	1320	1140	830	930	930
Noise level at 3 m [dBA]	65/56*	67/61*	59/53*	61/55*	61/55*
Transported air temperature [°C]	-25...+40	-25...+40	-20...+50	-20...+55	-20...+55
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4

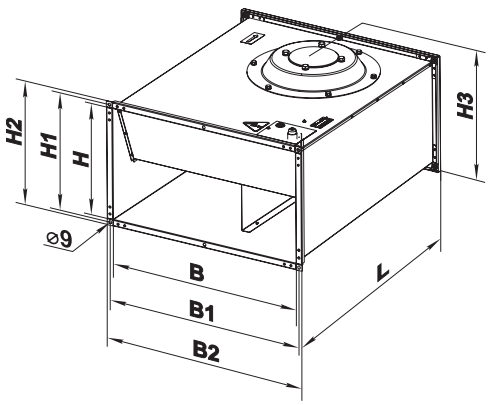
*Parameter for VKPFI model

Fan overall dimensions

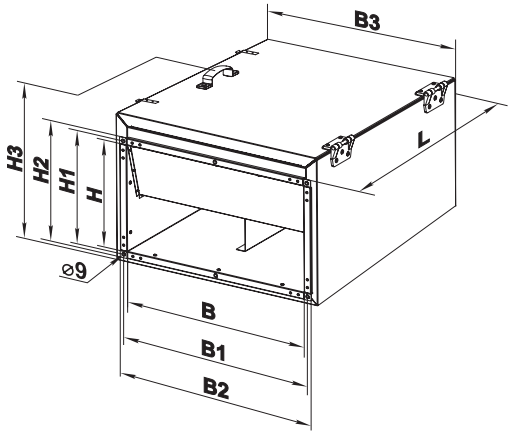
Type	Dimensions [mm]								Mass [kg]
	B	B1	B2	H	H1	H2	H3	L	
VKPF 4E 400*200	400	420	440	200	220	240	255	500	17.5
VKPF 4D 400*200	400	420	440	200	220	240	255	500	17.5
VKPF 4E 500*250	500	520	540	250	270	290	335	640	24
VKPF 4D 500*250	500	520	540	250	270	290	335	640	24
VKPF 4E 500*300	500	520	540	300	320	340	365	680	33
VKPF 4D 500*300	500	520	540	300	320	340	365	680	33
VKPF 4E 600*300	600	620	640	300	320	340	375	680	35
VKPF 4D 600*300	600	620	640	300	320	340	375	680	35
VKPF 4E 600*350	600	620	640	350	370	390	425	735	49.5
VKPF 4D 600*350	600	620	640	350	370	390	425	735	49.5
VKPF 4D 700*400	700	720	740	400	420	440	480	780	60
VKPF 4D 800*500	800	820	840	500	520	540	580	820	74
VKPF 6D 800*500	800	820	840	500	520	540	580	820	70
VKPF 6D 900*500	900	920	940	500	520	540	580	954	90
VKPF 6D 1000*500	1000	1020	1040	500	520	540	580	954	95

Type	Dimensions [mm]									Mass [kg]
	B	B1	B2	B3	H	H1	H2	H3	L	
VKPFI 4E 400*200	400	420	440	470	200	220	240	360	500	29
VKPFI 4D 400*200	400	420	440	470	200	220	240	360	500	29
VKPFI 4E 500*250	500	520	540	570	250	270	290	410	640	40.5
VKPFI 4D 500*250	500	520	540	570	250	270	290	410	640	40.5
VKPFI 4E 500*300	500	520	540	570	300	320	340	460	680	52.5
VKPFI 4D 500*300	500	520	540	570	300	320	340	460	680	52.5
VKPFI 4E 600*300	600	620	640	670	300	320	340	480	680	56
VKPFI 4D 600*300	600	620	640	670	300	320	340	480	680	56
VKPFI 4E 600*350	600	620	640	670	350	370	390	530	735	72
VKPFI 4D 600*350	600	620	640	670	350	370	390	530	735	72
VKPFI 4D 700*400	700	720	–	800	400	420	–	620	880	103
VKPFI 6D 800*500	800	820	–	900	500	520	–	720	935	120
VKPFI 4D 800*500	800	820	–	900	500	520	–	720	935	127
VKPFI 6D 900*500	900	920	–	1000	500	520	–	720	1000	142
VKPFI 6D 1000*500	1000	1020	–	1100	500	520	–	720	1000	150

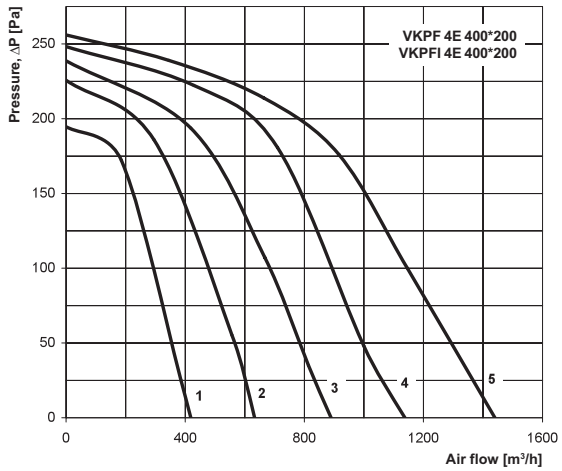
VKPF



VKPFI



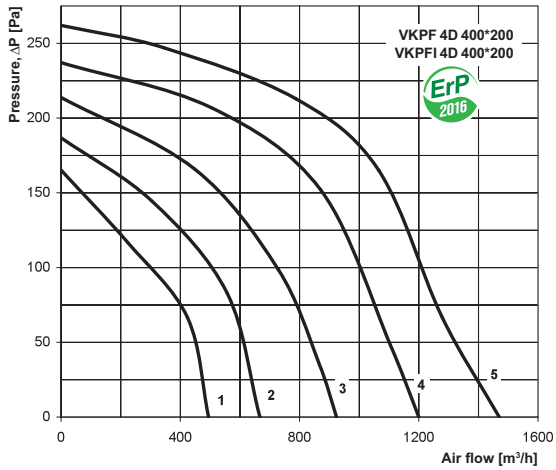
VENTS VKPF/VKPFI



VKPF 4E 400*200

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	69	58	68	63	59	56	53	53	45
L_{wA} to outlet	dBA	70	53	63	67	62	65	63	58	55
L_{wA} to environment	dBA	59	34	46	57	52	49	43	40	36
VKPFI 4E 400*200	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	66	50	60	58	54	50	49	46	39
L_{wA} to outlet	dBA	67	48	60	62	58	60	57	54	49
L_{wA} to environment	dBA	43	24	35	45	41	36	34	29	22

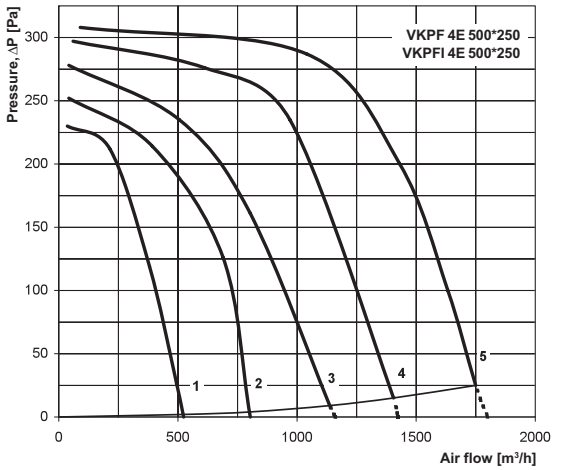
VENTS VKPF/VKPFI



VKPF 4D 400*200

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	72	56	69	65	57	58	57	53	48
L_{wA} to outlet	dBA	74	54	65	66	61	63	60	61	55
L_{wA} to environment	dBA	61	34	44	56	52	50	44	40	33
VKPFI 4D 400*200	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	65	53	62	60	54	52	50	46	41
L_{wA} to outlet	dBA	66	48	59	62	58	58	58	53	47
L_{wA} to environment	dBA	47	24	36	45	38	36	30	29	22

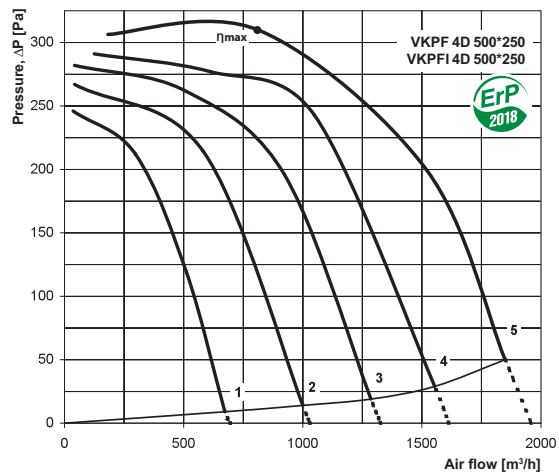
VENTS VKPF/VKPFI



VKPF 4E 500*250

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	72	58	67	62	57	62	64	62	60
L_{wA} to outlet	dBA	77	57	63	62	66	72	69	68	63
L_{wA} to environment	dBA	62	41	49	54	53	56	52	51	53
VKPFI 4E 500*250	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	68	57	62	58	54	57	58	59	53
L_{wA} to outlet	dBA	72	50	60	61	60	66	66	61	62
L_{wA} to environment	dBA	51	29	36	39	43	44	38	37	43

VENTS VKPF/VKPFI

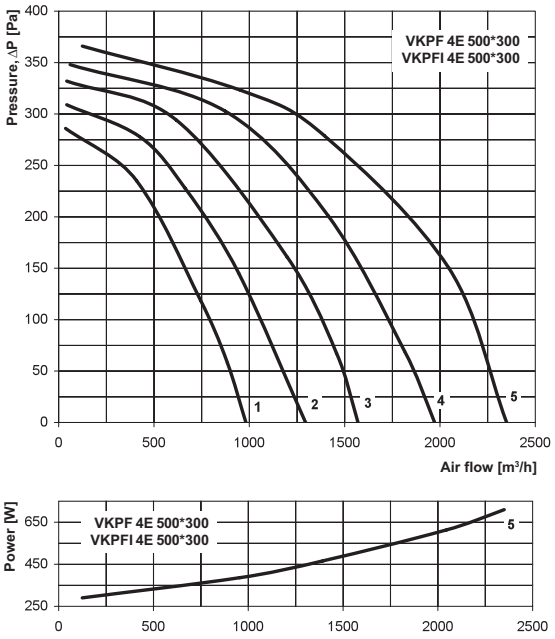


η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
34.3	A	Static	44.9	No	0.210	0.6	820	310	1420	1

VKPF 4D 500*250

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	74	60	67	64	61	64	62	60	58
L_{wA} to outlet	dBA	76	57	65	65	67	69	69	68	63
L_{wA} to environment	dBA	61	41	48	53	53	56	52	50	53
VKPFI 4D 500*250	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	67	55	61	57	52	61	58	57	54
L_{wA} to outlet	dBA	71	49	58	60	62	67	66	61	60
L_{wA} to environment	dBA	50	27	38	41	44	45	42	40	43

VENTS VKPF/VKPFI



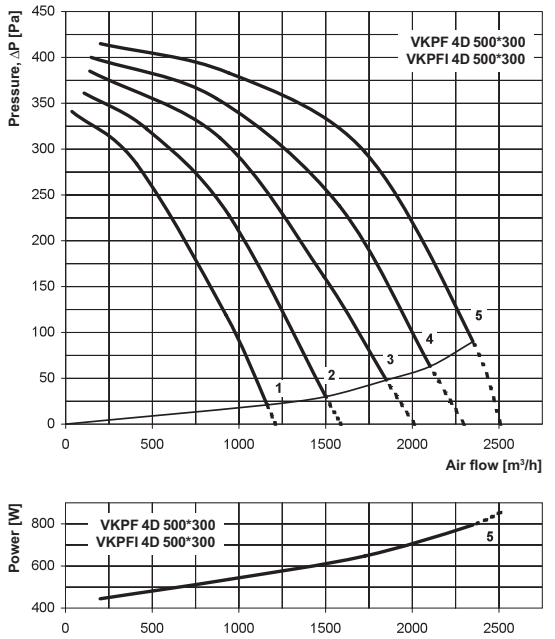
VKPF 4E 500*300

Sound-power level	Hz	Gen	63	125	250	500	1000	2000	4000	8000
		Octave-frequency band [Hz]								
L_{wA} to inlet	dBA	74	64	69	65	63	66	67	65	60
L_{wA} to outlet	dBA	79	62	69	66	72	73	72	71	64
L_{wA} to environment	dBA	64	46	53	59	54	58	56	49	50

VKPFI 4E 500*300

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	69	59	65	59	58	64	63	60	56
L_{wA} to outlet	dBA	74	57	62	63	65	69	68	65	61
L_{wA} to environment	dBA	53	34	43	48	43	46	42	37	38

VENTS VKPF/VKPFI



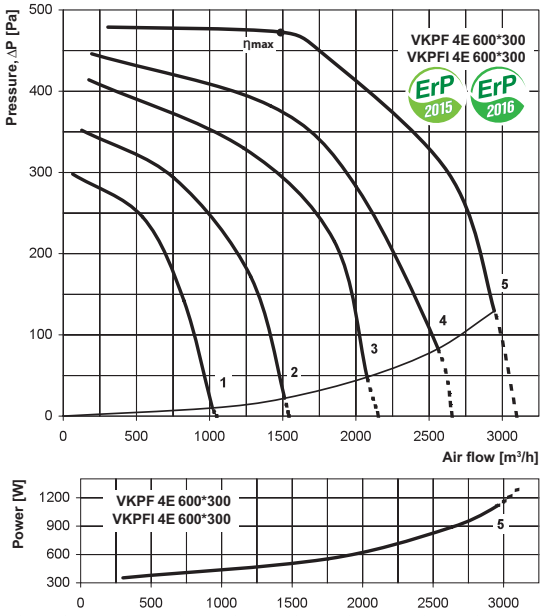
VKPF 4D 500*300

Sound-power level	Hz	Gen	63	125	250	500	1000	2000	4000	8000
		Octave-frequency band [Hz]								
L_{wA} to inlet	dBA	77	67	69	62	63	68	68	68	63
L_{wA} to outlet	dBA	79	61	68	69	71	75	74	73	68
L_{wA} to environment	dBA	65	46	55	58	56	60	54	48	47

VKPFI 4D 500*300

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	71	62	64	59	60	62	63	63	56
L_{wA} to outlet	dBA	72	58	62	63	65	71	66	67	63
L_{wA} to environment	dBA	52	33	42	48	45	46	42	36	36

VENTS VKPF/VKPFI



η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
35.8	A	Static	43.7	No	0.555	2.33	1482	473	1425	1

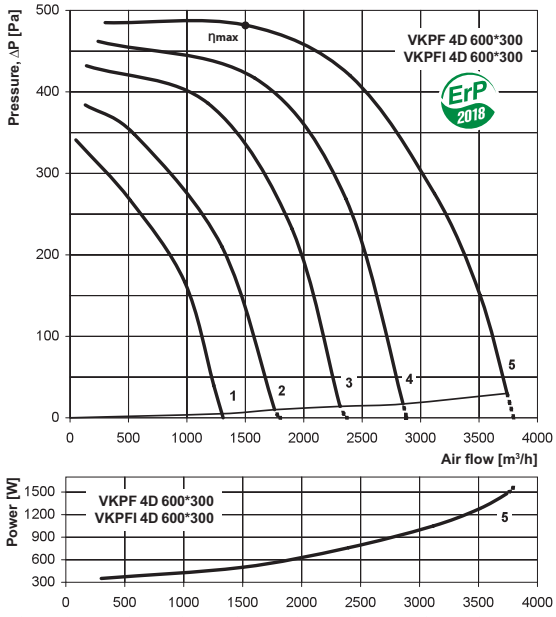
VKPF 4E 600*300

Sound-power level	Hz	Gen	63	125	250	500	1000	2000	4000	8000
		Octave-frequency band [Hz]								
L_{wA} to inlet	dBA	83	66	77	69	66	71	70	71	67
L_{wA} to outlet	dBA	85	62	77	71	74	79	76	73	67
L_{wA} to environment	dBA	69	42	65	66	61	61	56	53	47

VKPFI 4E 600*300

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	78	61	72	63	62	68	68	65	66
L_{wA} to outlet	dBA	80	55	74	65	72	74	70	68	66
L_{wA} to environment	dBA	58	30	53	54	49	48	43	39	37

VENTS VKPF/VKPFI



η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
40.6	A	Static	48.8	No	0.510	1.9	1508	485	1440	1

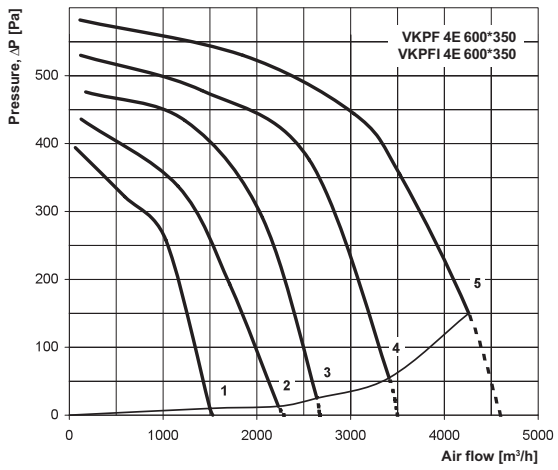
VKPF 4D 600*300

Sound-power level	Hz	Gen	63	125	250	500	1000	2000	4000	8000
		Octave-frequency band [Hz]								
L_{wA} to inlet	dBA	82	66	77	67	67	70	72	68	69
L_{wA} to outlet	dBA	82	62	77	71	76	79	75	76	67
L_{wA} to environment	dBA	71	43	63	62	64	62	55	49	51

VKPFI 4D 600*300

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	75	65	72	62	62	67	66	62	64
L_{wA} to outlet	dBA	79	57	72	66	70	72	70	67	65
L_{wA} to environment	dBA	56	30	52	52	49	51	42	37	35

VENTS VKPF/VKPFI



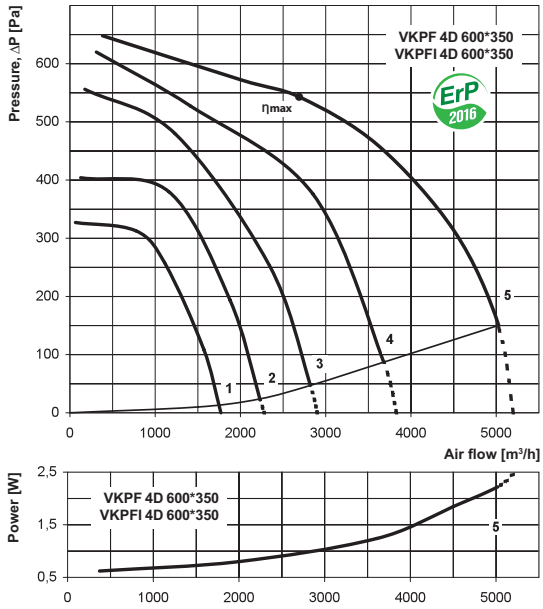
VKPF 4E 600*350

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	78	71	74	65	66	75	72	70	64
L_{wA} to outlet	dBA	86	69	73	74	74	78	76	77	68
L_{wA} to environment	dBA	67	54	60	63	58	62	55	51	48

VKPFI 4E 600*350

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	75	69	69	62	63	70	65	64	62
L_{wA} to outlet	dBA	78	62	68	67	71	76	73	69	66
L_{wA} to environment	dBA	54	40	51	51	48	48	43	40	35

VENTS VKPF/VKPFI



η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
36.9	A	Static	43	No	1.120	2.56	2693	542	1410	1

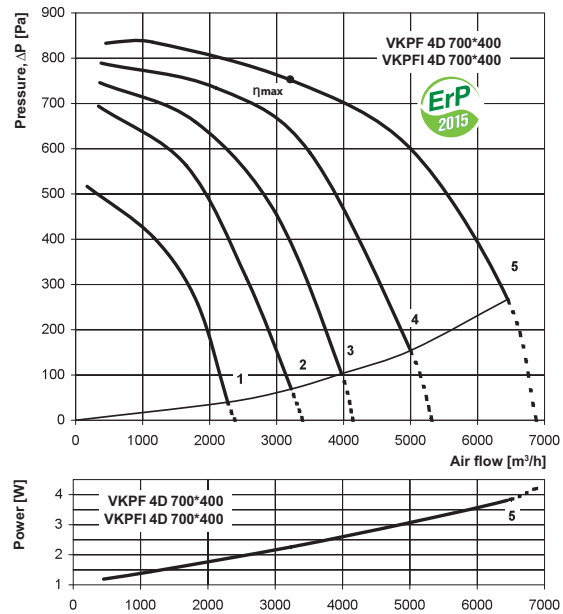
VKPF 4D 600*350

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	80	72	75	69	67	73	71	69	67
L_{wA} to outlet	dBA	84	66	74	70	76	79	76	74	68
L_{wA} to environment	dBA	68	52	62	65	61	58	56	52	48

VKPFI 4D 600*350

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	73	66	72	64	63	69	67	63	59
L_{wA} to outlet	dBA	80	64	67	67	69	76	71	69	65
L_{wA} to environment	dBA	56	40	48	49	49	48	43	41	38

VENTS VKPF/VKPFI



η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
32.4	A	Static	41	No	1.890	4.34	3240	751	1430	1

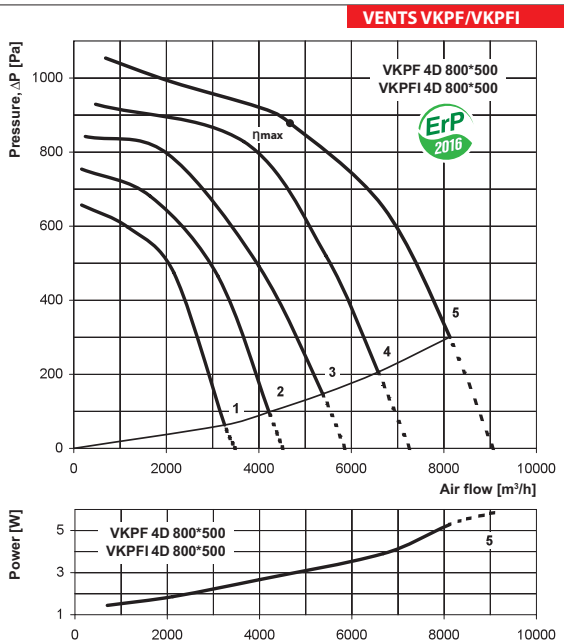
VKPF 4D 700*400

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	82	80	77	70	71	75	73	71	68
L_{wA} to outlet	dBA	86	74	77	75	78	83	81	77	71
L_{wA} to environment	dBA	71	55	64	69	67	70	63	62	59

VKPFI 4D 700*400

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	77	75	70	64	62	73	71	66	64
L_{wA} to outlet	dBA	79	68	70	70	72	76	72	74	67
L_{wA} to environment	dBA	61	41	54	57	53	56	52	53	47

VENTS VKPF/VKPFI



η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
42.3	A	Static	45.9	No	2.743	4.9	4648	881	1330	1

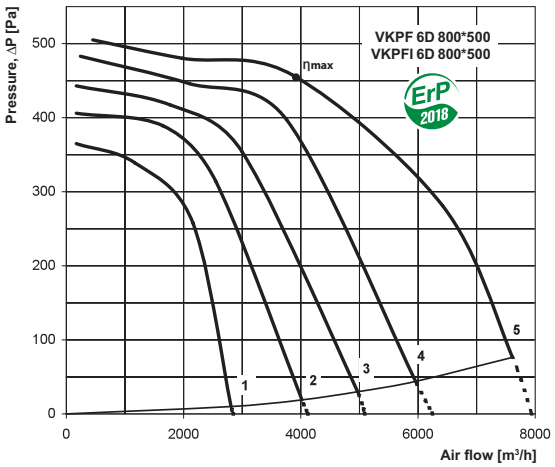
VKPF 4D 800*500

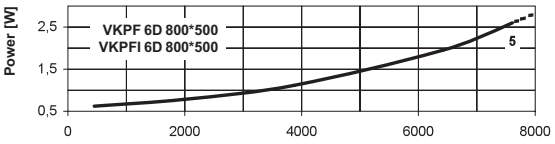
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	82	71	74	75	70	75	75	70	67
L_{wA} to outlet	dBA	90	72	77	76	82	86	85	80	78
L_{wA} to environment	dBA	73	61	68	67	65	70	66	61	60

VKPFI 4D 800*500

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	79	68	68	70	65	71	71	66	62
L_{wA} to outlet	dBA	84	65	72	73	77	81	80	75	71
L_{wA} to environment	dBA	64	49	56	55	53	59	50	48	48

VENTS VKPF/VKPFI





η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
43.6	A	Static	49.5	No	1.150	2.9	3870	457	940	1

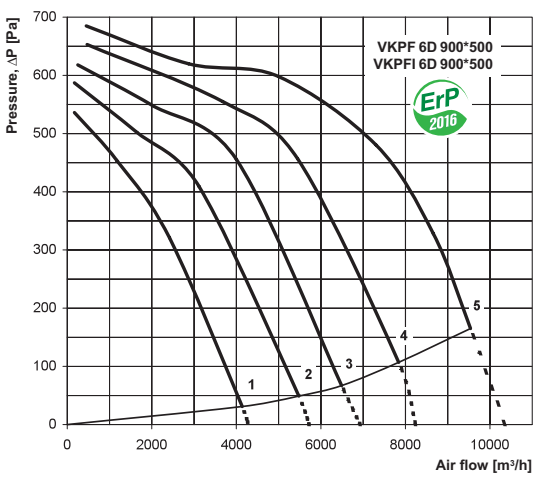
VKPF 6D 800*500

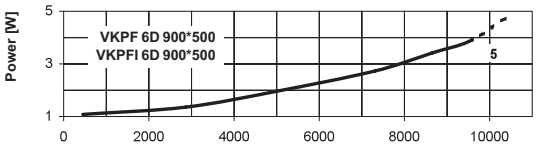
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	77	64	66	66	70	71	70	66	62
L_{WA} to outlet	dBA	82	64	66	69	76	74	73	73	64
L_{WA} to environment	dBA	64	51	59	58	61	60	55	50	49

VKPFI 6D 800*500

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	70	61	60	60	64	67	66	63	58
L_{WA} to outlet	dBA	79	58	63	64	72	73	70	69	62
L_{WA} to environment	dBA	54	37	45	45	50	48	41	37	39

VENTS VKPF/VKPFI





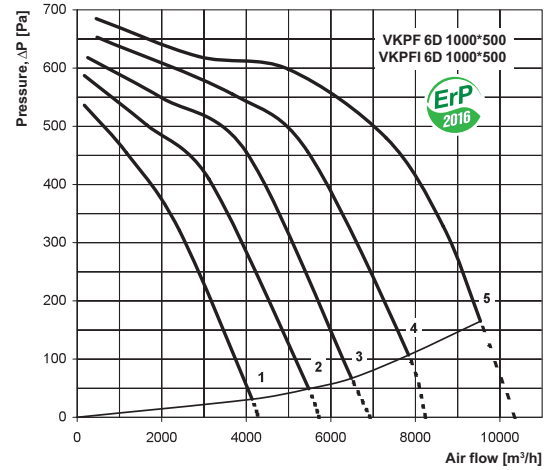
VKPF 6D 900*500

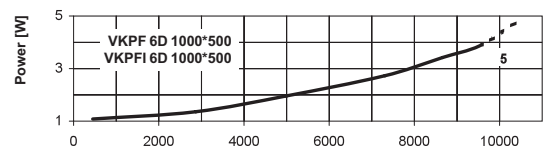
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	78	70	68	63	72	69	71	68	64
L_{WA} to outlet	dBA	83	71	70	70	80	78	79	74	68
L_{WA} to environment	dBA	65	56	64	60	63	58	56	52	51

VKPFI 6D 900*500

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	73	65	64	57	66	68	68	62	57
L_{WA} to outlet	dBA	80	62	66	66	71	74	72	69	65
L_{WA} to environment	dBA	55	45	51	46	52	48	47	41	43

VENTS VKPF/VKPFI



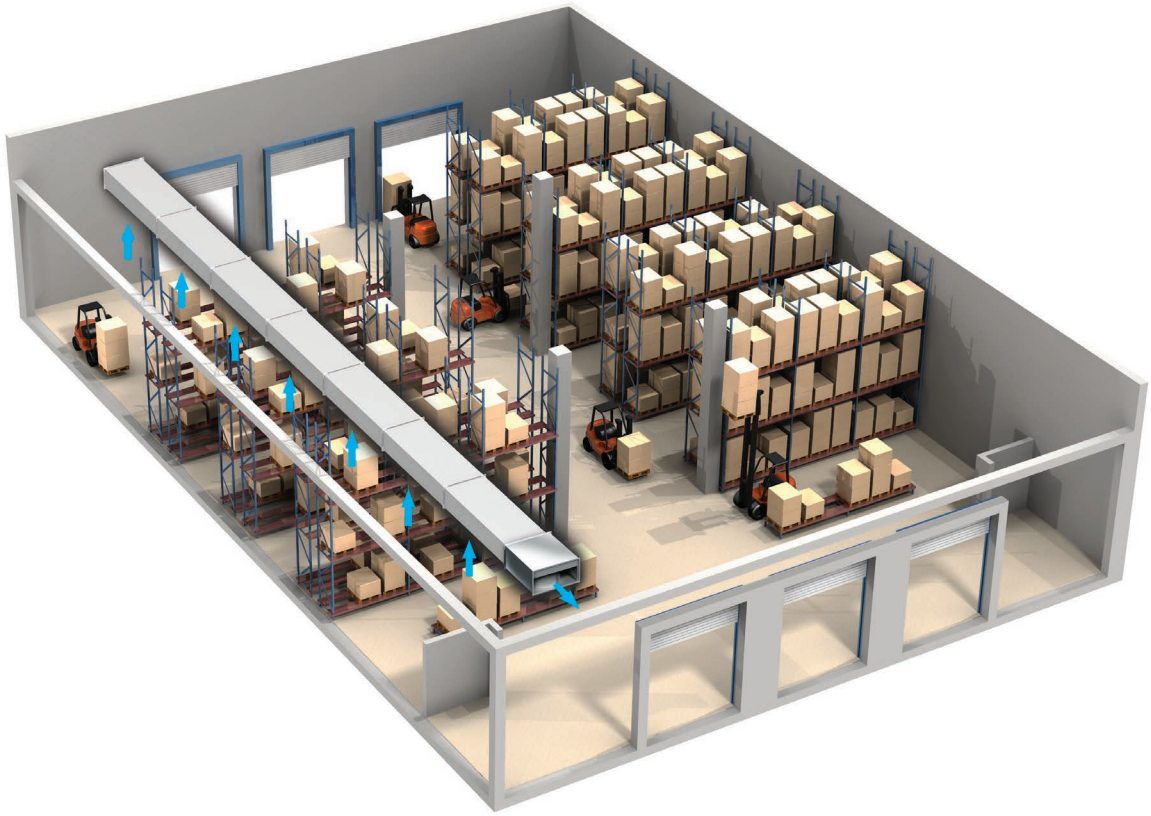


VKPF 6D 1000*500

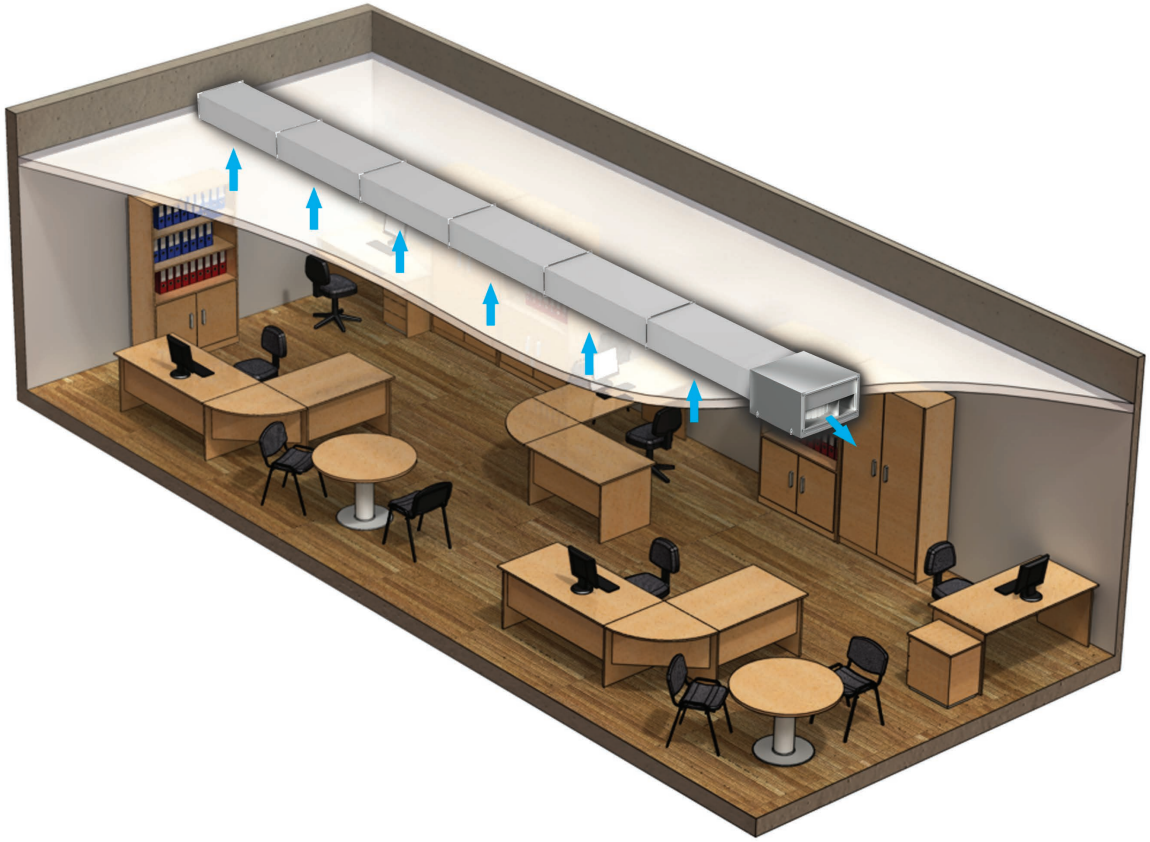
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	80	73	68	64	74	71	72	69	66
L_{WA} to outlet	dBA	86	70	71	71	78	78	78	75	71
L_{WA} to environment	dBA	69	59	61	59	65	61	58	53	53

VKPFI 6D 1000*500

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	76	68	62	58	66	66	67	64	60
L_{WA} to outlet	dBA	80	64	64	67	74	75	73	67	67
L_{WA} to environment	dBA	59	46	51	50	53	48	46	42	40



VKPF fan warehouse ventilation example



VKPFI fan office ventilation example

Series
VENTS VKP EC

Centrifugal fans with air flow up to **11190 m³/h** for rectangular ducts

Application

Supply and exhaust ventilation systems for commercial, office and other public or industrial premises for various premises requiring cost-effective solution and controlled ventilation. EC motors in VKP fans reduce energy consumption by 1.5-3 times and ensure high performance and low noise level. Such characteristics are of special importance for ventilation of banks, supermarkets, restaurants, hotels and other public facilities including swimming pool ventilation. The fans are compatible with 300x150, 400x200, 500x250, 500x300, 600x300, 600x350, 700x400, 800x500, 900x500, 1000x500 mm rectangular ducts.

Design

Fan casing is made of galvanized steel. All inner components are interconnected by means of rivets. The fan is equipped with 20 mm standard flanges.

Motor

The impellers with backward curved blades are powered with high efficient electronically commutated (EC) direct current motors with external rotor. As of today, such motor type is the most advanced solution for energy saving. EC motors are featured by high performance and the optimal control over the whole range of fan speeds. Premium efficiency reaching up to 90 % is an absolute advantage of electronically commutated motors.

Integrated functions and control

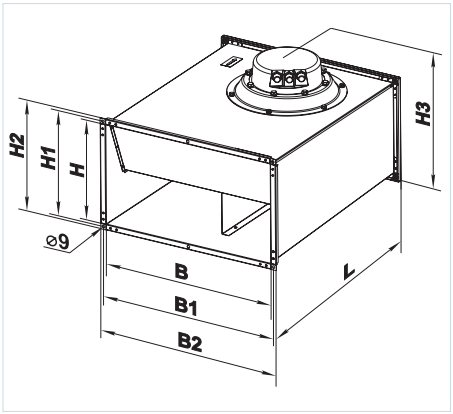
The fan is controlled with the external control signal 0-10 V (air flow as a function of temperature level, pressure and smoke conditions etc). Should the control value factor get changed, the EC motor changes its speed and the fan boosts as much air flow to the ventilation system as required. Maximum speed of the fan does not depend on the current frequency and it can operate at 50 or 60 Hz mains supply. The fans can be integrated to the unified PC control system. The respective software allows controlling all the fan units with high accuracy and setting particular operation mode for each fan.

Mounting

The fans are mounted into the rectangular ducts. The fans can be mounted in any position with respect to the airflow direction which is indicated with a pointer on the casing. Access for the fan maintenance shall be provided. The casing is equipped with a removable access door for inspection and maintenance purposes.

Fan overall dimensions

Type	Dimensions [mm]								Mass [kg]
	B	B1	B2	H	H1	H2	H3	L	
VKP 300x150 M1 EC	300	320	340	150	170	190	228	350	5.5
VKP 300x150 L1 EC	300	320	340	150	170	190	228	350	6.0
VKP 400x200 M1 EC	400	420	440	200	220	240	278	440	8.3
VKP 400x200 L1 EC	400	420	440	200	220	240	286	440	10.0
VKP 500x250 M1 EC	500	520	540	250	270	290	328	530	15.7
VKP 500x250 L1 EC	500	520	540	250	270	290	360	530	17.9
VKP 500x300 L1 EC	500	520	540	300	320	340	410	530	18.7
VKP 600x300 M1 EC	600	620	640	300	320	340	407	650	24.1
VKP 600x300 L1 EC	600	620	640	300	320	340	370	680	26.5
VKP 600x350 L3 EC	600	620	640	350	370	390	512	650	36.0
VKP 600x350 M1 EC	600	620	640	350	370	390	457	650	25.2
VKP 700x400 L3 EC	700	720	740	400	420	440	555	750	43.0
VKP 700x400 M1 EC	700	720	740	400	420	440	496	750	42.2
VKP 800x500 L3 EC	800	820	840	500	520	540	670	850	54.3
VKP 800x500 M3 EC	800	820	840	500	520	540	614	850	62.3
VKP 900x500 L3 EC	900	920	940	500	520	540	656	950	72.0
VKP 1000x500 L3 EC	1000	1020	1040	500	520	540	656	950	77.0



Designation key

Series	Flange diameter [WxH]	Motor modification	Phase	Motor
VENTS VKP	300x150; 400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500	**M**: medium pressure motor **L**: high pressure motor	**1**: single phase **3**: three phase	**EC**: synchronous electronically commutated motor

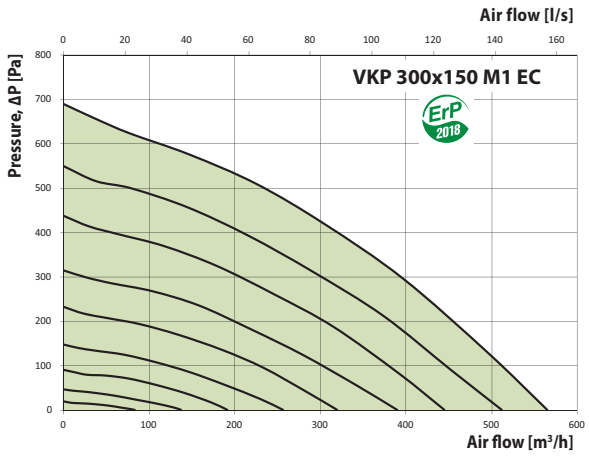
Accessories

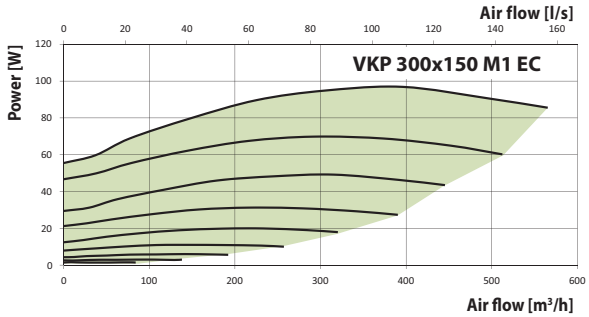
Plate heat exchanger | Silencer | Filters | Heaters | Air flow controller | Mixing chamber | Gravity louvre shutter | Flexible connectors | Speed controller

Technical data

	VKP 300x150 M1 EC	VKP 300x150 L1 EC
Voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	97	101
Current [A]	0.73	0.80
Maximum air flow [m³/h]	565	665
RPM [min⁻¹]	3300	3500
Noise level at 3 m [dBA]	44	46
Transported air temperature [°C]	-25...+50	
SEC class	B	B
Motor protection	IP55	IP54
Protection rating	IPX4	

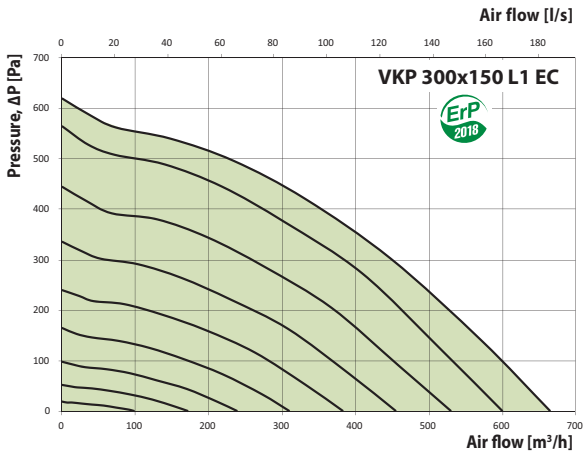
VENTS VKP EC

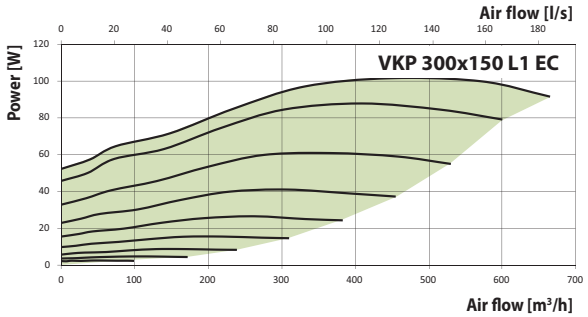




		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
			General	Octave frequency band [Hz]									
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	75	53	63	69	72	63	62	63	55		54	64
L_{wA} to outlet	dBA	78	57	63	70	73	69	71	68	60		57	67
L_{wA} to environment	dBA	64	35	51	53	62	58	54	48	40		44	54

VENTS VKP EC



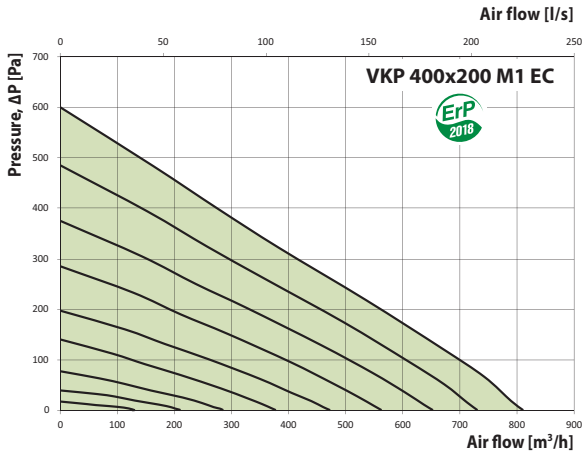


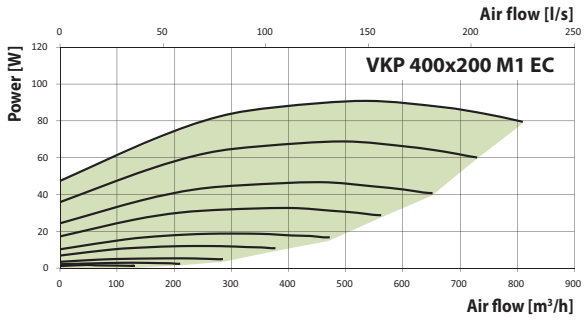
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
			General	Octave frequency band [Hz]									
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	76	54	64	70	73	64	63	64	56		56	66
L_{wA} to outlet	dBA	80	59	65	73	75	72	74	71	62		60	70
L_{wA} to environment	dBA	67	37	53	55	64	60	56	50	42		46	56

Technical data

	VKP 400x200 M1 EC	VKP 400x200 L1 EC
Voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	91	192
Current [A]	0.69	1.43
Maximum air flow [m³/h]	810	1190
RPM [min⁻¹]	2470	3010
Noise level at 3 m [dBA]	43	47
Transported air temperature [°C]	-25...+50	
SEC class	B	-
Motor protection	IP55	IP54
Protection rating	IPX4	

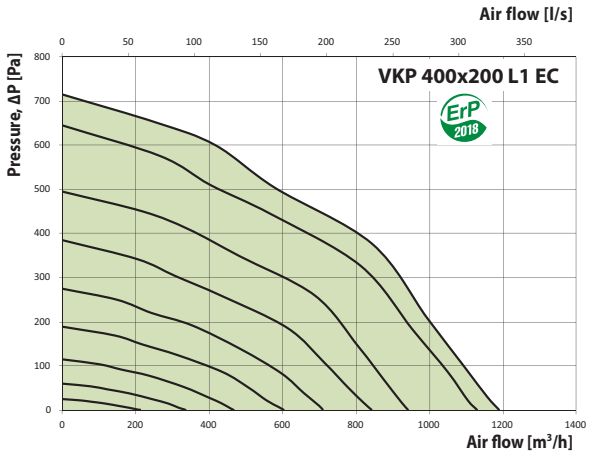
VENTS VKP EC

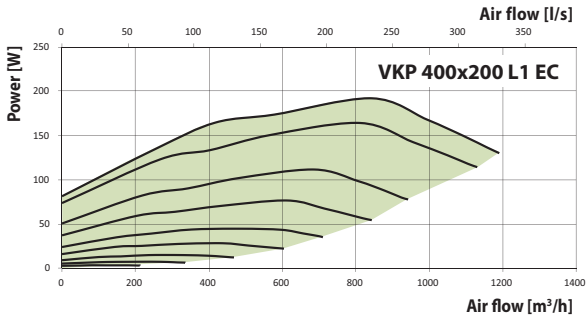




		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	76	40	55	72	65	69	67	65	60		55	65
L_{WA} to outlet	dBA	78	37	52	70	71	69	73	68	61		57	67
L_{WA} to environment	dBA	63	39	47	61	57	52	51	46	39		43	53

VENTS VKP EC



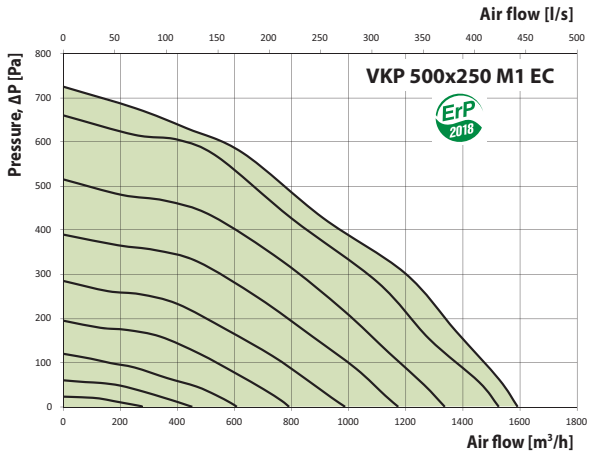


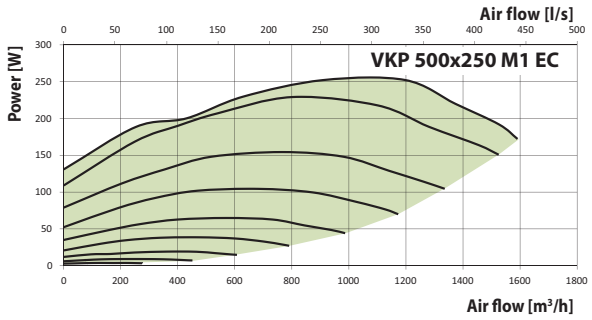
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	83	50	79	75	76	76	72	66	65		62	72
L_{WA} to outlet	dBA	82	47	75	74	76	77	69	63	60		61	71
L_{WA} to environment	dBA	68	48	65	61	58	58	51	44	40		47	57

Technical data

	VKP 500x250 M1 EC	VKP 500x250 L1 EC
Voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	252	555
Current [A]	1.85	4,10
Maximum air flow [m³/h]	1590	2480
RPM [min⁻¹]	2500	3100
Noise level at 3 m [dBA]	45	51
Transported air temperature [°C]	-25...+50	
Motor protection	IP54	
Protection rating	IPX4	

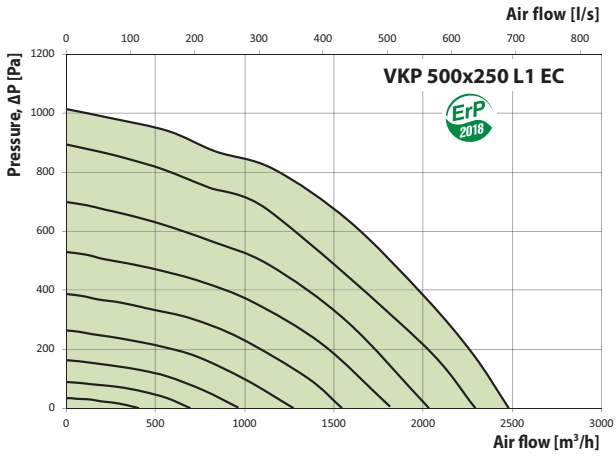
VENTS VKP EC

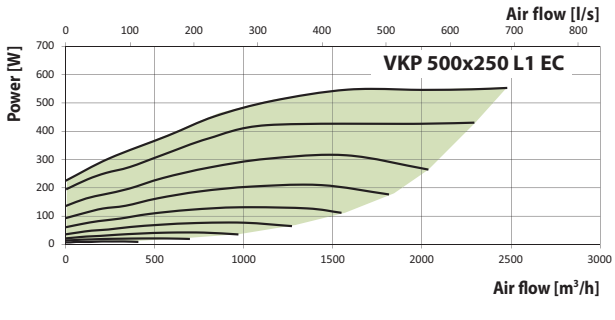




		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	78	41	57	75	67	71	69	67	62		57	67
L_{WA} to outlet	dBA	80	38	54	72	73	71	75	70	63		59	69
L_{WA} to environment	dBA	65	40	48	63	59	54	53	47	40		45	55

VENTS VKP EC



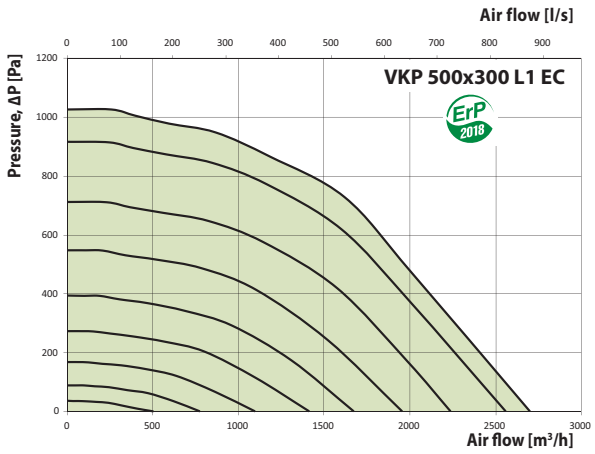


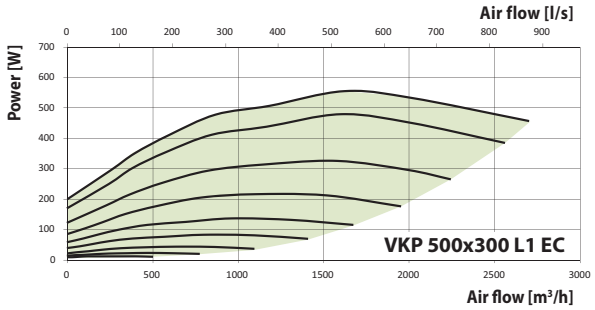
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	86	53	82	78	79	79	75	69	68		66	76
L_{WA} to outlet	dBA	85	48	78	77	79	80	72	66	63		64	74
L_{WA} to environment	dBA	72	50	69	65	62	62	55	46	42		51	61

Technical data

	VKP 500x300 L1 EC	VKP 600x300 M1 EC
Voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	553	326
Current [A]	4.20	2.45
Maximum air flow [m³/h]	2700	2545
RPM [min⁻¹]	3100	2000
Noise level at 3 m [dBA]	51	48
Transported air temperature [°C]	-25...+50	
Motor protection	IP54	
Protection rating	IPX4	

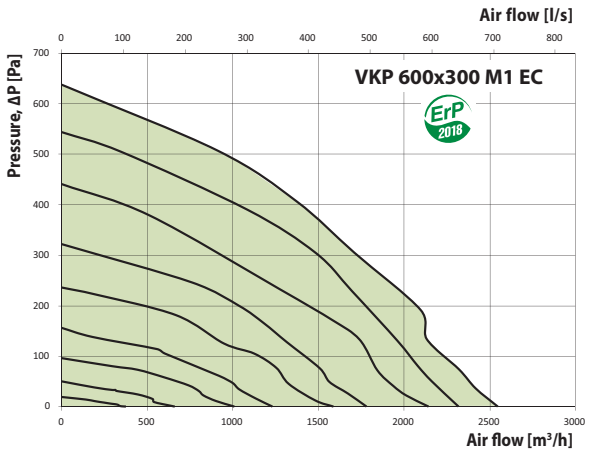
VENTS VKP EC

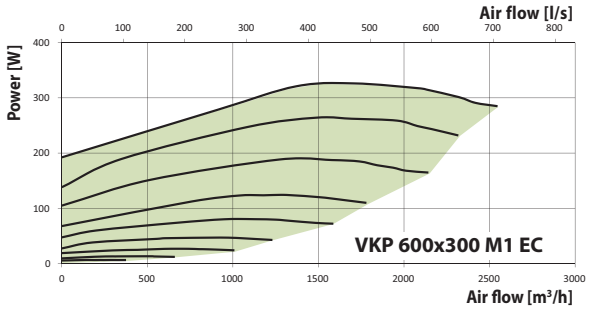




			Sound power level, A-filter applied									
		General	Octave frequency band [Hz]								Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	85	50	80	78	78	78	75	69	67	65	75
L_{WA} to outlet	dBA	85	48	79	76	78	79	72	66	62	64	74
L_{WA} to environment	dBA	72	49	70	65	60	60	54	46	40	51	61

VENTS VKP EC



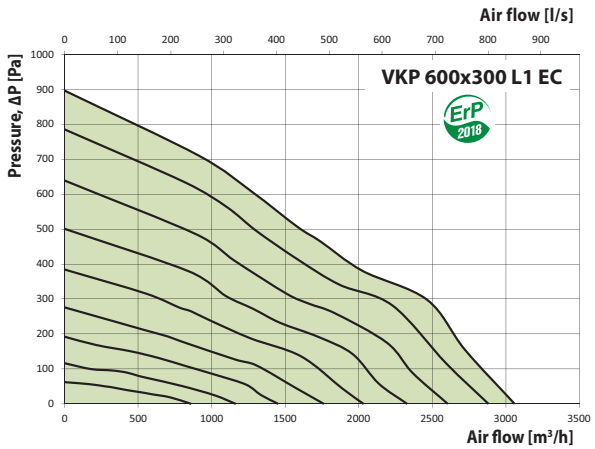


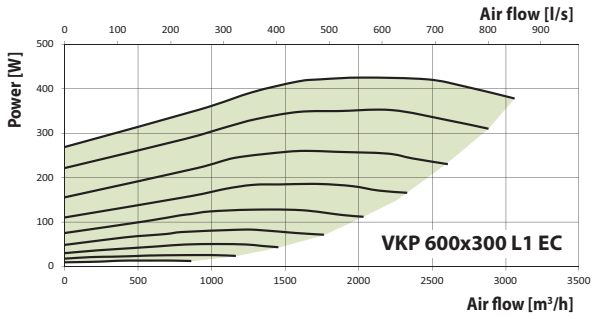
			Sound power level, A-filter applied									
		General	Octave frequency band [Hz]								Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	80	42	58	77	69	73	71	69	64	60	70
L_{WA} to outlet	dBA	83	40	56	76	77	75	79	73	66	63	73
L_{WA} to environment	dBA	68	42	51	66	62	56	55	50	42	48	58

Technical data

	VKP 600x300 L1 EC	VKP 600x350 M1 EC
Voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	425	361
Current [A]	2.76	2.62
Maximum air flow [m³/h]	3060	2815
RPM [min⁻¹]	2160	2000
Noise level at 3 m [dBA]	50	49
Transported air temperature [°C]	-25...+50	
Motor protection	IP54	
Protection rating	IPX4	

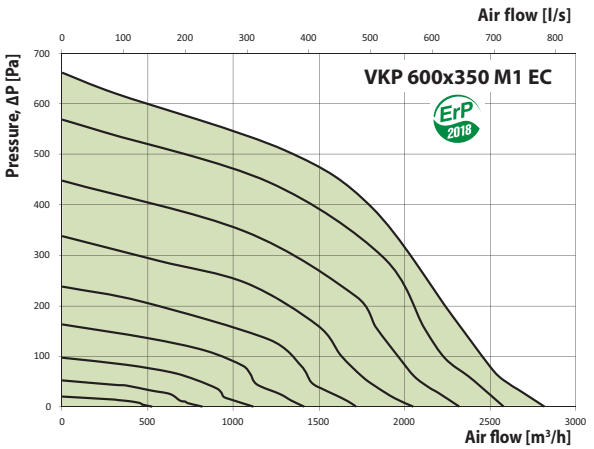
VENTS VKP EC

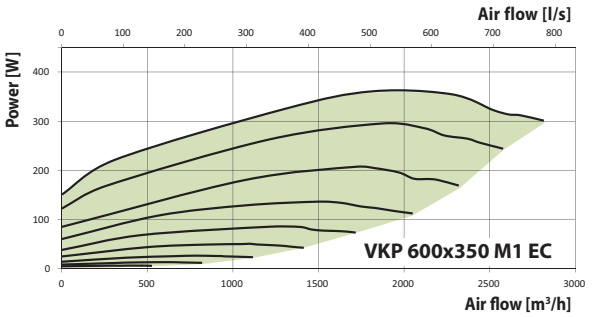




			Sound power level, A-filter applied									
		General	Octave frequency band [Hz]								Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} saugseitig	dBA	82	56	78	80	64	54	49	54	45	62	72
L_{WA} druckseitig	dBA	85	55	78	84	66	51	49	57	50	65	75
L_{WA} Abstrahlung	dBA	71	50	69	66	53	45	38	38	31	50	60

VENTS VKP EC



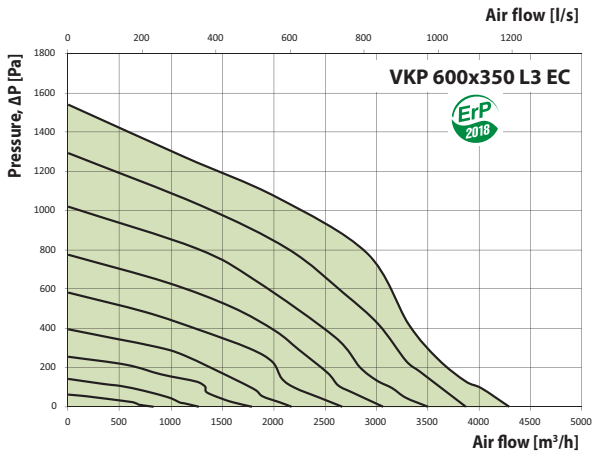


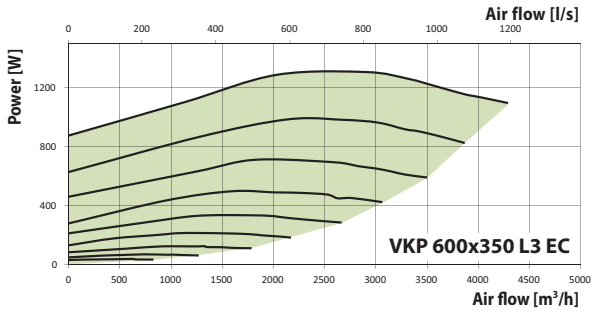
			Sound power level, A-filter applied									
		General	Octave frequency band [Hz]								Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} saugseitig	dBA	81	43	59	78	70	75	73	70	65	61	71
L_{WA} druckseitig	dBA	85	41	57	77	78	76	80	75	67	64	74
L_{WA} Abstrahlung	dBA	69	43	52	67	63	57	56	50	43	49	59

Technical data

	VKP 600x350 L3 EC	VKP 700x400 M1 EC
Voltage [V/50 (60) Hz]	3~400	1~230
Power [W]	1308	795
Current [A]	2.35	3.48
Maximum air flow [m³/h]	4290	5710
RPM [min⁻¹]	3160	1400
Noise level at 3 m [dBA]	55	53
Transported air temperature [°C]	-25...+50	
Motor protection	IP54	
Protection rating	IPX4	

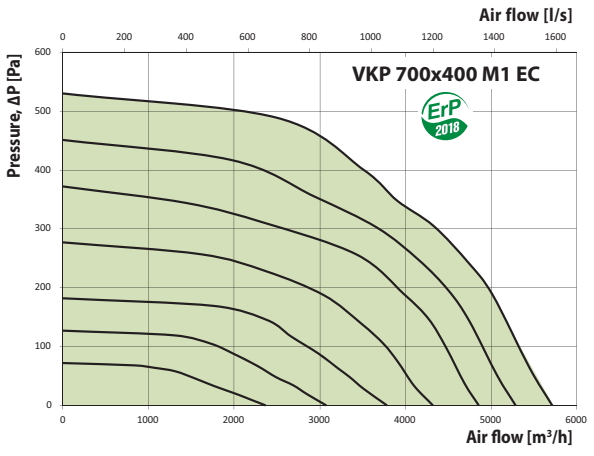
VENTS VKP EC

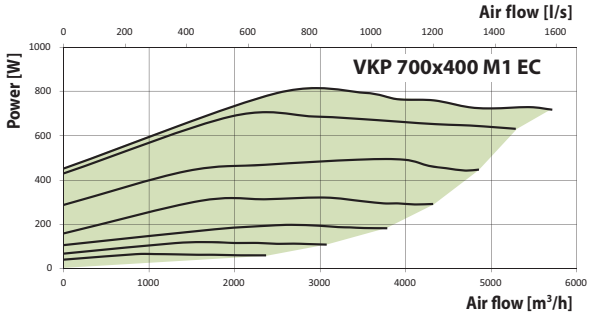




		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} saugseitig	dBA	89	53	84	82	82	82	79	72	70		69	79
L_{WA} druckseitig	dBA	88	50	83	80	82	83	76	69	65		68	78
L_{WA} Abstrahlung	dBA	76	52	74	68	63	63	57	49	43		55	65

VENTS VKP EC



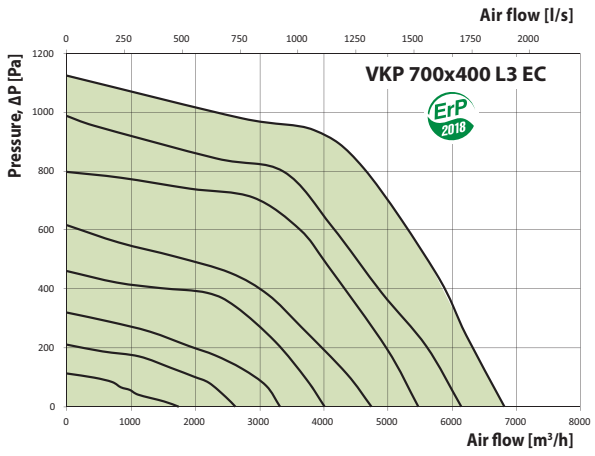


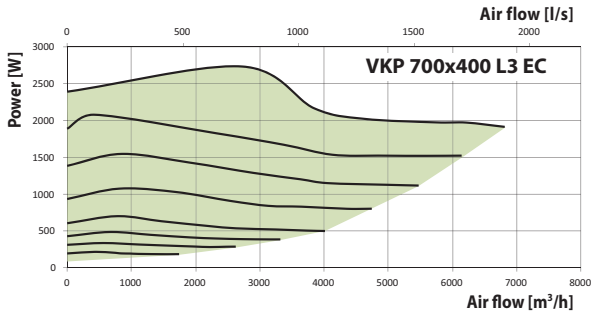
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} saugseitig	dBA	85	45	62	82	74	78	76	74	68		64	74
L_{WA} druckseitig	dBA	88	43	60	81	82	79	84	78	70		68	78
L_{WA} Abstrahlung	dBA	74	46	55	72	67	61	60	54	46		53	63

Technical data

	VKP 700x400 L3 EC	VKP 800x500 M3 EC
Voltage [V/50 (60) Hz]	3~400	3~400
Power [W]	2748	2025
Current [A]	2.80	2.01
Maximum air flow [m³/h]	6810	8395
RPM [min⁻¹]	2530	1470
Noise level at 3 m [dBA]	57	60
Transported air temperature [°C]	-25...+50	
Motor protection	IP54	
Protection rating	IPX4	

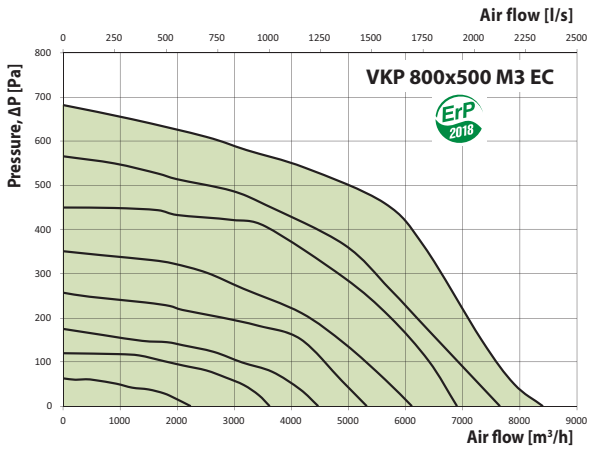
VENTS VKP EC

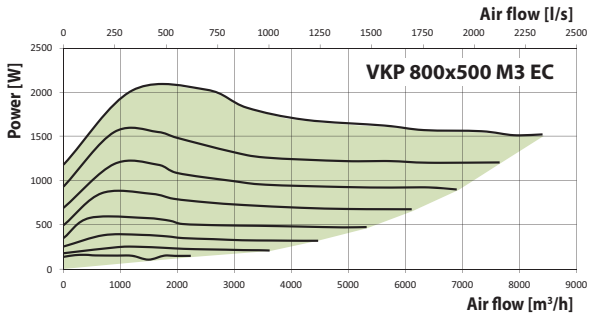




			Sound power level, A-filter applied								Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} saugseitig	dBA	88	57	81	79	82	81	78	74	75	67	77
L_{WA} druckseitig	dBA	92	56	82	85	85	86	81	75	75	71	81
L_{WA} Abstrahlung	dBA	77	55	75	71	67	65	60	55	52	57	67

VENTS VKP EC



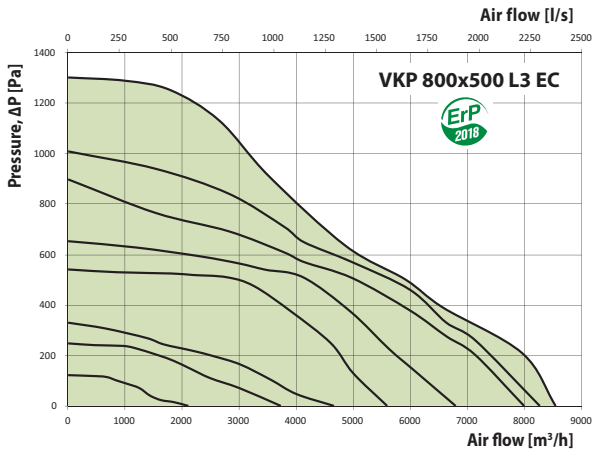


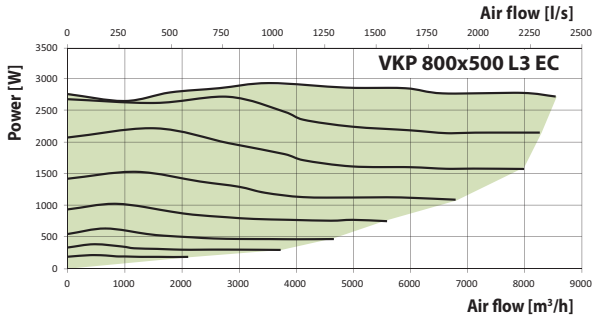
			Sound power level, A-filter applied								Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} saugseitig	dBA	89	47	65	86	77	82	80	77	71	68	78
L_{WA} druckseitig	dBA	92	44	62	84	85	83	88	82	73	71	81
L_{WA} Abstrahlung	dBA	81	50	61	79	74	67	66	59	50	60	70

Technical data

	VKP 800x500 L3 EC	VKP 900x500 L3 EC	VKP 1000x500 L3 EC
Voltage [V/50 (60) Hz]	3~400	3~400	3~400
Power [W]	2925	3429	3429
Current [A]	3.05	5.00	5.00
Maximum air flow [m³/h]	8535	11190	11190
RPM [min⁻¹]	2400	1800	1800
Noise level at 3 m [dBA]	63	66	66
Transported air temperature [°C]		-25...+50	
Motor protection		IP54	
Protection rating		IPX4	

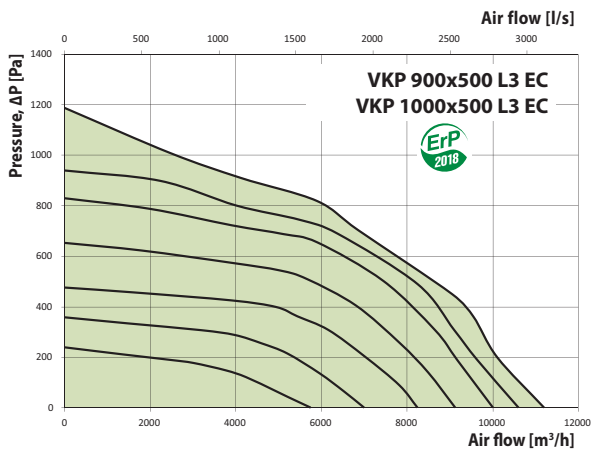
VENTS VKP EC

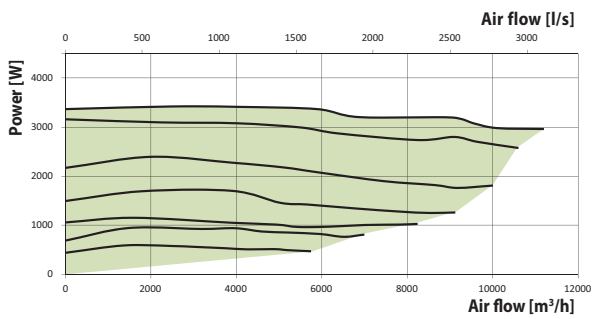




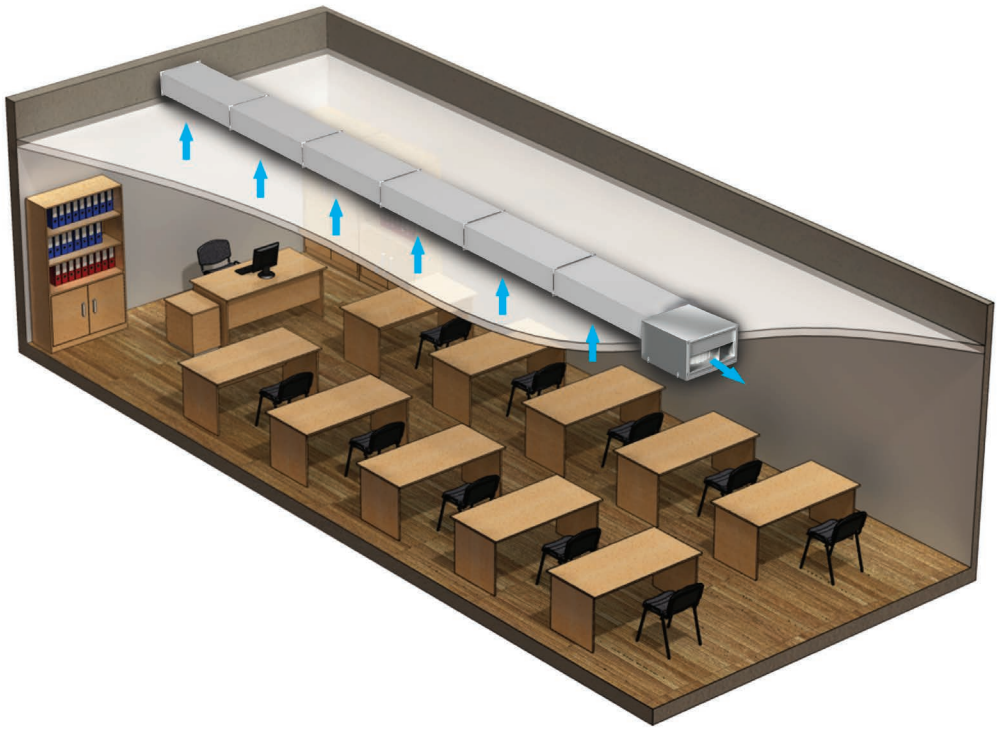
			Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} saugseitig	dBA	90	59	83	81	85	83	80	76	77		70	80
L_{WA} druckseitig	dBA	93	57	84	87	87	88	83	76	76		73	83
L_{WA} Abstrahlung	dBA	83	59	81	77	72	70	65	59	56		63	73

VENTS VKP EC

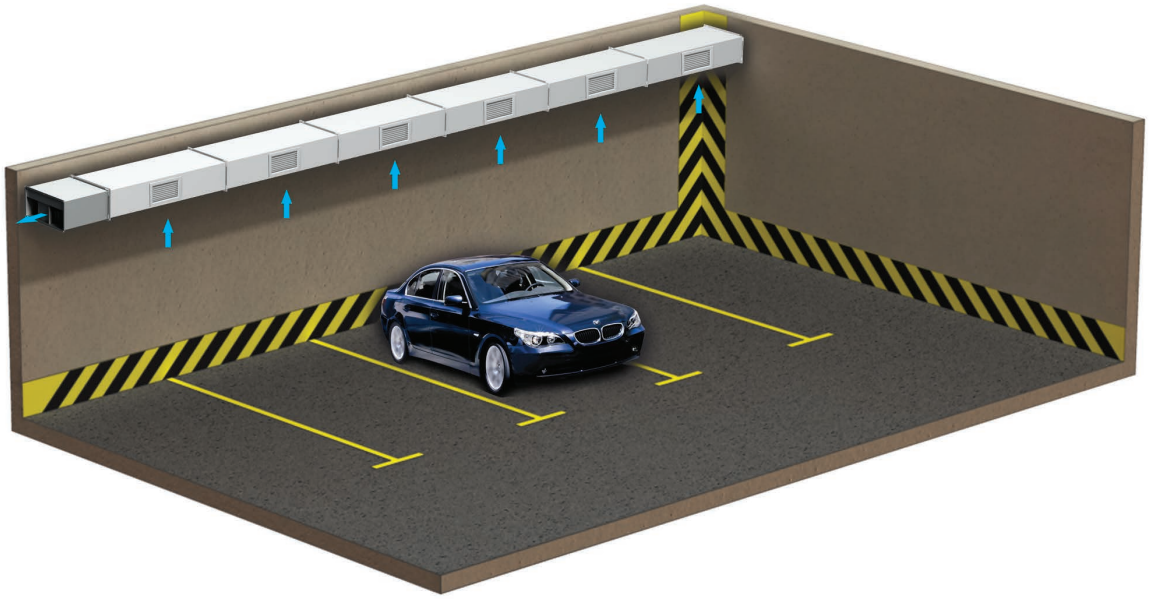




			Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} saugseitig	dBA	92	60	85	83	87	85	82	78	79		71	81
L_{WA} druckseitig	dBA	94	58	85	88	88	89	84	77	77		74	84
L_{WA} Abstrahlung	dBA	86	62	84	80	75	73	67	62	58		66	76



VKP EC fan school class ventilation example



VKP EC fan car parking area ventilation example

Series
VENTS VKP

Centrifugal fans with the air capacity up to **7800 m³/h** for rectangular ducts

VENTS VKP 1000*500

Centrifugal fans with the air flow up to **15000 m³/h** for rectangular ducts

Series
VENTS VKPI

Centrifugal sound- and heat-insulated fans with the air flow up to **3515 m³/h** for rectangular ducts

Applications
Supply and exhaust ventilation systems for commercial, office and other public or industrial premises with a limited mounting space. For connection with 400*200, 500*250, 500*300, 600*300, 600*350, 1000*500 mm the rectangular ducts.

Design
Fan casing is made of galvanized steel. VKPI models are sound- and heat-insulated with 50 mm mineral wool layer.

Motor
Impellers with backward curved impeller blades made of galvanized steel are powered by means of the 2-, 4- or 6-pole asynchronous motors with external rotor. Motors are supplied with incorporated overheating protection with automatic restart or the thermal protection terminals leaded outside for connection to the external protection devices depending on the model, see the wiring diagram motor is equipped with ball bearings for long service life. For precise features, safe operation and low noise, each impeller is dynamically balanced while assembly. Motor protection rating IP44.

Speed control
Smooth or step speed control with a thyristor or autotransformer speed controller. Several fans may be connected to one speed controller provided that the total power and operating current do not exceed the rated speed controller parameters.

Mounting
The fans are mounted into the rectangular ducts and require no special fixing in case of direct connection. In case of connection through the flexible connectors the fan is fixed to a building by means of supports, suspension brackets or fixation brackets. Fans can be mounted in any position with respect to the airflow direction (indicated with an arrow on the casing). Access for the fan maintenance shall be provided. The fan is powered through the external terminals. The casing is equipped with the removable access cover for maintenance purposes.

Designation key

Series	
VENTS VKP	**I**: sound- and heat-insulated casing **S**: highpowered motor

Motor modification	
Number of poles	Phase
2 **4** **6**	**E**: single phase **D**: three phase

Flange diameter [W*H]
400*200, 500*250, 500*300, 600*300, 600*350, 1000*500, 700*400, 800*500

ErP data	
Overall efficiency	η [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	kW
Current	A
Air flow	m^3/h
Static pressure	Pa
Speed	n/min^{-1}
Specific ratio	SR

Accessories

Plate heat exchanger | Silencer | Filters | Heaters | Air flow controller | Mixing chamber | Gravity louvre shutter | Flexible connectors | Speed controllers

Technical data

	VKP/VKPI 2E 400*200		VKP/VKPI 2E 500*250		VKP/VKPI 4E 500*300		VKP/VKPI 4D 500*300	
Voltage [V]	1~230		1~230		1~230		3~400	
Frequency [Hz]	50	60	50	60	50	60	50	60
Power [W]	138	200	305	380	140	175	136	165
Current [A]	0.6	0.88	1.32	1.65	0.57	0.73	0.34	0.53
Max. air flow [m³/h]	930	1070	1720	1850	1700	1855	1380	1620
RPM [min⁻¹]	2600	2850	2550	2830	1390	1530	1360	1600
Noise level at 3 m [dBA]	50/45*	52/47*	57/51*	58/52*	53/48*	55/50*	52/47*	55/50*
Transported air temperature [°C]	-25...+45	-25...+45	-25...+45	-25...+45	-25...+45	-25...+50	-25...+65	-25...+55
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4

* parameter for VKPI fan

	VKP/VKPI 4E 600*300		VKP/VKPI 4D 600*300		VKP/VKPI 4E 600*350	
Voltage [V]	1~230		3~400		1~230	
Frequency [Hz]	50	60	50	60	50	60
Power [W]	220	310	230	235	470	700
Current [A]	0.9	1.38	0.52	0.53	2.37	3.15
Max. air flow [m³/h]	2470	2510	2530	2630	2950	3515
RPM [min⁻¹]	1400	1450	1360	1600	1370	1460
Noise level at 3 m [dBA]	52/46*	52/46*	51/45*	53/47*	52/47*	53/47*
Transported air temperature [°C]	-25...+45	-25...+40	-25...+70	-25...+65	-40...+80	-40...+55
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4

* parameter for VKPI fan

	VKP/VKPI 4D 600*350				NEW! VKPS 4E 600*350	
Voltage [V]	3~230 Δ		3~400 Y		1~ 230	
Frequency [Hz]	50	60	50	60	50	60
Power [W]	510	750	380	515	447	679
Current [A]	1.41	1.44	0.7	0.93	1,97	2.99
Max. air flow [m³/h]	2970	3410	2660	2730	4070	4500
RPM [min⁻¹]	1415	1610	1235	1220	1380	1600
Noise level at 3 m [dBA]	51/46*	53/46*	50/46*	50/46*	54	56
Transported air temperature [°C]	-40...+60	-40...+60	-40...+80	-40...+40	-30...+60	-30...+60
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4	

* parameter for VKPI fan

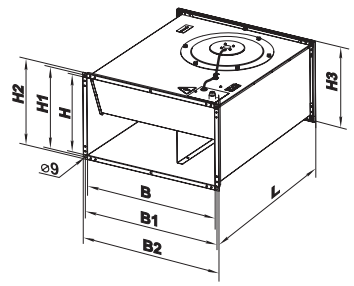
	NEW! VKP 4D 700*400	NEW! VKP 4D 800*500	VKP 4D 1000*500	NEW! VKP 6D 1000*500
Voltage [V]	3~ 400	3~ 400	3~ 400	3~ 400
Frequency [Hz]	50	50	50	50
Power [W]	828	1508	4300	1198
Current [A]	1.62	2.71	6.8	2.7
Max. air flow [m³/h]	5580	7800	15000	10500
RPM [min⁻¹]	1418	1440	1370	900
Noise level at 3 m [dBA]	57	58	70	69
Transported air temperature [°C]	-30...+60	-30...+60	-30...+60	-25...+50
Protection rating	IPX4	IPX4	IPX4	IPX4

* parameter for VKPI fan

Fan overall dimensions

Type	Dimensions [mm]								Mass [kg]
	B	B1	B2	H	H1	H2	H3	L	
VKP 2E 400*200	400	420	440	200	220	240	240	500	11.25
VKP 2E 500*250	500	520	540	250	270	290	290	640	17.88
VKP 4E 500*300	500	520	540	300	320	340	340	680	19.8
VKP 4D 500*300	500	520	540	300	320	340	340	680	19.8
VKP 4E 600*300	600	620	640	300	320	340	342	680	27.77
VKP 4D 600*300	600	620	640	300	320	340	342	680	27.77
VKP 4E 600*350	600	620	640	350	370	390	390	735	36.38
VKP 4D 600*350	600	620	640	350	370	390	390	735	36.38
VKPS 4E 600*350	600	620	640	350	370	390	390	652	30
VKP 4D 700*400	700	720	740	400	420	440	440	753	41
VKP 4D 800*500	800	820	840	500	520	540	540	903	54

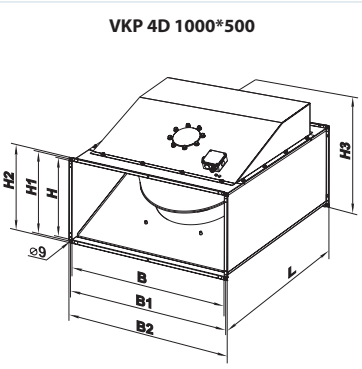
VKP



Fan overall dimensions

Type	Dimensions [mm]								Mass [kg]
	B	B1	B2	H	H1	H2	H3	L	
VKP 4D 1000*500	1000	1020	1040	500	520	540	720	1150	126
VKP 6D 1000*500	1000	1020	1040	500	520	540	720	1150	120

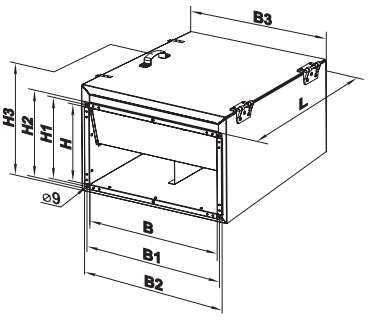
VKP 4D 1000*500



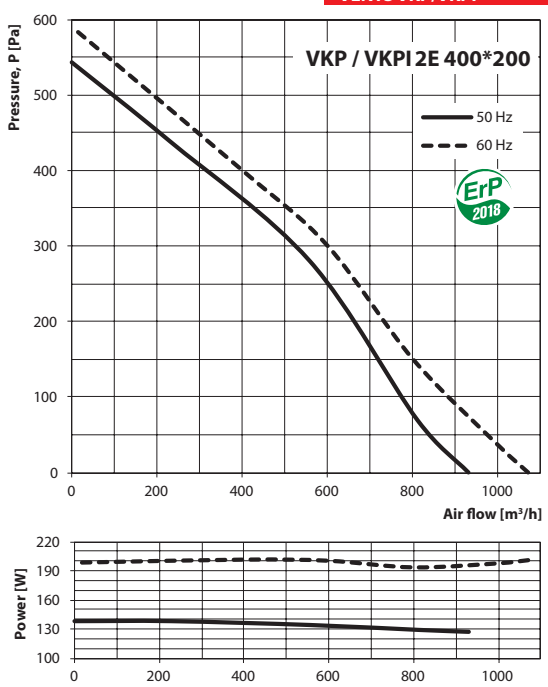
Fan overall dimensions

Type	Dimensions [mm]									Mass [kg]
	B	B1	B2	B3	H	H1	H2	H3	L	
VKPI 2E 400*200	400	420	440	500	200	220	240	360	500	24.5
VKPI 2E 500*250	500	520	540	600	250	270	290	410	640	27.6
VKPI 4E 500*300	500	520	540	600	300	320	340	460	680	37.2
VKPI 4D 500*300	500	520	540	600	300	320	340	460	680	37.2
VKPI 4E 600*300	600	620	640	700	300	320	340	460	680	43.5
VKPI 4D 600*300	600	620	640	700	300	320	340	460	680	43.5
VKPI 4E 600*350	600	620	640	700	350	370	390	530	735	56.2
VKPI 4D 600*350	600	620	640	700	350	370	390	530	735	56.2

VKPI

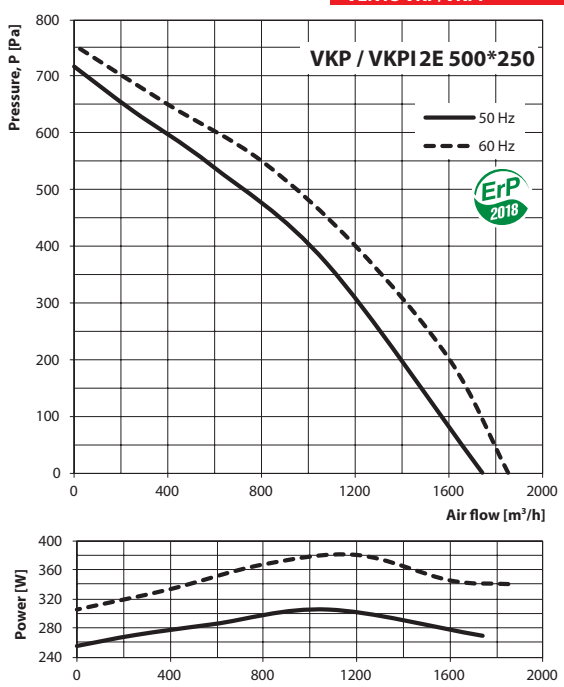


VENTS VKP/VKPI



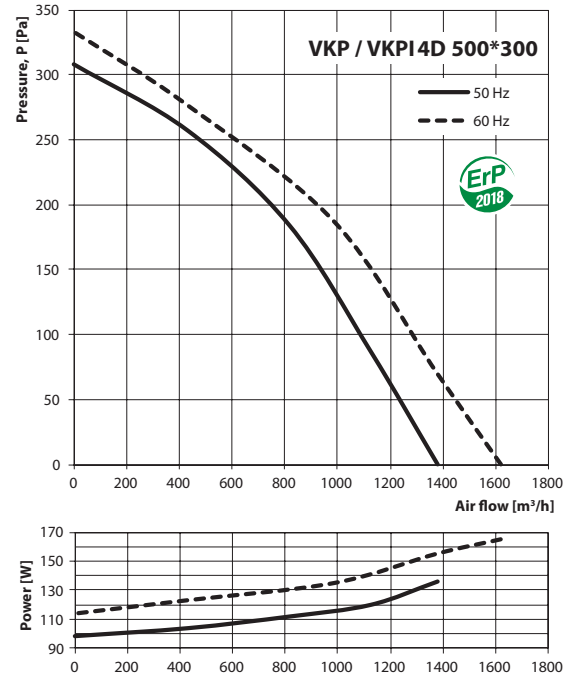
VKP 2E 400*200 Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	78	67	74	74	69	63	63	61	53	58	68
L_{WA} to outlet	dBA	82	69	74	76	75	72	72	71	63	61	71
L_{WA} to environment	dBA	71	46	58	66	65	66	56	51	41	50	60
VKPI 2E 400*200 Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	75	64	70	70	66	61	61	58	51	54	64
L_{WA} to outlet	dBA	79	66	70	73	72	69	69	68	61	58	68
L_{WA} to environment	dBA	66	42	54	61	60	61	51	47	37	45	55

VENTS VKP/VKPI



VKP 2E 500*250 Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	83	69	77	79	67	70	74	71	66	62	72
L_{WA} to outlet	dBA	85	69	74	77	76	80	77	77	71	65	75
L_{WA} to environment	dBA	77	43	60	73	73	70	64	58	48	57	67
VKPI 2E 500*250 Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	88	74	82	84	71	75	78	76	70	67	77
L_{WA} to outlet	dBA	91	74	78	83	81	85	83	83	76	70	80
L_{WA} to environment	dBA	72	40	56	68	68	66	60	54	44	52	62

VENTS VKP/VKPI

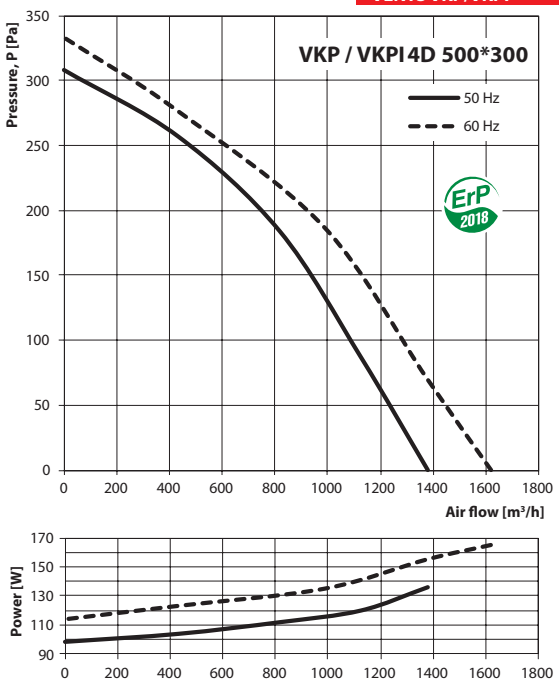


VKP 4E 500*300 Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	81	62	70	73	64	77	75	70	64	60	70
L_{WA} to outlet	dBA	85	59	70	75	75	80	79	77	72	65	75
L_{WA} to environment	dBA	74	50	63	70	66	66	65	61	55	53	63
VKPI 4E 500*300 Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	78	60	68	70	62	74	72	68	62	58	68
L_{WA} to outlet	dBA	83	57	68	72	72	77	77	75	70	62	72
L_{WA} to environment	dBA	69	46	58	64	61	61	60	56	51	48	58

VKP 2E 400*200

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
38.9	A	Static	58.1	No	0.148	0.65	560	362	2550	1

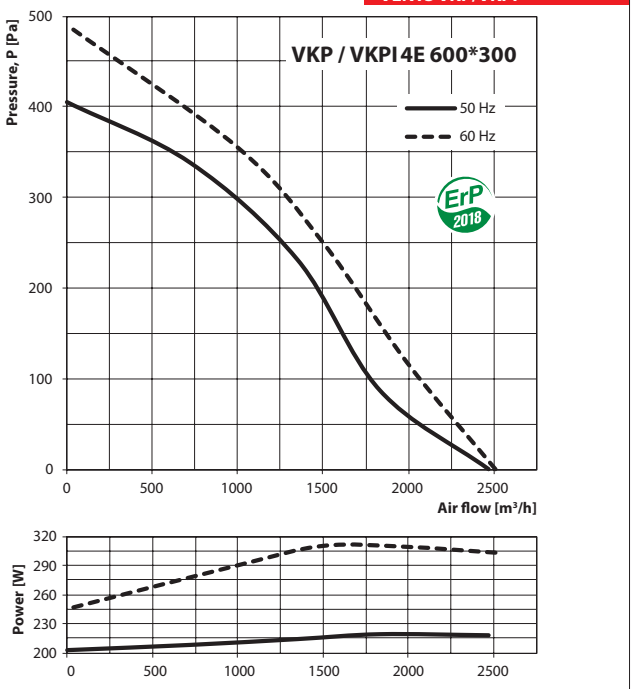
VENTS VKP/VKPI



VKP 4D 500*300 Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	80	61	69	72	63	75	74	69	63	59	69
L_{WA} to outlet	dBA	83	58	69	74	74	78	77	75	71	63	73
L_{WA} to environment	dBA	73	50	62	69	65	65	64	60	54	52	62

VKPI 4D 500*300 Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	77	59	67	69	61	73	71	67	61	56	66
L_{WA} to outlet	dBA	81	56	67	71	71	75	75	74	69	61	71
L_{WA} to environment	dBA	68	46	57	63	60	60	59	55	50	47	57

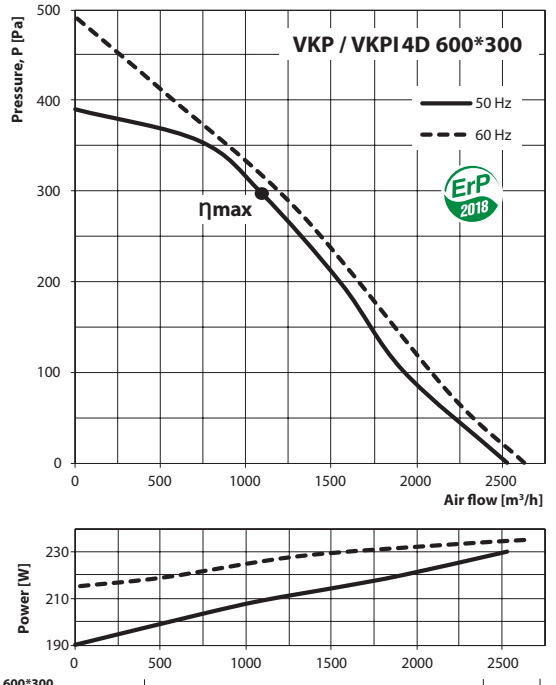
VENTS VKP/VKPI



VKP 4E 600*300 Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	86	74	81	81	76	69	69	67	58	65	75
L_{WA} to outlet	dBA	89	76	81	84	83	79	79	78	69	69	79
L_{WA} to environment	dBA	73	47	60	68	67	68	58	53	42	52	62

VKPI 4E 600*300 Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	81	70	77	77	72	66	66	64	55	61	71
L_{WA} to outlet	dBA	85	72	77	80	79	75	75	74	66	65	75
L_{WA} to environment	dBA	67	43	55	62	61	62	53	48	38	46	56

VENTS VKP/VKPI



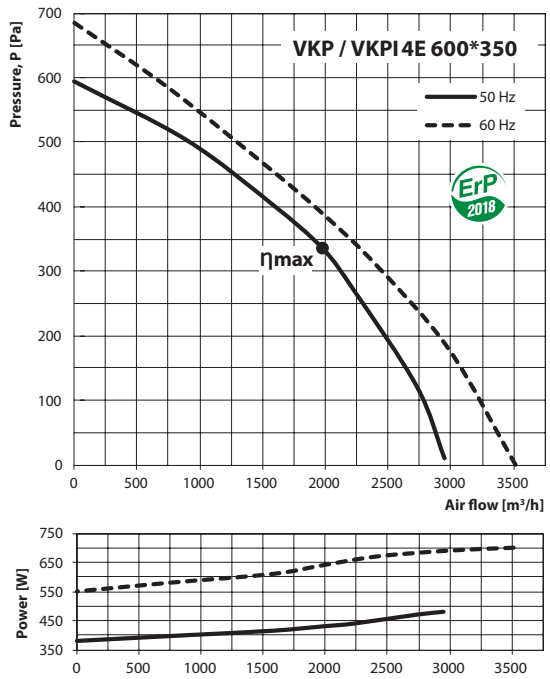
VKP 4D 600*300 Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	84	73	79	79	74	68	68	66	57	63	73
L_{WA} to outlet	dBA	88	74	79	82	81	77	77	76	68	67	77
L_{WA} to environment	dBA	72	47	59	67	66	67	57	52	42	51	61

VKPI 4D 600*300 Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	80	69	75	75	71	65	65	63	54	59	69
L_{WA} to outlet	dBA	84	71	75	78	77	74	74	73	65	63	73
L_{WA} to environment	dBA	66	43	54	61	60	61	52	48	38	45	55

VKP 4D 600*300

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
44.1	A	Static	61.7	No	0.209	0.65	1094	297	1375	1

VENTS VKP/VKPI



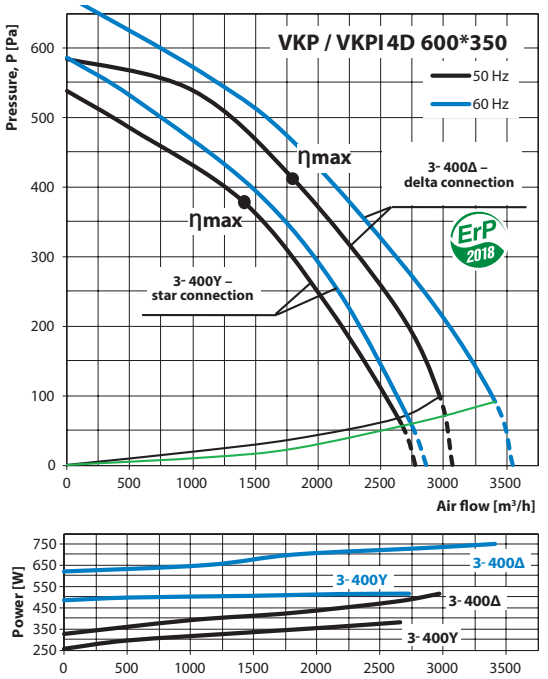
VKP 4E 600*350
Sound-power level, A -filter

Hz		Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
		Octave-frequency band [Hz]										
L_{WA} to inlet	dBA	87	79	83	79	75	77	75	74	62	67	77
L_{WA} to outlet	dBA	90	78	78	79	81	85	83	81	68	69	79
L_{WA} to environment	dBA	72	44	59	65	68	67	61	58	50	52	62

VKPI 4E 600*350
Sound-power level, A -filter

Hz		Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
		Octave-frequency band [Hz]										
L_{WA} to inlet	dBA	81	73	77	73	70	71	70	68	58	61	71
L_{WA} to outlet	dBA	83	72	72	73	74	78	77	74	62	63	73
L_{WA} to environment	dBA	68	40	55	61	63	62	57	54	46	47	57

VENTS VKP/VKPI



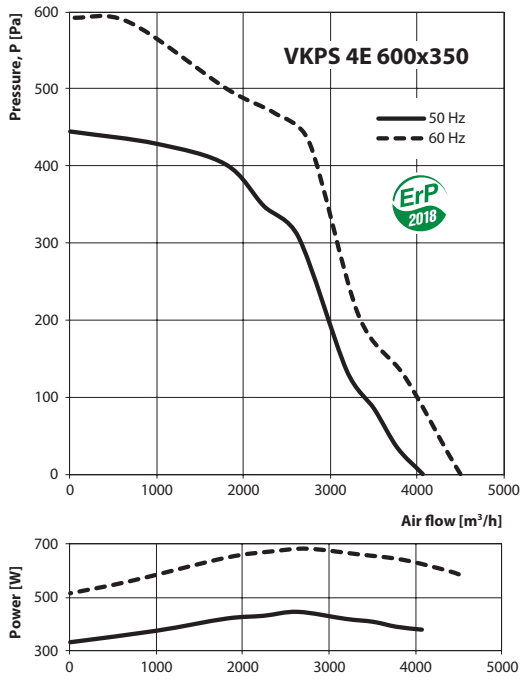
VKP 4D 600*350
Sound-power level, A -filter

Hz		Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
		Octave-frequency band [Hz]										
L_{WA} to inlet	dBA	86	78	82	78	74	76	74	73	61	65	75
L_{WA} to outlet	dBA	88	77	77	78	79	83	82	79	67	68	78
L_{WA} to environment	dBA	72	43	58	65	67	66	61	57	50	51	61

VKPI 4D 600*350
Sound-power level, A -filter

Hz		Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
		Octave-frequency band [Hz]										
L_{WA} to inlet	dBA	80	73	76	73	69	70	69	68	57	60	70
L_{WA} to outlet	dBA	83	71	71	73	74	77	76	74	62	62	72
L_{WA} to environment	dBA	67	40	54	60	62	61	56	53	46	46	56

VENTS VKP



VKPS 4E 600x350
Sound-power level, A -filter

Hz		Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
		Octave-frequency band [Hz]										
L_{WA} to inlet	dBA	82	48	80	72	74	74	69	65	59	62	72
L_{WA} to outlet	dBA	88	53	84	78	81	81	74	68	62	67	77
L_{WA} to environment	dBA	74	53	71	67	66	64	61	57	47	54	64

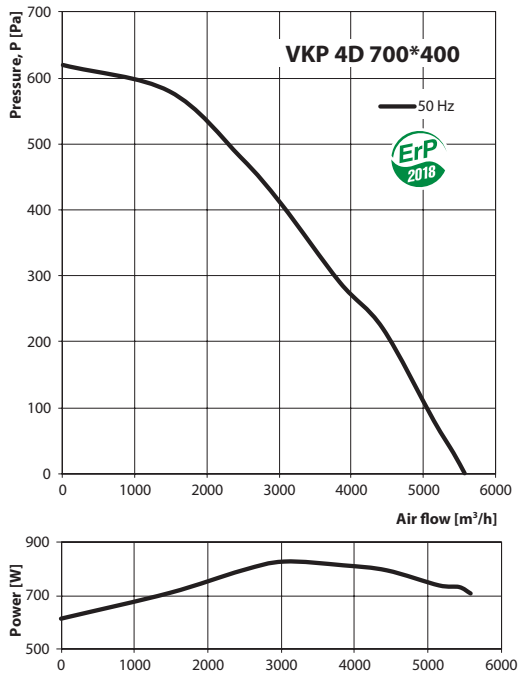
VKP 4E 600*350

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
43.7	A	Static	58.1	No	0.430	2.17	1980	335	1390	1

VKP 4D 600*350

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
3~400Δ – delta connection										
49.5	A	Static	64	No	0.424	1.32	1799	412	1415	1
3~400Y – star connection										
45.7	A	Static	61.3	No	0.330	0.55	1409	378	1380	1

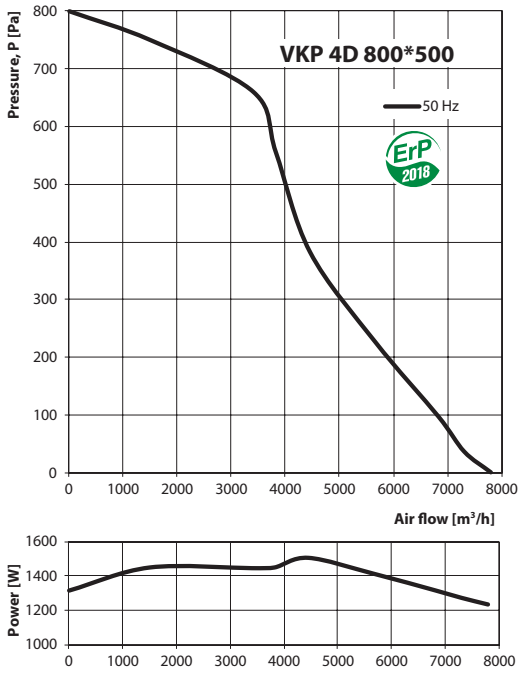
VENTS VKP



VKP 4D 700x400

Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	87	78	75	74	74	80	80	77	74	66	76
L_{WA} to outlet	dBA	91	74	74	78	82	86	85	82	78	71	81
L_{WA} to environment	dBA	78	56	65	70	70	73	71	70	66	57	67

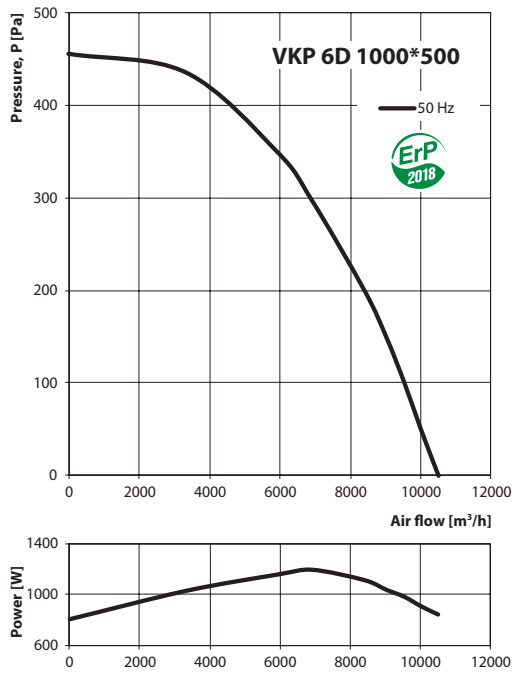
VENTS VKP



VKP 4D 800x500

Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	90	63	83	79	82	85	82	78	74	70	80
L_{WA} to outlet	dBA	99	64	87	90	94	94	90	83	77	78	88
L_{WA} to environment	dBA	79	61	75	72	71	70	66	58	52	58	68

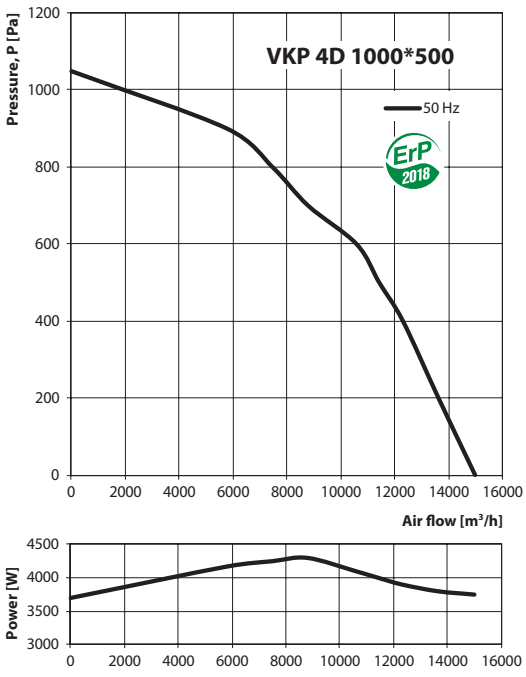
VENTS VKP



VKP 6D 1000x500

Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	99	92	96	92	87	89	87	86	72	79	89
L_{WA} to outlet	dBA	98	86	86	87	89	93	92	89	74	77	87
L_{WA} to environment	dBA	90	55	75	83	86	85	78	73	64	70	80

VENTS VKP



VKP 4D 1000x500

Sound-power level, A -filter		Octave-frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	92	65	86	81	85	87	85	80	76	72	82
L_{WA} to outlet	dBA	98	66	89	92	87	89	92	86	79	77	87
L_{WA} to environment	dBA	89	70	86	82	81	80	76	66	60	69	79

Series

VENTS VKPI EC

Centrifugal fans for rectangular ducts.
Air flow up to **11190 m³/h**

Application

Supply and exhaust ventilation systems for commercial, office and other public or industrial premises requiring an economical solution, controlled ventilation system and low noise level.

EC motors applied in VKP fans reduce energy demand by 1.5 times and ensure high aerodynamic performance and low noise level. Such characteristics are of special importance for ventilation of banks, supermarkets, restaurants, hotels and other public facilities including swimming pool ventilation. The fans are compatible with 300x150–1000x500 mm rectangular ducts.

Design

Fan casing is made of galvanized steel and is heat- and sound-insulated with 50 mm mineral wool layer. All inner components are interconnected by means of rivets. The fan is equipped with 20 mm standard flanges.

Motor

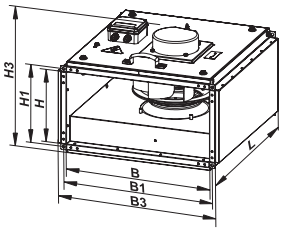
The impellers with backward curved blades are powered with high efficient electronically commutated (EC) direct current motors with an external rotor. As of today, such motor type is the most advanced solution for energy saving. EC motors are featured by high performance and the optimal control over the whole range of fan speeds. Premium efficiency reaching up to 90 % is an absolute advantage of electronically commutated motors.

Integrated functions and control

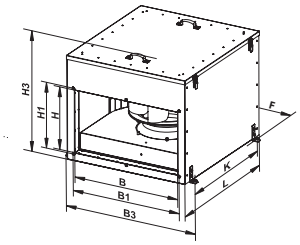
The fan is controlled with an external control signal 0-10 V (air flow as a function of temperature level, pressure and smoke conditions etc). If the control value factor changes, the EC motor changes its speed and the fan boosts as much air flow to the ventilation system as required. Maximum speed of the fan does not depend on the current frequency and it can operate at 50 or 60 Hz mains supply.

Fan overall dimensions

Type	Dimensions [mm]									Weight [kg]
	B	B1	B3	H	H1	H3	L	F	K	
VKPI 300 x 150 M1 EC	300	320	364	150	170	271	370			10.3
VKPI 300 x 150 L1 EC	300	320	364	150	170	271	370			10.3
VKPI 400 x 200 M1 EC	400	420	464	200	220	322	460			15.1
VKPI 400 x 200 L1 EC	400	420	464	200	220	322	460			16.8
VKPI 500 x 250 M1 EC	500	520	564	250	270	373	560			25.5
VKPI 500 x 250 L1 EC	500	520	564	250	270	373	560			27.7
VKPI 500 x 300 L1 EC	500	520	564	300	320	424	560			29.0
VKPI 600 x 300 M1 EC	600	620	783	300	320	574	752	755	450	52.9
VKPI 600 x 350 M1 EC	600	620	783	350	370	664	752	755	450	56.6
VKPI 600 x 350 L3 EC	600	620	783	350	370	664	752	750	450	59.3
VKPI 700 x 400 M1 EC	700	720	883	400	420	714	882	855	742	82.6
VKPI 700 x 400 L3 EC	700	720	883	400	420	714	882	855	742	83.4
VKPI 800 x 500 M3 EC	800	820	983	500	520	814	937	955	797	108.4
VKPI 800 x 500 L3 EC	800	820	983	500	520	814	937	955	797	99.8
VKPI 900 x 500 L3 EC	900	920	1083	500	520	814	1052	1055	850	120.0
VKPI 1000 x 500 L3 EC	1000	1020	1183	500	520	814	1052	1155	850	130.0



300x150 – 500x300



600x300 – 1000x500

Designation key

Series	Rectangular air duct diameter (WxH) [mm]	Motor modification	Phase	Motor
VKPI – centrifugal fan in sound-insulated casing	300x150; 400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500	**L**: medium pressure motor **M**: high pressure motor	**1**: single phase **3**: three phase	**EC**: synchronous electronically commutated motor

Accessories

Plate heat exchanger | Silencer | Filters | Heaters | Air flow controller | Mixing chamber | Gravity louvre shutter | Flexible connectors | Speed controller

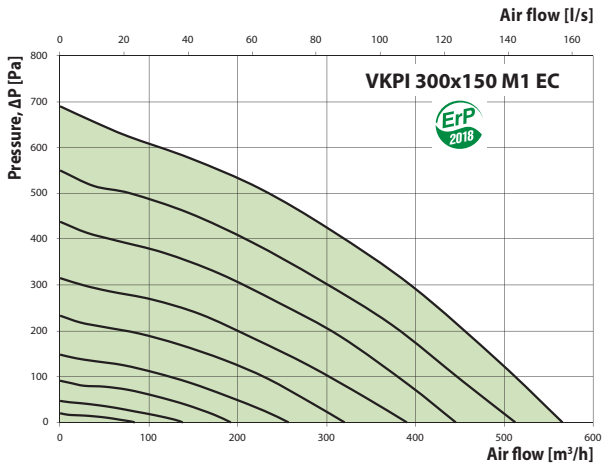
Mounting

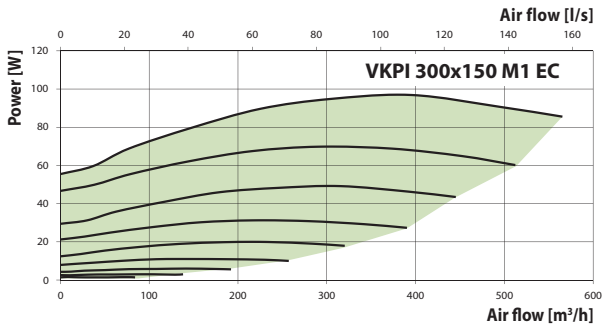
The fans are mounted into the rectangular ducts and require no special fixing in sizes 300x150–500x300. For large size fans and in case of connection through the flexible connectors, the fan is fixed to a building by means of supports, suspension brackets or fixation brackets. The fans can be mounted in any position with respect to the airflow direction which is indicated with a pointer on the casing. Access for the fan maintenance shall be provided. The casing is provided with the removable access door for inspection and maintenance purposes.

Technical data

	VKPI 300x150 M1 EC	VKPI 300x150 L1 EC
Voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	97	101
Current [A]	0.73	0.80
Maximum air flow [m³/h]	565	665
RPM [min⁻¹]	3300	3500
Noise level at 3 m [dBA]	29	30
Transported air temperature [°C]	-25...+50	
SEC class	B	
Motor protection	IP55	IP54
Protection rating	IPX4	

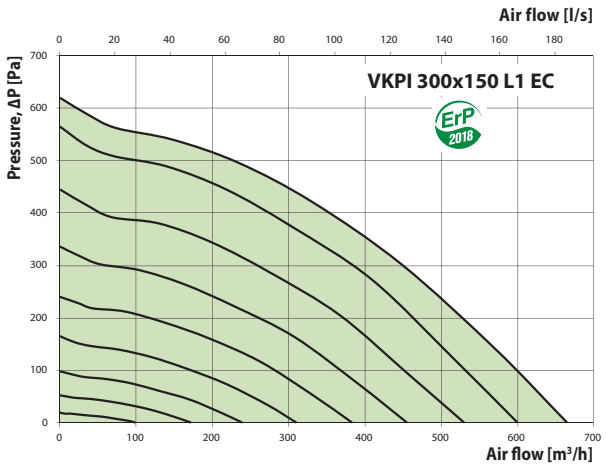
VENTS VKPI EC

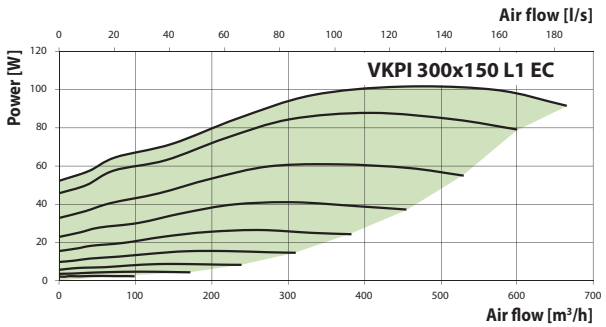




			Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	57	39	46	51	53	46	46	46	41		36	46
L_{WA} to outlet	dBA	61	44	48	54	56	53	54	52	46		41	51
L_{WA} to environment	dBA	50	27	38	40	46	43	40	36	30		29	39

VENTS VKPI EC



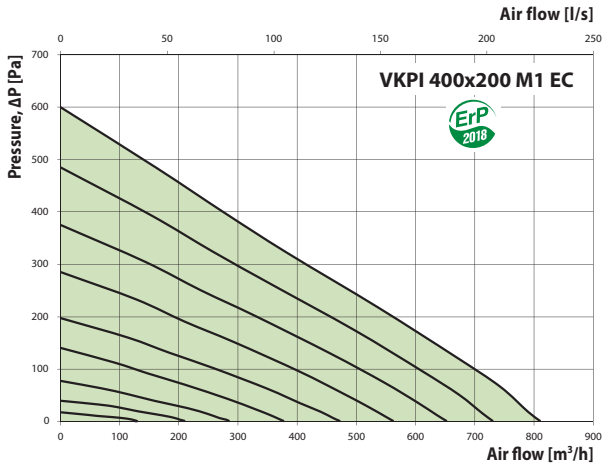


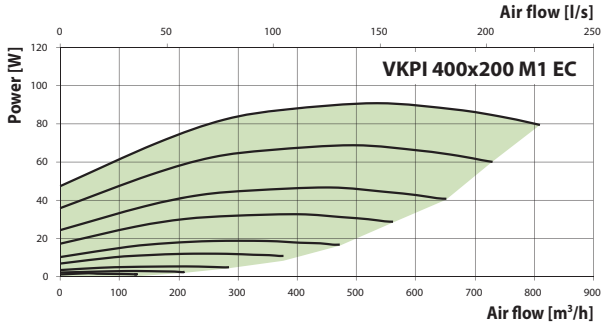
			Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	57	40	47	51	53	47	46	47	41		37	47
L_{WA} to outlet	dBA	62	44	49	54	57	54	55	53	46		42	52
L_{WA} to environment	dBA	51	27	39	40	47	44	41	37	31		30	40

Technical data

	VKPI 400x200 M1 EC	VKPI 400x200 L1 EC
Voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	91	192
Current [A]	0.69	1.43
Maximum air flow [m³/h]	810	1190
RPM [min⁻¹]	2470	3010
Noise level at 3 m [dBA]	33	30
Transported air temperature [°C]	-25...+50	
SEC class	B	-
Motor protection	IP55	IP54
Protection rating	IPX4	

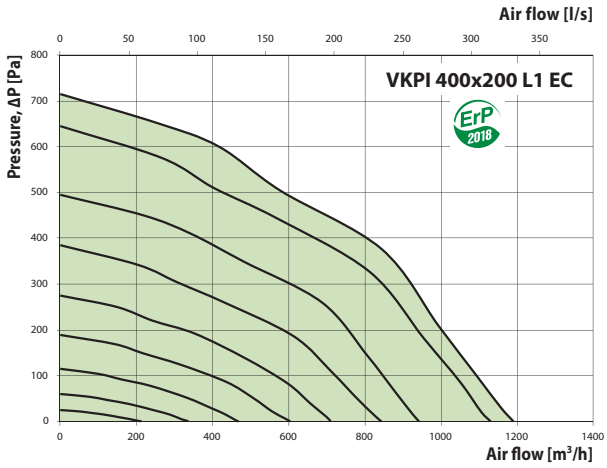
VENTS VKPI EC

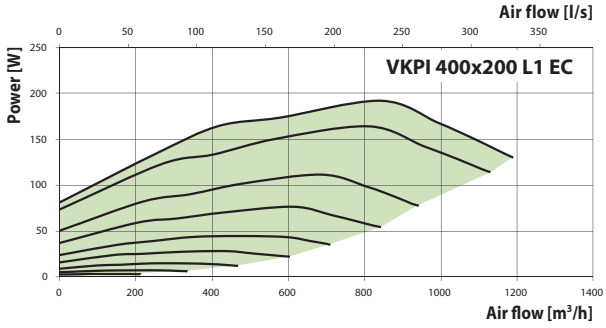




		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	63	33	45	59	54	57	55	54	49		43	53
L_{WA} to outlet	dBA	65	30	43	57	58	57	60	56	50		44	54
L_{WA} to environment	dBA	53	32	39	50	47	43	42	38	32		33	43

VENTS VKPI EC



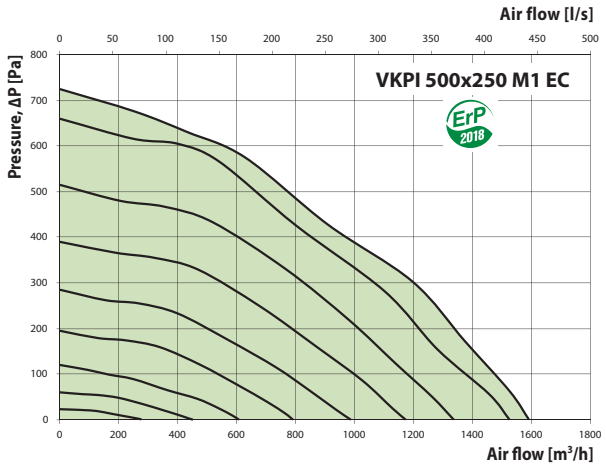


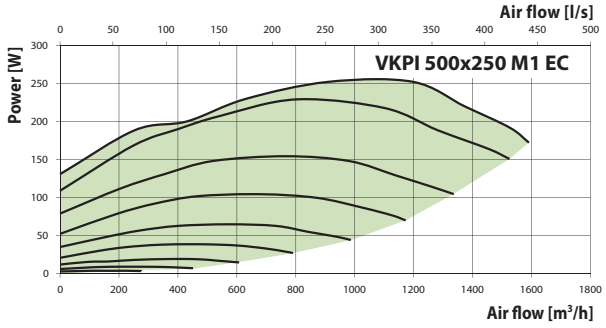
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	62	36	57	54	54	54	52	47	47		41	51
L_{WA} to outlet	dBA	63	35	56	55	57	57	52	47	45		42	52
L_{WA} to environment	dBA	51	35	47	44	42	42	37	32	29		30	40

Technical data

	VKPI 500x250 M1 EC	VKPI 500x250 L1 EC
Voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	252	555
Current [A]	1.85	4,10
Maximum air flow [m³/h]	1590	2480
RPM [min⁻¹]	2500	3100
Noise level at 3 m [dBA]	34	51
Transported air temperature [°C]	-25...+50	
Motor protection	IP54	
Protection rating	IPX4	

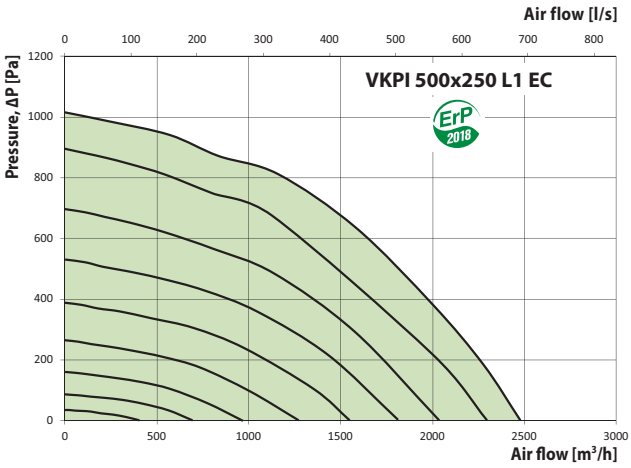
VENTS VKPI EC

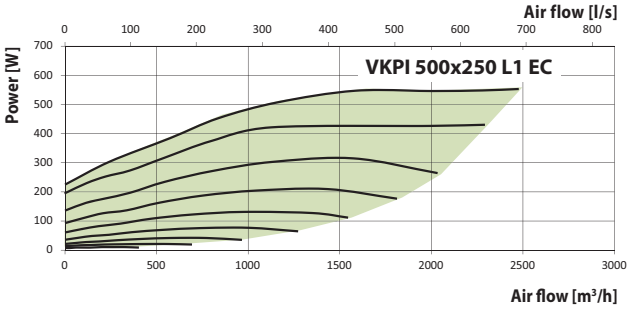




		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	64	38	59	56	57	57	54	49	49		44	54
L_{WA} to outlet	dBA	64	35	57	56	58	58	52	48	46		43	53
L_{WA} to environment	dBA	54	37	51	48	45	45	40	34	31		34	44

VENTS VKPI EC



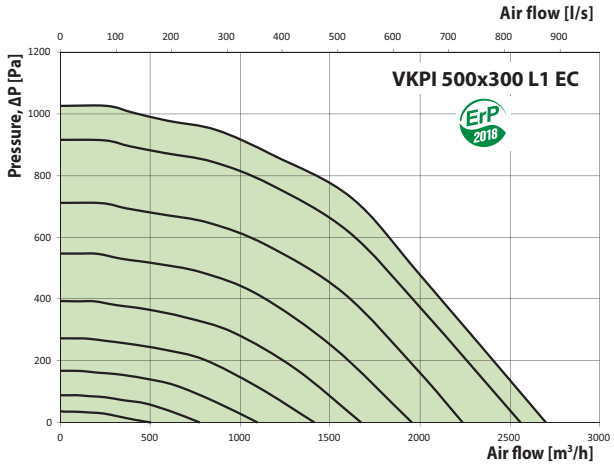


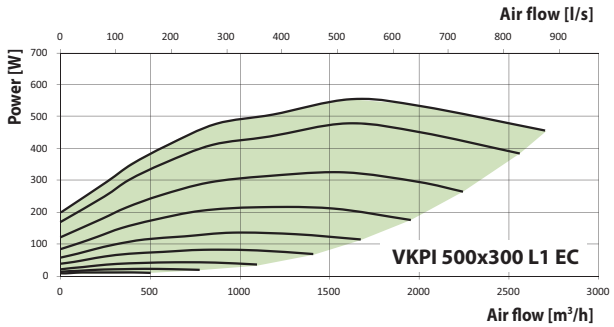
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	74	45	70	66	67	67	64	58	58		54	64
L_{WA} to outlet	dBA	72	41	65	64	66	67	60	55	53		52	62
L_{WA} to environment	dBA	62	43	59	55	53	53	47	39	36		41	51

Technical data

	VKPI 500x300 L1 EC	VKPI 600x300 M1 EC
Voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	553	326
Current [A]	4.20	2.45
Maximum air flow [m³/h]	2700	2545
RPM [min⁻¹]	3100	2000
Noise level at 3 m [dBA]	43	34
Transported air temperature [°C]	-25...+50	
Motor protection	IP54	
Protection rating	IPX4	

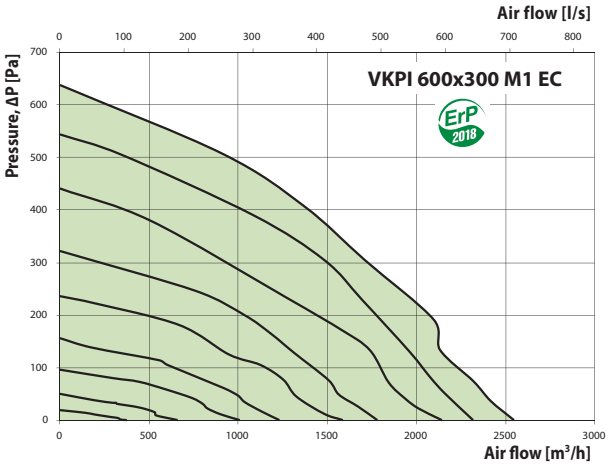
VENTS VKPI EC

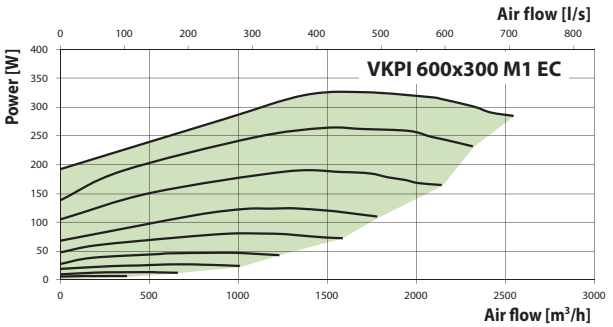




			Sound power level, A-filter applied									
		General	Octave frequency band [Hz]								Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	75	45	70	67	68	68	64	59	58	54	64
L_{wA} to outlet	dBA	75	42	68	67	69	69	62	57	54	54	64
L_{wA} to environment	dBA	64	44	61	57	55	55	48	40	37	43	53

VENTS VKPI EC



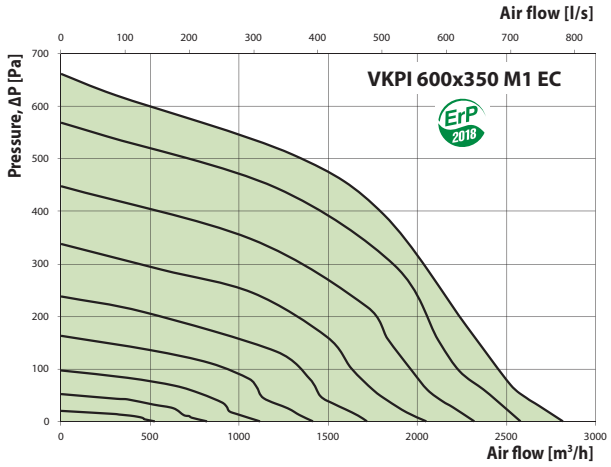


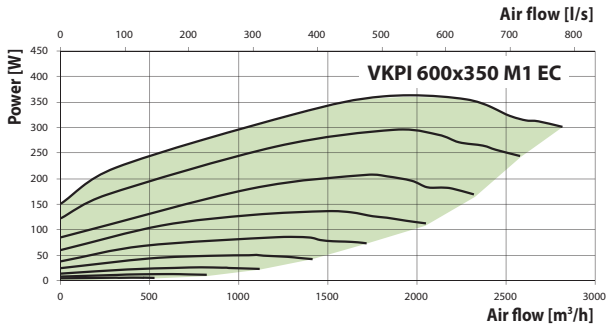
			Sound power level, A-filter applied									
		General	Octave frequency band [Hz]								Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	63	32	45	59	53	57	55	53	49	43	53
L_{wA} to outlet	dBA	64	30	42	57	58	56	59	55	49	44	54
L_{wA} to environment	dBA	54	33	40	51	48	44	43	39	33	34	44

Technical data

	VKPI 600x350 M1 EC	VKPI 600x350 L3 EC
Voltage [V/50 (60) Hz]	1~230	3~400
Power [W]	361	1308
Current [A]	2.62	2.35
Maximum air flow [m³/h]	2815	4290
RPM [min⁻¹]	2000	3160
Noise level at 3 m [dBA]	38	40
Transported air temperature [°C]	-25...+50	
Motor protection	IP54	
Protection rating	IPX4	

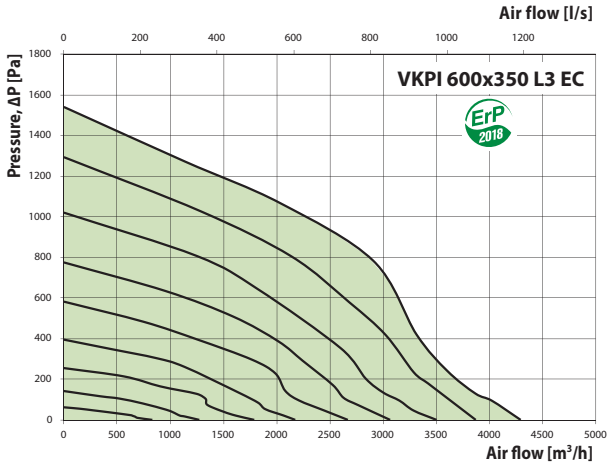
VENTS VKPI EC

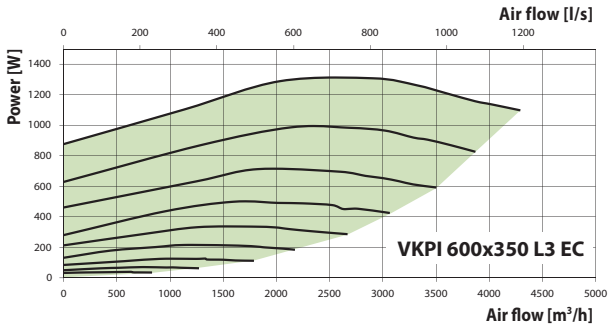




		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	69	36	49	65	58	62	60	58	54		48	58
L_{WA} to outlet	dBA	76	36	50	68	69	67	71	66	59		55	65
L_{WA} to environment	dBA	59	36	44	56	53	48	47	42	36		38	48

VENTS VKPI EC



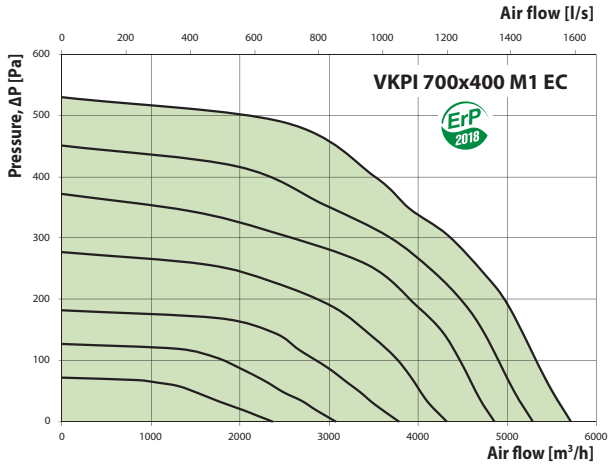


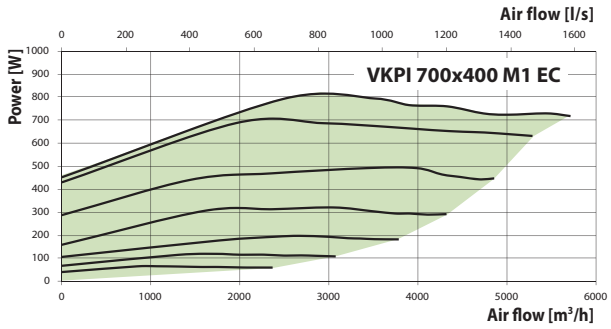
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	72	41	66	64	64	64	62	56	55		51	61
L_{WA} to outlet	dBA	70	39	64	62	64	64	59	54	51		50	60
L_{WA} to environment	dBA	60	40	58	53	49	49	45	38	33		40	50

Technical data

	VKPI 700x400 M1 EC	VKPI 700x400 L3 EC
Voltage [V/50 (60) Hz]	1~230	3~400
Power [W]	795	2748
Current [A]	3.48	2.80
Maximum air flow [m³/h]	5710	6810
RPM [min⁻¹]	1400	2530
Noise level at 3 m [dBA]	37	43
Transported air temperature [°C]	-25...+50	
Motor protection	IP54	
Protection rating	IPX4	

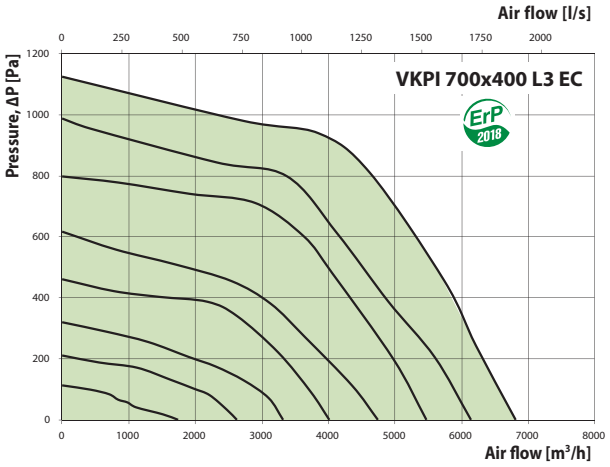
VENTS VKPI EC

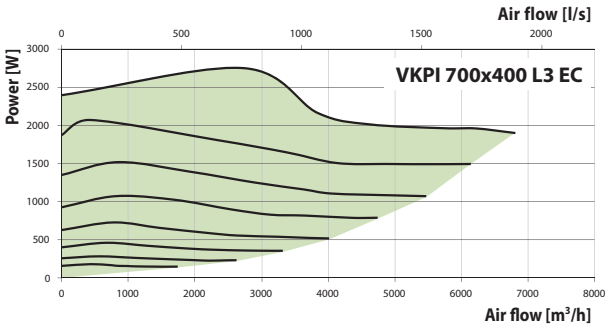




		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	66	38	60	59	59	59	57	52	51		46	56
L_{WA} to outlet	dBA	69	38	63	61	62	63	57	53	49		48	58
L_{WA} to environment	dBA	57	38	55	50	47	47	42	36	32		37	47

VENTS VKPI EC



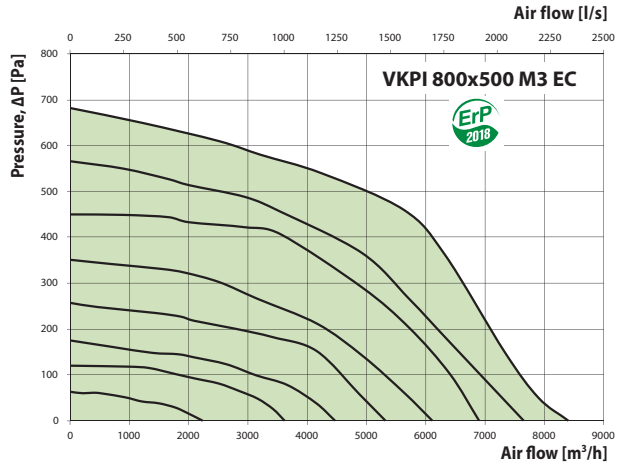


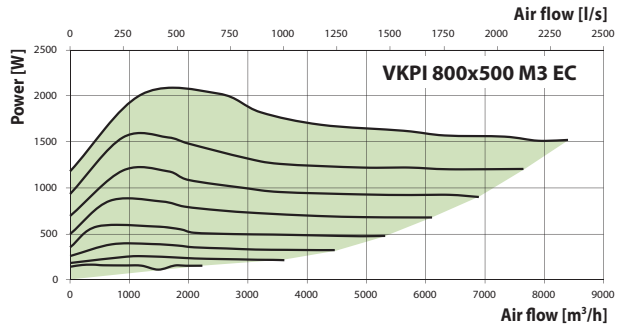
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	72	46	64	63	66	64	62	59	60		51	61
L_{WA} to outlet	dBA	73	44	64	67	67	67	64	58	58		53	63
L_{WA} to environment	dBA	63	44	60	57	54	52	48	44	42		43	53

Technical data

	VKPI 800x500 M3 EC	VKPI 800x500 L3 EC
Voltage [V/50 (60) Hz]	3~400	3~400
Power [W]	2025	2925
Current [A]	2.01	3.05
Maximum air flow [m³/h]	8395	8535
RPM [min⁻¹]	1470	2400
Noise level at 3 m [dBA]	43	42
Transported air temperature [°C]	-25...+50	
Motor protection	IP54	
Protection rating	IPX4	

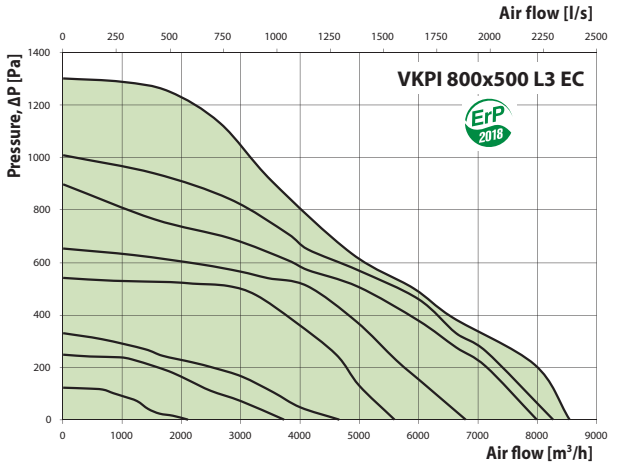
VENTS VKPI EC

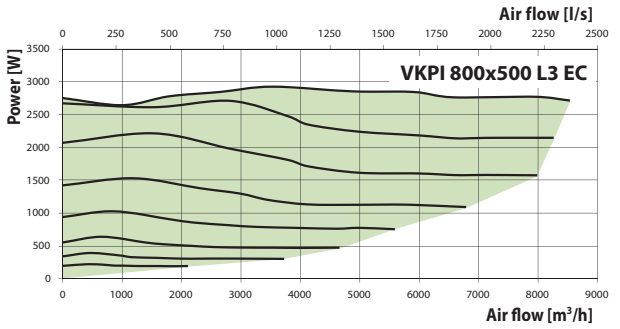




		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	70	36	50	66	60	63	61	60	55		49	59
L_{WA} to outlet	dBA	73	35	49	66	66	65	68	64	57		53	63
L_{WA} to environment	dBA	63	39	47	61	57	52	51	45	39		43	53

VENTS VKPI EC



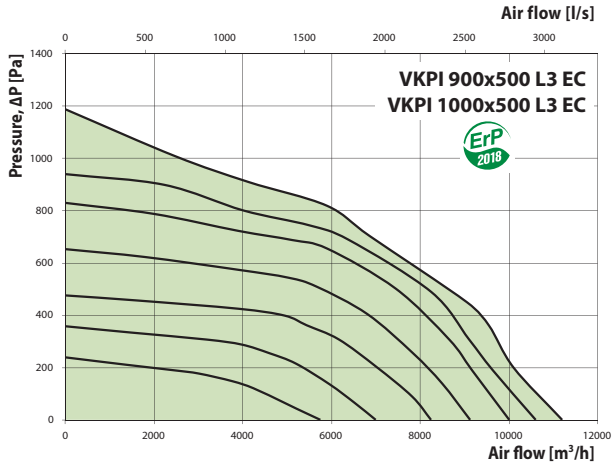


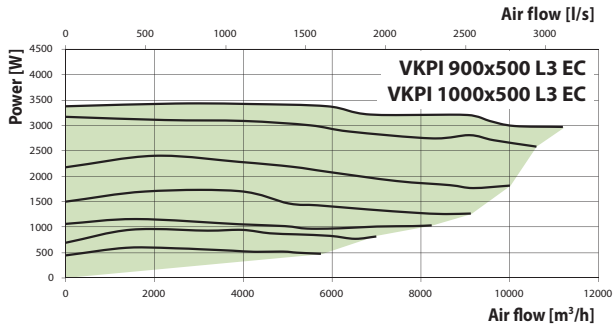
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	69	44	61	60	63	61	59	56	57		48	58
L_{WA} to outlet	dBA	72	43	63	65	65	66	62	57	57		51	61
L_{WA} to environment	dBA	62	43	59	56	53	51	47	43	41		42	52

Technical data

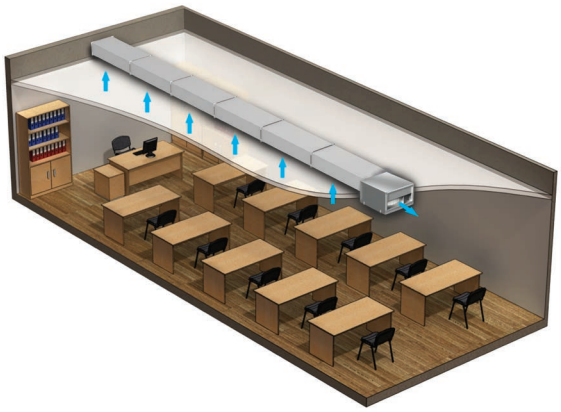
	VKPI 900x500 L3 EC	VKPI 1000x500 L3 EC
Voltage [V/50 (60) Hz]	3~400	3~400
Power [W]	3429	3429
Current [A]	5.00	5.00
Maximum air flow [m³/h]	11190	11190
RPM [min⁻¹]	1800	1800
Noise level at 3 m [dBA]	47	47
Transported air temperature [°C]	-25...+50	
Motor protection	IP54	
Protection rating	IPX4	

VENTS VKPI EC

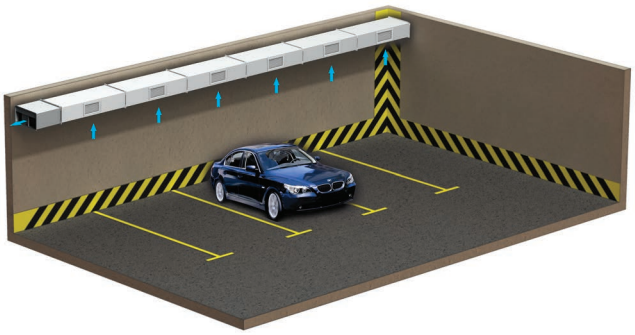




VKPI 900x500 L3 EC VKPI 1000x500 L3 EC		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	73	46	65	64	67	65	63	60	60	52	62
L_{WA} to outlet	dBA	74	44	65	67	67	68	64	59	59	53	63
L_{WA} to environment	dBA	68	48	65	62	58	56	52	48	45	47	57



Application example of the VKPI EC fan in the school classroom



Application example of the VKPI EC fan in the parking area

ELECTRICAL ACCESSORIES COMPATIBILITY

		VKPF 4E 400*200 VKPFI 4E 400*200	VKPF 4D 400*200 VKPFI 4D 400*200	VKPF 4E 500*250 VKPFI 4E 500*250	VKPF 4D 500*250 VKPFI 4D 500*250	VKPF 4E 500*300 VKPFI 4E 500*300	VKPF 4D 500*300 VKPFI 4D 500*300	VKPF 4E 600*300 VKPFI 4E 600*300	VKPF 4D 600*300 VKPFI 4D 600*300	VKPF 4E 600*350 VKPFI 4E 600*350	VKPF 4D 600*350 VKPFI 4D 600*350	VKPF 4D 700*400 VKPFI 4D 700*400	VKPF 6D 800*500 VKPFI 6D 800*500	VKPF 4D 800*500 VKPFI 4D 800*500	VKPF 6D 900*500 VKPFI 6D 900*500	VKPF 6D 1000*500 VKPFI 6D 1000*500
Thyristor speed controllers																
	RS-1-300	•														
	RS-1-400	•														
	RS-1 N (V)															
	RS-1,5 N (V)	•														
	RS-2 N (V)	•														
	RS-2,5 N (V)	•		•												
	RS-0,5-PS															
	RS-1,5-PS	•														
	RS-2,5-PS	•		•												
	RS-4,0-PS	•		•		•										
	RS-3,0-T	•		•												
	RS-5,0-T	•		•		•										
	RS-10,0-T	•		•		•										
	RS-3,0-TA	•		•												
	RS-5,0-TA	•		•		•										
	RS-10,0-TA	•		•		•										
Transformer speed controllers																
	RSA5E-2-P	•														
	RSA5E-2-M	•														
	RSA5E-3-M	•		•												
	RSA5E-4-M	•		•		•										
	RSA5E-12-M	•		•		•										
	RSA5E-1,5-T	•														
	RSA5E-3,5-T	•		•		•										
	RSA5E-5,0-T	•		•		•										
	RSA5E-8,0-T	•		•		•										
	RSA5E-10,0-T	•		•		•										
	RSA5D-1,5-T		•		•											
	RSA5D-3,5-T		•		•		•		•							
	RSA5D-5-M		•		•		•		•		•					
	RSA5D-8-M		•		•		•		•		•	•	•		•	•
	RSA5D-10-M		•		•		•		•		•	•	•	•	•	•
	RSA5D-12-M		•		•		•		•		•	•	•	•	•	•
Frequency speed controllers																
	VFED-200-TA		•		•											
	VFED-400-TA		•		•		•									
	VFED-750-TA		•		•		•		•							
	VFED-1100-TA		•		•		•		•		•		•			
	VFED-1500-TA		•		•		•		•		•	•	•		•	•
Temperature controllers																
	RTS-1-400															
	RTSD-1-400															
	TST-1-300															
	TSTD-1-300															
	RT-10	•														
Multi-speed fan switches																
	P2-5,0															
	P3-5,0															
	P5-5,0															
	P2-1-300															
	P3-1-300															
	SP3-1															
EC motors controllers																
	R-1/010															
Sensors																
	T-1,5 N	•														
	TH-1,5 N	•														
	TF-1,5 N	•														
	TP-1,5 N	•														

• recommended
• suitable

														  								
		VKP 600x300 EC	VKP 600x350 EC	VKP 700x400 EC	VKP 800x500 EC	VKP 900x500 EC	VKP 1000x500 EC	VKPI 600x300 EC	VKPI 600x350 EC	VKPI 700x400 EC	VKPI 800x500 EC	VKPI 900x500 EC	VKPI 1000x500 EC	VKP 2E 400*200 VKPI 2E 400*200	VKP 2E 500*250 VKPI 2E 500*250	VKP 4E 500*300 VKPI 4E 500*300	VKP 4D 500*300 VKPI 4D 500*300	VKP 4E 600*300 VKPI 4E 600*300	VKP 4D 600*300 VKPI 4D 600*300	VKP 4E 600*350 VKPI 4E 600*350	VKP 4D 600*350 VKPI 4D 600*350	VKP 4D 1000* 500
Thyristor speed controllers																						
	RS-1-300													•	•	•		•				
	RS-1-400													•	•	•		•				
	RS-1 N (V)													•		•		•				
	RS-1,5 N (V)													•	•	•		•				
	RS-2 N (V)													•	•	•		•				
	RS-2,5 N (V)													•	•	•		•		•		
	RS-0,5-PS																					
	RS-1,5-PS													•	•	•		•				
	RS-2,5-PS													•	•	•		•		•		
	RS-4,0-PS													•	•	•		•		•		
	RS-3,0-T													•	•	•		•		•		
	RS-5,0-T													•	•	•		•		•		
	RS-10,0-T														•					•		
	RS-3,0-TA													•	•	•		•		•		
	RS-5,0-TA													•	•	•		•		•		
	RS-10,0-TA														•					•		
Transformer speed controllers																						
	RSA5E-2-P													•	•	•		•				
	RSA5E-2-M													•	•	•		•				
	RSA5E-3-M													•	•	•		•		•		
	RSA5E-4-M													•	•	•		•		•		
	RSA5E-12-M													•	•	•		•		•		
	RSA5E-1,5-T													•	•	•		•				
	RSA5E-3,5-T													•	•	•		•		•		
	RSA5E-5,0-T													•	•	•		•		•		
	RSA5E-8,0-T													•	•	•		•		•		
	RSA5E-10,0-T													•	•	•		•		•		
	RSA5D-1,5-T																•		•		•	•
	RSA5D-3,5-T																•		•		•	•
	RSA5D-5-M																•		•		•	•
	RSA5D-8-M																•		•		•	•
	RSA5D-10-M																•		•		•	•
	RSA5D-12-M																•		•		•	•
Frequency speed controllers																						
	VFED-200-TA																•		•		•	
	VFED-400-TA																•		•		•	
	VFED-750-TA																•		•		•	
	VFED-1100-TA																•		•		•	
	VFED-1500-TA																•		•		•	•
Temperature controllers																						
	RTS-1-400																					
	RTSD-1-400																					
	TST-1-300																					
	TSTD-1-300																					
	RT-10													•	•	•		•				
Multi-speed fan switches																						
	P2-5,0																					
	P3-5,0																					
	P5-5,0																					
	P2-1-300																					
	P3-1-300																					
	SP3-1																					
EC motors controllers																						
	R-1/010	•	•	•	•	•	•	•	•	•	•	•	•									
Sensors																						
	T-1,5 N													•	•	•		•				
	TH-1,5 N													•	•	•		•				
	TF-1,5 N													•	•	•		•				
	TP-1,5 N													•	•	•		•				

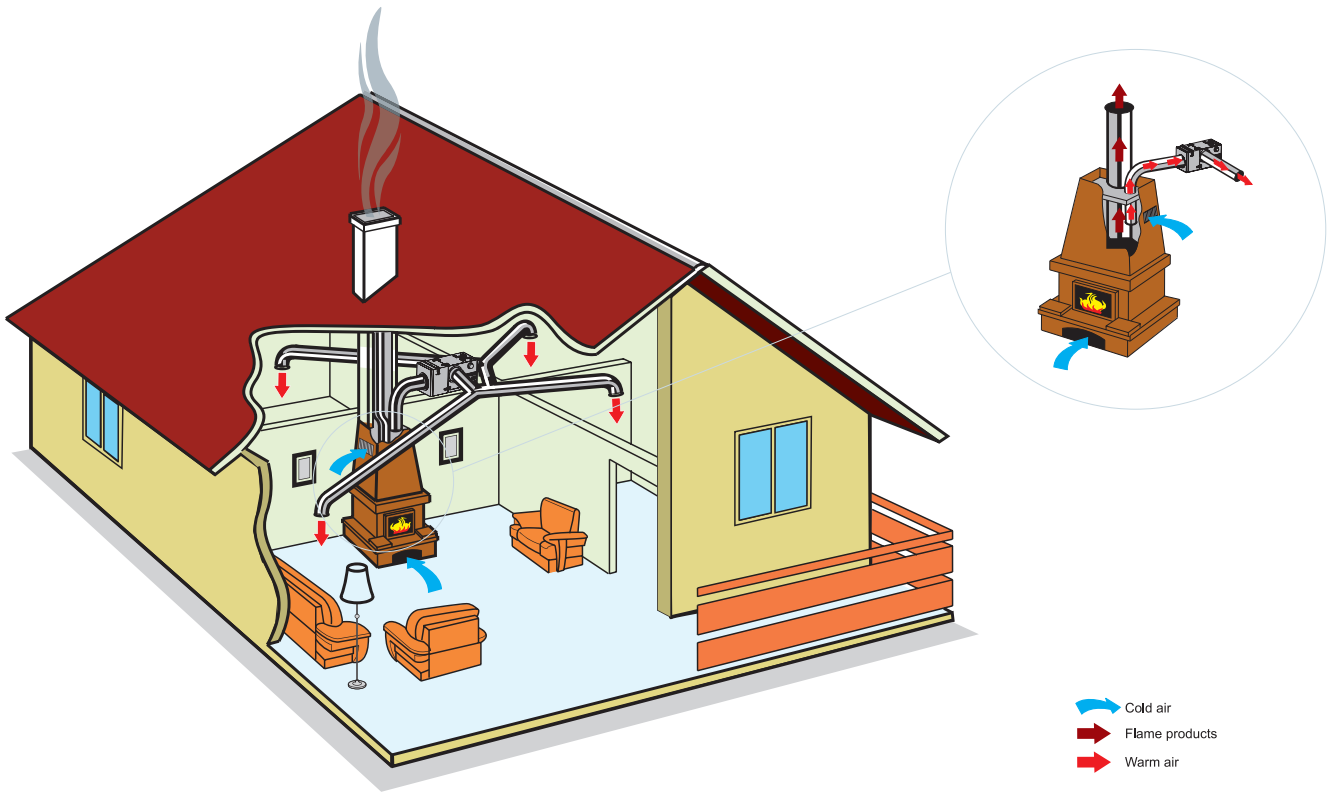
• recommended
• suitable

CHIMNEY CENTRIFUGAL FANS

IT'S NOT ONLY FIREPLACE THAT MAKES YOU FEEL WARM

A fireplace in the country house brings comfort and romance; it is a unique energy of country life. The warmth of fireplace recovers serenity of mind, calms and harmonizes our thoughts in a philosophical manner. And, of course, it makes us feel warm.

Chimney fans designed for hot air distribution allow creating fully-featured air heating system based on a fireplace. Such system is the perfect solution for heating of seasonal houses that serve as a secondary residence during winter time and provide fast and efficient hot air distribution from chimney to other premises.



VENTS KAM series

Chimney fan is designed for house heating system management using heat of chimney or fireplace. It can be also used as a base for backup heating source. Air flow up to 810 m^3/h. The fans are compatible with Ø 125, 140, 150, 160 and 200 mm round ducts.

VENTS KAM
chimney centrifugal fan

Air flow – up to 540 m³/h

page 156

VENTS KAM Eco
chimney centrifugal fan

Air flow – up to 810 m³/h

page 156

Series
VENTS KAM

Chimney centrifugal fan for house heating system management using heat of chimney or fireplace. It can be also used as a base for backup heating source.

Application
Chimney fans for hot air distribution allow creating fully-featured air heating system based on a fireplace. Such system is the perfect solution for heating of seasonal houses that serve as a second residence during winter time and provides fast and efficient hot air distribution from chimney to other premises. Used for air distribution with the air tempreature range of 0 °C to +150 °C.

Design
The fan casing is made of galvanized steel and equipped with heat- and sound insulation of fire-resistant mineral wool. The casing is perforated for the internal air circulation and motor cooling. The temperature controller is used for setting the temperature level for the fan switching on and off. Fan startup is effected within the range of 0 °C to +90 °C depending on the air temperature generated inside the fireplace heat exchanger.

Motor
The fans are supplied with single phase motors for operation in 230/50 Hz power supply network.
Insulation Class F. The motors have integrated overheating protection with automatic restart. The motor is placed off-airflow and is equipped with forward curved impeller blades as well as ball bearings for long service life. The fan models marked KAM are equipped with asynchronous motors and an extra impeller for air blowing-off and cooling. The fan motor models marked KAM Eco are equipped with an external rotor. The KAM Eco max fans are equipped with a high powered external rotor motor.

Speed control
Both smooth and step fan control is performed by means of a thyristor or autotransformer (Models KAM, KAM Eco). The fan speed is controlled within the range of 0 to 100 %.

Mounting
The fireplace fans are designed for connection with round air ducts. The fans can be mounted in any position with respect to the airflow direction indicated with a pointer on the casing. Access for the fan maintenance shall be reserved. Air ducts for warm air supply should be mounted from the fan to each heated room. Concealed air duct system with forced warm air circulation allows saving space in the house and blends into house design.

Accessories
FFK – removable G3 metal filter-box for transported air purification. The filter is connected to the fan casing by lock-latches to provide easy removal of the filter for cleaning.

KFK – removable metal mixing chamber with incorporated heat control damper and G3 filter for transported purification. The mixing chamber is fixed to the fan casing by means of lock-latches to ensure easy removal for cleaning. The fan configuration with KFK mixing chamber provides cold air supply to the mixing chamber as the operating temperature exceeds 90 °C and hot air removal as the motor is off.

GFK – gravity backdraft damper to prevent air back draft in the system. Such fan configuration that includes KFK mixing chamber and GFK backdraft damper ensures fan motor overheating protection based on BY-PASS actuation, in particular when the motor is not running due to no power supply. This design enables backdraft damper shutting and hot air distribution to other premises through ventilation ducts when the motor is not running.

Designation key

Series	Air duct diameter	Motor	Modifications
VENTS KAM	125; 150; 160; 200	**Eco**: external rotor **Eco max**: high powered external rotor motor	_: integrated temperature controller T1: no temperature controller

Accessories

Clamps

Accessories

MFK

FFK

KFK

GFK

TS-1-90

1 KAM fan operating logic

When air temperature in the fireplace hood reaches the set point, the fan turns automatically on (fig. 1b) and distributes hot air from the fireplace to other premises. It turns off when the temperature falls down below the set point (fig. 1a).

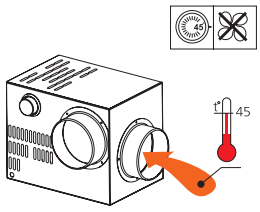


fig.1a

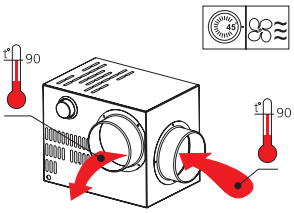
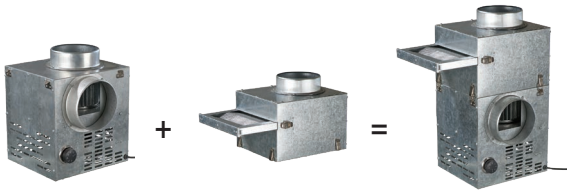


fig.1b

2 Operating logic of KAM fan with FFK filter box



KAM FFK

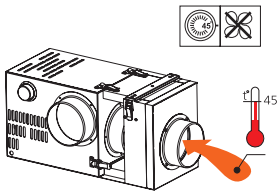


fig.2a

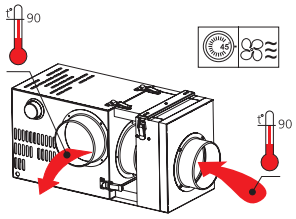


fig.2b

When air temperature in the fireplace hood reaches the set point, the fan turns automatically on (fig. 2b) and distributes hot air (purified by the FFK filter) from the fireplace to other premises. It turns off when the temperature falls down below the set point (fig. 2a).

3 Operating logic of KAM filter with KFK mixing chamber and integrated heat control damper

KAM KFK

When air temperature in the fireplace hood reaches the set point, the fan turns automatically on (fig. 3b) and distributes purified hot air from the fireplace to other premises. It turns off, when air temperature falls down below the set point (fig. 3a). The fan equipped with a mixing chamber provides cold air supply to the mixing chamber (fig. 3c) if the transported air temperature exceeds +90 °C and hot air removal when the fan is off (fig. 3d).

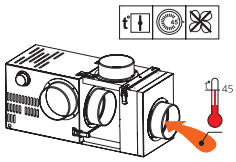


fig.3a

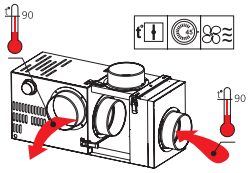


fig.3b

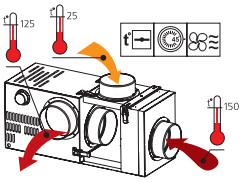


fig.3c

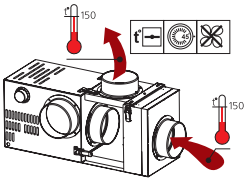
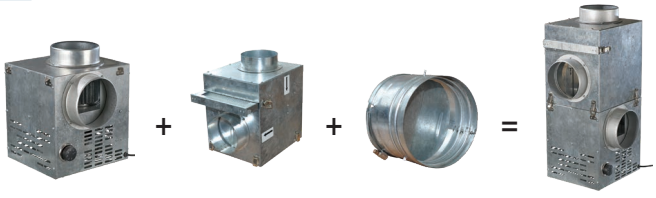


fig.3d

4 Operating logic of KAM filter with KFK mixing chamber and GFK gravity damper



KAM KFK GFK

When air temperature in the fireplace hood reaches the set point, the fan turns automatically on (fig. 4b) and distributes purified hot air from the fireplace to other premises. It turns off, when the temperature falls down below the set point (fig. 4a). The BYPASS system is designed to protect the fan from overheating, for example, during power failure. In this case, the GFK damper is closed and hot air is moved through the bypass air duct past the fan. If the air supplied to the fan is too hot, the mixing chamber damper is opened, and cold air is supplied to the fan (fig. 4c).

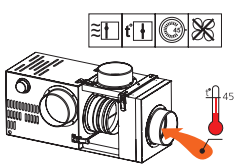


fig.4a

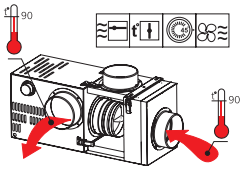


fig.4b

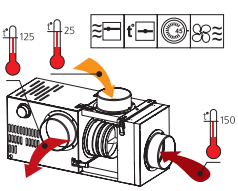


fig.4c

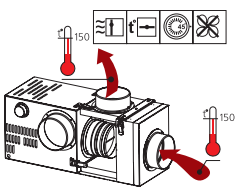
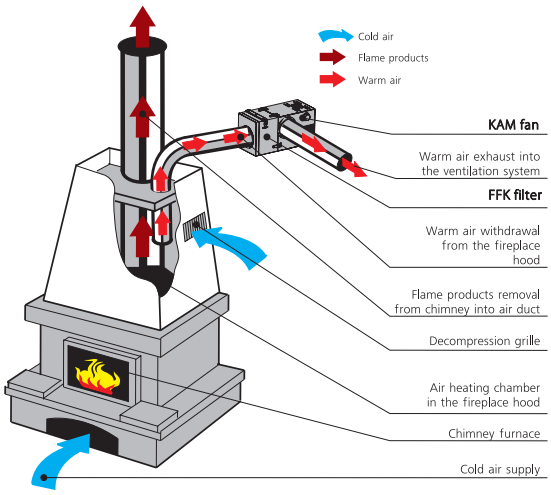
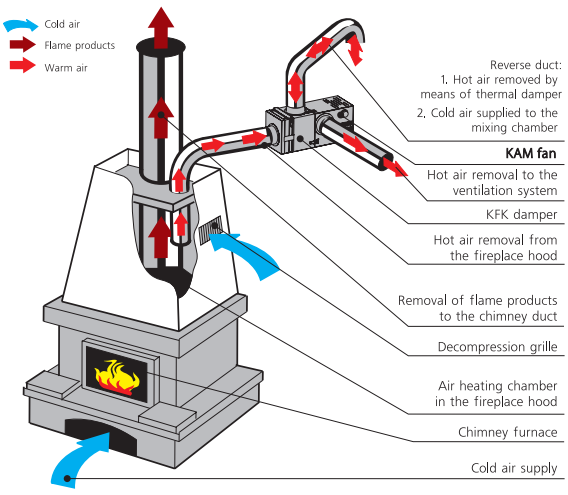


fig.4d

Installation and operation of KAM fans with FFK filter in the chimney system

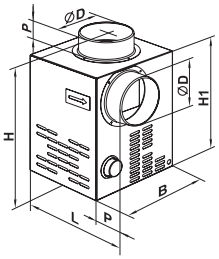


Installation and operation of KAM fans with KFK damper, KAM fans with KFK and GFK dampers with BY-PASS system in the chimney system



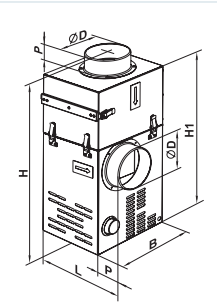
Fan overall dimensions

Model	Dimensions [mm]						Weight [kg]
	ØD	B	H	H1	L	P	
KAM 125	124	245	350	300	260	50	5.82
KAM 150	149	285	350	300	300	50	6.9
KAM 160	159	285	350	300	300	50	6.9
KAM 125 Eco	124	245	320	270	260	50	5.82
KAM 150 Eco/Eco max	149	285	320	270	300	50	6.9
KAM 160 Eco	159	285	320	270	300	50	6.9

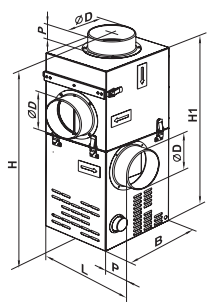


Overall dimensions of fans with additional equipment

Model	Additional equipment	Dimensions [mm]						Weight [kg]
		ØD	B	H	H1	L	P	
KAM 125	FFK	124	245	530	480	260	50	6.7
KAM 150	FFK	149	285	540	490	300	50	8.7
KAM 160	FFK	159	285	540	490	300	50	8.7
KAM 125 Eco	FFK	124	245	500	450	260	50	7.8
KAM 150 Eco/Eco max	FFK	149	285	510	460	300	50	9.8
KAM 160 Eco	FFK	159	285	510	460	300	50	9.8



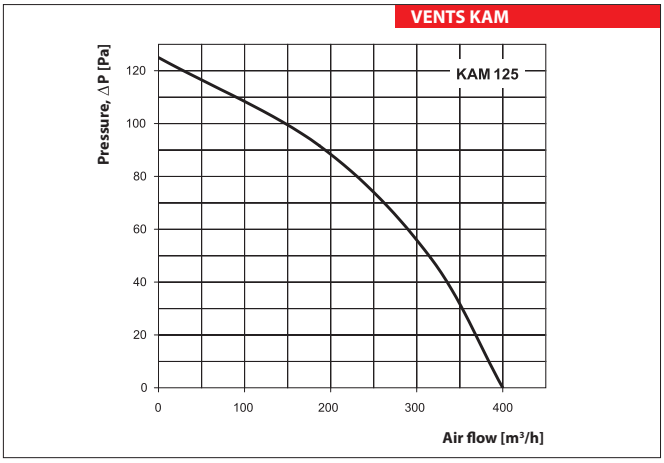
Model	Additional equipment	Dimensions [mm]						Weight [kg]
		ØD	B	H	H1	L	P	
KAM 125	KFK/KFK+GFK	124	245	610	560	260	50	8.5
KAM 150	KFK/KFK+GFK	149	285	650	600	300	50	9.7
KAM 160	KFK/KFK+GFK	159	285	650	600	300	50	9.7
KAM 125 Eco	KFK/KFK+GFK	124	245	580	530	260	50	9.4
KAM 150 Eco/Eco max	KFK/KFK+GFK	149	285	620	570	300	50	10.8
KAM 160 Eco	KFK/KFK+GFK	159	285	620	570	300	50	10.8

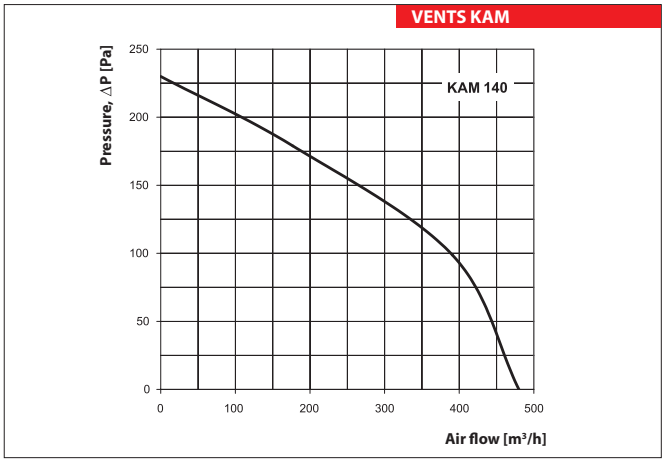


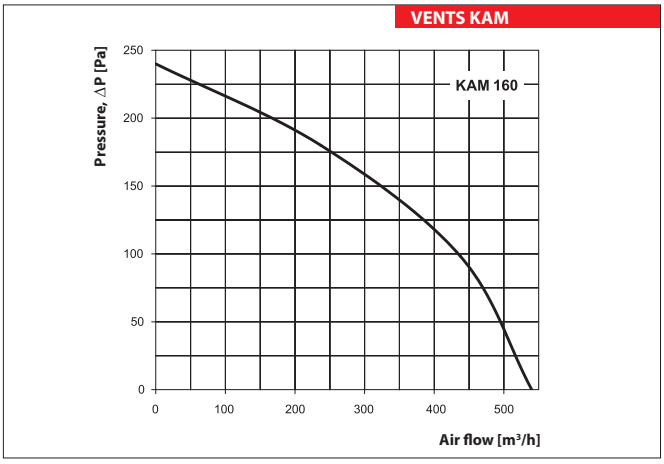
Technical data

	KAM 125	KAM 150	KAM 160
Voltage [V/50 Hz]	1~230	1~230	1~230
Power [W]	108	115	116
Current [A]	0.81	0.84	0.86
Maximum air flow [m³/h]	400	520	540
RPM [min⁻¹]	1300	1280	1270
Noise level at 3 m [dBA]	42	42	42
Transported air temperature [°C]	150	150	150
Protection rating	IPX2	IPX2	IPX2

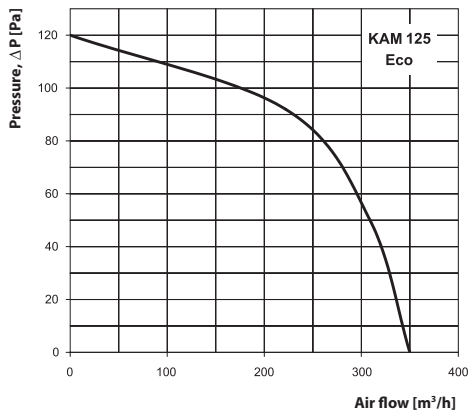
	KAM 125 Eco	KAM 150 Eco	KAM 150 Eco max	KAM 160 Eco
Voltage [V/50 Hz]	1~230	1~230	1~230	1~230
Power [W]	32	43	115	44
Current [A]	0.14	0.19	0.51	0.19
Maximum air flow [m³/h]	350	450	613	470
RPM [min⁻¹]	1335	1165	1296	1110
Noise level at 3 m [dBA]	37	39	45	39
Transported air temperature [°C]	150	150	150	150
Protection rating	IPX2	IPX2	IPX2	IPX2



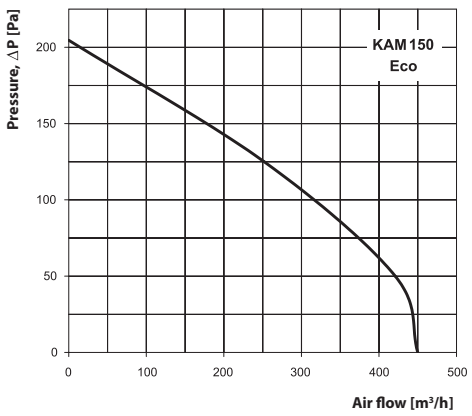




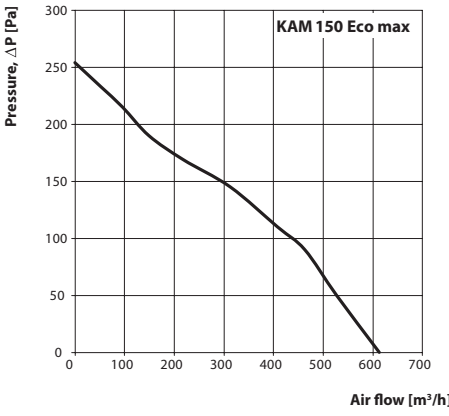
VENTS KAM Eco



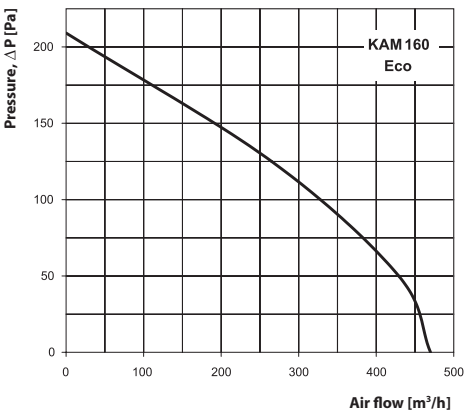
VENTS KAM Eco



VENTS KAM Eco max



VENTS KAM Eco



ELECTRICAL ACCESSORIES COMPATIBILITY

								
		KAM 125	KAM 150	KAM 160	KAM 125 Eco	KAM 150 Eco	KAM 150 Eco max	KAM 160 Eco
Thyristor speed controllers								
	RS-1-300	•	•	•	•	•	•	•
	RS-1-400	•	•	•	•	•	•	•
	RS-1 N (V)	•	•	•	•	•	•	•
	RS-1,5 N (V)	•	•	•	•	•	•	•
	RS-2 N (V)	•	•	•	•	•	•	•
	RS-2,5 N (V)	•	•	•	•	•	•	•
	RS-0,5-PS				•	•		•
	RS-1,5-PS	•	•	•			•	
	RS-2,5-PS	•	•	•			•	
	RS-4,0-PS	•	•	•			•	
	RS-3,0-T	•	•	•			•	
	RS-5,0-T	•	•	•			•	
	RS-10,0-T							
	RS-3,0-TA	•	•	•			•	
	RS-5,0-TA	•	•	•			•	
	RS-10,0-TA							
Transformer speed controllers								
	RSA5E-2-P	•	•	•	•	•	•	•
	RSA5E-2-M	•	•	•	•	•	•	•
	RSA5E-3-M	•	•	•	•	•	•	•
	RSA5E-4-M	•	•	•	•	•	•	•
	RSA5E-12-M	•	•	•	•	•	•	•
	RSA5E-1,5-T	•	•	•	•	•	•	•
	RSA5E-3,5-T	•	•	•	•	•	•	•
	RSA5E-5,0-T	•	•	•	•	•	•	•
	RSA5E-8,0-T	•	•	•	•	•	•	•
	RSA5E-10,0-T	•	•	•	•	•	•	•
	RSA5D-1,5-T							
	RSA5D-3,5-T							
	RSA5D-5-M							
	RSA5D-8-M							
	RSA5D-10-M							
	RSA5D-12-M							
Frequency speed controllers								
	VFED-200-TA							
	VFED-400-TA							
	VFED-750-TA							
	VFED-1100-TA							
	VFED-1500-TA							
Temperature controllers								
	RTS-1-400							
	RTSD-1-400							
	TST-1-300							
	TSTD-1-300							
	RT-10	•	•	•	•	•	•	•
Multi-speed fan switches								
	P2-5,0							
	P3-5,0							
	P5-5,0							
	P2-1-300							
	P3-1-300							
	SP3-1							
EC motor controllers								
	R-1/010							
Sensors								
	T-1,5 N	•	•	•	•	•	•	•
	TH-1,5 N	•	•	•	•	•	•	•
	TF-1,5 N	•	•	•	•	•	•	•
	TP-1,5 N	•	•	•	•	•	•	•

• recommended
• suitable

SOUND-INSULATED FANS

VENTS Stream
sound-insulated fan
Air flow – up to 540 m³/h

page 164

VENTS Stream EC
sound-insulated fan with EC motor
Air flow – up to 600 m³/h

page 168

VENTS Boost-I
sound-insulated fan
Air flow – up to 1670 m³/h

page 172

VENTS Boost-I EC
sound-insulated fan with EC motor
Air flow – up to 1750 m³/h

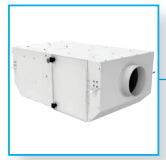
page 174

VENTS TT Silent-M
sound-insulated fan
Air flow – up to 2050 m³/h

page 176

VENTS TT Silent-M EC
sound-insulated fan with EC motor
Air flow – up to 1970 m³/h

page 182



VENTS KSV
sound-insulated fan
Air flow – up to 630 m³/h

page 186

VENTS KSV ES, KSV Duo ES
sound-insulated fan
Air flow – up to 640 m³/h

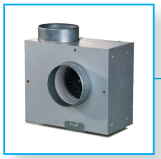
page 194

VENTS VS
sound-insulated fan
Air flow – up to 15830 m³/h

page 198

VENTS VS EC
sound-insulated fan with EC motor
Air flow – up to 16740 m³/h

page 204



VENTS KSA
sound-insulated fan
Air flow – up to 750 m³/h

page 210

VENTS KSB
sound-insulated fan
Air flow – up to 2150 m³/h

page 214

VENTS KSB EC
sound-insulated fan with EC motor
Air flow – up to 1260 m³/h

page 218

VENTS KSB K2
sound-insulated fan
Air flow – up to 7000 m³/h

page 222

VENTS KSB K2 EC
sound-insulated fan with EC motor
Air flow – up to 7145 m³/h

page 228

VENTS KSF K2 EC
sound-insulated fan with EC motor
Air flow – up to 1682 m³/h

page 236

VENTS KSD
sound-insulated fan
Air flow – up to 3930 m³/h

page 240

VENTS DuoVent EC
sound-insulated fan with EC motor
Air flow – up to 4410 m³/h

page 246

VENTS Stream series

Inline mixed-flow fans
in sound- and heat-insulated casing
with the air flow
up to **540 m³/h**

Application

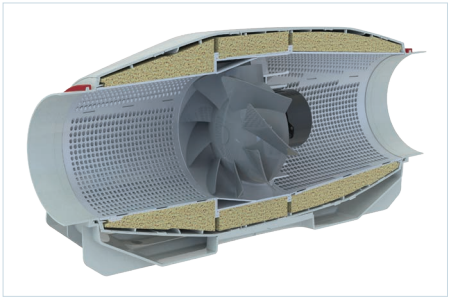
VENTS Stream series of duct fans in a special sound-insulated casing, which ensures silent operation of the fan with high aerodynamic characteristics. Compatible with air ducts with a diameter of 100, 125,150, 160 mm.

VENTS Stream fans combine the wide capabilities and high performance characteristics of axial and centrifugal fans, providing a powerful air flow and high pressure.

They are used in supply and exhaust ventilation systems of various commercial and industrial premises with increased noise level requirements (libraries, conference rooms, educational institutions, kindergartens, etc.).

Design

The casing and impeller are made of high quality and durable plastic. The internal perforation of the casing allows sound waves to pass through, directing them at a certain angle to a layer of sound-absorbing material. The casing is internally heat- and sound-insulated with a 50 mm mineral wool layer.



The special perforation of the casing and the sound-absorbing material ensure sound attenuation in a wide frequency range. Due to the conical shape of the impeller and specially shaped blades, the circular speed of the air flow is increased, providing higher pressure and performance compared to standard axial fans.

The diffuser, the specially profiled impeller and the directing vanes at the outlet of the fan casing distribute the air flow in such a way as to attain the best combination of high performance and high pressure at low noise level.

The fan casing is equipped with an external sealed terminal box for connection to power mains.

Electric motor

Single-phase energy efficient three-speed motors with low energy demand are used. The fan motors are equipped with thermal fuses for overload protection. The ball bearings provide a long service life (about 40 000 hours of continuous operation).

The motor protection class is IPX4.

Speed control

The three-speed motor can be controlled using a built-in switch (option "V") or an external switch for multi-speed fans (purchased separately).

A built-in speed controller (option "P"), an external TRIAC or autotransformer speed controller (available upon separate order) enable smooth motor speed control when connected to the maximum speed terminal.

The models with the "T" option are equipped with a turn-off delay timer, adjustable from 2 to 30 minutes.

Vents Stream fan with additional options

Mounting

The fans can be installed at the beginning, in the middle or at the end of the duct system.

Mounting at any angle relative to the fan axis is allowed.

In one system, it is possible to install several fans in parallel to increase the air flow or in series to increase the operating pressure.

The fan casing is equipped with mounting brackets for floor, wall or ceiling mounting.

Designation key

Series	Air duct diameter	Options
VENTS Stream	100; 125; 150; 160	**T**: adjustable turn-off delay timer, from 2 to 30 min. **Un**: speed controller with an electronic thermostat and a temperature sensor, fixed on a 4 m cable. Temperature-based operation logic. **R**: power cord with a mains plug. **V**: three-position speed switch. **P**: integrated smooth speed controller.

Accessories

Silencer | Filters | Heaters | Backdraft damper | Air damper | Clamps | Temperature controller | Speed switch | Sensor

Fan with electronic temperature and speed control module (Un option).

The ideal solution for ventilation of premises with high demands to permanent temperature control e.g. greenhouses.

A fan with an electronic temperature and speed module provides automatic control of impeller rotation speed (air flow) depending on the air temperature in the air duct or in the room.

The front panel of the electronic module has the following control knobs:

– controller for impeller speed presetting

– electronic thermostat operation threshold controller

– thermostat operation indicator.

Fan operation algorithm with electronic temperature and speed control module

Set the desired air temperature (thermostat threshold) by turning the thermostat control knob and the minimum rotation speed (air flow) by turning the speed control knob.

If the temperature rises and exceeds the set thermostat threshold, the automation switches the fan to the maximum rotation speed (maximum air flow).

When the air temperature drops below the set thermostat threshold, the automation switches the fan motor to the previously set rotation speed.

To prevent frequent switching of motor speeds in case when the temperature in the air duct is equal to the set temperature threshold, a speed switching delay has been introduced into the algorithm.

When the air temperature exceeds the set thermostat threshold by 2 °C, the fan switches to an increased speed.

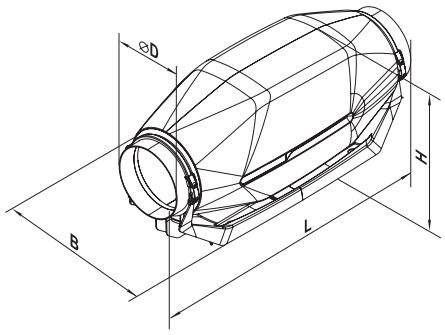
The fan switches to the set (reduced) speed after the temperature drops below the set temperature threshold.

This algorithm is used to maintain the air temperature with an accuracy of 2 °C.

Fan speed changes are infrequent.

Fan dimensions

Model	Dimensions [mm]				Weight [kg]
	ØD	B	L	H	
Stream 100/125 (spigot 100 mm)	100	253	752	273	5
Stream 100/125 (spigot 125 mm)	125		679		
Stream 150/160 (spigot 150 mm)	150		606		
Stream 150/160 (spigot 160 mm)	160		606		



Stream 100/125 (spigot 100 mm)

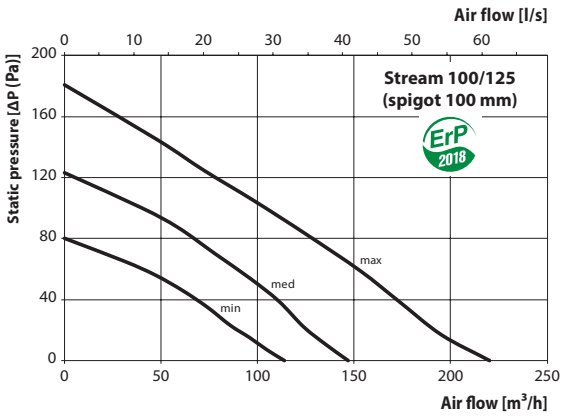
Stream 100/125 (spigot 125 mm)

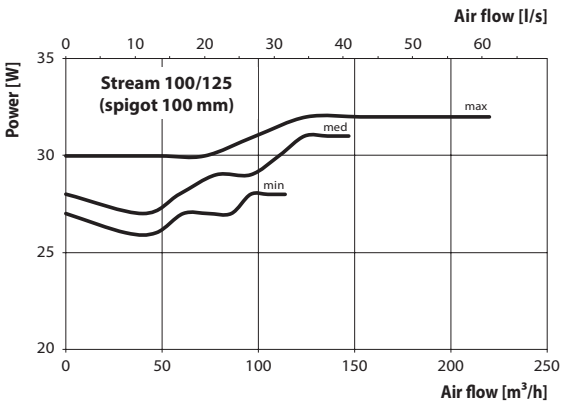
Stream 150/160 (spigot 150 mm, spigot 160 mm with a rubber seal)

Technical data

	Stream 100/125			Stream 100/125		
Spigot diameter	**100**			**125**		
Speed	min.	med.	max.	min.	med.	max.
Voltage [V]		1~230			1~230	
Frequency [Hz]		50			50	
Power [W]	28	31	32	31	33	34
Current [A]	0.13	0.14	0.15	0.14	0.14	0.16
Maximum air flow [m^3/h (l/s)]	114 (32)	147 (41)	220 (61)	164 (46)	216 (60)	320 (89)
RPM [min^{-1}]	1568	1952	2362	1552	1952	2356
Noise level at 3 m [dBA]	19	23	27	20	22	28
Transported air temperature [°C]		-25...+55			-25...+55	
Weight [kg]		5			5	
Protection rating		IPX4			IPX4	
Motor protection rating		IP20			IP20	

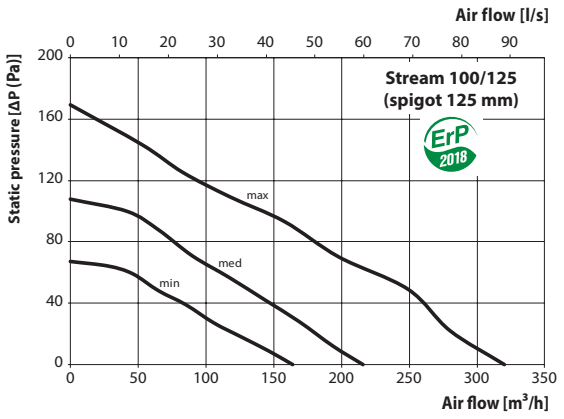
VENTS Stream

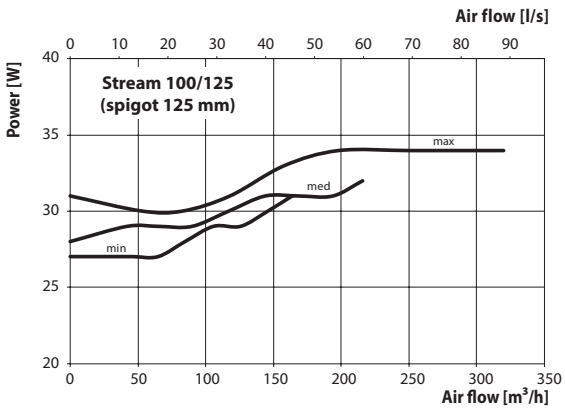




Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	52	28	46	50	41	35	33	36	29	32	42
L_{WA} to outlet	dBA	51	25	43	50	40	32	31	36	31	31	41
L_{WA} to environment	dBA	48	28	44	44	36	32	28	27	22	27	37

VENTS Stream

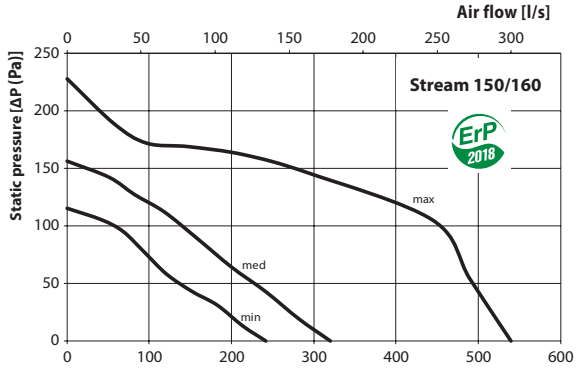


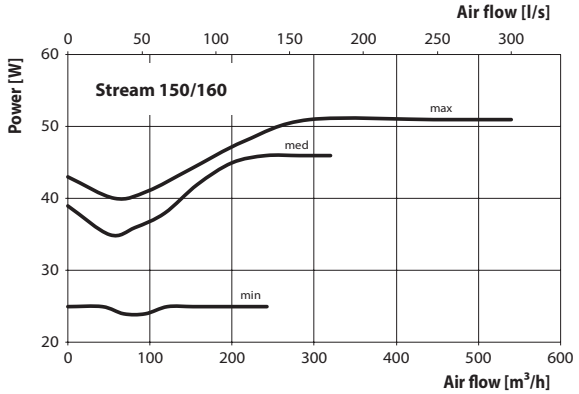


Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	54	31	49	52	43	37	34	37	30	34	44
L_{WA} to outlet	dBA	52	26	44	51	41	33	32	37	31	32	42
L_{WA} to environment	dBA	48	28	45	45	37	32	28	28	22	28	38

	Stream 150/160		
Spigot diameter	**150/160**		
Speed	min.	med.	max.
Voltage [V]		1~230	
Frequency [Hz]		50	
Power [W]	25	46	51
Current [A]	0.20	0.21	0.24
Maximum air flow [m^3/h (l/s)]	242 (67)	320 (89)	540 (150)
RPM [min^{-1}]	1982	2374	2738
Noise level at 3 m [dBA]	20	26	33
Transported air temperature [°C]		-25...+55	
Weight [kg]		5	
Protection rating		IPX4	
Motor protection rating		IP20	

VENTS Stream





Sound-power level, A - weighted		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	61	37	56	59	48	41	38	41	34	41	51
L_{WA} to outlet	dBA	60	32	52	58	47	37	36	41	35	39	49
L_{WA} to environment	dBA	53	33	50	49	40	35	30	30	24	33	43

VENTS Stream EC
Series

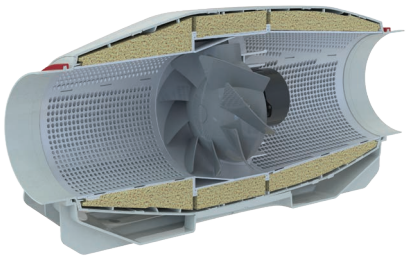
Sound- and heat-insulated mixed flow duct fans with air flow up to **600 m³/h** and with EC motor

Application

The VENTS Stream EC series of duct fans is available in a special sound-insulated casing that ensures silent fan operation with high aerodynamic performance.
Compatible with Ø100, 125, 150, 160 mm air ducts.
The VENTS Stream EC fans combine wide capabilities and high technical parameters of axial and centrifugal fans, providing powerful air flow and high pressure as well as cost-effectiveness and manageability of the EC motor.
100% variable speed, multiple fans can be connected to a computer control system equipped with sensors.
Application: intended for supply and exhaust ventilation systems of different commercial and industrial premises with high demands on energy efficiency and noise level (libraries, conference halls, educational institutions, kindergartens etc.).

Design

The outer casing is made of high quality and durable plastic. The internal perforation of the casing allows sound waves to pass through, directing them at a certain angle onto a layer of sound-insulating material.
Heat- and sound-insulation of the casing are made of a 50 mm layer of non-flammable mineral wool.
The special perforation of the casing and the sound-absorbing material ensure that sound is attenuated over a wide frequency range.



Due to the conic impeller and special blade profiling the circumferential air speed increases thus providing higher air pressure and capacity as compared to standard axial fans.
The diffuser, the specially profiled impeller and the directing vanes at the outlet of the fan casing distribute air flow in such a way as to attain the best combination of high performance and high pressure at low noise level.
The fan casing is equipped with an outer airtight terminal box for connection to power mains.

Electric motor

The units are equipped with highly efficient electronically commutated EC motors. These state-of-the-art motors are the most advanced solution in energy efficiency today. EC motors are characterised with high performance and optimum control across the entire speed range. In addition to that, the efficiency of the electronically commutated motor reaches very impressive levels of up to 90 %.

Speed control

The fan is controlled with the 0-10 V control signal (capacity control is performed depending on the temperature, humidity, pressure and other parameters). When the value of the control factor changes, the EC fan changes the rotation speed and supplies exactly the amount of air required by the ventilation system. Maximum fan speed does not depend on the available current frequency and is suitable for operation both at 50 and 60 Hz.
Several fans can be integrated into a single computer-driven control system.
Custom designed software provides high accuracy control of the fans integrated into a network.
The computer display shows all the system parameters and the operation mode can be set individually for each fan in the network.

Mounting

The fans are intended for mounting to round air ducts. The fan casing has mounting brackets for floor, wall or ceiling mounting. Any installation angle relative to the fan axis is permissible. Access for the fan maintenance shall be provided during mounting.
For wiring installation and mounting of the fan follow the guidelines in the user's manual and wiring diagram on the terminal box.
Several fans may be installed in one system in parallel to attain higher air capacity or in series to increase operating pressure in the system.

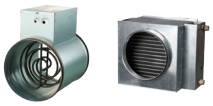
Designation key

Series	Air duct diameter	Motor type		Options
VENTS Stream: mixed-flow fan in sound-insulated casing	100/125 150/160	**EC**: synchronous electronically commutated motor	**S**: high-powered motor	**Un**: speed controller with an electronic thermostat and external temperature sensor fixed on 4 m cable. Equipped with a power cord and an electric plug. Temperature-based operation logic. **R**: power cord with mains plug. **P**: built-in smooth speed controller.

Accessories


Silencer


Filters


Heaters


Back valve

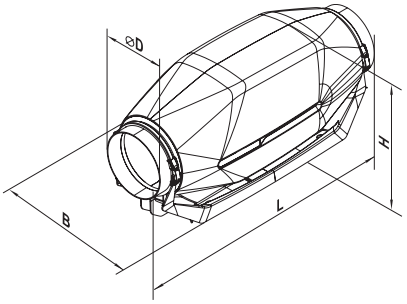

Air damper


Clamps


Speed controller

Overall dimensions of fans

Model	Dimensions [mm]				Weight [kg]
	ØD	B	L	H	
Stream 100/125 EC S (spigot 100 mm)	100	253	752	273	5
Stream 100/125 EC S (spigot 125 mm)	125		679		
Stream 150/160 EC (spigot 150 mm)	150		606		
Stream 150/160 EC (spigot 160 mm)	160		606		



Stream 100/125 EC S (spigot 100 mm)

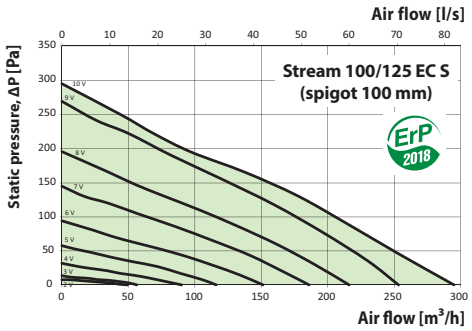
Stream 100/125 EC S (spigot 125 mm)

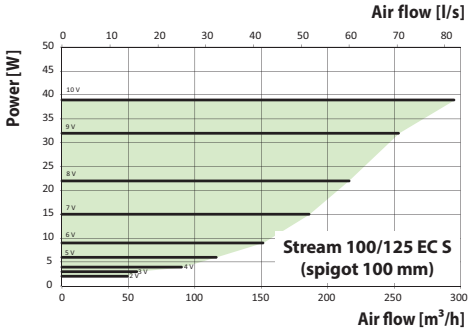
Stream 150/160 (EC) (spigot 150 mm, spigot 160 mm with a rubber seal)

Technical data

	Stream 100/125 EC S	Stream 100/125 EC S
Spigot diameter	**100**	**125**
Unit voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	39	39
Current [A]	0.36	0.37
Maximum air flow [m^3/h (l/s)]	295 (82)	450 (125)
RPM [min^{-1}]	3168	3138
Sound pressure level at 3 m distance [dBA]	31	33
Transported air temperature [°C]	-25...+55	-25...+55
Protection class	IPX4	IPX4
Motor protection	IP44	IP44

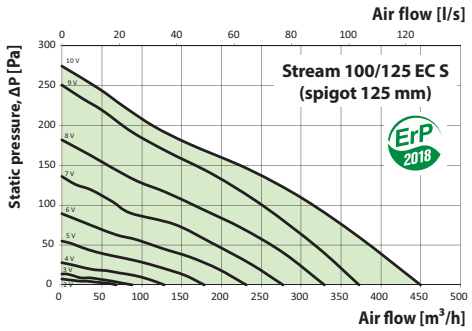
VENTS Stream EC

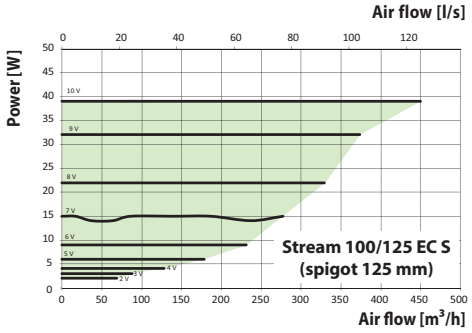




Sound power level		Octave frequency bands [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	60	36	55	58	47	40	37	41	33	39	49
L_{WA} to outlet	dBA	59	32	51	58	46	36	35	41	35	38	48
L_{WA} to environment	dBA	52	32	49	48	39	34	30	29	24	31	41

VENTS Stream EC

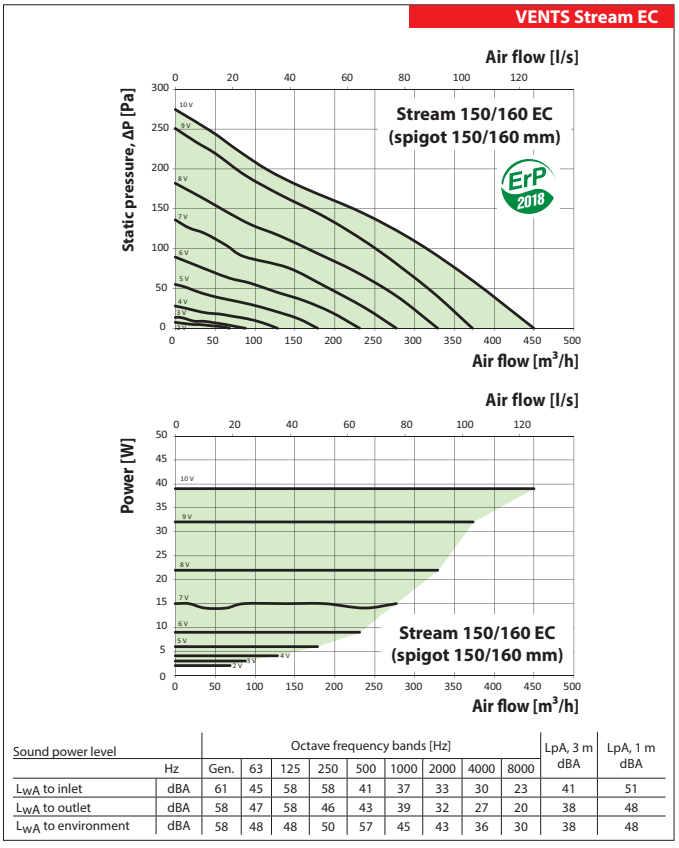




Sound power level		Octave frequency bands [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	63	39	58	61	50	42	39	43	35	43	53
L_{WA} to outlet	dBA	60	33	53	59	47	37	36	42	36	40	50
L_{WA} to environment	dBA	54	34	51	50	41	35	30	30	25	33	43

Technical data

	Stream 150/160 EC
Spigot diameter	**150/160**
Unit voltage [V/50 (60) Hz]	1~230
Power [W]	55
Current [A]	0.49
Maximum air flow [m^3/h (l/s)]	600 (167)
RPM [min^{-1}]	3506
Sound pressure level at 3 m distance [dBA]	38
Transported air temperature [°C]	-25...+55
Protection class	IPX4
Motor protection	IP44



Sound power level		Octave frequency bands [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	61	45	58	58	41	37	33	30	23	41	51
L_{WA} to outlet	dBA	58	47	58	46	43	39	32	27	20	38	48
L_{WA} to environment	dBA	58	48	48	50	57	45	43	36	30	38	48

Series
VENTS Boost-I

Inline mixed-flow fans in sound- and heat-insulated casing.
Air flow up to **1670 m³/h**.

Application

The inline VENTS Boost-I fans are enclosed in a specially designed sound-insulated casing that ensures silent fan operation in combination with high aerodynamic characteristics. The fans are compatible with round air ducts from Ø 200 up to 250 mm. The VENTS Boost-I fans combine wide capabilities and high performance characteristics of both axial and centrifugal fans, thus providing powerful air flow and high pressure. The VENTS Boost-I fans are recommended as a component of the air handling systems for various commercial and industrial premises with high requirements to noise level, i.e. libraries, conference halls, educational institutions, kindergartens, etc.

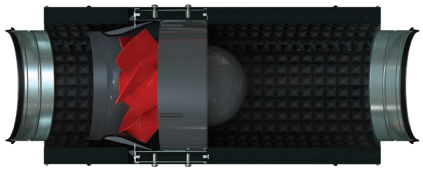
Design

The external casing is made of galvanized steel. Sound and heat insulation is provided by 30 mm acoustic material.

Due to the improved mixed type impeller, which is a hybrid of axial and centrifugal impeller, the Boost-I has low power consumption and noise level with high performance.

The specially designed diffuser, impeller and airflow rectifier at the fan outlet provide smooth air flow distribution and enable the best combination of high air flow, increased pressure and low noise.

The fan casing is equipped with an airtight terminal box for connection to power mains.



Motor

The VENTS Boost-I fans are equipped with single-phase high-efficiency three-speed asynchronous motors with low power consumption. The motor is equipped with thermal switches for overheating protection. The ball bearings ensure a long service life (about 40 000 hours of continuous operation). The motor ingress protection rating is IPX4.

Speed control

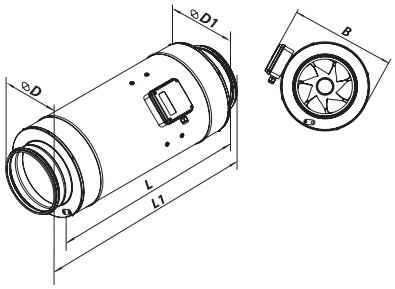
The three-speed motor can be controlled using a built-in switch (option V) or an external switch P3-5.0 (purchased separately).

Mounting

The fans are designed to be used with round air ducts. The fan casing has mounting brackets for convenient installation onto the ceiling. The ducts can be fitted at any angle relative to the fan axis. Make sure to provide sufficient maintenance access during fan installation. Electrical connection and installation must be performed in accordance with the instruction manual and the electrical connections diagram applied to the terminal box. A single system may have several fans installed in parallel to boost the output capacity or in series to boost the working pressure.

Fan overall dimensions

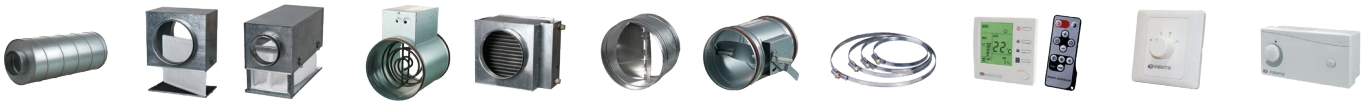
Type	Dimensions [mm]					Weight [kg]
	ØD	ØD1	L	L1	B	
Boost-I 200 (T, U, Un, R, V, RV)	199	281	601	739	339	8.2
Boost-I 250 (T, U, Un, R, V, RV)	249	337	601	739	389	9.5



Designation key

Series	Air duct diameter	Options
VENTS Boost-I	200; 250	**T**: turn-off delay timer adjustable from 2 to 30 minutes. **U**: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Temperature-based operation logic. **Un**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Temperature-based operation logic. **R**: power cord with a mains plug. **V**: three-position speed switch.

Accessories

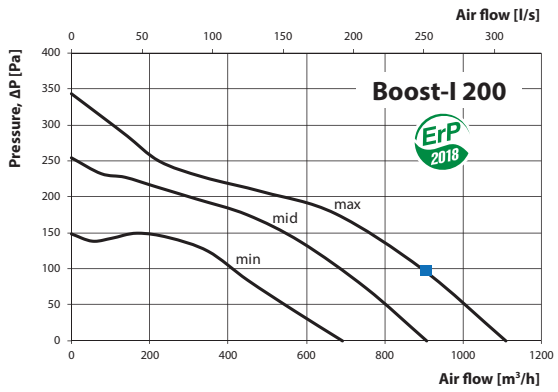


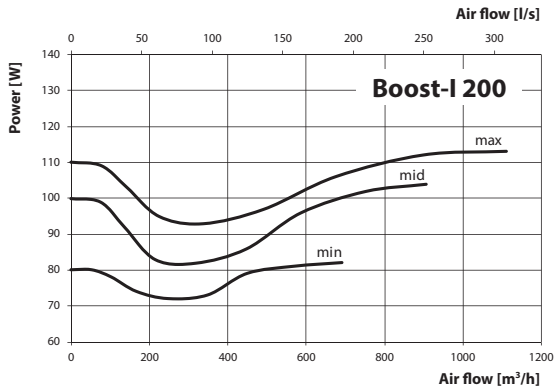
Silencer | Filters | Heaters | Backdraft damper | Air shutter | Clamps | Temperature controller | Speed switch | Sensor

Technical data

	BOOST-I 200			BOOST-I 250		
Speed	min	mid	max	min	mid	max
Voltage [V]	1~230					
Frequency [Hz}	50					
Power [W]	82	104	113	144	173	188
Current [A]	0.37	0.46	0.51	0.70	0.81	0.84
Max. air flow [m^3/h]	692	906	1110	1007	1404	1670
Max. air flow [l/s]	192	252	308	280	390	464
RPM [min^{-1}]	2229	2634	2823	2292	2626	2876
Noise level at 3 m [dBA]	37	42	44	38	43	45
Transported air temperature [°C]	-25...+55					
Protection rating	IPX4					
Motor protection rating	IP20					

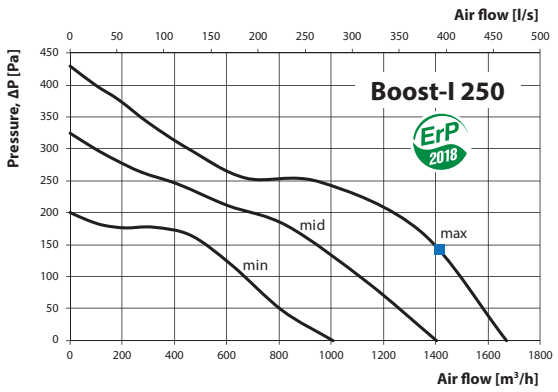
VENTS Boost-I

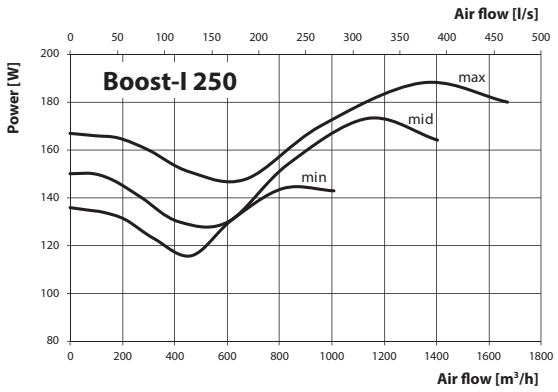




Sound power level			Sound power level [A-filter]								Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz	General	Octave frequency band [Hz]									
			63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{WA} to inlet	dBA	67	63	63	59	55	47	42	42	37	46	56
L_{WA} to outlet	dBA	68	65	64	59	57	49	45	45	36	48	58
L_{WA} to environment	dBA	64	55	51	61	60	40	40	28	22	44	54

VENTS Boost-I





Sound power level			Sound power level [A-filter]								Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz	General	Octave frequency band [Hz]									
			63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{WA} to inlet	dBA	70	45	56	62	64	63	60	62	57	49	59
L_{WA} to outlet	dBA	71	41	49	61	64	67	65	60	54	51	61
L_{WA} to environment	dBA	65	57	55	60	58	55	54	47	39	45	55

Series

VENTS Boost-I EC

Mixed-type duct fans with EC motors in casings with noise and heat insulation.
Air flow up to **1750 m³/h**.

Application

The new VENTS Boost-I EC duct fan series is equipped with a special noise-insulated casing which ensures silent operation and excellent aerodynamic characteristics. Compatible with Ø200 up to Ø250 mm air ducts.

The VENTS Boost-I EC fans combine the versatility and outstanding performance of both axial and centrifugal fans producing a powerful air flow and high pressure while retaining the signature energy-efficiency and response of EC motors.

Several fans can be integrated into a single computer-controlled system with sensor feedback combined with speed control across the entire dynamic range.

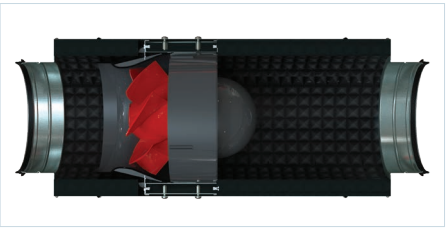
Application: Combined supply and exhaust ventilation systems of various commercial and industrial spaces with stringent noise requirements (such as libraries, conference halls, classrooms, kindergarten playrooms etc.).

Design

The external casing is made of galvanized steel. Sound and heat insulation is provided by 30 mm acoustic material. Due to the improved mixed type impeller, which is a hybrid of axial and centrifugal impeller, the Boost-I EC has low power consumption and noise level with high performance.

The specially designed diffuser, impeller and airflow rectifier at the fan outlet provide smooth air flow distribution and enable the best combination of high air flow, increased pressure and low noise.

The fan casing is equipped with an airtight terminal box for connection to power mains.



Motor

The fans are equipped with highly efficient electronically commutated EC motors. These state-of-the-art motors are the most advanced solution in energy efficiency today. EC motors are characterised with high performance and optimum control across the entire speed range. In addition to that, the efficiency of the electronically commutated motor reaches very impressive levels of up to 90 %.

Speed control

The fan is controlled using a 0-10 V control signal. When the control signal value changes, the EC fan changes its rotation speed and provides air flow required for the ventilation system.

Several fans can be integrated into a single computer-driven control system. Custom designed software provides high accuracy control of the fans integrated into a network. The computer display shows all the system parameters and the operation mode can be set individually for each fan in the network.

Mounting

The fans are designed to be used with round air ducts. The fan casing has mounting brackets for convenient installation onto the ceiling. The ducts can be fitted at any angle relative to the fan axis. Make sure to provide sufficient maintenance access during fan installation. Electrical connection and installation must be performed in accordance with the instruction manual and the electrical connections diagram applied to the terminal box. A single system may have several fans installed in parallel to boost the output capacity or in series to boost the working pressure.

Designation key

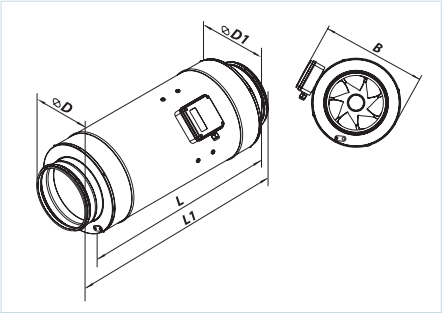
Series	Air ducts diameter	Motor type	Options
VENTS BOOST-I: mixed-type duct fan in casings with noise and heat insulation	200; 250	**EC**: synchronous electronically commutated motor	**U**: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Temperature-based operation logic. **Un**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Temperature-based operation logic. **R**: power cord with a mains plug. **P**: integrated smooth speed controller.

Accessories

Silencer | Filters | Heaters | Backdraft damper | Air shutter | Clamps | Speed controller

Fan overall dimensions

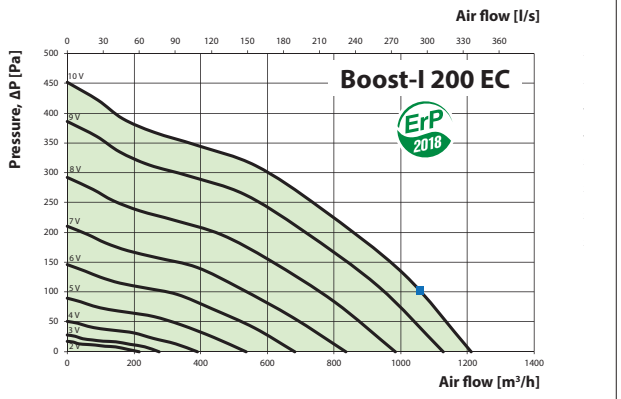
Type	Dimensions [mm]					Weight [kg]
	ØD	ØD1	L	L1	B	
Boost-I 200 EC (U, Un, R, P)	199	281	601	739	339	8.2
Boost-I 250 EC (U, Un, R, P)	249	337	601	739	389	9.5

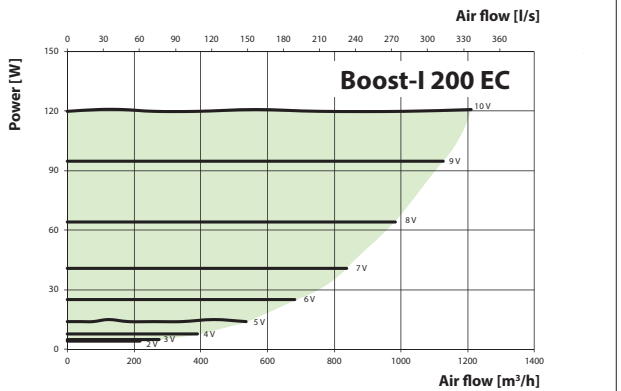


Technical data

	Boost-I 200 EC	Boost-I 250 EC
Voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	121	168
Current [A]	0.96	1.34
Max. air flow [m³/h]	1210	1750
Max. air flow [l/s]	336	486
RPM [min⁻¹]	3100	3282
Noise level at 3m [dBA]	47	48
Transported air temperature [°C]	-25...+55	-25...+55
Protection rating	IPX4	IPX4
Motor protection rating	IP44	IP44

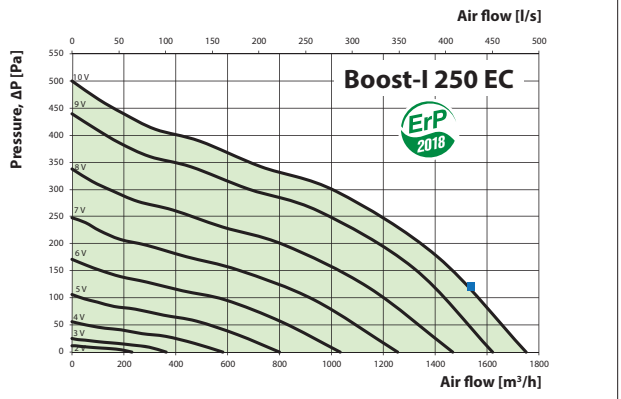
VENTS Boost-I EC

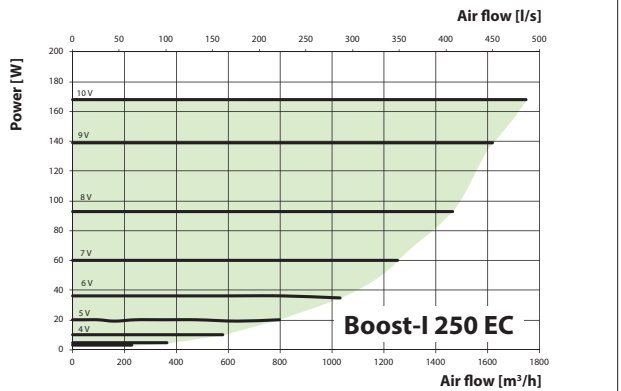




Sound power level		Sound power level [A-filter]									Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
		General	Octave frequency band [Hz]									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{WA} to inlet	dBA	71	67	67	63	59	50	45	44	40	51	61
L_{WA} to outlet	dBA	72	68	68	63	61	52	48	47	38	52	62
L_{WA} to environment	dBA	68	58	54	64	63	42	42	30	23	47	57

VENTS Boost-I EC





Sound power level		Sound power level [A-filter]									Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
		General	Octave frequency band [Hz]									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{WA} to inlet	dBA	72	68	68	64	60	51	45	45	40	52	62
L_{WA} to outlet	dBA	73	70	69	64	62	52	49	48	39	53	63
L_{WA} to environment	dBA	69	59	55	66	65	43	43	30	24	48	58

Series

VENTS TT Silent-M

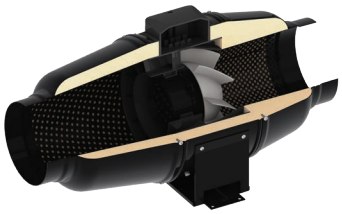
Inline mixed-flow fans in sound- and heat-insulated casing with the air flow up to **2050 m³/h**

Application

The inline VENTS TT Silent-M fans are enclosed in a specially designed sound-insulated casing that ensures silent fan operation in combination with high aerodynamic characteristics. The fans are compatible with round air ducts from Ø 100 up to 315 mm. The VENTS TT Silent-M fans combine wide capabilities and high performance characteristics of both axial and centrifugal fans, thus providing powerful air flow and high pressure. The VENTS TT Silent-M fans are recommended as a component of the air handling systems for various commercial and industrial premises with high requirements to noise level, i.e. libraries, conference halls, educational institutions, kindergartens, etc.

Design

The external casing is made of polymer-coated steel. The inner casing perforation let sound waves pass through the holes and fall at a specific angle to the sound-absorbing layer. The casing is internally heat- and sound-insulated with 50 mm mineral wool layer.
The specially perforated casing and sound-absorbing material provide sound attenuation in a broad frequency band. The inner casing and the impeller are made of high-quality durable plastic.



Due to the conic impeller and special blade profiling the circumferential air speed increases thus providing higher air pressure and capacity as compared to standard axial fans. The diffuser, the specially profiled impeller and the directing vanes at outlet from the fan casing distribute air flow in such a way as to attain the best combination of high performance and high pressure at low noise level. The fan casing is equipped with an airtight terminal box for connection to power mains.

Motor

Single-phase high-efficiency two-speed (or three-speed for TT Silent-M 200) motors with low energy consumption are used. The motor is equipped with thermal switches for the motor overheating protection. The ball bearings extend the motor service life up to 40 000 hrs. at non-stop operation. The motor has IPX4 ingress protection rating.

Control

The double-speed motors are controlled with a built-in switch (V option) or an external switch for multi-speed fans (available upon separate order).

TT Silent-M fan with a three-position speed switch

A built-in speed controller (P option), an external TRIAC or autotransformer speed controller (available upon separate order) enable smooth motor speed control when connected to the maximum speed terminal. T option models are equipped with an adjustable turn-off delay timer, adjustable from 2 to 30 minutes.

TT Silent-M fan with a built-in speed controller

Mounting

The fan may be mounted at any place and at any angle within the ductwork system. Several fans may be

Designation key

Series	Air duct diameter	Options
VENTS TT Silent-M	100; 125; 150; 160; 200; 250; 315	**T**: off-delay timer adjustable from 2 to 30 minutes. **U**: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Temperature-based operation logic. **Un**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Temperature-based operation logic. **U1**: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Timer-based operation logic. **U1n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Timer-based operation logic. **U2n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Temperature-based switching on/off. **R1**: power cord with a mains plug. **V**: three-position speed switch. **P**: integrated smooth speed controller.

ErP data	
Overall efficiency	η [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	kW
Current	A
Air flow	m³/h
Static pressure	Pa
Speed	n/min⁻¹
Specific ratio	SR

Accessories

Silencer | Filters | Heaters | Backdraft damper | Air shutter | Clamps | Temperature regler | Speed switch | Sensor

installed in one system in parallel to attain higher air flow or in series to increase operating pressure in the system. The fan casing is equipped with fixing brackets for fastening to the floor, wall or ceiling.

The fan with electronic module of the temperature sensor and speed controller (U option)

The ideal solution for ventilation of the premises with high demands to permanent temperature control e.g. greenhouses. The fan with the electronic temperature and speed control module provides automatic control of motor speed (air flow) depending on the air temperature in the air duct or in the room.

The front panel of the electronic module has the following control knobs:

– speed control knob for setting the motor speed;

– thermostat control knob for setting the temperature set point;

– thermostat indicator light.

The fan is available in two modifications:

– with a temperature sensor integrated inside the fan air duct (U/U1/U2 option);

– with an external temperature sensor fixed on the cable, 4 m long (Un/U1n/U2n option).

Control logic of the fan with the electronic temperature and speed control module

Set the desired air temperature (set point of the thermostat) with the thermostat control knob.

Set the required minimum impeller speed (air flow) with the speed control knob.

The motor switches to maximum speed (maximum air flow) as the temperature reaches and exceeds the set temperature set point.

The motor switches to the pre-set lower speed as the temperature drops down below the set temperature point.

To avoid the frequent motor speed changes, e.g. when the temperature in the supply air duct is equal to the threshold value, the switching delay time is activated. There are three switch delay control logics for various cases:

1. The temperature sensor-based switch delay (U option): the motor switches to higher speed as the air temperature exceeds 2 °C above the set thermostat set point. The motor revers to the pre-set lower speed as the air temperature drops below the thermostat set point. This control logic is used to keep air temperature to within 2 °C. In this case the motor speed switches are rare.

2. The timer-based switch delay (U1 option): as the air temperature exceeds the set thermostat set point, the motor switches to higher speed and the switch delay timer is activated for 5 minutes. The motor reverts to lower speed as the air temperature drops down below the thermostat set point and only after the delay timer countdown.

This pattern is used for exact air temperature control. The speed switches for the fan with U1 option are more frequent as compared to the fan with U option, however the minimum operating cycle at one speed is 5 minutes.

3. Switching ON/OFF by a temperature sensor (U2 option): when the air temperature exceeds by 2 °C the thermostat actuation set point, the fan starts operating at the set speed. The fan switches off when the temperature drops below the temperature set point.

Fan overall dimensions

Type	Dimensions [mm]					Mass [kg]	Fig. no.
	ØD	B	B1	L	H		
TT Silent-M 100	98	215	243	505	237	4.6	1
TT Silent-M 125	123	215	243	474	237	4.6	1
TT Silent-M 150	147	247	274	580	260	6.1	1
TT Silent-M 160	157	247	274	580	260	6.1	1
TT Silent-M 200	198	293	386	550	295	8	2
TT Silent-M 250	248	358	445	658	360	15	2
TT Silent-M 315	313	432	520	780	434	25	2

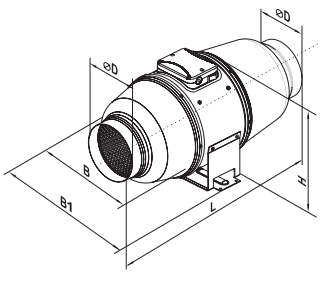


Fig.1

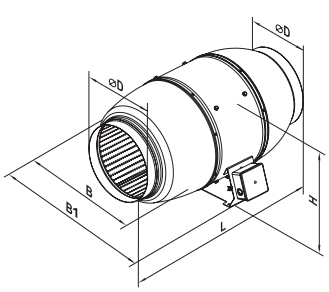


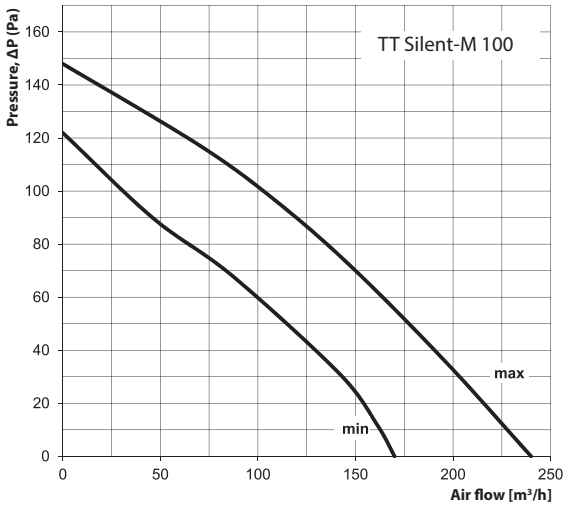
Fig.2

Technical data

	TT Silent-M 100		TT Silent-M 125	
Speed	min	max	min	max
Voltage [V/50 (60) Hz]	1~230		1~230	
Power [W]	24	26	25	29
Current [A]	0.1	0.11	0.11	0.13
Max. air flow [m³/h]	170	240	230	340
RPM [min⁻¹]	2030	2630	1650	2310
Noise level at 3 m [dBA]	24	29	23	28
Transported air temperature [°C]	60		60	
SEC class	D		D	
Protection rating	IPX4		IPX4	

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

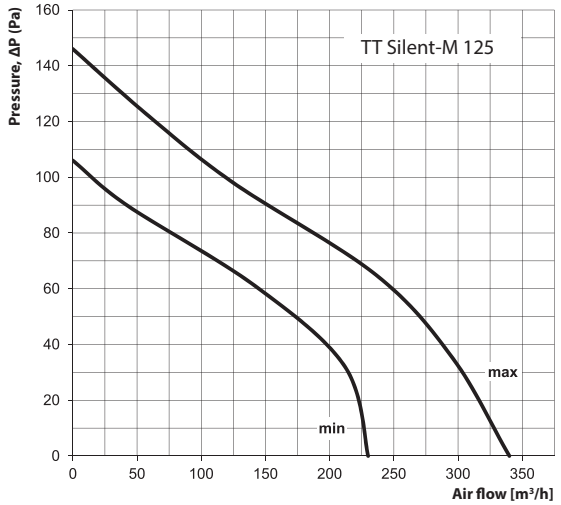
VENTS TT Silent-M



Low speed		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	55	29	45	51	49	48	35	26	14	34	44
L_{wA} to outlet	dBA	53	30	35	38	52	45	38	38	25	33	43
L_{wA} to environment	dBA	44	29	31	36	38	39	36	31	24	24	34

High speed		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	61	33	51	57	55	54	39	29	16	40	50
L_{wA} to outlet	dBA	58	33	38	41	57	50	41	41	27	37	47
L_{wA} to environment	dBA	49	36	42	45	44	37	34	24	18	29	39

VENTS TT Silent-M



Low speed		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	60	32	50	56	54	53	38	29	16	39	49
L_{wA} to outlet	dBA	58	40	43	50	52	54	50	43	33	38	48
L_{wA} to environment	dBA	44	35	38	39	37	29	23	18	12	23	33

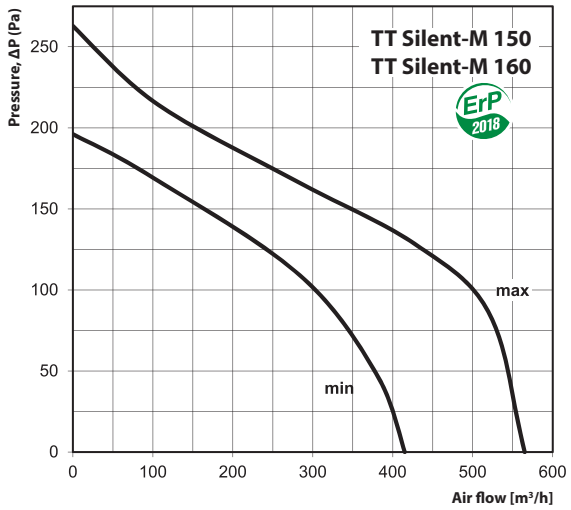
High speed		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	64	35	54	60	58	56	41	31	17	43	53
L_{wA} to outlet	dBA	61	35	40	44	60	53	44	44	29	40	50
L_{wA} to environment	dBA	48	35	40	44	43	38	34	25	20	28	38

Technical data

	TT Silent-M 150 TT Silent-M 160		TT Silent-M 200		
Speed	min	max	min	mid	max
Voltage [V/50 (60) Hz]	1~230		1~230		
Power [W]	45	52	82	100	110
Current [A]	0.2	0.23	0.37	0.44	0.49
Max. air flow [m³/h]	405	555	731	961	1020
RPM [min⁻¹]	1970	2645	2376	2382	2445
Noise level at 3 m [dBA]	26	33	30	34	36
Transported air temperature [°C]	60		60		
SEC class	C		C		
Protection rating	IPX4		IPX4		

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

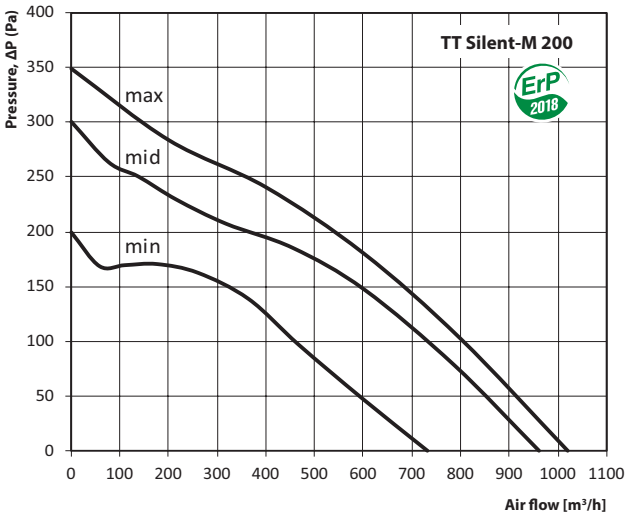
VENTS TT Silent-M



Low speed		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	59	32	49	55	53	52	38	28	15	38	48
L_{wA} to outlet	dBA	62	36	41	44	61	53	44	44	29	41	51
L_{wA} to environment	dBA	46	37	40	41	40	38	29	22	19	26	36

High speed		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	68	37	58	65	62	61	44	33	18	48	58
L_{wA} to outlet	dBA	66	38	43	47	65	57	47	47	31	45	55
L_{wA} to environment	dBA	53	44	47	48	47	45	34	26	23	33	43

VENTS TT Silent-M



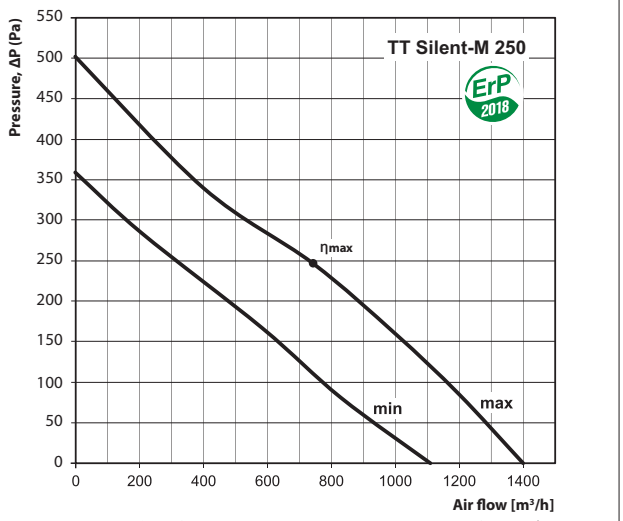
Low speed		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	63	34	53	60	57	56	41	31	17	43	53
L_{wA} to outlet	dBA	62	43	46	53	56	58	53	46	36	41	51
L_{wA} to environment	dBA	52	40	46	46	44	41	37	35	30	31	41

High speed		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	69	38	59	66	63	62	45	34	18	49	59
L_{wA} to outlet	dBA	67	39	44	48	66	58	48	48	32	47	57
L_{wA} to environment	dBA	57	44	52	52	49	45	41	39	34	36	46

	TT Silent-M 250		TT Silent-M 315	
Speed	min	max	min	max
Voltage [V/50 (60) Hz]	1~230		1~230	
Power [W]	125	177	230	320
Current [A]	0.54	0.79	1	1.42
Max. air flow [m³/h]	1110	1400	1570	2050
RPM [min⁻¹]	1955	2440	1890	2430
Noise level at 3 m [dBA]	34	38	36	40
Transported air temperature [°C]	60		60	
SEC class	-		-	
Protection rating	IPX4		IPX4	

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

VENTS TT Silent-M

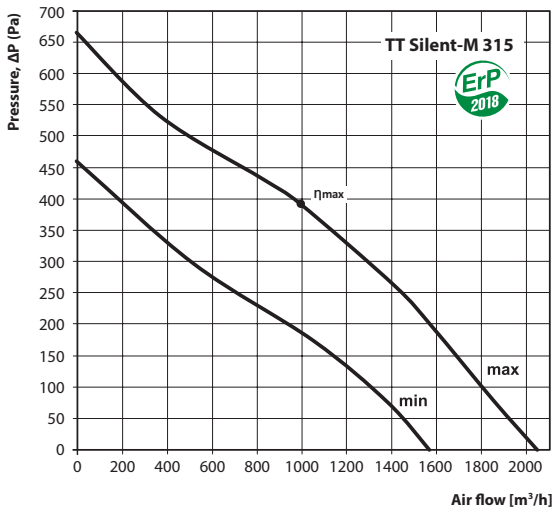


Low speed		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	66	36	56	63	60	59	43	32	17	45	55
L_{wA} to outlet	dBA	64	37	42	46	63	55	46	46	30	43	53
L_{wA} to environment	dBA	55	44	48	51	47	44	37	31	25	34	44

High speed		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	69	38	59	66	63	62	45	34	18	49	59
L_{wA} to outlet	dBA	75	43	50	54	74	65	54	54	36	54	64
L_{wA} to environment	dBA	58	47	49	53	53	49	44	39	31	38	48

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
30.9	A	Static	49.4	No	0.174	0.8	803	236	2505	1

VENTS TT Silent-M



Low speed		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	67	36	57	63	61	59	43	32	18	46	56
L_{wA} to outlet	dBA	65	45	48	56	59	61	56	48	37	44	54
L_{wA} to environment	dBA	56	47	47	52	50	45	41	37	29	36	46

High speed		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	70	38	60	67	64	62	45	34	18	49	59
L_{wA} to outlet	dBA	71	50	53	62	65	67	62	53	41	50	60
L_{wA} to environment	dBA	60	51	52	54	55	50	46	43	35	40	50

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
32.4	A	Static	48.2	No	0.317	1.43	1112	326	2320	1

Series

VENTS TT Silent-M EC

Mixed-type duct fans with EC motors
in casings with noise
and heat insulation
Air flow up to **1970 m³/h**

Application

The new VENTS TT Silent-M EC duct fan series is provided with a special noise-insulated casing which ensures silent operation and excellent aerodynamic characteristics. Compatible with Ø100 up to Ø315 mm air ducts.

The VENTS TT Silent-M EC fans combine the versatility and outstanding performance of both axial and centrifugal fans producing a powerful air flow and high pressure while retaining the signature energy-efficiency and response of EC motors.

Several fans can be integrated into a single computer-controlled system with sensor feedback combined with speed control across the entire dynamic range. Application: Combined supply and exhaust ventilation systems of various commercial and industrial spaces with stringent noise requirements (such as libraries, conference halls, classrooms, kindergarten playrooms etc.).

Design

The external casing is made of steel with a polymer coating. The internal casing perforations conduct sound waves and direct them at the noise-absorbing material at a specific angle. Noise and heat insulation is ensured by a mineral wool layer 50 mm in thickness. Wideband noise control is achieved by means of special casing perforation and the use of noise-absorbing material. The inner casing and the impeller are made of durable high-quality plastic.

Conical impellers with specially profiled blades help boost angular velocity of the air flow resulting in higher pressure and air flow compared to the conventional designs. The combination of a diffuser, a specially designed impeller and flow straightener vanes at the fan outlet allow for an optimum flow distribution to achieve high capacity and increased air pressure without generating excessive noise. The fan casing is equipped with an external water-tight terminal box for electrical connections.

Motor

The fans feature high-efficiency electronically commutated (EC) direct current motors. These state-of-the-art units offer excellent energy efficiency. EC motors combine high performance and optimum control across the entire speed range. The performance efficiency of the electronically commutated motors reaches 90 %.

Speed control

The fans are controlled by means of a 0-10 V control signal while the performance regulation is based on the feedback from the temperature, smoke and other sensors as well as other vital parameter settings. As the control signal changes the EC fan adjusts the speed to supply the exact amount of air required by the ventilation system. The maximum fan speed does not depend on the electric mains frequency enabling compatibility with both 50 Hz and 60 Hz networks. The fans can be easily combined into a single computer-controlled network. Special software allows for precise control over the operating parameters of the network units. All the system parameters can be monitored from a computer screen allowing to program operating parameters for each fan on the network individually.

Mounting

The fans are designed to be used with round air ducts. The fan casing has mounting brackets for convenient installation onto the floor, walls or ceiling. The ducts can be fitted at any angle relative to the fan axis. Make sure to provide sufficient maintenance access during fan installation. Electrical connection and installation must be performed in accordance with the instruction manual and the electrical connections diagram applied to the terminal box. A single system may have several fans installed in parallel to boost the output capacity or in series to boost the working pressure.

Designation key

Series	Casing material	Air ducts diameter	Motor type
VENTS TT SILENT-M: mixed-type duct fan in casings with noise and heat insulation	**M**: metal	100; 125; 150; 160; 200; 250; 315	**EC**: synchronous electronically commutated motor

Accessories


Silencer


Filters


Heaters


Backdraft damper

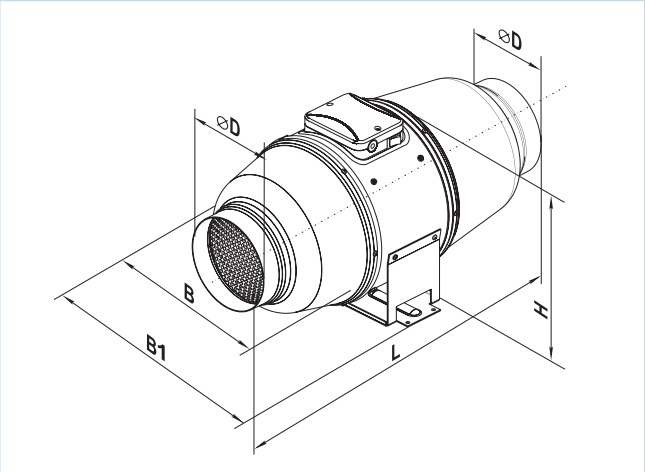

Air shutter


Clamps


Speed controller

Overall dimensions of the fan

Model	Dimensions [mm]					Mass [kg]
	ØD	B	B1	L	H	
TT Silent M 100 EC	98	215	332	505	247	4.9
TT Silent M 125 EC	123	215	332	474	247	4.8
TT Silent M 150 EC	147	247	372	580	265	6.0
TT Silent M 160 EC	157	247	372	580	265	6.0
TT Silent M 200 EC	198	293	392	558	311	8.6
TT Silent M 250 EC	248	358	451	664	379	12.5
TT Silent M 315 EC	313	432	527	782	455	19.8

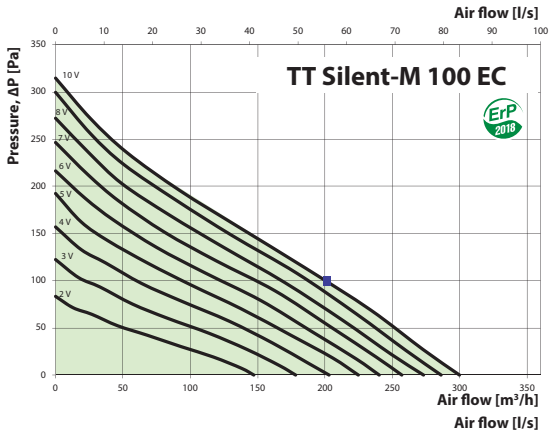


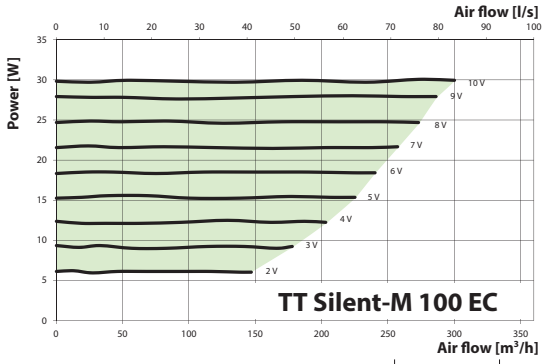
Technical data

	TT Silent M 100 EC	TT Silent M 125 EC	TT Silent M 150(160) EC	TT Silent M 200 EC	TT Silent M 250 EC	TT Silent M 315 EC
Voltage [V/50 (60) Hz]	1~230	1~230	1~230	1~230	1~230	1~230
Power [W]	30	40	55	123	169	284
Current [A]	0.29	0.37	0.48	1.02	1.38	1.25
Max. air flow [m^3/h]	300	450	600	1040	1285	1970
RPM [min^{-1}]	3680	3750	3390	3390	2870	2826
Noise level at 3m [dBA]	37	43	38	43	42	46
Transported air temperature [°C]	-25...+55	-25...+55	-25...+55	-25...+55	-25...+55	-25...+55
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4
SEC class	B	B	B	-	-	-

To meet the requirements of ErP 2018, a speed controller and local demand control typology must be applied (connect a sensor).

VENTS TT Silent M EC

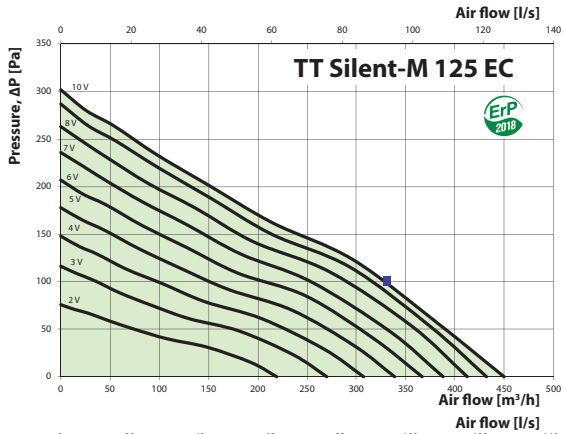


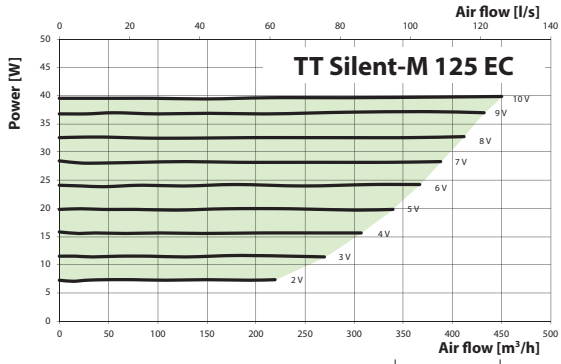


■ Sound power level [A-filter]

Sound power level		General	Octave frequency band [Hz]								Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{wA} to inlet	dBA	62	46	59	59	42	37	34	31	23	42	52
L_{wA} to outlet	dBA	57	46	57	45	42	38	31	26	20	37	47
L_{wA} to environment	dBA	57	39	45	51	55	43	42	32	23	37	47

VENTS TT Silent M EC

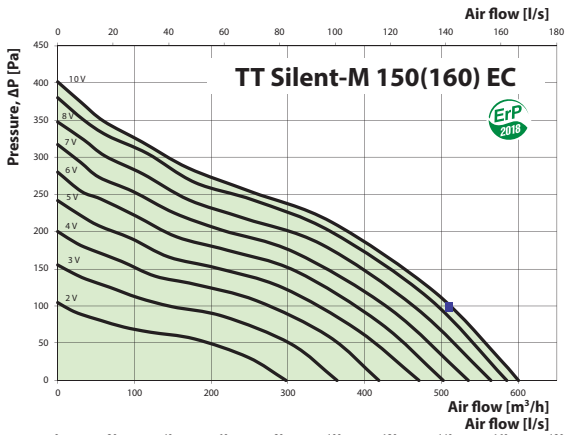


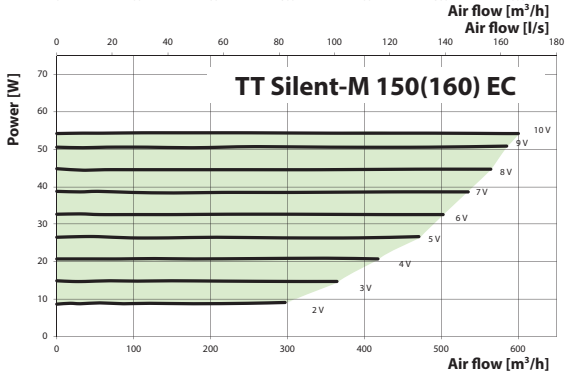


■ Sound power level [A-filter]

Sound power level		General	Octave frequency band [Hz]								Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{wA} to inlet	dBA	68	51	65	65	46	41	38	34	25	48	58
L_{wA} to outlet	dBA	65	52	65	51	48	43	35	30	23	45	55
L_{wA} to environment	dBA	63	50	53	57	61	50	49	38	29	43	53

VENTS TT Silent M EC

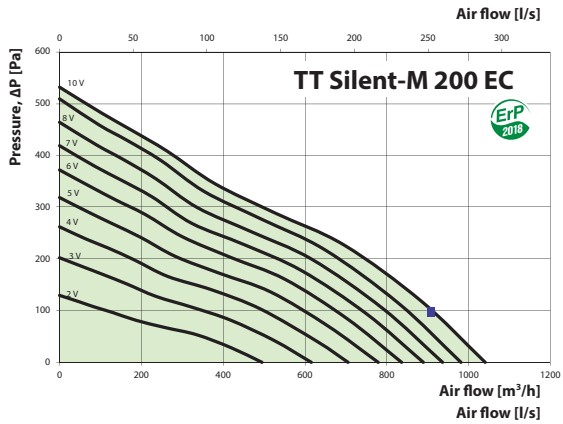


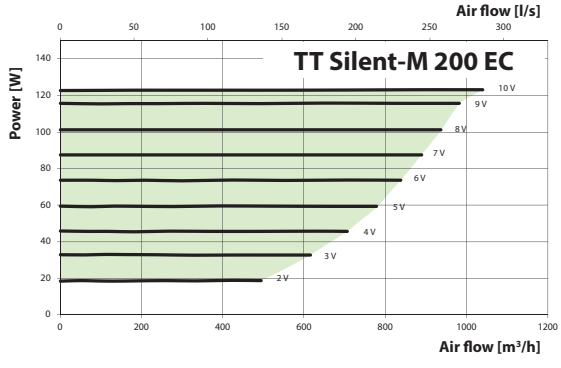


■ Sound power level [A-filter]

Sound power level		General	Octave frequency band [Hz]								Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{wA} to inlet	dBA	61	45	58	58	41	37	33	30	23	41	51
L_{wA} to outlet	dBA	58	47	58	46	43	39	32	27	20	38	48
L_{wA} to environment	dBA	58	48	48	50	57	45	43	36	30	38	48

VENTS TT Silent M EC

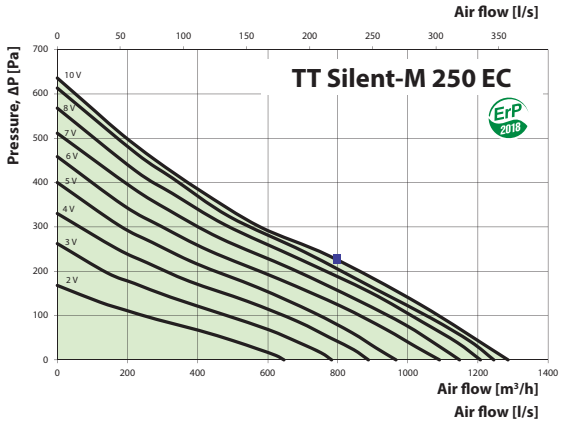


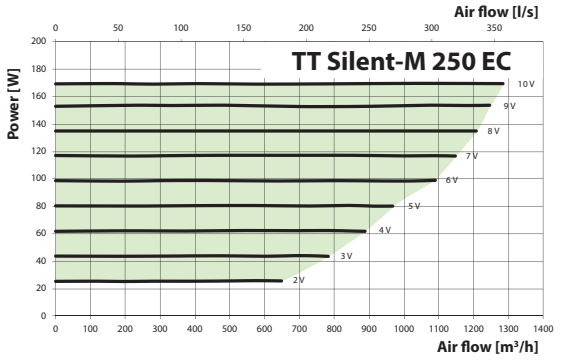


■ Sound power level [A-filter]

Sound power level		General	Octave frequency band [Hz]								Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{wA} to inlet	dBA	68	37	47	57	63	63	62	61	55	48	58
L_{wA} to outlet	dBA	70	42	50	59	64	66	64	63	58	50	60
L_{wA} to environment	dBA	63	31	43	53	61	56	53	47	37	43	52

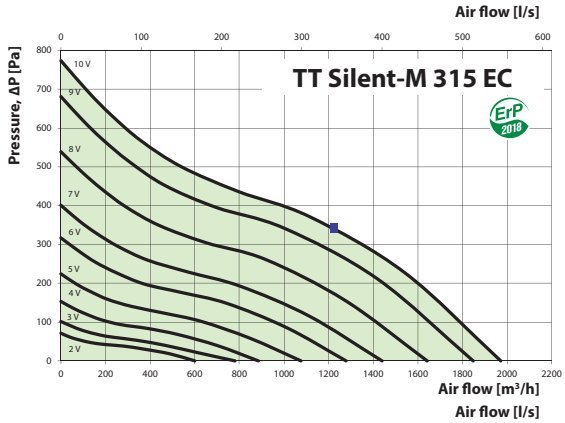
VENTS TT Silent M EC

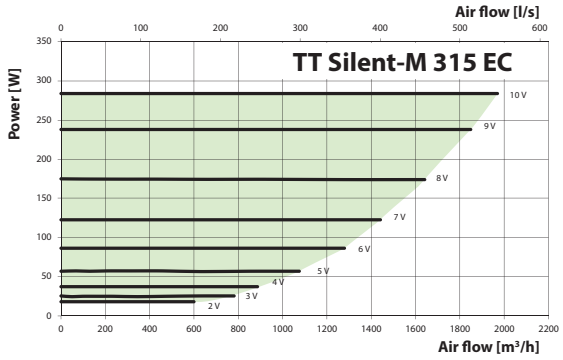




Sound power level		General	Octave frequency band [Hz]								Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{wA} to inlet	dBA	70	45	48	60	66	65	63	58	52	50	60
L_{wA} to outlet	dBA	74	46	54	62	70	69	66	63	56	54	64
L_{wA} to environment	dBA	63	40	45	52	60	57	51	43	31	42	52

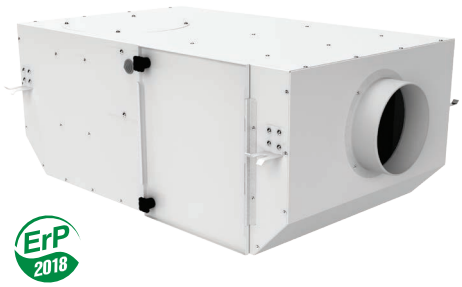
VENTS TT Silent M EC





Sound power level		General	Octave frequency band [Hz]								Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{wA} to inlet	dBA	72	41	55	64	65	70	65	63	55	52	62
L_{wA} to outlet	dBA	77	52	61	67	74	71	69	67	62	57	66
L_{wA} to environment	dBA	66	33	48	58	60	63	57	50	38	46	55

Series
VENTS KSV



Centrifugal fans in sound-insulated casing with air flow up to **630 m³/h**

Application
Designed for integration into supply and exhaust ventilation systems requiring high cleaning of intake air, low-noise operation and limited mounting space. The fans are compatible with round air ducts. The fans are compatible with air ducts Ø 100, 150 and 200 mm.

Design
The casing made of polymer coated steel, internally lined with sound-insulating layer. Power is supplied through the terminal box inside of the casing. The fan design provides convenient maintenance access to the internal parts and filter replacement.

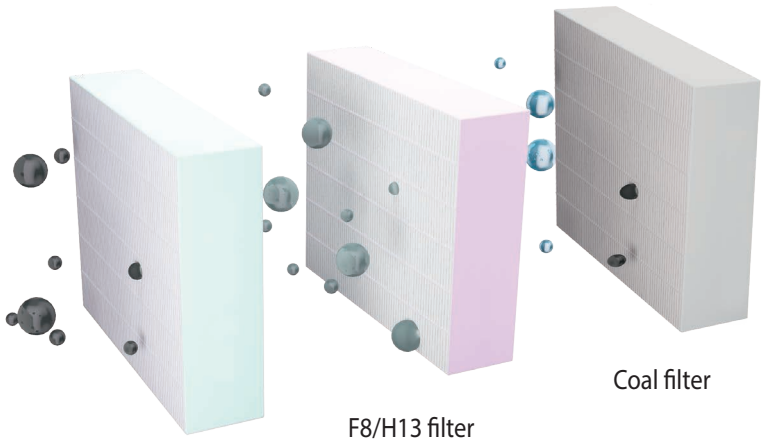
Motor
The single-speed models are equipped with a four-pole asynchronous electric external rotor motors and centrifugal impellers with forward curved blades. The impellers are dynamically balanced. The motors are compatible with power mains frequency 60 Hz. The double-speed models (Duo) are equipped with asynchronous electric external rotor motors and centrifugal impellers with forward curved blades. Double-speed control. The ball bearings enable a long operating life. The motors are equipped with an integrated overheating protection with automatic restart. The motor protection class is IP44.

Modifications
KSV DUO: two-speed motor
KSV Q: low noise and low-powered motor

Speed control
Single-speed models: smooth speed control with the external speed controller RS-1-400 (specially ordered accessory).
Two-speed models: smooth speed control with the external speed switch P2-10 (specially ordered accessory).

Mounting
The fans are compatible with round air ducts. The use of flexible connectors requires fixation of the fan on the building structure by means of the supplied mounting brackets. The fan can be installed in any position (including suspended ceiling mounting), taking into account the air flow direction indicated by the arrow on the fan casing. A service access must be provided.

Air filtration
Integrated filters (up to three different) ensure sufficient air purification. Pre-filtering with a G4 filter. Secondary cleaning is provided by F8 filter or H13 HEPA filter. F8 filter delays up to 98 % of solid particles with a diameter of 2.5 microns. H13 filter delays up to 99 % of solid particles with a diameter of 2.5 microns, as well as fluff and bacteria. For additional removal of unwanted odors and gases, it is possible to install a coal filter.

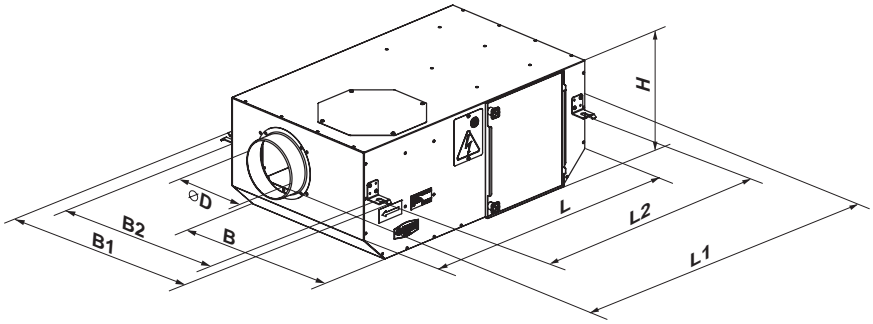


Designation key

Series	Spigot diameter, [mm]	Motor modification	Filters	Options
VENTS KSV	100; 150; 200	**Duo**: two-speed motor **Q**: low noise and low-powered motor	**G4**: only G4 filter **G4/F8**: G4+F8 filters **G4/F8/Carbon**: G4+F8 filters+coal filter **G4/H13**: G4+H13 filters **G4/H13/Carbon**: G4+H13 filters+coal filter	**R1**: 0.4 m long power cable with a standard electric plug

Overall dimensions

Model	D	L	H	B	L1	B1	L2	B2	Mass [kg]
KSV 100 (DUO) G4	100	705	250	415	805	508	650	458	13.95
KSV 100 (DUO) G4/F8									14.16
KSV 100 (DUO) G4/F8/CARBON									14.86
KSV 100 (DUO) G4/H13									14.16
KSV 100 (DUO) G4/H13/CARBON									14.86
KSV 150 (DUO) Q G4	150	705	250	415	805	508	650	458	13.96
KSV 150 (DUO) Q G4/F8									14.17
KSV 150 (DUO) Q G4/F8/CARBON									14.87
KSV 150 (DUO) Q G4/H13									14.17
KSV 150 (DUO) Q G4/H13/CARBON									14.87
KSV 150 (DUO) G4	150	735	300	440	835	533	680	483	15.92
KSV 150 (DUO) G4/F8									16.17
KSV 150 (DUO) G4/F8/CARBON									17.08
KSV 150 (DUO) G4/H13									16.17
KSV 150 (DUO) G4/H13/CARBON									17.08
KSV 200 (DUO) G4	200	735	300	605	835	698	680	648	18.78
KSV 200 (DUO) G4/F8									19.10
KSV 200 (DUO) G4/F8/CARBON									20.32
KSV 200 (DUO) G4/H13									19.10
KSV 200 (DUO) G4/H13/CARBON									20.32



Accessories

Model	Replaceable G4 panel filter	Replaceable F8 panel filter	Replaceable H13 panel filter	Replaceable coal panel filter	Speed controller
					
KSV 100 KSV 150 Q	SF 220x400x47-G4	SF 220x400x47-F8	SF 220x400x47-H13	SF 220x400x47-S	PS-1-400
KSV 150	SF 270x425x47-G4	SF 270x425x47-F8	SF 270x425x47-H13	SF 270x425x47-S	
KSV 200	SF 270x590x47-G4	SF 270x590x47-F8	SF 270x590x47-H13	SF 270x590x47-S	
KSV 100 DUO KSV 150 DUO Q	SF 220x400x47-G4	SF 220x400x47-F8	SF 220x400x47-H13	SF 220x400x47-S	P2-10
KSV 150 DUO	SF 270x425x47-G4	SF 270x425x47-F8	SF 270x425x47-H13	SF 270x425x47-S	
KSV 200 DUO	SF 270x590x47-G4	SF 270x590x47-F8	SF 270x590x47-H13	SF 270x590x47-S	

Technical data

	KSV 100 G4	KSV 100 G4/F8	KSV 100 G4/H13	KSV 150 Q G4	KSV 150 Q G4/F8	KSV 150 Q G4/ H13
Voltage [V/50 Hz]	1~230					
Power [W]	53	53	52	63	61	59
Current [A]	0.27	0.27	0.27	0.29	0.25	0.28
Air flow [m³/h]	190	180	170	360	330	310
RPM [min⁻¹]	1300	1300	1300	1300	1300	1300
Noise level at 3 m [dBA]	23	23	23	25	25	25
Transported air temperature [°C]	-25...+40					
Protection class against external influences	IPX4					
PM 2.5 Filtration efficiency [%]	36	93	98	31	92	98
SEC class	C	D	D	E	E	C

Technical data

	KSV 150 G4	KSV 150 G4/F8	KSV 150 G4/H13	KSV 200 G4	KSV 200 G4/F8	KSV 200 G4/H13
Voltage [V/50 Hz]	1~230					
Power [W]	107	104	102	123	120	115
Current [A]	0.49	0.48	0.48	0.56	0.56	0.52
Air flow [m³/h]	440	400	360	580	570	490
RPM [min⁻¹]	1250	1250	1250	1250	1250	1250
Noise level at 3 m [dBA]	27	27	27	38	38	38
Transported air temperature [°C]	-25...+40					
Protection class against external influences	IPX4					
PM 2.5 Filtration efficiency [%]	39	92	98	40	93	98
SEC class	D	D	D	D	D	C

Technical data

	KSV 100 DUO G4		KSV 100 DUO G4/F8		KSV 100 DUO G4/H13	
Speed	min	max	min	max	min	max
Voltage [V/50 Hz]	1~230					
Power [W]	34	42	33	41	32	41
Current [A]	0.15	0.19	0.15	0.19	0.15	0.19
Air flow [m³/h]	160	190	150	175	140	160
RPM [min⁻¹]	700	1200	700	1200	700	1200
Noise level at 3 m [dBA]	14	23	14	23	14	23
Transported air temperature [°C]	-25...+40	-25...+40	-25...+40	-25...+40	-25...+40	-25...+40
Protection class against external influences	IPX4					
PM 2.5 Filtration efficiency [%]	35	31	94	93	99	98
SEC class	C		E		E	

Technical data

	KSV 150 DUO Q G4		KSV 150 DUO Q G4/F8		KSV 150 DUO Q G4/H13	
Speed	min	max	min	max	min	max
Voltage [V/50 Hz]	1~230					
Power [W]	44	52	41	50	40	48
Current [A]	019	023	0.18	022	0.18	021
Air flow [m³/h]	230	340	215	310	205	285
RPM [min⁻¹]	700	1200	700	1200	700	1200
Noise level at 3 m [dBA]	15	25	15	25	15	25
Transported air temperature [°C]	-25...+40	-25...+40	-25...+40	-25...+40	-25...+40	-25...+40
Protection class against external influences	IPX4					
PM 2.5 Filtration efficiency [%]	31	23	90	87	93	92
SEC class	C		C		D	

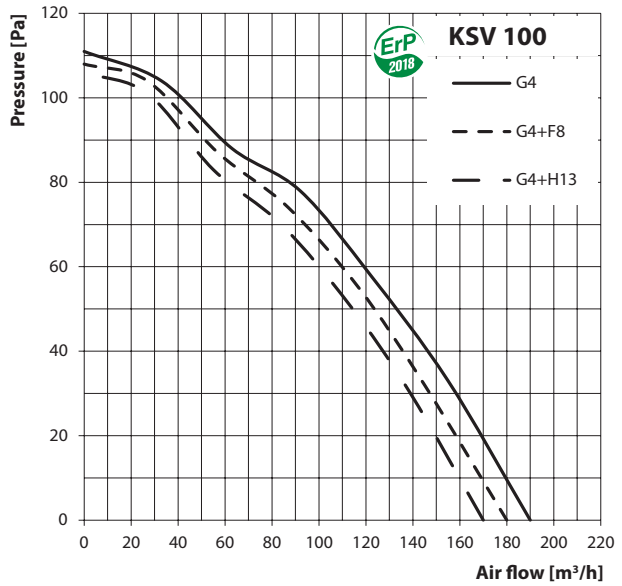
Technical data

	KSV 150 DUO G4		KSV 150 DUO G4/F8		KSV 150 DUO G4/H13	
Speed	min	max	min	max	min	max
Voltage [V/50 Hz]	1~230					
Power [W]	92	117	89	115	85	114
Current [A]	0.41	0.55	0.41	0.55	0.38	0.54
Air flow [m³/h]	320	430	300	390	280	355
RPM [min⁻¹]	700	1200	700	1200	700	1200
Noise level at 3 m [dBA]	16	27	16	27	16	27
Transported air temperature [°C]	-25...+40	-25...+40	-25...+40	-25...+40	-25...+40	-25...+40
Protection class against external influences	IPX4					
PM 2.5 Filtration efficiency [%]	47	41	95	94	98	96
SEC class	D		E		E	

Technical data

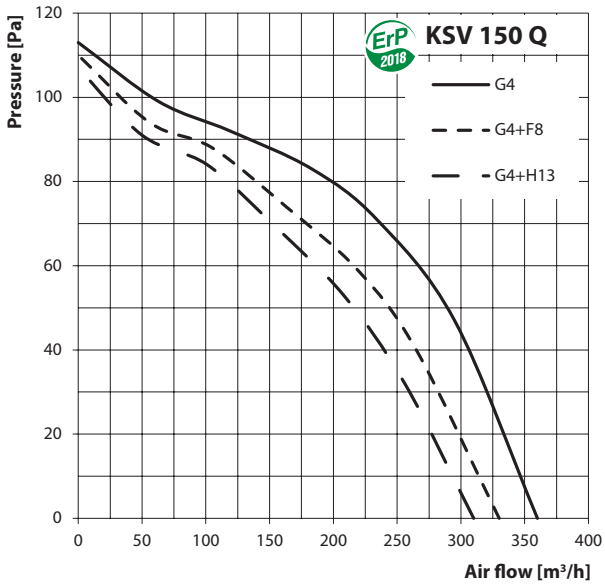
	KSV DUO 200 G4		KSV 200 DUO G4/F8		KSV 200 DUO G4/H13	
Speed	min	max	min	max	min	max
Voltage [V/50 Hz]	1~230					
Power [W]	106	123	103	121	97	119
Current [A]	0.47	0.59	0.45	0.57	0.43	0.55
Air flow [m³/h]	390	630	380	590	350	525
RPM [min⁻¹]	700	1200	700	1200	700	1200
Noise level at 3 m [dBA]	22	38	22	38	22	38
Transported air temperature [°C]	-25...+40	-25...+40	-25...+40	-25...+40	-25...+40	-25...+40
Protection class against external influences	IPX4					
PM 2.5 Filtration efficiency [%]	37	28	98	97	99	98
SEC class	C		D		D	

VENTS KSV



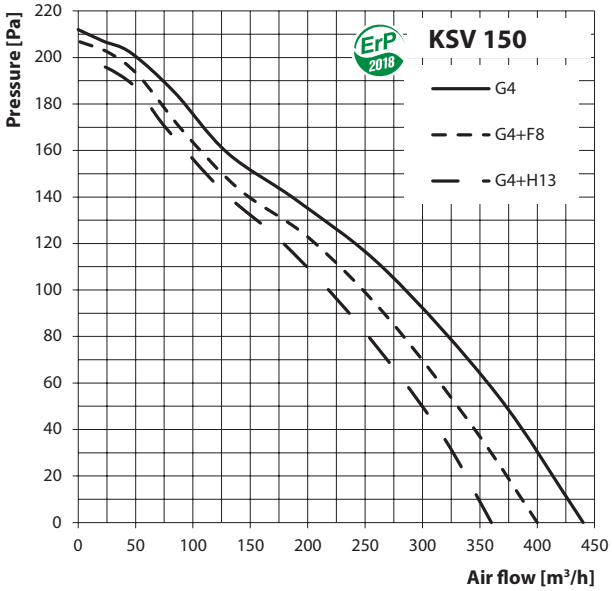
Sound power level, A-filter applied		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	48	32	34	40	42	43	40	34	26	27	37
L_{wA} to outlet	dBA	51	27	42	47	45	44	32	24	13	30	40
L_{wA} to environment	dBA	43	31	34	35	38	36	34	31	26	23	33

VENTS KSV



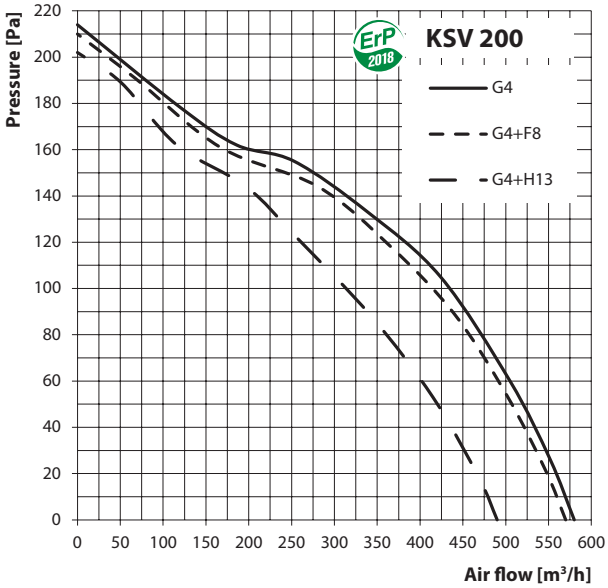
Sound power level, A-filter applied		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	53	28	44	49	47	46	34	25	14	33	43
L_{wA} to outlet	dBA	56	39	41	48	51	52	48	41	32	36	46
L_{wA} to environment	dBA	45	26	35	41	39	37	34	30	23	25	35

VENTS KSV



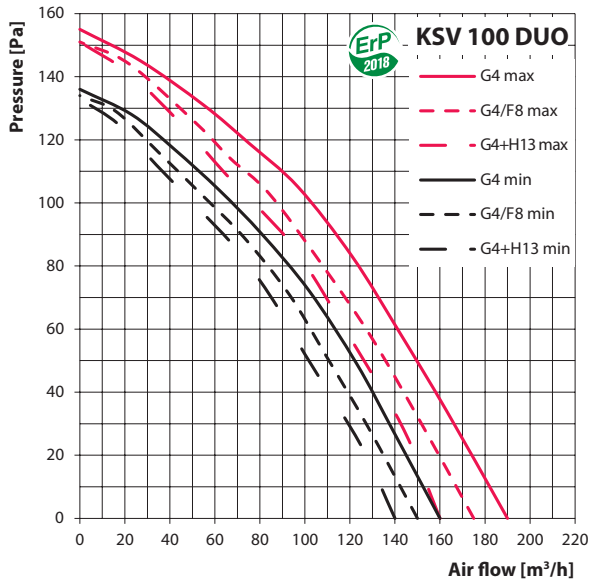
Sound power level, A-filter applied		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	53	39	40	47	50	41	40	38	27	33	43
L_{wA} to outlet	dBA	58	42	39	47	54	50	51	45	35	37	47
L_{wA} to environment	dBA	48	38	40	41	44	36	29	28	24	27	37

VENTS KSV



Sound power level, A-filter applied		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	67	55	56	58	60	58	59	57	55	46	56
L_{wA} to outlet	dBA	71	58	56	68	63	61	59	55	47	50	60
L_{wA} to environment	dBA	58	44	48	54	55	40	34	30	36	38	48

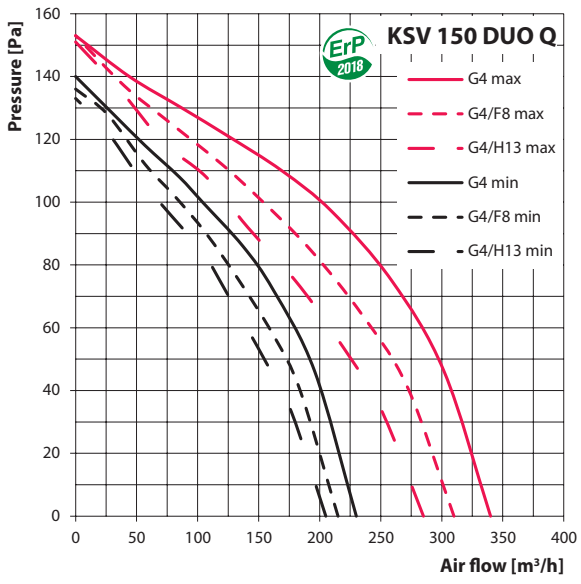
VENTS KSV



Sound power level, A-filter applied		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
Min	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	41	26	28	33	35	36	33	28	22	20	30
L_{wA} to outlet	dBA	43	22	35	39	37	37	27	20	11	23	33
L_{wA} to environment	dBA	35	23	26	26	29	27	26	23	20	14	24

Sound power level, A-filter applied		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
Max	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	48	32	34	40	42	43	40	34	26	27	37
L_{wA} to outlet	dBA	51	27	42	47	45	44	32	24	13	30	40
L_{wA} to environment	dBA	43	31	34	35	38	36	34	31	26	23	33

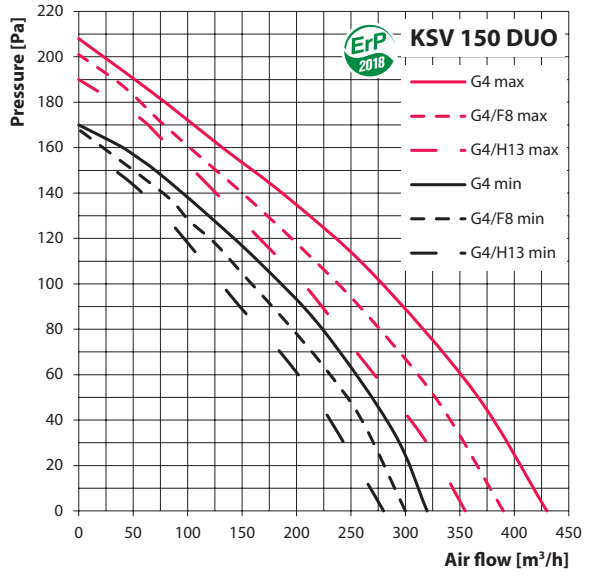
VENTS KSV



Sound power level, A-filter applied		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
Min	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	45	24	37	41	39	38	28	21	11	25	35
L_{wA} to outlet	dBA	48	32	34	40	42	43	40	34	26	27	37
L_{wA} to environment	dBA	36	20	26	31	29	28	26	23	17	15	25

Sound power level, A-filter applied		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
Max	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	53	28	44	49	47	46	34	25	14	33	43
L_{wA} to outlet	dBA	56	39	41	48	51	52	48	41	32	36	46
L_{wA} to environment	dBA	45	26	35	41	39	37	34	30	23	25	35

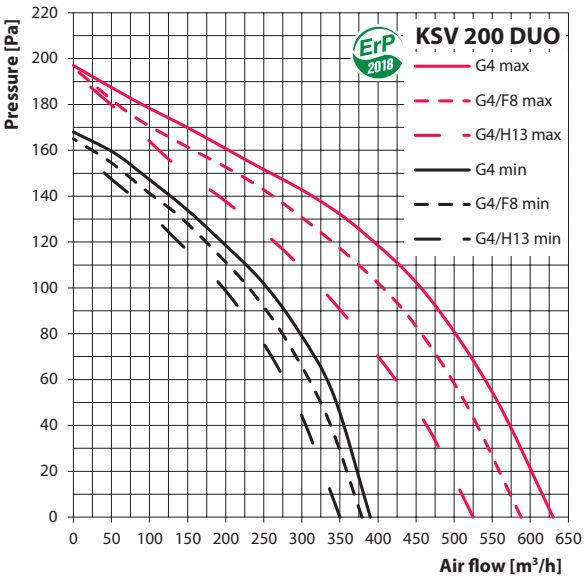
VENTS KSV



Sound power level, A-filter applied		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
Min	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	44	31	32	38	41	33	32	31	22	24	34
L_{wA} to outlet	dBA	48	34	32	38	44	41	41	36	28	28	38
L_{wA} to environment	dBA	36	27	29	30	32	26	21	20	17	16	26

Sound power level, A-filter applied		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
Max	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	53	39	40	47	50	41	40	38	27	33	43
L_{wA} to outlet	dBA	58	42	39	47	54	50	51	45	35	37	47
L_{wA} to environment	dBA	48	38	40	41	44	36	29	28	24	27	37

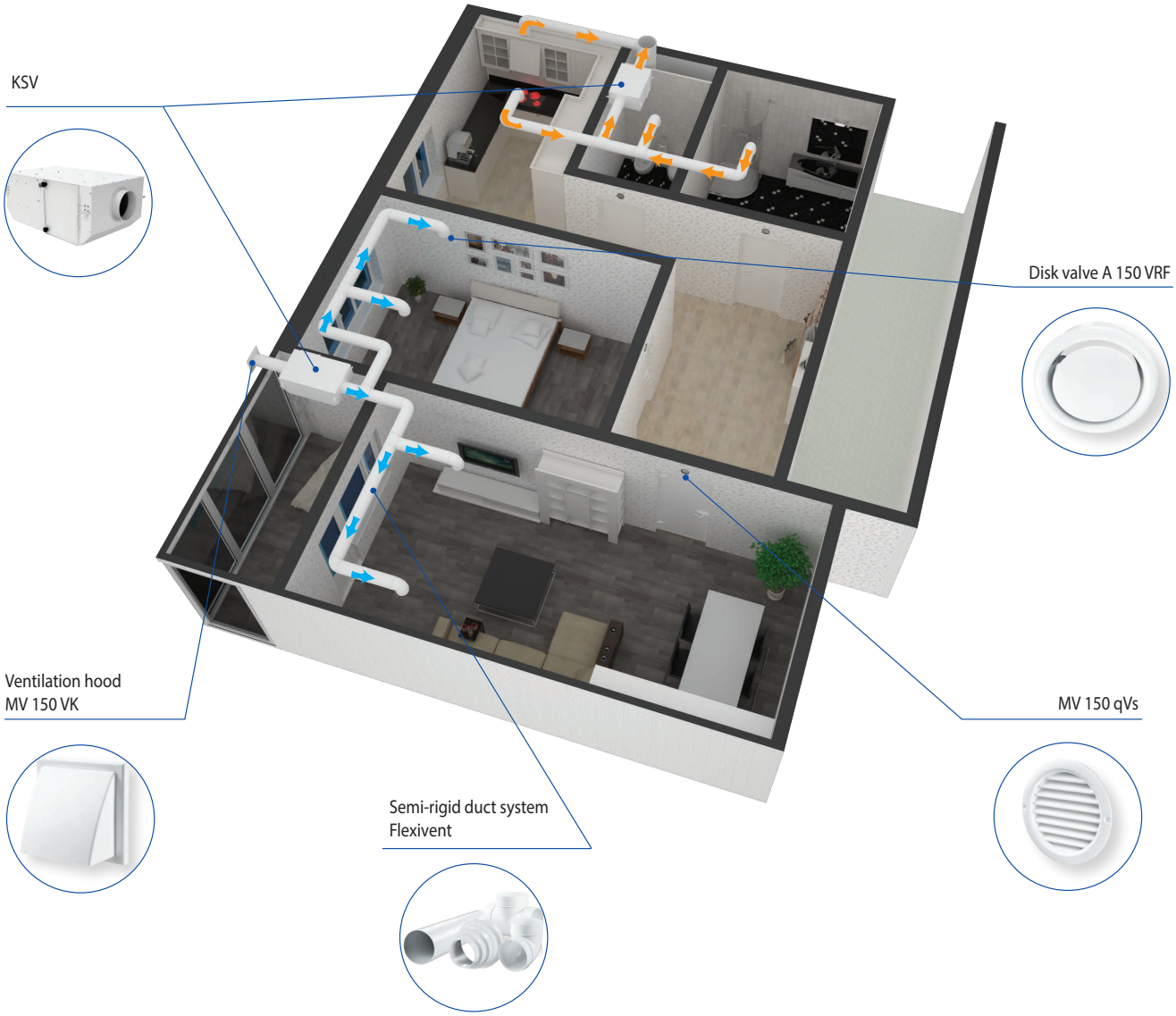
VENTS KSV



Sound power level, A-filter applied		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
Min	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	55	44	45	47	48	47	48	46	44	35	45
L_{wA} to outlet	dBA	58	46	45	54	51	49	47	44	38	37	47
L_{wA} to environment	dBA	43	31	34	38	39	28	24	21	25	22	32

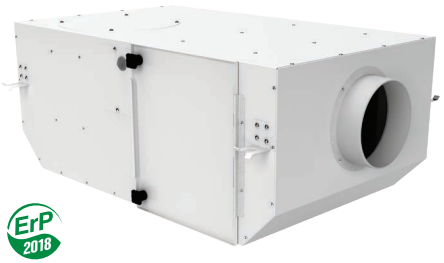
Sound power level, A-filter applied		Octave-frequency band [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
Max	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	67	55	56	58	60	58	59	57	55	46	56
L_{wA} to outlet	dBA	71	58	56	68	63	61	59	55	47	50	60
L_{wA} to environment	dBA	58	44	48	54	55	40	34	30	36	38	48

Application option



Series

VENTS KSV ES
VENTS KSV Duo ES



Centrifugal fans in sound-insulated casing with the air flow up to **640 m³/h**

Application

The KSV ES ventilation units are designed for integration into supply ventilation systems requiring high cleaning of intake air and low-noise operation.

The fans are compatible with round air ducts Ø 100, 150 and 200 mm.

Design

Corrosion resistant casing made of polymer coated steel, internally lined with sound-insulating layer.

The pre-filter and the electrostatic filter are installed at the unit inlet.

Power is supplied through the airtight terminal box inside of the casing.

The ventilation unit design provides convenient maintenance access to the internal parts.

Motor

The single-speed models are equipped with a four-pole asynchronous electric external rotor motors and centrifugal impellers with backward curved blades. The impellers are dynamically balanced. The motors are compatible with mains frequency 60 Hz.

The double-speed models (Duo) are equipped with asynchronous electric external rotor motors and centrifugal impellers with forward curved blades. The impellers are dynamically balanced. Double-speed control. The ball bearings enable a long operating life.

The motors are equipped with an integrated overheating protection with automatic restart.

Speed control

Single-speed models: smooth speed control with the external speed controller RS-1-400 (specially ordered accessory).

Two-speed models: smooth speed control with the external speed switch P2-10 (specially ordered accessory).

Mounting

The compact design offers the ideal mounting solutions for limited mounting space, including suspended ceiling mounting. Wall or ceiling mounting is performed by means of the supplied mounting brackets. The unit is designed for strict horizontal installation. A service access must be provided.

Air filtration

The service panel in the casing enables quick access to the filters.

Pre-filtering with a G4 filter.

Fine filtration with an electrostatic filter.

Electrostatic filter

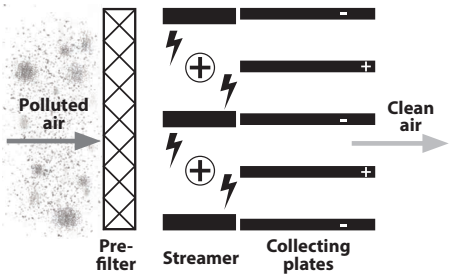
Electrostatic filter enables purification of air from fine dust and soot, spray, smoke and other particles with the size of 0.01 microns and less.

Max. filter cleaning efficiency 98 %.

The electrostatic filters rely on gravity of oppositely charged particles.

The polluted air stream flows through the spray charging unit for the particle ionization.

As a result of the adsorption of the ions on the particle surface the ionized particles are moved by the airstream and accumulated on the collecting plates, which are oppositely charged.



The filter cleaning interval depends on the inlet air pollution density and may vary from 7 up to 21 days.

The filter cleaning interval is determined according to the results of the visual inspection of the filters.

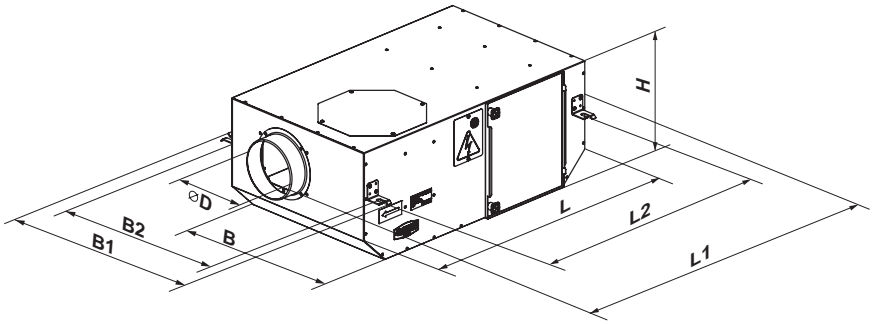
Vacuum cleaning is allowed.

Designation key

Series	Spigot diameter [mm]	Motor modification	Filters	Options
VENTS KSV	100; 150; 200	**Duo**: double-speed motor **Q**: low noise and low-powered motor	**ES**: electrostatic filter	**R1**: 0.4 m long power cable with a standard electric plug

Overall dimensions

Model	Dimensions [mm]								Mass [kg]
	∅D	L	H	B	L1	B1	L2	B2	
VENTS KSV 100 ES VENTS KSV 100 Duo ES	100	755	250	458	855	551	700	502	16.5
VENTS KSV 150 Q ES VENTS KSV 150 Duo Q ES	150	755	250	458	855	551	700	502	16.5
VENTS KSV 150 ES VENTS KSV 150 Duo ES	150	785	300	458	885	551	730	502	18.5
VENTS KSV 200 ES VENTS KSV 200 Duo ES	200	785	300	658	885	751	730	702	20.5



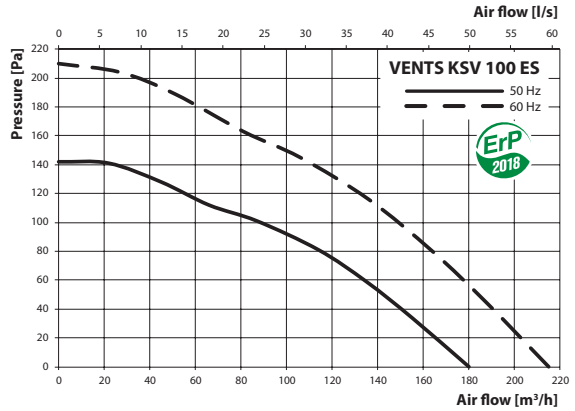
Accessories

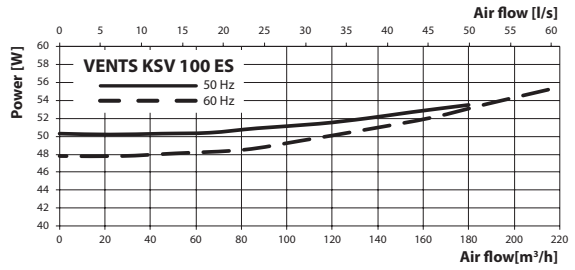
Model	Replaceable G4 panel filter	Speed controller
		
VENTS KSV 100 ES VENTS KSV 150 Q ES	SF 220x400x47-G4	PS-1-400
VENTS KSV 150 ES	SF 270x425x47-G4	
VENTS KSV 200 ES	SF 270x590x47-G4	
VENTS KSV 100 Duo ES VENTS KSV 150 DUO Q ES	SF 220x400x47-G4	P2-10
VENTS KSV 150 Duo ES	SF 270x425x47-G4	
VENTS KSV 200 Duo ES	SF 270x590x47-G4	

Technical data

	VENTS KSV 100 ES		VENTS KSV 150 Q ES		VENTS KSV 150 ES		VENTS KSV 200 ES	
Voltage [V]	230		230		230		230	
Frequency [Hz]	50	60	50	60	50	60	50	60
Power [W]	53	55	68	78	112	131	135	157
Current [A]	0.27	0.24	0.3	0.34	0.51	0.57	0.59	0.68
Air flow [m^3/h]	180	215	350	390	460	530	640	645
RPM [min^{-1}]	1300	1480	1300	1475	1250	1430	1250	1315
Noise level at 3 m [dBA]	23	24	25	26	25	27	34	35
Transported air temperature [°C]	-25...+40		-25...+40		-25...+40		-25...+40	
Protection rating	IPX4		IPX4		IPX4		IPX4	
PM 2.5 Filtration efficiency [%]	97.1		97		95.6		97.4	
SEC class	D		C		C		C	

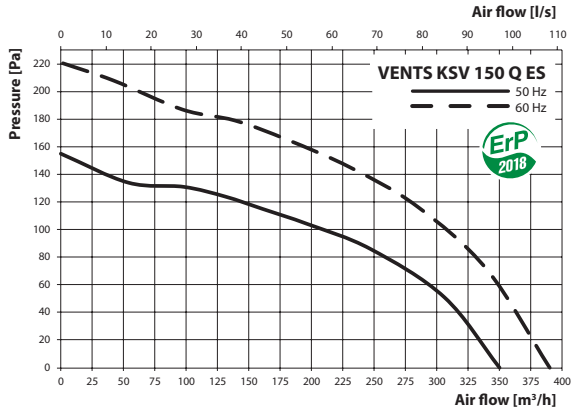
VENTS KSV ES

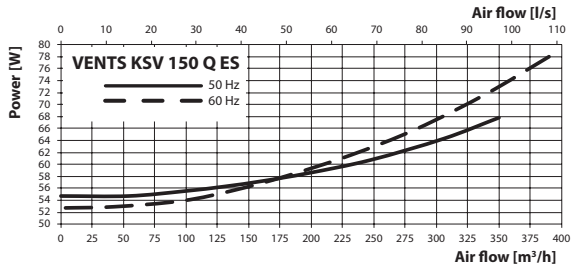




Sound power level, A-filter applied	Hz	Octave-frequency band [Hz] Gen	63	125	250	500	1000	2000	4000	8000	LpA, 3m [dBA]	LpA, 1m [dBA]
L_{wA} to inlet	dBA	48	32	34	40	42	43	40	34	26	27	37
L_{wA} to outlet	dBA	51	27	42	47	45	44	32	24	13	30	40
L_{wA} to environment	dBA	43	31	34	35	38	36	34	31	26	23	33

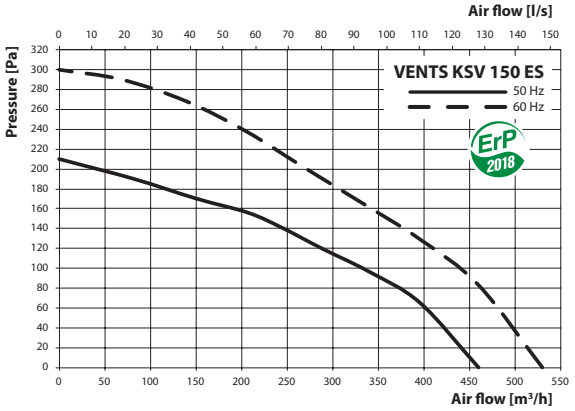
VENTS KSV ES

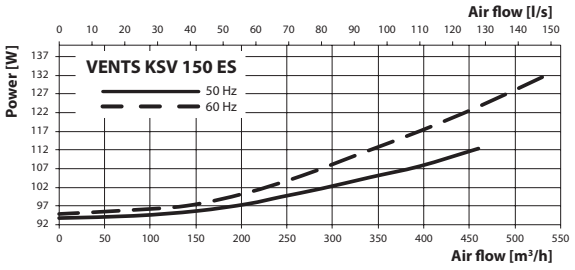




Sound power level, A-filter applied	Hz	Octave-frequency band [Hz] Gen	63	125	250	500	1000	2000	4000	8000	LpA, 3m [dBA]	LpA, 1m [dBA]
L_{wA} to inlet	dBA	53	28	44	49	47	46	34	25	14	33	43
L_{wA} to outlet	dBA	56	39	41	48	51	52	48	41	32	36	46
L_{wA} to environment	dBA	45	26	35	41	39	37	34	30	23	25	35

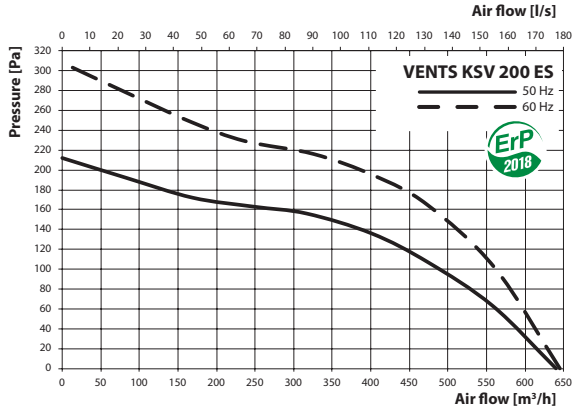
VENTS KSV ES

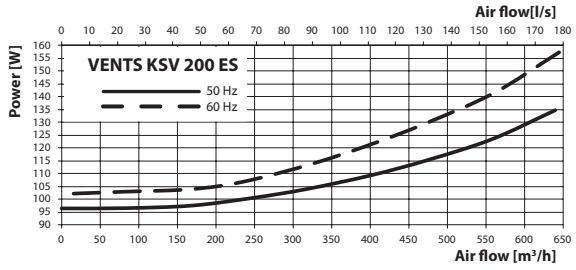




Sound power level, A-filter applied	Hz	Octave-frequency band [Hz] Gen	63	125	250	500	1000	2000	4000	8000	LpA, 3m [dBA]	LpA, 1m [dBA]
L_{wA} to inlet	dBA	53	39	40	47	50	41	40	38	27	33	43
L_{wA} to outlet	dBA	58	42	39	47	54	50	51	45	35	37	47
L_{wA} to environment	dBA	48	38	40	41	44	36	29	28	24	27	37

VENTS KSV ES



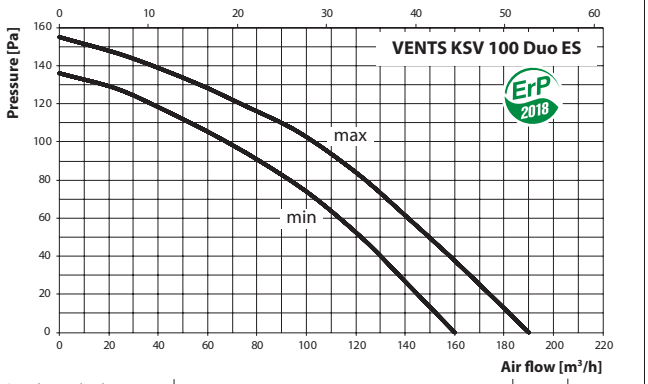


Sound power level, A-filter applied	Hz	Octave-frequency band [Hz] Gen	63	125	250	500	1000	2000	4000	8000	LpA, 3m [dBA]	LpA, 1m [dBA]
L_{wA} to inlet	dBA	67	55	56	58	60	58	59	57	55	46	56
L_{wA} to outlet	dBA	71	58	56	68	63	61	59	55	47	50	60
L_{wA} to environment	dBA	58	44	48	54	55	40	34	30	36	38	48

Technical data

	VENTS KSV 100 Duo ES		VENTS KSV 150 Duo Q ES		VENTS KSV 150 Duo ES		VENTS KSV 200 Duo ES	
Speed	min	max	min	max	min	max	min	max
Voltage [V]	230/50		230/50		230/50		230/50	
Power [W]	34	42	44	52	92	117	106	123
Current [A]	0.15	0.19	0.19	0.23	0.41	0.55	0.47	0.59
Air flow [m³/h]	160	190	230	340	320	430	390	630
RPM [min⁻¹]	700	1200	700	1200	700	1200	700	1200
Noise level at 3 m [dBA]	14	23	15	25	16	27	22	38
Transported air temperature [°C]	-25...+40		-25...+40		-25...+40		-25...+40	
Protection rating	IPX4		IPX4		IPX4		IPX4	
PM 2.5 Filtration efficiency [%]	98	97	98	97	97	96	98	97
SEC class	C		C		D		C	

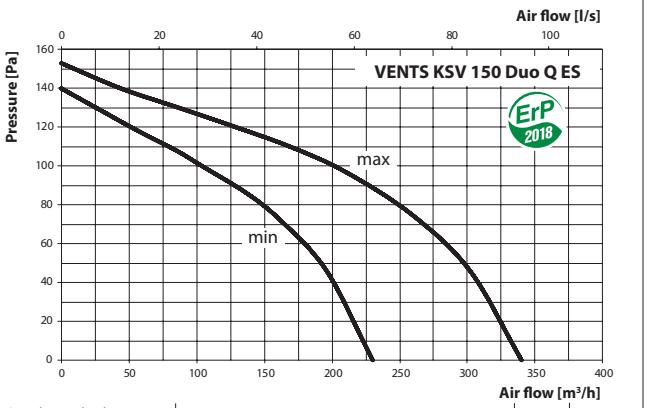
VENTS KSV Duo ES



Sound power level, A-filter applied		Octave-frequency band [Hz]										LpA, 3m [dBA]	LpA, 1m [dBA]
Min	Hz	Gen	63	125	250	500	1000	2000	4000	8000			
L_{wA} to inlet	dBA	41	26	28	33	35	36	33	28	22		20	30
L_{wA} to outlet	dBA	43	22	35	39	37	37	27	20	11		23	33
L_{wA} to environment	dBA	35	23	26	26	29	27	26	23	20		14	24

Sound power level, A-filter applied		Octave-frequency band [Hz]										LpA, 3m [dBA]	LpA, 1m [dBA]
Max	Hz	Gen	63	125	250	500	1000	2000	4000	8000			
L_{wA} to inlet	dBA	48	32	34	40	42	43	40	34	26		27	37
L_{wA} to outlet	dBA	51	27	42	47	45	44	32	24	13		30	40
L_{wA} to environment	dBA	43	31	34	35	38	36	34	31	26		23	33

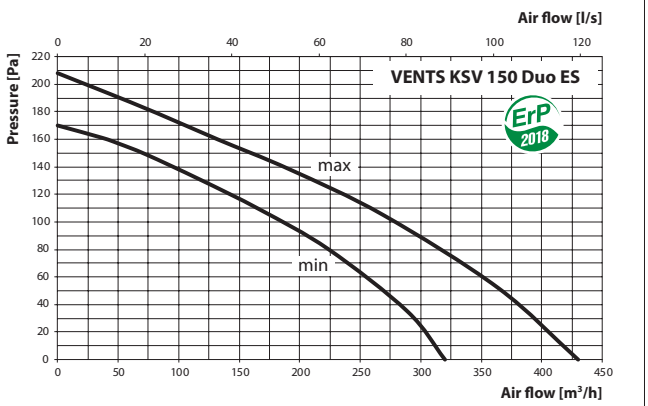
VENTS KSV Duo ES



Sound power level, A-filter applied		Octave-frequency band [Hz]										LpA, 3m [dBA]	LpA, 1m [dBA]
Min	Hz	Gen	63	125	250	500	1000	2000	4000	8000			
L_{wA} to inlet	dBA	45	24	37	41	39	38	28	21	11		25	35
L_{wA} to outlet	dBA	48	32	34	40	42	43	40	34	26		27	37
L_{wA} to environment	dBA	36	20	26	31	29	28	26	23	17		15	25

Sound power level, A-filter applied		Octave-frequency band [Hz]										LpA, 3m [dBA]	LpA, 1m [dBA]
Max	Hz	Gen	63	125	250	500	1000	2000	4000	8000			
L_{wA} to inlet	dBA	53	28	44	49	47	46	34	25	14		33	43
L_{wA} to outlet	dBA	56	39	41	48	51	52	48	41	32		36	46
L_{wA} to environment	dBA	45	26	35	41	39	37	34	30	23		25	35

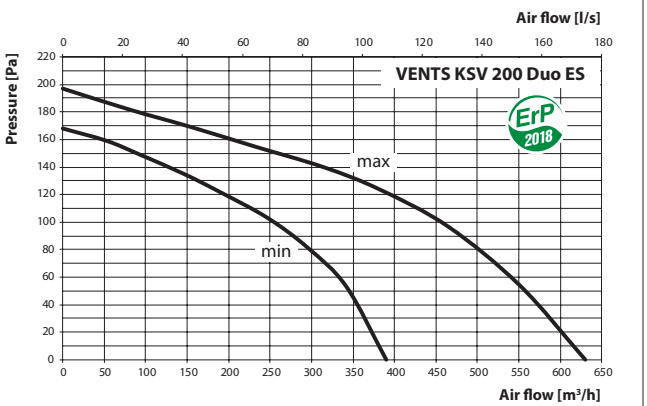
VENTS KSV Duo ES



Sound power level, A-filter applied		Octave-frequency band [Hz]										LpA, 3m [dBA]	LpA, 1m [dBA]
Min	Hz	Gen	63	125	250	500	1000	2000	4000	8000			
L_{wA} to inlet	dBA	44	31	32	38	41	33	32	31	22		24	34
L_{wA} to outlet	dBA	48	34	32	38	44	41	41	36	28		28	38
L_{wA} to environment	dBA	36	27	29	30	32	26	21	20	17		16	26

Sound power level, A-filter applied		Octave-frequency band [Hz]										LpA, 3m [dBA]	LpA, 1m [dBA]
Max	Hz	Gen	63	125	250	500	1000	2000	4000	8000			
L_{wA} to inlet	dBA	53	39	40	47	50	41	40	38	27		33	43
L_{wA} to outlet	dBA	58	42	39	47	54	50	51	45	35		37	47
L_{wA} to environment	dBA	48	38	40	41	44	36	29	28	24		27	37

VENTS KSV Duo ES



Sound power level, A-filter applied		Octave-frequency band [Hz]										LpA, 3m [dBA]	LpA, 1m [dBA]
Min	Hz	Gen	63	125	250	500	1000	2000	4000	8000			
L_{wA} to inlet	dBA	55	44	45	47	48	47	48	46	44		35	45
L_{wA} to outlet	dBA	58	46	45	54	51	49	47	44	38		37	47
L_{wA} to environment	dBA	43	31	34	38	39	28	24	21	25		22	32

Sound power level, A-filter applied		Octave-frequency band [Hz]										LpA, 3m [dBA]	LpA, 1m [dBA]
Max	Hz	Gen	63	125	250	500	1000	2000	4000	8000			
L_{wA} to inlet	dBA	67	55	56	58	60	58	59	57	55		46	56
L_{wA} to outlet	dBA	71	58	56	68	63	61	59	55	47		50	60
L_{wA} to environment	dBA	58	44	48	54	55	40	34	30	36		38	48

Series
VENTS VS

Inline centrifugal fans with backward curved blades in heat- and sound-insulated casing with the air flow up to **16 870 m³/h**

Applications
Supply and exhaust ventilation systems for various premises with high noise level requirements. The VS fan design enables to assemble various ventilation configurations due to changeable positions of the removable panels. Such design enables air supply in all directions, both linearly and at the angle 90 °C. The aluzinc casing with high corrosion-resistant properties and heat-insulating material allows outdoor installation of the fan. The fans may be integrated into an assembled supply ventilation system. Compatible with round and rectangular air ducts.

Design
The fan casing is made of double-skinned aluzinc panels, heat- and sound-insulated with 20 mm non-combustible mineral wool. The connecting pipes that also serve as vibration absorbing connectors are available with round and square sections. The round pipes are fitted with rubber sealing rings. The connecting pipes are not included into the delivery set and are available upon separate order!

Motor
4- or 6-pole asynchronous external rotor motor and centrifugal impeller with backward curved blades. The motors are equipped with overheating protection, which is connected to the external protection device (i.e., the model VS 355 4E has thermal switches with automatic restart). The specially greased ball bearing motor ensures low noise and maintenance-free operation.

Speed control
Smooth or step speed control with a thyristor or autotransformer speed controller. Speed control is adjusted by the supply voltage regulation. Air flow is regulated by the motor speed. Several fans may be connected to one speed controller provided that the total power and operating current do not exceed the rated speed controller parameters.

Mounting
Inline fans are designed for connection to rectangular or round air ducts with a flexible connector of respective cross section. The fan are designed for inline mounting. While connecting the fan to flexible connectors, provide its fixing to a building with supports, suspension or fixing bracket. The fan is suitable for any mounting position, on condition that the pointer on the fan casing matches the air motion direction in the system. While mounting the fan provide enough access for its servicing.

VS fan with VPG flexible anti-vibration connectors

VS fan with KN-VS outer hood

VS fan with VVG flexible anti-vibration connectors

Designation key

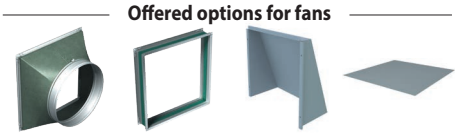
Series	Impeller diameter		Motor	
			Polarity	Phase
VENTS VS	355; 400; 450; 500; 560; 630; 710	**S**: high-powered motor	4, 6	**E**: single phase **D**: three phase

ErP data	
Overall efficiency	η [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	kW
Current	A
Air flow	m^3/h
Static pressure	Pa
Speed	n/min^{-1}
Specific ratio	SR

Accessories

Speed controllers

Offered options for fans



VPG VVG KN-VS VPR-VS

Technical data

	VS 355 4E	VS 355 4D		VS 400 4E		VS 400 4D			
Voltage [V]	1~230	3~400 Y		1~230		3~230 Δ		3~400 Y	
Frequency [Hz]	50	50	60	50	60	50	60	50	60
Power [W]	245	230	235	480	700	515	750	385	515
Current [A]	1.12	0,52	0,53	2,4	3,15	1,41	1,44	0,7	0,93
Max. air flow [m³/h] with the air flow: – perpendicularly	2890	2660	2815	3750	4310	3950	4310	3340	3525
– straight forward	2650	2380	2580	3535	4015	3740	4055	3110	3290
RPM [min⁻¹]	1420	1400	1600	1370	1460	1415	1610	1235	1220
Noise level at 3 m [dBA]	54	53	55	51	52	51	53	47	49
Transported air temperature [°C]	-25...+50	-25...+70	-25...+65	-40...+80	-40...+55	-40...+60	-40...+60	-40...+80	-40...+40
Protection rating	IPX4	IPX4		IPX4		IPX4			

Technical data

	VS 450 4E	VS 450 4D	VS 500 4E	VS 500 4D	VS 560 4D
Voltage [V/50 Hz]	1~230	3~400	1~230	3~400	3~400
Power [W]	680	740	1300	1430	2380
Current [A]	3.00	1.50	5.70	3.00	5.00
Max. air flow [m³/h] with the air flow: – perpendicularly	5630	5700	7330	7940	11340
– straight forward	4930	5080	6680	7200	10490
RPM [min⁻¹]	1250	1350	1320	1375	1365
Noise level at 3 m [dBA]	53	54	55	58	56
Transported air temperature [°C]	-40...+70	-40...+80	-25...+50	-40...+80	-40...+60
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4

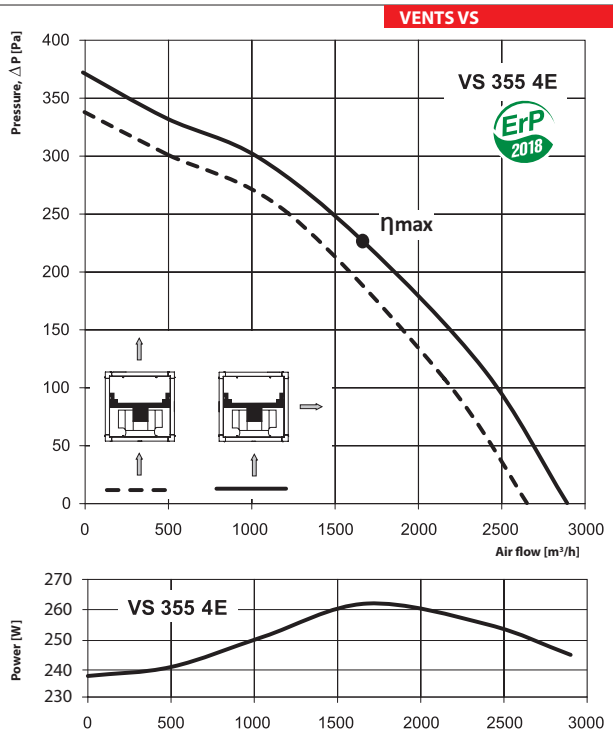
Technical data

	VS 560 6D	VS 630 4D	VS 630 S 4D	VS 630 6D	VS 710 6D
Voltage [V/50 Hz]	3~400	3~400	3~400	3~400	3~400
Power [W]	780	3310	4250	1310	2000
Current [A]	1.70	6.20	7.55	2.80	3.90
Max. air flow [m³/h] with the air flow: – perpendicularly	7970	15170	16870	12030	15830
– straight forward	7330	13740	14930	10440	14880
RPM [min⁻¹]	885	1170	1300	880	890
Noise level at 3 m [dBA]	49	67	69	55	59
Transported air temperature [°C]	-40...+55	-40...+35	-40...+60	-40...+60	-20...+40
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4

VS fan gym ventilation example

VS fan office ventilation example

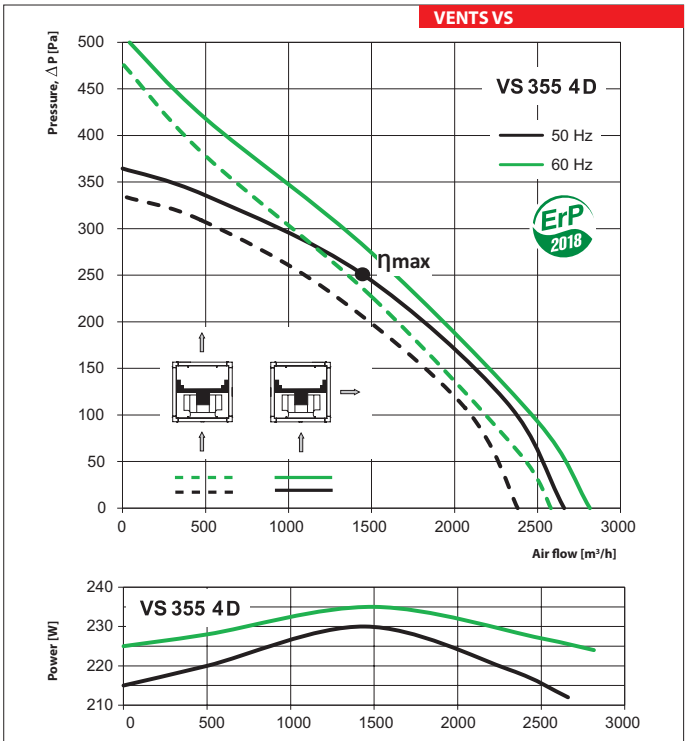
VENTS VS



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	70	55	58	61	63	62	60	52	47
L_{wA} to outlet	dBA	68	57	59	62	65	63	62	55	47
L_{wA} to environment	dBA	62	51	51	54	58	55	55	48	40

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
40.8	A	Static	57.4	No	0.262	1.19	1670	226	1365	1

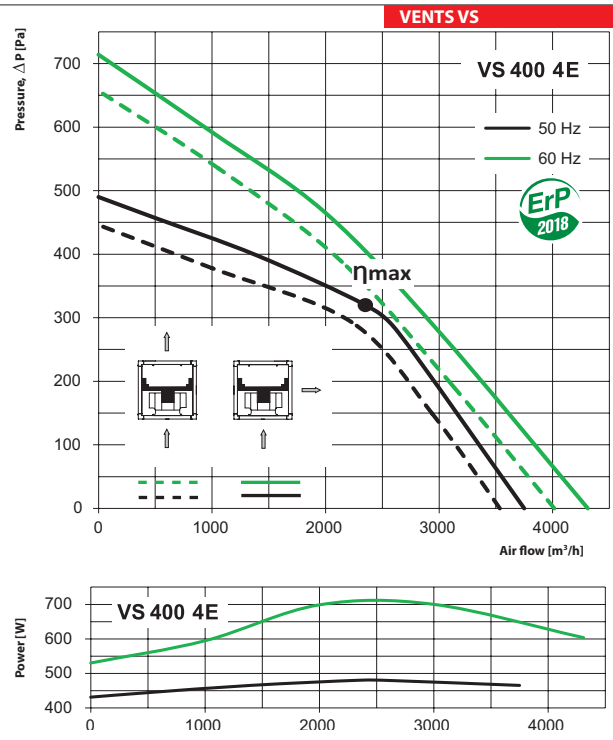
VENTS VS



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	68	54	57	61	63	62	59	52	46
L_{wA} to outlet	dBA	70	55	61	61	65	66	59	54	47
L_{wA} to environment	dBA	64	49	50	55	59	56	52	49	39

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
44.7	A	Static	61.9	No	0.230	0.52	1445	251	1350	1

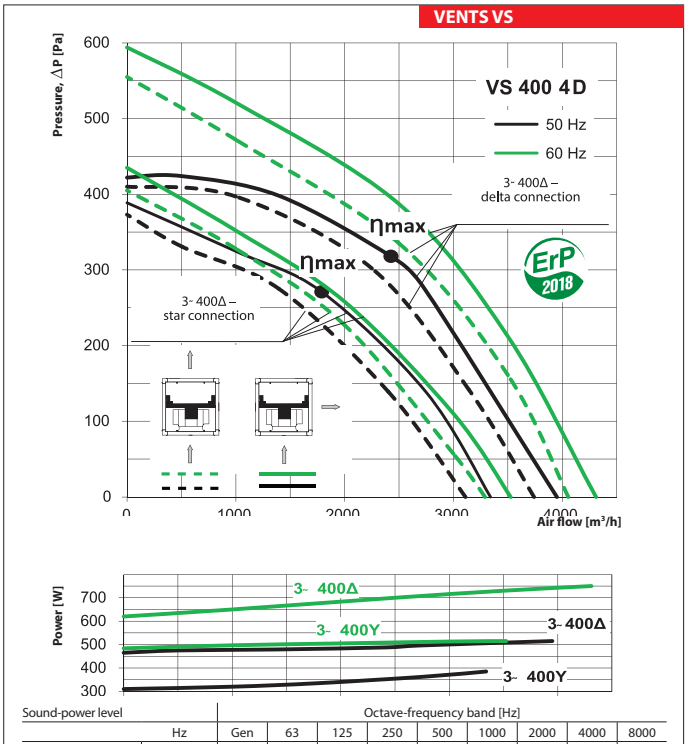
VENTS VS



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	72	60	62	66	66	64	65	58	51
L_{wA} to outlet	dBA	74	61	63	68	71	68	67	58	53
L_{wA} to environment	dBA	56	43	47	47	52	49	48	42	33

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
44.4	A	Static	58.3	No	0.480	2.4	2350	320	1370	1

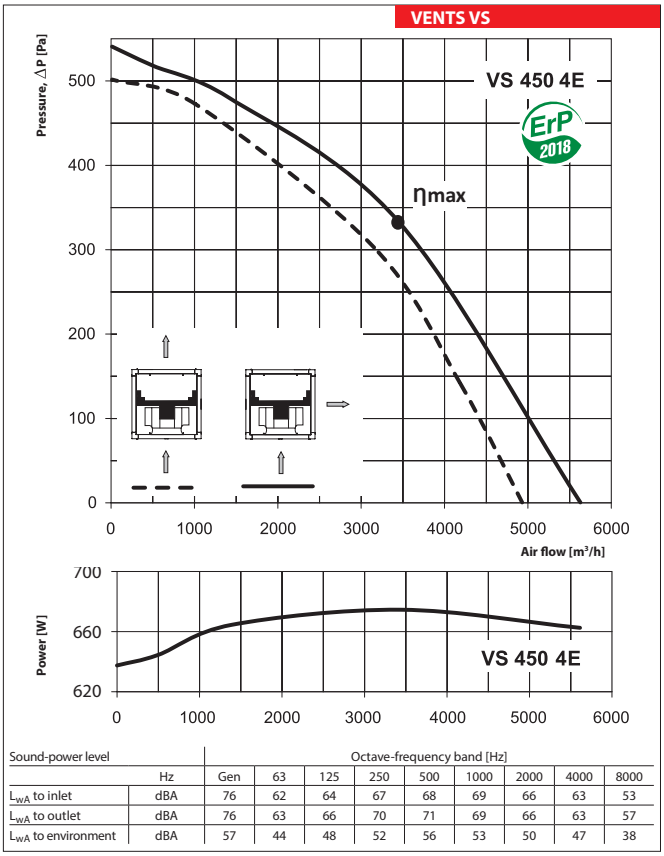
VENTS VS



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	73	57	63	64	67	68	62	59	52
L_{wA} to outlet	dBA	74	60	63	65	69	66	67	61	51
L_{wA} to environment	dBA	54	43	44	49	50	51	47	42	36

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
3~400Δ – delta connection										
44.8	A	Static	58.6	No	0.488	1.22	2425	318	1420	1
3~400Y – star connection										
41.0	A	Static	56.5	No	0.335	0.56	1789	271	1390	1

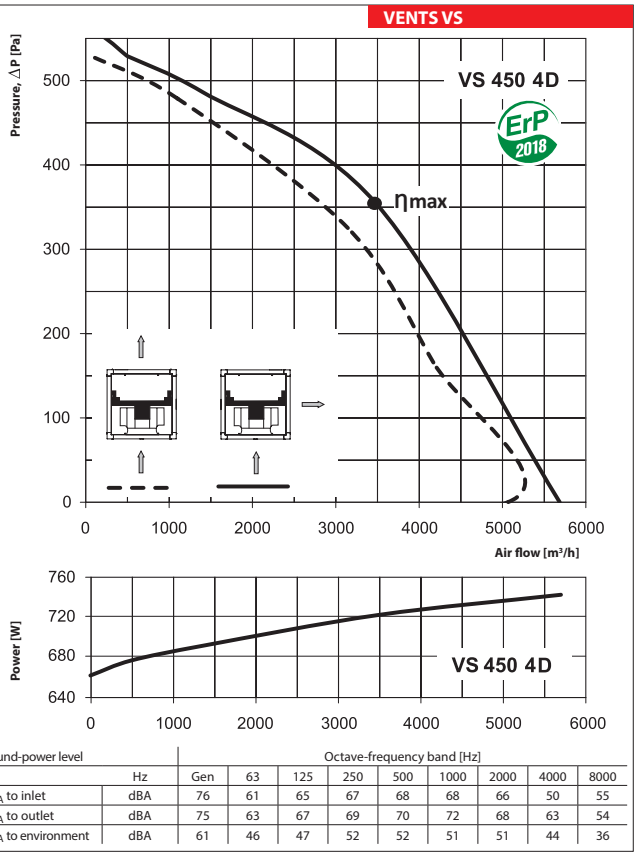
VENTS VS



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	76	62	64	67	68	69	66	63	53
L_{wA} to outlet	dBA	76	63	66	70	71	69	66	63	57
L_{wA} to environment	dBA	57	44	48	52	56	53	50	47	38

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
48.1	A	Static	60.4	No	0.675	3	3450	332	1265	1

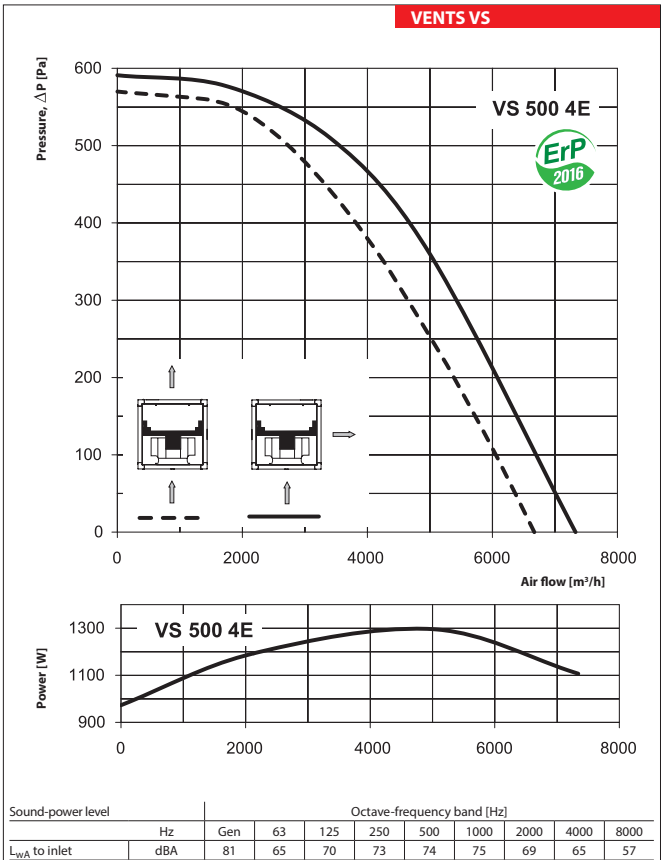
VENTS VS



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	76	61	65	67	68	68	66	50	55
L_{wA} to outlet	dBA	75	63	67	69	70	72	68	63	54
L_{wA} to environment	dBA	61	46	47	52	52	51	51	44	36

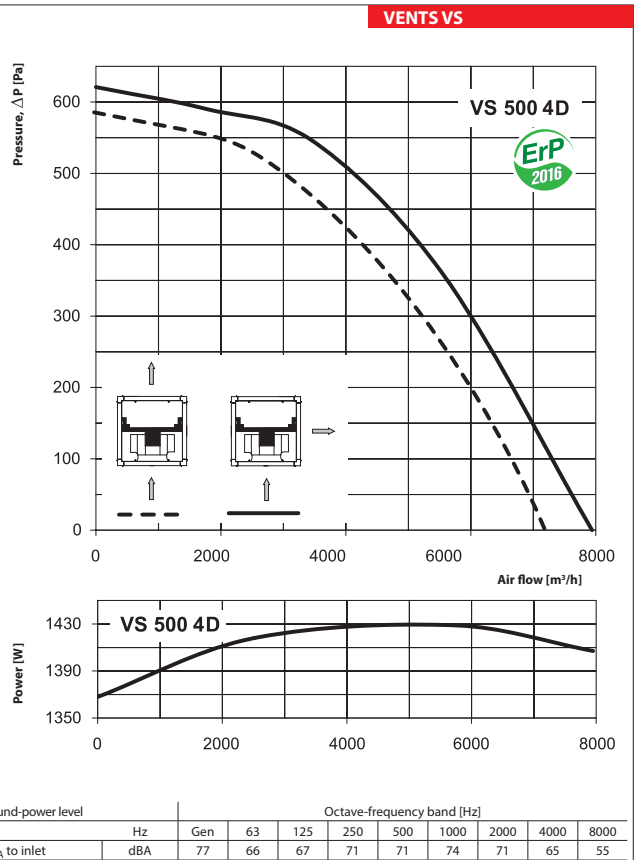
η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
48.5	A	Static	60.5	No	0.720	1.4	3490	353	1350	1

VENTS VS



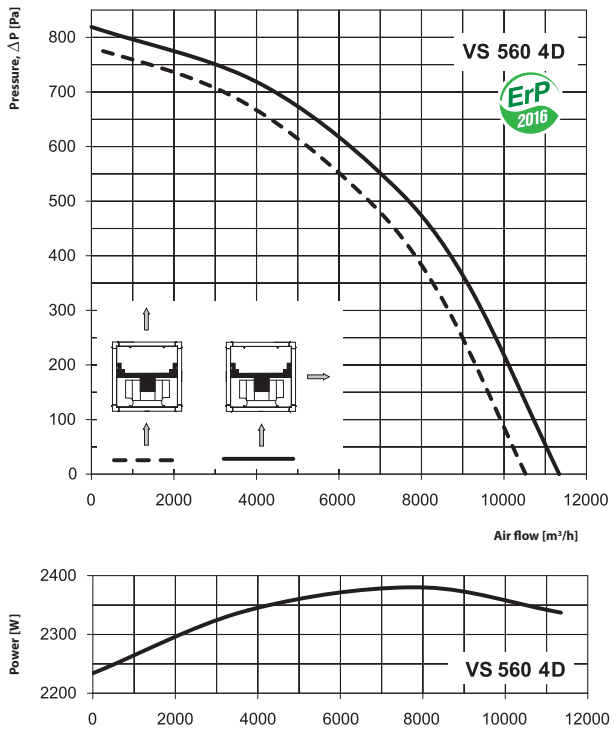
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	81	65	70	73	74	75	69	65	57
L_{wA} to outlet	dBA	81	68	72	74	76	75	71	69	61
L_{wA} to environment	dBA	65	52	53	56	57	56	55	51	40

VENTS VS



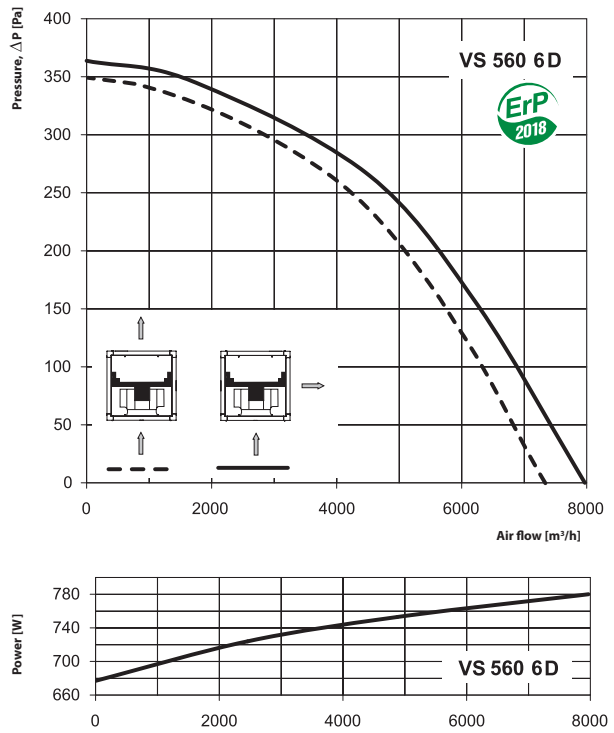
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	77	66	67	71	71	74	71	65	55
L_{wA} to outlet	dBA	79	69	67	73	76	74	73	68	59
L_{wA} to environment	dBA	61	52	54	54	56	55	54	51	44

VENTS VS



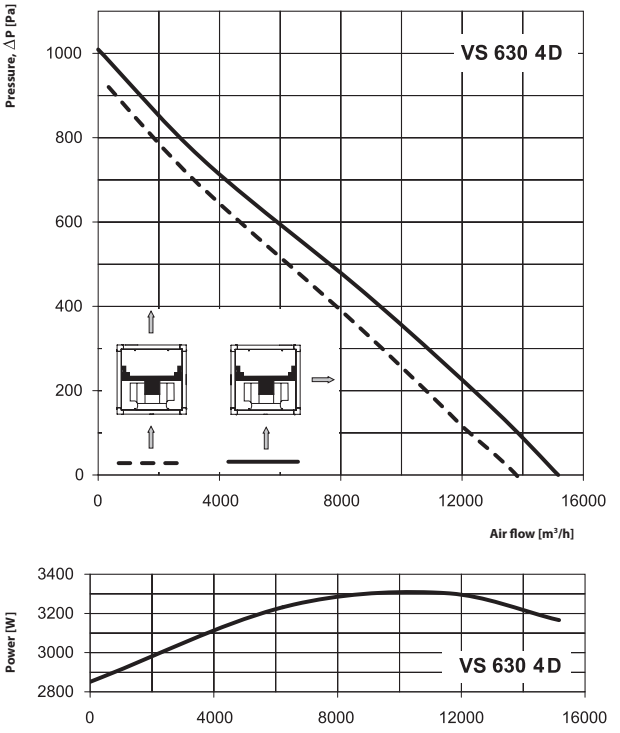
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	80	66	67	73	75	73	69	67	58
L_{wA} to outlet	dBA	80	67	71	73	77	74	73	65	61
L_{wA} to environment	dBA	63	53	55	59	57	60	53	49	41

VENTS VS



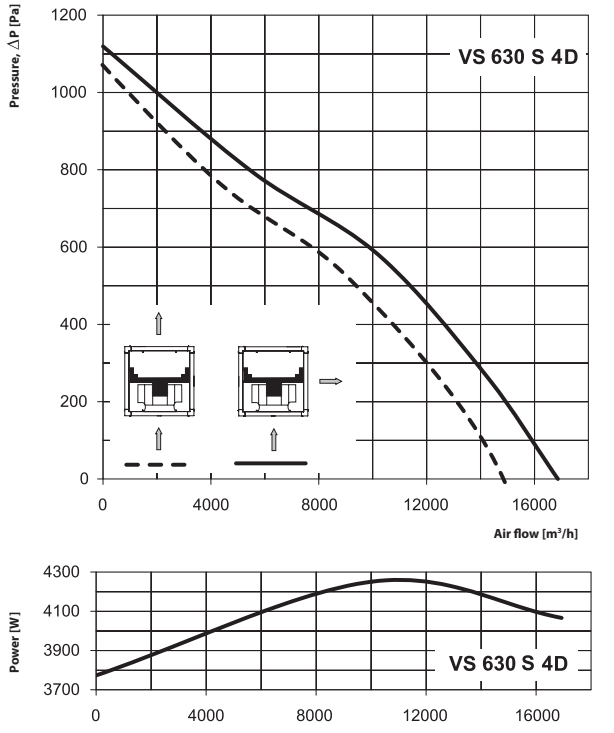
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	72	59	57	64	67	67	62	56	49
L_{wA} to outlet	dBA	70	58	61	66	68	65	65	60	51
L_{wA} to environment	dBA	56	44	43	48	52	50	46	41	33

VENTS VS



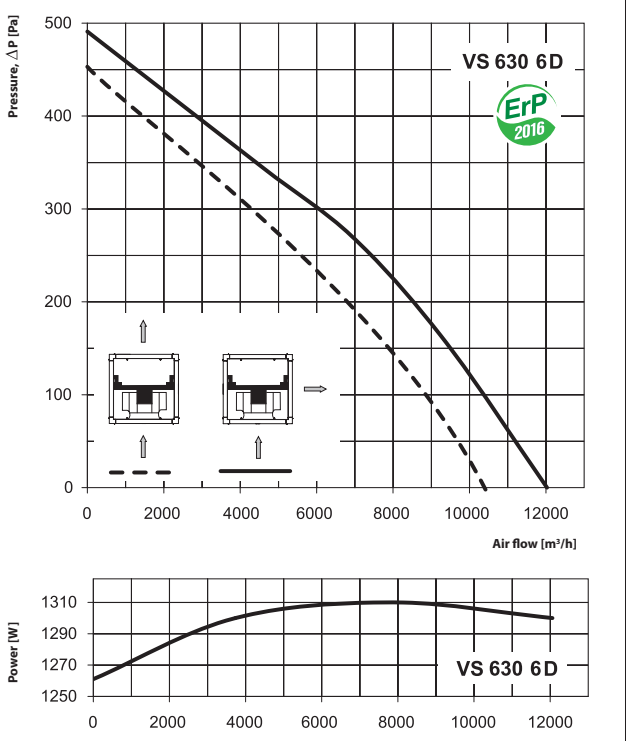
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	85	76	78	80	80	83	78	75	68
L_{wA} to outlet	dBA	88	76	76	84	86	82	78	77	67
L_{wA} to environment	dBA	76	64	65	67	73	68	69	62	53

VENTS VS



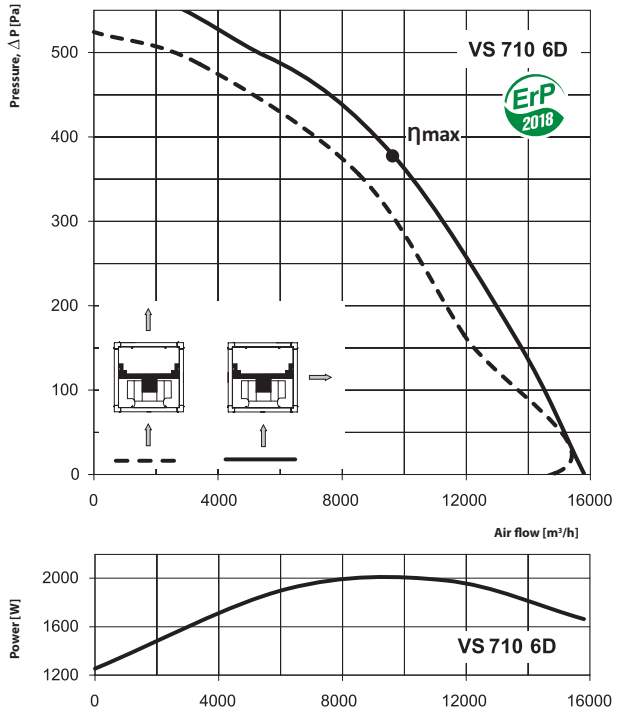
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	85	76	77	81	83	82	77	72	68
L_{wA} to outlet	dBA	89	77	78	81	85	84	80	73	68
L_{wA} to environment	dBA	78	65	65	70	71	70	69	62	54

VENTS VS



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	74	61	63	70	70	69	64	60	50
L_{wA} to outlet	dBA	76	65	64	71	73	69	68	60	54
L_{wA} to environment	dBA	61	50	51	53	56	56	52	47	40

VENTS VS

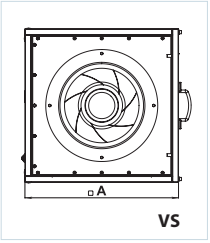


Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	79	64	66	71	74	72	71	67	58
L_{wA} to outlet	dBA	80	67	70	76	74	76	72	67	57
L_{wA} to environment	dBA	68	53	58	61	64	62	56	53	47

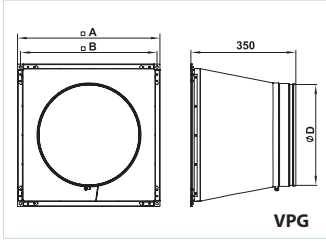
η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
50.6	A	Static	57.9	No	2.040	3.9	9690	376	890	1

Fan and additional equipment overall dimensions:

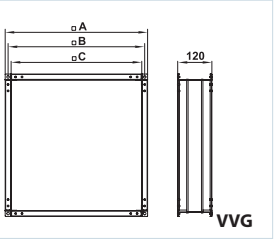
Type	Dimensions [mm]	Mass [kg]	Options				Dimensions [mm]								
	A		VPG	VVG	KN-VS	VPR-VS	A	A1	B	B1	C	ØD	E	F	G
VS 355 4E	500	25	VPG 500/355	VVG 500x500	KN-VS 315-355	VPR-VS 315-355	490	478	470	458	445	355	458	225	600
VS 355 4D	500	25													
VS 400 4E	670	39	VPG 670/400	VVG 670x670	KN-VS 400-500	VPR-VS 400-500	660	648	640	628	615	400	628	321	770
VS 400 4D	670	39													
VS 450 4E	670	43	VPG 670/450				660	648	640	628	615	450	628	321	770
VS 450 4D	670	43													
VS 500 4E	670	52	VPG 670/500				660	648	640	628	615	500	628	321	770
VS 500 4D	670	56													
VS 560 4D	800	99	VPG 800/560	VVG 800x800	KN-VS 560 630	VPR-VS 560 630	790	778	770	758	745	560	758	421	900
VS 560 6D	800	86													
VS 630 4D	800	102	VPG 800/630				790	778	770	758	745	630	758	421	900
VS 630 S 4D	800	100													
VS 630 6D	800	98													
VS 710 6D	1000	136	VPG 1000/710	VVG 1000x1000	KN-VS 710	VPR-VS 710	990	978	970	958	945	710	758	421	900



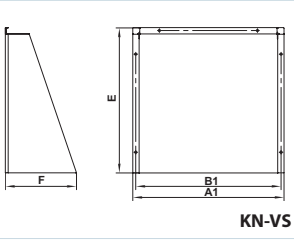
VS



VPG



VVG



KN-VS

Series
VENTS VS EC

Inline centrifugal fans in heat- and sound-insulated casing with the air flow up to **16 740 m³/h**.

Applications

Supply and exhaust ventilation systems for commercial, office and other public or industrial premises with energy-efficient and low-noise requirements.

The VS EC fan design enables both inline and 90° air outlet due to changeable positions of the removable panels. The aluzinc casing with high corrosion-resistant properties and heat-insulating material enables outdoor installation of the fan.

Design

The fan casing is made of aluminium frame, fastened with aluminium bends and removable double-skinned aluzinc panels, heat- and sound-insulated with 20 mm non-combustible mineral wool.

The connecting pipes that also serve as vibration absorbing connectors are available with round and square sections.

The round connecting pipes are fitted with rubber sealing rings. The connecting pipes are not included into the delivery set and are available upon separate order.

Motor

The impellers with backward curved blades powered with high efficient electronically commutated (EC) motors with external rotor.

As of today, such motor type is the most advanced solution for energy saving.

EC motors are featured with high performance and the optimal control over the whole range of fan speeds.

Premium efficiency reaching up to 90 % is the absolute advantage of electronically commutated motors.

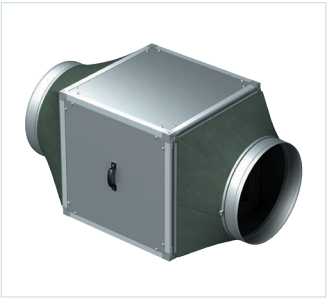
Built-in functions and control

The fan is controlled with the external control signal 0-10V (air flow as a function of temperature level, pressure, etc.). Should the control value factor get changed the EC motor changes its speed and the fan boosts as much air flow to the ventilation system as required. Maximum speed of the fan does not depend on the current frequency and it can operate at 50 or 60 Hz mains supply. The fans can be integrated to the unified PC control system. The respective software allows controlling all the fan units with high accuracy and setting particular operation mode for each fan.

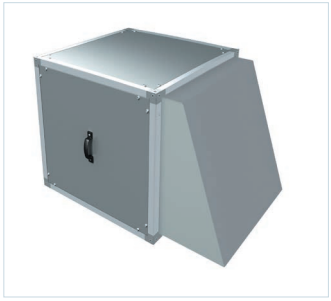
Mounting

The fans are designed for connection to rectangular or round air ducts with a flexible connector of respective cross section.

The fan can be fixed with supports, suspension or mounting bracket and it is suitable for any mounting position, on condition that the pointer on the fan casing matches the air motion direction in the system. While mounting the fan provide enough access for its servicing.

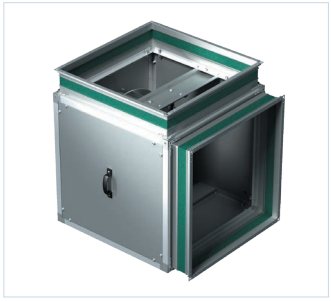


VS EC fan with VPG flexible anti-vibration connectors



VS EC fan with KN-VS outer hood

VS EC fan with VPR-VS protection cowl



VS EC fan with VVG flexible anti-vibration connectors

Designation key

Series	Impeller diameter	Motor
VENTS VS	315; 355; 400; 450; 500; 560; 630	**EC**: synchronous electronically commutated motor

ErP data	
Overall efficiency	η [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	kW
Current	A
Air flow	m³/h
Static pressure	Pa
Speed	n/min⁻¹
Specific ratio	SR

Accessories

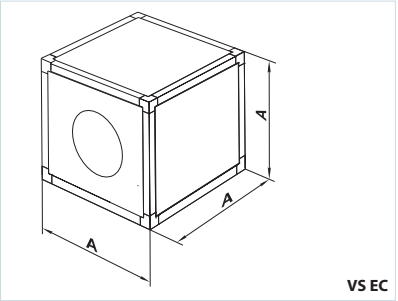
VPG VVG KN-VS VPR-VS R-1/010

Technical data

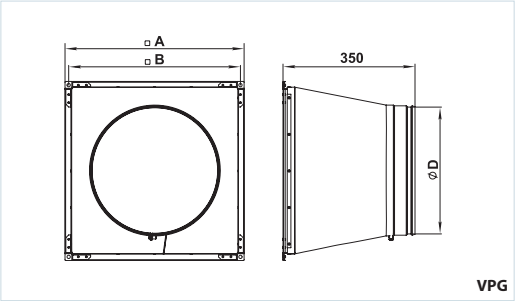
	VS 315 EC	VS 355 EC	VS 400 EC	VS 450 EC	VS 500 EC	VS 560 EC	VS 630 EC
Voltage [V/50 (60) Hz]	1~230	1~230	1~230	1~230	3~400	3~400	3~400
Power [W]	150	250	500	750	1320	2360	2750
Current [A]	1.23	1.1	2.2	3.3	2.1	3.65	4.3
Max. air flow [m^3/h] with the air flow: – perpendicularly	2370	3830	5660	6800	10450	13600	16740
– straight forward	2252	3639	5377	6460	9928	12920	15903
RPM [min^{-1}]	1600	1450	1500	1440	1350	1540	1300
Noise level at 3 m [dBA]	35	44	39	50	45	50	50
Transported air temperature [°C]	-40...+80	-25...+60	-25...+50	-25...+60	-25...+50	-25...+60	-25...+55
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4

Fan and accessories overall dimensions

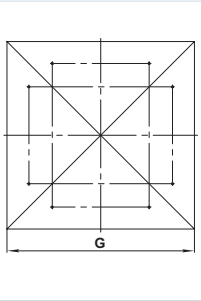
Type	Dimensions [mm]	Mass [kg]	Options				Dimensions [mm]								
	A		VPG	VVG	KN-VS	VPR-VS	A	A1	B	B1	C	ØD	E	F	G
VS 315 EC	500	25.7	VPG 500/315	VVG 500x500	KN-VS 315-355	VPR-VS 315-355	490	478	470	458	445	315	458	225	600
VS 355 EC	500	29.3	VPG 500/355	VVG 500x500	KN-VS 315-355	VPR-VS 315-355	490	478	470	458	445	355	458	225	600
VS 400 EC	670	42.2	VPG 670/400	VVG 670x670	KN-VS 400-500	VPR-VS 400-500	660	648	640	628	615	400	628	321	770
VS 450 EC	670	46.3	VPG 670/450	VVG 670x670	KN-VS 400-500	VPR-VS 400-500	660	648	640	628	615	450	628	321	770
VS 500 EC	670	50	VPG 670/500	VVG 670x670	KN-VS 400-500	VPR-VS 400-500	660	648	640	628	615	500	628	321	770
VS 560 EC	800	60.5	VPG 800/560	VVG 800x800	KN-VS 560 630	VPR-VS 560 630	790	778	770	758	745	560	758	421	900
VS 630 EC	800	69	VPG 800/630	VVG 800x800	KN-VS 560 630	VPR-VS 560 630	790	778	770	758	745	630	758	421	900



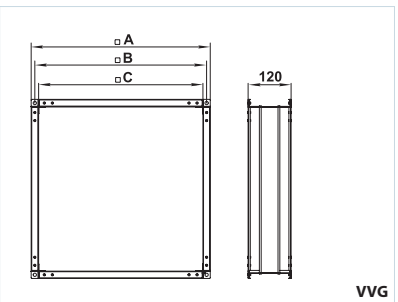
VS EC



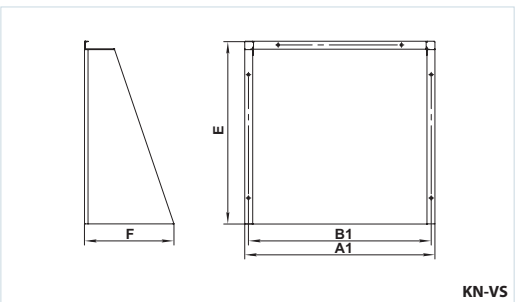
VPG



VPR-VS

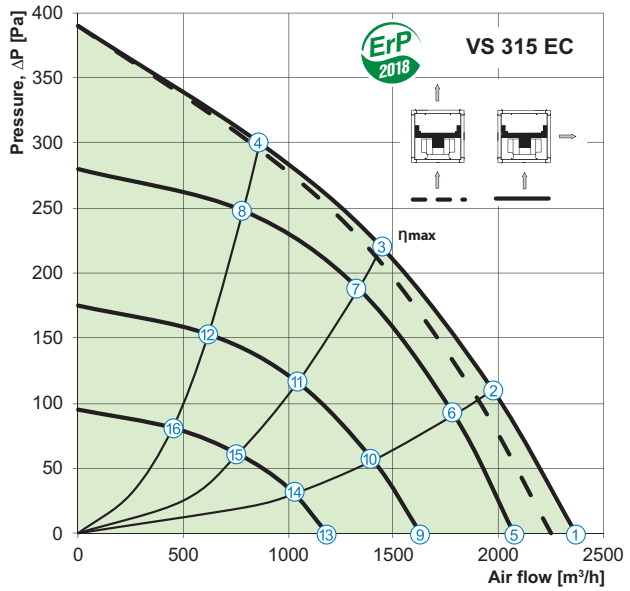


VVG



KN-VS

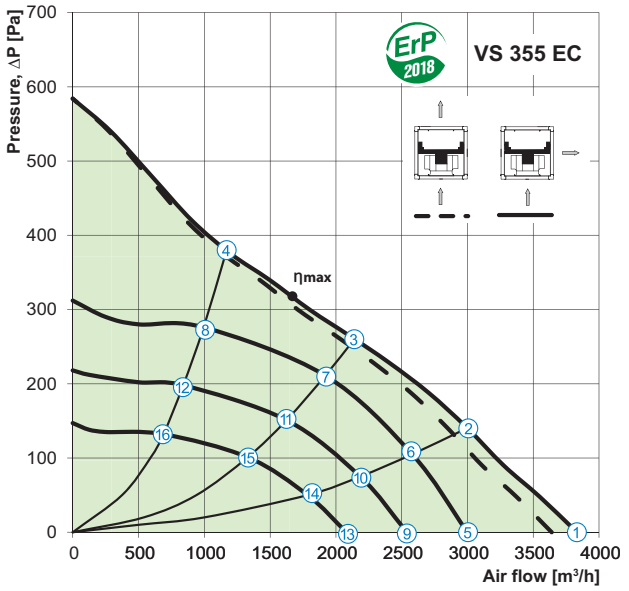
VENTS VS EC



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	69	37	64	58	64	62	57	56	48
L_{WA} to outlet	dBA	73	49	71	62	65	65	60	56	47
L_{WA} to envir	dBA	56	29	52	46	49	49	45	34	27

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
61.3	A	Static	80.5	Yes	0.150	1.23	1455	223	1600	1

VENTS VS EC

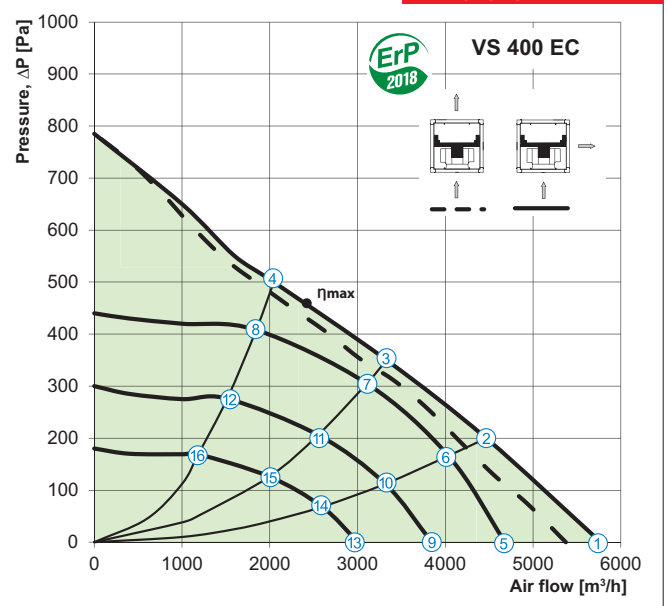


Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	76	44	65	66	71	67	69	67	58
L_{WA} to outlet	dBA	77	44	70	67	71	71	70	67	59
L_{WA} to envir	dBA	64	61	54	53	55	52	54	51	36

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
59.4	A	Static	76.3	Yes	0.250	1.1	1680	312	1450	1

Point	Power [W]			
	VS 315 EC	**VS 355 EC**	**VS 400 EC**	**VS 450 EC**
1	115	250	500	574
2	137	250	500	750
3	150	250	500	750
4	137	250	500	750
5	77	121	277	337
6	102	164	383	458
7	118	185	424	557
8	102	158	382	502
9	37	73	153	178
10	50	99	212	242
11	57	112	235	294
12	50	96	212	265
13	14	40	74	79
14	19	54	102	107
15	22	61	113	130
16	19	53	102	117

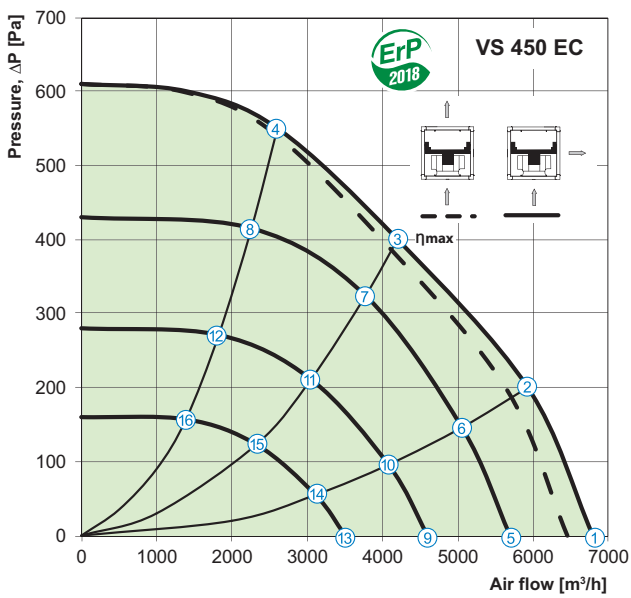
VENTS VS EC



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	71	42	61	62	66	66	63	60	51
L_{wA} to outlet	dBA	75	50	68	64	68	69	66	61	53
L_{wA} to envir	dBA	60	32	52	53	49	55	52	44	31

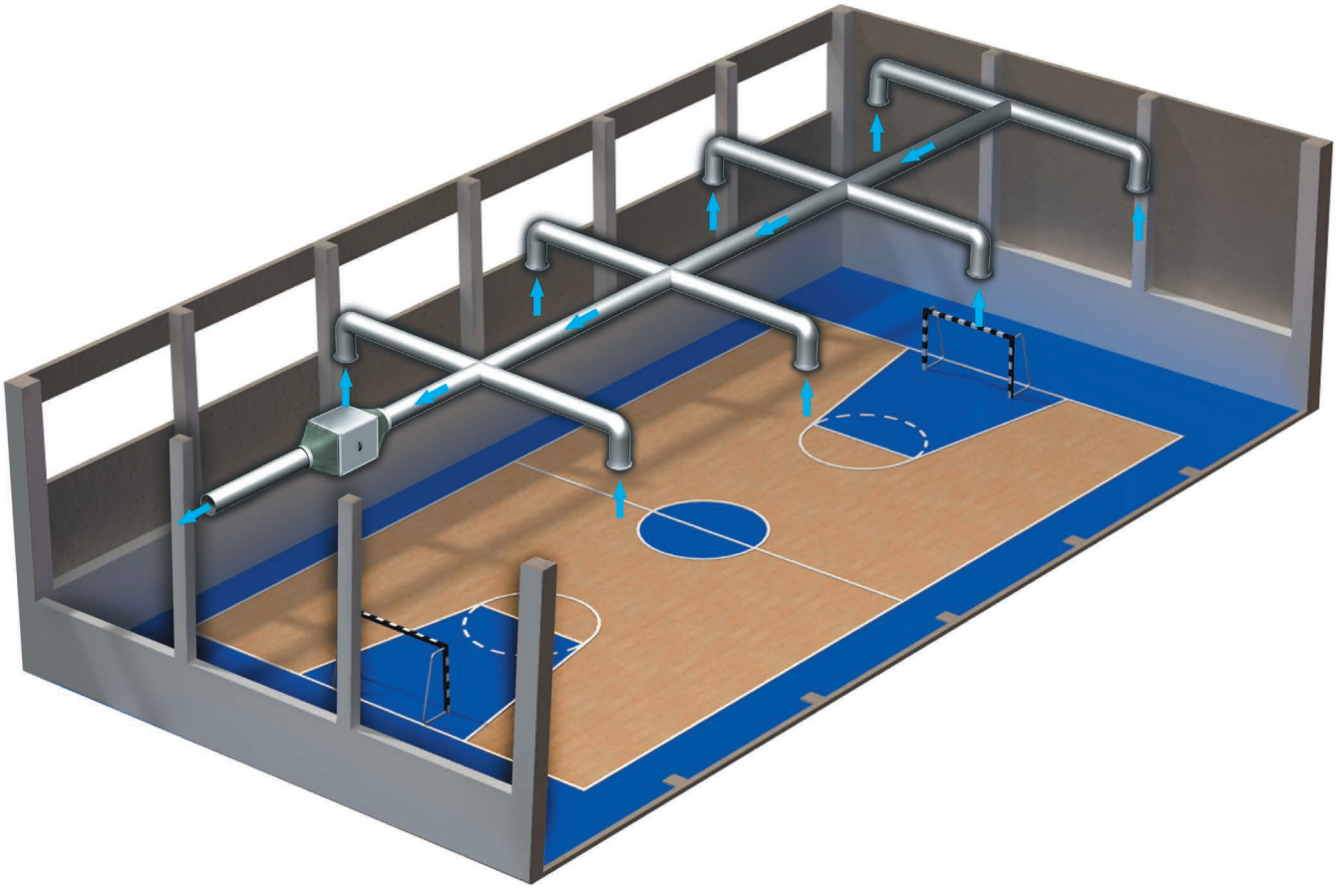
η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
58.4	A	Static	72.1	Yes	0.500	2.2	2558	403	1500	1

VENTS VS EC

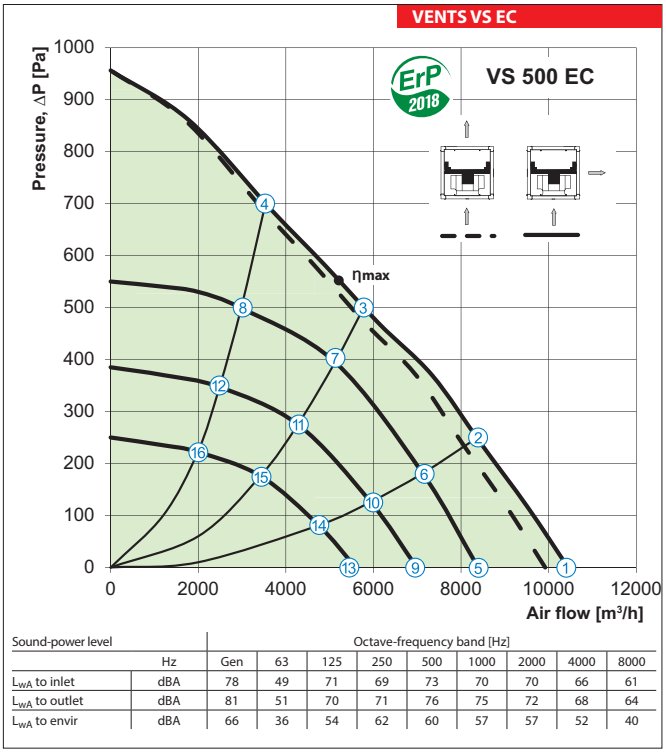


Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	79	48	70	71	73	72	70	65	62
L_{wA} to outlet	dBA	83	70	76	72	76	78	75	69	64
L_{wA} to envir	dBA	71	33	68	63	61	61	58	53	44

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
64.2	A	Static	76	Yes	0.750	3.3	4195	405	1440	1

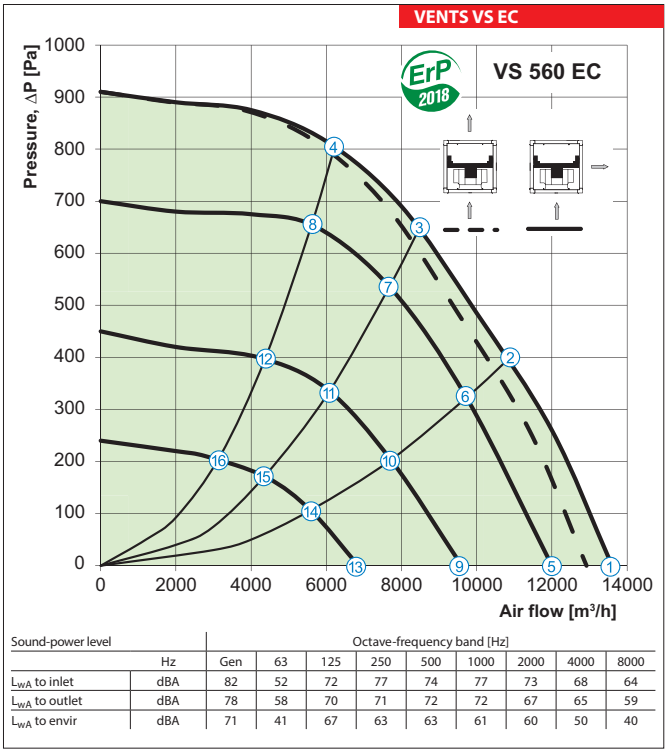


VS EC fan gym ventilation example



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	78	49	71	69	73	70	70	66	61
L_{wA} to outlet	dBA	81	51	70	71	76	75	72	68	64
L_{wA} to envir	dBA	66	36	54	62	60	57	57	52	40

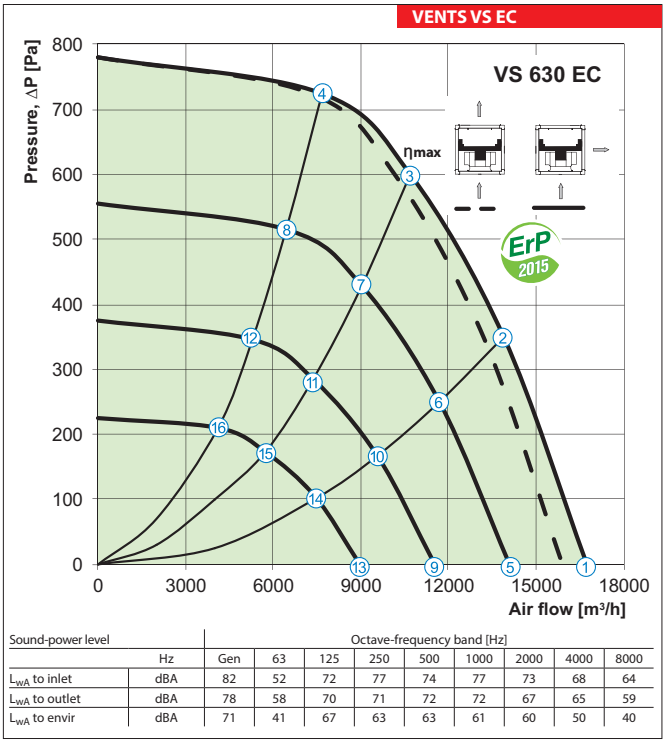
η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
54.2	A	Static	63.4	Yes	1.320	2.1	4723	534	1350	1



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	82	52	72	77	74	77	73	68	64
L_{wA} to outlet	dBA	78	58	70	71	72	72	67	65	59
L_{wA} to envir	dBA	71	41	67	63	63	61	60	50	40

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
67.8	A	Static	74.4	Yes	2.360	3.65	8250	684	1540	1

Point	Power [W]		
	VS 500 EC	**VS 560 EC**	**VS 630 EC**
1	1215	1840	1779
2	1320	2296	2509
3	1320	2360	2750
4	1320	2313	2651
5	630	1240	1060
6	823	1672	1495
7	929	1736	1648
8	795	1669	1584
9	364	601	581
10	476	811	819
11	538	842	902
12	460	810	868
13	187	231	273
14	244	312	385
15	275	324	425
16	236	311	408



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	82	52	72	77	74	77	73	68	64
L_{wA} to outlet	dBA	78	58	70	71	72	72	67	65	59
L_{wA} to envir	dBA	71	41	67	63	63	61	60	50	40

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
67.2	A	Static	73.1	Yes	2.750	4.3	10850	601	1300	1

VS EC fan office ventilation example

Series
VENTS KSA

Centrifugal fans in heat-and sound-insulated casing with the air flow up to **750 m³/h**

Applications
KSA fan design enables their application in supply and exhaust ventilation systems for commercial, office and other public or industrial premises with high noise level requirements. Suitable for connection with Ø 100, 125, 150, 160 and 200 mm round ducts.

Design
The fan casing is made of aluzinc. Heat- and sound-insulating layer is made of polystyrene foam.

Motor
The impeller with forward curved blades made of galvanized steel is powered by 2- or 4-pole external rotor asynchronous motor. The motor is equipped with the ball bearings for long service life. For precise features, safe operation and low noise, each impeller is dynamically balanced while assembly. Motor protection rating IP44.

Speed control
Smooth or step speed control with a thyristor or autotransformer speed controller. Several fans may be connected to one speed controller provided that the total power and operating current do not exceed the rated speed controller parameters.

Mounting
Connection pipes have round section. The fan basic delivery set includes a power cord without an electrical plug. Electric connection and mounting shall be performed in compliance with the operation manual and wiring diagram.

The fan with electronic temperature and control module (U option).
The ideal solution for ventilation of the premises requiring permanent temperature control, i.e. greenhouses. The fan with the electronic temperature and speed control module provides automatic control of the motor speed (air flow) depending on air temperature in the air duct or in the room.
The front panel of the electronic module has the following control knobs:
– speed control knob for setting the motor speed;
– thermostat control knob for setting the temperature set point;
– thermostat indicator light.
The fan is available in two modifications:
– with the temperature sensor integrated inside the fan air duct (U/U1 option);
– with the external temperature sensor fixed on the cable, 4 m long (Un/U1n/U2n).

Control logic of the fan with the electronic temperature and speed control module.
Set the desired air temperature (thermostat set point) by turning the thermostat control knob. Set the required minimum impeller speed (air flow) by turning the speed control knob. The motor switches to maximum speed (maximum air flow) as the temperature reaches and exceeds the set temperature set point. The motor switches to the pre-set lower speed as the temperature drops down below the temperature set point. To avoid frequent motor speed switches when the air temperature in the duct is equal to the set temperature point, the speed switch delay is activated. There are three switch delay patterns for various cases:
1. The temperature sensor-based switch delay (U option): the motor switches to higher speed as the air temperature exceeds 2 °C above the set thermostat set point. The motor revers to the preset lower speed as the air temperature drops below the thermostat set point. This pattern is used to keep air temperature to within 2 °C. In this case the motor speed switches are rare.
2. The timer-based switch delay (U1 option): as the air temperature exceeds the set thermostat set point, the motor switches to higher speed and the switch delay timer is activated for 5 min. The motor reverts to lower speed as the air temperature drops down below the thermostat set point and only after 5 minuts timer countdown. This pattern is used for exact air temperature control. The speed switches for the fan with U1 option are more frequent as compared to the operating logic of the fan with U option, however the minimum operating cycle at one speed is 5 minutes.
3. Switching ON/OFF by a temperature sensor (U2 option): when the air temperature exceeds by 2 °C the thermostat actuation set point, the fan starts operating at the set speed. The fan switches off when the temperature drops below the temperature set point.

Designation key

Series	Spigot diameter		Motor	
			Polarity	Phase
VENTS KSA	100; 125; 150; 160; 200	–	2, 4	**E**: single phase

Options
U: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Temperature-based operation logic. **Un**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Temperature-based operation logic. **U1**: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Timer-based operation logic. **U1n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Timer-based operation logic. **U2n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Temperature-based switching on/off. **R1**: power cord with a mains plug. **P**: integrated smooth speed controller.

Accessories


Silencer


Filters


Heaters


Backdraft damper


Air shutter


Speed controllers


Sensor

Technical data

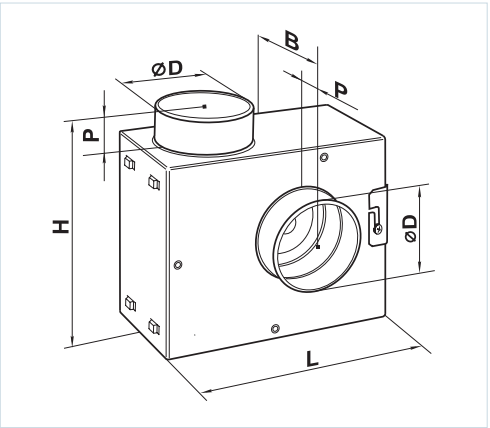
	KSA 100-2E	KSA 125-2E	KSA 150-2E
Voltage [V/50 Hz]	1~230	1~230	1~230
Power [W]	130	155	335
Current [A]	0.60	0.70	1.50
Max. air flow [m^3/h]	425	505	750
RPM [min^{-1}]	2870	2870	2870
Noise level at 3 m [dBA]	36.1	38.3	39.4
Transported air temperature [°C]	-25...+40	-25...+40	-25...+40
SEC class	C	C	D
Protection rating	IPX4	IPX4	IPX4

Technical data

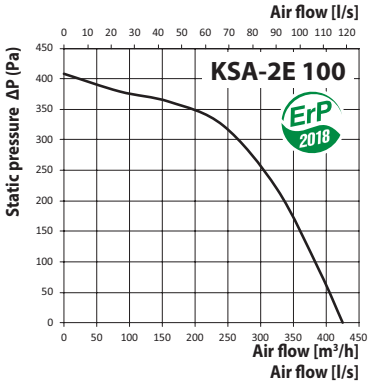
	KSA 160-2E	KSA 200-4E
Voltage [V/50 Hz]	1~230	1~230
Power [W]	335	115
Current [A]	1.50	0.50
Max. air flow [m^3/h]	750	640
RPM [min^{-1}]	2870	1350
Noise level at 3 m [dBA]	37.9	29.1
Transported air temperature [°C]	-25...+40	-25...+40
SEC class	D	C
Protection rating	IPX4	IPX4

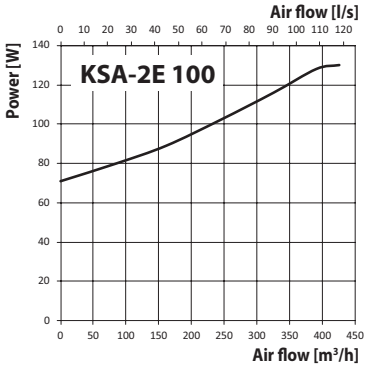
Fan overall dimensions

Type	Dimensions [mm]					Mass [kg]
	ØD	B	H	L	P	
KSA 100-2E	99	184	308	310	48	4.22
KSA 125-2E	123	204	308	310	48	4.57
KSA 150-2E	148	231	343	358	48	6.28
KSA 160-2E	158	231	343	358	48	6.28
KSA 200-4E	198	282	408	445	48	8.25



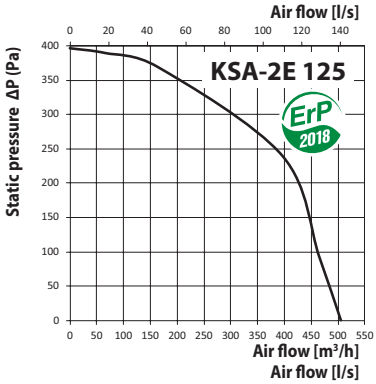
VENTS KSA

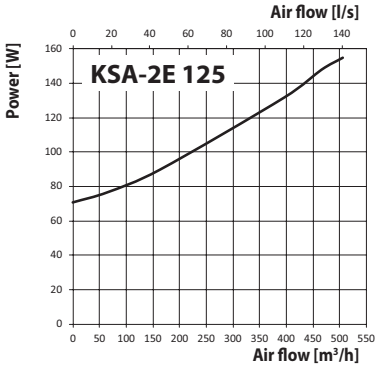




Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	47	44	41	42	37	35	35	30	29
L_{wA} to outlet	dBA	50	45	41	41	37	35	31	30	28
L_{wA} to environment	dBA	43	39	36	37	31	30	28	25	22

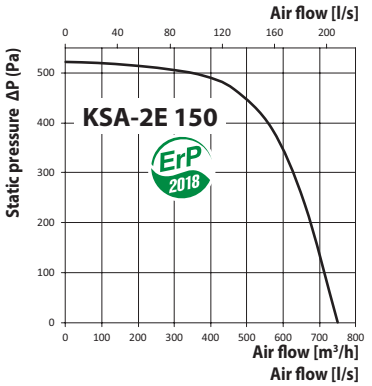
VENTS KSA

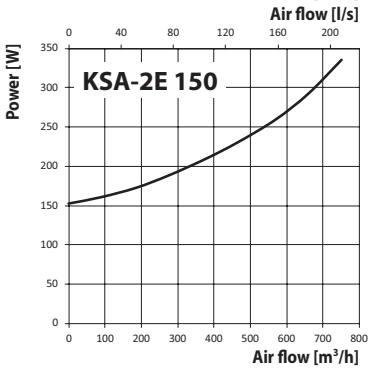




Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	48	45	44	46	37	39	33	30	25
L_{wA} to outlet	dBA	50	45	43	47	39	39	33	29	27
L_{wA} to environment	dBA	45	40	39	41	34	33	27	23	22

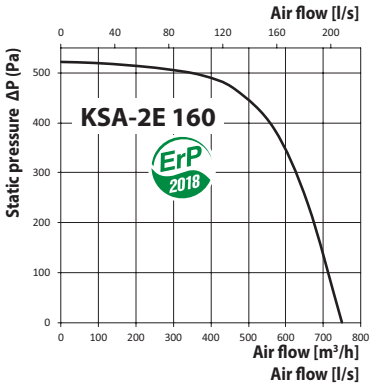
VENTS KSA

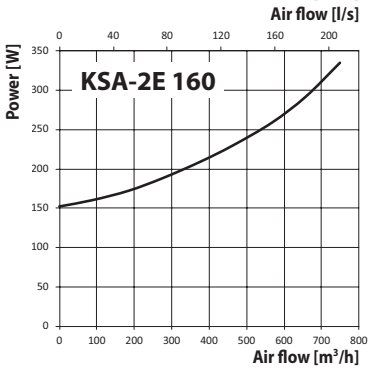




Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	55	42	52	50	40	35	28	25	21
L_{wA} to outlet	dBA	55	43	51	48	40	34	29	23	23
L_{wA} to environment	dBA	50	39	48	44	35	30	25	20	17

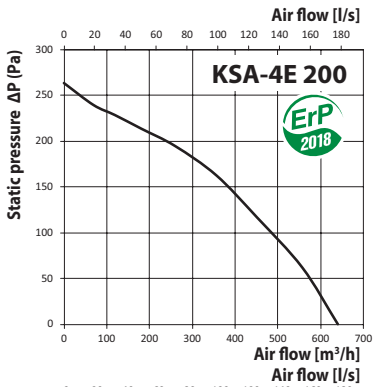
VENTS KSA

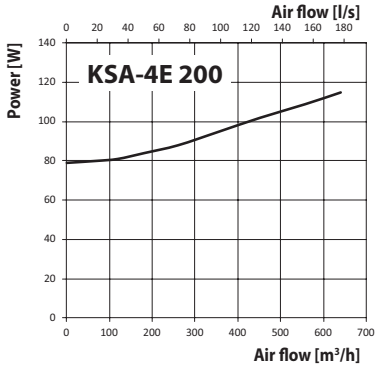




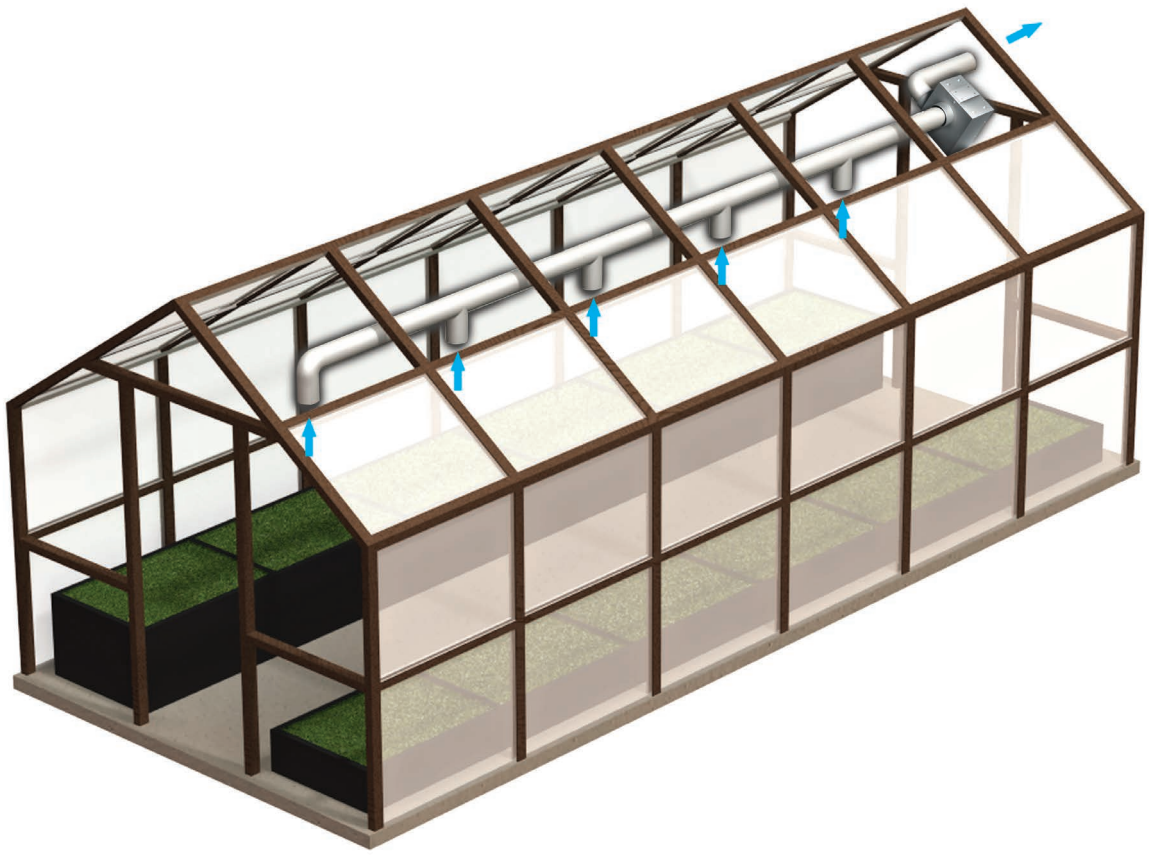
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	56	44	51	48	38	33	29	24	22
L_{wA} to outlet	dBA	54	42	51	50	37	31	30	25	25
L_{wA} to environment	dBA	49	37	47	43	34	28	25	20	18

VENTS KSA





Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	43	39	38	38	31	29	20	17	14
L_{wA} to outlet	dBA	43	36	38	34	34	27	23	18	18
L_{wA} to environment	dBA	38	33	35	31	27	22	16	13	11



KSA fan greenhouse ventilation example

Series

VENTS KSB

Inline centrifugal fans in heat- and sound-insulated casing with air flow up to **2150 m³/h**

Applications

KSB fan design enables its application in supply and exhaust ventilation systems for commercial, office and other public or industrial premises with high requirements to noise level and limited mounting space. Provision is made for installation in a premise above the suspended ceiling. Suitable for connection with 100, 125, 150, 160, 200, 250 and 315 mm round ducts.

Design

The fan casing is made of galvanized steel sheet and provided with heat- and sound-insulating material. Round connecting pipes are fitted with rubber seals.

Motor

The centrifugal impeller with backward curved blades is powered by means of 2-pole asynchronous motor with external rotor. The motors are equipped with built-in thermal overheating protection with automatic restart. Motor ball bearings with selective lubricating oil ensure low-noise and maintenance-free fan operation. The motor is installed onto the rubber anti-vibration mounts to reduce vibration and noise. Models marked KSB...S are featured with the high-powered motors.

Speed control

Smooth or step speed control with a thyristor or autotransformer speed controller. Several fans may be connected to one speed controller provided that the total power and operating current do not exceed the rated speed controller parameters.

Mounting

The fans are designed for inline mounting inside an air duct of matching air duct diameter, in any point of the ventilation system and at any angle. The fan shall be fixed to a building by means of supports, suspension brackets or fixation brackets in case of flexible connectors application. The fan can be mounted in any position with respect to the air flow direction indicated with a pointer on the fan casing. Access to the fan maintenance shall be provided.

The fan with electronic temperature and control module (U option).

The ideal solution for ventilation of the premises requiring permanent temperature control, i.e. greenhouses. The fan with the electronic temperature and speed control module provides automatic control of the motor speed (air flow) depending on air temperature in the air duct or in the room.

The front panel of the electronic module has the following control knobs:

– speed control knob for setting the motor speed;

– thermostat control knob for setting the temperature set point;

– thermostat indicator light.

The fan is available in two modifications:

– with the temperature sensor integrated inside the fan air duct (U/U1 option);

– with the external temperature sensor fixed on the cable, 4 m long (Un/U1n/U2n).

Designation key

Series	Spigot diameter	Options
VENTS KSB	100; 125; 150; 160; 200; 250; 315	**S**: high-powered motor **U**: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Temperature-based operation logic. **Un**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Temperature-based operation logic. **U1**: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Timer-based operation logic. **U1n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Timer-based operation logic. **U2n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Temperature-based switching on/off. **R1**: power cord with a mains plug. **P**: integrated smooth speed controller.

Accessories

Silencer | Filters | Heaters | Backdraft damper | Air shutter | Speed controllers | Sensor

Control logic of the fan with the electronic temperature and speed control module.

Set the desired air temperature (thermostat set point) by turning the thermostat control knob. Set the required minimum impeller speed (air flow) by turning the speed control knob. The motor switches to maximum speed (maximum air flow) as the temperature reaches and exceeds the set temperature set point. The motor switches to the pre-set lower speed as the temperature drops down below the temperature set point. To avoid frequent motor speed switches when the air temperature in the duct is equal to the set temperature point, the speed switch delay is activated. There are three switch delay patterns for various cases:

1. The temperature sensor-based switch delay (U option): the motor switches to higher speed as the air temperature exceeds 2 °C above the set thermostat set point. The motor revers to the preset lower speed as the air temperature drops below the thermostat set point. This pattern is used to keep air temperature to within 2 °C. In this case the motor speed switches are rare.
2. The timer-based switch delay (U1 option): as the air temperature exceeds the set thermostat set point, the motor switches to higher speed and the switch delay timer is activated for 5 min. The motor reverts to lower speed as the air temperature drops down below the thermostat set point and only after 5 minuts timer countdown. This pattern is used for exact air temperature control. The speed switches for the fan with U1 option are more frequent as compared to the operating logic of the fan with U option, however the minimum operating cycle at one speed is 5 minutes.
3. Switching ON/OFF by a temperature sensor (U2 option): when the air temperature exceeds by 2 °C the thermostat actuation set point, the fan starts operating at the set speed. The fan switches off when the temperature drops below the temperature set point.

Example for temperature sensor delay:

Initial conditions:

- rated speed is set as 60 % of the maximum speed
- operating threshold is set as 25 °C
- air temperature in the duct is 20 °C

Fan operates with the rated speed =60 %

▼

- air temperature in the duct rises

fan operates with the rated speed =60 %

▼

- air temperature in the duct reaches 27 °C

Fan switches to the speed =100 %

▼

- air temperature in the duct goes down

fan operates with the speed =100 %

▼

- temperature in the duct reaches 25 °C again

fan switches to the preset rated speed =60 %

Example for timer delay:

Initial conditions:

- set rotation speed = 60 % of maximum speed
- set operating threshold =25 °C
- air temperature in the duct =20 °C

motor operates with the motor speed =60 %

▼

- the temperature in the duct rises, reaches 25 °C and keeps rising

▼

fan switches to the maximum speed =100 % and the delay timer switches for 5 minutes on

▼

- the temperature in the duct goes down

the fan operates with the maximum speed =100 %

▼

- the temperature in the duct reaches 25 °C and keeps going down

▼

after the timer stops, the motor switches to the preset rated speed (=60 %). After the speed switch the timer switches again for 5 minutes on.

▼

- the temperature in the duct rises, reaches 25 °C and keeps rising

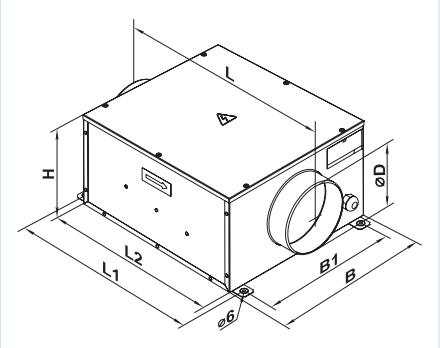
▼

after the timer stops, the motor switches to the maximum speed (=100 %). After the speed switch the timer switches again for 5 minutes on.

Thus, in timer delay pattern the delay timer activates every time the fan speed changes.

Fan overall dimensions

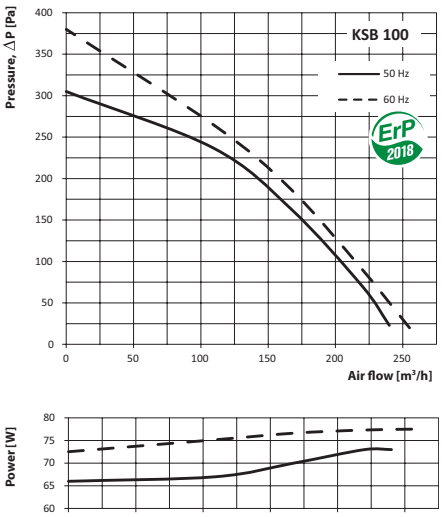
Type	Dimensions [mm]							Mass [kg]
	ØD	B	B1	H	L	L1	L2	
KSB 100	99	322	280	192	447	380	350	5.4
KSB 125	124	322	280	192	447	380	350	5.4
KSB 150	149	352	310	212	477	410	380	6.4
KSB 160	159	352	310	212	477	410	380	6.4
KSB 200	199	432	368	287	588	506	480	10.0
KSB 200 S	199	432	368	287	588	506	480	12.0
KSB 250	249	432	368	287	588	506	480	12.5
KSB 315	314	502	438	397	648	566	540	15.5



Technical data

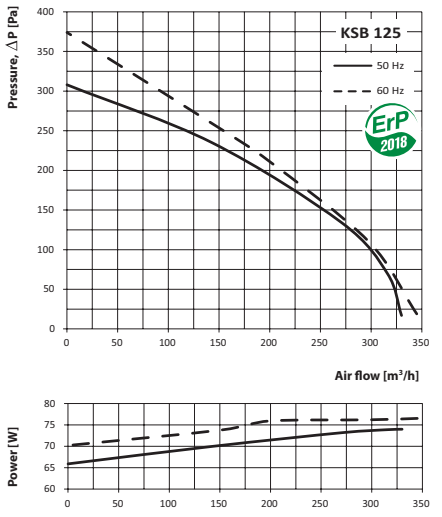
	KSB 100		KSB 125		KSB 150		KSB 160	
Voltage [V]	1~230		1~230		1~230		1~230	
Frequency [Hz]	50	60	50	60	50	60	50	60
Power [W]	73	77	73	77	72	76	75	76
Current [A]	0.32	0.34	0.32	0.34	0.32	0.33	0.33	0.33
Max. air flow [m³/h]	240	255	330	345	420	435	420	435
RPM [min⁻¹]	2560	2690	2590	2700	2600	2720	2690	2720
Noise level at 3 m [dBA]	33	34	35	36	36	37	36	37
Transported air temperature [°C]	-25...+55		-25...+55		-25...+55		-25...+55	
SEC class	C		C		C		C	
Protection rating	IPX4		IPX4		IPX4		IPX4	

VENTS KSB



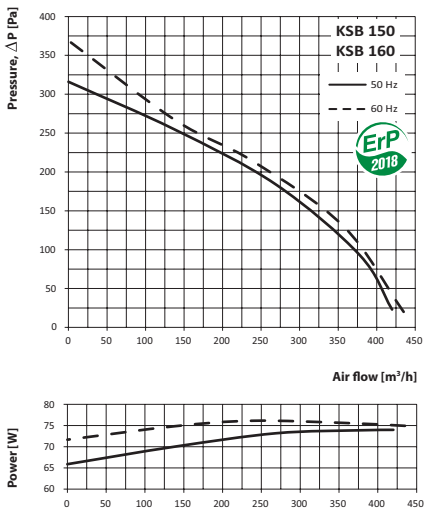
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	59	53	57	54	52	51	54	51	47
L_{wA} to outlet	dBA	68	49	50	53	56	66	63	56	54
L_{wA} to environment	dBA	40	27	29	32	31	34	29	29	20

VENTS KSB



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	64	51	51	54	56	54	55	53	51
L_{wA} to outlet	dBA	65	50	49	59	55	61	61	58	51
L_{wA} to environment	dBA	38	29	32	33	33	33	31	28	25

VENTS KSB

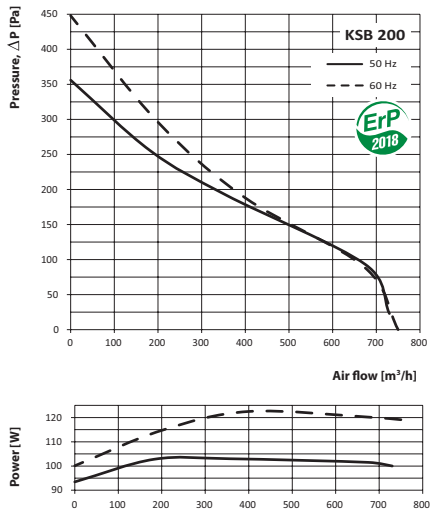


Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	62	49	50	58	56	54	55	52	50
L_{wA} to outlet	dBA	66	43	44	59	55	62	60	55	53
L_{wA} to environment	dBA	41	26	30	35	34	34	30	26	25

Technical data

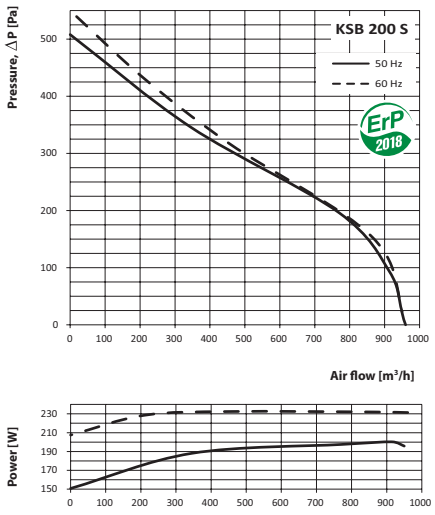
	KSB 200		KSB 200 S		KSB 250		KSB 315	
Voltage [V]	1~230		1~230		1~230		1~230	
Frequency [Hz]	50	60	50	60	50	60	50	60
Power [W]	103	122	195	232	198	238	322	367
Current [A]	0.45	0.53	0.85	1,02	0.87	1,04	1.4	1.6
Max. air flow [m³/h]	730	750	950	960	1300	1315	2150	2150
RPM [min⁻¹]	2550	2740	2570	2690	2420	2730	2670	2850
Noise level at 3 m [dBA]	38	39	41	42	41	43	43	44
Transported air temperature [°C]	-25...+55		-25...+55		-25...+55		-25...+55	
SEC class	B		B		-		-	
Protection rating	IPX4		IPX4		IPX4		IPX4	

VENTS KSB



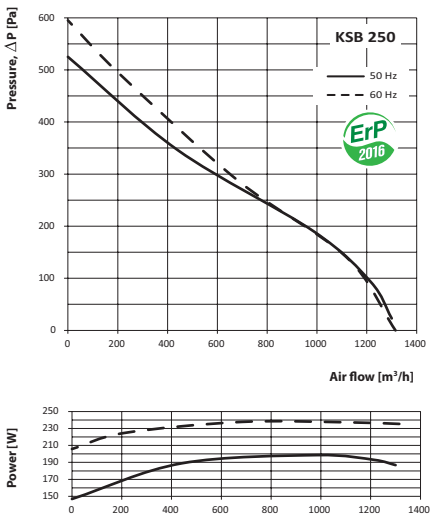
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	52	37	38	45	45	39	39	36	26
L_{wA} to outlet	dBA	67	49	46	55	64	59	60	53	41
L_{wA} to environment	dBA	43	33	35	33	38	25	31	25	25

VENTS KSB



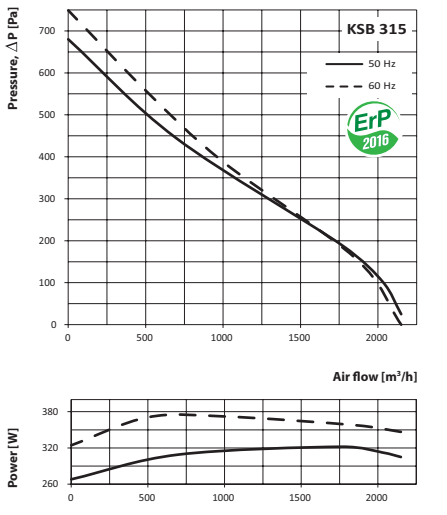
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	53	41	43	53	51	47	44	44	36
L_{wA} to outlet	dBA	70	48	49	57	68	65	63	58	51
L_{wA} to environment	dBA	45	29	32	37	40	27	29	26	27

VENTS KSB



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	59	44	45	54	51	47	45	45	38
L_{wA} to outlet	dBA	74	51	51	62	70	67	64	61	55
L_{wA} to environment	dBA	46	33	36	41	42	30	26	23	27

VENTS KSB



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	59	45	47	56	47	48	50	44	40
L_{wA} to outlet	dBA	75	52	51	59	68	68	65	62	54
L_{wA} to environment	dBA	48	41	41	44	43	36	28	32	29

Series
VENTS KSB EC

Centrifugal inline fan
with capacity up to **1260 m³/h**
in insulated casing

Purpose

The design of the KSB fans allows to use them in supply and exhaust ventilation systems for commercial, office and other public or industrial premises with high requirements to the noise level, efficiency and fan control and with limited space for mounting.

For example, the unit design includes a possibility of space-restricted installation above suspended ceilings.

The KSB EC fans are designed for mounting into Ø 100, 125, 150, 160, 200, 250, 315 mm air ducts.

Design

The fan casing is made of galvanized sheet steel using heat- and sound-insulation material.

The round connecting spigots are rubber sealed.

Motor

The unit is equipped with high-efficient external rotor EC motors and centrifugal impellers with backward curved blades.

These motors currently are the most cutting-edge solution in the field of energy conservation. The use of EC motors allows to reduce the electricity consumption by 35 % approximately while providing the high capacity and low noise level.

The EC motors are featured with high performance and totally controllable speed range.

The high efficiency (up to 90 %) is a definite advantage of the EC motors.

The motors are equipped with rolling-element bearings that provide a longer operation period (40 000 hours).

Speed control

The fans are controlled by means of a 0-10 V external control signal while the performance regulation is based on the feedback from the temperature, smoke and other sensors as well as other vital parameter settings.

As the control signal changes the EC fan changes speed accordingly to supply the exact air amount required by the ventilation system.

The maximum fan speed does not depend on the electric mains frequency enabling compatibility with both 50 Hz and 60 Hz networks.

The fans can be easily combined into a single computer-controlled network.

Special software allows for precise control over the operating parameters of the network units.

Mounting

The fans are intended for installation in round air ducts. They are installed between the air ducts.

The use of flexible connectors requires fixation of the fan on the building structure by means of supports, mounts or fixing brackets.

The fan can be fixed in any position, taking into account the air flow direction indicated by the arrow on the fan casing.

While mounting the fan provide enough access for servicing and repair operations.

Electrical connection and installation must be performed in accordance with the instruction manual and the electrical connections diagram applied to the terminal box.

Designation key

Series	Air duct diameter	Motor	Options
VENTS KSB	100; 125; 150; 160; 200; 250; 315	**EC**: synchronous electronically commutated motor	**P**: integrated smooth speed controller

Accessories


Silencer


Filters


Heaters

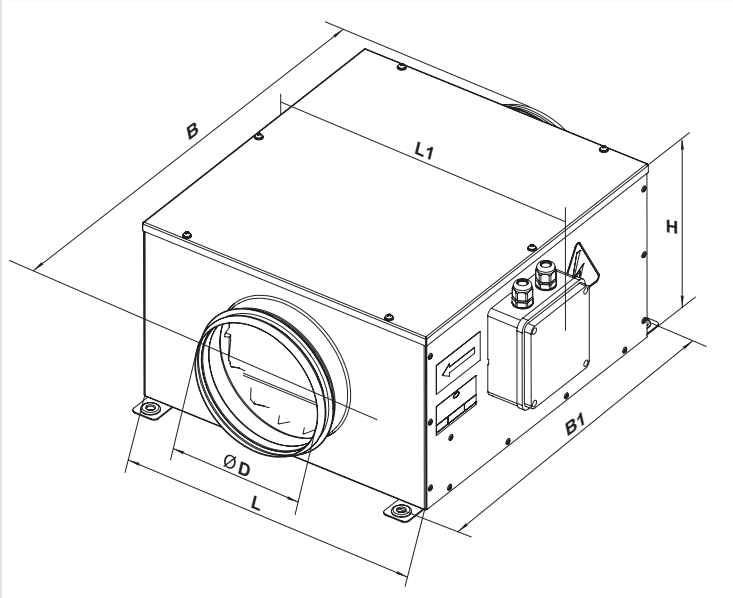

Backdraft damper


Air shutter


Speed controller

Overall dimensions

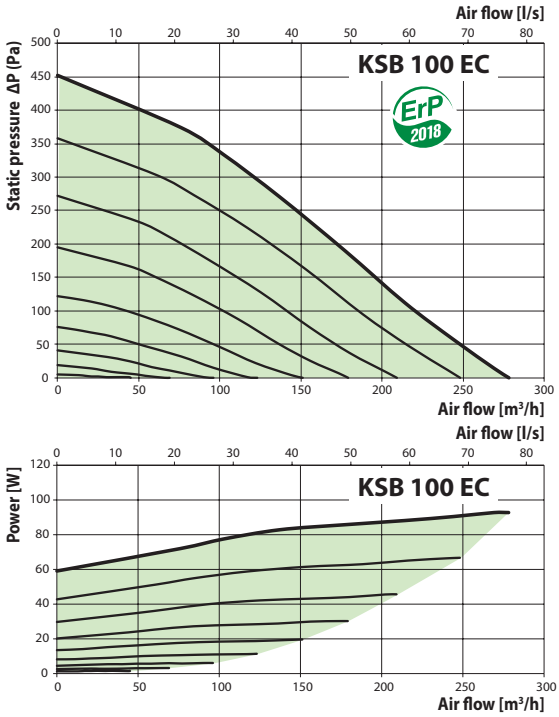
Model	Dimensions [mm]								
	Ø D	L	B1	L	L1	B	H	L2	B2
KSB 100 EC	99	325	447	325	388 375	355	200	280	380
KSB 125 EC	124	325	447	325	388 375	355	200	280	380
KSB 150 EC	149	325	447	325	418 405	385	220	310	410
KSB 160 EC	159	325	447	355	418 405	385	220	310	410
KSB 200 EC	199	435	590	435	503 490	485	295	368	506
KSB 250 EC	249	435	590	435	503 490	485	295	368	506
KSB 315 EC	314	435	650	435	663 560	545	405	438	566



Technical data

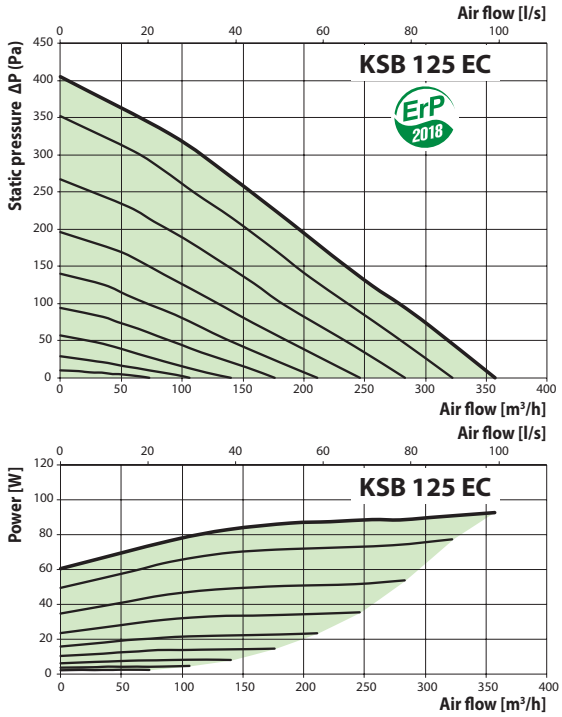
	KSB 100 EC	KSB 125 EC	KSB 150 EC KSB 160 EC	KSB 200 EC	KSB 250 EC	KSB 315 EC
Unit voltage [V/50 (60) Hz]			1~230			
Power [W]	92.7	92.6	94.8	101.6	163.7	164.3
Current [A]	0.75	0.75	0.77	0.83	1.34	1.35
Maximum air flow [m^3/h]	278	357	425	700	1145	1260
RPM [min^{-1}]	3200	3200	3200	2580	2510	2620
Sound pressure level at 3 m distance [dBA]	32	34	35	37	40	42
Transported air temperature [°C]	-25...+60	-25...+60	-25...+60	-25...+60	-25...+60	-25...+60
Energy efficiency class	C	C	B	B	B	-
Ingress protection rating	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4

VENTS KSB EC



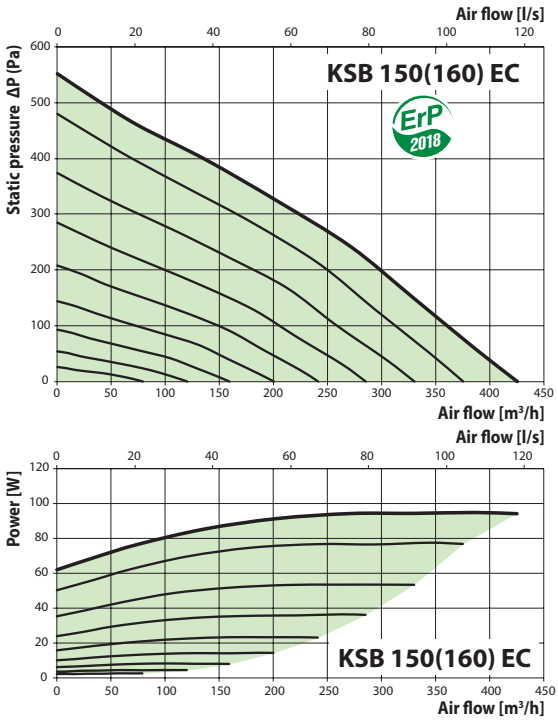
Sound power level [dBA], A - weighted		Octave frequency band, [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	[Hz]	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	[dBA]	61	47	55	59	51	47	41	41	32	41	51
L_{wA} to outlet	[dBA]	64	52	59	60	57	47	41	42	36	44	54
L_{wA} to environment	[dBA]	53	42	49	49	41	36	31	27	23	32	42

VENTS KSB EC



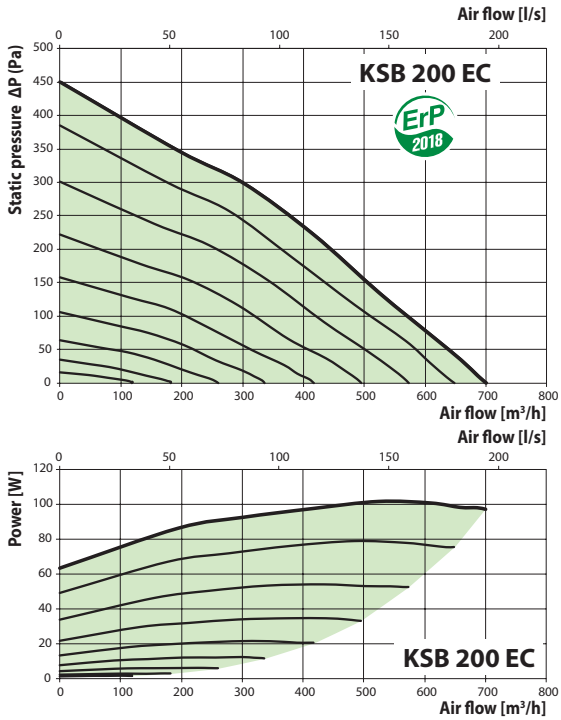
Sound power level [dBA], A - weighted		Octave frequency band, [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	[Hz]	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	[dBA]	60	46	54	58	50	46	40	40	31	40	50
L_{wA} to outlet	[dBA]	63	51	58	59	56	46	40	41	35	43	53
L_{wA} to environment	[dBA]	55	44	51	51	43	38	32	28	24	34	44

VENTS KSB EC



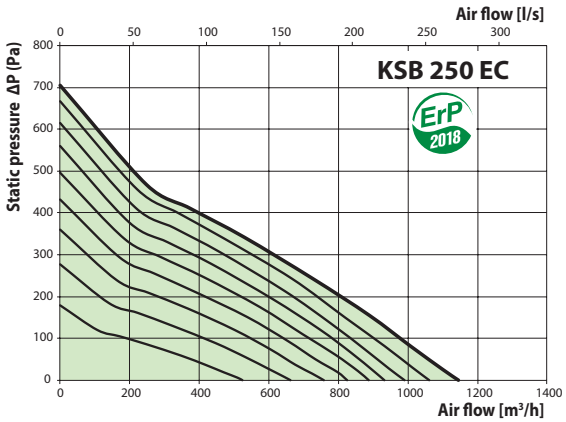
Sound power level [dBA], A - weighted		Octave frequency band, [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	[Hz]	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	[dBA]	63	48	56	60	52	48	42	42	32	42	52
L_{wA} to outlet	[dBA]	65	53	60	61	58	48	42	43	36	45	55
L_{wA} to environment	[dBA]	56	45	52	52	44	39	33	29	24	35	45

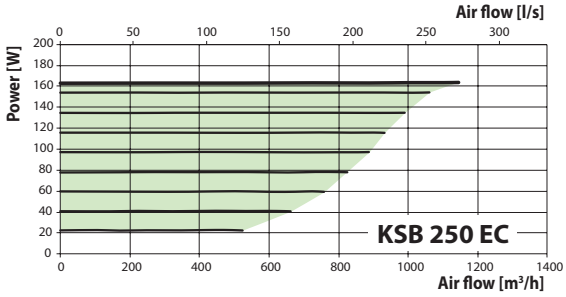
VENTS KSB EC



Sound power level [dBA], A - weighted		Octave frequency band, [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	[Hz]	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	[dBA]	62	46	59	59	41	37	34	30	23	41	51
L_{wA} to outlet	[dBA]	65	52	64	51	47	43	35	29	22	44	54
L_{wA} to environment	[dBA]	57	46	53	54	45	40	33	30	25	37	47

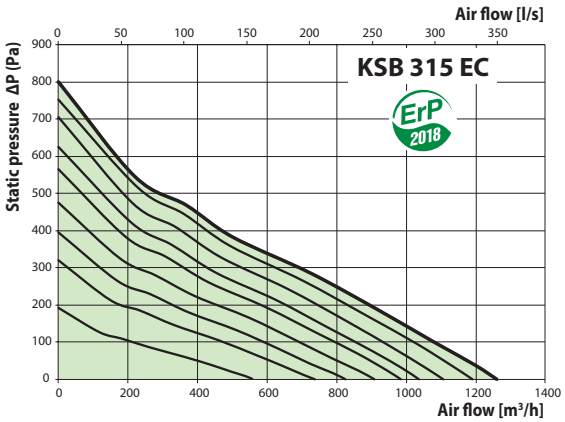
VENTS KSB EC

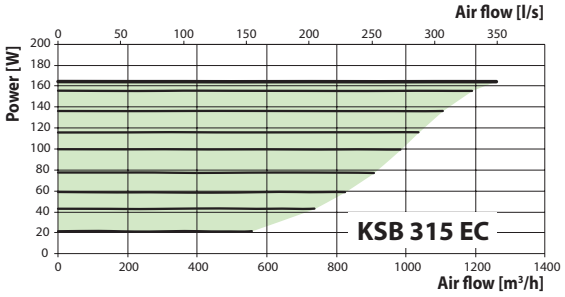




Sound power level [dBA], A - weighted		Octave frequency band, [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	[Hz]	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	[dBA]	66	49	62	62	44	39	36	32	24	45	55
L_{wA} to outlet	[dBA]	68	55	68	54	50	45	37	31	24	48	58
L_{wA} to environment	[dBA]	61	49	57	57	48	43	36	32	27	40	50

VENTS KSB EC





Sound power level [dBA], A - weighted		Octave frequency band, [Hz]									LpA, 3 m [dBA]	LpA, 1 m [dBA]
	[Hz]	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	[dBA]	67	52	61	65	56	51	45	45	35	46	56
L_{wA} to outlet	[dBA]	70	56	65	66	62	51	44	46	39	49	59
L_{wA} to environment	[dBA]	62	51	58	59	50	44	37	32	28	42	52

Series

VENTS KSB K2

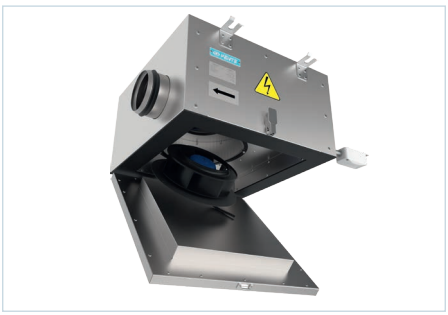
Inline centrifugal fans in heat- and sound-insulated casing with air flow up to **7000 m³/h**

Purpose

KSB fan design allows to use them in supply and exhaust ventilation systems for commercial, office and other public or industrial premises with high requirements to the noise level and with limited space for mounting.
For example, the unit design includes a possibility of space-restricted installation above suspended ceilings.
They are designed for mounting into Ø 100-500 mm air ducts.

Design

The fan casing is made of aluzinc. For easy installation and operation, the top cover of the fan is secured with a special lock. Heat- and sound insulation is made of non-combustible 50 mm mineral wool layer. To ensure better noise absorption, the inner surface of the insulation is made of a perforated metal sheet. The round connecting spigots are rubber sealed.



Motor

The fans are equipped with asynchronous motors with an external rotor and centrifugal impellers with backward curved blades.
The motors are equipped with an integrated overheating protection with automatic restart.
The use of ball bearings with specially selected lubricating oil guarantees low noise and makes the fan completely maintenance-free.

Speed control

Smooth or step speed control by means of a thyristor or autotransformer speed controller.
Several fans can be connected to one controller, provided that the total power and operating current do not exceed the nominal parameters of the controller.

Mounting

The round inline fans are designed for connection to round air ducts. The fans are installed at an air duct junction. The use of flexible connectors requires fixation of the fan on the building structure by means of supports, mounts or fixing brackets. The fan can be fixed in any position with respect to the air flow direction indicated by the arrow on the fan casing. While mounting the fan provide enough access for servicing and repair operations.

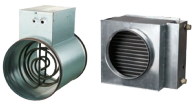
Designation key

Series	Spigot diameter	Modification	Motor	Options
VENTS KSB	100; 125; 150; 160; 200; 250; 315; 355; 400; 450; 500	**K2**: heat- and sound-insulated casing	**S**: high-powered motor	**R1**: power cord with a mains plug.

Accessories


Silencer


Filters


Heaters

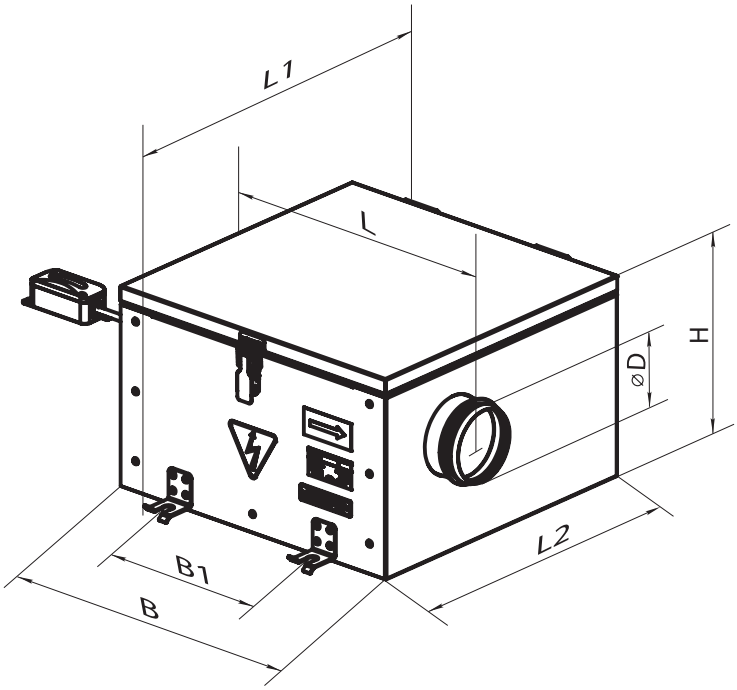

Backdraft damper, Air shutter


Speed controllers


Sensor

Overall dimensions

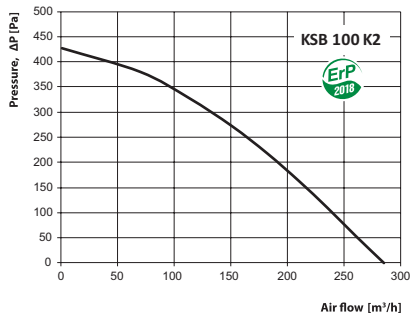
Model	Dimensions [mm]							Mass [kg]
	ØD	B	B1	H	L	L1	L2	
KSB 100 K2	99	420	228	258	517	507	414	13
KSB 125 K2	124	420	228	258	517	507	414	13
KSB 125 K2 S	124	533	333	280	630	617	525	19
KSB 150 K2	149	470	278	282	566	586	493	17
KSB 160 K2	159	470	278	282	566	586	493	17
KSB 200 K2	198	535	357.5	355	632	628	535	22.6
KSB 250 K2	248	677	537	429	774	759	666	33
KSB 315 K2 S	313	760	560	460	857	747	666	48
KSB 355 K2	354	830	641	500	927	885	804	58
KSB 400 K2	399	927	737	578	1024	957	876	78.5
KSB 450 K2	449	1049	858	607	1152	1049	968	84
KSB 500 K2	499	1203	993	744	1300	1263	1182	129

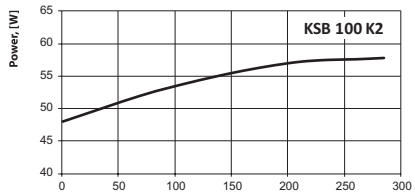


Technical data

	KSB 100 K2	KSB 125 K2	KSB 125 K2 S	KSB 150 K2
Unit voltage [V/50 Hz]	1~230	1~230	1~230	1~230
Power [W]	58	61	88	84
Current [A]	0.25	0.28	0.37	0.37
Maximum air flow [m³/h]	285	330	484	485
RPM [min⁻¹]	2530	2560	2670	2620
Sound pressure level at 3 m distance [dBA]	34	35	40	38
Transported air temperature [°C]	-25...+55	-25...+55	-25...+55	-25...+55
Ingress protection rating	IPX4	IPX4	IPX4	IPX4
SEC class	C	C	C	C

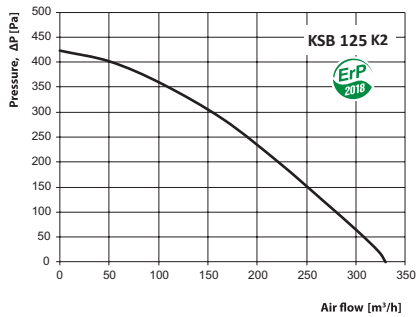
VENTS KSB K2

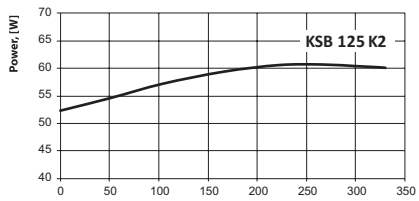




Sound power level	Hz	Gen.	Octave frequency band [Hz] 63	125	250	500	1000	2000	4000	8000	Sound power level [dBA], A-weighted	Sound pressure level at 3 m distance, A-weighted	Sound pressure level at 1 m distance, A-weighted
												LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	62	48	57	60	52	48	42	42	32		42	52
L_{wA} to outlet	dBA	79	65	74	76	72	58	51	53	44		59	69
L_{wA} to environment	dBA	54	40	44	50	50	42	41	39	39		34	44

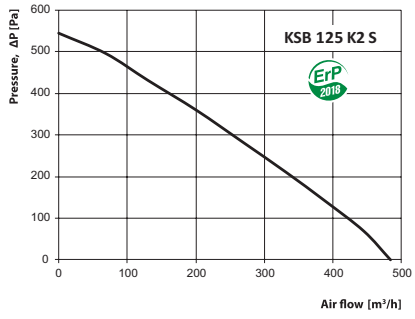
VENTS KSB K2

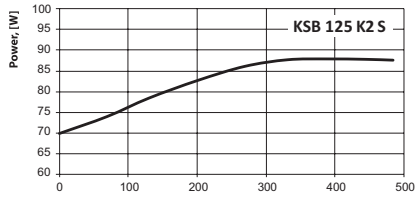




Sound power level	Hz	Gen.	Octave frequency band [Hz] 63	125	250	500	1000	2000	4000	8000	Sound power level [dBA], A-weighted	Sound pressure level at 3 m distance, A-weighted	Sound pressure level at 1 m distance, A-weighted
												LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	63	49	57	61	52	48	42	42	33		43	53
L_{wA} to outlet	dBA	81	66	76	78	73	60	52	54	45		61	71
L_{wA} to environment	dBA	55	41	45	51	51	43	42	40	39		35	45

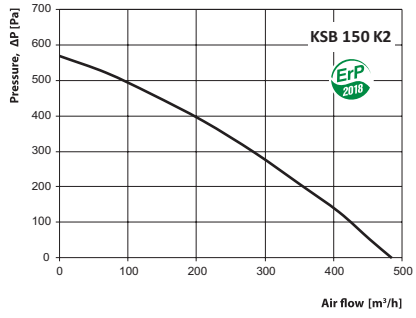
VENTS KSB K2

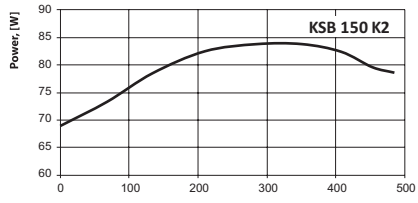




Sound power level	Hz	Gen.	Octave frequency band [Hz] 63	125	250	500	1000	2000	4000	8000	Sound power level [dBA], A-weighted	Sound pressure level at 3 m distance, A-weighted	Sound pressure level at 1 m distance, A-weighted
												LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	71	56	65	70	60	55	48	48	37		51	61
L_{wA} to outlet	dBA	88	72	83	85	80	65	57	59	50		68	78
L_{wA} to environment	dBA	60	43	52	58	53	44	42	40	40		40	50

VENTS KSB K2



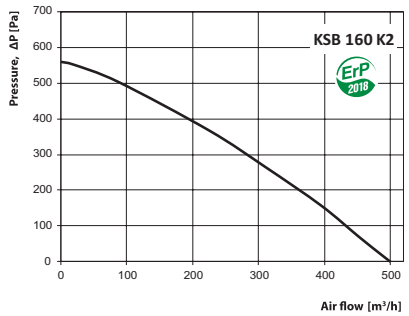


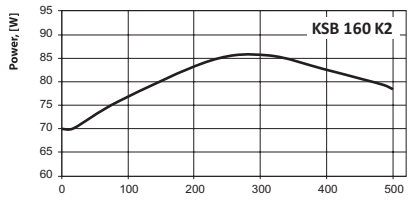
Sound power level	Hz	Gen.	Octave frequency band [Hz] 63	125	250	500	1000	2000	4000	8000	Sound power level [dBA], A-weighted	Sound pressure level at 3 m distance, A-weighted	Sound pressure level at 1 m distance, A-weighted
												LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	70	55	64	68	59	54	47	47	37		50	60
L_{wA} to outlet	dBA	86	71	81	83	78	64	55	58	49		66	76
L_{wA} to environment	dBA	59	42	50	57	52	43	41	39	39		38	48

Technical data

	KSB 160 K2	KSB 200 K2	KSB 250 K2	KSB 315 K2 S
Unit voltage [V/50 Hz]	1~230	1~230	1~230	3~400
Power [W]	86	164	320	654
Current [A]	0.38	0.71	1.40	1.10
Maximum air flow [m³/h]	500	770	1515	2700
RPM [min⁻¹]	2670	2580	2615	2600
Sound pressure level at 3 m distance [dBA]	38	42	45	48
Transported air temperature [°C]	-25...+55	-25...+55	-25...+55	-25...+55
Ingress protection rating	IPX4	IPX4	IPX4	IPX4
SEC class	C	C	-	-

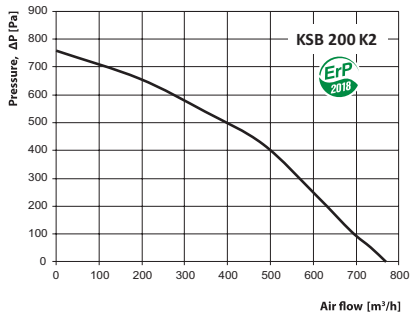
VENTS KSB K2

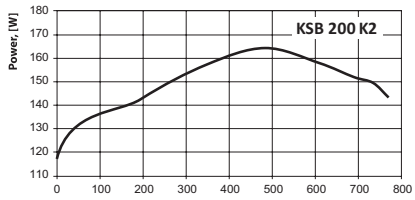




Sound power level			Sound power level [dBA], A-weighted									Sound pressure level at 3 m distance, A-weighted	Sound pressure level at 1 m distance, A-weighted
			Octave frequency band [Hz]										
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	70	55	64	68	59	54	47	47	37		50	60
L_{WA} to outlet	dBA	87	72	83	84	79	65	56	59	49		67	77
L_{WA} to environment	dBA	58	42	50	57	52	43	42	39	39		38	48

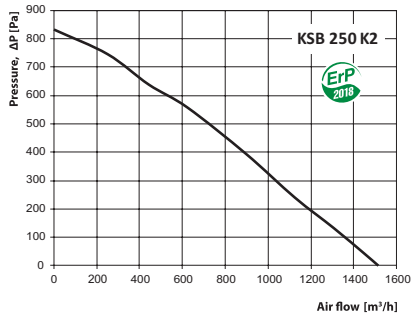
VENTS KSB K2

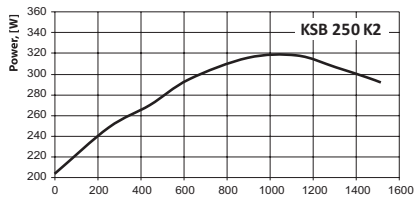




Sound power level			Sound power level [dBA], A-weighted									Sound pressure level at 3 m distance, A-weighted	Sound pressure level at 1 m distance, A-weighted
			Octave frequency band [Hz]										
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	73	57	67	71	61	57	49	49	38		53	63
L_{WA} to outlet	dBA	81	67	77	78	74	60	52	54	46		61	71
L_{WA} to environment	dBA	62	39	46	62	51	45	45	35	34		42	52

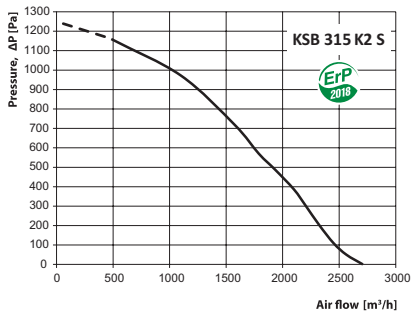
VENTS KSB K2

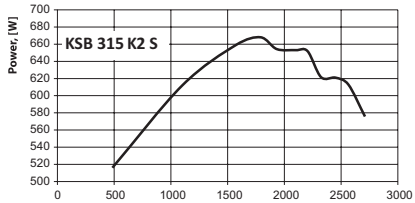




Sound power level			Sound power level [dBA], A-weighted									Sound pressure level at 3 m distance, A-weighted	Sound pressure level at 1 m distance, A-weighted
			Octave frequency band [Hz]										
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	77	60	70	75	64	59	52	52	40		56	66
L_{WA} to outlet	dBA	81	67	77	79	74	60	52	55	46		61	71
L_{WA} to environment	dBA	65	46	60	63	55	48	33	33	34		45	55

VENTS KSB K2



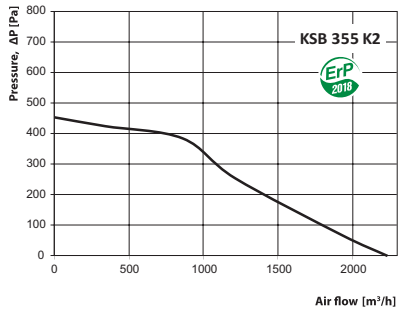


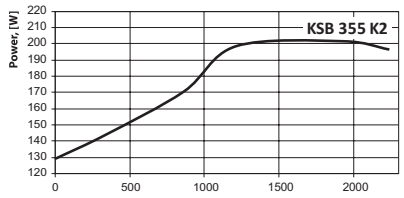
Sound power level			Sound power level [dBA], A-weighted									Sound pressure level at 3 m distance, A-weighted	Sound pressure level at 1 m distance, A-weighted
			Octave frequency band [Hz]										
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	87	80	83	81	77	70	66	64	62		66	76
L_{WA} to outlet	dBA	90	80	80	79	83	81	83	80	76		69	79
L_{WA} to environment	dBA	68	55	56	67	58	50	53	52	53		48	58

Technical data

	KSB 355 K2	KSB 400 K2	KSB 450 K2
Unit voltage [V/50 Hz]	1~230	1~230	1~230
Power [W]	202	349	482
Current [A]	0.89	2.00	2,13
Maximum air flow [m³/h]	2235	2860	3750
RPM [min⁻¹]	1330	1380	1350
Sound pressure level at 3 m distance [dBA]	48	48	50
Transported air temperature [°C]	-25...+55	-25...+55	-25...+55
Ingress protection rating	IPX4	IPX4	IPX4
SEC class	-	-	-

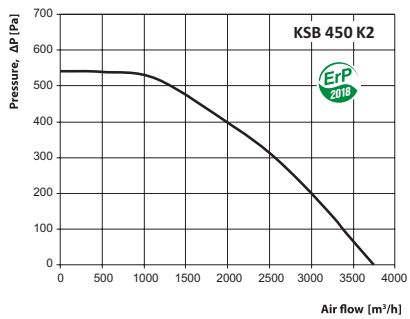
VENTS KSB K2

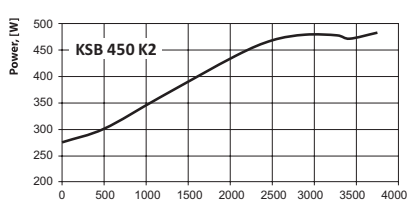




Sound power level			Sound power level [dBA], A-weighted								Sound pressure level at 3 m distance, A-weighted	Sound pressure level at 1 m distance, A-weighted
			Octave frequency band [Hz]									
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	78	61	72	77	66	61	53	53	41	58	68
L_{wA} to outlet	dBA	83	68	78	80	76	61	53	56	47	63	73
L_{wA} to environment	dBA	68	52	66	64	47	41	32	33	33	48	58

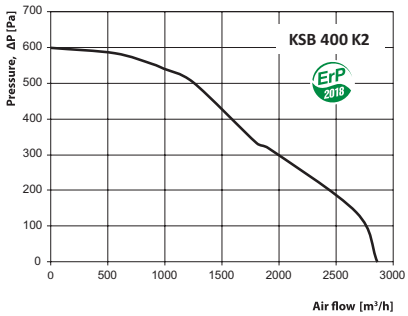
VENTS KSB K2

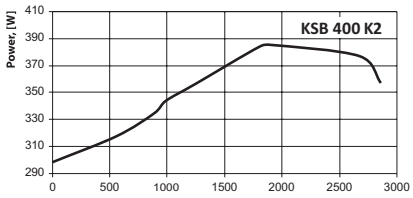




Sound power level			Sound power level [dBA], A-weighted								Sound pressure level at 3 m distance, A-weighted	Sound pressure level at 1 m distance, A-weighted
			Octave frequency band [Hz]									
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	82	64	75	81	69	64	56	56	43	62	72
L_{wA} to outlet	dBA	89	73	84	86	81	66	57	60	50	69	79
L_{wA} to environment	dBA	70	57	67	67	54	52	43	41	36	50	60

VENTS KSB K2



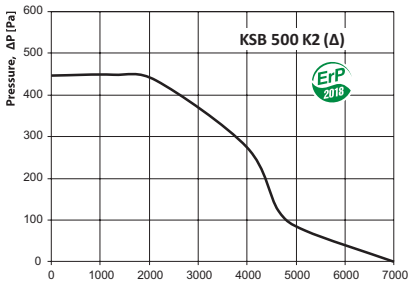


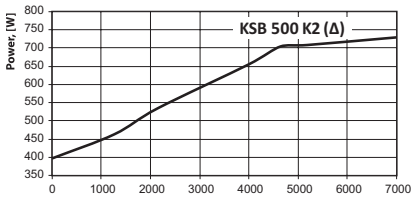
Sound power level			Sound power level [dBA], A-weighted								Sound pressure level at 3 m distance, A-weighted	Sound pressure level at 1 m distance, A-weighted
			Octave frequency band [Hz]									
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	84	66	78	83	71	66	57	57	44	64	74
L_{wA} to outlet	dBA	90	74	85	87	82	66	58	60	51	69	79
L_{wA} to environment	dBA	69	63	65	64	54	46	34	35	35	48	58

Technical data

	KSB 500 K2 (Δ)	KSB 500 K2 (Y)
Unit voltage [V/50 Hz]	3~230	3~400
Power [W]	730	780
Current [A]	2.82	1.60
Maximum air flow [m³/h]	7000	6720
RPM [min⁻¹]	980	948
Sound pressure level at 3 m distance [dBA]	56	54
Transported air temperature [°C]	-25...+55	-25...+55
Ingress protection rating	IPX4	IPX4
SEC class	-	-

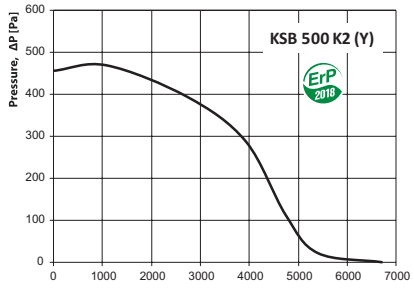
VENTS KSB K2

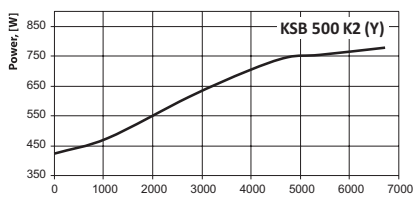




Sound power level		Gen.	Sound power level [dBA], A-weighted: Octave frequency band [Hz]								Sound pressure level at 3 m distance, A-weighted	Sound pressure level at 1 m distance, A-weighted
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	87	69	80	86	74	68	59	59	46	67	77
L_{WA} to outlet	dBA	92	76	88	90	84	69	60	62	52	72	82
L_{WA} to environment	dBA	76	68	75	67	52	50	48	46	40	56	66

VENTS KSB K2





Sound power level		Gen.	Sound power level [dBA], A-weighted: Octave frequency band [Hz]								Sound pressure level at 3 m distance, A-weighted	Sound pressure level at 1 m distance, A-weighted
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	85	66	78	83	71	66	57	57	44	64	74
L_{WA} to outlet	dBA	90	75	86	88	83	67	58	61	51	70	80
L_{WA} to environment	dBA	74	66	73	65	51	49	47	45	39	54	64

Series

VENTS KSB K2 EC

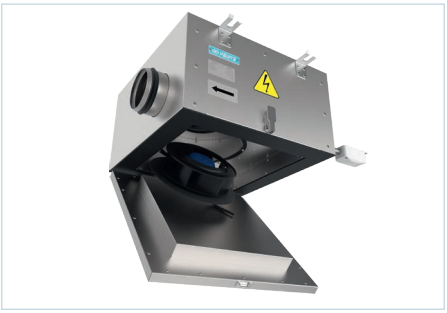
Centrifugal duct fans in a heat- and sound-insulated casing with air flow up to **7145 m³/h**

Application

The KSB K2 EC fans are designed for supply and exhaust ventilation systems for commercial, office and other public or industrial premises with high requirements to noise level and with limited space for mounting. For example, the unit design includes a possibility of space-restricted installation above suspended ceilings. Compatible with Ø 100-500 mm air ducts.

Design

The fan casing is made of aluzinc. For easy installation and operation, the top cover of the fan is secured with a special lock. The casing is heat- and sound-insulated with a 50 mm layer of non-flammable mineral wool. To ensure better noise absorption, the inner surface of the insulation is made of a perforated metal sheet. The round connecting spigots are rubber sealed.



Motor

The units feature efficient electronically commutated (EC) direct current motors with external rotor and centrifugal impellers with backward curved blades. EC motor is free of friction and wear parts such as a commutator and brushes. These components are replaced by a maintenance-free electronic circuit board. EC motors are characterised with high performance and optimum control across the entire speed range. In addition to that, the efficiency of the electronically commutated motor reaches very impressive levels of up to 90 %.

Built in functions and control

The fan is controlled with the external control signal 0-10 V (capacity control is performed depending on temperature, pressure, smoke level etc.). The fan has low energy consumption at any speed. Maximum fan speed does not depend on the available current frequency and is suitable for operation both at 50 and 60 Hz. Several fans can be integrated into a single computer-driven control system. Custom designed software provides high accuracy control of the fans integrated into a network. The computer display shows all the system parameters and the operation mode can be set individually for each fan in the network.

Installation

Duct fans are intended for mounting to round air ducts. The fans are installed between the air ducts. In case the fan is mounted on flexible joints, attach the fan to a structural unit by means of supports, suspension links or brackets. The fan may be installed in any position in consideration of the air flow direction (as indicated by the arrow on the fan casing). While mounting the fan provide enough access for servicing and repair operations.

Designation key

Series	Duct diameter	Modification	Motor	Options
VENTS KSB	100; 125; 150; 160; 200; 250; 315; 355; 400; 450; 500	**K2**: heat- and sound-insulated casing	**EC**: synchronous electronically commutated motor	**R1**: power cord with a mains plug.

Accessories


Silencer


Filters


Heaters

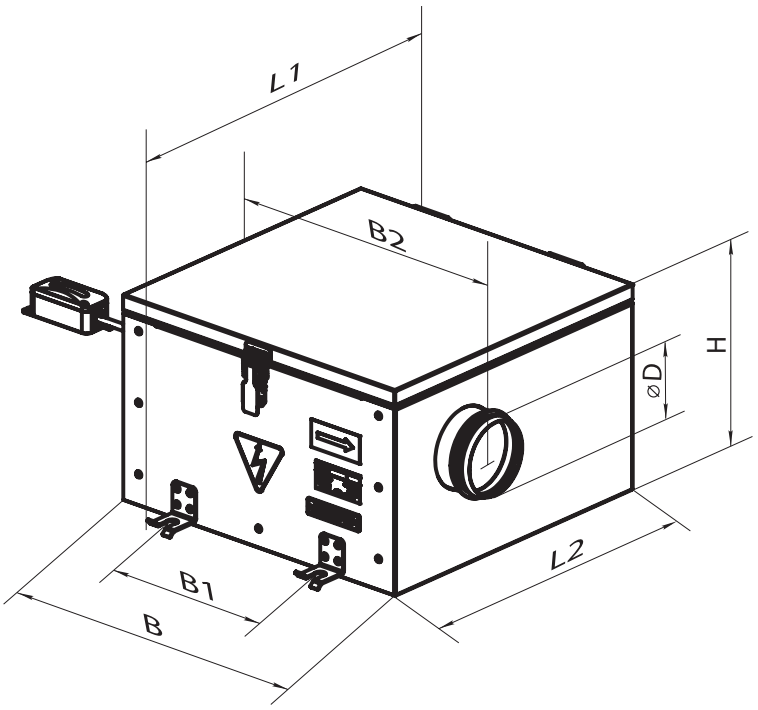

Non-return valve


Air damper


Speed controller

Overall dimensions of fans

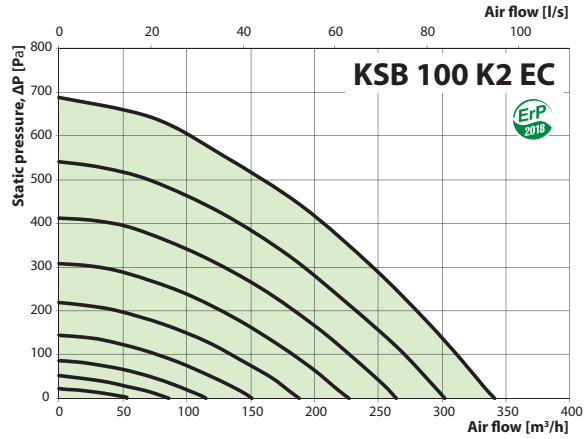
Model	Dimensions [mm]							Weight [kg]
	∅D	B	B1	B2	H	L1	L2	
KSB 100 K2 EC	99	420	228	517	270	507	414	12
KSB 125 K2 EC	124	420	228	517	270	507	414	12
KSB 150 K2 EC	149	420	228	517	270	507	414	12
KSB 160 K2 EC	159	420	228	517	270	507	414	12
KSB 200 K2 EC	198	551	374	648	328	646	553	20
KSB 250 K2 EC	248	665	487	762	371	709	616	27
KSB 315 K2 EC	313	807	600	904	505	818	737	47
KSB 355 K2 EC	354	807	600	904	505	818	737	47
KSB 400 K2 EC	399	807	600	904	505	818	737	47
KSB 450 K2 EC	449	885	670	982	580	886	805	60
KSB 500 K2 EC	499	1049	800	1146	660	1079	998	86

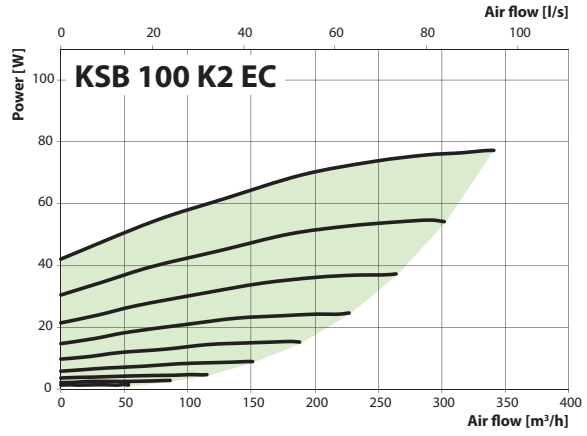


Technical data

	KSB 100 K2 EC	KSB 125 K2 EC
Unit voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	69	78
Current [A]	0.55	0.59
Maximum air flow [m³/h]	341	444
RPM [min⁻¹]	3270	3270
Sound pressure level at 3 m distance [dBA]	37	39
Maximum transported air temperature [°C]	-25...+55	-25...+55
SEC class	B	B
Ingress protection rating	IPX4	IPX4

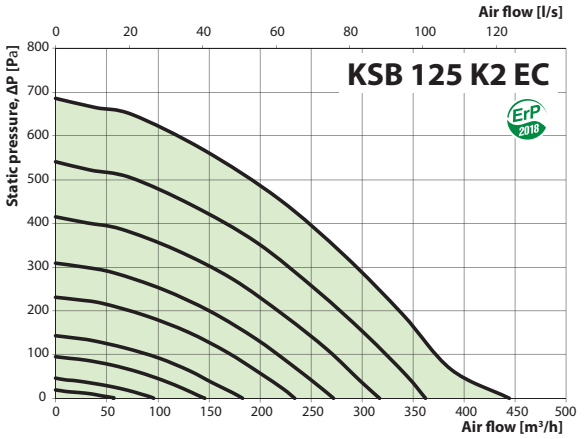
VENTS KSB K2 EC

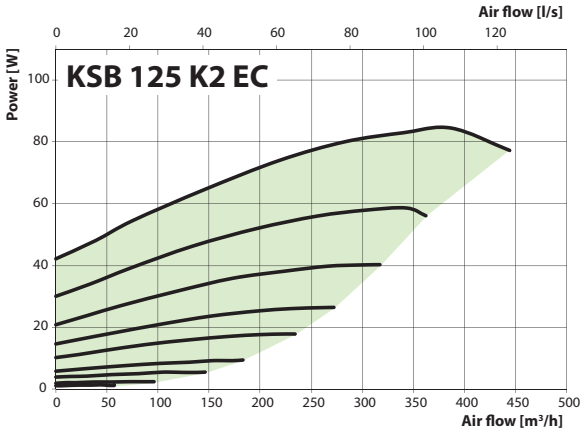




Sound power level		Sound power level [A-filter]									Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
		General	Octave frequency band [Hz]									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{WA} to inlet	dBA	65	51	59	63	54	50	44	44	34	45	55
L_{WA} to outlet	dBA	83	68	78	80	75	61	53	55	47	63	73
L_{WA} to environment	dBA	57	42	47	53	53	44	43	42	41	37	47

VENTS KSB K2 EC



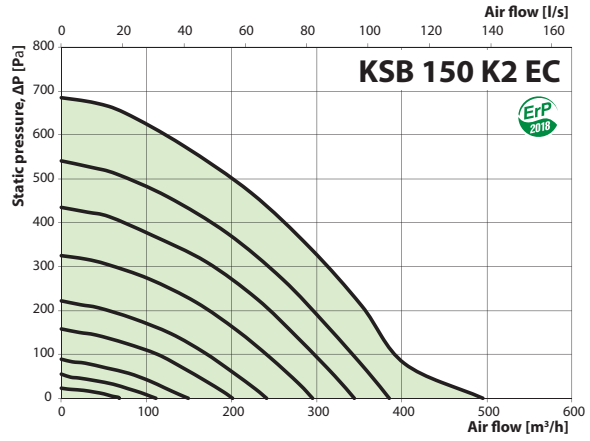


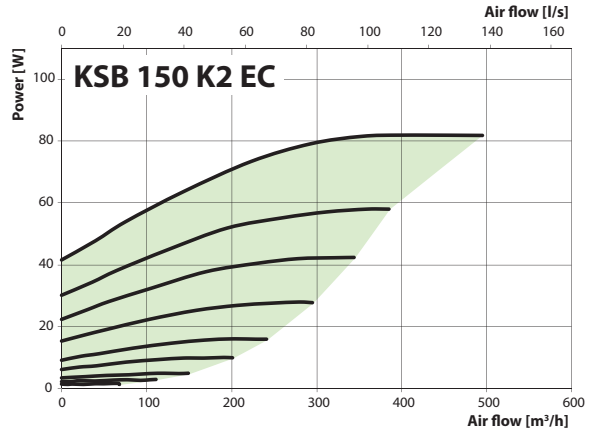
Sound power level		Sound power level [A-filter]									Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
		General	Octave frequency band [Hz]									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{WA} to inlet	dBA	66	51	60	64	55	51	44	44	34	46	56
L_{WA} to outlet	dBA	85	70	80	82	77	63	54	57	48	65	75
L_{WA} to environment	dBA	59	44	49	55	55	46	45	44	43	39	49

Technical data

	KSB 150 K2 EC	KSB 160 K2 EC
Unit voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	81	85
Current [A]	0.61	0.76
Maximum air flow [m³/h]	495	454
RPM [min⁻¹]	3270	3600
Sound pressure level at 3 m distance [dBA]	40	40
Maximum transported air temperature [°C]	-25...+55	-25...+55
SEC class	B	B
Ingress protection rating	IPX4	IPX4

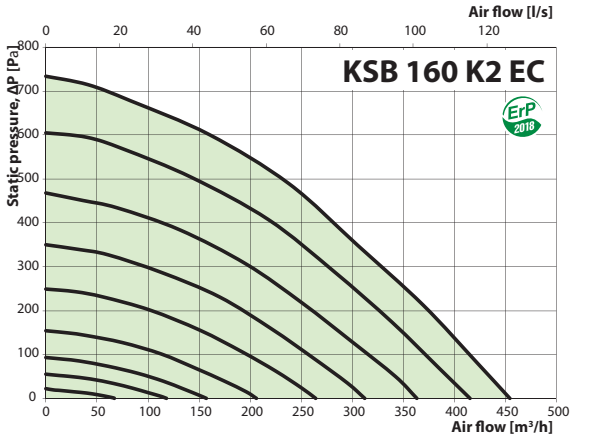
VENTS KSB K2 EC

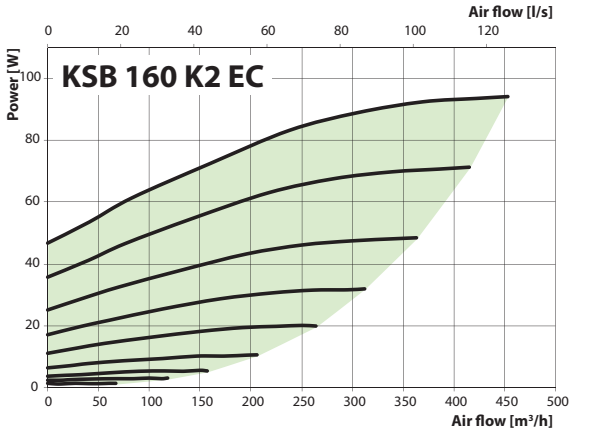




Sound power level			Sound power level [A-filter]								Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz	General	Octave frequency band [Hz]									
			63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{WA} to inlet	dBA	71	55	65	69	59	55	48	48	37	50	60
L_{WA} to outlet	dBA	87	72	82	84	79	64	56	58	49	67	77
L_{WA} to environment	dBA	60	43	51	58	53	43	42	40	40	40	50

VENTS KSB K2 EC



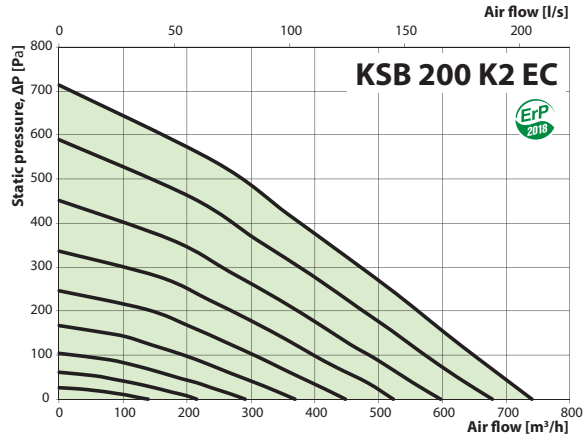


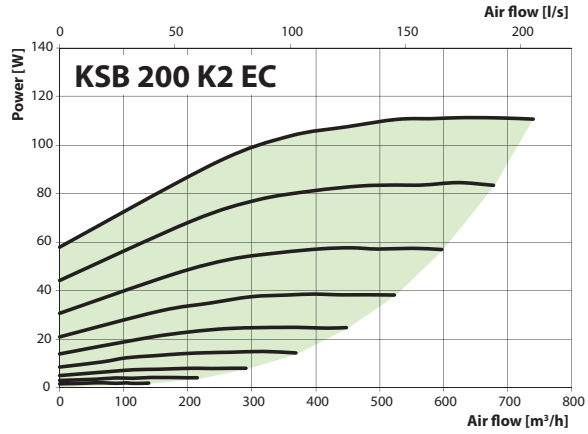
Sound power level			Sound power level [A-filter]								Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz	General	Octave frequency band [Hz]									
			63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{WA} to inlet	dBA	70	55	64	68	59	54	47	47	37	50	60
L_{WA} to outlet	dBA	90	74	85	87	82	67	58	60	51	69	79
L_{WA} to environment	dBA	60	43	51	58	53	43	42	40	40	40	50

Technical data

	KSB 200 K2 EC	KSB 250 K2 EC
Unit voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	111	164
Current [A]	0.88	1.32
Maximum air flow [m³/h]	740	1097
RPM [min⁻¹]	2400	2800
Sound pressure level at 3 m distance [dBA]	42	45
Maximum transported air temperature [°C]	-25...+55	-25...+55
SEC class	B	B
Ingress protection rating	IPX4	IPX4

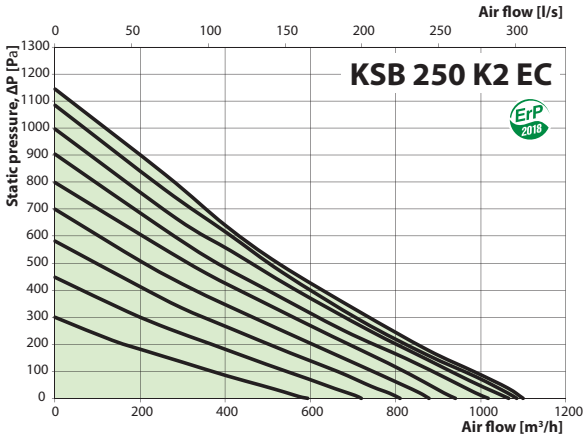
VENTS KSB K2 EC

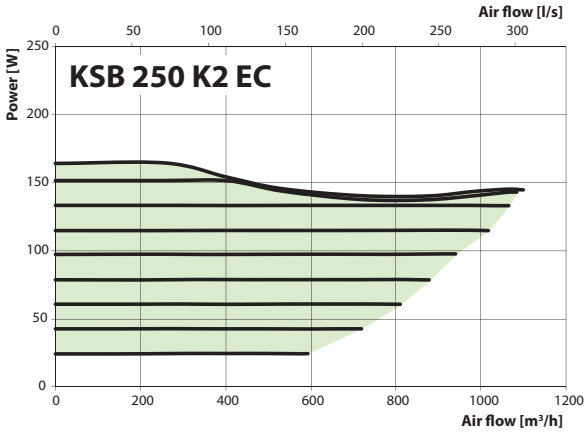




Sound power level			Sound power level [A-filter]									
		General	Octave frequency band [Hz]								Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{wA} to inlet	dBA	70	54	64	68	58	54	47	47	36	49	59
L_{wA} to outlet	dBA	80	65	75	77	72	59	51	53	45	60	70
L_{wA} to environment	dBA	63	39	46	62	52	46	45	35	34	42	52

VENTS KSB K2 EC



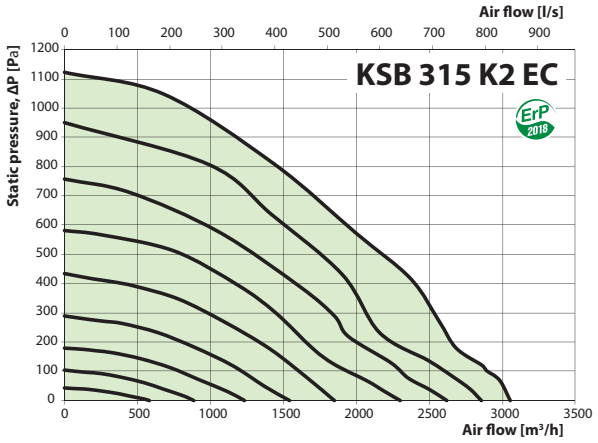


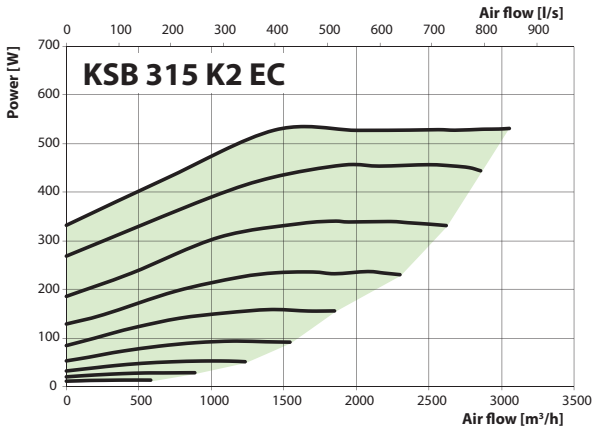
Sound power level			Sound power level [A-filter]									
		General	Octave frequency band [Hz]								Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{wA} to inlet	dBA	77	60	70	75	64	59	52	52	40	56	66
L_{wA} to outlet	dBA	81	67	77	79	74	60	52	55	46	61	71
L_{wA} to environment	dBA	65	46	60	63	55	48	33	33	34	45	55

Technical data

	KSB 315 K2 EC	KSB 355 K2 EC
Unit voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	531	527
Current [A]	2.32	2.31
Maximum air flow [m³/h]	3053	3417
RPM [min⁻¹]	2360	2360
Sound pressure level at 3 m distance [dBA]	47	50
Maximum transported air temperature [°C]	-25...+55	-25...+55
SEC class	-	-
Ingress protection rating	IPX4	IPX4

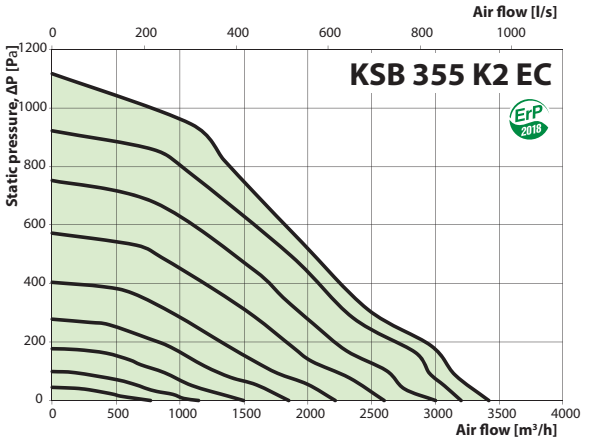
VENTS KSB K2 EC

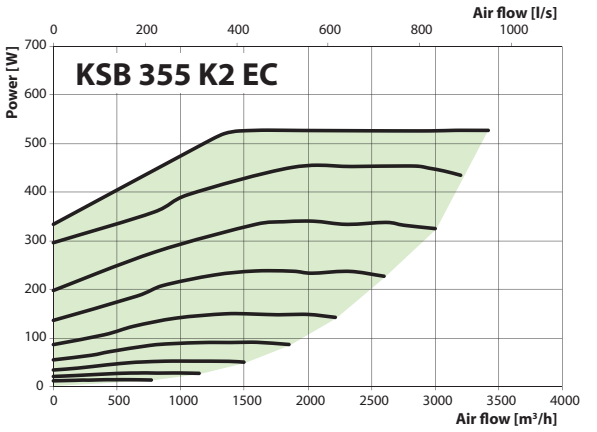




Sound power level		Sound power level [A-filter]									Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
		General	Octave frequency band [Hz]									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{wA} to inlet	dBA	84	77	80	79	75	68	64	62	60	64	74
L_{wA} to outlet	dBA	89	79	79	78	82	80	82	79	75	68	78
L_{wA} to environment	dBA	67	54	55	66	57	50	52	51	52	47	57

VENTS KSB K2 EC



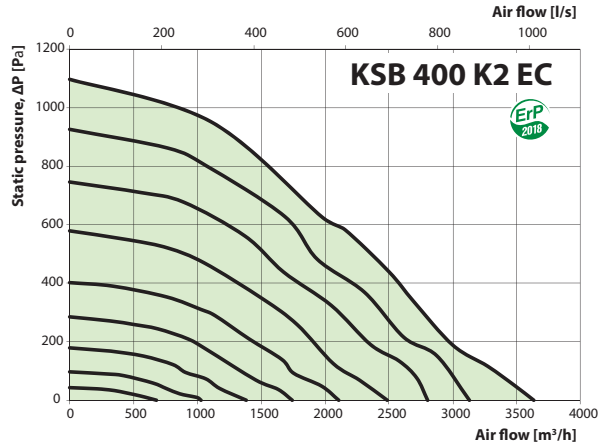


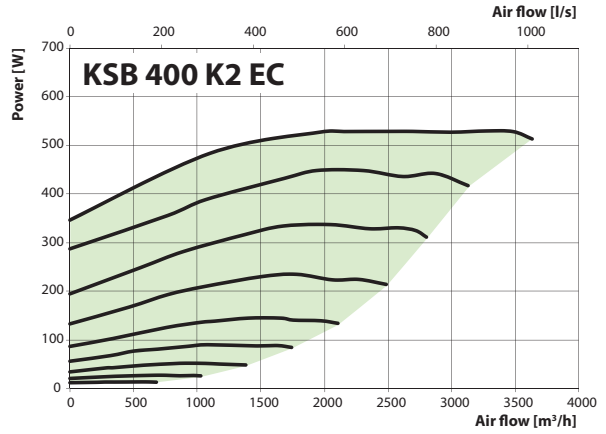
Sound power level		Sound power level [A-filter]									Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
		General	Octave frequency band [Hz]									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{wA} to inlet	dBA	89	82	85	84	80	72	68	66	64	69	79
L_{wA} to outlet	dBA	91	81	81	80	84	82	84	81	77	70	80
L_{wA} to environment	dBA	70	57	58	69	60	53	55	54	55	50	60

Technical data

	KSB 400 K2 EC	KSB 450 K2 EC
Unit voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	513	1200
Current [A]	2.25	1.95
Maximum air flow [m³/h]	3633	5620
RPM [min⁻¹]	2360	2580
Sound pressure level at 3 m distance [dBA]	51	54
Maximum transported air temperature [°C]	-25...+55	-25...+55
SEC class	-	-
Ingress protection rating	IPX4	IPX4

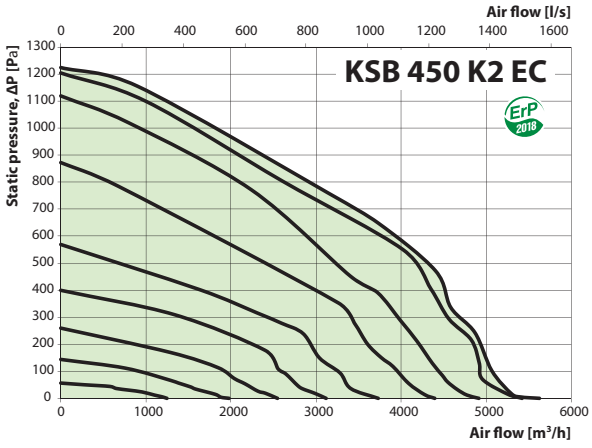
VENTS KSB K2 EC

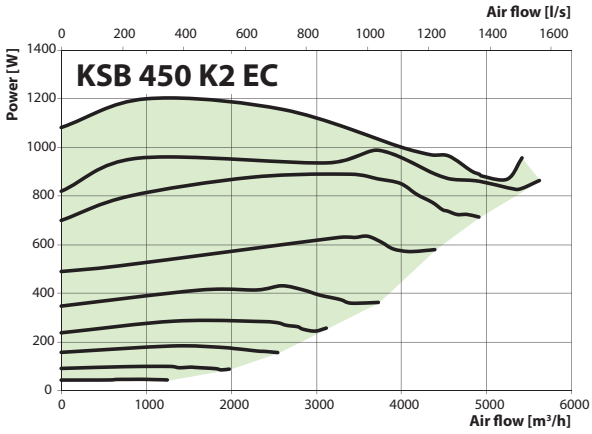




Sound power level			Sound power level [A-filter]									
		General	Octave frequency band [Hz]								Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz		63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	86	67	79	84	72	67	58	58	45	65	75
L_{wA} to outlet	dBA	90	74	85	87	82	66	58	60	51	69	79
L_{wA} to environment	dBA	72	66	68	66	57	48	35	37	37	51	61

VENTS KSB K2 EC

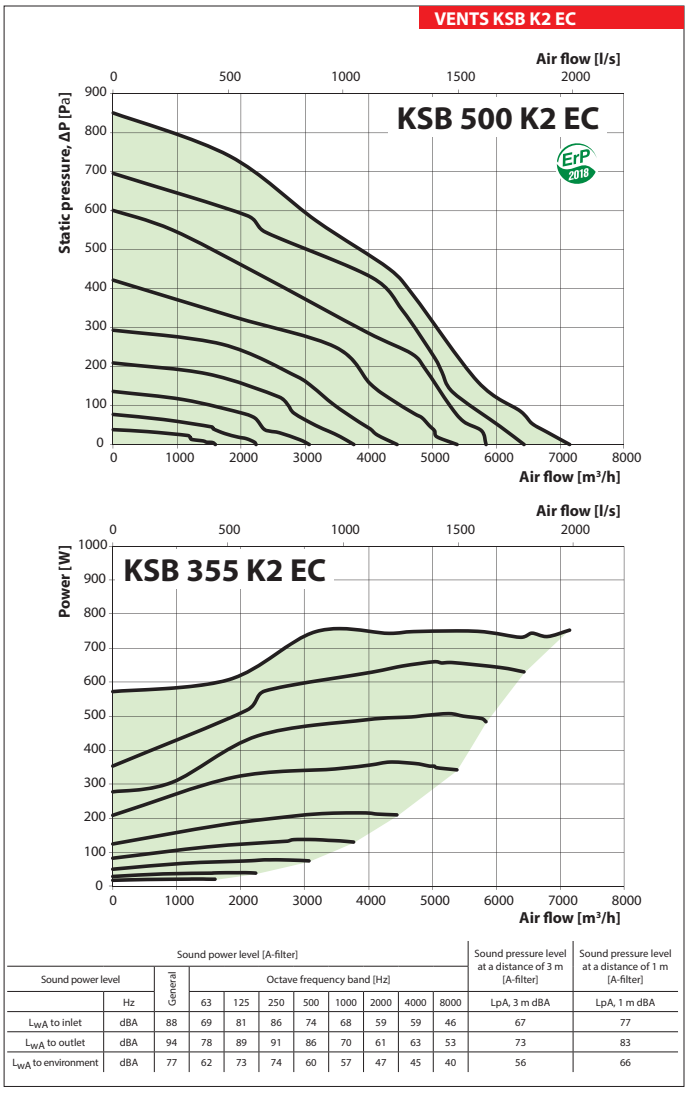




Sound power level			Sound power level [A-filter]									
		General	Octave frequency band [Hz]								Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz		63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	85	66	78	83	71	66	57	57	44	64	74
L_{wA} to outlet	dBA	92	76	87	89	84	69	59	62	52	71	81
L_{wA} to environment	dBA	75	61	71	72	58	55	46	44	39	54	64

Technical data

	KSB 500 K2 EC
Unit voltage [V/50 (60) Hz]	1~230
Power [W]	752
Current [A]	3.42
Maximum air flow [m³/h]	7145
RPM [min⁻¹]	1440
Sound pressure level at 3 m distance [dBA]	56
Maximum transported air temperature [°C]	-25...+55
SEC class	-
Ingress protection rating	IPX4



Sound power level		Sound power level [A-filter]									Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz	General	Octave frequency band [Hz]									
			63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{WA} to inlet	dBA	88	69	81	86	74	68	59	59	46	67	77
L_{WA} to outlet	dBA	94	78	89	91	86	70	61	63	53	73	83
L_{WA} to environment	dBA	77	62	73	74	60	57	47	45	40	56	66

Series

VENTS KSF K2 EC

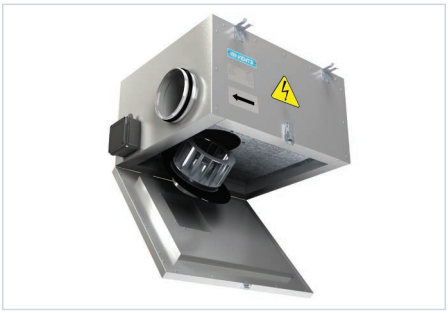
Inline centrifugal fans in a heat- and sound-insulated casing with air flow up to **1682 m³/h**

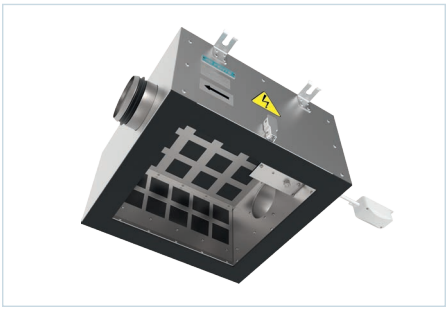
Application

The KSF K2 EC fans are designed for supply and exhaust ventilation systems for commercial, office and other public or industrial premises with high requirements to the noise level and with limited space for mounting. For example, the unit design includes a possibility of space-restricted installation above suspended ceilings. Compatible with Ø 100-250 mm air ducts.

Design

The fan casing is made of aluzinc. For easy installation and operation, the cover of the fan is secured with a special lock. The casing is heat- and sound-insulated with a 50 mm layer of non-flammable mineral wool. To ensure better noise absorption, the inner surface of the insulation is made of a perforated metal sheet. The round connecting spigots are rubber sealed.





Motor

The units feature efficient electronically commutated (EC) direct current motors with an external rotor and centrifugal impellers with forward curved blades. EC motor is free of friction and wear parts such as a commutator and brushes. These components are replaced by a maintenance-free electronic circuit board. EC motors are characterised with high performance and optimum control across the entire speed range. In addition to that, the efficiency of the electronically commutated motor reaches very impressive levels of up to 90 %.

Integrated functions and control

The fan is controlled with an external control signal 0-10 V (capacity control is performed depending on temperature, pressure, smoke level etc.). The fan has low energy consumption at any speed. Maximum fan speed does not depend on the available current frequency and is suitable for operation both at 50 and 60 Hz. The fans can be connected to centralized computer ventilation control systems.

Installation

Duct fans are intended for mounting to round air ducts. The fans are installed between the air ducts. In case the fan is mounted on flexible joints, attach the fan to a structural unit by means of supports, suspension links or brackets. The fan may be installed in any position in consideration of the air flow direction (as indicated by the arrow on the fan casing). While mounting the fan provide enough access for servicing and repair operations.

Designation key

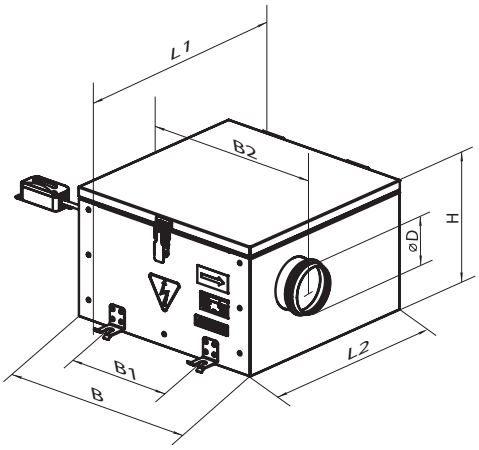
Series	Spigot diameter	Modification	Motor	Options
VENTS KSF	100; 125; 150; 160; 200; 250	**K2**: heat- and sound-insulated casing	**EC**: synchronous electronically commutated motor	**R1**: power cord with a mains plug.

Accessories

Silencer | Filters | Heaters | Back valve | Air damper | Speed controller

Overall dimensions of fans

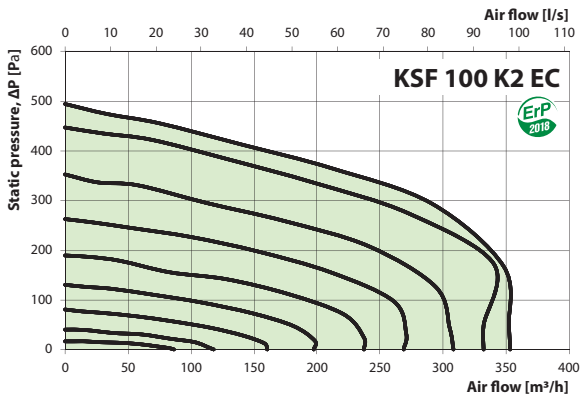
Model	Dimensions [mm]							Weight [kg]
	ØD	B	B1	B2	H	L1	L2	
KSF 100 K2 EC	97	512	360	589	280	553	460	17
KSF 125 K2 EC	122	512	360	589	280	553	460	17
KSF 150 K2 EC	147	592	390	669	350	613	520	24
KSF 160 K2 EC	157	592	390	669	350	613	520	24
KSF 200 K2 EC	197	552	374	629	380	646	553	26
KSF 250 K2 EC	247	665	487	742	411	699	606	33

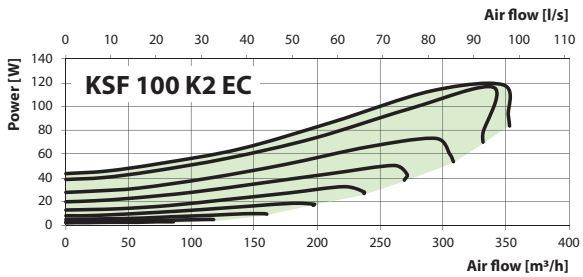


Technical data

	KSF 100 K2 EC	KSF 125 K2 EC
Unit voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	118	118
Current [A]	0.92	0.92
Maximum air flow [m^3/h]	353	393
RPM [min^{-1}]	3000	3000
Sound pressure level at 3 m distance [dBA]	33	33
Maximum transported air temperature [°C]	-25...+50	-25...+50
SEC class	C	C
Ingress protection rating	IP44	IP44

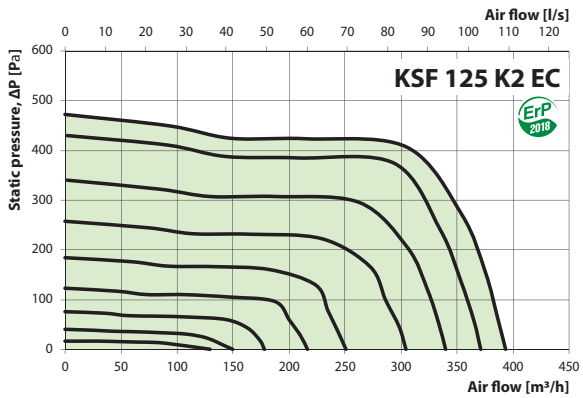
VENTS KSF K2 EC

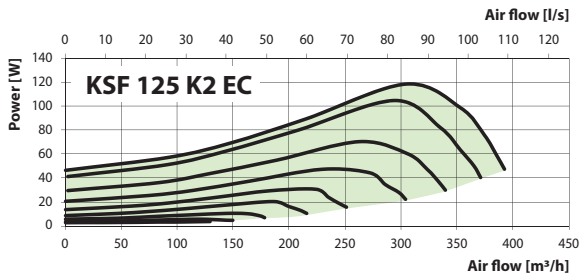




Sound power level		General	Octave frequency band [Hz]								Sound power level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{wA} to inlet	dBA	69	61	61	64	60	58	58	56	52	48	58
L_{wA} to outlet	dBA	73	55	65	67	67	63	65	60	56	52	62
L_{wA} to environment	dBA	53	35	39	50	46	43	45	40	34	33	43

VENTS KSF K2 EC



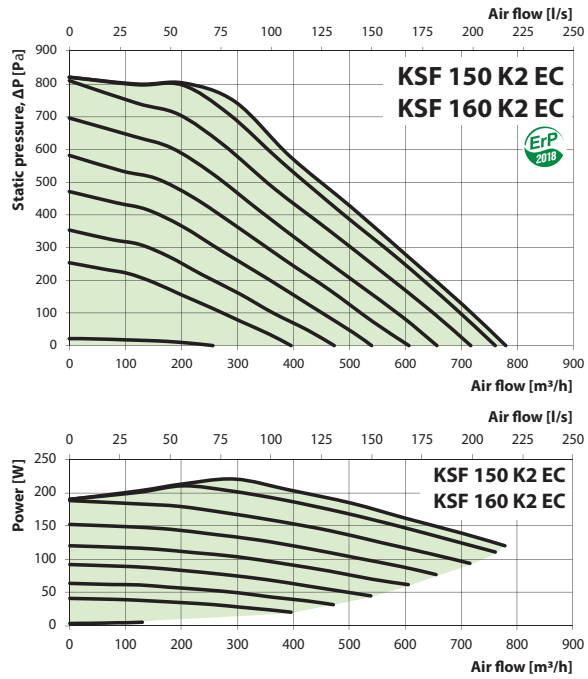


Sound power level		General	Octave frequency band [Hz]								Sound power level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{wA} to inlet	dBA	69	56	60	64	63	62	60	56	46	49	59
L_{wA} to outlet	dBA	75	57	68	66	67	69	68	60	51	54	64
L_{wA} to environment	dBA	54	17	35	43	44	50	49	41	30	33	43

Technical data

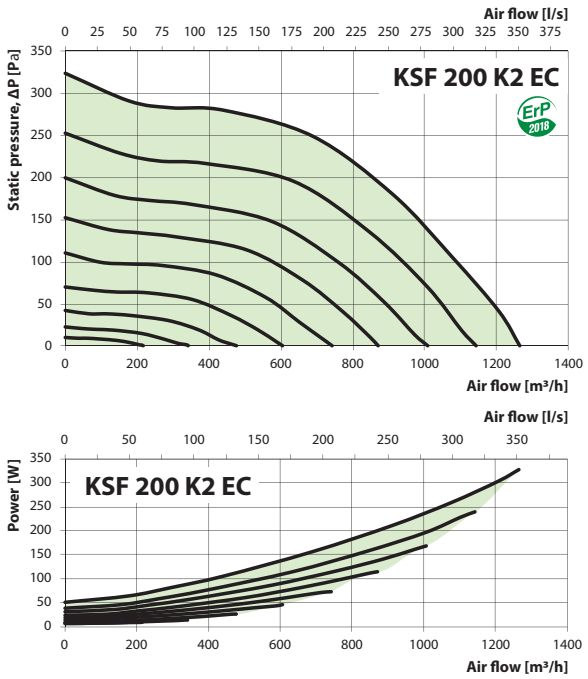
	KSF 150 K2 EC KSF 160 K2 EC	KSF 200 K2 EC
Unit voltage [V/50 (60) Hz]	1~230	1~230
Power [W]	220	259
Current [A]	0.59	1.45
Maximum air flow [m^3/h]	779	1264
RPM [min^{-1}]	2070	1600
Sound pressure level at 3 m distance [dBA]	38	40
Maximum transported air temperature [°C]	-25...+50	-25...+50
SEC class	B	-
Ingress protection rating	IP44	IP44

VENTS KSF K2 EC



Sound power level		Sound power level [A-filter]									Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz	General	Octave frequency band [Hz]									
			63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{wA} to inlet	dBA	76	62	71	70	68	66	64	62	56	55	65
L_{wA} to outlet	dBA	80	60	71	74	73	72	72	68	60	59	69
L_{wA} to environment	dBA	59	32	45	53	52	53	52	45	35	38	48

VENTS KSF K2 EC

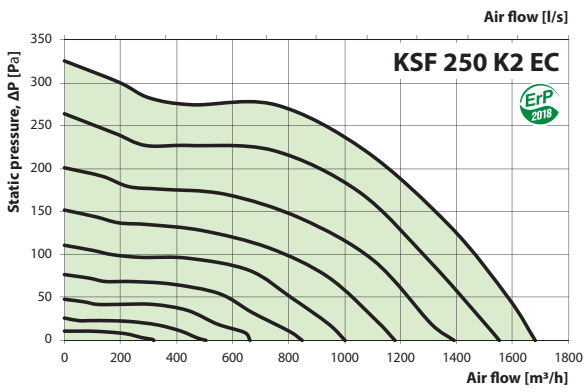


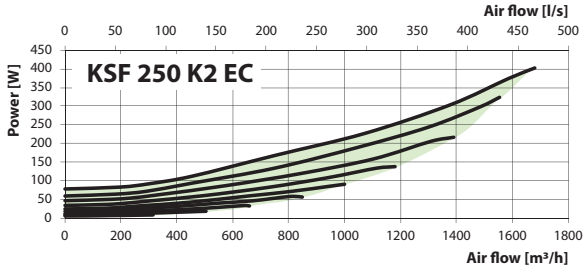
Sound power level		Sound power level [A-filter]									Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
	Hz	General	Octave frequency band [Hz]									
			63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{wA} to inlet	dBA	74	66	66	70	65	63	63	61	57	54	64
L_{wA} to outlet	dBA	79	60	71	73	73	69	71	65	61	58	68
L_{wA} to environment	dBA	60	40	45	58	53	49	52	46	39	40	50

Technical data

	KSF 250 K2 EC
Unit voltage [V/50 (60) Hz]	1~230
Power [W]	374
Current [A]	1.77
Maximum air flow [m^3/h]	1682
RPM [min^{-1}]	1400
Sound pressure level at 3 m distance [dBA]	41
Maximum transported air temperature [°C]	-25...+50
SEC class	-
Ingress protection rating	IP44

VENTS KSF K2 EC





Sound power level		Sound power level [A-filter]									Sound pressure level at a distance of 3 m [A-filter]	Sound pressure level at a distance of 1 m [A-filter]
		General	Octave frequency band [Hz]									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m dBA	LpA, 1 m dBA
L_{WA} to inlet	dBA	79	65	75	74	71	69	67	65	59	59	69
L_{WA} to outlet	dBA	83	62	74	77	76	75	75	71	62	62	72
L_{WA} to environment	dBA	62	34	47	56	55	56	55	47	37	41	51

Series

VENTS KSD

Inline centrifugal fan for round ducts in heat- and sound-insulated casing. Air flow up to **3930 m³/h**

Application

KSD fan is designed for use in supply and exhaust ventilation systems for commercial, office and other public or industrial premises with high requirements to noise level.

Design

The fan casing is made of galvanized steel plate and heat-and sound-insulated material. The connecting flanges are fitted with rubber seals. The fan series KSD 315/250x2 are equipped with two intake flanges Ø 250 mm to facilitate synchronous air exhaust from several areas or rooms.

Motor

Four- or six-pole external rotor asynchronous motor equipped with double-inlet impeller with forward curved blades. The motor has overheating protection with automatic restart. Due to ball bearings with specially selected grease type the fan is maintenance-free and distinguished by low-noise operation.

Speed control

Smooth or step speed control with a thyristor or autotransformer speed controller. Several fans may be connected to one speed controller provided that the total power and operating current do not exceed the rated speed controller parameters.

Mounting

The inline fans are designed for mounting with round air ducts.

In case of mounting with flexible connectors the fan is attached to a building with supports, suspension or fixing brackets. The fan is suitable for mounting in any position in compliance with the air motion direction in the system (shown with pointer on the fan casing). While mounting sufficient space for fan maintenance must be provided.

Designation key

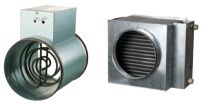
Series	Flange diameter					Motor modification				Options
	Exhaust flange diameter		Intake flange diameter*		Number of intake flanges	Motor		Number of poles	Phase	
VENTS KSD	250 315	/	250	x	2	_: basic motor S: High-powered motor	–	4; 6	**E**: single phase	**U**: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Temperature-based operation logic. **Un**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Temperature-based operation logic. **U1**: speed controller with an electronic thermostat and a temperature sensor integrated inside an air duct. Timer-based operation logic. **U1n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Timer-based operation logic. **U2n**: speed controller with an electronic thermostat and a temperature sensor fixed on a 4-meter cable. Temperature-based switching on/off. **R1**: power cord with a mains plug. **P**: integrated smooth speed controller.

* no intake flange diameter if it is equal to the exhaust flange diameter

Accessories


Silencer


Filters


Heaters


Backdraft damper, Air shutter


Speed controllers


Sensor

The fan with electronic temperature and control module (U option).

The ideal solution for ventilation of the premises requiring permanent temperature control, i.e. greenhouses. The fan with the electronic temperature and speed control module provides automatic control of the motor speed (air flow) depending on air temperature in the air duct or in the room.

The front panel of the electronic module has the following control knobs:

– speed control knob for setting the motor speed;

– thermostat control knob for setting the temperature set point;

– thermostat indicator light.

The fan is available in two modifications:

– with the temperature sensor integrated inside the fan air duct (U/U1 option);

– with the external temperature sensor fixed on the cable, 4 m long (Un/U1n/U2n).

Control logic of the fan with the electronic temperature and speed control module.

Set the desired air temperature (thermostat set point) by turning the thermostat control knob. Set the required minimum impeller speed (air flow) by turning the speed control knob. The motor switches to maximum speed (maximum air flow) as the temperature reaches and exceeds the set temperature set point. The motor switches to the pre-set lower speed as the temperature drops down below the temperature set point. To avoid frequent motor speed switches when the air temperature in the duct is equal to the set temperature point, the speed switch delay is activated. There are three switch delay patterns for various cases:

1. The temperature sensor-based switch delay (U option): the motor switches to higher speed as the air temperature exceeds 2 °C above the set thermostat set point. The motor revers to the preset lower speed as the air temperature drops below the thermostat set point. This pattern is used to keep air temperature to within 2 °C. In this case the motor speed switches are rare.

2. The timer-based switch delay (U1 option): as the air temperature exceeds the set thermostat set point, the motor switches to higher speed and the switch delay timer is activated for 5 min. The motor reverts to lower speed as the air temperature drops down below the thermostat set point and only after 5 minuts timer countdown. This pattern is used for exact air temperature control. The speed switches for the fan with U1 option are more frequent as compared to the operating logic of the fan with U option, however the minimum operating cycle at one speed is 5 minutes.

3. Switching ON/OFF by a temperature sensor (U2 option): when the air temperature exceeds by 2 °C the thermostat actuation set point, the fan starts operating at the set speed. The fan switches off when the temperature drops below the temperature set point.

Example for temperature sensor delay:

Initial conditions:

• rated speed is set as 60 % of the maximum speed

• operating threshold is set as 25 °C

• air temperature in the duct is 20 °C

Fan operates with the rated speed =60 %

▼

• air temperature in the duct rises

fan operates with the rated speed =60 %

▼

• air temperature in the duct reaches 27 °C

Fan switches to the speed =100 %

▼

• air temperature in the duct goes down

fan operates with the speed =100 %

▼

• temperature in the duct reaches 25 °C again

fan switches to the preset rated speed =60 %

Example for timer delay:

Initial conditions:

• set rotation speed = 60 % of maximum speed

• set operating threshold =25 °C

• air temperature in the duct =20 °C

motor operates with the motor speed =60 %

▼

• the temperature in the duct rises, reaches 25 °C and keeps rising

▼

fan switches to the maximum speed =100 % and the delay timer switches for 5 minutes on

▼

• the temperature in the duct goes down

the fan operates with the maximum speed =100 %

▼

• the temperature in the duct reaches 25 °C and keeps going down

▼

after the timer stops, the motor switches to the preset rated speed (=60 %). After the speed switch the timer switches again for 5 minutes on.

▼

• the temperature in the duct rises, reaches 25 °C and keeps rising

▼

after the timer stops, the motor switches to the maximum speed (=100 %). After the speed switch the timer switches again for 5 minutes on.

Thus, in timer delay pattern the delay timer activates every time the fan speed changes.

Optional supply with a fastening eye

Fan overall dimensions

Type	Dimensions [mm]											Mass [kg]	Fig.no.
	ØD	Ød	B	B1	H	H1	H2	H4	L	L1	L2		
KSD 250-6E	248	20	453	400	433	298	216	470	568	470	400	30	1
KSD 250 S-6E	248	20	503	450	483	340	241	520	638	540	470	31.3	1
KSD 250-4E	248	20	453	400	433	298	216	470	568	470	400	30	1
KSD 250 S-4E	248	20	503	450	483	340	241	520	638	540	470	31.3	1
KSD 315-6E	313	20	600	550	500	340	251	537	680	580	510	31	1
KSD 315 S-6E	313	25	670	620	610	450	306	658	825	725	660	45	1
KSD 315-4E	313	20	600	550	500	340	251	537	680	580	510	33	1
KSD 315 S-4E	313	20	650	610	530	367	266	567	735	635	570	38	1

Fan overall dimensions

Type	Dimensions [mm]															Mass [kg]	Fig.no.
	ØD	ØD1	Ød	B	B1	B2	B3	H	H1	H2	H3	H4	L	L1	L2		
KSD 315/250x2-6E	313	248	20	600	550	171	431	500	340	176	326	537	680	580	510	31	2
KSD 315/250x2 S-6E	313	248	25	670	620	216	457	610	450	186	427	658	825	725	660	45	2
KSD 315/250x2-4E	313	248	20	600	550	171	431	500	340	176	326	537	680	580	510	33	2
KSD 315/250x2 S-4E	313	248	20	650	610	188	465	530	367	186	346	567	735	635	570	38	2

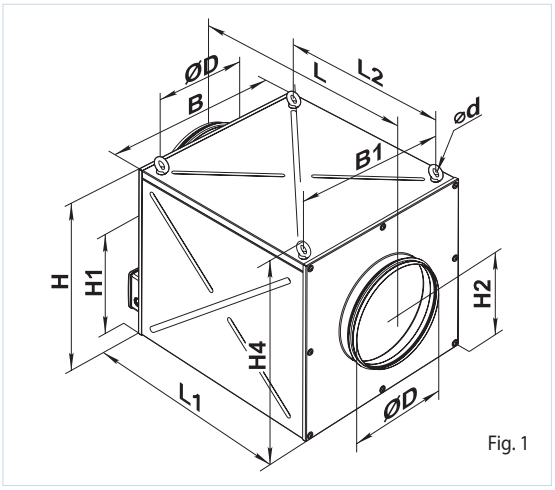


Fig. 1

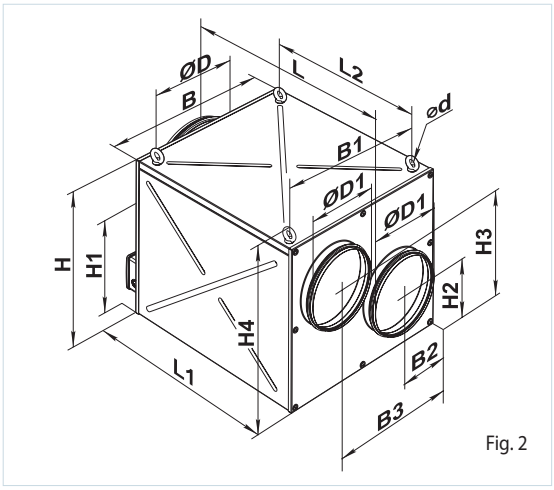
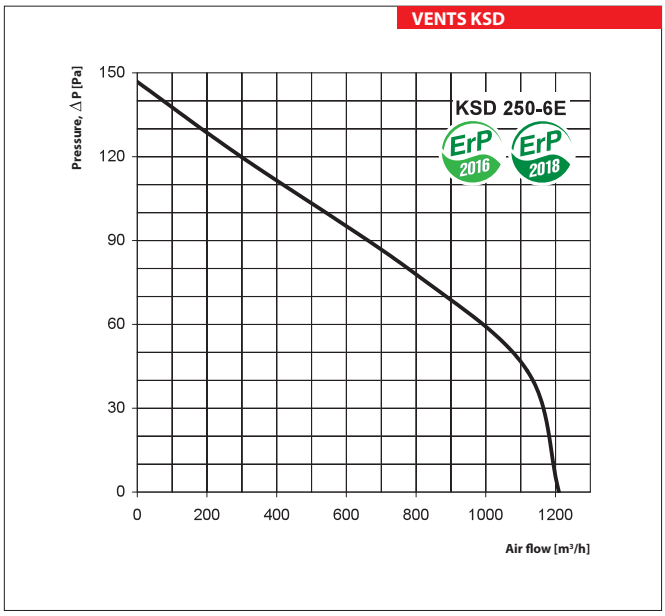
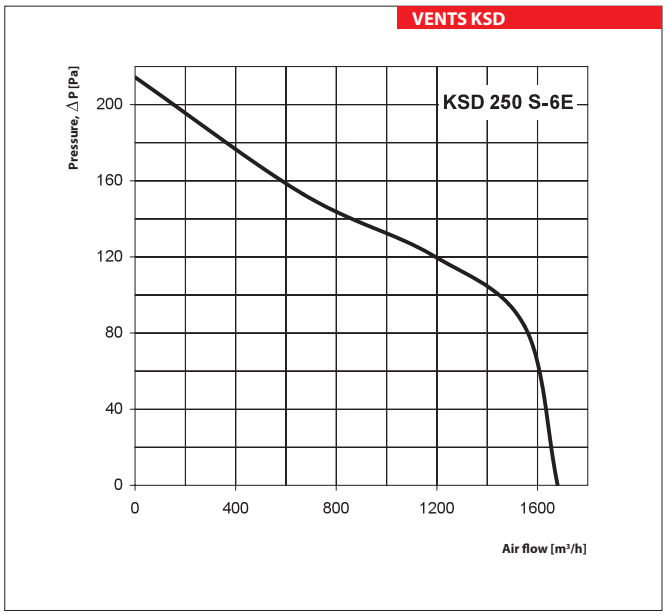


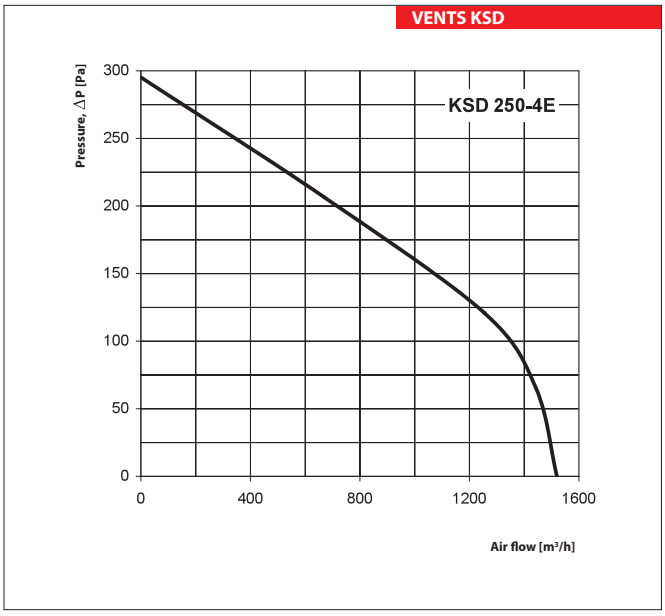
Fig. 2

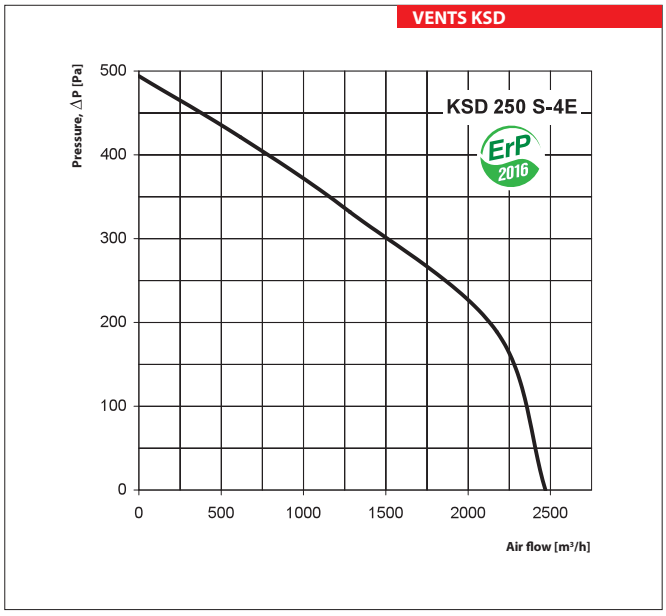
Technical data

	KSD 250-6E	KSD 250 S-6E	KSD 250-4E	KSD 250 S-4E
Voltage [V/50 Hz]	1~230	1~230	1~230	1~230
Power [W]	120	311	243	617
Current [A]	0.55	1.36	1.06	2.69
Max. air flow [m^3/h]	1210	1680	1520	2470
RPM [min^{-1}]	860	940	1320	1465
Noise level at 3 m [dBA]	40	41	44	46
Transported air temperature [°C]	-20...+50	-20...+50	-20...+50	-20...+50
Protection rating	IPX4	IPX4	IPX4	IPX4





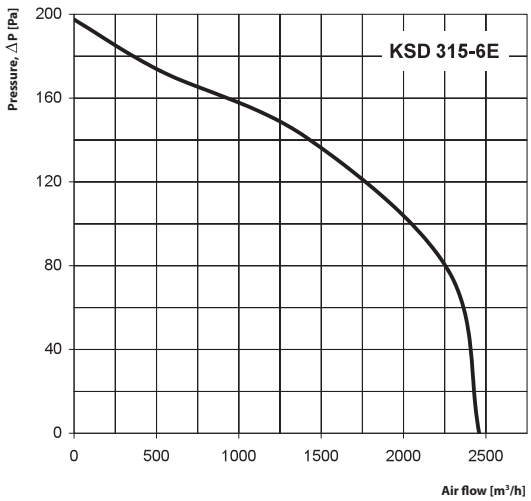




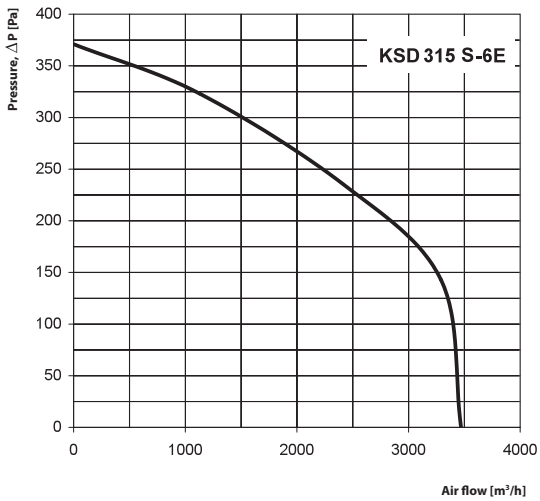
Technical data

	KSD 315-6E	KSD 315 S-6E	KSD 315-4E	KSD 315 S-4E
Voltage [V/50 Hz]	1~230	1~230	1~230	1~230
Power [W]	402	800	723	931
Current [A]	2.04	4.59	3.15	4.18
Max. air flow [m³/h]	2460	3470	3200	3520
RPM [min⁻¹]	920	960	1350	1430
Noise level at 3 m [dBA]	42	43	45	47
Transported air temperature [°C]	-20...+50	-20...+50	-20...+50	-20...+50
Protection rating	IPX4	IPX4	IPX4	IPX4

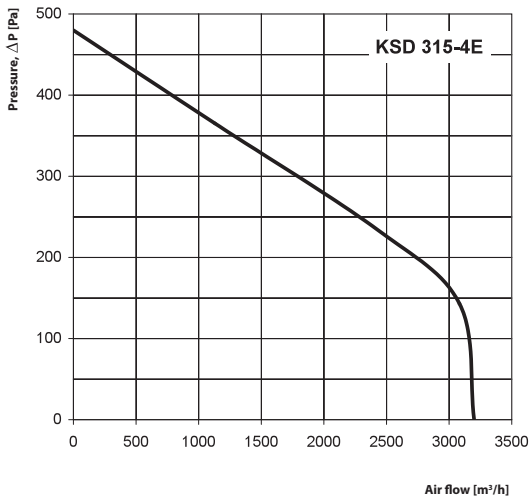
VENTS KSD



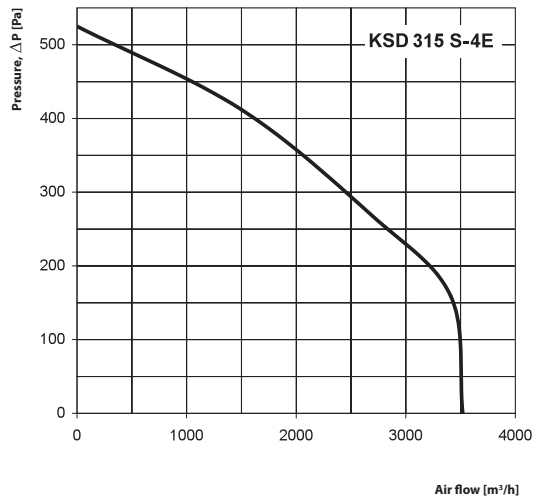
VENTS KSD



VENTS KSD

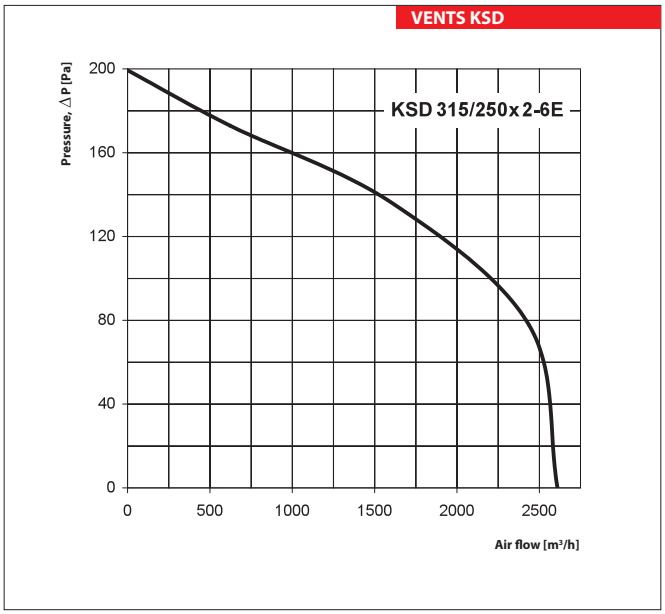


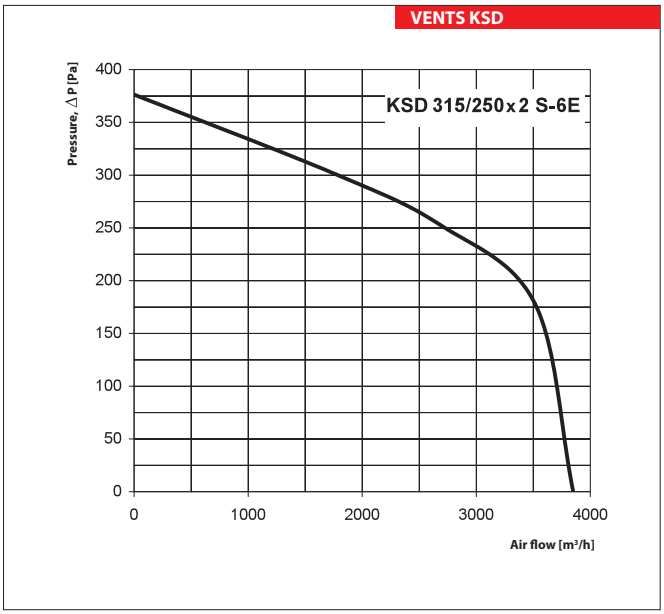
VENTS KSD

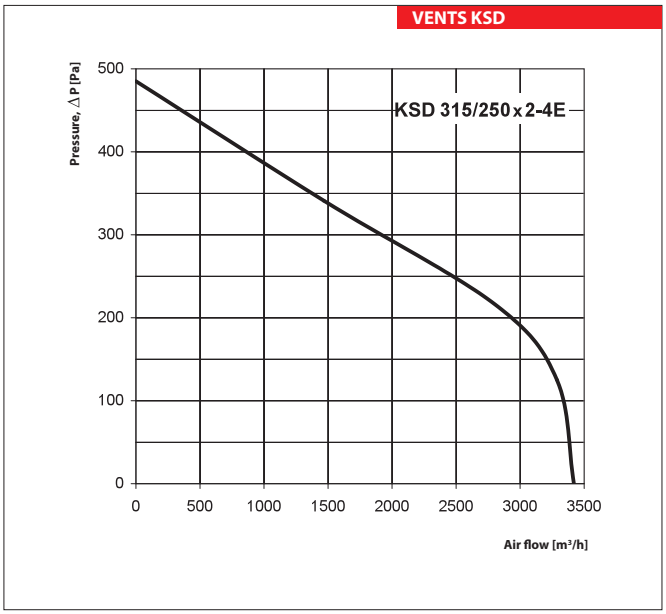


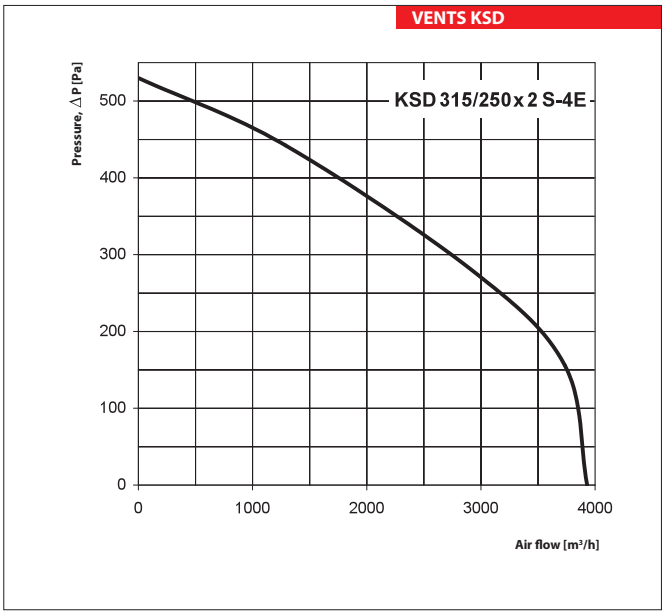
Technical data

	KSD 315/250x2-6E	KSD 315/250x2 S-6E	KSD 315/250x2-4E	KSD 315/250x2 S-4E
Voltage [V/50 Hz]	1~230	1~230	1~230	1~230
Power [W]	427	953	764	1066
Current [A]	2.13	5.06	3.36	4.78
Max. air flow [m³/h]	2610	3850	3420	3930
RPM [min⁻¹]	955	970	1390	1455
Noise level at 3 m [dBA]	42	43	45	47
Transported air temperature [°C]	-20...+50	-20...+50	-20...+50	-20...+50
Protection rating	IPX4	IPX4	IPX4	IPX4









VENTS DuoVent EC Series

Centrifugal fans in a metal casing for round air ducts.
Air flow up to **4410 m³/h**.

Application

Exhaust ventilation systems for commercial, office and other public or industrial premises with limited installation space.

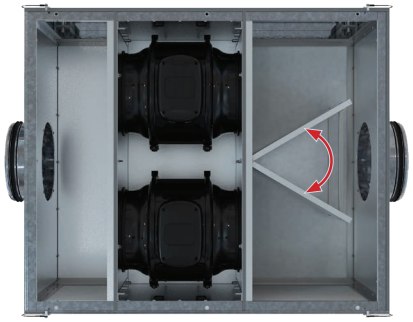
The DuoVent EC fan ensures uninterrupted ventilation operation: if one fan fails, the second fan automatically switches on.

The modes are controlled by the controller, which is not included in the delivery set and must be ordered separately.

Designed for connection to round air ducts with a diameter of 150 to 400 mm.

Design

The fan casing is made of galvanized sheet steel using heat- and sound-insulation material. The air damper allows adjusting the direction of air flow.



Controlled by the air flow. The round connecting spigots are rubber sealed.

The hinged cover gives free access to the motors, simplifies installation and maintenance of the fans and ducts without dismantling.

Electric motors

The unit is equipped with high-efficient electronically commutated (EC) DC motors with mixed-type impellers. These state-of-the-art motors are the most advanced solution in energy efficiency today.

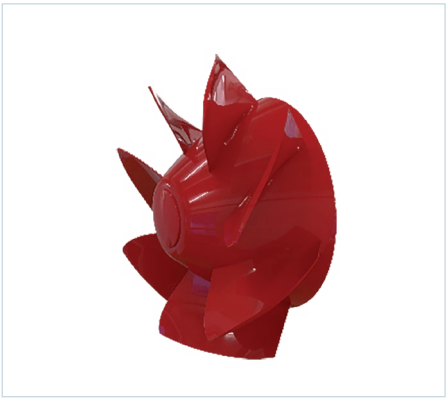
The motors are equipped with built-in overheating protection. Ball bearings in the motor ensure long service life (40 000 hours).

To achieve accurate performance, low noise levels and safe fan operation, each turbine is dynamically balanced during assembly.

The motor ingress protection rating is IP44.

Impeller

- Thanks to the improved mixed-type impeller, which is a hybrid of axial and centrifugal impeller, the DuoVent EC unit has low power consumption and noise level with high performance.
- The diffuser, the specially profiled impeller and the directing vanes at the outlet of the fan casing distribute air flow in such a way as to attain the best combination of high performance and high pressure at low noise level.



Controller

Allows tracking the motor failures and signalling them, as well as automatically switching the unit to work with a functioning motor. The controller is not included in the delivery set and must be ordered separately.

Controller functions:

- Automatic alternation of the active fan with preset switching period.
- Forced constant operation of the fan A.
- Forced constant operation of the fan B.
- Fan alarm. The failed fan is switched off, the second fan is switched on. The controller generates an error signal and corresponding indication.
- Fan speed control.
- Boost mode increases the performance of the fan. It is possible to set the time during which the fan will run in this mode.
- Test mode. Automatic alternation of the active fan with a period from 1 to 12 min.
- Checking motors at start-up.
- Possibility of connection to BMS.
- Possibility of connecting an external 0-10 V sensor.
- Possibility of connecting external devices (10 V and 24 V).

Mounting

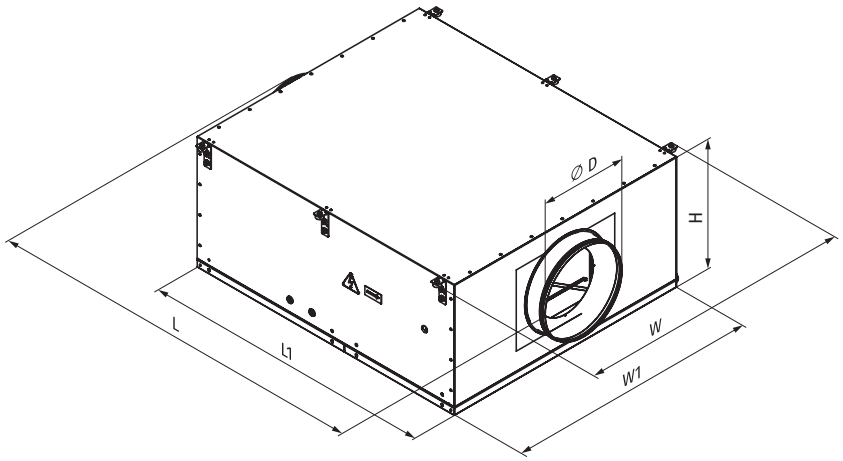
The duct fans are intended for mounting to round air ducts. The fans are installed between the air ducts. While mounting the fan provide enough access for servicing and repair operations.

Designation key

Series	Spigot diameter [mm]	Motor type
VENTS DuoVent: sound-insulated fan for round air ducts with two motors	150; 200; 315; 350; 400	**EC**: synchronous electronically commutated motor

Overall dimensions of fans

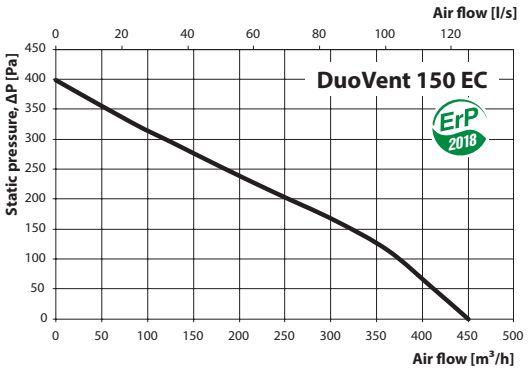
Model	Dimensions [mm]						Weight [kg]
	ØD	L	L1	H	W	W1	
DuoVent 150 EC	149	975	850	321	621	540	28
DuoVent 200 EC	199	975	850	375	791	710	39
DuoVent 315 EC	314	1293	1170	520	1092	1010	97
DuoVent 355 EC	354	1334	1170	520	1092	1010	97
DuoVent 400 EC	399	1358	1194	551	1182	1101	129

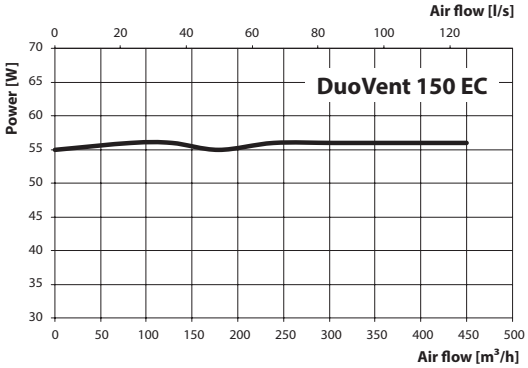


Technical data

	DuoVent 150 EC	DuoVent 200 EC	DuoVent 315 EC	DuoVent 355 EC	DuoVent 400 EC
Voltage [V]	1~220-240	1~220-240	1~220-240	1~220-240	1~220-240
Frequency [Hz]	50/60	50/60	50/60	50/60	50/60
Power [W]	56	117	535	354	737
Current [A]	0.48	0.94	1.56	1.57	4.65
Maximum air flow [m^3/h]	450	910	2780	3060	4410
Maximum air flow [l/s]	125	253	772	850	1225
RPM [min^{-1}]	3390	3404	2474	2470	2370
Sound pressure level at 3 m distance [dBA]	37,5	43	45	45	48
Transported air temperature [°C]	-25...+55	-25...+55	-25...+55	-25...+55	-25...+55
Protection class	IPX4	IPX4	IPX4	IPX4	IPX4
Motor protection	IP44	IP44	IP54	IP44	IP44

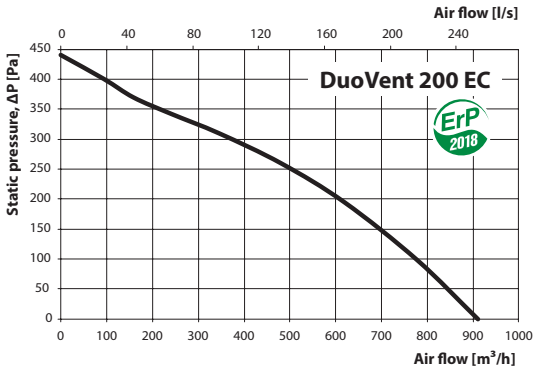
VENTS DuoVent EC

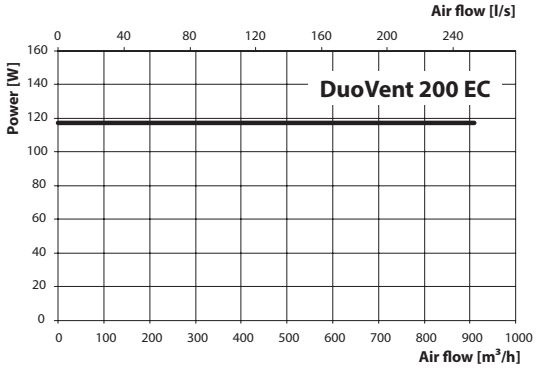




A-weighted sound power level		Octave frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	63	39	58	61	49	42	39	42	35	42	52
L_{WA} to outlet	dBA	62	34	54	60	48	38	37	43	37	41	51
L_{WA} to environment	dBA	58	38	56	54	44	38	33	32	26	37.5	47.5

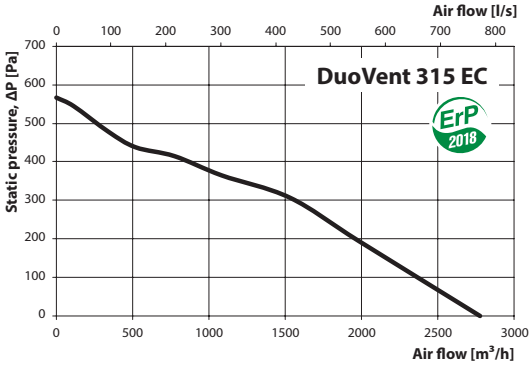
VENTS DuoVent EC

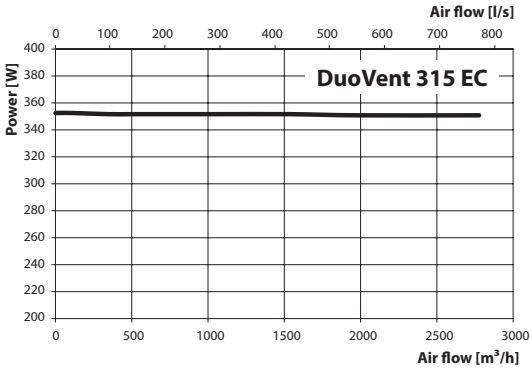




A-weighted sound power level		Octave frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	69	44	64	67	54	46	42	46	38	48	58
L_{WA} to outlet	dBA	67	39	60	66	53	41	40	46	40	47	57
L_{WA} to environment	dBA	64	43	61	59	48	41	35	35	29	43	53

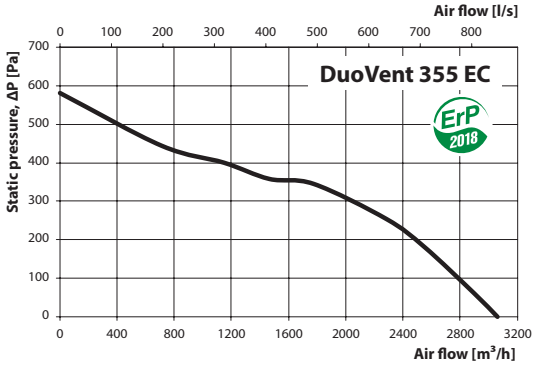
VENTS DuoVent EC

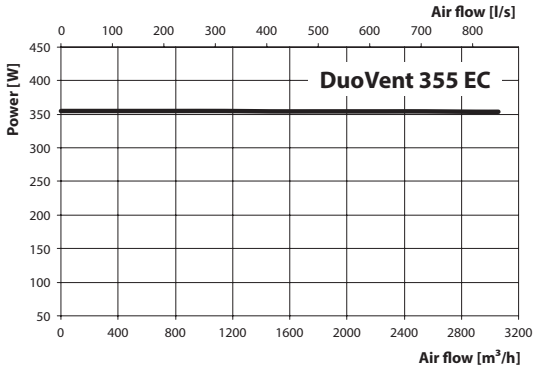




A-weighted sound power level		Octave frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	70	46	66	68	55	47	43	47	39	50	60
L_{WA} to outlet	dBA	68	40	61	67	53	42	40	47	40	48	58
L_{WA} to environment	dBA	66	45	64	61	49	42	36	36	29	45	55

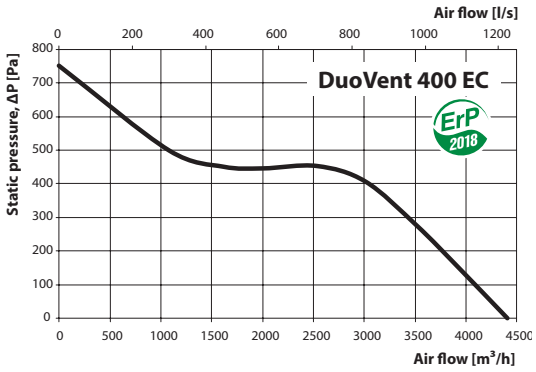
VENTS DuoVent EC

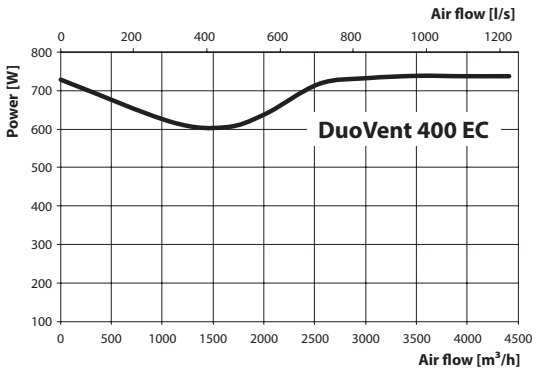




A-weighted sound power level		Octave frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	72	47	68	70	56	48	44	48	39	52	62
L_{WA} to outlet	dBA	71	42	63	70	55	43	41	48	42	50	60
L_{WA} to environment	dBA	66	45	64	61	49	42	36	36	29	45	55

VENTS DuoVent EC





A-weighted sound power level		Octave frequency band [Hz]									LpA, 3 m dBA	LpA, 1 m dBA
	Hz	Gen.	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	76	50	71	74	59	50	46	50	41	55	65
L_{WA} to outlet	dBA	75	46	68	74	58	45	43	51	44	54	64
L_{WA} to environment	dBA	68	47	66	63	51	44	37	37	30	48	58

KITCHEN FANS

VENTS KSK
sound-insulated kitchen fan

Air flow – up to 8138 m^3/h

page 252

VENTS VSK
sound-insulated kitchen fan

Air flow – up to 25500 m^3/h

page 264

Series
VENTS KSK

Centrifugal kitchen fan in sound-insulated casing with air flow up to **8138 m³/h**

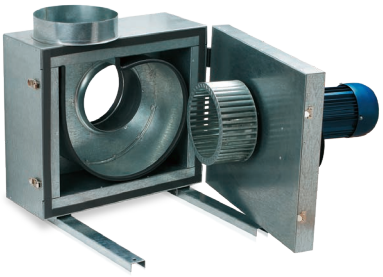
Application

The fan is designed for ventilation of contaminated, grease-laden (using grease filters), humid and hot air with temperature up to 120 °C in conditions of high air resistance in the system. This fan model fits for the following applications:

- kitchen exhaust ventilation systems
- exhaust ventilation systems for removal of post-welding gases
- industrial bakery ventilation systems.

Design description

The fan casing is made of galvanized steel plate and is internally insulated with 50 mm mineral wool layer. The swivel block of the impeller and motor provides easy access to the fan internals for easy and effective cleaning.



The intake and exhaust flange diameter match with standard ventilation air ducts. The flanges are equipped with a rubber sealing. The fan is installed in the mounting frames with integrated vibration connectors.

Electric motor

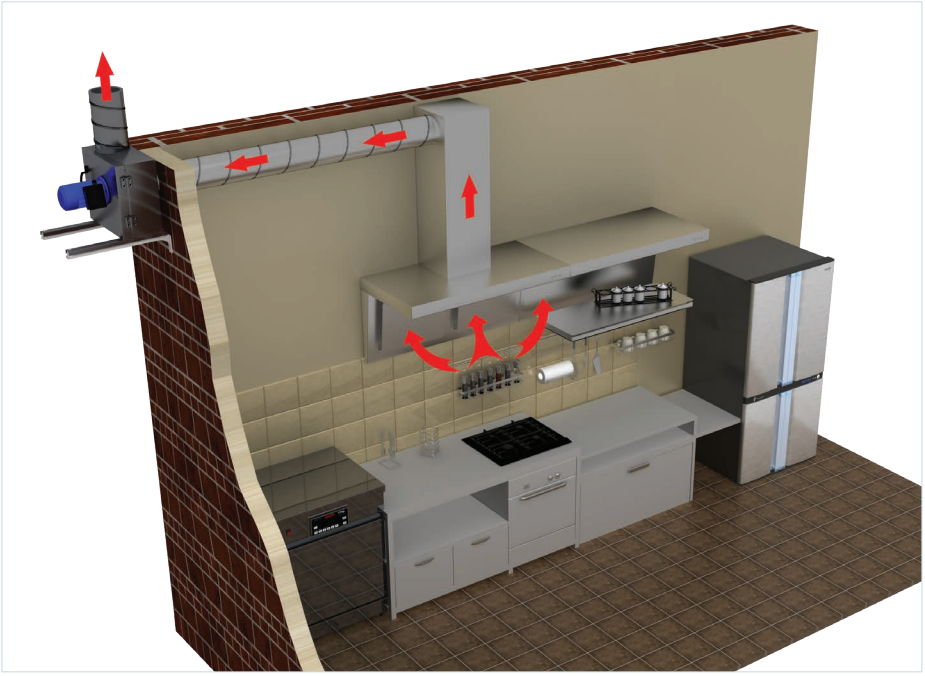
Equipped with a highly reliable single-phase or three-phase motor with squirrel-cage rotor and steel high-performance centrifugal impeller with forward-curved blades (for sizes 150 to 250 mm) or backward-curved blades (for sizes 315 to 450 mm). The impeller is mounted on the motor shaft and is balanced statically and dynamically. The motor has F class motor winding insulation and IP54 ingress protection rating.

Speed control

The fan has both step and smooth speed control options with a transformer or frequency speed controller. Several fans may be connected to one controller if the total power and operating current do not exceed the rated controller parameters.

Mounting

The fan is designed for connection to round air ducts. The fan is fixed to the wall with the mounting bracket KM-KSK (separate delivery). The fan is connected to power mains on the terminal box on the motor. The cable length must be sufficient with respect to the motor-impeller block movement.



Designation key:

Fan series	Spigot diameter	Motor	
		Poles	Phase
VENTS KSK	150; 160; 200; 250; 315; 355; 400; 450	2 4 6	**E**: single-phase **D**: three-phase

Accessories

Backdraft damper

Speed controllers

Fixing bracket KM-KSK

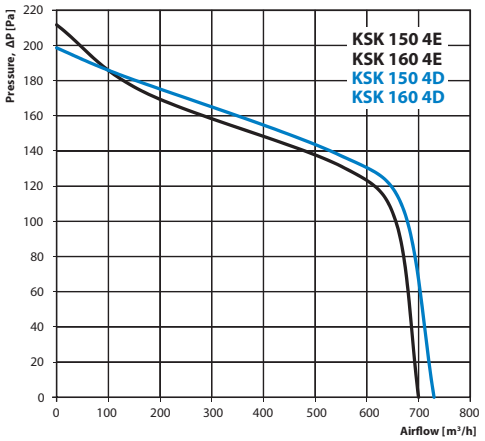
Sleeve N-KSK

Flexible connector VVH-KSK

Technical data

	KSK 150 4E KSK 160 4E	KSK 150 4D KSK 160 4D
Voltage [V/Hz]	230/50	400/50
Power [W]	180	180
Current [A]	1.7	0.6
Maximum air flow [m³/h]	700	730
RPM [min⁻¹]	1450	1455
Noise level at 3 m [dBA]	41	41
Maximum operating temperature [°C]	-20...+120	
Protection rating	IP54	

VENTS KSK



KSK 150 4E
KSK 160 4E

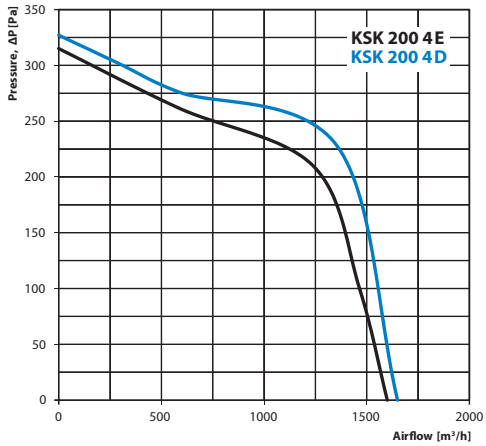
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
			General	Octave frequency band, Hz									
	Hz			63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	80	65	78	74	71	66	64	59	55		60	70
L_{wA} to outlet	dBA	82	58	81	76	73	68	66	62	57		62	72
L_{wA} to environment	dBA	62	47	60	55	52	47	45	40	36		41	51

KSK 150 4D
KSK 160 4D

		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
			General	Octave frequency band, Hz									
	Hz			63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	79	59	77	73	70	66	64	59	55		59	69
L_{wA} to outlet	dBA	81	71	79	75	71	67	65	61	57		61	71
L_{wA} to environment	dBA	61	44	59	55	51	47	45	41	36		41	51

	KSK 200 4E	KSK 200 4D
Voltage [V/Hz]	230/50	400/50
Power [W]	550	750
Current [A]	3	2
Maximum air flow [m³/h]	1600	1650
RPM [min⁻¹]	1475	1465
Noise level at 3 m [dBA]	45	45
Maximum operating temperature [°C]	-20...+120	
Protection rating	IP54	

VENTS KSK



KSK 200 4E

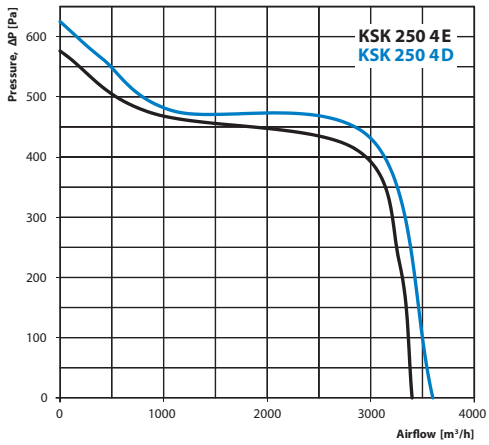
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
			General	Octave frequency band, Hz									
	Hz			63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	85	69	83	78	75	70	68	63	58		65	75
L_{wA} to outlet	dBA	86	61	85	80	76	72	69	65	60		66	76
L_{wA} to environment	dBA	66	50	64	59	55	50	48	43	38		45	55

KSK 200 4D

		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
			General	Octave frequency band, Hz									
	Hz			63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	84	63	82	78	74	70	67	63	58		64	74
L_{wA} to outlet	dBA	86	76	84	80	76	72	70	65	61		66	76
L_{wA} to environment	dBA	66	50	64	59	55	50	48	43	38		45	55

	KSK 250 4E	KSK 250 4D
Voltage [V/Hz]	230/50	400/50
Power [W]	1500	1500
Current [A]	11	3.4
Maximum air flow [m³/h]	3400	3500
RPM [min⁻¹]	1500	1470
Noise level at 3 m [dBA]	51	51
Maximum operating temperature [°C]	-20...+120	
Protection rating	IP54	

VENTS KSK



KSK 250 4E

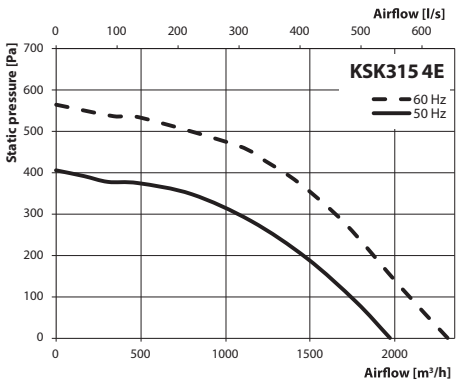
		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	90	81	87	83	80	76	74	70	66	70	80
L_{wA} to outlet	dBA	92	76	90	86	83	79	77	72	68	72	82
L_{wA} to environment	dBA	72	46	69	65	62	58	56	51	47	51	61

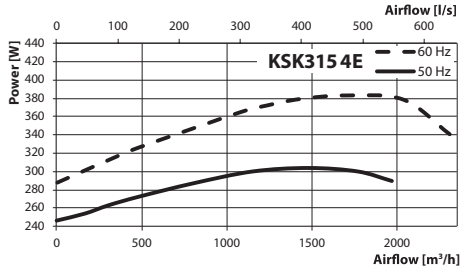
KSK 250 4D

		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	89	67	88	83	79	75	72	67	63	69	79
L_{wA} to outlet	dBA	91	81	89	85	81	76	74	69	64	71	81
L_{wA} to environment	dBA	71	55	70	64	60	55	52	47	42	51	61

	KSK 315 4E	
Voltage [V/Hz]	230/50	230/60
Power [W]	304	383
Current [A]	1.84	1.72
Maximum air flow [m³/h]	1970	2310
RPM [min⁻¹]	1475	1750
Noise level at 3 m [dBA]	46	47
Maximum operating temperature [°C]	-20...+120	
Protection rating	IP54	

VENTS KSK

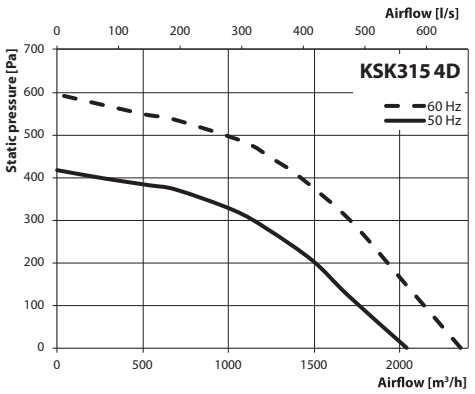


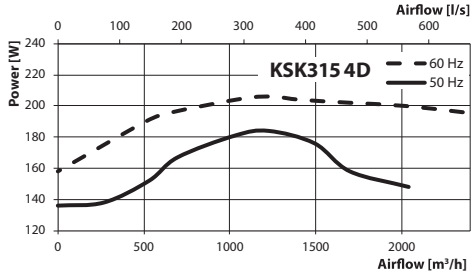


		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	85	66	69	83	78	79	78	73	64	65	75
L_{wA} to outlet	dBA	87	66	71	84	79	81	79	74	66	67	77
L_{wA} to environment	dBA	67	45	49	63	58	59	58	53	44	46	56

	KSK 315 4D	
Voltage [V/Hz]	400/50	400/60
Power [W]	184	206
Current [A]	0.70	0.70
Maximum air flow [m³/h]	2040	2355
RPM [min⁻¹]	1488	1776
Noise level at 3 m [dBA]	46	48
Maximum operating temperature [°C]	-20...+120	
Protection rating	IP54	

VENTS KSK

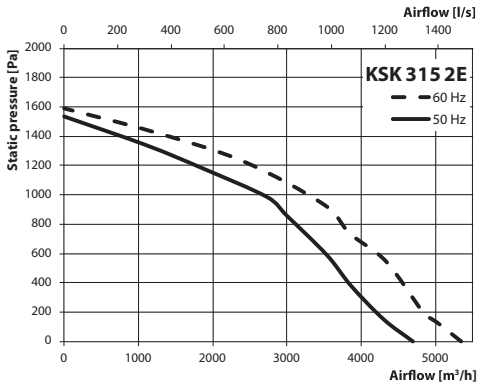


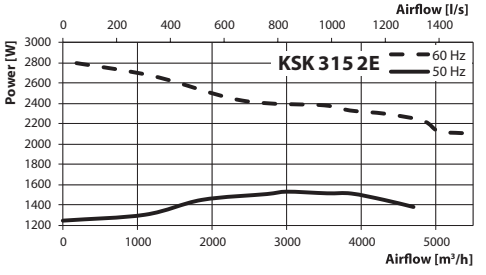


		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	85	64	83	79	75	71	69	64	59	65	75
L_{wA} to outlet	dBA	87	77	85	80	77	72	70	66	61	67	77
L_{wA} to environment	dBA	67	51	65	60	56	51	49	44	39	46	56

	KSK 315 2E	
Voltage [V/Hz]	230/50	230/60
Power [W]	1531	2816
Current [A]	7.35	11.92
Maximum air flow [m³/h]	4695	5345
RPM [min⁻¹]	3125	3384
Noise level at 3 m [dBA]	53	55
Maximum operating temperature [°C]	-20...+120	
Protection rating	IP54	

VENTS KSK

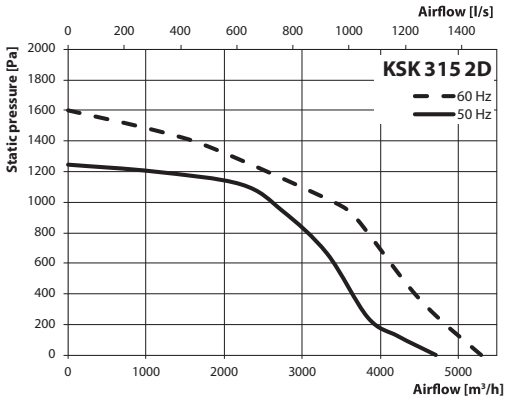


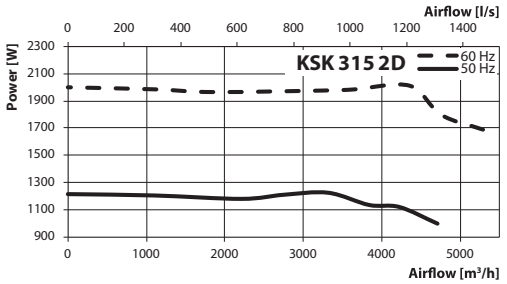


		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	92	59	65	82	90	84	83	81	74	72	82
L_{wA} to outlet	dBA	94	61	67	84	92	86	85	83	76	74	84
L_{wA} to environment	dBA	74	40	46	63	71	65	64	62	55	53	63

	KSK 315 2D	
Voltage [V/Hz]	400/50	400/60
Power [W]	1225	2011
Current [A]	2.80	3.40
Maximum air flow [m³/h]	4710	5290
RPM [min⁻¹]	3025	3328
Noise level at 3 m [dBA]	52	54
Maximum operating temperature [°C]	-20...+120	
Protection rating	IP54	

VENTS KSK

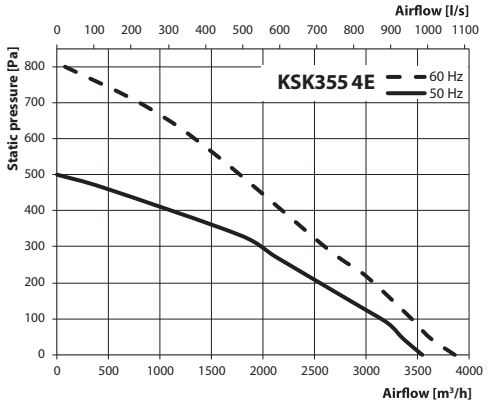


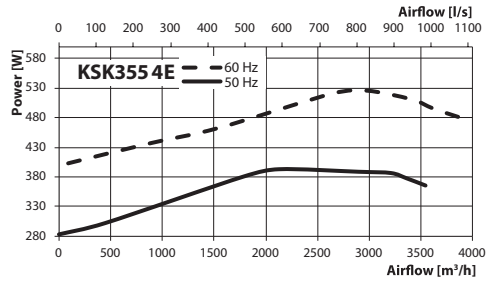


		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	90	58	64	80	89	82	81	79	72	70	80
L_{wA} to outlet	dBA	92	60	66	82	91	84	83	81	74	72	82
L_{wA} to environment	dBA	72	39	45	62	70	64	63	61	54	52	62

	KSK 355 4E	
Voltage [V/Hz]	230/50	230/60
Power [W]	393	525
Current [A]	2.11	2.34
Maximum air flow [m³/h]	3545	3860
RPM [min⁻¹]	1517	1705
Noise level at 3 m [dBA]	50	52
Maximum operating temperature [°C]	-20...+120	
Protection rating	IP54	

VENTS KSK

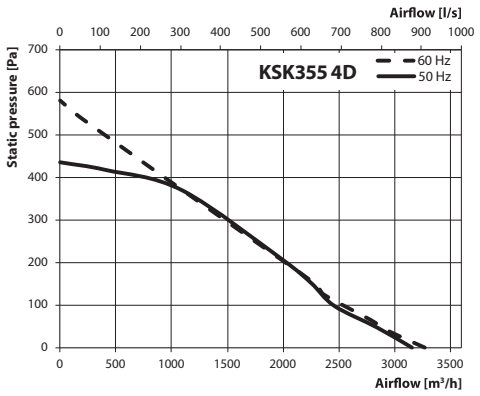


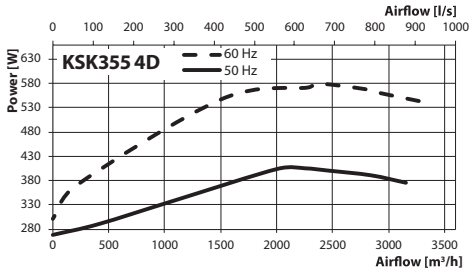


		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	89	74	76	86	81	83	81	75	68	69	79
L_{wA} to outlet	dBA	91	72	78	88	83	84	83	77	69	71	81
L_{wA} to environment	dBA	71	50	57	67	62	63	62	55	48	50	60

	KSK 355 4D	
Voltage [V/Hz]	400/50	400/60
Power [W]	405	580
Current [A]	0.87	1.25
Maximum air flow [m³/h]	3155	3270
RPM [min⁻¹]	1379	1578
Noise level at 3 m [dBA]	49	50
Maximum operating temperature [°C]	-20...+120	
Protection rating	IP54	

VENTS KSK

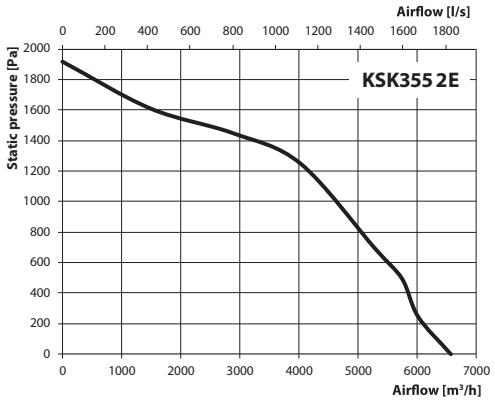


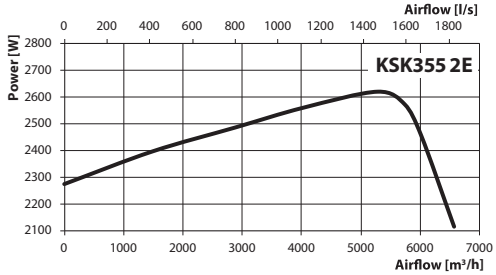


		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	88	67	87	82	78	74	71	67	62	68	78
L_{wA} to outlet	dBA	90	80	88	84	80	75	73	68	64	70	80
L_{wA} to environment	dBA	70	54	68	63	59	54	51	46	41	49	59

	KSK 355 2E
Voltage [V/Hz]	230/50
Power [W]	2621
Current [A]	12.66
Maximum air flow [m³/h]	6570
RPM [min⁻¹]	2890
Noise level at 3 m [dBA]	54
Maximum operating temperature [°C]	-20...+120
Protection rating	IP54

VENTS KSK

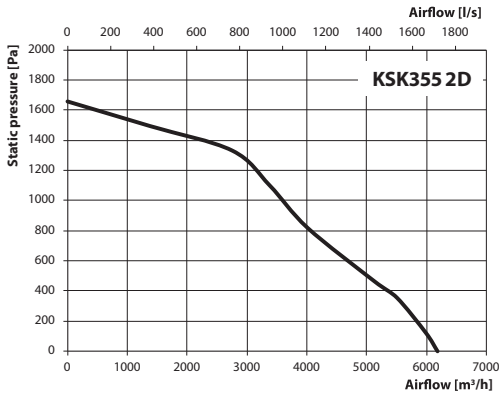


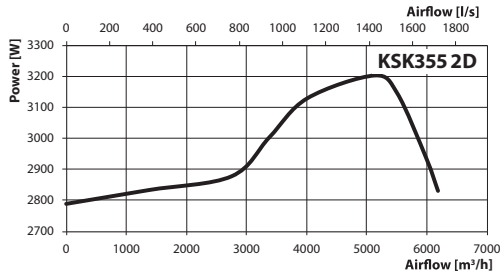


		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	92	59	66	80	90	85	83	81	73	72	82
L_{wA} to outlet	dBA	94	65	68	83	92	86	84	82	76	74	84
L_{wA} to environment	dBA	74	39	46	62	72	66	65	63	56	54	64

	KSK 355 2D
Voltage [V/Hz]	400/50
Power [W]	3145
Current [A]	6.12
Maximum air flow [m³/h]	6185
RPM [min⁻¹]	2652
Noise level at 3 m [dBA]	54
Maximum operating temperature [°C]	-20...+120
Protection rating	IP54

VENTS KSK

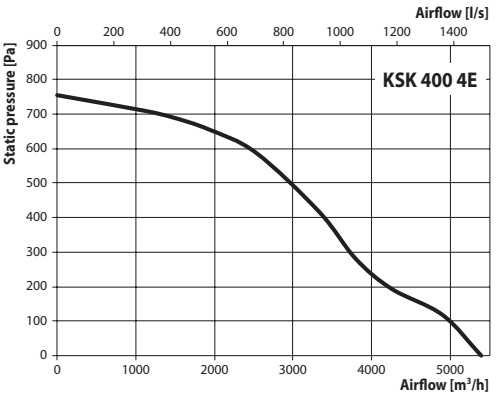


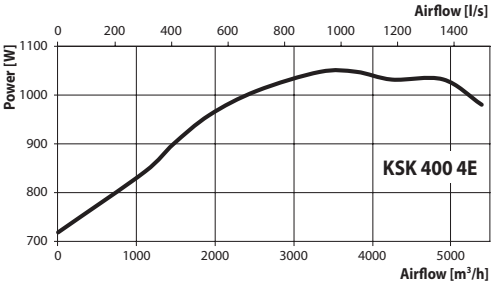


		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	92	59	65	82	90	84	83	81	74	72	82
L_{wA} to outlet	dBA	94	61	67	84	92	86	85	83	76	74	84
L_{wA} to environment	dBA	74	40	47	64	72	66	65	63	55	54	64

	KSK 400 4E
Voltage [V/Hz]	230/50
Power [W]	1048
Current [A]	5,00
Maximum air flow [m³/h]	5392
RPM [min⁻¹]	1440
Noise level at 3 m [dBA]	54
Maximum operating temperature [°C]	-20...+120
Protection rating	IP54

VENTS KSK

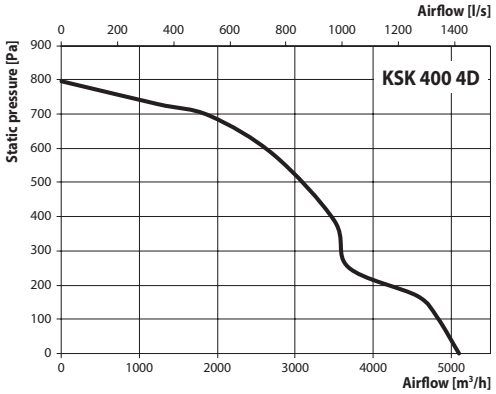


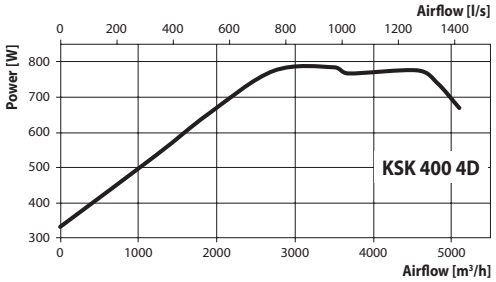


		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	86	64	79	80	77	78	77	72	67	65	75
L_{wA} to outlet	dBA	88	69	68	83	82	81	77	72	67	67	77
L_{wA} to environment	dBA	74	53	67	68	69	66	61	58	53	54	64

	KSK 400 4D
Voltage [V/Hz]	400/50
Power [W]	785
Current [A]	2.25
Maximum air flow [m³/h]	5098
RPM [min⁻¹]	1470
Noise level at 3 m [dBA]	53
Maximum operating temperature [°C]	-20...+120
Protection rating	IP54

VENTS KSK

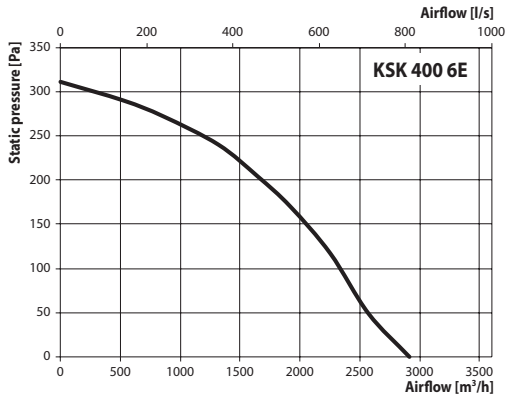


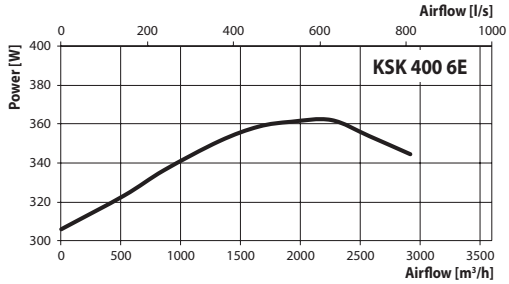


		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	85	63	79	80	77	78	77	71	66	65	75
L_{wA} to outlet	dBA	86	67	66	82	81	80	76	70	65	66	76
L_{wA} to environment	dBA	73	53	66	67	68	65	60	58	53	53	63

	KSK 400 6E
Voltage [V/Hz]	230/50
Power [W]	362
Current [A]	1.71
Maximum air flow [m³/h]	2915
RPM [min⁻¹]	930
Noise level at 3 m [dBA]	48
Maximum operating temperature [°C]	-20...+120
Protection rating	IP54

VENTS KSK

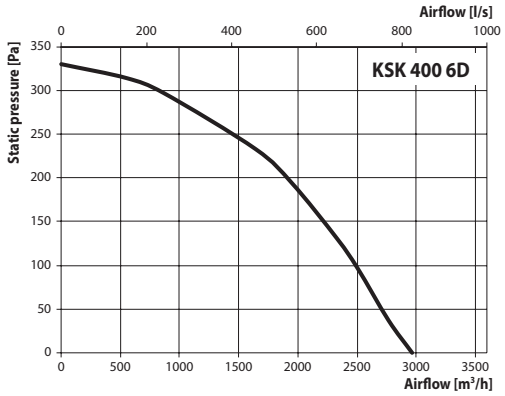


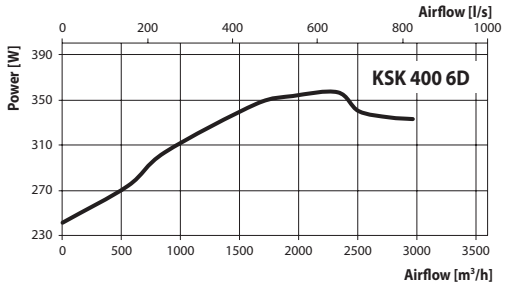


		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	79	48	60	72	74	71	71	71	66	59	69
L_{wA} to outlet	dBA	81	60	63	74	76	76	74	70	65	61	71
L_{wA} to environment	dBA	69	49	50	61	63	64	61	56	53	48	58

	KSK 400 6D
Voltage [V/Hz]	400/50
Power [W]	357
Current [A]	0.92
Maximum air flow [m³/h]	2966
RPM [min⁻¹]	948
Noise level at 3 m [dBA]	47
Maximum operating temperature [°C]	-20...+120
Protection rating	IP54

VENTS KSK

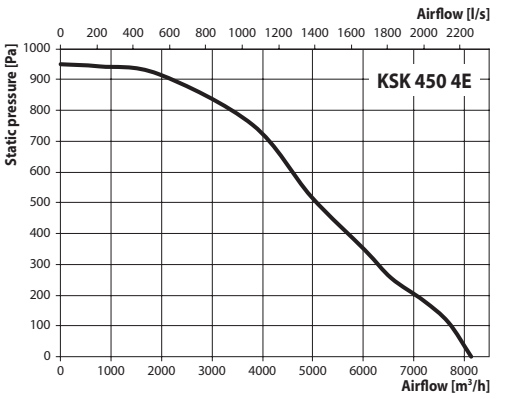


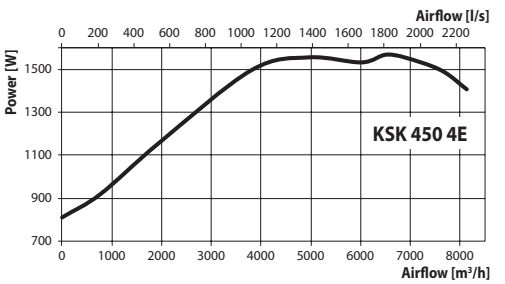


		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	77	47	58	71	72	69	70	69	65	57	67
L_{wA} to outlet	dBA	80	59	62	72	74	74	72	68	63	59	69
L_{wA} to environment	dBA	68	48	49	60	62	62	60	55	52	47	57

	KSK 450 4E
Voltage [V/Hz]	230/50
Power [W]	1570
Current [A]	7.25
Maximum air flow [m³/h]	8138
RPM [min⁻¹]	1470
Noise level at 3 m [dBA]	57
Maximum operating temperature [°C]	-20...+120
Protection rating	IP54

VENTS KSK

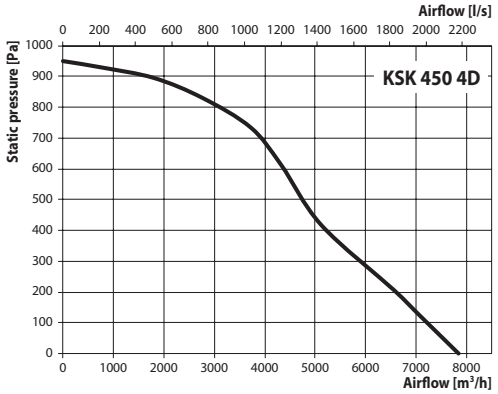


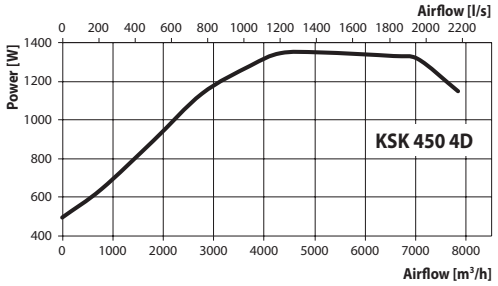


		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	90	67	83	84	81	82	81	75	70	69	79
L_{wA} to outlet	dBA	92	72	71	87	86	85	81	75	70	71	81
L_{wA} to environment	dBA	77	56	70	71	72	69	64	61	56	57	67

	KSK 450 4D
Voltage [V/Hz]	400/50
Power [W]	1350
Current [A]	2.81
Maximum air flow [m³/h]	7840
RPM [min⁻¹]	1450
Noise level at 3 m [dBA]	56
Maximum operating temperature [°C]	-20...+120
Protection rating	IP54

VENTS KSK

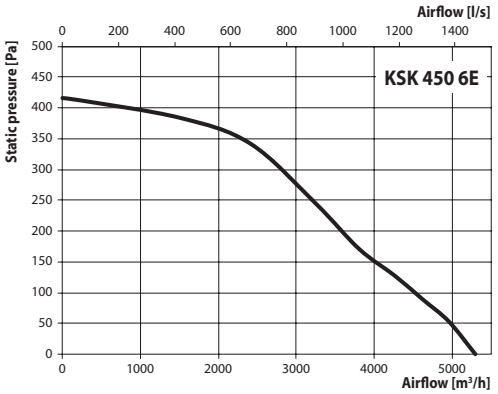


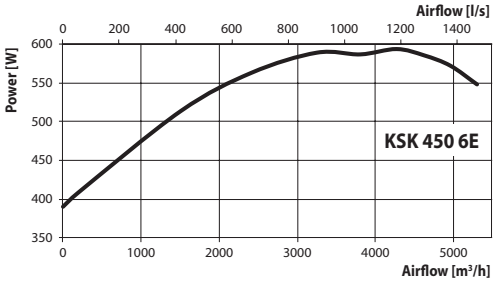


		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	89	66	83	84	81	82	81	74	69	69	79
L_{WA} to outlet	dBA	91	71	70	87	86	85	81	74	69	71	81
L_{WA} to environment	dBA	77	55	70	71	72	69	63	60	55	56	66

	KSK 450 6E
Voltage [V/Hz]	230/50
Power [W]	594
Current [A]	2.85
Maximum air flow [m³/h]	5299
RPM [min⁻¹]	970
Noise level at 3 m [dBA]	50
Maximum operating temperature [°C]	-20...+120
Protection rating	IP54

VENTS KSK



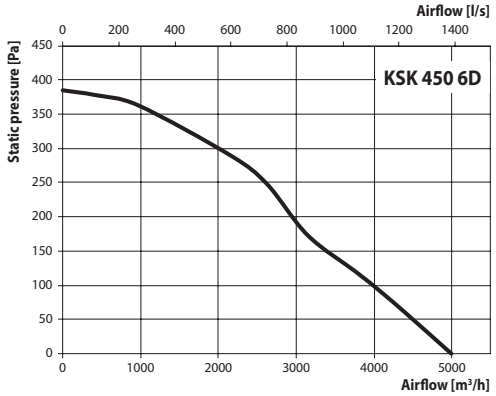


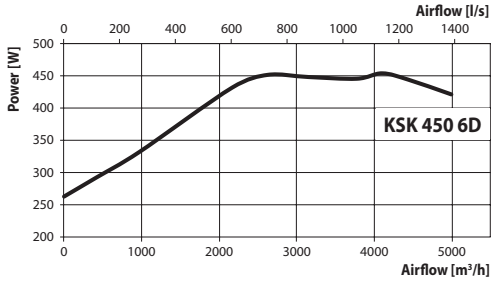
		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	81	49	61	74	76	73	74	73	68	61	71
L_{WA} to outlet	dBA	84	62	65	76	78	78	76	72	67	63	73
L_{WA} to environment	dBA	71	50	52	63	65	66	63	58	55	50	60

SOUND-INSULATED KITCHEN FAN

	KSK 450 6D
Voltage [V/Hz]	400/50
Power [W]	454
Current [A]	1.33
Maximum air flow [m³/h]	4991
RPM [min⁻¹]	920
Noise level at 3 m [dBA]	49
Maximum operating temperature [°C]	-20...+120
Protection rating	IP54

VENTS KSK

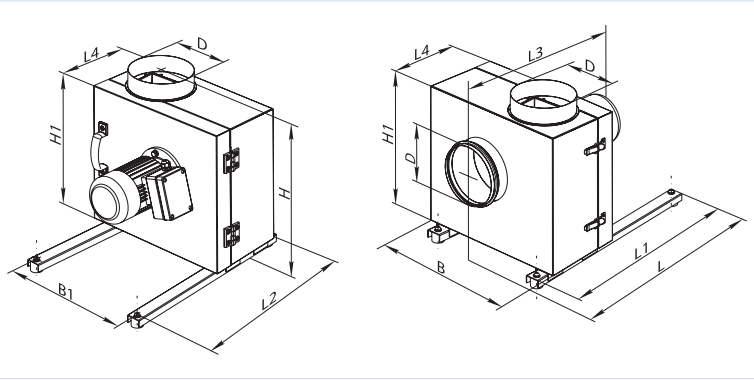




		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meters, A-filter applied
		General	Octave frequency band, Hz									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	80	48	60	73	75	71	72	71	67	59	69
L_{wA} to outlet	dBA	82	61	64	75	76	76	75	70	65	62	72
L_{wA} to environment	dBA	70	49	51	62	64	65	62	57	54	49	59

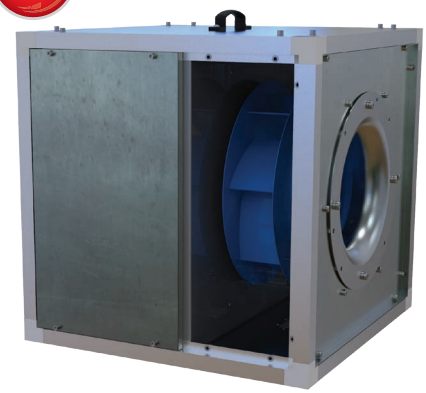
Fan overall dimensions

Type	Dimensions [mm]										Mass [kg]
	ØD	B	B1	H	H1	L	L1	L2	L3	L4	
KSK 150 4E	150	410	330	540	365	525	500	470	475	205	17
KSK 150 4D	150	410	330	540	365	525	500	470	475	205	17
KSK 160 4E	160	410	330	540	365	525	500	470	475	205	17
KSK 160 4D	160	410	330	540	365	525	500	470	475	205	17
KSK 200 4E	200	485	365	600	425	625	600	570	515	235	25
KSK 200 4D	200	485	365	600	425	625	600	570	515	235	25
KSK 250 4E	250	575	435	665	505	700	675	645	620	285	40
KSK 250 4D	250	575	435	665	505	700	675	645	620	285	40
KSK 315 4E	315	690	550	708	600	715	700	650	612	327	53
KSK 315 4D	315	690	550	708	600	715	700	650	612	327	52
KSK 315 2E	315	690	550	708	600	715	700	650	672	327	61
KSK 315 2D	315	690	550	708	600	715	700	650	672	327	60
KSK 355 4E	355	740	600	764	655	727	700	650	637	352	60
KSK 355 4D	355	740	600	764	655	727	700	650	637	352	59
KSK 355 2E	355	740	600	764	655	727	700	650	737	352	68
KSK 355 2D	355	740	600	764	655	727	700	650	737	352	65
KSK 400 4E	400	906	700	900	790	908	900	850	747	402	92
KSK 400 4D	400	906	700	900	790	908	900	850	747	402	92
KSK 400 6E	400	906	700	900	790	908	900	850	687	402	87
KSK 400 6D	400	906	700	900	790	908	900	850	687	402	87
KSK 450 4E	450	996	750	980	870	925	900	850	782	437	109
KSK 450 4D	450	996	750	980	870	925	900	850	782	437	109
KSK 450 6E	450	996	750	980	870	925	900	850	739	437	105
KSK 450 6D	450	996	750	980	870	925	900	850	739	437	105



NEW!

Series
VENTS VSK



Centrifugal kitchen fans
in sound-insulated casing with air flow
up to **25500 m³/h**

Application

Designed to extract contaminated hot air up to 120 °C, containing grease (when using grease filters), in high resistance conditions.

Ideally function in various ventilation systems for:

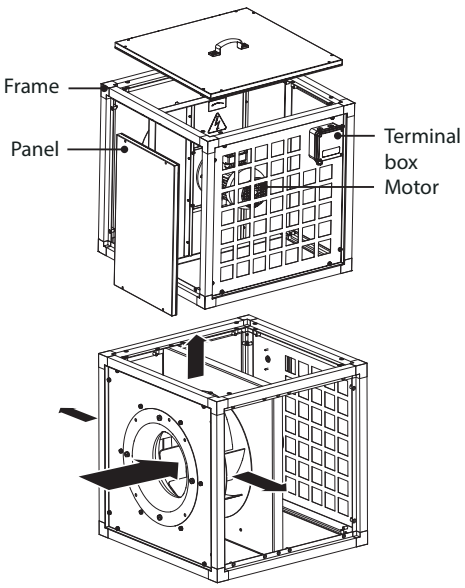
- restaurant or café kitchens
- industrial bakeries
- removal of gases generated during welding operations

Design

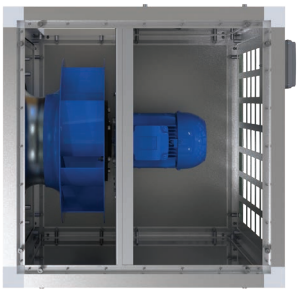
The casing of the fan is made of heat- and sound-insulated two-layer panels made of aluzinc. The panels are insulated with 20 mm thick non-combustible mineral wool.

Connecting spigots, which also serve as vibration damping inserts, can be of square or round cross-section. Spigots of round cross-section are equipped with rubber seals.

Connecting spigots are not included in the delivery set, they are ordered separately.



The electric motor, located outside the air flow, is mounted on an additional panel inside the fan.



Electric motor

Highly reliable single-phase or three-phase motor with squirrel-cage rotor and steel high-performance centrifugal impeller with backward curved blades.

The motor is maintenance free.

Motor insulation winding class - F.

Degree of protection - IP55.

Speed control

Speed control can be both smooth and stepped and is carried out by means of a frequency or autotransformer regulator, several fans can be connected to one regulating device, provided that the total power and maximum current do not exceed the rated parameters of the regulator.

Installation

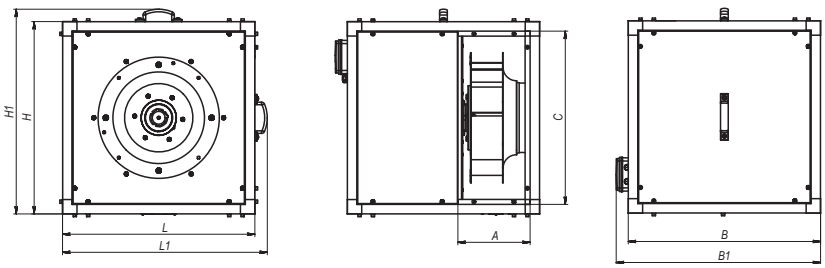
The fans are designed for installation with square or round ducts using a flexible adapter of the appropriate cross-section.

The fan can be fixed with supports, hangers or brackets. The fan can be installed in any position provided that the arrow on the fan casing corresponds to the air direction in the system.

During installation it is necessary to provide access for maintenance of the fan.

Overall dimensions

Model	Dimensions [mm]								Weight [kg]
	L	L1	H	H1	B	B1	A	C	
VSK 315 2D	500	538	500	538	500	538	200	440	41
VSK 315 2E	500	538	500	538	500	538	200	440	40.2
VSK 315 4D	500	538	500	538	500	538	200	440	37.2
VSK 315 4E	500	538	500	538	500	538	200	440	37.2
VSK 355 4D	600	638	600	638	600	638	225	540	48.1
VSK 355 4E	600	638	600	638	600	638	225	540	47.4
VSK 400 4D	670	708	670	708	670	708	252	610	58.1
VSK 400 4E	670	708	670	708	670	708	252	610	60.3
VSK 450 4D	700	738	700	738	700	738	282	640	73.3
VSK 450 4E	700	738	700	738	700	738	282	640	71.8
VSK 500 4D	820	858	820	858	820	858	321	760	101.8
VSK 500 4E	820	858	820	858	820	858	321	760	96.3
VSK 560 4D	900	938	900	938	900	938	365	840	130.3
VSK 630 4D	1000	1038	1000	1038	1000	1038	409	940	173.8
VSK 710 6D	1075	1152	1075	1114	1075	1112	455	1015	210
VSK 710 4D	1075	1152	1075	1114	1075	1112	455	1015	240
VSK 800 6D	1175	1252	1175	1214	1175	1212	505	1115	275



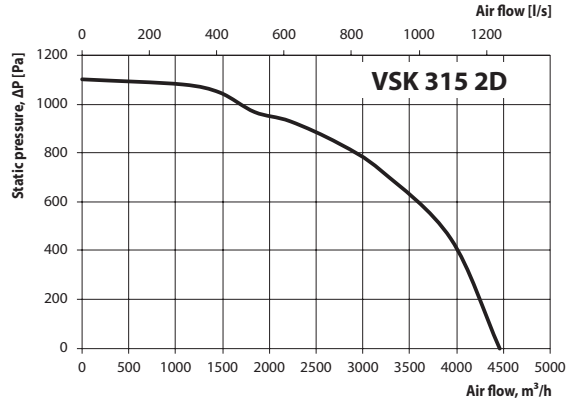
Designation key

Series	Spigot diameter	Motor modification	
		Number of poles	Phases
VENTS VSK	315; 355; 400; 450; 500; 560; 630; 710; 800	2 4 6	**E**: single-phase **D**: three-phase

Technical data

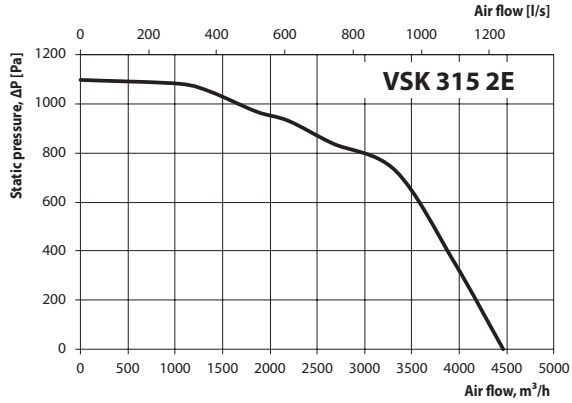
	VSK 315 2D	VSK 315 2E	VSK 315 4D	VSK 315 4E
Voltage [V]	3~400	1~230	3~400	1~230
Frequency [Hz]	50	50	50	50
Power [W]	1100	1100	250	250
Maximum current consumption [A]	2.4	7.6	0.7	2.16
Maximum air flow [m^3/h]	4460	4460	1910	1910
Maximum air flow [l/s]	1239	1239	531	531
RPM [min^{-1}]	2885	2810	1385	1320
Noise level at 3 m [dBA]	58	57	50	48
Transported air temperature [°C]	-25...+120	-25...+120	-25...+120	-25...+120
Motor protection	IP55	IP55	IP55	IP55
Protection rating	IPX4	IPX4	IPX4	IPX4

VENTS VSK



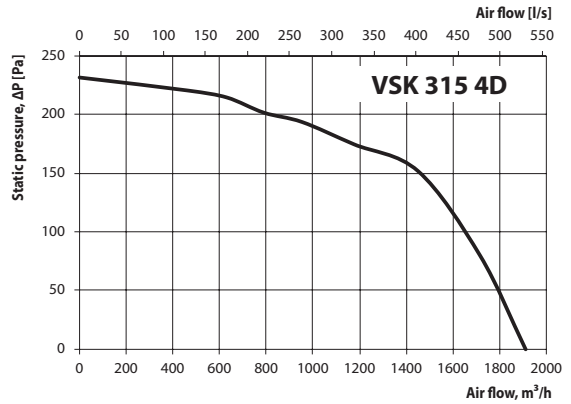
VSK 315 2D		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	90	63	86	87	70	58	54	58	48	69	79
L_{wA} to outlet	dBA	93	62	86	92	72	55	53	62	54	72	82
L_{wA} to environment	dBA	79	57	77	73	58	49	42	42	35	58	68

VENTS VSK



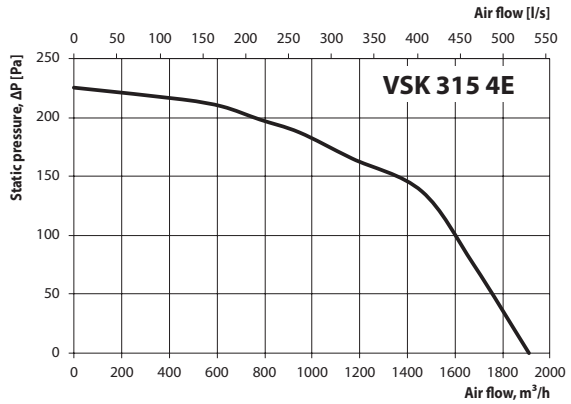
VSK 315 2E		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	89	63	86	87	69	58	53	58	48	69	79
L_{wA} to outlet	dBA	91	60	85	90	71	54	52	61	53	71	81
L_{wA} to environment	dBA	78	56	76	72	57	49	42	41	34	57	67

VENTS VSK



VSK 315 4D		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	83	58	79	81	65	54	50	55	45	63	73
L_{wA} to outlet	dBA	86	56	79	85	67	51	49	58	50	66	76
L_{wA} to environment	dBA	70	49	69	65	52	45	38	38	31	50	60

VENTS VSK

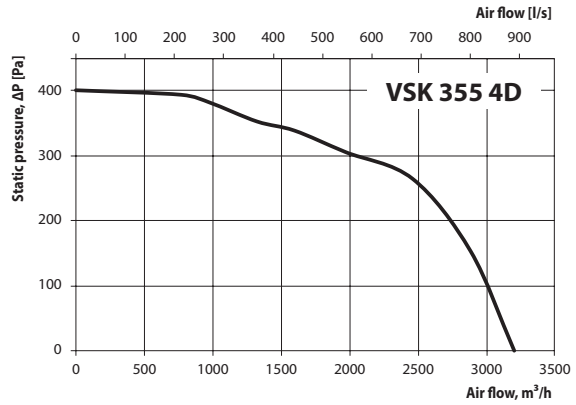


VSK 315 4E		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	80	54	76	78	62	52	48	52	43	59	69
L_{wA} to outlet	dBA	84	54	77	83	65	50	48	56	49	64	74
L_{wA} to environment	dBA	69	48	67	64	51	44	37	37	31	48	58

Technical data

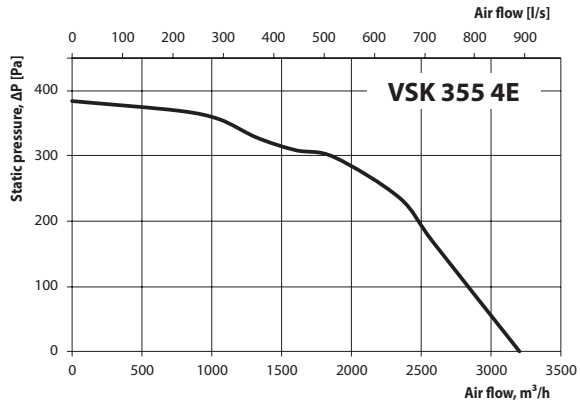
	VSK 355 4D	VSK 355 4E	VSK 400 4D	VSK 400 4E
Voltage [V]	3~400	1~230	3~400	1~230
Frequency [Hz]	50	50	50	50
Power [W]	370	370	550	550
Maximum current consumption [A]	1.1	3.3	1.7	4.4
Maximum air flow [m^3/h]	3200	3200	4550	4550
Maximum air flow [l/s]	889	889	1264	1264
RPM [min^{-1}]	1375	1452	1400	1410
Noise level at 3 m [dBA]	58	57	53	50
Transported air temperature [°C]	-25...+120	-25...+120	-25...+120	-25...+120
Motor protection	IP55	IP55	IP55	IP55
Protection rating	IPX4	IPX4	IPX4	IPX4

VENTS VSK



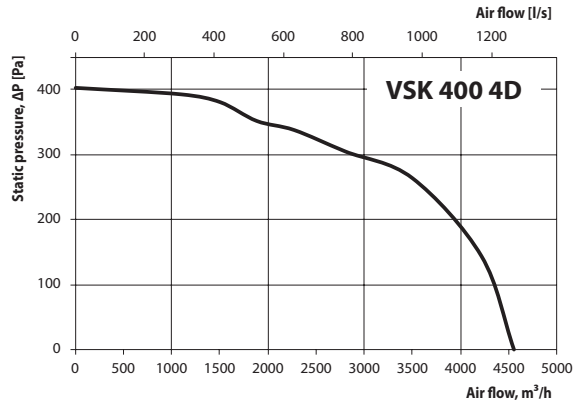
VSK 355 4D		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	86	60	83	84	67	56	52	56	47	66	76
L_{wA} to outlet	dBA	89	58	82	88	69	53	51	59	51	68	78
L_{wA} to environment	dBA	79	57	77	73	58	49	42	42	35	58	68

VENTS VSK



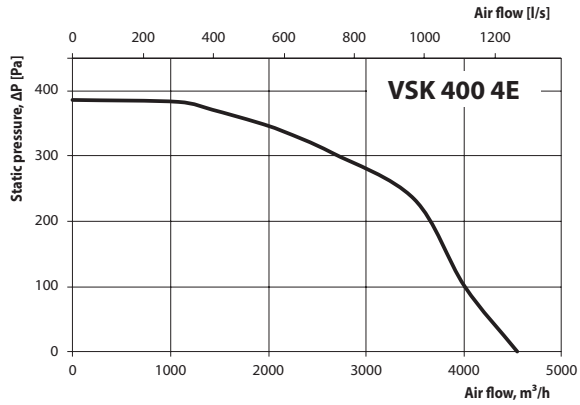
VSK 355 4E		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	85	59	81	82	66	55	51	55	46	64	74
L_{wA} to outlet	dBA	88	57	81	87	68	53	50	59	51	68	78
L_{wA} to environment	dBA	78	56	76	72	57	49	42	41	34	57	67

VENTS VSK



VSK 400 4D		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	82	56	78	79	63	53	49	53	44	61	71
L_{wA} to outlet	dBA	84	54	77	83	65	50	48	56	49	64	74
L_{wA} to environment	dBA	74	52	72	68	54	46	40	39	33	53	63

VENTS VSK

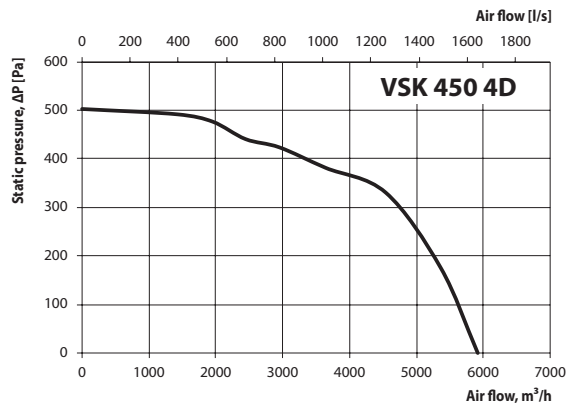


VSK 400 4E		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	80	55	76	78	63	53	49	53	44	60	70
L_{wA} to outlet	dBA	82	52	75	81	64	49	47	55	48	62	72
L_{wA} to environment	dBA	70	49	69	65	52	45	38	38	31	50	60

Technical data

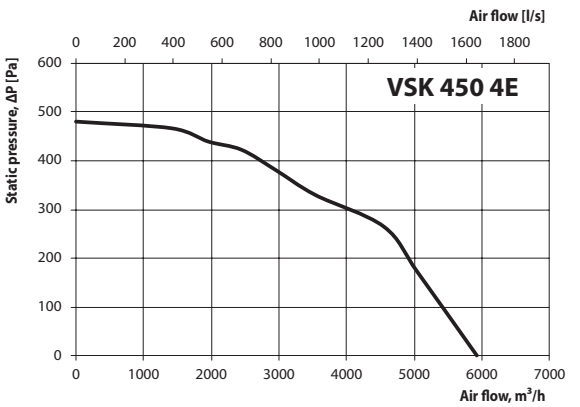
	VSK 450 4D	VSK 450 4E	VSK 500 4D	VSK 500 4E
Voltage [V]	3~400	1~230	3~400	1~230
Frequency [Hz]	50	50	50	50
Power [W]	750	750	1500	1500
Maximum current consumption [A]	1.9	5.6	3.4	10.6
Maximum air flow [m^3/h]	5920	5920	9100	9100
Maximum air flow [l/s]	1644	1644	2528	2528
RPM [min^{-1}]	1435	1435	1450	1410
Noise level at 3 m [dBA]	56	54	60	57
Transported air temperature [°C]	-25...+120	-25...+120	-25...+120	-25...+120
Motor protection	IP55	IP55	IP55	IP55
Protection rating	IPX4	IPX4	IPX4	IPX4

VENTS VSK



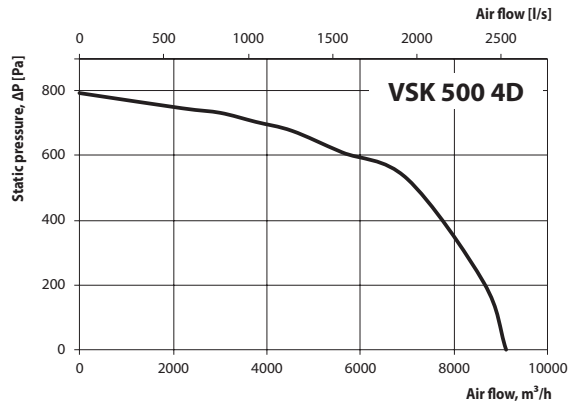
VSK 450 4D		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	87	61	83	85	67	57	52	57	47	66	76
L_{wA} to outlet	dBA	90	60	83	89	70	54	52	60	52	70	80
L_{wA} to environment	dBA	77	55	75	71	57	48	41	41	34	56	66

VENTS VSK



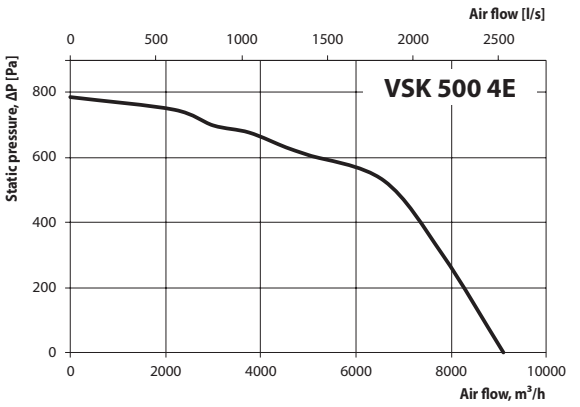
VSK 450 4E		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	83	58	79	81	65	54	50	55	45	63	73
L_{wA} to outlet	dBA	86	56	79	85	67	51	49	58	50	66	76
L_{wA} to environment	dBA	74	53	72	69	55	47	40	40	33	54	64

VENTS VSK



VSK 500 4D		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	90	63	86	87	70	58	54	58	48	69	79
L_{wA} to outlet	dBA	91	60	84	90	70	54	52	60	53	70	80
L_{wA} to environment	dBA	81	59	80	75	59	50	43	43	35	60	70

VENTS VSK

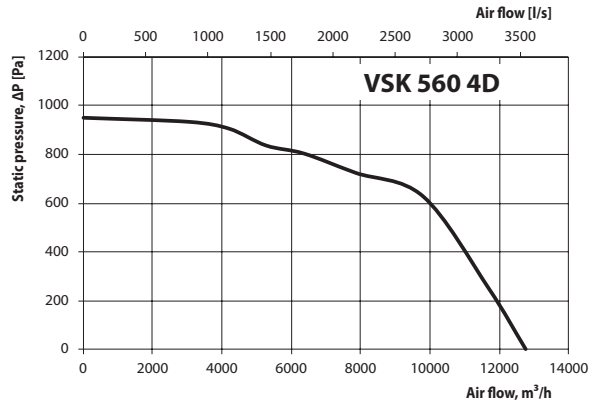


VSK 500 4E		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	86	60	83	84	67	56	52	56	47	66	76
L_{wA} to outlet	dBA	89	59	82	88	69	53	51	60	52	69	79
L_{wA} to environment	dBA	77	56	76	72	57	48	41	41	34	57	67

Technical data

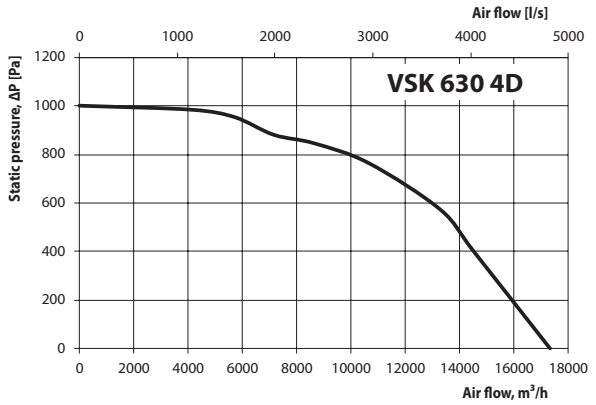
	VSK 560 4D	VSK 630 4D	VSK 710 4D	VSK 710 6D	VSK 800 6D
Voltage [V]	3~400	3~400	3~400	3~400	3~400
Frequency [Hz]	50	50	50	50	50
Power [W]	3000	4000	7500	2200	4000
Maximum current consumption [A]	6.4	8.1	16.1	5.1	8.7
Maximum air flow [m^3/h]	12750	17300	25500	16400	21860
Maximum air flow [l/s]	3542	4806	7083	4556	6072
RPM [min^{-1}]	1450	1455	1460	970	965
Noise level at 3 m [dBA]	58	62	59	57	62
Transported air temperature [°C]	-25...+120	-25...+120	-25...+120	-25...+120	-25...+120
Motor protection	IP55	IP55	IP55	IP55	IP55
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4

VENTS VSK



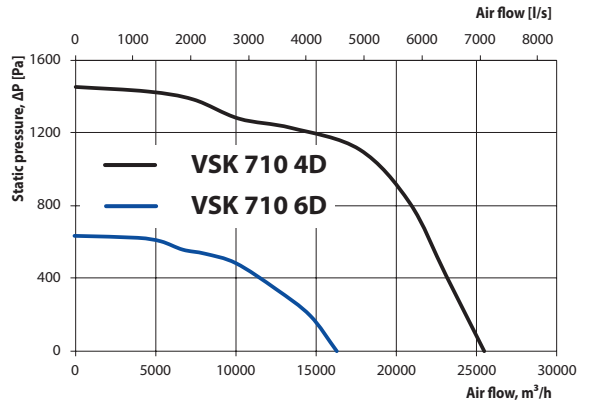
VSK 560 4D		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	90	63	86	87	70	58	54	58	48	69	79
L_{wA} to outlet	dBA	91	60	84	90	70	54	52	60	53	70	80
L_{wA} to environment	dBA	78	57	77	73	58	49	42	42	34	58	68

VENTS VSK



VSK 630 4D		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	92	65	88	89	71	59	54	59	49	71	81
L_{wA} to outlet	dBA	97	66	91	96	75	58	55	64	56	77	87
L_{wA} to environment	dBA	83	61	81	76	61	51	44	43	36	62	72

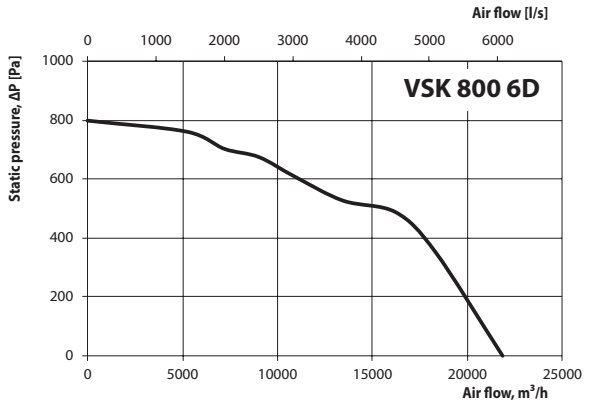
VENTS VSK



VSK 710 4D		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	91	64	87	88	70	59	54	59	49	70	80
L_{wA} to outlet	dBA	94	63	87	93	73	56	53	62	54	74	84
L_{wA} to environment	dBA	79	58	78	73	58	50	42	42	35	59	69

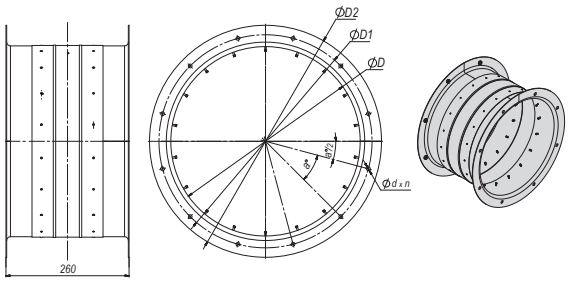
VSK 710 6D		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	88	62	84	86	68	57	53	57	47	68	78
L_{wA} to outlet	dBA	91	60	84	90	70	54	52	60	53	70	80
L_{wA} to environment	dBA	77	56	76	72	57	48	41	41	34	57	67

VENTS VSK



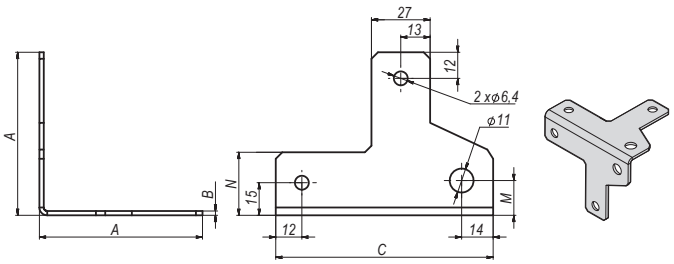
VSK 800 6D		Gen.	Octave frequency bands [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
A-weighted sound power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	90	63	86	87	70	58	54	58	48	69	79
L_{wA} to outlet	dBA	94	63	87	93	73	56	53	62	54	74	84
L_{wA} to environment	dBA	83	61	81	76	61	51	44	43	36	62	72

VVG VSK



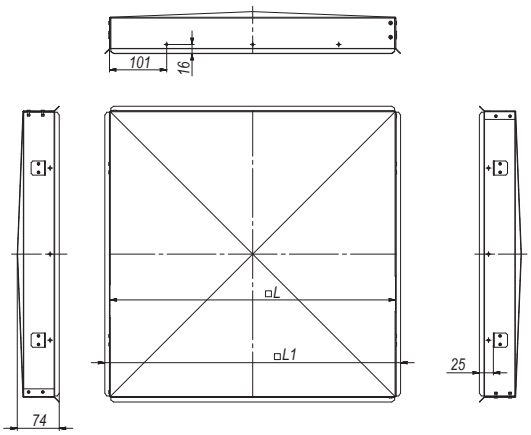
Model	Dimensions [mm]						Weight [kg]
	D	D1	D2	n	a	d	
VVG VSK 315	315	365	405	6	60	8	4.76
VVG VSK 355	355	395	435	8	45	10	4.08
VVG VSK 400	400	450	490	12	30	8	4.76
VVG VSK 450	450	500	540	12	30	8	5.34
VVG VSK 500	500	560	600	12	30	12	6.12
VVG VSK 560	560	620	660	12	30	12	6.83
VVG VSK 630	630	690	730	12	30	12	7.66
VVG VSK 710	710	770	810	16	22.5	12	8.6
VVG VSK 800	800	860	900	16	22.5	12	9.67

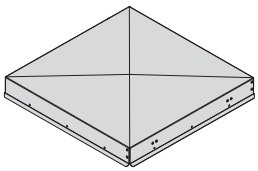
MK VSK



Model	Dimensions [mm]				
	A	B	C	N	M
MK VSK 315...450	75	2	100	29	16
MK VSK 500...800	85	3	110	30	18

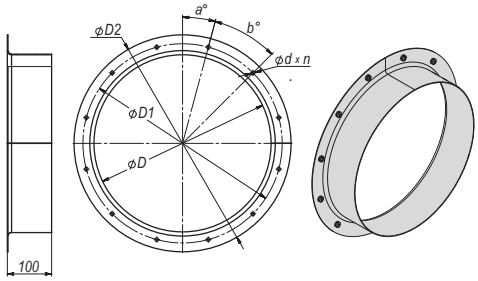
VPR VSK





Model	Dimensions [mm]		Weight [kg]
	L	L1	
VPR VSK 315	503	522	2.42
VPR VSK 355	603	622	3.25
VPR VSK 400	673	692	3.91
VPR VSK 450	703	722	4.21
VPR VSK 500	823	842	6.57
VPR VSK 560	903	922	7.71
VPR VSK 630	1003	1022	9.27
VPR VSK 710	1078	1097	10.53
VPR VSK 800	1178	1197	12.3

PK VSK



Model	Dimensions [mm]					a°	b°	Weight [kg]
	D	D1	D2	d	n			
PK VSK 315	315	365	405	8	6	15	60	1.7
PK VSK 355	355	405	445	8	6	15	60	1.9
PK VSK 400	400	450	490	8	12	15	30	2.13
PK VSK 450	450	500	540	8	12	15	30	2.39
PK VSK 500	500	560	600	12	12	15	30	2.75
PK VSK 560	560	620	660	12	12	15	30	3.06
PK VSK 630	630	690	730	12	12	15	30	3.44
PK VSK 710	710	770	810	12	16	11.25	22.5	3.86
PK VSK 800	800	860	900	12	16	11.25	22.5	4.34

ELECTRICAL ACCESSORIES COMPATIBILITY

		TT Silent-M 100	TT Silent-M 125	TT Silent-M 150	TT Silent-M 160	TT Silent-M 200	TT Silent-M 250	TT Silent-M 315	TT Silent-M 355	TT Silent-M 400	VS 355 4E	VS 355 4D	VS 400 4E	VS 400 4D	VS 450 4E	VS 450 4D	VS 500 4E	VS 500 4D	VS 560 4D	VS 560 6D	VS 630 4D	VS 630 C 4D	VS 630 6D	VS 710 6D	VS EC
Thyristor speed controllers																									
	RS-1-300										●														
	RS-1-400										●														
	RS-1 N (V)																								
	RS-1,5 N (V)										●														
	RS-2 N (V)										●														
	RS-2,5 N (V)										●		●												
	RS-0,5-PS																								
	RS-1,5-PS										●														
	RS-2,5-PS										●		●												
	RS-4,0-PS										●		●		●										
	RS-3,0-T										●		●												
	RS-5,0-T										●		●		●										
	RS-10,0-T										●		●		●		●								
	RS-3,0-TA										●		●												
	RS-5,0-TA										●		●		●										
	RS-10,0-TA										●		●		●		●								
Transformer speed controllers																									
	RSA5E-2-P										●														
	RSA5E-2-M										●														
	RSA5E-3-M										●		●												
	RSA5E-4-M										●		●		●										
	RSA5E-12-M										●		●		●		●								
	RSA5E-1,5-T										●														
	RSA5E-3,5-T										●		●		●										
	RSA5E-5,0-T										●		●		●										
	RSA5E-8,0-T										●		●		●		●								
	RSA5E-10,0-T										●		●		●		●								
	RSA5D-1,5-T											●		●	●										
	RSA5D-3,5-T											●		●	●		●		●		●			●	
	RSA5D-5-M											●		●	●		●		●		●			●	●
	RSA5D-8-M											●		●	●		●		●	●	●	●	●	●	●
	RSA5D-10-M											●		●	●		●		●	●	●	●	●	●	●
	RSA5D-12-M											●		●	●		●		●	●	●	●	●	●	●
Frequency speed controllers																									
	VFED-200-TA											●			●										
	VFED-400-TA											●		●	●		●			●					
	VFED-750-TA											●		●	●		●		●	●			●		
	VFED-1100-TA											●		●	●		●		●	●	●		●	●	
	VFED-1500-TA											●		●	●		●		●	●	●	●	●	●	
Temperature controllers																									
	RTS-1-400	●	●	●	●	●	●																		
	RTSD-1-400	●	●	●	●	●	●																		
	TST-1-300	●	●	●	●	●																			
	TSTD-1-300	●	●	●	●	●																			
	RT-10	●	●	●	●	●	●				●														
Multi-speed fan switches																									
	P2-5,0	●	●	●	●	●	●																		
	P3-5,0																								
	P5-5,0																								
	P2-1-300	●	●	●	●	●	●																		
	P3-1-300																								
	SP3-1																								
EC motors controllers																									
	R-1/010																								●
Sensors																									
	T-1,5 N	●	●	●	●	●	●				●														
	TH-1,5 N	●	●	●	●	●	●				●														
	TF-1,5 N	●	●	●	●	●	●				●														
	TP-1,5 N	●	●	●	●	●	●				●														

● recommended
● suitable

		KSA 100-2E	KSA 125-2E	KSA 150-2E	KSA 160-2E	KSA 200-4E	KSA 250-4E	KSB 100	KSB 125	KSB 150	KSB 160	KSB 200	KSB 200 S	KSB 250	KSB 315	KSD 250-6E	KSD 250 S-6E	KSD 250-4E	KSD 250 S-4E	KSD 315-6E	KSD 315 S-6E	KSD 315-4E	KSD 315 S-4E	KSD 315/250*2-6E	KSD 315/250*2 S-6E	KSD 315/250*2-4E	KSD 315/250*2 S-4E	KSB 100 EC	KSB 125 EC	KSB 150 EC	KSB 160 EC	KSB 200 EC	KSB 250 EC	KSB 315 EC	KSK 150 4E, KSK 160 4E	KSK 150 4D, KSK 160 4D	KSK 200 4E	KSK 200 4D	KSK 250 4E	KSK 250 4D	KSK 315 4E	KSK 315 4D	KSK 315 2E	KSK 315 2D	KSK 355 4E	KSK 355 4D	KSK 355 2E	KSK 355 2D	KSK 400 4E	KSK 400 4D	KSK 400 6E	KSK 400 6D	KSK 450 4E	KSK 450 4D	KSK 450 6E	KSK 450 6D
Transformer speed controllers																																																									
	RS-1-300	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●																																									
	RS-1-400	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●																																									
	RS-1 N (V)	●	●			●		●	●	●	●	●	●	●		●																																									
	RS-1,5 N (V)	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●																																									
	RS-2 N (V)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●																																									
	RS-2,5 N (V)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				●																																				
	RS-0,5-PS					●		●	●	●	●	●																																															
	RS-1,5-PS	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●																																									
	RS-2,5-PS	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				●																																				
	RS-4,0-PS	●	●	●	●	●	●					●	●	●	●	●	●	●	●	●		●		●		●																																
	RS-3,0-T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				●																																			
	RS-5,0-T	●	●	●	●		●					●	●	●	●	●	●	●	●	●	●	●	●			●	●																																
	RS-10,0-T			●	●		●								●		●	●	●	●	●	●	●	●	●	●	●																																
	RS-3,0-TA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				●																																			
	RS-5,0-TA	●	●	●	●		●					●	●	●	●	●	●	●	●	●	●	●	●			●	●																																
	RS-10,0-TA			●	●		●								●		●	●	●	●	●	●	●	●	●	●	●																																
Transformer speed controllers																																																										
	RSA5E-2-P	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●																																									
	RSA5E-2-M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●																																									
	RSA5E-3-M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				●																																			
	RSA5E-4-M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●		●		●																																
	RSA5E-12-M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●																																
	RSA5E-1,5-T	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●																																									
	RSA5E-3,5-T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●		●		●																																
	RSA5E-5,0-T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●																																
	RSA5E-8,0-T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●																																
	RSA5E-10,0-T	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●																																
	RSA5D-1,5-T																																																									
	RSA5D-3,5-T																																																									
	RSA5D-5-M																																																									
	RSA5D-8-M																																																									
	RSA5D-10-M																																																									
	RSA5D-12-M																																																									
Frequency speed controllers																																																										
	VFED-200-TA																																																									
	VFED-400-TA																																																									
	VFED-750-TA																																																									
	VFED-1100-TA																																																									
	VFED-1500-TA																																																									
Temperature controllers																																																										
	RTS-1-400																																																									
	RTSD-1-400																																																									
	TST-1-300																																																									
	TSTD-1-300																																																									
	RT-10	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●																																									
Multi-speed fan switches																																																									
	P2-5,0																																																									
	P3-5,0																																																									
	P5-5,0																																																									
	P2-1-300																																																									
	P3-1-300																																																									
	SP3-1																																																									
EC motors controllers																																																										
	R-1/010																																																									
Sensors																																																										
	T-1,5 N	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●																																									
	TH-1,5 N	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●																																									
	TF-1,5 N	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●																																									
	TP-1,5 N	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●																																									

● recommended
● suitable

CENTRIFUGAL FANS

VENTS VCU series

- Single-inlet scroll-type centrifugal fans with external rotor motor and the air flow up to 2000 m^3/h. The fan is designed for the supply and exhaust ventilation systems.

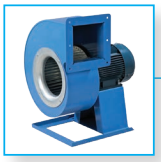
VENTS VCUN series

- Single-inlet scroll-type centrifugal fans with the impeller mounted on the three phase asynchronous motor shaft. Air flow up to 19 000 m^3/h. The fan is designed for supply and exhaust ventilation systems.

VENTS VCU
centrifugal fan in scroll casing

Air flow – up to 2000 m³/h

page 274



VENTS VCUN
centrifugal fan in scroll casing

Air flow – up to 19 000 m³/h

page 278

Series
VENTS VCU

Scroll-type single-inlet centrifugal fans powered by external rotor motor. Air flow up to **2000 m³/h**.

Applications

Designed for supply and exhaust ventilation systems for commercial, office and other public or industrial premises. The fan can be used as a components for ventilation and air conditioning systems and is suitable for outside mounting.

Design

The fan casing is made of steel with polymeric coating.

Motor

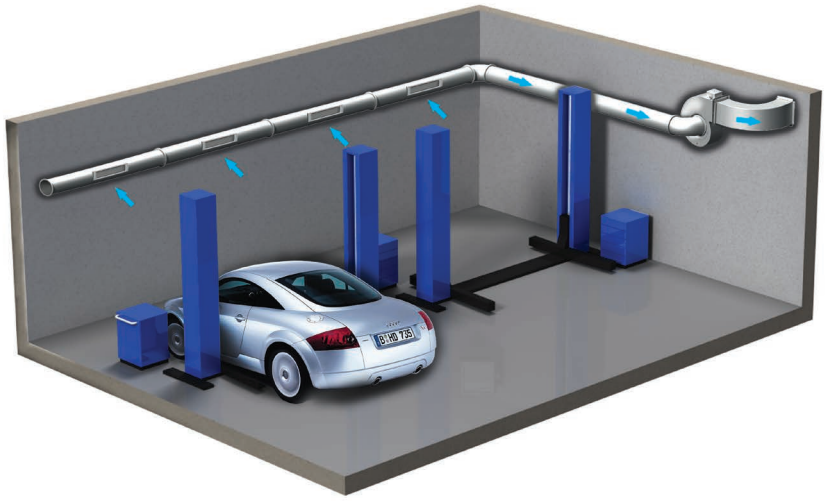
The impeller with forward curved blades made of galvanized steel is powered by 2- or 4-pole single phase external rotor asynchronous motor. The motors are equipped with incorporated thermal overheating protection with automatic restart as well as ball bearings for long service life. For precise features, safe operation and low noise, each turbine is dynamically balanced while assembling. Motor protection rating IP44.

Speed control

Both smooth and step speed control is performed with the symistor or autotransformer controller. Several fans can be connected to one controller in case the total power and operating current do not exceed the controller rated values.

Mounting

The fan is suitable for installation in ventilating chambers, air conditioning units or can be used individually. In case of independent operation it can be connected to air ducts by means of either both exhaust and inlet branch pipes or exhaust branch pipe only. The exhaust and intake branch pipes have rectangular or circular sections accordingly. Power is supplied by means of the external terminals.



VCU fan car workshop ventilation example

Designation key

Series	Motor modification		Impeller diameter, mm	Impeller width, mm
	Number of poles	Phase		
VENTS VCU	2 4	**E**: single phase	140; 160; 180; 200; 225; 250	60; 62; 80; 92; 102; 140

Accessories

Silencer | Filters | Heaters | Backdraft damper | Air shutter | Speed controllers

Technical data

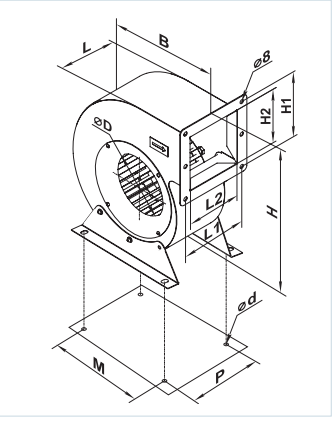
	VCU 2E 140x60	VCU 2E 160x62	VCU 4E 180x92	VCU 4E 200x80
Voltage [V/50 Hz]	1~230	1~230	1~230	1~230
Power [W]	148	264	160	125
Current [A]	0.64	1.17	0.7	0.55
Max. air flow [m^3/h]	515	560	800	730
RPM [min^{-1}]	2820	2630	1465	1430
Noise level at 3 m [dBA]	68	70	62	63
Transported air temperature [°C]	-25...+45	-25...+50	-25...+45	-25...+45
Protection rating	IPX4	IPX4	IPX4	IPX4

Technical data

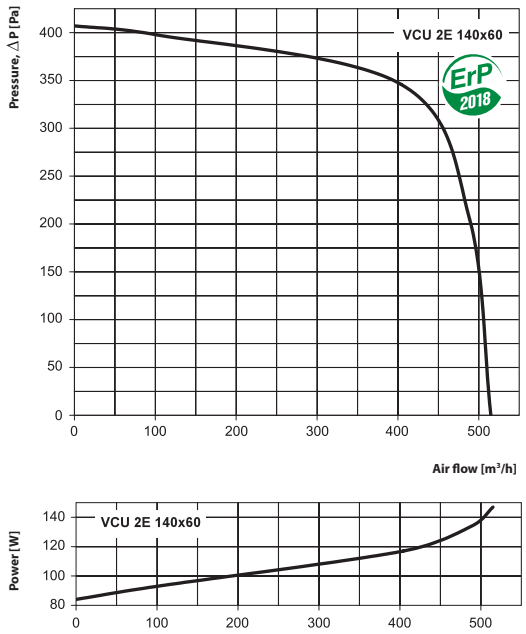
	VCU 4E 200x102	VCU 4E 225x102	VCU 4E 250x102	VCU 4E 250x140
Voltage [V/50 Hz]	1~230	1~230	1~230	1~230
Power [W]	280	395	810	570
Current [A]	1.25	1.98	3.65	2.48
Max. air flow [m^3/h]	1350	1480	2000	2000
RPM [min^{-1}]	1475	1330	1330	1310
Noise level at 3 m [dBA]	65	69	63	60
Transported air temperature [°C]	-25...+40	-40...+70	-40...+70	-40...+70
Protection rating	IPX4	IPX4	IPX4	IPX4

Fan overall dimensions

Type	Dimensions [mm]											Mass [kg]
	ØD	B	H	H1	H2	L	L1	L2	P	M	d	
VCU 2E 140x60	140	243	287	125	92,5	86	110	78,4	116	150	9	3.7
VCU 2E 160x62	160	277	324	136	106	106	130	98,4	139	200	9	4.8
VCU 4E 180x92	180	311	360	150	120	148	170	140,4	181	230	9	7.1
VCU 4E 200x80	200	345	398	165	134	116	140	108	150	240	9	7.5
VCU 4E 200x102	200	345	398	165	134	152	175	143	185	240	9	8.0
VCU 4E 225x102	225	365	441	210	171	145	170	137	178	250	11	11.9
VCU 4E 250x102	250	410	485	230	191	165	190	157	198	270	11	16.3
VCU 4E 250x140	250	410	485	230	191	205	230	197	238	270	11	16.3

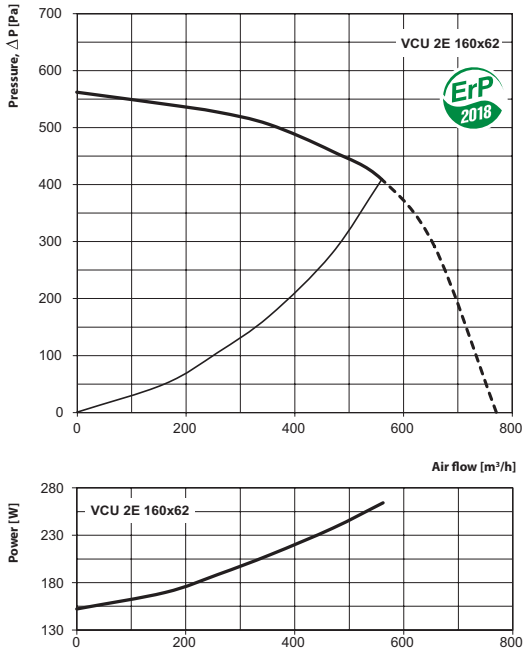


VENTS VCU



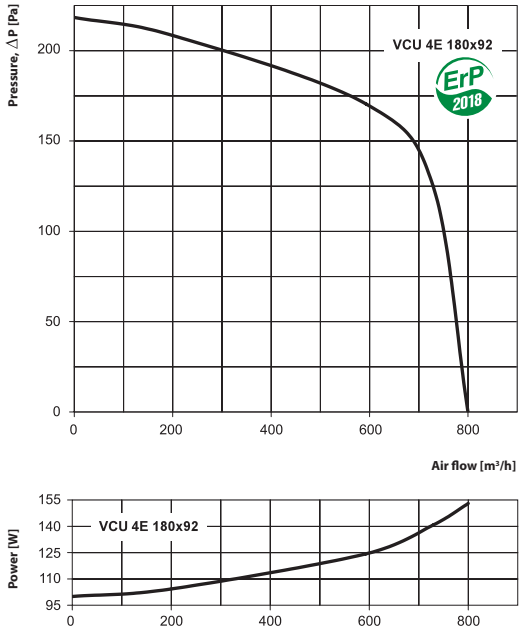
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	60	44	51	50	37	33	31	27	17
L_{WA} to outlet	dBA	58	45	53	44	43	38	31	26	19
L_{WA} to environment	dBA	50	41	48	44	35	31	24	20	15

VENTS VCU



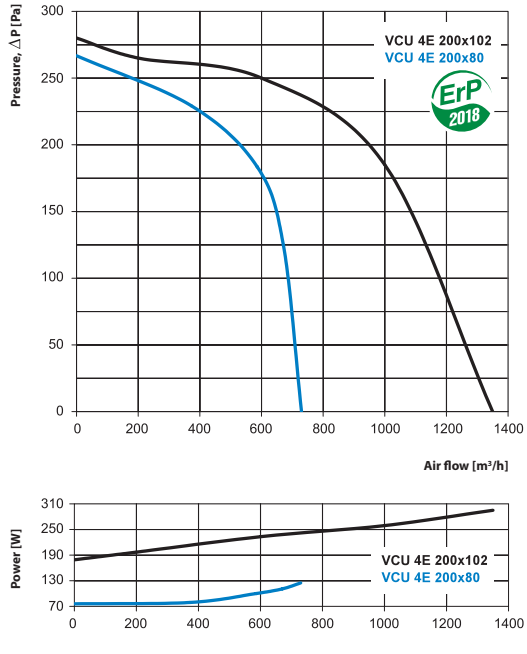
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	57	42	54	54	38	34	31	28	21
L_{WA} to outlet	dBA	57	46	57	45	42	38	31	26	20
L_{WA} to environment	dBA	49	37	48	42	33	29	25	19	16

VENTS VCU



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	56	43	54	52	38	34	30	29	17
L_{WA} to outlet	dBA	56	46	55	45	42	35	30	27	21
L_{WA} to environment	dBA	52	39	47	46	35	28	24	18	17

VENTS VCU



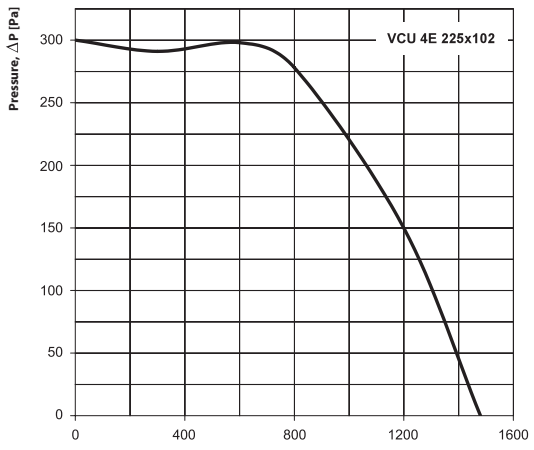
VCU 4E 200x102

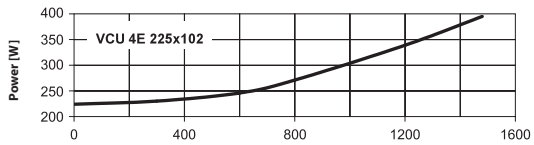
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	41	37	38	37	30	26	19	17	14
L_{WA} to outlet	dBA	42	40	41	36	36	25	16	17	18
L_{WA} to environment	dBA	37	32	35	29	26	20	16	11	11

VCU 4E 200x80

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	41	38	39	34	31	29	20	18	13
L_{WA} to outlet	dBA	44	40	40	36	34	25	20	16	17
L_{WA} to environment	dBA	37	33	37	30	25	21	16	13	13

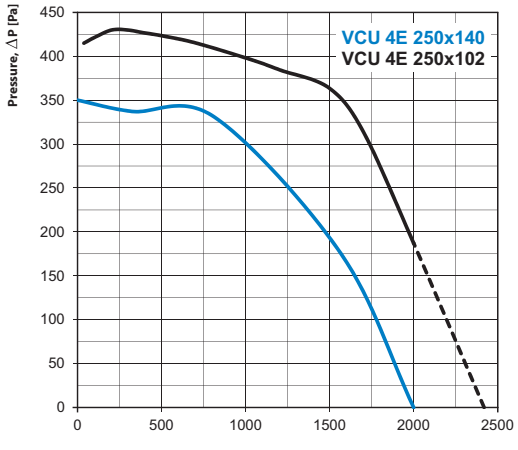
VENTS VCU

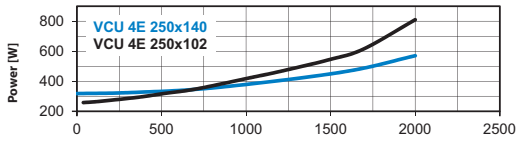




Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	39	37	38	38	31	28	21	17	15
L_{wA} to outlet	dBA	44	37	41	38	34	27	16	17	19
L_{wA} to environment	dBA	37	31	33	31	25	20	17	13	11

VENTS VCU





VCU 4E 250x140

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	44	44	42	36	31	22	29	21	19
L_{wA} to outlet	dBA	46	37	42	38	29	28	29	23	21
L_{wA} to environment	dBA	40	34	37	31	27	21	24	17	14
VCU 4E 250x102	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	48	45	43	35	34	27	28	25	22
L_{wA} to outlet	dBA	47	41	43	35	30	29	32	24	23
L_{wA} to environment	dBA	45	36	39	33	31	25	26	21	18

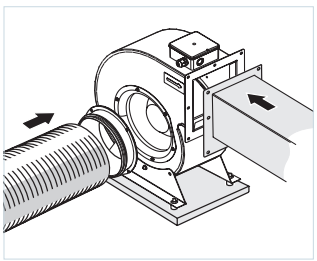
Selection table for accessories

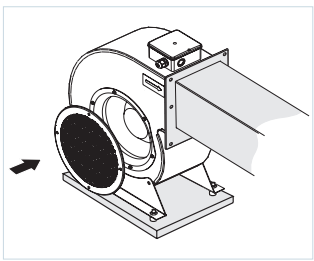
Type	Rubber anti-vibration mounts	Flange	Grille
VCU 2E 140x60	VVCr 8	FVC-VCU 140	RVC-VCU 140
VCU 2E 160x62	VVCr 8	FVC-VCU 160	RVC-VCU 160
VCU 2E 160x90	VVCr 8	FVC-VCU 160	RVC-VCU 160
VCU 4E 180x92	VVCr 8	FVC-VCU 180	RVC-VCU 180
VCU 4E 200x80	VVCr 8	FVC-VCU 200	RVC-VCU 200
VCU 4E 200x102	VVCr 8	FVC-VCU 200	RVC-VCU 200
VCU 4E 225x102	VVCr 16	FVC-VCU 200/FVC-VCU 225	RVC-VCU 200/RVC-VCU 225
VCU 4E 250x102	VVCr 16	FVC-VCU 250	RVC-VCU 250
VCU 4E 250x140	VVCr 16	FVC-VCU 250	RVC-VCU 250

FVC-VCU Flange
designed to connect round ducts to VCU fans.

RVC-VCU Grille
designed for fan protection against foreign objects.

Anti-vibration mounts VVCr
Designed for noise reduction and vibration dampering produced by the fans. Provide dynamic loading decrease and increase reliability and durability of ventilation equipment.

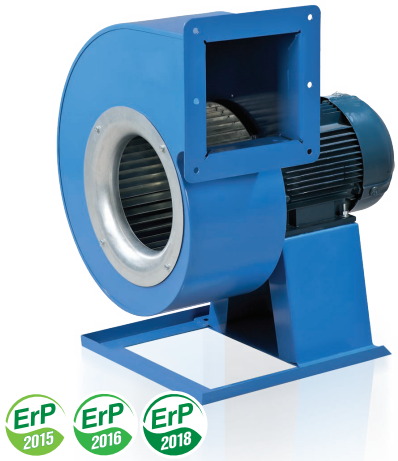




Anti-vibration mount VVCr

Series

VENTS VCUN



Scroll single-inlet centrifugal fans with the impeller mounted directly on the three phase asynchronous motor shaft. Air flow up to **19 000 m³/h**. The fan is designed for supply and exhaust ventilation systems.

Applications

Supply and exhaust ventilation systems for commercial, office and other public or industrial premises. The fans can be used as components for ventilation and air conditioning units and are suitable for outdoor mounting.

Design

The fan casing is made of steel with polymeric coating. VCUN fan can be supplied both with the clockwise or counterclockwise rotation impeller. Each modification has few scroll positions to enable connection to the air ducts at any angle with 45° pitch distance.

Motor

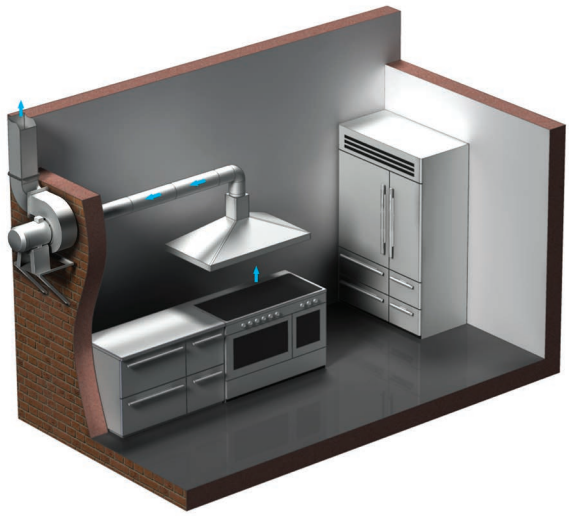
2-, 4-, 6- or 8-pole three phase asynchronous motors and impeller with forward curved blades made of galvanized steel installed on the motor shaft. Ball bearings in the motor ensure long service life. For precise features, safe operation and low noise, each turbine is dynamically balanced while assembly. Motor protection rating IP54.

Speed control

Both smooth or step speed control is performed by means of the autotransformer or frequency controller. Several fans can be connected to one controller in case the total power and operating current do not exceed the rated controller values.

Mounting

The fan is suitable for installation in ventilating chambers, air conditioning units or can be used separately. In case of independent operation it can be connected to air ducts by means of both exhaust and intake branch pipes or exhaust branch pipe only. The exhaust and inlet branch pipes have rectangular or circular sections accordingly. Power is supplied by means of external terminals.



VCUN fan catering ventilation example

ErP data	
Overall efficiency	η [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	kW
Current	A
Air flow	m³/h
Static pressure	Pa
Speed	n/min⁻¹
Specific ratio	SR

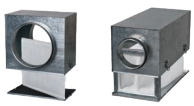
Designation key

Series	Impeller diameter, mm		Impeller width, mm		Motor modification		Scroll orientation*	Casing rotation angle*
					Power [kW]	Number of poles		
VENTS VCUN	140; 160; 180; 200; 225; 250; 280; 315; 355; 400; 450; 500	x	74; 93; 103; 127; 143; 183; 203; 229	–	0.25; 0.37; 0.55; 0.75; 1.1; 1.5; 2,2; 3; 4; 5.5; 7.5; 11	– 2; 4; 6; 8	R: right side; L: left side	0; 45; 90; 135; 180; 225; 270; 315

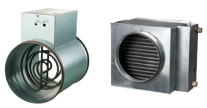
* Standard casing modification PR90 (refer picture).

Accessories

Silencers



Filters



Heaters

Backdraft damper

Air shutter

Flexible connector

Speed controllers

Technical data

	VCUN 140x74-0,25-4	VCUN 140x74-0.37-2	VCUN 160x74-0,55-4	VCUN 160x74-0,75-2	VCUN 180x74-0,55-4	VCUN 180x74-1,1-2	VCUN 200x93-0,55-4	VCUN 200x93-1,1-2
Voltage [V/50 Hz]	3~400	3~400	3~400	3~400	3~400	3~400	3~400	3~400
Power [kW]	0.25	0.37	0.55	0.75	0.55	1.1	0.55	1.1
Current [A]	0.8	0.9	1.6	1.8	1.6	2.6	1.6	2.6
Max. air flow [m³/h]	450	710	750	1540	1030	1950	1615	1900
RPM [min⁻¹]	1350	2730	1360	2820	1360	2800	1360	2800
Noise level at 3 m [dBA]	60	65	62	68	64	70	67	73
Transported air temperature [°C]	60	60	60	60	60	60	60	60
Protection rating	IP54	IP54	IP54	IP54	IP54	IP54	IP54	IP54

Technical data

	VCUN 225x103-1,1-4	VCUN 225x103-2,2-2	VCUN 240x114-2,2-4	VCUN 240x114-3,0-2	VCUN 250x127-1,5-6	VCUN 250x127-2,2-4	VCUN 250x127-5,5-2	VCUN 280x127-1,5-6
Voltage [V/50 Hz]	3~400	3~400	3~400	3~400	3~400	3~400	3~400	3~400
Power [kW]	1.1	2.2	2.2	3.0	1.5	2.2	5.5	1.5
Current [A]	2.8	4.7	5.1	6.1	4.2	5.1	10.7	4.2
Max. air flow [m³/h]	2125	3350	2930	4350	2415	3720	4820	3450
RPM [min⁻¹]	1420	2865	1420	2870	940	1420	2850	940
Noise level at 3 m [dBA]	72	75	74	78	68	78	81	69
Transported air temperature [°C]	60	60	60	60	60	60	60	60
Protection rating	IP54	IP54	IP54	IP54	IP54	IP54	IP54	IP54

Technical data

	VCUN 280x127-2,2-4	VCUN 280x127-5,5-2	VCUN 315x143-2,2-6	VCUN 315x143-4,0-4	VCUN 355x143-2,2-6	VCUN 355x143-4,0-4	VCUN 400x183-1,5-8	VCUN 400x183-2,2-6
Voltage [V/50 Hz]	3~400	3~400	3~400	3~400	3~400	3~400	3~400	3~400
Power [kW]	2.2	5.5	2.2	4.0	2.2	4.0	1.5	2.2
Current [A]	5.1	10.7	5.6	8.7	5.6	8.7	4.2	5.8
Max. air flow [m³/h]	4395	6330	4375	6530	5090	8150	6545	8100
RPM [min⁻¹]	1420	2850	940	1410	940	1410	700	940
Noise level at 3 m [dBA]	75	81	70	79	71	79	62	73
Transported air temperature [°C]	60	60	60	60	60	60	60	60
Protection rating	IP54	IP54	IP54	IP54	IP54	IP54	IP54	IP54

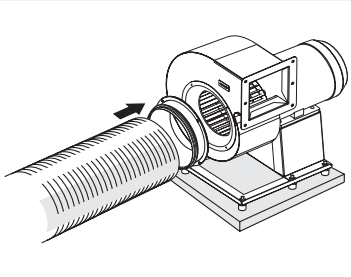
Technical data

	VCUN 400x183-5,5-4	VCUN 450x203-3,0-8	VCUN 450x203-4,0-6	VCUN 450x203-11,0-4	VCUN 500x229-5,5-8	VCUN 500x229-7,5-6	VCUN 500x229-11,0-4
Voltage [V/50 Hz]	3~400	3~400	3~400	3~400	3~400	3~400	3~400
Power [kW]	5.5	3.0	4.0	11.0	5.5	7.5	11.0
Current [A]	11.0	7.8	9.1	24.0	14.8	17.0	24.0
Max. air flow [m³/h]	10175	10230	11150	19000	11550	14960	17250
RPM [min⁻¹]	1430	700	950	1450	700	955	1450
Noise level at 3 m [dBA]	80	70	76	84	72	78	85
Transported air temperature [°C]	60	60	60	60	60	60	60
Protection rating	IP54	IP54	IP54	IP54	IP54	IP54	IP54

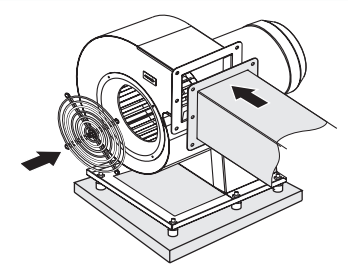
Selection table for accessories

Type	Rubber anti-vibration mounts	Spring-loaded anti-vibration mounts	Flange	Flexible connector	Grille
VCUN 140x74-0,25-4	VVCr 8	VVCp 8	FVC 140	VVG 140 VVG-VCUN 92x95	RVC 140
VCUN 140x74-0.37-2					
VCUN 160x74-0,55-4			FVC 160	VVG 160 VVG-VCUN 106x104	RVC 160
VCUN 160x74-0,75-2					
VCUN 180x74-0,55-4			FVC 180	VVG 180 VVG-VCUN 120x114	RVC 180
VCUN 180x74-1,1-2					
VCUN 200x93-0,55-4			FVC 200	VVG 200 VVG-VCUN 134x129	RVC 200
VCUN 200x93-1,1-2					
VCUN 225x103-1,1-4			FVC 225	VVG 225 VVG-VCUN 151x141	RVC 225
VCUN 225x103-2,2-2					
VCUN 240x114-2,2-4	VVCr 16	VVCp 16	FVC 240	VVG 240 VVG-VCUN 161x156	RVC 240
VCUN 240x114-3,0-2					
VCUN 250x127-1,5-6			FVC 250	VVG 250 VVG-VCUN 168x166	RVC 250
VCUN 250x127-2,2-4					
VCUN 250x127-5,5-2					
VCUN 280x127-1,5-6			FVC 280	VVG 280 VVG-VCUN 189x196	RVC 280
VCUN 280x127-2,2-4					
VCUN 280x127-5,5-2					
VCUN 315x143-2,2-6	VVCr 26	VVCp 26	FVC 315	VVG 315 VVG-VCUN 213x216	RVC 315
VCUN 315x143-4,0-4					
VCUN 355x143-2,2-6			FVC 355	VVG 355 VVG-VCUN 241x214	RVC 355
VCUN 355x143-4,0-4					
VCUN 400x183-1,5-8	VVCr 35	VVCp 35	FVC 400	VVG 400 VVG-VCUN 272x268 VVG-VCUN 272x289	RVC 400
VCUN 400x183-2,2-6					
VCUN 400x183-5,5-4					
VCUN 450x203-3,0-8	VVCr 50	VVCp 50	FVC 450	VVG 450 VVG-VCUN 306x315	RVC 450
VCUN 450x203-4,0-6					
VCUN 450x203-11,0-4					
VCUN 500x229-5,5-8	VVCr 75	VVCp 75	FVC 500	VVG 500 VVG-VCUN 341x353	RVC 500
VCUN 500x229-7,5-6					
VCUN 500x229-11,0-4					

FVC Flange
designed to connect round ducts to VCUN fans.



RVC Grille
designed for fan protection against foreign objects.



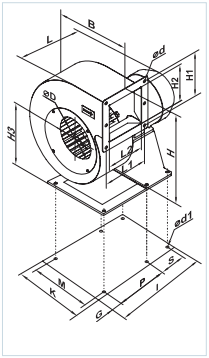
Anti-vibration mounts VVCr and VVCp
Designed for noise reduction and vibration dampering produced by the fans. Provide dynamic loading decrease and increase reliability and durability of ventilation equipment.

Anti-vibration mount VVCr

Anti-vibration mount VVCp

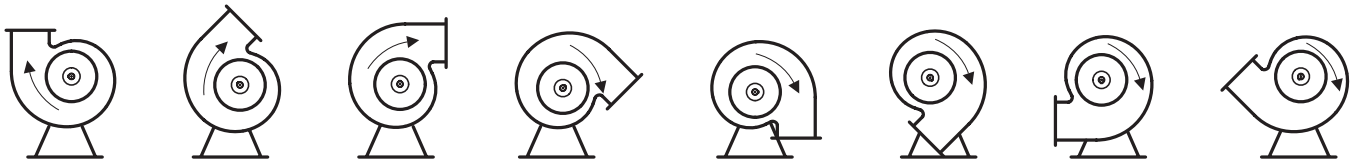
Fan overall dimensions

Type	Dimensions [mm]																	Mass [kg]
	ØD	Ød	Ød1	B	H	H1	H2	H3	L	L1	L2	P	M	I	G	K	S	
VCUN 140x74-0,25-4	140	8	10	242	323	125	92	144	309	125	95	124	220	234	18	253	80	9.3
VCUN 140x74-0.37-2	140	8	10	242	323	125	92	144	309	125	95	124	220	234	18	253	80	9.3
VCUN 160x74-0,55-4	160	8	10	277	373	134	106	173	356	134	104	141	220	260	17	252	90	12.7
VCUN 160x74-0,75-2	160	8	10	277	373	134	106	173	356	134	104	141	220	260	17	252	90	13.0
VCUN 180x74-0,55-4	180	10	10	311	414	143	120	193	365	143	114	146	270	270	22	314	90	13.5
VCUN 180x74-1,1-2	180	10	10	311	414	143	120	193	365	143	114	146	270	270	22	314	90	14.5
VCUN 200x93-0,55-4	200	10	10	345	436	160	134	193	380	160	129	158	270	284	24	315	90	15.2
VCUN 200x93-1,1-2	200	10	10	345	436	160	134	193	380	160	129	158	270	284	24	315	90	16.2
VCUN 225x103-1,1-4	225	10	12	388	507	178	151	232	432	172	141	174	275	316	27	330	100	21.2
VCUN 225x103-2,2-2	225	10	12	388	507	178	151	232	432	172	141	174	275	316	27	330	100	24.2
VCUN 240x114-2,2-4	240	10	12	414	568	186	161	282	461	186	156	195	275	362	27	330	125	30.5
VCUN 240x114-3,0-2	240	10	12	414	568	186	161	282	461	186	156	195	275	362	27	330	125	31.4
VCUN 250x127-1,5-6	250	10	12	431	594	202	168	292	473	202	166	206	300	373	27	355	125	33.0
VCUN 250x127-2,2-4	250	10	12	431	594	202	168	292	473	202	166	206	300	373	27	355	125	32.2
VCUN 250x127-5,5-2	250	10	12	431	614	202	168	312	517	202	166	213	300	397	27	355	140	40.0
VCUN 280x127-1,5-6	280	10	12	483	626	225	189	292	503	231	196	243	300	410	27	355	125	35.1
VCUN 280x127-2,2-4	280	10	12	483	626	225	189	292	503	231	196	243	300	410	27	355	125	34.2
VCUN 280x127-5,5-2	280	10	12	483	646	225	189	312	545	231	196	243	300	427	27	355	140	42.4
VCUN 315x143-2,2-6	315	10	15	543	731	250	213	353	568	255	216	268	350	452	27	405	140	46.8
VCUN 315x143-4,0-4	315	10	15	543	731	250	213	353	568	255	216	268	350	452	27	405	140	49.8
VCUN 355x143-2,2-6	355	10	15	611	817	275	241	403	566	255	214	253	350	442	32	405	140	49.0
VCUN 355x143-4,0-4	355	10	15	611	817	275	241	403	566	255	214	253	350	442	32	405	140	51.0
VCUN 400x183-1,5-8	400	10	15	689	870	310	272	403	619	310	268	313	400	497	27	455	140	57.1
VCUN 400x183-2,2-6	400	10	15	689	870	310	272	403	619	310	268	313	400	497	27	455	140	54.1
VCUN 400x183-5,5-4	400	10	15	689	882	310	272	414	662	330	289	341	400	525	27	455	140	69.5
VCUN 450x203-3,0-8	450	10	15	774	985	345	306	464	690	352	315	351	450	550	42	530	140	77.8
VCUN 450x203-4,0-6	450	10	15	774	985	345	306	464	690	352	315	351	450	550	42	530	140	76.5
VCUN 450x203-11,0-4	450	10	15	774	1005	345	306	484	722	352	315	371	450	608	42	530	178	105.0
VCUN 500x229-5,5-8	500	11	15	860	1115	390	341	534	761	401	353	408	500	645	42	580	178	85.0
VCUN 500x229-7,5-6	500	11	15	860	1115	390	341	534	761	401	353	408	500	645	42	580	178	86.0
VCUN 500x229-11,0-4	500	11	15	860	1115	390	341	534	761	401	353	408	500	645	42	580	178	107.0



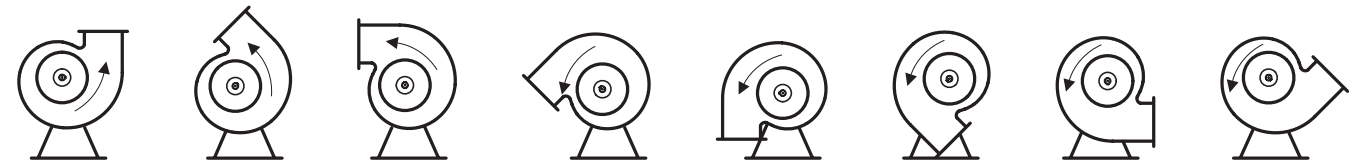
Scroll orientation (view on the intake side)

Right scroll orientation



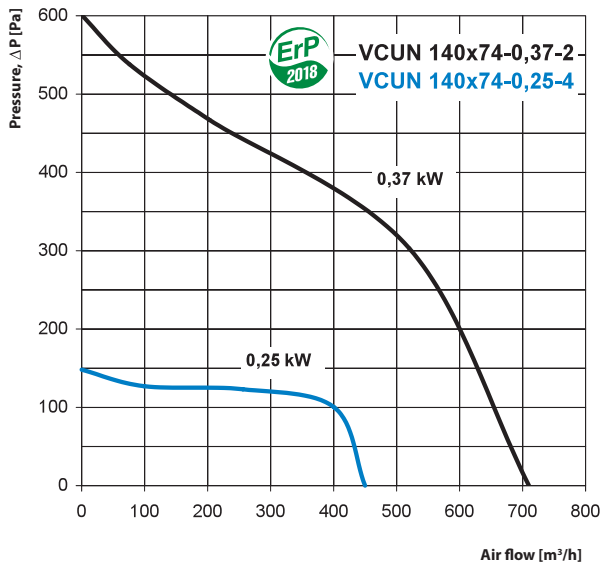
R 0⁰ R 45⁰ R 90⁰ R 135⁰ R 180⁰ R 225⁰ R 270⁰ R 315⁰

Left scroll orientation



L 0⁰ L 45⁰ L 90⁰ L 135⁰ L 180⁰ L 225⁰ L 270⁰ L 315⁰

VENTS VCUN

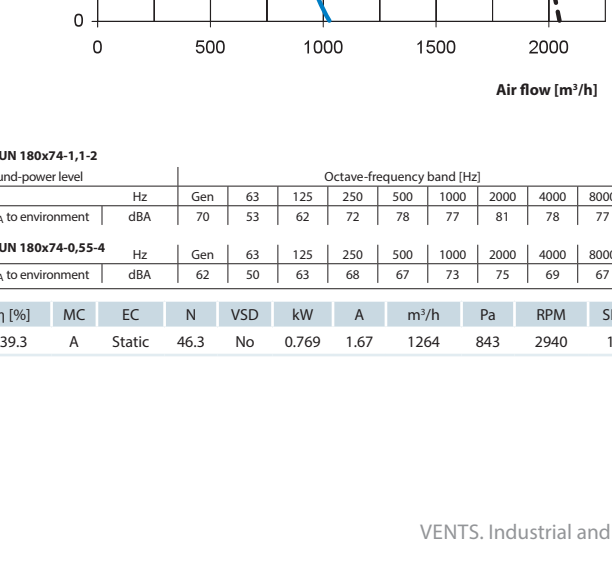


VCUN 140x74-0.37-2

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	68	47	59	69	72	74	75	72	71
VCUN 140x74-0,25-4	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	61	43	58	64	61	68	68	65	63

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
39.3	A	Static	46.3	No	0.769	1.67	1264	843	2940	1

VENTS VCUN

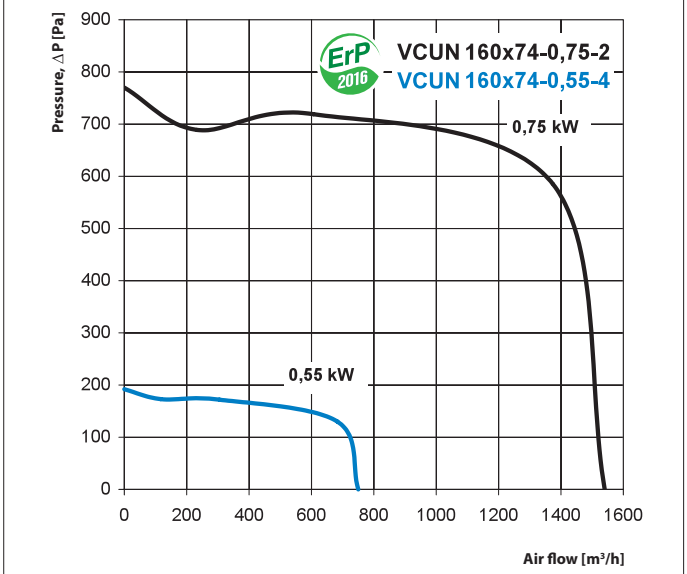


VCUN 180x74-1,1-2

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	70	53	62	72	78	77	81	78	77
VCUN 180x74-0,55-4	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	62	50	63	68	67	73	75	69	67

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
41.1	A	Static	47.2	No	1.075	1.99	1373	1135	2895	1

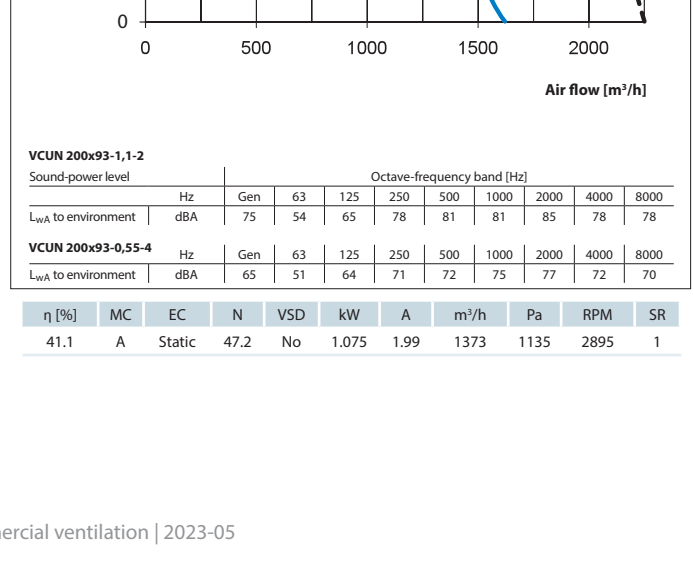
VENTS VCUN



VCUN 160x74-0,75-2

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	67	48	60	69	74	74	78	73	72
VCUN 160x74-0,55-4	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	63	46	59	64	65	69	71	68	65

VENTS VCUN

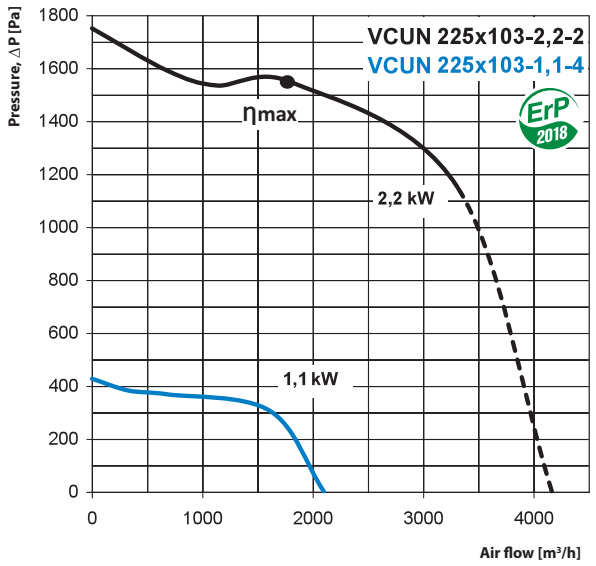


VCUN 200x93-1,1-2

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	75	54	65	78	81	81	85	78	78
VCUN 200x93-0,55-4	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	65	51	64	71	72	75	77	72	70

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
47.2	A	Static	47.2	No	1.075	1.99	1373	1135	2895	1

VENTS VCUN

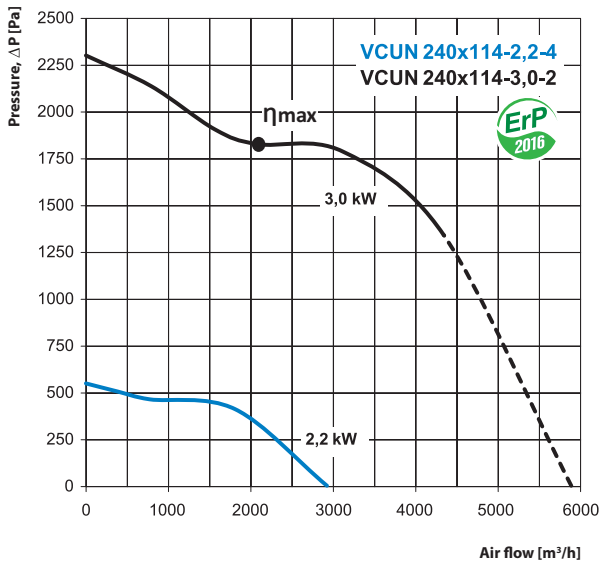


VCUN 225x103-2,2-2

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	75	58	67	78	83	83	88	81	79
VCUN 225x103-1,1-4	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	72	55	65	75	76	81	81	77	75

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
47.5	A	Static	52.4	No	1.680	3.17	1818	1547	2925	1

VENTS VCUN

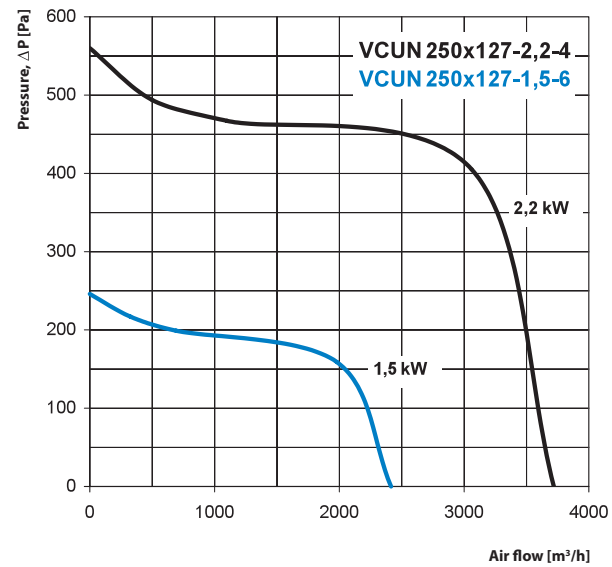


VCUN 240x114-2,2-4

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	71	57	69	75	75	81	82	79	76
VCUN 240x114-3,0-2	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	77	58	69	74	78	73	79	78	78

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
45.5	A	Static	49.5	No	2.369	4.39	2083	1826	2915	1

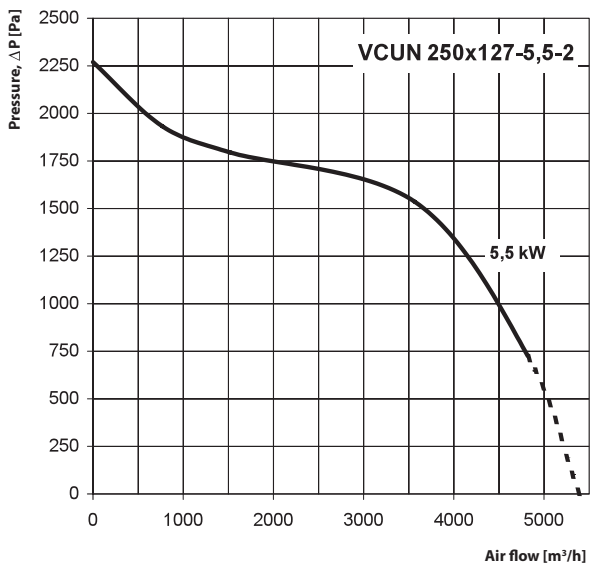
VENTS VCUN



VCUN 250x127-2,2-4

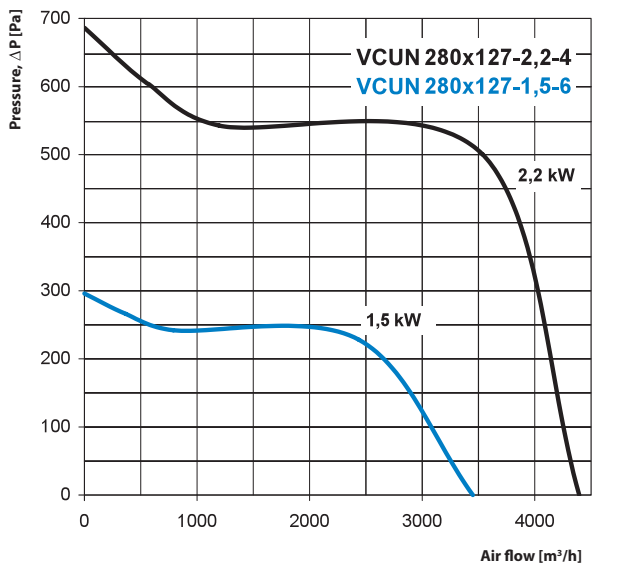
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	70	56	71	77	74	81	82	80	73
VCUN 250x127-1,5-6	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	65	50	62	68	68	73	71	72	65

VENTS VCUN



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	78	57	71	79	84	85	89	83	81

VENTS VCUN

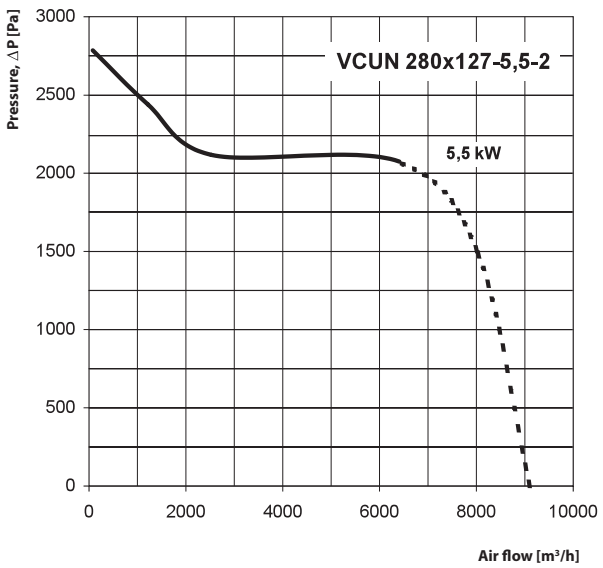


VCUN 280x127-2,2-4

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	73	61	74	76	81	82	83	81	77
VCUN 280x127-1,5-6	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	67	50	63	69	67	73	71	69	66

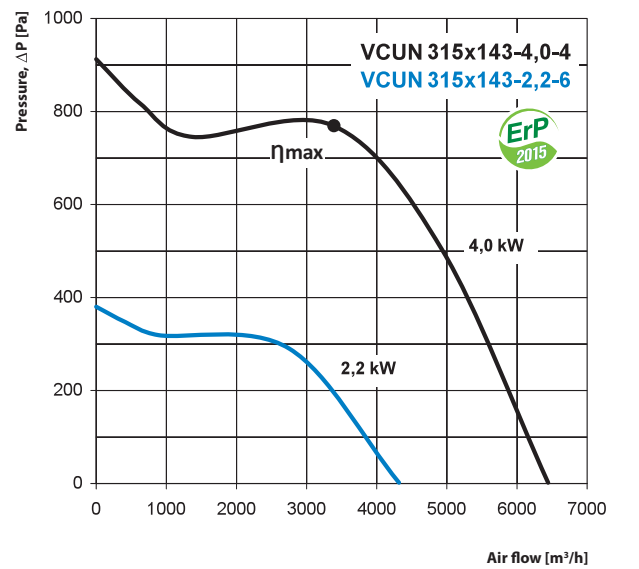
η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
36.3	A	Static	40.7	No	2.051	6.32	3429	767	1480	1

VENTS VCUN



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	80	63	72	81	88	86	91	87	86

VENTS VCUN

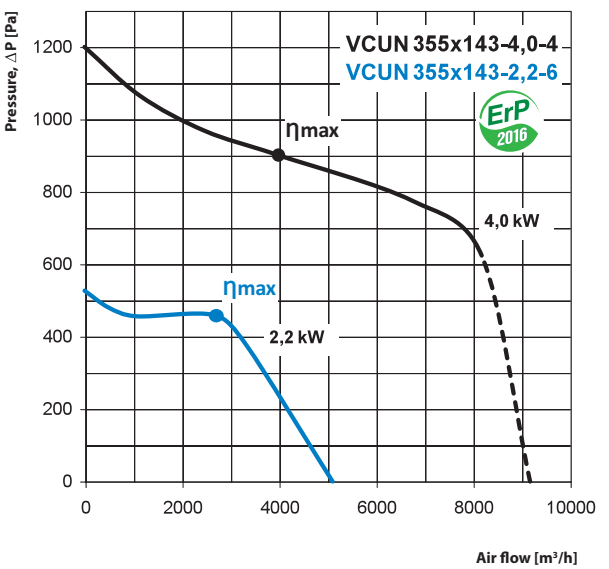


VCUN 315x143-4,0-4

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	78	62	73	81	84	88	86	86	83
VCUN 315x143-2,2-6	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	71	56	67	70	80	78	79	72	68

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
41.3	A	Static	45.2	No	2.449	6.6	3948	904	1475	1

VENTS VCUN

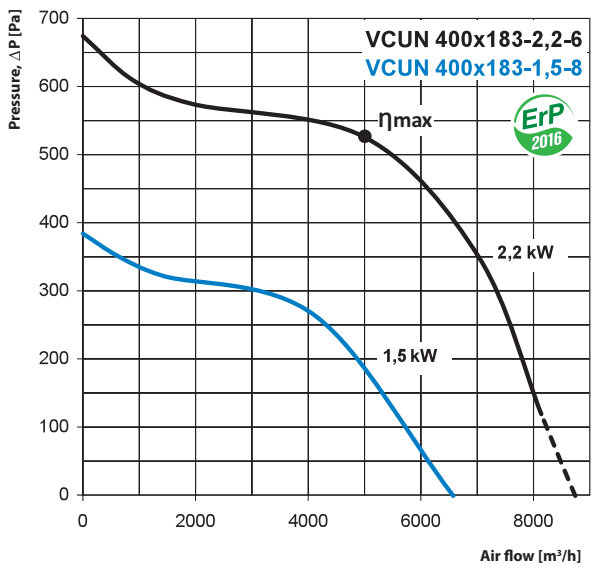


VCUN 355x143-4,0-4

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	77	62	75	80	84	87	90	82	82
VCUN 355x143-2,2-6	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	71	54	68	73	82	82	82	75	72

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
34.1	A	Static	40.3	No	1.026	4.19	2680	460	990	1

VENTS VCUN

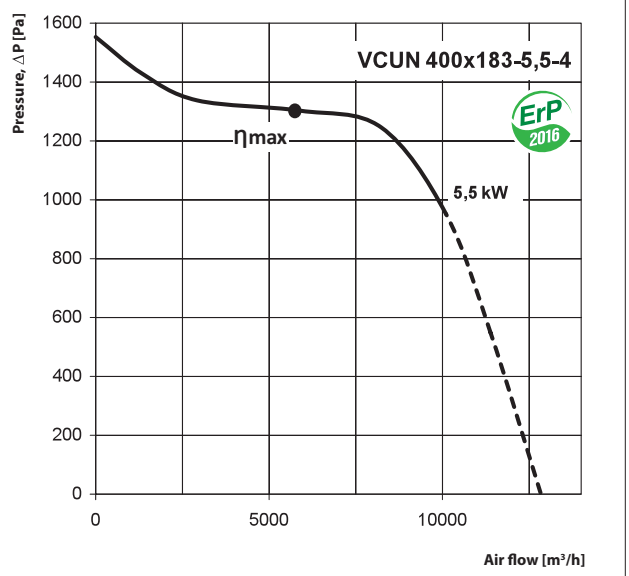


VCUN 400x183-2,2-6

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	75	57	72	75	81	80	81	78	76
VCUN 400x183-1,5-8	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	68	53	65	69	74	76	77	73	67

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
40.6	A	Static	45.3	No	1.831	4.71	4992	526	965	1

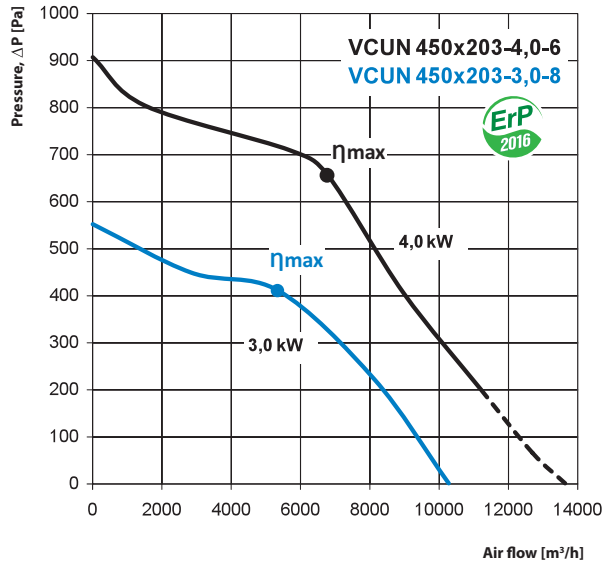
VENTS VCUN



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	76	64	75	81	82	89	88	84	83

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
47.7	A	Static	49.5	No	4.620	9.3	5931	1302	1465	1

VENTS VCUN



VCUN 450x203-4,0-6

Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	76	59	74	75	83	83	85	81	77
VCUN 450x203-3,0-8	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	67	56	63	65	75	75	71	71	69

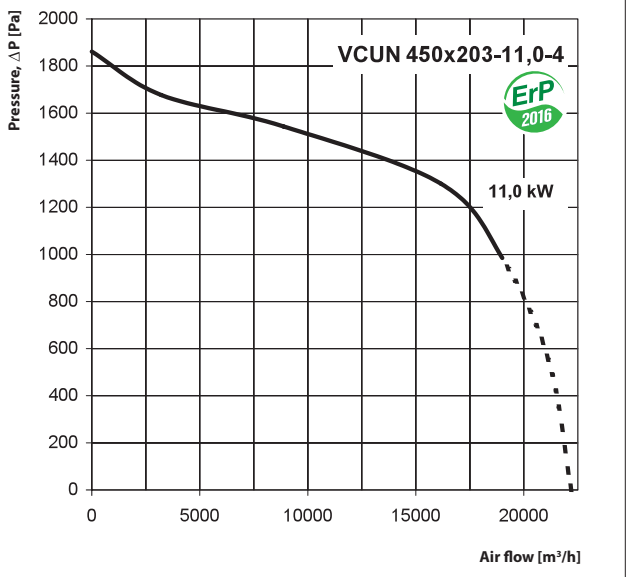
VCUN 450x203-4,0-6

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
42.5	A	Static	45.9	No	2.950	6.9	6755	655	980	1

VCUN 450x203-3,0-8

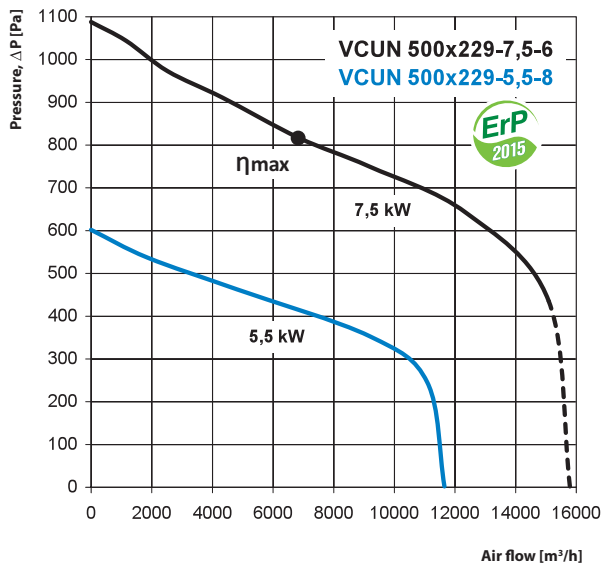
η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
41.7	A	Static	47	No	1.486	6.18	5348	409	740	1

VENTS VCUN



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	85	70	84	89	88	94	94	94	91

VENTS VCUN



VCUN 500x229-7,5-6

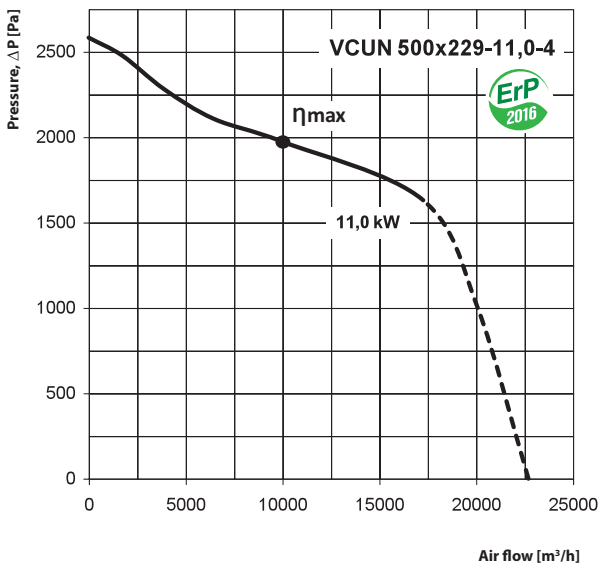
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	83	68	79	85	85	93	92	86	85

VCUN 500x229-5,5-8

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	77	61	74	78	81	86	85	81	80

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
38.3	A	Static	40.7	No	4.1	11.3	6791	815	990	1

VENTS VCUN



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	85	73	83	90	91	94	97	94	90

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
50.9	A	Static	50.6	No	10.5	23	10014	1972	1460	1

ELECTRICAL ACCESSORIES COMPATIBILITY

		VCU 2E 140x60	VCU 2E 160x62	VCU 2E 160x90	VCU 4E 180x92	VCU 4E 200x80	VCU 4E 200x102	VCU 4E 225x102	VCU 4E 250x140	VCU 4E 250x102	VCUN 140x74-0,25-4	VCUN 140x74-0,37-2	VCUN 160x74-0,55-4	VCUN 160x74-0,75-2	VCUN 180x74-0,55-4	VCUN 180x74-1,1-2	VCUN 200x93-0,55-4	VCUN 200x93-1,1-2	VCUN 225x103-1,1-4	VCUN 225x103-2,2-2	VCUN 240x114-2,2-4	VCUN 240x114-3,0-2	VCUN 250x127-1,5-6	VCUN 250x127-2,2-4	VCUN 250x127-5,5-2	VCUN 280x127-1,5-6	VCUN 280x127-2,2-4	VCUN 280x127-5,5-2	VCUN 315x143-2,2-6	VCUN 315x143-4,0-4	VCUN 355x143-2,2-6	VCUN 355x143-4,0-4	VCUN 400x183-1,5-8	VCUN 400x183-2,2-6	VCUN 400x183-5,5-4	VCUN 450x203-3,0-8	VCUN 450x203-4,0-6	VCUN 450x203-11,0-4	VCUN 500x229-5,5-8	VCUN 500x229-7,5-6	VCUN 500x229-11,0-4
Thyristor speed controllers																																							
	RS-1-300	●	●	●	●	●	●																																	
	RS-1-400	●	●	●	●	●	●																																	
	RS-1 N (V)	●			●	●																																		
	RS-1,5 N (V)	●	●	●	●	●	●																																	
	RS-2 N (V)	●	●	●	●	●	●	●																																
	RS-2,5 N (V)	●	●	●	●	●	●	●	●																															
	RS-0,5-PS																																							
	RS-1,5-PS	●	●	●	●	●	●																																	
	RS-2,5-PS	●	●	●	●	●	●	●	●																															
	RS-4,0-PS	●	●	●	●	●	●	●	●	●																														
	RS-3,0-T	●	●	●	●	●	●	●	●																															
	RS-5,0-T	●	●	●	●	●	●	●	●	●																														
	RS-10,0-T		●	●			●	●	●	●																														
	RS-3,0-TA	●	●	●	●	●	●	●	●																															
	RS-5,0-TA	●	●	●	●	●	●	●	●	●																														
	RS-10,0-TA		●	●			●	●	●	●																														
Transformer speed controllers																																								
	RSA5E-2-P	●	●	●	●	●	●	●																																
	RSA5E-2-M	●	●	●	●	●	●	●																																
	RSA5E-3-M	●	●	●	●	●	●	●	●																															
	RSA5E-4-M	●	●	●	●	●	●	●	●	●																														
	RSA5E-12-M	●	●	●	●	●	●	●	●	●																														
	RSA5E-1,5-T	●	●	●	●	●	●																																	
	RSA5E-3,5-T	●	●	●	●	●	●	●	●																															
	RSA5E-5,0-T	●	●	●	●	●	●	●	●	●																														
	RSA5E-8,0-T	●	●	●	●	●	●	●	●	●																														
	RSA5E-10,0-T	●	●	●	●	●	●	●	●	●																														
	RSA5D-1,5-T										●	●																												
	RSA5D-3,5-T										●	●	●	●	●	●	●	●	●																					
	RSA5D-5-M										●	●	●	●	●	●	●	●	●	●				●			●								●				
	RSA5D-8-M										●	●	●	●	●	●	●	●	●	●	●	●		●	●		●		●		●		●	●	●		●		
	RSA5D-10-M										●	●	●	●	●	●	●	●	●	●	●	●		●	●		●	●	●	●	●	●	●	●	●		●	●	
	RSA5D-12-M										●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●		●	●	
Frequency speed controllers*																																								
	VFED-200-TA																																							
	VFED-400-TA										●	●																												
	VFED-750-TA										●	●	●	●	●		●																						
	VFED-1100-TA										●	●	●	●	●	●	●	●	●																				
	VFED-1500-TA										●	●	●	●	●	●	●	●	●				●							●								
Temperature controllers																																								
	RTS-1-400																																							
	RTSD-1-400																																							
	TST-1-300																																							
	TSTD-1-300																																							
	RT-10	●	●	●	●	●	●	●																																
Multi-speed fan switches																																								
	P2-5,0																																							
	P3-5,0																																							
	P5-5,0																																							
	P2-1-300																																							
	P3-1-300																																							
	SP3-1																																							
EC motors controllers																																								
	R-1/010																																							
Sensors																																								
	T-1,5 N	●	●	●	●	●	●																																	
	TH-1,5 N	●	●	●	●	●	●																																	
	TF-1,5 N	●	●	●	●	●	●																																	
	TP-1,5 N	●	●	●	●	●	●																																	

* While using VFED-TA speed controller, the motor winding must be delta connected to be compatible with 230 V input voltage.

● recommended
● suitable

AXIAL FANS

VENTS OV series

- Low pressure axial fans in steel casing with air flow up to 25000 m³/h for wall mounting on a square mounting plate.

VENTS OVK series

- Low pressure axial fans in the steel casing with air flow up to 25000 m³/h for wall mounting on a round mounting plate.

VENTS VKF series

- Low pressure axial fans in steel casing with air flow up to 25000 m³/h for vent duct mounting.

VENTS OV1 series

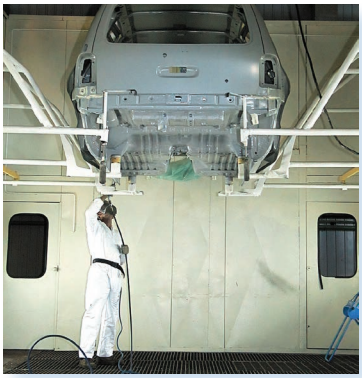
- Low pressure axial fans in steel casing with air flow up to 1700 m³/h for wall mounting on a square mounting plate.

VENTS OVK1 series

- Low pressure axial fans in the steel casing with air flow up to 1700 m³/h for wall mounting on a round mounting plate.

VENTS VKOM series

- Low pressure axial fans in steel casing with air flow up to 1700 m³/h for vent duct mounting.



VENTS OV
axial fan
Air flow – up to 25000 m³/h

page 290

VENTS OVK
axial fan
Air flow – up to 25000 m³/h

page 290

VENTS VKF
axial fan
Air flow – up to 25000 m³/h

page 290

VENTS OVP
axial fan
Air flow – up to 2500 m³/h

page 298

VENTS OV1
axial fan
Air flow – up to 1700 m³/h

page 300

VENTS OVK1
axial fan
Air flow – up to 1700 m³/h

page 300

VENTS VKOM, VKOM1
axial fan
Air flow – up to 1700 m³/h

page 300

VENTS OV1 R
axial fan
Air flow – up to 1070 m³/h

page 304

Series
VENTS OV

Series
VENTS OVK

Series
VENTS VKF

Low pressure axial fans in the steel casing with the air flow up to **25000 m³/h** for wall and duct mounting

Applications
Combined supply and exhaust ventilation systems for various premises where high air flow at relatively low system resistance is required. OV and OVK fans can be used for the direct air exhaust or pressurization in smoke ventilation systems. OV and OVK fan are suitable for outdoor wall mounting.

Design
The fan casing and the impeller are made of steel with polymeric coating. OV and OVK fan terminal box is equipped with a cable for remote connection. VKF fan is fitted with the external terminal box mounted on the fan casing.

Motor
The impellers are powered by two-, four- or six-pole, single or three phase asynchronous motors with external rotor and built-in thermal overheating protection depending on the model. Ball bearings in the motor provide long service life designed for at least 40000 hours. Motor protection rating IP44-IP54.

Speed control
Both smooth or step speed control is performed by means of the thymistor or autotransformer controller. Several fans can be connected to one controller if the total power and operating current do not exceed the rated controller values.

Mounting
Fan is installed on the wall surface by means of a square (OV series) or round (OVK series) mounting plate. VKF fan is installed into the duct by means of connecting flanges. The fan is powered through the external remote terminal box. Power supply and installation shall be performed in compliance with the manual and wiring diagram on the terminal box.

Designation key

Series and modification	Motor modification		Dimension type
	Number of poles	Phase	
VENTS OV: square mounting plate **VENTS OVK**: round mounting plate **VENTS VKF**: mounting into a vent duct	2 4 6	**E**: single phase **D**: three phase	200; 250; 300; 350; 400; 450; 500; 550; 630, 710, 800

Accessories

Flexible connector

Speed controllers

ErP data	
Overall efficiency	η [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	kW
Current	A
Air flow	m³/h
Static pressure	Pa
Speed	n/min⁻¹
Specific ratio	SR

Technical data

	OV/OVK/VKF 2E 200		OV/OVK/VKF 2E 250		OV/OVK/VKF 4E 250		OV/OVK/VKF 2E 300	
Voltage [V]	1~230		1~230		1~230		1~230	
Frequency [Hz]	50	60	50	60	50	60	50	60
Power [W]	55	61	80	91	50	56	145	178
Current [A]	0.26	0.28	0.4	0.42	0.22	0.24	0.66	0.79
Max. air flow [m³/h]	860	875	1050	1150	800	865	2230	2280
RPM [min⁻¹]	2300	2550	2400	2990	1380	1730	2300	2410
Noise level at 3 m [dBA]	48	49	50	51	38	39	53	54
Transported air temperature [°C]	-30...+60	-30...+50	-30...+60	-30...+50	-30...+60	-30...+50	-30...+60	-30...+50
Protection rating	IP24 VKF IPX4		IP24 VKF IPX4		IP24 VKF IPX4		IP24 VKF IPX4	

	OV/OVK/VKF 4E 300		OV/OVK/VKF 4E 350		OV/OVK/VKF 4E 400		OV/OVK/VKF 4E 450	
Voltage [V]	1~230		1~230		1~230		1~230	
Frequency [Hz]	50	60	50	60	50	60	50	60
Power [W]	75	92	140	147	180	240	250	325
Current [A]	0.35	0.4	0.65	0.66	0.82	1.08	1.2	1.46
Max. air flow [m³/h]	1340	1475	2500	2650	3580	3890	4680	4790
RPM [min⁻¹]	1350	1405	1380	1700	1380	1655	1350	1600
Noise level at 3 m [dBA]	44	45	46	47	53	54	56	57
Transported air temperature [°C]	-30...+60	-30...+50	-30...+60	-30...+50	-30...+60	-30...+50	-30...+60	-30...+50
Protection rating	IP24 VKF IPX4		IP24 VKF IPX4		IP24 VKF IPX4		IP24 VKF IPX4	

	OV/OVK/VKF 4E 500		OV/OVK/VKF 4E 550		OV/OVK/VKF 4E 630		OV/OVK/VKF 2D 250	
Voltage [V]	1~230		1~230		1~230		3~400	
Frequency [Hz]	50	60	50	60	50	60	50	60
Power [W]	420	455	550	654	750	979	80	92
Current [A]	1.95	2.05	2.55	2.88	3.5	4.26	0.22	0.24
Max. air flow [m³/h]	7060	7130	8800	8970	11900	12100	1060	1150
RPM [min⁻¹]	1300	1630	1300	1580	1360	1625	2600	3030
Noise level at 3 m [dBA]	58	59	62	63	67	68	51	52
Transported air temperature [°C]	-30...+60	-30...+50	-30...+60	-30...+50	-30...+60	-30...+50	-30...+60	-30...+50
Protection rating	IP24 VKF IPX4		IP24 VKF IPX4		IP24 VKF IPX4		IP24 VKF IPX4	

	OV/OVK/VKF 4D 250		OV/OVK/VKF 2D 300		OV/OVK/VKF 4D 300		OV/OVK/VKF 4D 350	
Voltage [V]	3~400		3~400		3~400		3~400	
Frequency [Hz]	50	60	50	60	50	60	50	60
Power [W]	60	89	145	165	75	94	140	150
Current [A]	0.17	0.22	0.25	0.29	0.22	0.25	0.38	0.46
Max. air flow [m³/h]	850	885	2310	2390	1310	1530	2350	2660
RPM [min⁻¹]	1400	1750	2350	2570	1380	1640	1419	1638
Noise level at 3 m [dBA]	38	38	52	52	45	45	46	46
Transported air temperature [°C]	-30...+60	-30...+50	-30...+60	-30...+50	-30...+60	-30...+50	-30...+60	-30...+50
Protection rating	IP24 VKF IPX4		IP24 VKF IPX4		IP24 VKF IPX4		IP24 VKF IPX4	

Technical data

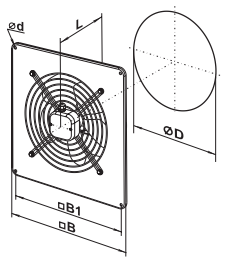
	OV/OVK/VKF 4D 400		OV/OVK/VKF 4D 450		OV/OVK/VKF 4D 500		OV/OVK/VKF 4D 550	
Voltage [V]	3~400		3~400		3~400		3~400	
Frequency [Hz]	50	60	50	60	50	60	50	60
Power [W]	180	195	250	275	450	370	750	600
Current [A]	0.47	0.55	0.6	0.65	0.9	0.7	1.5	1.1
Max. air flow [m³/h]	3740	3870	5280	5350	6570	6230	9700	7380
RPM [min⁻¹]	1380	1625	1360	1620	1300	1605	1350	1605
Noise level at 3 m [dBA]	54	54	56	56	60	60	64	64
Transported air temperature [°C]	-30...+60	-30...+50	-30...+60	-30...+50	-30...+60	-30...+50	-30...+60	-30...+50
Protection rating	IP24 VKF IPX4		IP24 VKF IPX4		IP24 VKF IPX4		IP24 VKF IPX4	

	OV/OVK/VKF 4D 630		OV/OVK/ VKF 6D 710	OV/OVK/ VKF 6D 800
Voltage [V]	3~400		3~400	3~400
Frequency [Hz]	50	60	50	50
Power [W]	800	910	1150	1850
Current [A]	1.6	1.68	2.0	3.7
Max. air flow [m³/h]	12200	12400	15440	25000
RPM [min⁻¹]	1320	1585	830	915
Noise level at 3 m [dBA]	69	69	63	67
Transported air temperature [°C]	-30...+60	-30...+50	-30...+60	-30...+60
Protection rating	IP24 VKF IPX4		IP24 VKF IPX4	IP24 VKF IPX4

Fan overall dimensions

Type	Dimensions [mm]					Mass [kg]
	ØD	Ød	B	B1	L	
OV 2E 200	210	7	312	260	125	3.0
OV 2E 250/OV 2D 250	260	7	370	320	135	4.0
OV 4E 250/OV 4D 250	260	7	370	320	135	3.5
OV 2E 300/OV 4D 300	317	9	430	380	145	6.1/5.4
OV 4E 300/OV 4D 300	317	9	430	380	145	5.0/5.4
OV 4E 350/OV 4D 350	374	9	485	435	165	7.8
OV 4E 400/OV 4D 400	416	9	540	490	220	8.8
OV 4E 450/OV 4D 450	465	11	576	535	230	10.5
OV 4E 500/OV 4D 500	520	11	655	615	250	14.0
OV 4E 550/OV 4D 550	570	11	725	675	260	16.5
OV 4E 630/OV 4D 630	650	11	800	710	275	20.0
OV 6D 710	725	13	900	810	350	33.0
OV 6D 800	800	13	970	910	350	44.0

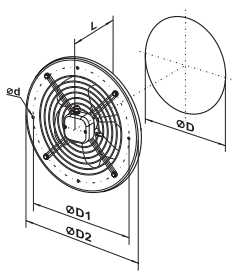
OV



Fan overall dimensions

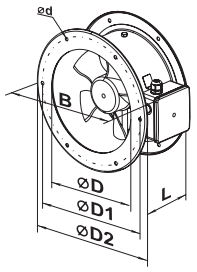
Type	Dimensions [mm]					Mass [kg]
	ØD	ØD1	ØD2	Ød	L	
OVK 2E 200	210	250	280	7	125	2.8
OVK 2E 250/OVK 2D 250	260	295	340	7	135	3.8
OVK 4E 250/OVK 4D 250	260	295	340	7	135	3.4
OVK 2E 300/OVK 2D 300	317	380	397	9	145	5.9/5.1
OVK 4E 300/OVK 4D 300	317	380	397	9	145	5.0/5.1
OVK 4E 350/OVK 4D 350	374	442	460	9	165	7.5
OVK 4E 400/OVK 4D 400	417	504	528	9	220	8.5
OVK 4E 450/OVK 4D 450	465	578	607	11	230	10.0
OVK 4E 500/OVK 4D 500	520	590	655	11	250	14.0
OVK 4E 550/OVK 4D 550	570	645	710	11	260	16.5
OVK 4E 630/OVK 4D 630	650	760	800	11	275	20.0
OVK 6D 710	725	820	890	13	350	31.0
OVK 6D 800	800	900	970	13	350	42.0

OVK

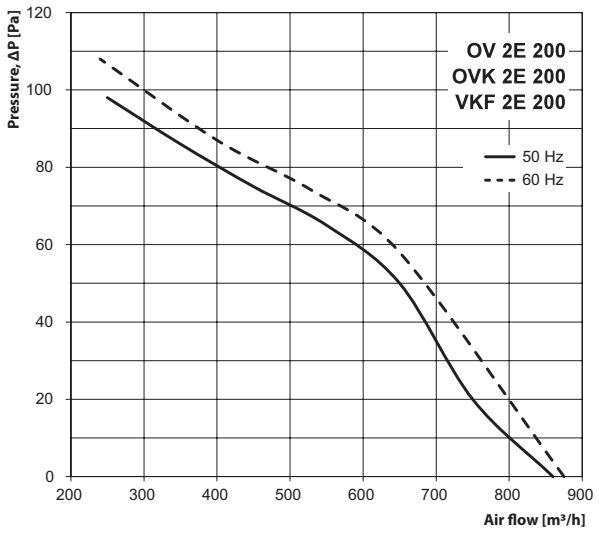


Type	Dimensions [mm]						Mass [kg]
	ØD	ØD1	ØD2	Ød	B	L	
VKF 2E 200	205	235	255	7	290	120	3.0
VKF 2E 250/VKF 2D 250	260	286	306	7	340	150	3.9
VKF 4E 250/VKF 4D 250	260	286	306	7	340	150	4.0
VKF 2E 300/VKF 2D 300	310	356	382	7	410	160	6.2/5.7
VKF 4E 300/VKF 4D 300	310	356	382	7	410	160	6.2
VKF 4E 350/VKF 4D 350	362	395	421	9.5	450	160	7.7
VKF 4E 400/VKF 4D 400	412	438	465	9.5	500	170	8.1
VKF 4E 450/VKF 4D 450	462	487	515	9.5	550	200	9.1
VKF 4E 500/VKF 4D 500	515	541	570	9.5	600	220	11.0
VKF 4E 550/VKF 4D 550	565	605	636	11.5	660	230	13.9
VKF 4E 630/VKF 4D 630	645	674	715	11.5	740	250	16.4
VKF 6D 710	725	767	805	11.5	835	250	30.0
VKF 6D 800	800	845	880	11.5	910	280	40.0

VKF

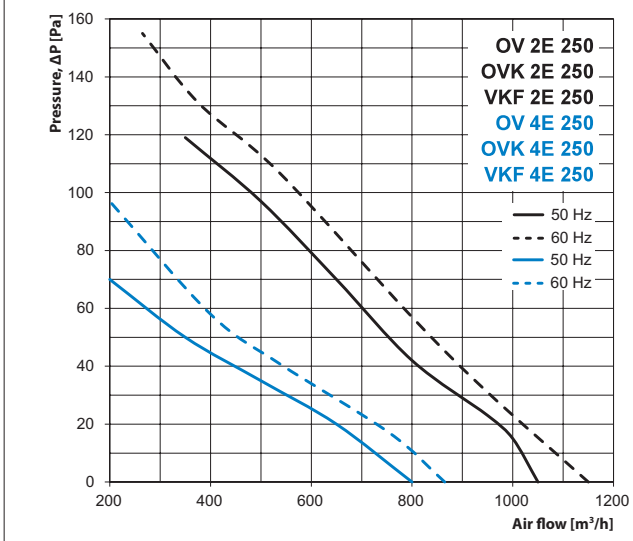


VENTS OV/OVK/VKF



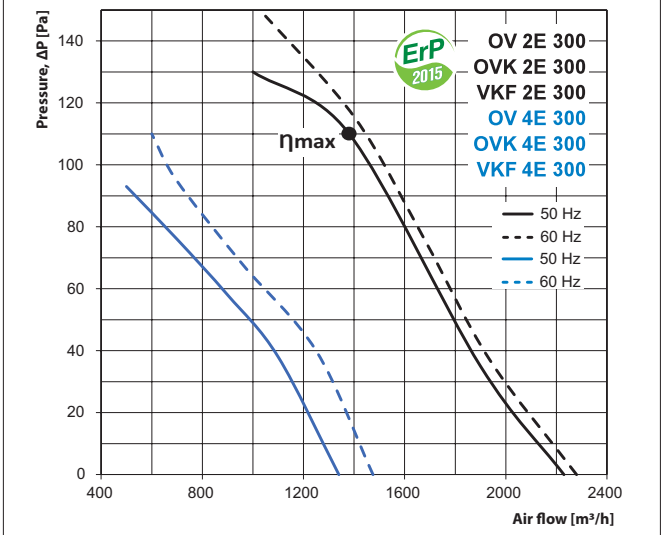
Sound-power level		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	68	28	39	52	58	66	62	57	50	48	58

VENTS OV/OVK/VKF



OV/OVK/VKF 2E 250		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	70	29	40	54	60	68	64	59	52	50	60
OV/OVK/VKF 4E 250		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	59	25	39	43	49	54	54	49	43	38	48

VENTS OV/OVK/VKF

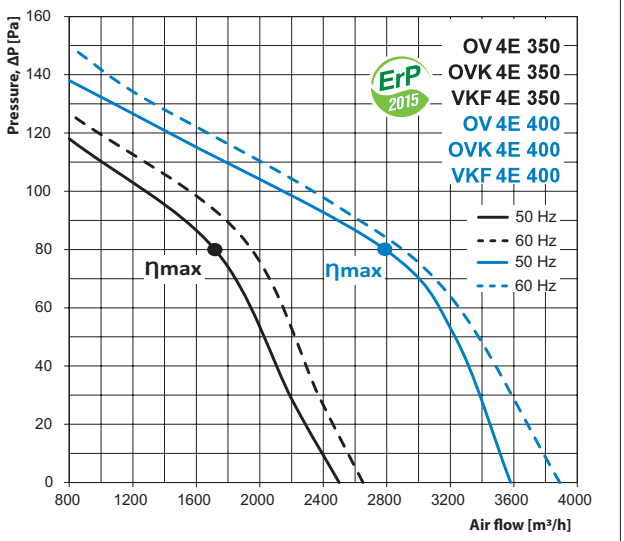


OV/OVK/VKF 2E 300		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	74	40	49	63	63	71	67	60	56	53	63
OV/OVK/VKF 4E 300		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	64	41	52	47	54	60	60	52	44	44	54

OV/OVK/VKF 2E 300

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
30.5	A	Static	42.2	No	0.141	0.64	1380	110	2350	1

VENTS OV/OVK/VKF



OV/OVK/VKF 4E 350		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	67	26	43	49	60	62	62	53	46	46	56
OV/OVK/VKF 4E 400		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	73	46	52	58	65	68	68	65	57	53	63

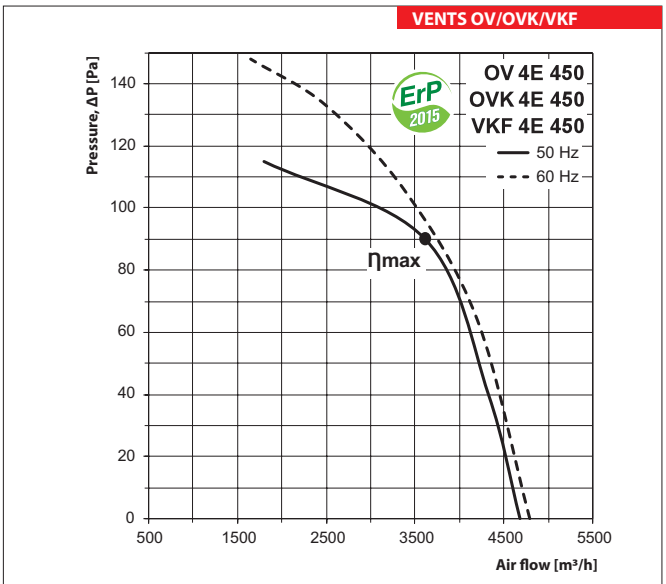
OV/OVK/VKF 4E 350

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
29.9	A	Static	41.8	No	0.130	0.6	1717	80	1375	1

OV/OVK/VKF 4E 400

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
33.8	A	Static	44.8	No	0.187	0.86	2787	80	1355	1

VENTS OV/OVK/VKF

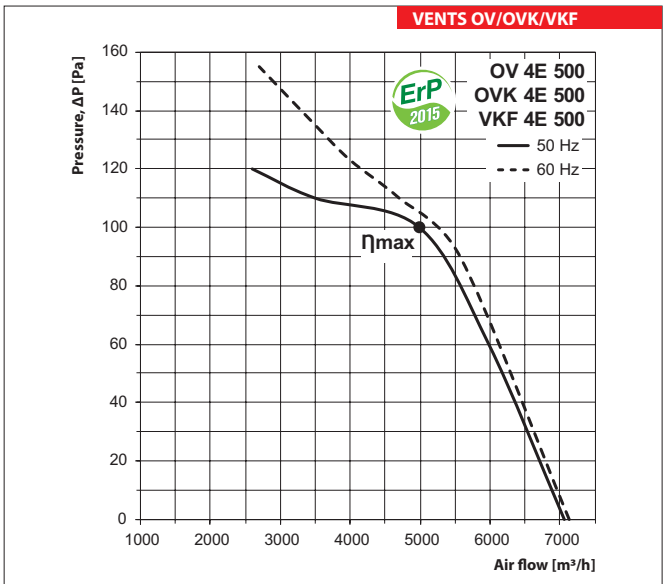


OV/OVK/VKF 4E 450		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	76	46	57	64	70	72	70	66	58	56	66

OV/OVK/VKF 4E 450

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
32.0	A	Static	41.8	No	0.288	1.31	3610	90	1270	1

VENTS OV/OVK/VKF

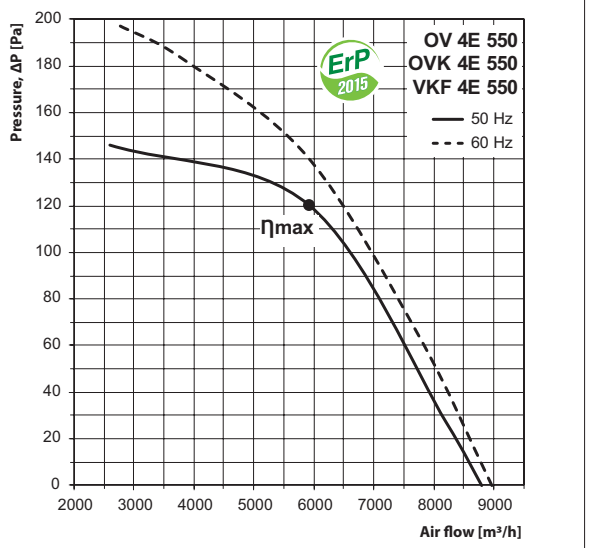


OV/OVK/VKF 4E 500		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	79	49	60	67	73	74	73	68	60	58	68

OV/OVK/VKF 4E 500

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
32.1	A	Static	40.7	No	0.440	2.01	4987	100	1285	1

VENTS OV/OVK/VKF

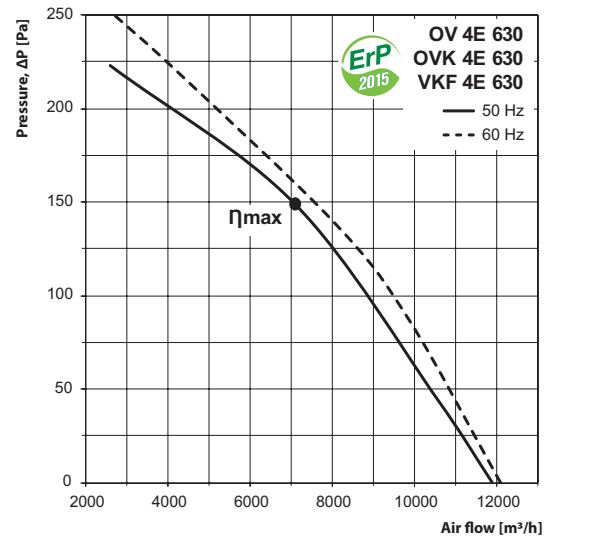


OV/OVK/VKF 4E 550		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	83	52	64	71	77	78	77	72	64	62	72

OV/OVK/VKF 4E 550

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
34.7	A	Static	42.6	No	0.581	2.64	5919	120	1240	1

VENTS OV/OVK/VKF

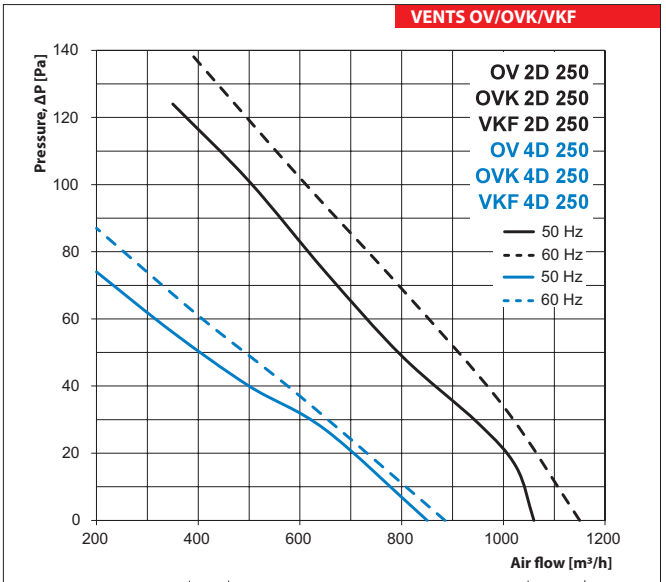


OV/OVK/VKF 4E 630		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	88	57	68	76	81	83	82	77	69	67	77

OV/OVK/VKF 4E 630

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
37.5	A	Static	44.4	No	0.800	3.76	7095	149	1290	1

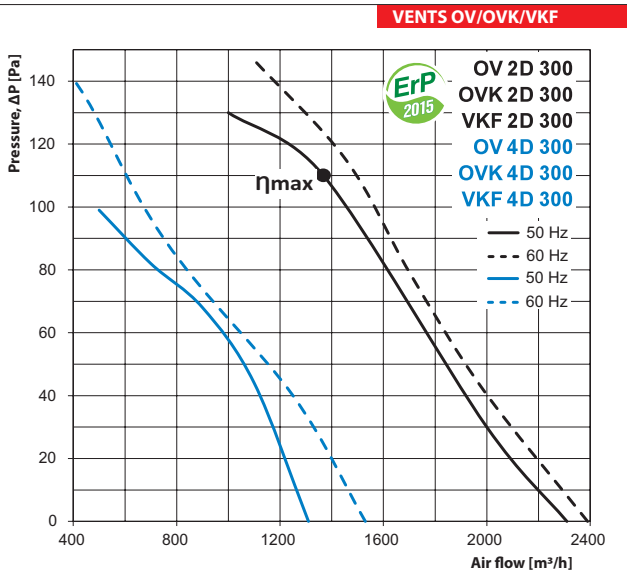
VENTS OV/OVK/VKF



OV/OVK/VKF 2D 250		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	71	29	41	55	61	69	65	60	52	51	61

OV/OVK/VKF 4D 250		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	59	25	39	43	49	54	54	49	43	38	48

VENTS OV/OVK/VKF



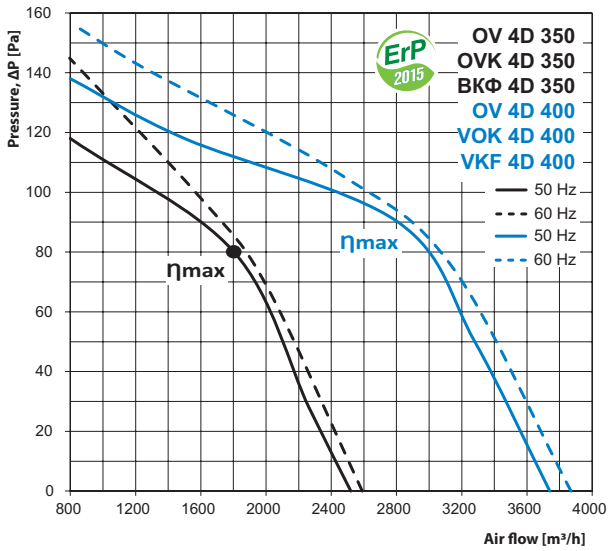
OV/OVK/VKF 2D 300		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	73	39	48	62	62	70	66	60	55	52	62

OV/OVK/VKF 4D 300		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	65	42	53	46	55	61	61	53	44	45	55

OV/OVK/VKF 2D 300

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
30.3	A	Static	42	No	0.141	0.25	1367	110	2350	1

VENTS OV/OVK/VKF



OV/OVK/VKF 4D 350		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	66	26	43	48	59	62	62	53	46	46	56

OV/OVK/VKF 4D 400		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	74	31	48	58	63	70	70	66	58	54	64

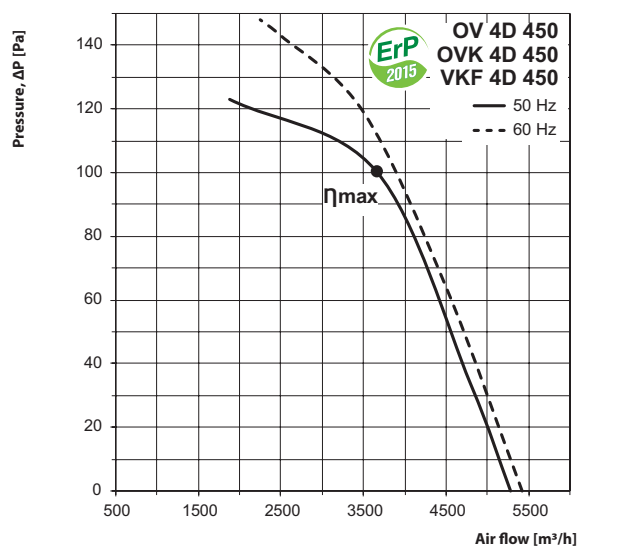
OV/OVK/VKF 4D 350

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
31.7	A	Static	43.7	No	0.129	0.37	1802	80	1400	1

OV/OVK/VKF 4D 400

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
34.3	A	Static	44.9	No	0.209	0.47	2807	90	1365	1

VENTS OV/OVK/VKF

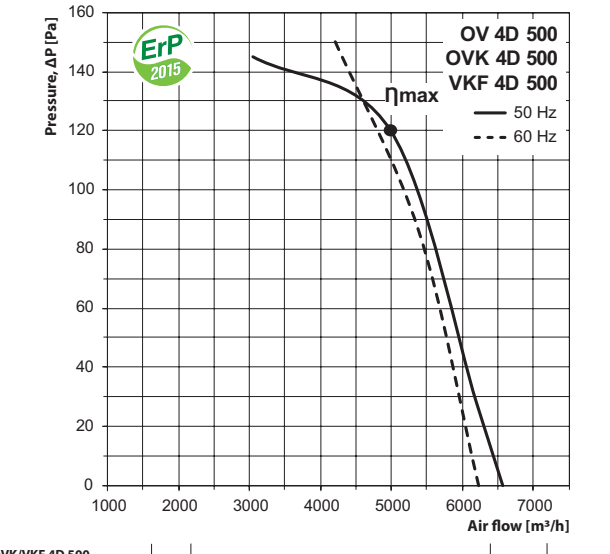


OV/OVK/VKF 4D 450		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	77	48	60	67	70	71	72	67	59	56	66

OV/OVK/VKF 4D 450

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
35.1	A	Static	44.8	No	0.296	0.59	3659	100	1310	1

VENTS OV/OVK/VKF

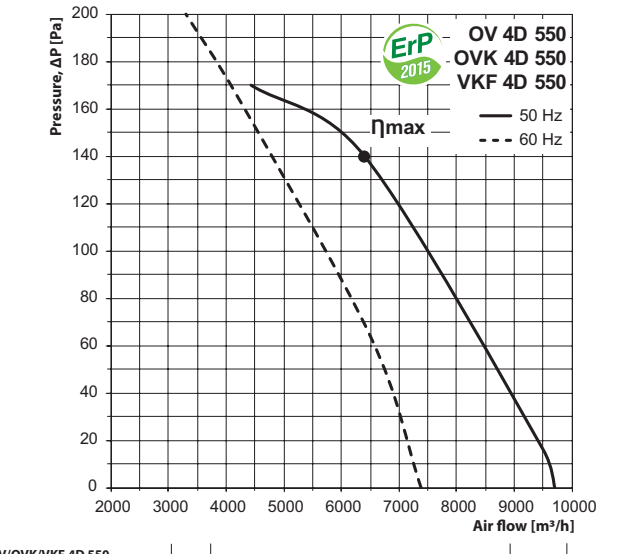


OV/OVK/VKF 4D 500		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	81	51	63	70	74	75	76	71	62	60	70

OV/OVK/VKF 4D 500

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
35.5	A	Static	43.9	No	0.478	0.9	4988	120	1305	1

VENTS OV/OVK

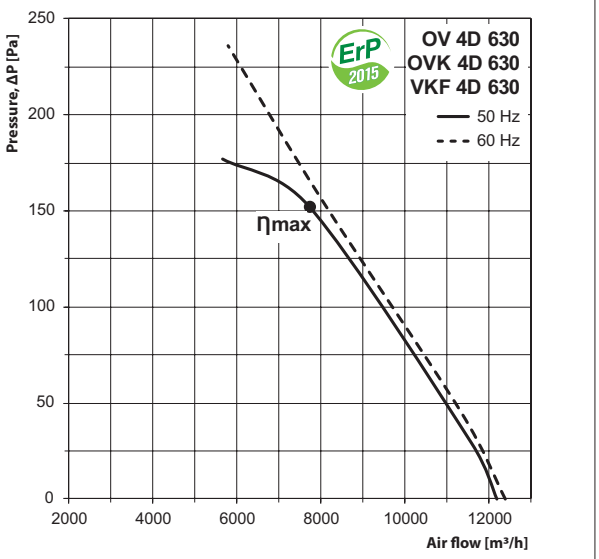


OV/OVK/VKF 4D 550		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	85	53	65	72	79	80	79	73	65	64	74

OV/OVK/VKF 4D 550

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
38.8	A	Static	46.3	No	0.656	1.27	6400	140	1175	1

VENTS OV/OVK/VKF

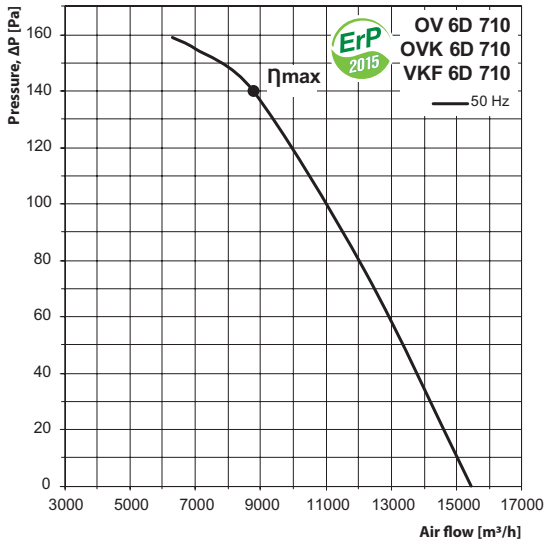


OV/OVK/VKF 4D 630		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	90	58	69	78	83	85	84	79	70	69	79

OV/OVK/VKF 4D 630

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
41.2	A	Static	48.1	No	0.810	1.61	7743	152	1290	1

VENTS OV/OVK/VKF

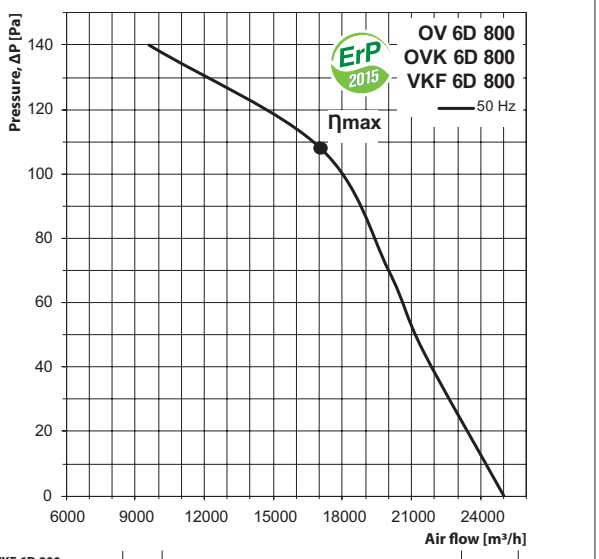


OV/OVK/VKF 6D 710		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	83	54	65	72	78	79	77	70	62	63	73

OV/OVK/VKF 6D 710

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
35.6	A	Static	42	No	0.979	1.91	8777	140	830	1

VENTS OV/OVK/VKF



OV/OVK/VKF 6D 800		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	88	57	69	77	82	83	81	74	65	67	77

OV/OVK/VKF 6D 800

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
31.6	A	Static	36.6	No	1.650	3.6	17040	108	915	1

Series

VENTS OVP

Low pressure axial fan in steel casing with air flow up to **2500 m³/h** for round duct installation

Application

Supply and exhaust ventilation systems for commercial, office and other public or industrial premises where high air flow at relatively low system resistance is required.

Design

The fan casing and the impeller are made of polymer coated steel. The fan casing sides have 30 mm deep corrugation for convenient attachment to the air ducts. The OVP series fans feature an external terminal box mounted to the fan casing.

Motor

Depending on the model the fans are equipped with two- or four-pole single-phase asynchronous motors with an external rotor and integrated self-resetting overheat protection. Ball bearings in the motor provide long service life designed for at least 40 000 hours. Motor protection rating IP44.

Speed control

Both smooth or step speed control is performed by means of a thyristor or autotransformer controller. Several fans can be connected to one controller if the total power and operating current do not exceed the rated controller values.

Mounting

The fan is attached to a wall or the ceiling by means of the mounting brackets (included). The power is supplied via the side-mounted box. Electrical connection and installation must be performed in accordance with the instruction manual and the electrical connections diagram applied to the terminal box.

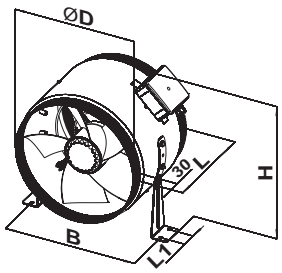
Technical data

	OVP 2E 200*	OVP 2E 250*	OVP 4E 250*	OVP 2E 300	OVP 4E 300*	OVP 4E 350
Voltage [V/50 Hz]	1~230	1~230	1~230	1~230	1~230	1~230
Power [W]	55	80	50	145	75	140
Current [A]	0.26	0.4	0.22	0.66	0.35	0.65
Max. air flow [m³/h]	860	1050	800	2230	1340	2500
RPM [min⁻¹]	2300	2400	1380	2300	1350	1380
Noise level at 3 m [dBA]	50	60	55	60	58	62
Transported air temperature [°C]	-30...+60	-30...+60	-30...+60	-30...+60	-30...+60	-30...+60
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4

* Compliant to the ErP-regulation (EC) 327/2011, the power consumption at optimum efficiency is < 125W.

Fan overall dimensions

Type	Dimensions [mm]					Mass [kg]
	ØD	ØB	L	H	L1	
OVP 2E 200	199	227	220	300	30	3.5
OVP 2E 250	249	282	250	320	30	4.5
OVP 4E 250	249	282	250	320	30	4.5
OVP 2E 300	299	326	250	390	40	6.3
OVP 4E 300	299	326	250	390	40	6.3
OVP 4E 350	349	378	300	410	40	8.4

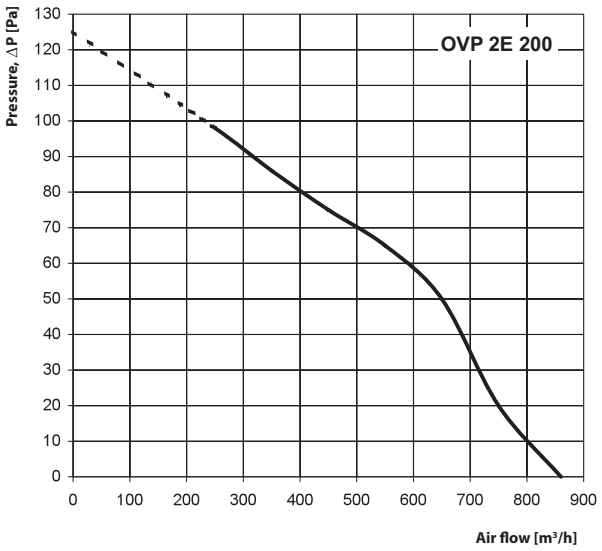


ErP data	
Overall efficiency	η [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	kW
Current	A
Air flow	m³/h
Static pressure	Pa
Speed	n/min⁻¹
Specific ratio	SR

Accessories

Speed controllers

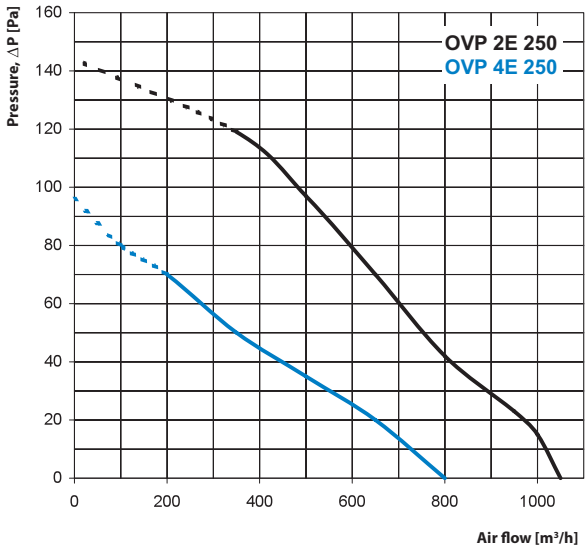
VENTS OVP



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	65	56	58	58	57	59	55	51	45

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
30.5	A	Static	42.2	No	0.141	0.64	1380	110	2350	1

VENTS OVP



OVP 2E 250

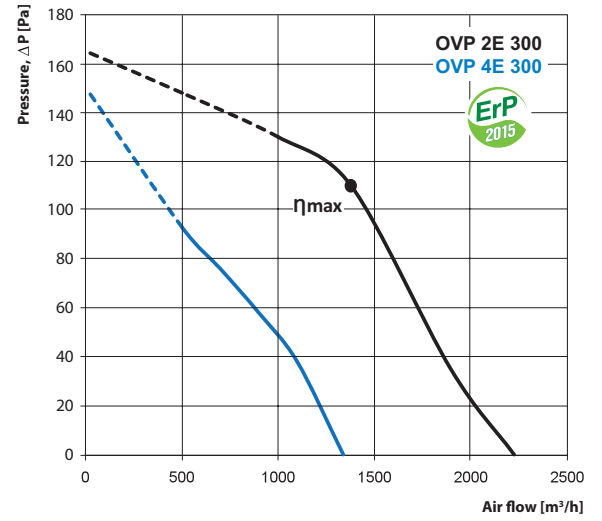
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	76	68	66	68	70	68	68	63	58

OVP 4E 250

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	60	52	50	52	53	52	52	44	43

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
29.9	A	Static	41.8	No	0.130	0.6	1717	80	1375	1

VENTS OVP



OVP 2E 300

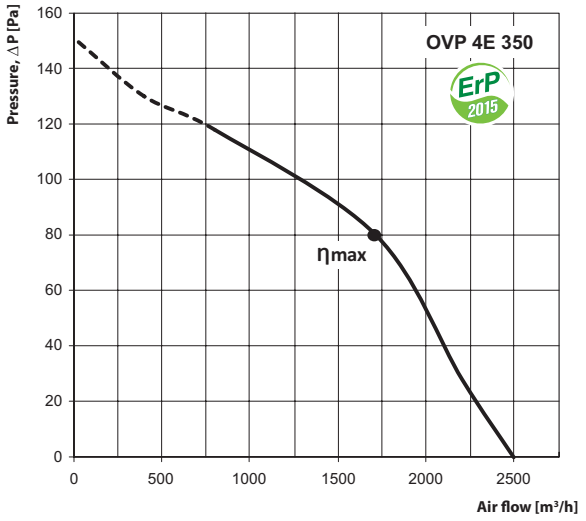
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	78	72	72	70	72	70	69	63	63

OVP 4E 300

	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	67	58	57	59	57	58	53	52	49

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
30.5	A	Static	42.2	No	0.141	0.64	1380	110	2350	1

VENTS OVP



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to environment	dBA	70	61	62	64	63	63	58	56	52

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
29.9	A	Static	41.8	No	0.130	0.6	1717	80	1375	1

Series
VENTS OV1

Low pressure axial fans in the steel casing with the for wall mounting.
Air flow:
1700 m³/h for 50 Hz
1650 m³/h for 60 Hz

Series
VENTS OVK1

Low pressure axial fans in the steel casing with the for wall mounting.
Air flow:
1700 m³/h for 50 Hz
1650 m³/h for 60 Hz

Series
VENTS VKOM
VENTS VKOM1

Low pressure axial fans in the steel casing for inline mounting.
Air flow:
1700 m³/h for 50 Hz
1650 m³/h for 60 Hz

Applications
Supply and exhaust ventilation systems for commercial, office and other public or industrial premises where high air flow at relatively low system resistance is required. OV1 and OVK1 fans can be used for the direct exhaust of air. OV1 and OVK1 fans can be mounted onto the external walls.

Design
OV1, OVK1, VKOM and VKOM1 fan casings are made of steel with polymeric coating. VKOMz and VKOM1z fan casing is made of galvanized steel and the impeller is made of aluminium. The terminal box is fitted with a cable for remote connection.

Motor
Single phase asynchronous motor is equipped with thermal overheating protection with automatic restart. The motor is equipped with slide bearings. Motor rating protection IP44.

Speed control
Both smooth and step speed control is performed with the thyristor or autotransformer controller. Several fans can be connected to one controller in case the total power and operating current do not exceed the rated controller values.

Mounting
The fan is installed on the wall surface by means of square (OV1 series) or round (OVK1 series) mounting plate. VKOM or VKOMz series fan is installed into the duct by means of clamps or directly inside the wall. RM reducers made of polymer-coated steel and RM...Zn made of galvanized steel are designed for connection of VKOM fans with 150, 200 and 250 mm round air ducts. The delivery set of VKOMz includes fixation brackets. The fan is powered through the remote terminal box. Power supply and installation shall be performed in compliance with the manual and wiring diagram on the terminal box.

Designation key

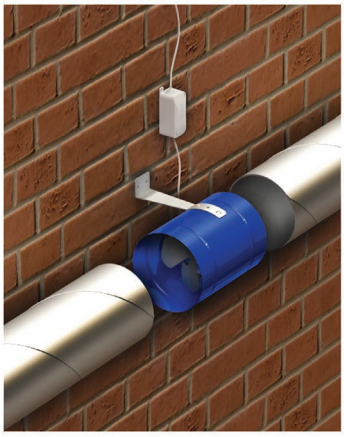
Series and modification	Modifications (for VKOM series)	Dimension-type
VENTS OV1: square mounting plate **VENTS OVK1**: round mounting plate **VENTS VKOM**: mounting into a vent duct **VENTS VKOM1**: with a corrugated edge for the mounting directly into the ventilation duct	**Z**: galvanized steel	150; 200; 250; 315

Accessories

Speed controllers

Technical data

	OV1/OVK1/ VKOM/ VKOM1 150		OV1/OVK1/ VKOM/ VKOM1 200		OV1/OVK1/ VKOM/ VKOM1 250		OV1/OVK1/ VKOM/ VKOM1 315	
Voltage [V]	1~230							
Frequency [Hz]	50	60	50	60	50	60	50	60
Power [W]	36	26	43	33	68	76	110	104
Current [A]	0.26	0.26	0.28	0.21	0.48	0.51	0.75	0.7
Max. air flow [m^3/h]	200	205	405	470	1070	1050	1700	1650
RPM [min^{-1}]	1300	1590	1300	1615	1300	1450	1300	1365
Noise level at 3 m [dBA]	33	33	32	31	37	38	42	41
Transported air temperature [°C]	40							
Protection rating	IP24 (VKOM(1) IPX4)							



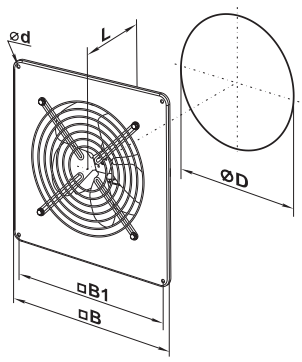
Fixation bracket for surface mounting of VKOM, VKOM1, VKOMz, VKOM1z series fan

OV1 fan kitchen ventilation example

Fan overall dimensions

Type	Dimensions [mm]					Mass [kg]
	ØD	Ød	B	B1	L	
OV1 150	162	7	250	210	120	2.5
OV1 200	208	7	312	260	120	3.0
OV1 250	262	7	370	320	140	3.5
OV1 315	312	9	430	380	170	6.1

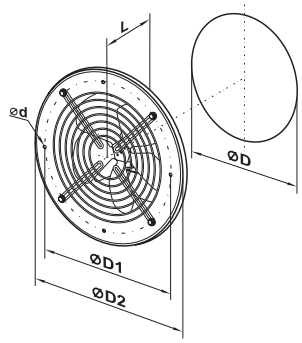
OV 1



Fan overall dimensions

Type	Dimensions [mm]					Mass [kg]
	ØD	ØD1	ØD2	Ød	L	
OVK1 150	162	190	220	7	120	2.5
OVK1 200	208	270	300	7	120	2.5
OVK1 250	262	330	360	7	140	3.0
OVK1 315	312	390	420	9	170	5.1

OVK 1

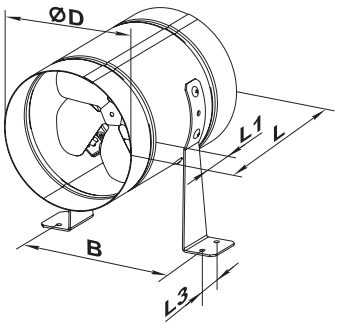


Fan overall dimensions

Type	Dimensions [mm]					Mass [kg]
	ØD	B	L	L1	L3	
VKOM 150	162	183	220	40	30	1.8
VKOM 200	208	228	220	40	30	2.4
VKOM 250	262	283	270	55	30	3.7
VKOM 315	315	337	278	55	40	4.9

Type	Dimensions [mm]					Mass [kg]
	ØD	B	L	L1	L3	
VKOM1 150	149	183	220	35	30	1.8
VKOM1 200	299	228	220	35	30	2.4
VKOM1 250	249	283	270	35	30	3.7

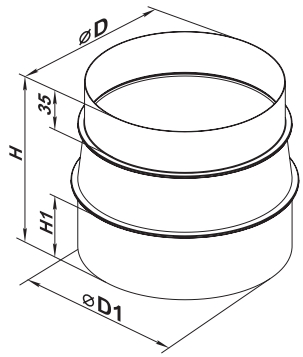
VKOM(1)



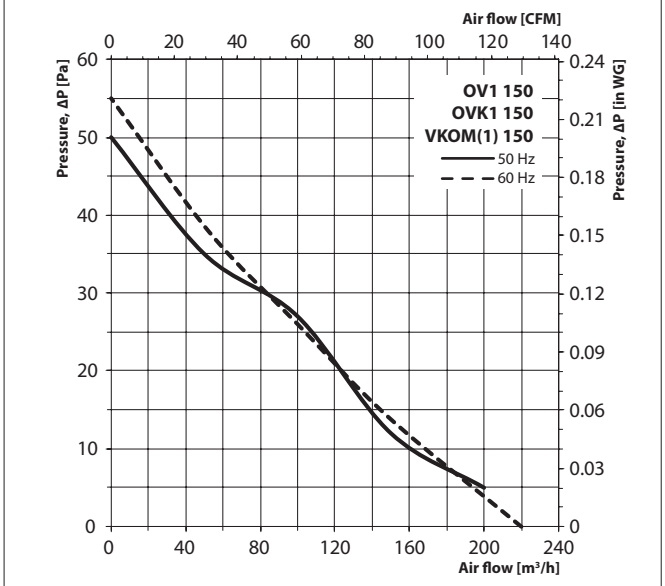
Overall dimensions of reducers for VKOM fan series:

Type	Dimensions [mm]				Mass [kg]
	ØD	ØD1	H	H1	
RM 148/158 RMz 148/158	148	158	140	55	0.3
RM 198/204 RMz 198/204	198	204	140	55	0.4
RM 248/258 RMz 248/258	248	258	150	65	0.42

Reducer RM for VKOM series fan

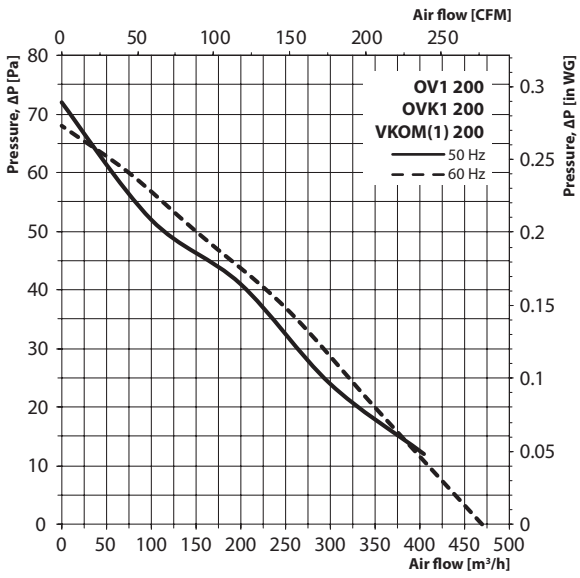


VENTS OV1/OVK1/VKOM



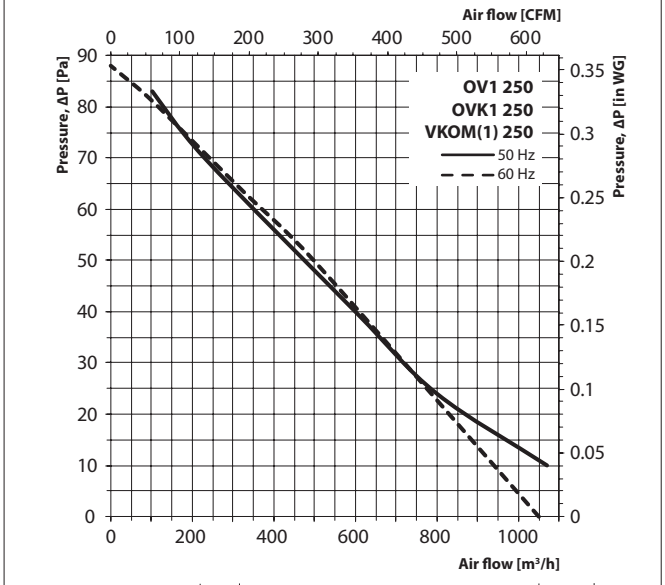
OV1 150/OVK1 150/VKOM 150		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	54	22	35	39	45	49	49	45	39	33	43

VENTS OV1/OVK1/VKOM



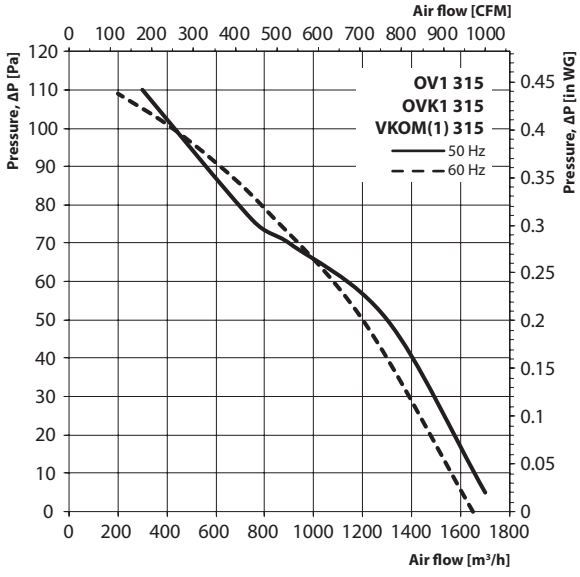
OV1 200/OVK1 200/VKOM 200		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	53	22	34	38	44	48	48	44	38	33	42

VENTS OV1/OVK1/VKOM



OV1 250/OVK1 250/VKOM 250		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	58	24	38	42	48	53	53	48	42	37	47

VENTS OV1/OVK1/VKOM



OV1 315/OVK1 315/VKOM 315		Gen.	Octave-frequency band [Hz]								LpA, 3 m [dBA]	LpA, 1 m [dBA]
Sound-power level		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to environment	dBA	62	39	49	44	50	56	49	42	60	42	52

Series

VENTS OV1 R

Applications

Supply and exhaust ventilation systems for commercial, office and other public or industrial premises where high air flow at relatively low system resistance is required. Fans can be used for the direct air exhaust and are mounted onto the external walls.

Design

Fan casings are made of steel with polymeric coating. Decorative front panel is made of high quality plastic. The terminal box is fitted with a cable for remote connection.

Motor

Single phase asynchronous motor with external rotor is equipped with thermal overheating protection with automatic restart. Motor rating protection IP44.

Speed control

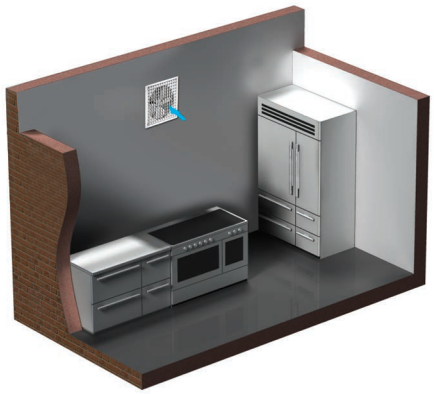
Both smooth and step speed control is performed with the thyristor or autotransformer controller. Several fans can be connected to one controller in case the total power and operating current do not exceed the rated controller values.

Mounting

The fan is installed on the wall surface by means of square mounting plate. The fan is powered through the remote terminal box.

Power supply and installation shall be performed in compliance with the manual and wiring diagram on the terminal box.

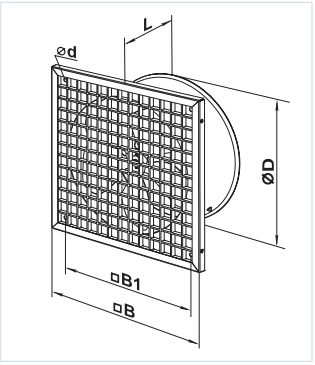
Low pressure axial fans in the steel casing with the air flow up to **1070 m³/h** for wall mounting



OV1 R fan kitchen ventilation example

Fan overall dimensions

Type	Dimensions [mm]					Mass [kg]
	ØD	Ød	B	B1	L	
OV1 150 R	162	7	325	275	127	2.5
OV1 200 R	208	7	325	275	127	3.0
OV1 250 R	262	7	325	275	152	3.5



Designation key

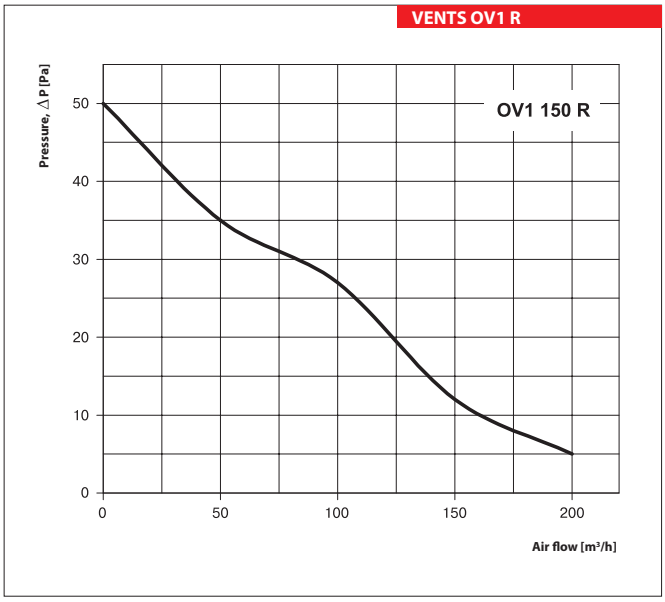
Series	Spigot diameter	Options
VENTS OV1	150; 200; 250	**R**: decorative front panel

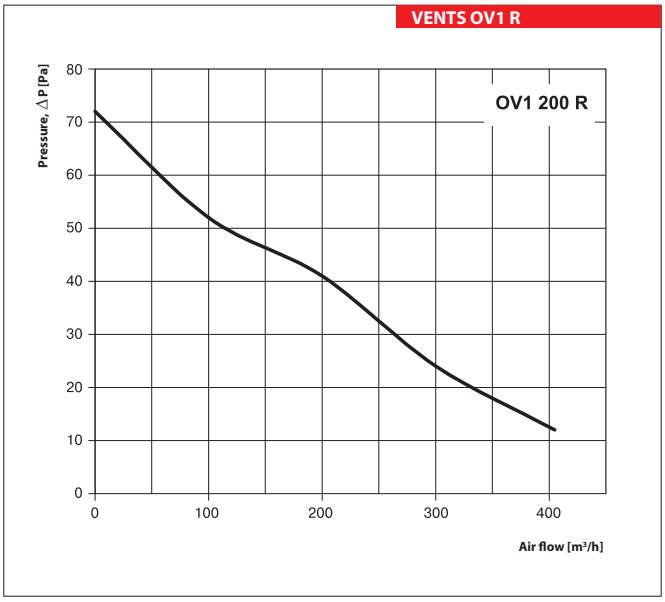
Accessories

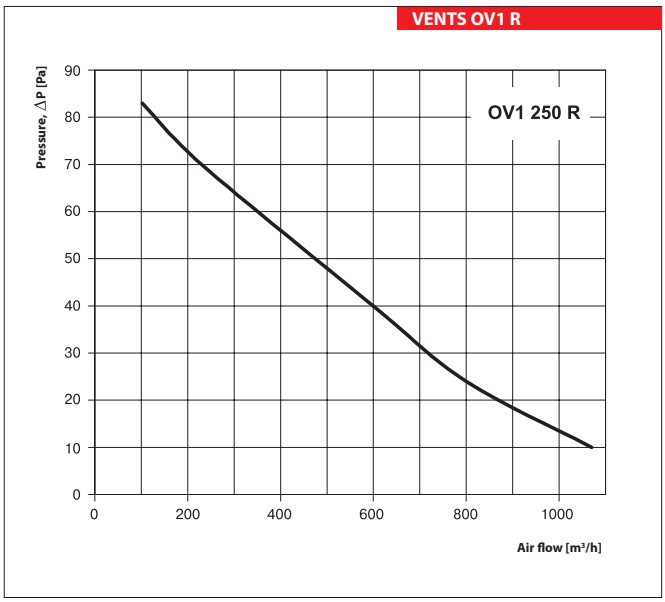
Speed controllers

Technical data

	OV1 150 R	OV1 200 R	OV1 250 R
Voltage [V/50 Hz]	1~230	1~230	1~230
Power [W]	36	43	68
Current [A]	0.26	0.28	0.48
Max. air flow [m³/h]	200	405	1070
RPM [min⁻¹]	1300	1300	1300
Noise level at 3 m [dBA]	33	32	37
Transported air temperature [°C]	40	40	40
Protection rating	IP24	IP24	IP24







ELECTRICAL ACCESSORIES COMPATIBILITY

	OV 2E 200 OVK 2E 200 VKF 2E 200	OV 2E 250 OVK 2E 250 VKF 2E 250	OV 4E 250 OVK 4E 250 VKF 4E 250	OV 2E 300 OVK 2E 300 VKF 2E 300	OV 4E 300 OVK 4E 300 VKF 4E 300	OV 4E 350 OVK 4E 350 VKF 4E 350	OV 4E 400 OVK 4E 400 VKF 4E 400	OV 4E 450 OVK 4E 450 VKF 4E 450	OV 4E 500 OVK 4E 500 VKF 4E 500	OV 4E 550 OVK 4E 550 VKF 4E 550	OV 4E 630 OVK 4E 630 VKF 4E 630	OV 2D 250 OVK 2D 250 VKF 2D 250	OV 4D 250 OVK 4D 250 VKF 4D 250	OV 2D 300 OVK 2D 300 VKF 2D 300	OV 4D 300 OVK 4D 300 VKF 4D 300	OV 4D 350 OVK 4D 350 VKF 4D 350	OV 4D 400 OVK 4D 400 VKF 4D 400	OV 4D 450 OVK 4D 450 VKF 4D 450	OV 4D 500 OVK 4D 500 VKF 4D 500	OV 4D 550 OVK 4D 550 VKF 4D 550	OV 4D 630 OVK 4D 630 VKF 4D 630	OV 6D 710 OVK 6D 710 VKF 6D 710	OV 6D 800 OVK 6D 800 VKF 6D 800
Thyristor speed controllers																								
RS-1-300	•	•	•	•	•	•	•	•																
RS-1-400	•	•	•	•	•	•	•	•																
RS-1 N (V)	•	•	•	•	•	•	•																	
RS-1,5 N (V)	•	•	•	•	•	•	•	•																
RS-2 N (V)	•	•	•	•	•	•	•	•	•															
RS-2,5 N (V)	•	•	•	•	•	•	•	•	•															
RS-0,5-PS	•	•	•		•																			
RS-1,5-PS	•	•	•	•	•	•	•	•																
RS-2,5-PS		•		•	•	•	•	•	•															
RS-4,0-PS				•		•	•	•	•	•	•													
RS-3,0-T		•		•	•	•	•	•	•	•														
RS-5,0-T				•		•	•	•	•	•	•	•												
RS-10,0-T								•	•	•	•													
RS-3,0-TA		•		•	•	•	•	•	•	•														
RS-5,0-TA				•		•	•	•	•	•	•	•												
RS-10,0-TA								•	•	•	•													
Transformer speed controllers																								
RSA5E-2-P	•	•	•	•	•	•	•	•	•															
RSA5E-2-M	•	•	•	•	•	•	•	•	•															
RSA5E-3-M	•	•	•	•	•	•	•	•	•	•														
RSA5E-4-M	•	•	•	•	•	•	•	•	•	•	•													
RSA5E-12-M	•	•	•	•	•	•	•	•	•	•	•													
RSA5E-1,5-T	•	•	•	•	•	•	•	•																
RSA5E-3,5-T	•	•	•	•	•	•	•	•	•	•														
RSA5E-5,0-T	•	•	•	•	•	•	•	•	•	•	•													
RSA5E-8,0-T	•	•	•	•	•	•	•	•	•	•	•													
RSA5E-10,0-T	•	•	•	•	•	•	•	•	•	•	•													
RSA5D-1,5-T												•	•	•	•	•	•	•	•					
RSA5D-3,5-T												•	•	•	•	•	•	•	•	•	•	•	•	
RSA5D-5-M												•	•	•	•	•	•	•	•	•	•	•	•	
RSA5D-8-M												•	•	•	•	•	•	•	•	•	•	•	•	
RSA5D-10-M												•	•	•	•	•	•	•	•	•	•	•	•	
RSA5D-12-M												•	•	•	•	•	•	•	•	•	•	•	•	
Frequency speed controllers																								
VFED-200-TA												•	•	•	•	•	•	•	•					
VFED-400-TA												•	•	•	•	•	•	•	•	•	•			
VFED-750-TA												•	•	•	•	•	•	•	•	•	•			
VFED-1100-TA												•	•	•	•	•	•	•	•	•	•			
VFED-1500-TA												•	•	•	•	•	•	•	•	•	•			
Temperature controllers																								
RTS-1-400																								
RTSD-1-400																								
TST-1-300																								
TSTD-1-300																								
RT-10	•	•	•	•	•	•	•	•	•															
Multi-speed fan switches																								
P2-5,0																								
P3-5,0																								
P5-5,0																								
P2-1-300																								
P3-1-300																								
SP3-1																								
EC motors controllers																								
R-1/010																								
Sensors																								
T-1,5 N	•	•	•	•	•	•	•	•																
TH-1,5 N	•	•	•	•	•	•	•	•																
TF-1,5 N	•	•	•	•	•	•	•	•																
TP-1,5 N	•	•	•	•	•	•	•	•																

• recommended
• suitable

					
		OV1 150 OVK1 150 VKOM 150 OV1 150 R	OV1 200 OVK1 200 VKOM 200 OV1 200 R	OV1 250 OVK1 250 VKOM 250 OV1 250 R	OV1 315 OVK1 315 VKOM 315
Thyristor speed controllers					
	RS-1-300	•	•	•	•
	RS-1-400	•	•	•	•
	RS-1 N (V)	•	•	•	•
	RS-1,5 N (V)	•	•	•	•
	RS-2 N (V)	•	•	•	•
	RS-2,5 N (V)	•	•	•	•
	RS-0,5-PS	•	•	•	
	RS-1,5-PS	•	•	•	•
	RS-2,5-PS			•	•
	RS-4,0-PS			•	•
	RS-3,0-T			•	•
	RS-5,0-T				•
	RS-10,0-T				
	RS-3,0-TA			•	•
	RS-5,0-TA				•
	RS-10,0-TA				
Transformer speed controllers					
	RSA5E-2-P	•	•	•	•
	RSA5E-2-M	•	•	•	•
	RSA5E-3-M	•	•	•	•
	RSA5E-4-M	•	•	•	•
	RSA5E-12-M	•	•	•	•
	RSA5E-1,5-T	•	•	•	•
	RSA5E-3,5-T	•	•	•	•
	RSA5E-5,0-T	•	•	•	•
	RSA5E-8,0-T	•	•	•	•
	RSA5E-10,0-T	•	•	•	•
	RSA5D-1,5-T				
	RSA5D-3,5-T				
	RSA5D-5-M				
	RSA5D-8-M				
	RSA5D-10-M				
	RSA5D-12-M				
Frequency speed controllers					
	VFED-200-TA				
	VFED-400-TA				
	VFED-750-TA				
	VFED-1100-TA				
	VFED-1500-TA				
Temperature controllers					
	RTS-1-400				
	RTSD-1-400				
	TST-1-300				
	TSTD-1-300				
	RT-10	•	•	•	•
Multi-speed fan switches					
	P2-5,0				
	P3-5,0				
	P5-5,0				
	P2-1-300				
	P3-1-300				
	SP3-1				
EC motors controllers					
	R-1/010				
Sensors					
	T-1,5 N	•	•	•	•
	TH-1,5 N	•	•	•	•
	TF-1,5 N	•	•	•	•
	TP-1,5 N	•	•	•	•

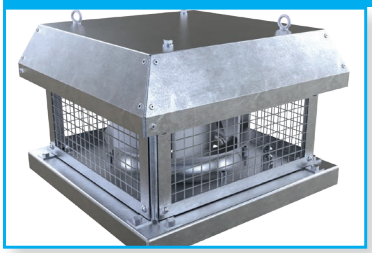
• recommended
• suitable

ROOF FANS

VENTS VKV and VENTS VKV EC series

- Centrifugal roof fans in the steel casing with vertical exhaust of air and the air flow up to 17010 m^3/h. Designed for exhaust ventilation systems.

VENTS VKH and VENTS VKH EC series



- Centrifugal roof fans in the steel casing with the horizontal exhaust of air and the air flow up to 17010 m^3/h. Designed for exhaust ventilation systems.

VENTS VKMK (VKMKp) series

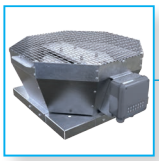
- Centrifugal roof fans in the steel casing with the horizontal exhaust of air and the air flow up to 1880 m^3/h. Designed for exhaust ventilation systems.

VENTS VOK series

- Axial roof fans in the steel casing with the horizontal exhaust of air and the air flow up to 2500 m^3/h.

VENTS VOK1 series

- Axial roof fans in the steel casing with the horizontal exhaust of air and the air flow up to 1700 m^3/h.



VENTS VKV
centrifugal roof fan

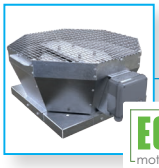
Air flow – up to 17010 m³/h

page 310

VENTS VKH
centrifugal roof fan

Air flow – up to 17010 m³/h

page 310



VENTS VKV EC
centrifugal roof fan with EC motor

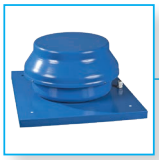
Air flow – up to 18270 m³/h

page 320

VENTS VKH EC
centrifugal roof fan with EC motor

Air flow – up to 18270 m³/h

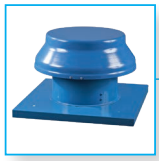
page 320



VENTS VKMK (VKMKp)
centrifugal roof fan

Air flow – up to 1920 m³/h

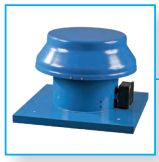
page 326



VENTS VOK
axial roof fan

Air flow – up to 2500 m³/h

page 328



VENTS VOK1
axial roof fan

Air flow – up to 1700 m³/h

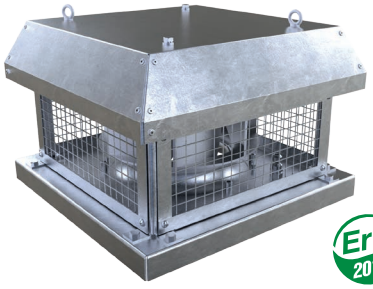
page 330

Roof fans accessories

page 332

Series
VENTS VKV
VENTS VKVz
VENTS VKVA

Series
VENTS VKH
VENTS VKHz



Centrifugal roof fans with vertical air exhaust and with maximum air flow of up to **17010 m³/h**

Centrifugal roof fans with horizontal air exhaust and with maximum air flow of up to **17010 m³/h**

VENTS VKV

VENTS VKH

Application
Exhaust ventilation systems for commercial, office and other public or industrial premises for various premises suitable for roof mounting. Compatible with Ø 200-630 mm air ducts. Suitable for any roof types as well as vertical ventilation shafts.

Design
The fan casing is made of steel with polymeric coating (VENTS VKV and VENTS VKH models), aluminum (VENTS VKVA), galvanized steel (VENTS VKVz, VENTS VKHz).

Motor
2-, 4- or 6-pole single- or three-phase asynchronous motors with an external rotor and impeller with backward curved blades. The motor is equipped with thermal overheating protection with automatic re-start as well as ball bearings for long service life. For precise features, safe operation and low noise, each turbine is dynamically balanced while assembly. Motors protection rating IP44, IP54.

Speed control
Both smooth or step speed control is performed by means of the thyristor or autotransformer controller. Several fans can be connected to one controller in case the total power and operating current do not exceed the rated controller values.

Mounting
The fan is mounted on the roof directly above the ventilating duct or shaft and is firmly fixed to the flat surface by means of a connecting plate. While mounting VKH fans directly onto the flat roof a supporting block shall be provided to prevent water and snow drops into the vent of the ventilation shaft. Electrical connection and installation shall beperformed in compliance with the manual and circuit diagram on the terminal box.
For connection of the fans to round air ducts use the following accessories: KKV damper, GVK flexible connector, FKV counter flange. For mounting of the fans to flat surface use the mounting frame RKV.

Designation key

Series and modification	Casing material	Motor modification		Turbine standard size
		Number of poles	Phase	
VENTS VKV: vertical air exhaust **VENTS VKH**: horizontal air exhaust	_: steel with polymeric coating A: aluminum z: galvanized steel	**2** **4** **6**	**E**: single-phase **D**: three-phase	190; 220; 225; 250; 280; 310; 355; 400; 450; 500; 560; 630; 710

Accessories

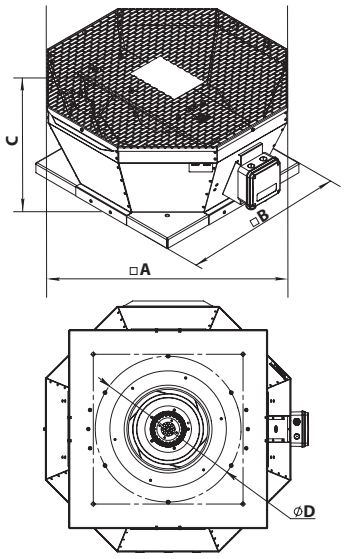
Flexible connector | Counterflange | Mounting frame | Silencers | Backdraft damper | Air shutter | Speed controllers

Fan overall dimensions

Type	Dimensions [mm]			øD, flange connection dimensions	Mass [kg]
	A	B	C		
VKV/VKVz/VKVA 2E 190	417	355	170	213	7
VKV/VKVz/VKVA 2E 220*			190		
VKV/VKVz/VKVA 2E 225*			215	210	
VKV/VKVz/VKVA 4E 225*					
VKV/VKVz/VKVA 2E 250	481	425	240	285	9
VKV/VKVz/VKVA 4E 250					
VKV/VKVz/VKVA 4E 280	547	425	276	291	13
VKV/VKVz/VKVA 2E 310				285	
VKV/VKVz/VKVA 4E 310*	613	477	300		20
VKV/VKVz/VKVA 4D 310*					19
VKV/VKVz/VKVA 4E 355	738	598		438	26
VKV/VKVz/VKVA 4D 355					
VKV/VKVz 4E 400			375		33
VKV/VKVz 6E 400					31
VKV/VKVz 4D 400					33
VKV/VKVz 4E 450		668	430		41
VKV/VKVz 6E 450					
VKV/VKVz 4D 450			425		
VKV/VKVz 6E 500*	859		460	445	52
VKV/VKVz 4D 500*				430	
VKV/VKVz 6D 500*				445	
VKV/VKVz 6E 560		833	485	605	63
VKV/VKVz 4D 560					
VKV/VKVz 6D 560					
VKV/VKVz 6D 630*	951	939		600	81
VKV/VKVz 6D 710*	992			674	114

*The counter flange (not included in the delivery set) should be mounted together with the inlet ring.

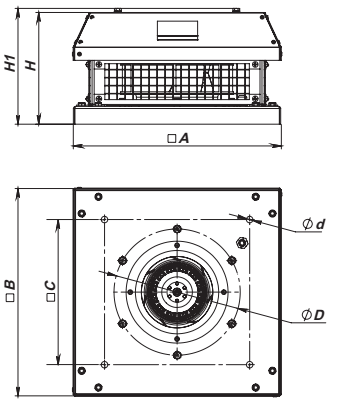
VKV



Fan overall dimensions

Type	Dimensions [mm]						øD, flange connection dimensions	Mass [kg]
	H	H1	A	B	C	Ød		
VKH/VKHz 2E 190	189	195	351	350	245	11	213	8.2
VKH/VKHz 2E 220	180	186	337	338				7
VKH/VKHz 2E 225	210	217	351	350		11	210	9.2
VKH/VKHz 4E 225	233	240						8.8
VKH/VKHz 2E 250	237	244	451	450	330	11	285	12.7
VKH/VKHz 4E 250								12.1
VKH/VKHz 4E 280	265	272				11	291	13.5
VKH/VKHz 2E 310	251	258						13.2
VKH/VKHz 4E 310	287	294				11	285	14.2
VKH/VKHz 4D 310								14.2
VKH/VKHz 4E 355	322	361	625	620	450	11	438	28.3
VKH/VKHz 4D 355	347	386						30.3
VKH/VKHz 4E 400	376	415						35
VKH/VKHz 6E 400								32.7
VKH/VKHz 4D 400								35
VKH/VKHz 4E 450	420	459	710	700	535			46.6
VKH/VKHz 6E 450								45.6
VKH/VKHz 4D 450								45.5
VKH/VKHz 6E 500	461	501						52.8
VKH/VKHz 4D 500	490	530						46.6
VKH/VKHz 6D 500	461	501						52.7
VKH/VKHz 6E 560	489	528	900	895	750	11	605	76.4
VKH/VKHz 4D 560								81.4
VKH/VKHz 6D 560								76.4
VKH/VKHz 6D 630	520	560	1000	990		20		96.3
VKH/VKHz 6D 710	570	619	1060	1050	840	20	674	134

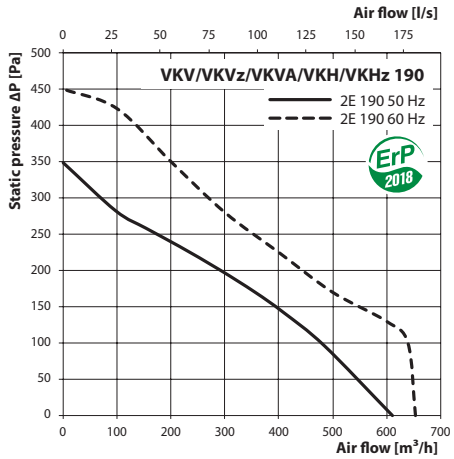
VKH

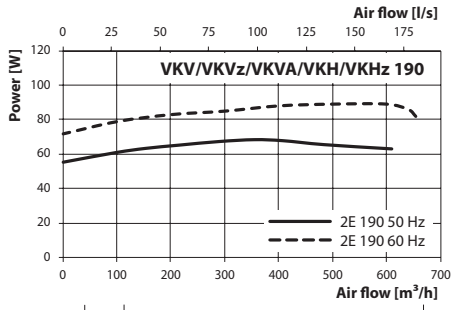


Technical data

	VKV/VKVz/VKVA/ VKH/VKHz 2E 190		VKV/VKVz/VKVA/ VKH/VKHz 2E 220	
Voltage [V]	1~230		1~230	
Frequency [Hz]	50	60	50	60
Power [W]	69	89	108	118
Current [A]	0.30	0.40	0.49	0.54
Max. air flow [m^3/h]	610	654	880	883
RPM [min^{-1}]	2680	2980	2580	2840
Sound pressure level at 3 m [dBA]	48	49	50	51
Transported air temperature [°C]	-25...+50		-25...+50	
Protection rating	IPX4		IPX4	
Motor protection rating	IP44		IP44	
SEC class	C	-	C	-

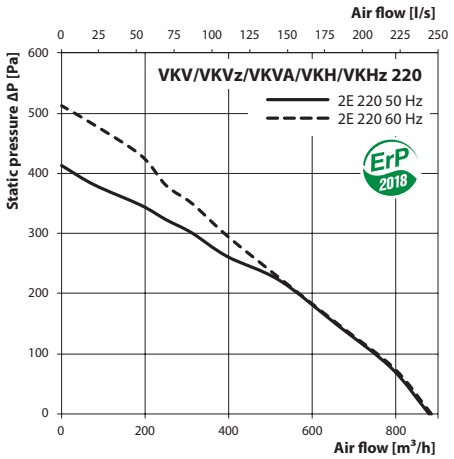
VENTS VKV/VKVz/VKVA/VKH/VKHz

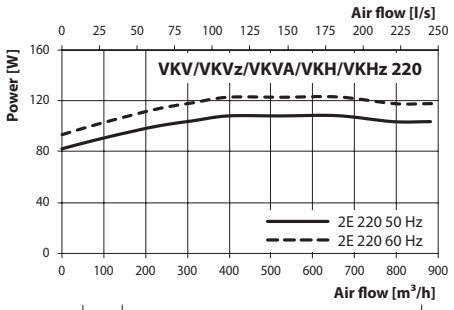




VKV/VKVz/VKVA VKH/VKHz 2E 190 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	68	39	65	63	54	52	49	49	39	47	57
L_{wA} to environment	dBA	69	28	50	61	64	63	62	54	41	48	58

VENTS VKV/VKVz/VKVA/VKH/VKHz



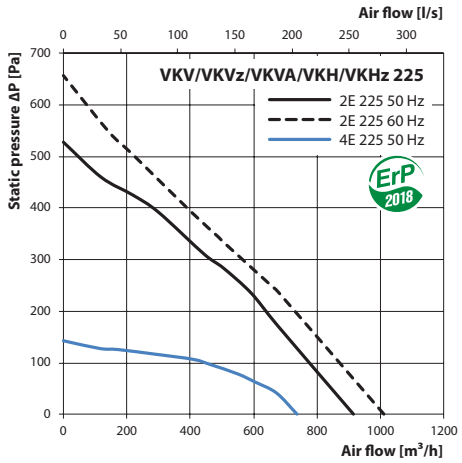


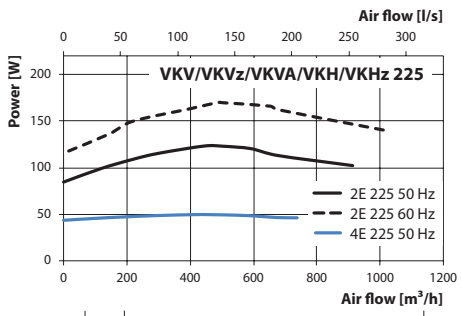
VKV/VKVz/VKVA VKH/VKHz 2E 220 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	70	59	65	65	61	55	55	54	47	49	59
L_{wA} to environment	dBA	71	46	58	66	65	66	56	51	41	50	60

Technical data

	VKV/VKVz/VKVA/ VKH/VKHz 2E 225		VKV/VKVz/VKVA/ VKH/VKHz 4E 225	VKV/VKVz/VKVA/ VKH/VKHz 2E 250		VKV/VKVz/VKVA/ VKH/VKHz 4E 250
Voltage [V]	1~230		1~230	1~230		1~230
Frequency [Hz]	50	60	50	50	60	50
Power [W]	123	169	49	184	232	48
Current [A]	0.54	0.70	0.22	0.81	0.90	0.23
Max. air flow [m^3/h]	915	1 010	738	1 450	1 320	820
RPM [min^{-1}]	2790	2820	1400	2480	2320	1440
Sound pressure level at 3 m [dBA]	51	52	45	54	53	46
Transported air temperature [°C]	-25...+50		-25...+50	-25...+50		-25...+50
Protection rating	IPX4		IPX4	IPX4		IPX4
Motor protection rating	IP44		IP44	IP44		IP44
SEC class	C	-	B	-		B

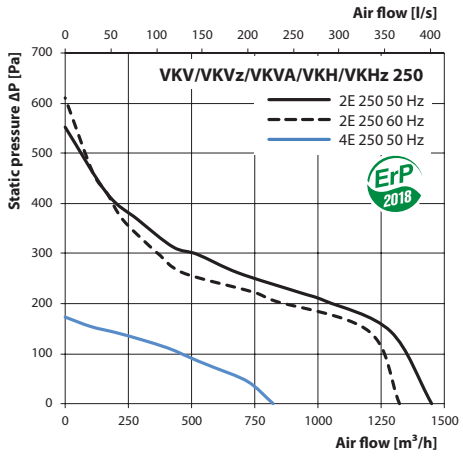
VENTS VKV/VKVz/VKVA/VKH/VKHz

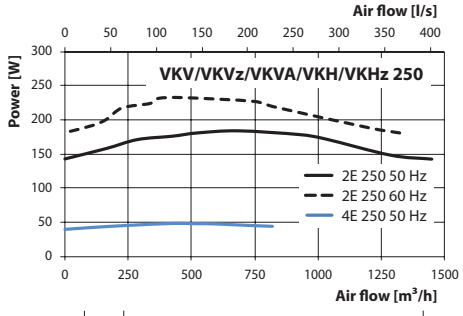




VKV/VKVz/VKVA VKH/VKHz 2E 225 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	71	61	66	66	62	57	57	55	48	51	61
L_{WA} to environment	dBA	72	47	59	67	66	67	57	52	42	51	61

VENTS VKV/VKVz/VKVA/VKH/VKHz





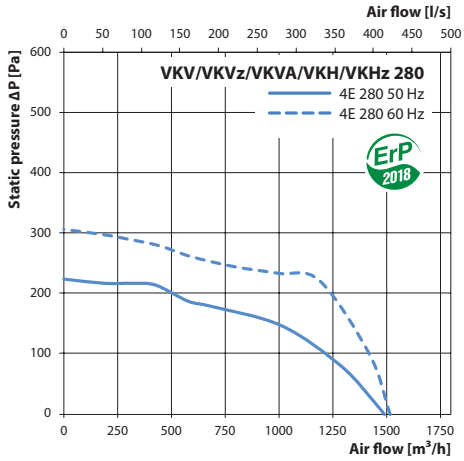
VKV/VKVz/VKVA VKH/VKHz 2E 250 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	75	50	63	70	68	69	66	63	53	54	64
L_{WA} to environment	dBA	75	51	64	71	67	67	66	62	56	54	64

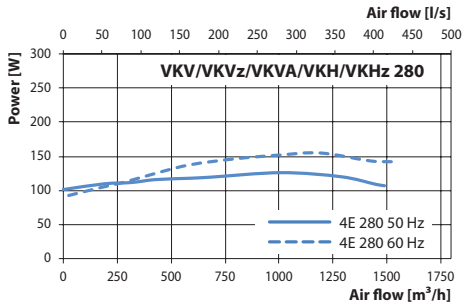
VKV/VKVz/VKVA VKH/VKHz 4E 250 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{WA} to inlet	dBA	68	51	57	60	52	63	62	57	52	47	57
L_{WA} to environment	dBA	67	29	48	57	60	63	59	51	37	46	56

Technical data

	VKV/VKVz/VKVA/ VKH/VKHz 4E 280		VKV/VKVz/VKVA/ VKH/VKHz 2E 310	VKV/VKVz/VKVA/ VKH/VKHz 4E 310		VKV/VKVz/VKVA/ VKH/VKHz 4D 310	
Voltage [V]	1~230		1~230	1~230		3~400	
Frequency [Hz]	50	60	50	50	60	50	60
Power [W]	125	155	324	141	195	155	202
Current [A]	0.61	0.99	1.42	0.64	0.87	0.29	0.32
Max. air flow [m^3/h]	1 490	1 520	2 150	2 265	2 425	2 300	2 442
RPM [min^{-1}]	1446	1710	2620	1420	1740	1410	1550
Sound pressure level at 3 m [dBA]	46	46	58	47	49	47	48
Transported air temperature [°C]	-25...+50		-25...+50	-25...+50		-25...+50	
Protection rating	IPX4		IPX4	IPX4		IPX4	
Motor protection rating	IP44		IP44	IP54		IP54	

VENTS VKV/VKVz/VKVA/VKH/VKHz

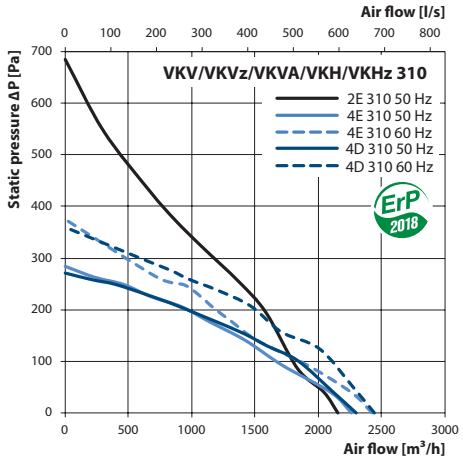


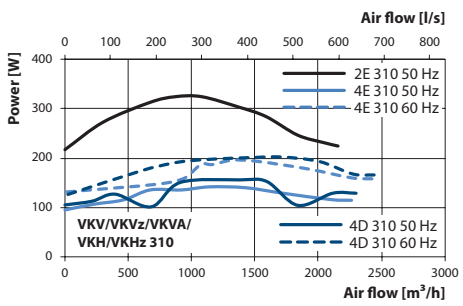


VKV/VKVz/VKVA VKH/VKHz 2E 280 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	76	47	48	55	68	70	70	69	58	55	65
L_{wA} to environment	dBA	78	39	47	61	72	73	73	65	48	57	67

VKV/VKVz/VKVA VKH/VKHz 4E 280 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	66	46	55	53	59	60	59	55	45	45	55
L_{wA} to environment	dBA	67	29	48	57	60	63	59	51	37	46	56

VENTS VKV/VKVz/VKVA/VKH/VKHz





VKV/VKVz/VKVA VKH/VKHz 2E 310 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	76	47	48	56	69	71	71	69	59	56	66
L_{wA} to environment	dBA	79	40	48	62	73	74	74	66	49	58	68

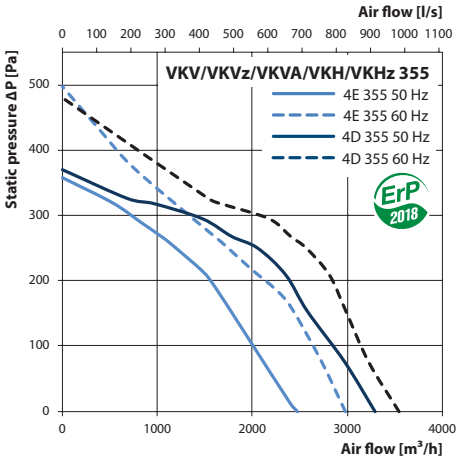
VKV/VKVz/VKVA VKH/VKHz 4E 310 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	67	47	56	54	61	62	61	57	47	47	57
L_{wA} to environment	dBA	68	30	49	58	61	65	60	52	38	47	57

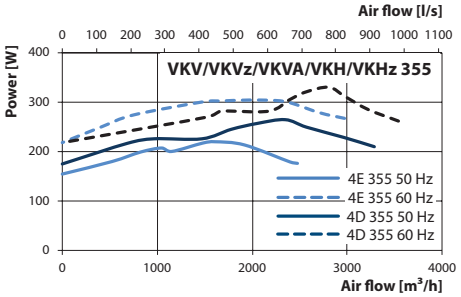
VKV/VKVz/VKVA VKH/VKHz 4D 310 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	67	46	53	56	62	63	58	55	43	47	57
L_{wA} to environment	dBA	67	55	59	56	58	63	58	58	39	47	57

Technical data

	VKV/VKVz/VKVA/ VKH/VKHz 4E 355		VKV/VKVz/VKVA/ VKH/VKHz 4D 355		VKV/VKVz/ VKH/VKHz 4E 400	VKV/VKVz/ VKH/VKHz 6E 400		VKV/VKVz/ VKH/VKHz 4D 400
Voltage [V]	1~230		3~400		1~230	1~230		3~400
Frequency [Hz]	50	60	50	60	50	50	60	50
Power [W]	219	304	264	330	457	184	249	420
Current [A]	0.96	1.33	0.58	0.64	2.00	0.89	1.10	0.99
Max. air flow [m^3/h]	2 480	2 976	3 290	3 540	3 950	2 740	3 289	3 950
RPM [min^{-1}]	1420	1580	1430	1650	1440	945	1071	1440
Sound pressure level at 3 m [dBA]	51	52	52	53	55	47	49	55
Transported air temperature [°C]	-25...+50		-30...+60		-30...+60	-30...+60		-30...+60
Protection rating	IPX4		IPX4		IPX4	IPX4		IPX4
Motor protection rating	IP54		IP54		IP54	IP54		IP54

VENTS VKV/VKVz/VKVA/VKH/VKHz

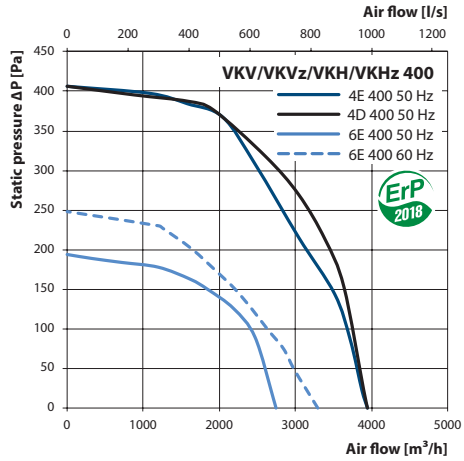


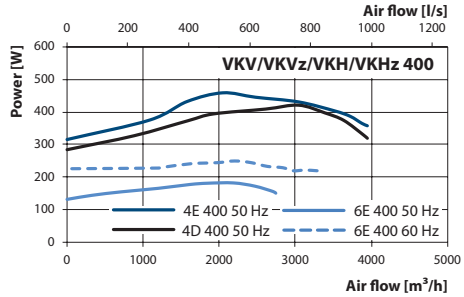


VKV/VKVz/VKVA VKH/VKHz 4E 355 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	69	42	43	50	62	64	64	62	53	49	59
L_{wA} to environment	dBA	72	36	43	56	66	67	67	60	44	51	61

VKV/VKVz/VKVA VKH/VKHz 4D 355 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	71	43	44	52	63	66	66	64	54	50	60
L_{wA} to environment	dBA	73	36	44	57	67	68	68	60	45	52	62

VENTS VKV/VKVz/VKH/VKHz





VKV/VKVz/VKH/VKHz 4E 400 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	75	46	47	55	67	70	70	68	57	54	64
L_{wA} to environment	dBA	76	38	46	59	70	71	71	63	47	55	65

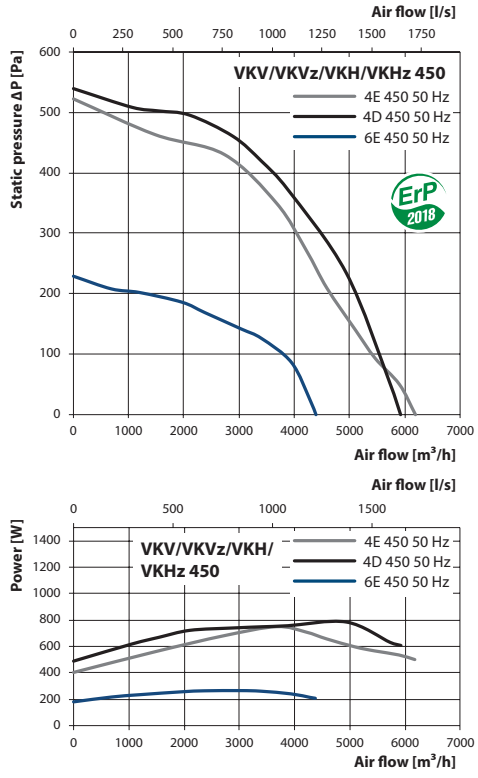
VKV/VKVz/VKH/VKHz 4D 400 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	75	44	73	70	60	58	55	54	43	54	64
L_{wA} to environment	dBA	76	30	56	68	71	70	69	60	46	55	65

VKV/VKVz/VKH/VKHz 6E 400 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	65	44	51	54	60	61	56	52	41	45	55
L_{wA} to environment	dBA	67	55	59	56	58	63	58	58	39	47	57

Technical data

	VKV/VKVz/ VKH/VKHz 4E 450	VKV/VKVz/ VKH/VKHz 6E 450	VKV/VKVz/ VKH/VKHz 4D 450	VKV/VKVz/ VKH/VKHz 4D 500	VKV/VKVz/ VKH/VKHz 6E 500		VKV/VKVz/ VKH/VKHz 6D 500	
Voltage [V]	1~230	1~230	3~400	3~400	1~230		3~400	
Frequency [Hz]	50	50	50	50	50	60	50	60
Power [W]	749	268	755	1527	407	673	440	599
Current [A]	3.35	1.25	1.50	2.64	1.81	3.05	1.23	1.32
Max. air flow [m^3/h]	6 180	4 380	5 920	8 435	5 680	6 532	6 000	6 122
RPM [min^{-1}]	1400	940	1440	1460	970	1120	978	1125
Sound pressure level at 3 m [dBA]	58	50	57	62	52	54	52	54
Transported air temperature [°C]	-30...+60	-30...+60	-30...+50	-30...+50	-25...+60		-25...+60	
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4		IPX4	
Motor protection rating	IP54	IP54	IP54	IP54	IP54		IP54	

VENTS VKV/VKVz/VKVA/VKH/VKHz

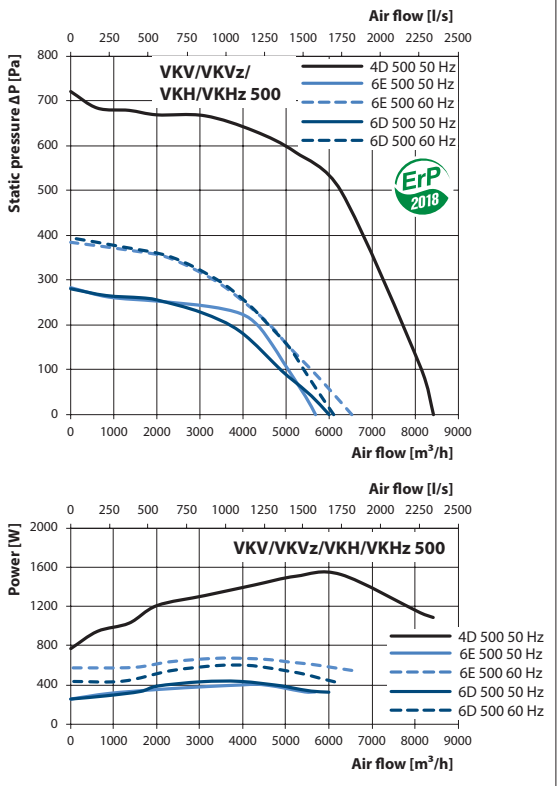


VKV/VKVz/VKH/VKHz 4E 450 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	78	45	75	73	62	60	57	56	45	57	67
L_{wA} to environment	dBA	78	31	58	70	74	73	71	62	47	58	68

VKV/VKVz/VKH/VKHz 4D 450 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	77	45	74	72	61	60	56	55	45	56	66
L_{wA} to environment	dBA	77	31	57	69	73	71	70	61	46	57	67

VKV/VKVz/VKH/VKHz 6E 450 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	68	46	54	57	63	64	59	55	43	48	58
L_{wA} to environment	dBA	70	58	62	59	61	66	60	61	41	50	60

VENTS VKV/VKVz/VKH/VKHz



VKV/VKVz/VKH/VKHz 4D 500 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	82	48	80	77	65	64	60	59	48	61	71
L_{wA} to environment	dBA	83	33	61	74	78	77	76	65	50	62	72

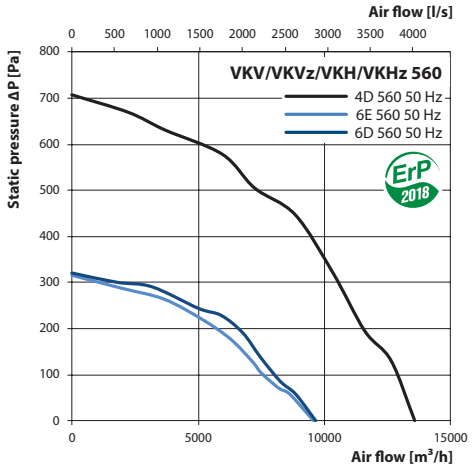
VKV/VKVz/VKH/VKHz 6E 500 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	70	48	56	59	66	66	61	57	45	50	60
L_{wA} to environment	dBA	72	60	64	60	63	68	62	63	42	52	62

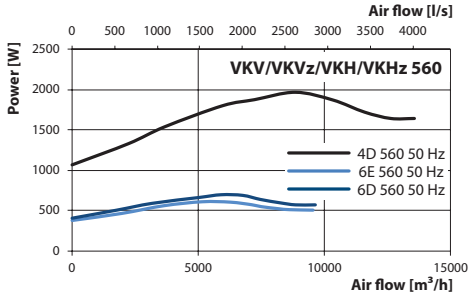
VKV/VKVz/VKH/VKHz 6D 500 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	70	48	55	58	65	66	61	57	44	49	59
L_{wA} to environment	dBA	72	60	64	60	63	68	62	63	42	52	62

Technical data

	VKV/VKVz/ VKH/VKHz 4D 560	VKV/VKVz/ VKH/VKHz 6E 560	VKV/VKVz/ VKH/VKHz 6D 560	VKV/VKVz/ VKH/VKHz 6D 630
Voltage [V]	3~400	1~230	3~400	3~400
Frequency [Hz]	50	50	50	50
Power [W]	1970	613	696	1110
Current [A]	3.36	2.70	1.44	2.42
Max. air flow [m^3/h]	13 560	9 560	9 630	12 640
RPM [min^{-1}]	1400	930	970	957
Sound pressure level at 3 m [dBA]	66	58	58	64
Transported air temperature [°C]	-25...+50	-25...+50	-25...+50	-25...+50
Protection rating	IPX4	IPX4	IPX4	IPX4
Motor protection rating	IP54	IP54	IP54	IP54

VENTS VKV/VKVz/VKH/VKHz



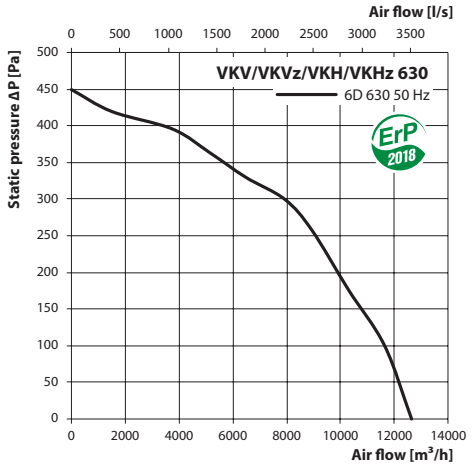


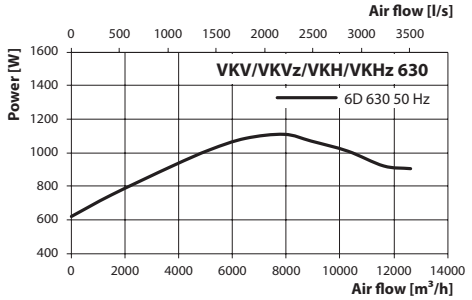
VKV/VKVz/VKH/VKHz 4D 560 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	85	50	83	80	68	66	62	61	49	64	74
L_{wA} to environment	dBA	87	35	65	78	82	81	80	69	53	66	76

VKV/VKVz/VKH/VKHz 6E 560 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	77	64	69	71	70	67	67	66	59	56	66
L_{wA} to environment	dBA	79	52	65	74	73	74	63	57	46	58	68

VKV/VKVz/VKH/VKHz 6D 560 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	77	65	70	71	71	68	68	67	59	57	67
L_{wA} to environment	dBA	79	52	65	74	73	74	63	57	46	58	68

VENTS VKV/VKVz/VKH/VKHz



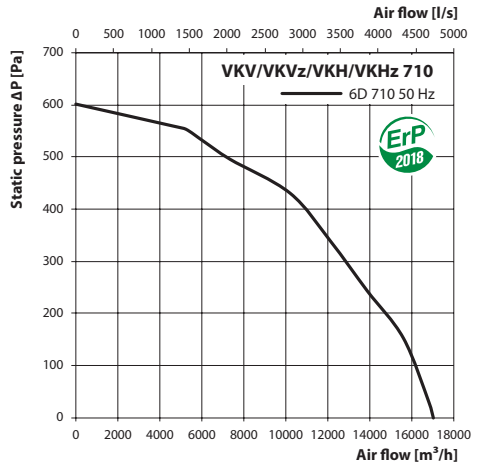


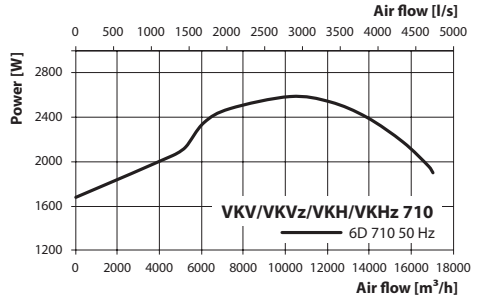
VKV/VKVz/VKH/VKHz 6D 630 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	82	69	74	76	75	72	72	71	63	61	71
L_{wA} to environment	dBA	85	56	70	80	79	80	68	62	50	64	74

Technical data

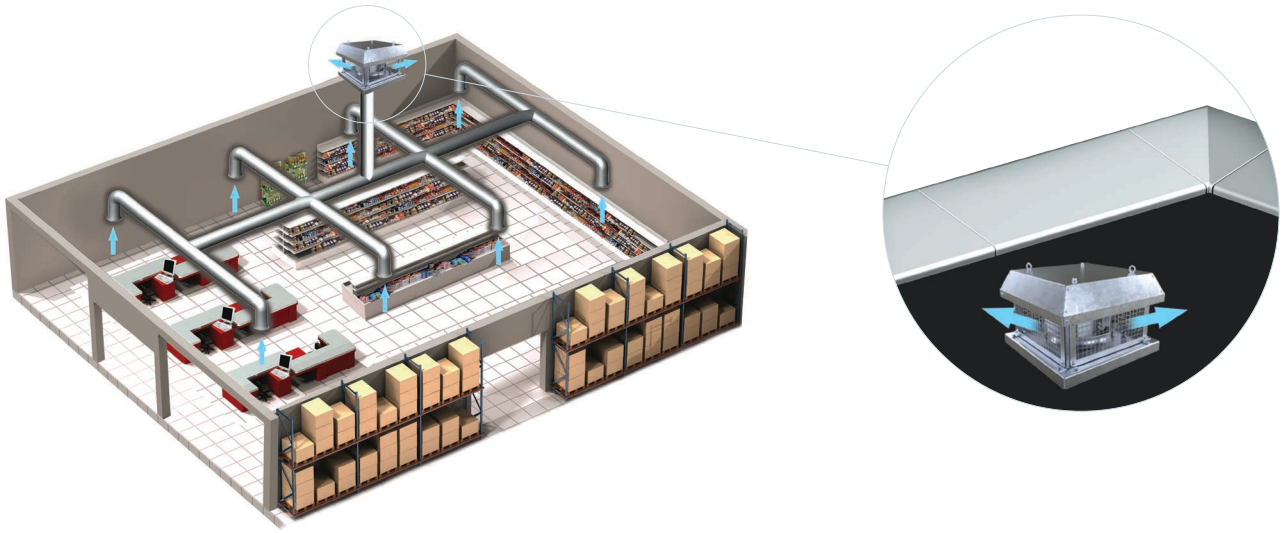
	VKV/VKVz/VKH/VKHz 6D 710
Voltage [V]	3~400
Frequency [Hz]	50
Power [W]	2583
Current [A]	4.87
Max. air flow [m^3/h]	17 010
RPM [min^{-1}]	945
Sound pressure level at 3 m [dBA]	67
Transported air temperature [°C]	-25...+70
Protection rating	IPX4
Motor protection rating	IP54

VENTS VKV/VKVz/VKH/VKHz





VKV/VKVz/VKH/VKHz 6D 710 Sound power level A-weighted		Gen.	Octave-frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to inlet	dBA	85	72	78	80	79	76	76	75	66	65	75
L_{wA} to environment	dBA	88	58	73	83	82	83	71	64	52	67	77



VKH fan store roof ventilation example

Series
VENTS VKV EC
VENTS VKVz EC
VENTS VKVA EC

Roof exhaust centrifugal fans with vertical air exhaust and the air flow up to **18270 m³/h**

Series
VENTS VKH EC
VENTS VKHz EC

Roof exhaust centrifugal fans with horizontal air exhaust and the air flow up to **18270 m³/h**

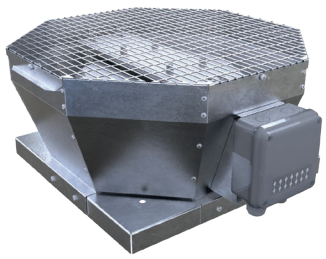
Application
Exhaust ventilation systems for commercial, office and other public or industrial premises for various premises that require reasonable energy saving solutions and controlled ventilation systems. The use of fans equipped with EC motors, provides significant savings in electricity consumption and is the most effective and modern solution in ventilation systems. Such characteristics are especially important for application in public premises as banks, supermarkets, restaurants, hotels, residential premises or domestic spaces.

Design
The fan casing is made of galvanized steel (VKVz EC and VKHz EC), aluminum (VKVA EC) or from steel with polymeric coating (VKV EC and VKH EC).

Motor
The fans are equipped with high-efficient electronically-commutated direct current motors with external rotor and impellers with backward curved blades. EC motor is free of friction and wear parts as a commutator and brushes. These components are replaced by a maintenance-free electronic circuit board. EC motors are featured with high performance and well controllable speed range. Premium efficiency reaching 90 % is a definite advantage of electronically commutated motors.

Integrated functions and control
The fan is controlled by an external 0-10 V control signal. The fan capacity is regulated depending on temperature, pressure, smoke level etc. The fan has low energy consumption at any speed. Maximum fan speed does not depend on the available current frequency and is suitable for operation both at 50 and 60 Hz. Several fans can be integrated into a single computer-driven control system. Custom designed software provides high accuracy control of the fans integrated into a network. The LED-display of the computer shows all the system parameters and the operation mode can be set individually for each fan in the network.

Mounting
VKV/VKH...EC fans are designed for mounting on the roof. The mounting plate enables the fan installation on a level surface directly above a ventilation shaft or air duct and the holes on this mounting plate provide reliable rigid fixing of the fan to a static surface. While mounting the VKH...EC fans to the level surface provide a support to exclude possible water or snow ingress into an exhaust vent of the respective ventilation shaft. While installing the fan provide enough space for maintenance works. For connection of the fans to round air ducts use the following accessories: KKV damper, GVK flexible connector, FKV counter flange. For mounting of the fans to flat surface use the mounting frame RKV.



Model VENTS VKVA EC (aluminum)

Model VENTS VKH EC (painted steel)

Designation key

Series and modification	Casing material	Turbine standard size	Motor type
VENTS VKV: vertical air exhaust **VENTS VKH**: horizontal air exhaust	z: galvanized steel (by default) _: steel with polymeric coating A: aluminum	190; 225; 250; 280; 310; 355; 400; 450; 500; 560; 630	**EC**: synchronous electronically commutated motor

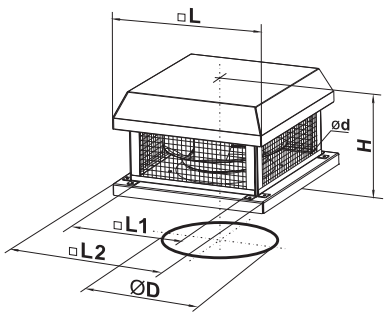
Accessories

Back valve | Flexible connector | Counterflange | Mounting frame | Silencers | Backdraft damper | Air shutter | Speed controller

Fan overall dimensions

Type	Dimensions [mm]						Weight [kg]
	ØD	Ød	H	L	L1	L2	
VKH/VKHz 190 EC	213	11	189	351	245	350	8
VKH/VKHz 225 EC	213	11	234	351	245	350	8
VKH/VKHz 250 EC	285	11	237	451	330	450	13
VKH/VKHz 280 EC	285	11	263	451	330	450	13
VKH/VKHz 310 EC	285	11	263	451	330	450	16
VKH/VKHz 355 EC	438	11	322	625	450	620	27
VKH/VKHz 400 EC	438	11	384	625	450	620	27
VKH/VKHz 450 EC	438	11	420	710	535	700	46
VKH/VKHz 500 EC	445	11	467	710	535	700	51
VKH/VKHz 560 EC	605	14	489	900	750	895	71
VKH/VKHz 630 EC	600	20	520	1000	750	990	101

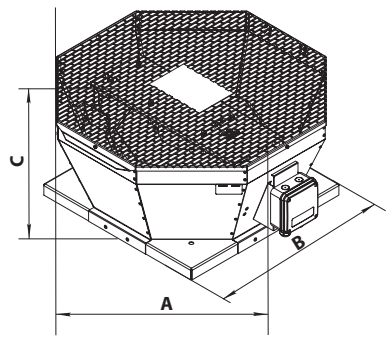
VKH EC

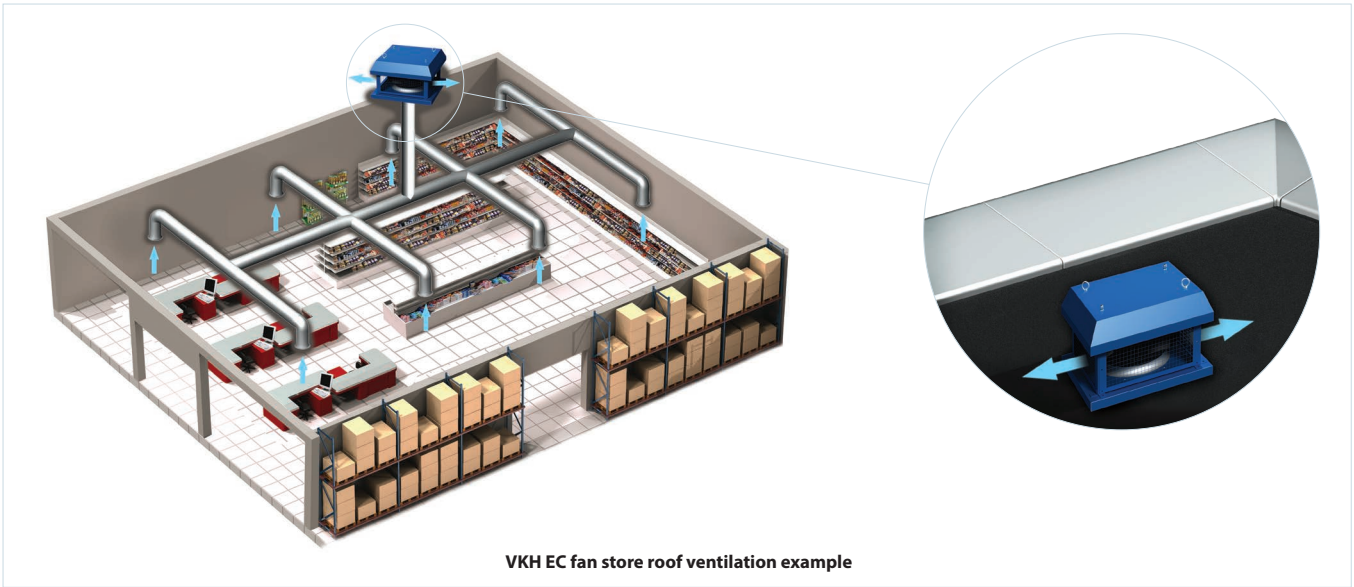


Fan overall dimensions

Type	Dimensions [mm]			Weight [kg]
	A	B	C	
VKV/VKVz/VKVA 190 EC	417	354	166	7
VKV/VKVz/VKVA 225 EC	417	355	210	7
VKV/VKVz/VKVA 250 EC	481	425	236	11
VKV/VKVz/VKVA 280 EC	547	425	274	14
VKV/VKVz/VKVA 310 EC	613	477	296	20
VKV/VKVz/VKVA 355 EC	738	598	326	23
VKV/VKVz 400 EC	738	598	371	35
VKV/VKVz 450 EC	738	668	425	44
VKV/VKVz 500 EC	859	668	455	52
VKV/VKVz 560 EC	859	833	478	63
VKV/VKVz 630 EC	951	890	530	80

VKV EC



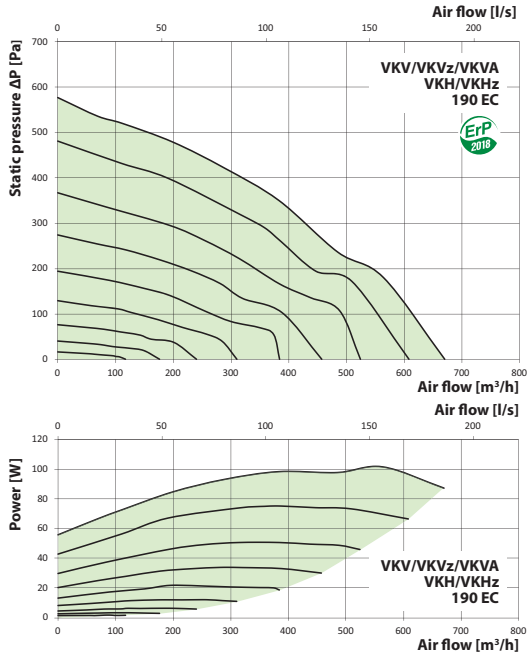


VKH EC fan store roof ventilation example

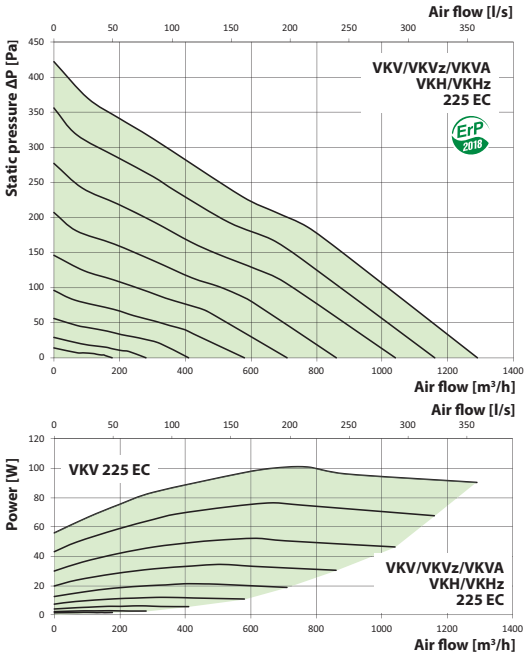
Technical data

	VKV/VKVz/VKVA/ VKH/VKHz 190 EC	VKV/VKVz/VKVA/ VKH/VKHz 225 EC	VKV/VKVz/VKVA/ VKH/VKHz 250 EC	VKV/VKVz/VKVA/ VKH/VKHz 280 EC
Voltage [V/50 (60) Hz]	1~230	1~230	1~230	1~230
Power [W]	102	101	161	182
Current [A]	0.77	0.80	1.29	1.34
Max. air flow [m³/h]	670	1 290	1 470	2 330
RPM [min⁻¹]	3520	2400	3300	2610
Noise level at 3 m [dBA]	52	47	54	48
Transported air temperature [°C]	-25...+60	-25...+60	-25...+60	-20...+60
Turbine protection rating	IP55	IP55	IP55	IP44
Protection rating	IPX4	IPX4	IPX4	IPX4
SEC class	B	-	-	-

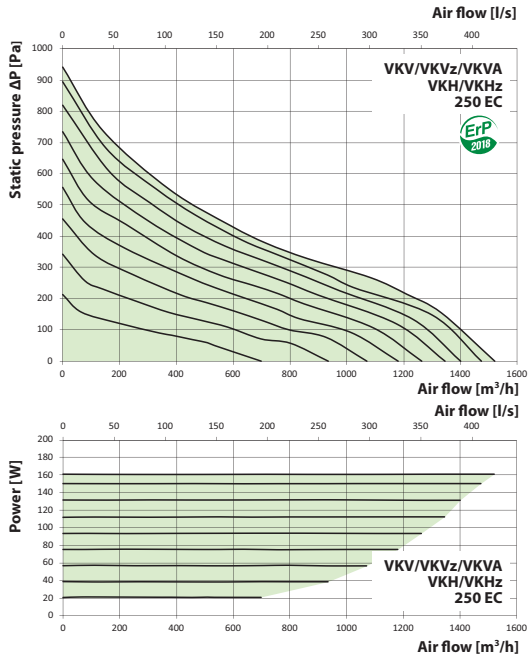
VENTS VKV/VKVz/VKVA/VKH/VKHz EC



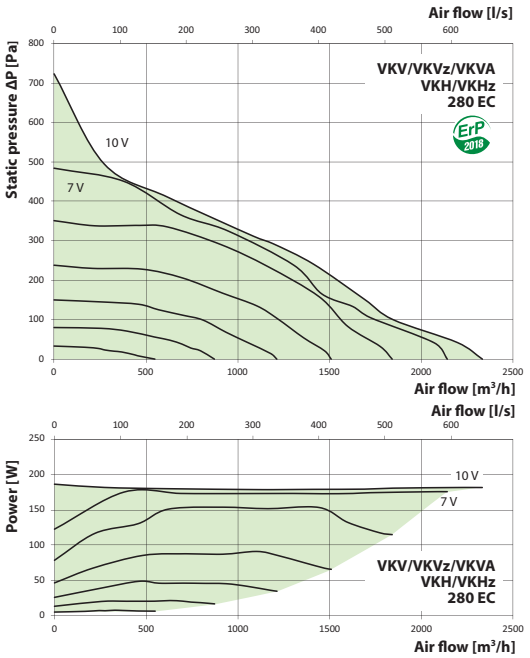
VENTS VKV/VKVz/VKVA/VKH/VKHz EC



VENTS VKV/VKVz/VKVA/VKH/VKHz EC

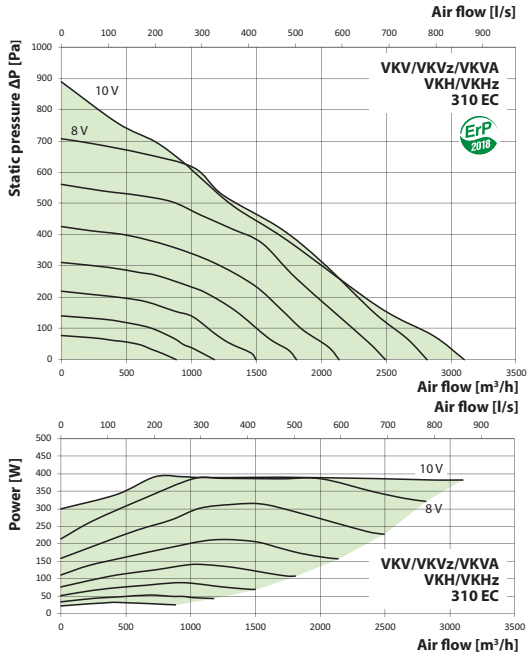


VENTS VKV/VKVz/VKVA/VKH/VKHz EC

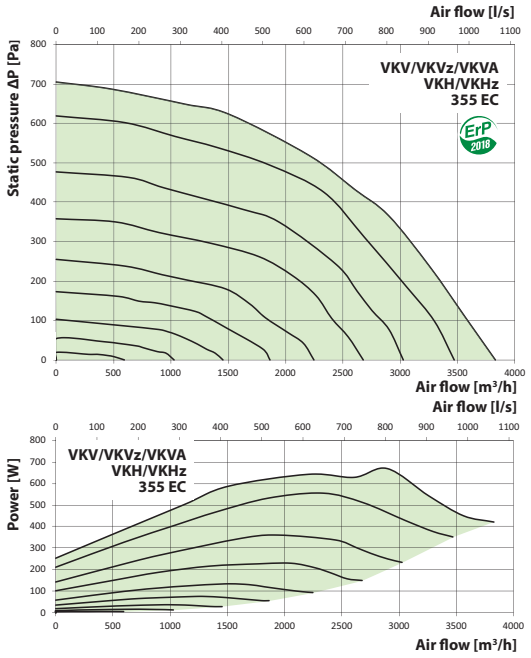


	VKV/VKVz/VKVA/ VKH/VKHz 310 EC	VKV/VKVz/VKVA/ VKH/VKHz 355 EC	VKV/VKVz/ VKH/VKHz 400 EC	VKV/VKVz/ VKH/VKHz 450 EC
Voltage [V/50 (60) Hz]	1~230	1~230	1~230	3~400
Power [W]	391	669	526	1323
Current [A]	1.72	4.95	3.90	3.27
Max. air flow [m³/h]	3 100	3 830	5 380	8 110
RPM [min⁻¹]	2600	1550	1450	1560
Noise level at 3 m [dBA]	49	51	58	63
Transported air temperature [°C]	-20...+60	-25...+50	-25...+50	-20...+60
Turbine protection rating	IP54	IP54	IP54	IP54
Protection rating	IPX4	IPX4	IPX4	IPX4
SEC class	-	-	-	-

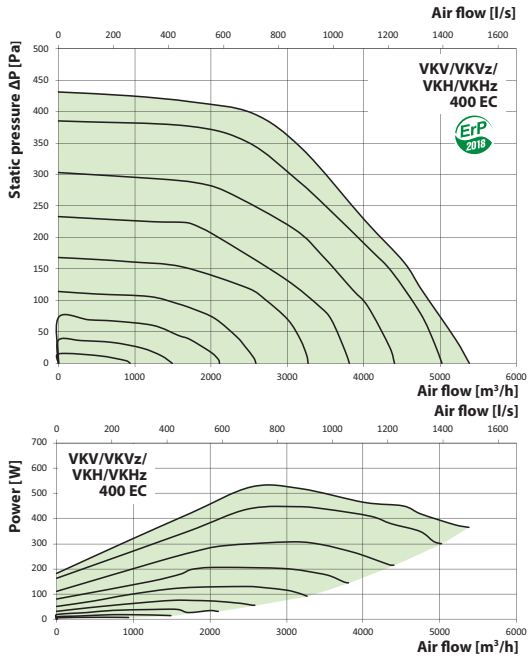
VENTS VKV/VKVz/VKVA/VKH/VKHz EC



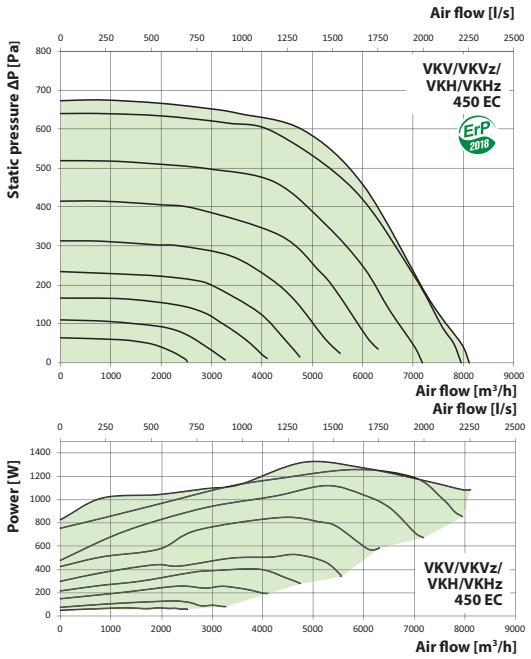
VENTS VKV/VKVz/VKVA/VKH/VKHz EC



VENTS VKV/VKVz/VKH/VKHz EC



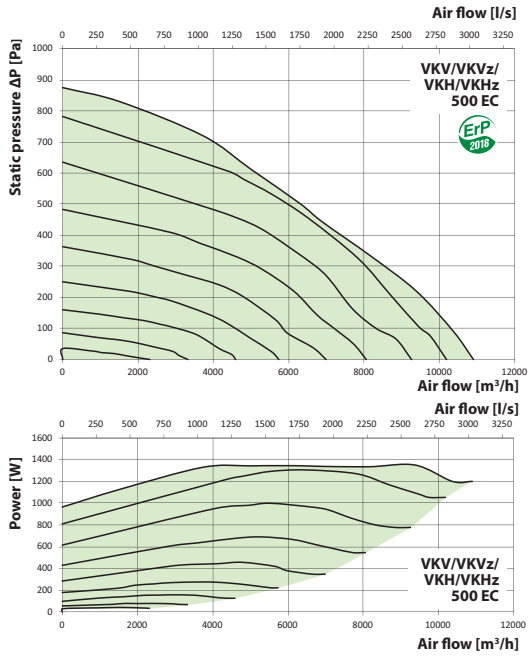
VENTS VKV/VKVz/VKH/VKHz EC



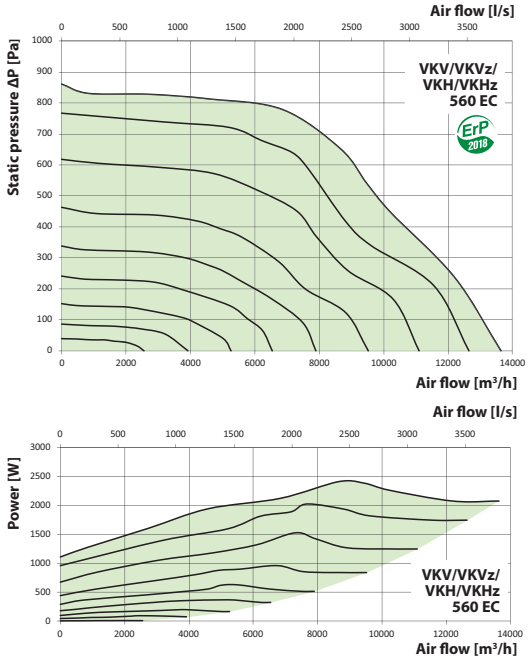
Technical data

	VKV/VKVz/ VKH/VKHz 500 EC	VKV/VKVz/ VKH/VKHz 560 EC	VKV/VKVz/ VKH/VKHz 630 EC
Voltage [V/50 (60) Hz]	3~400	3~400	3~400
Power [W]	1350	2412	2973
Current [A]	2.08	3.83	4.66
Max. air flow [m³/h]	10 900	13 640	18 270
RPM [min⁻¹]	1480	1540	1450
Noise level at 3 m [dBA]	67	69	71
Transported air temperature [°C]	-25...+50	-25...+60	-25...+55
Turbine protection rating	IP54	IP54	IP54
Protection rating	IPX4	IPX4	IPX4
SEC class	-	-	-

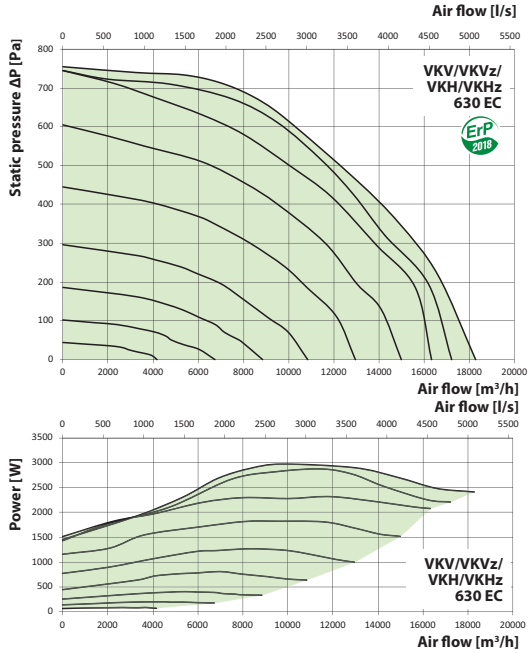
VENTS VKV/VKVz/VKH/VKHz EC



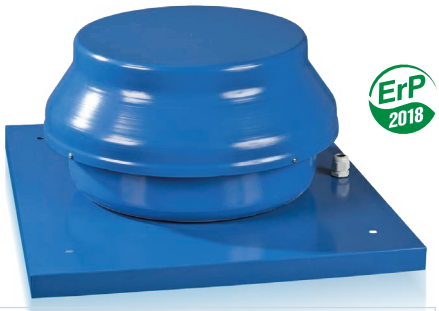
VENTS VKV/VKVz/VKH/VKHz EC



VENTS VKV/VKVz/VKH/VKHz EC



Series
VENTS VKMK



Centrifugal roof fans
with the air flow
up to **1880 m³/h (50 Hz)**
and up to **1920 m³/h (60 Hz)**
in the steel casing with the horizontal exhaust of air

Applications
Exhaust ventilation systems for commercial, office and other public or industrial premises. Suitable for mounting on any roof types as well as connection to Ø 150 up to 315 mm round air ducts.

Design
The fan casing is made of steel with polymeric coating. A thin steel connection plate is provided at the bottom of VKMKp model.

Motor
The centrifugal impeller with backward curved blades is powered by means of the single phase motor with external rotor. The motors are equipped with thermal overheating protection with automatic restart as well as ball bearings for long service life. For precise features, safe operation and low noise of the fan, each turbine is dynamically balanced while assembly. Motor protection rating IP44.

Speed control
Smooth or step speed control is performed by means of the thyristor or autotransformer controller. Several fans can be connected to one controller in case the total power and operating current do not exceed the rated controller values.

Mounting
The fan is mounted on the roof directly above the ventilating duct or shaft and is firmly fixed to the flat surface by means of a connecting plate. Electrical connection and mounting shall be performed in compliance with the manual and wiring diagram on the terminal box.

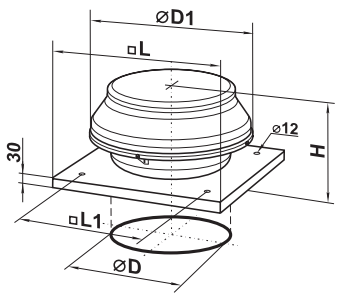
Technical data

	VKMK 150		VKMK 200		VKMK 250		VKMK 315	
Voltage [V]	1~230		1~230		1~230		1~230	
Frequency [Hz]	50	60	50	60	50	60	50	60
Power [W]	98	119	154	205	194	240	296	413
Current [A]	0.43	0.52	0.67	0.9	0.85	1.05	1.34	1.8
Max. air flow [m³/h]	555	580	950	1000	1310	1340	1880	1920
RPM [min⁻¹]	2705	2855	2375	2510	2790	2860	2720	2780
Noise level at 3 m [dBA]	47	48	48	50	52	53	54	55
Transported air temperature [°C]	-25...+55	-25...+50	-25...+50	-25...+50	-25...+50	-25...+50	-25...+50	-25...+50
SEC class	B		B		-		-	
Protection rating	IPX4		IPX4		IPX4		IPX4	

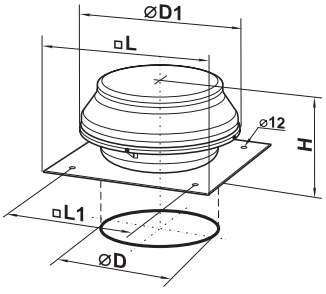
Fan overall dimensions

Type	Dimensions [mm]					Mass [kg]
	ØD	ØD1	H	L	L1	
VKMK 150	149	400	230	440	330	7.2
VKMK 200	198	400	250	440	330	8.1
VKMK 250	248	400	249	590	450	10.1
VKMK 315	315	550	339	590	450	12.3
VKMKp 150	149	400	230	440	330	6.8
VKMKp 200	198	400	250	440	330	7.7
VKMKp 250	248	400	249	590	450	9.6
VKMKp 315	315	550	339	590	450	11.6

VKMK



VKMKp



Designation key

Series	
VENTS VKMK	**p**: flat connection plate

Spigot diameter
150; 200; 250; 315

Accessories


Mounting frame


Silencers

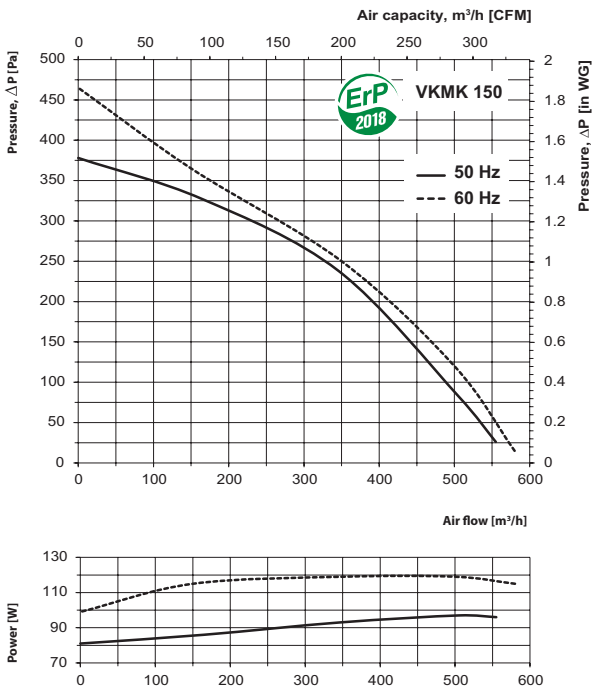

Backdraft damper


Air shutter


Speed controllers

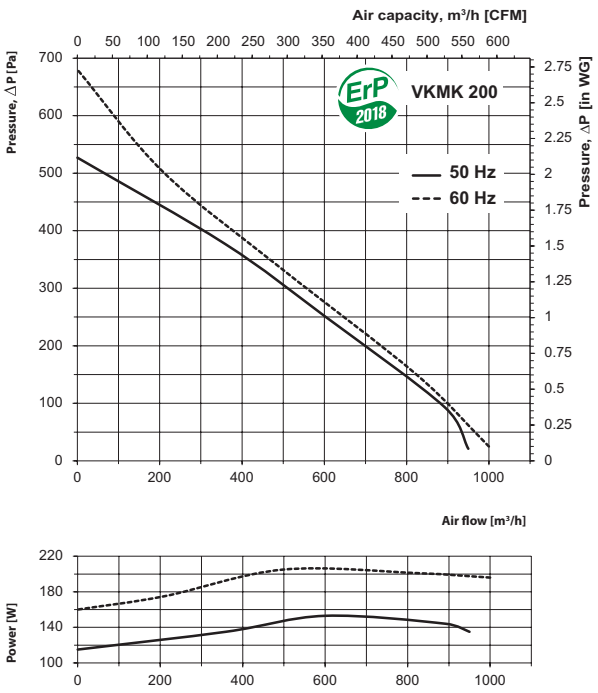
ErP data	
Overall efficiency	η [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	kW
Current	A
Air flow	m³/h
Static pressure	Pa
Speed	n/min⁻¹
Specific ratio	SR

VENTS VKMK



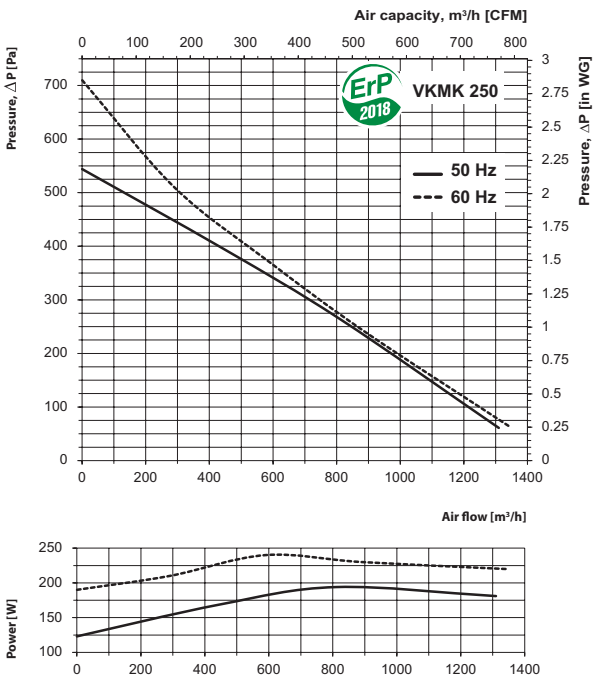
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	71	45	65	64	63	61	60	48	39
L_{wA} to environment	dBA	64	39	59	55	37	20	17	26	20

VENTS VKMK



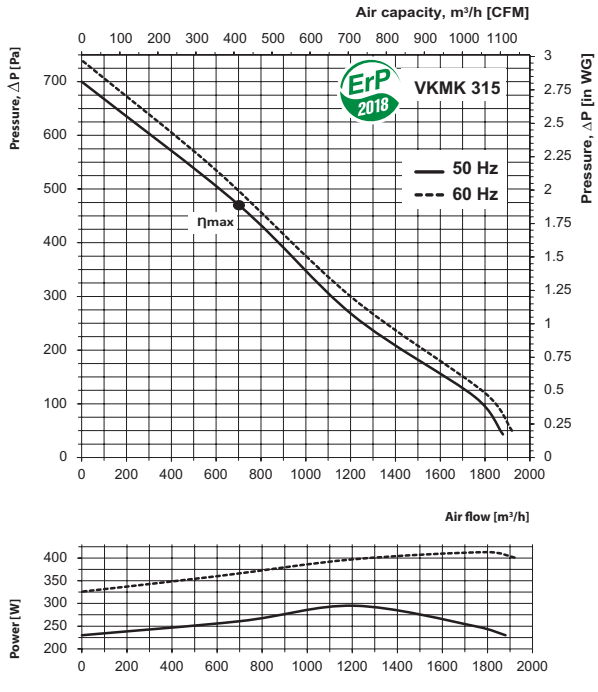
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	77	49	69	67	72	65	61	58	50
L_{wA} to environment	dBA	64	45	63	61	48	31	25	47	41

VENTS VKMK



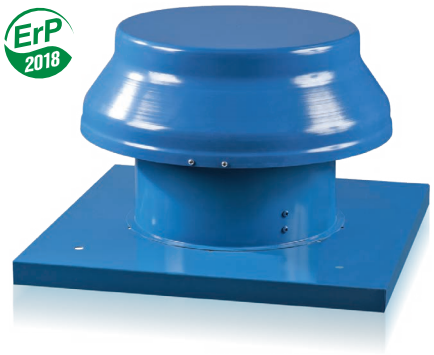
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	74	58	65	66	69	66	62	53	47
L_{wA} to environment	dBA	65	57	64	60	49	39	39	44	40

VENTS VKMK



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	77	55	67	68	72	68	66	62	60
L_{wA} to environment	dBA	68	52	64	63	55	47	52	57	50

Series
VENTS VOK



Axial roof fans with the air capacity up to **2500 m³/h** in the steel casing with the horizontal exhaust of air

Applications
Exhaust ventilation systems for commercial, office and other public or industrial premises for various premises for roof mounting. Compatible with Ø 200 to 500 mm round air ducts.

Design
The fan casing is made of steel with polymeric coating.

Motor
The impellers are powered with two- or four-pole, single phase asynchronous motors with external rotor and built-in thermal overheating protection with automatic restart depending on the model. Ball bearings in the motor ensure long service life. Motor protection rating IP44.

Speed control
Both smooth or step speed control is performed by means of the thyristor or autotransformer controller. Several fans can be connected to one controller under condition that the total power and operating current do not exceed the rated controller values.

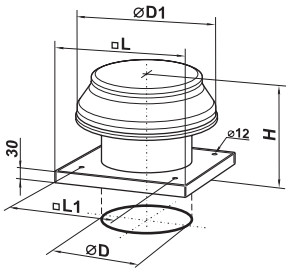
Mounting
The fan is mounted on the roof directly above the ventilating duct or shaft and is firmly fixed to the flat surface by means of a connecting plate. While mounting VOK fans directly onto the flat roof a supporting block shall be provided to prevent water and snow drops into the vent of the ventilation shaft. Electrical connection and installation shall be performed in compliance with the manual and circuit diagram on the terminal box.

Technical data

	VOK 2E 200		VOK 2E 250		VOK 4E 250		VOK 2E 300		VOK 4E 300		VOK 4E 350	
Voltage [V]	1~230											
Frequency [Hz]	50	60	50	60	50	60	50	60	50	60	50	60
Power [W]	55	61	80	91	50	56	145	178	75	92	140	147
Current [A]	0.26	0.28	0.4	0.42	0.22	0.24	0.66	0.79	0.35	0.4	0.65	0.66
Max. air flow [m³/h]	860	875	1050	1150	800	865	2230	2280	1340	1475	2500	2650
RPM [min⁻¹]	2300	2550	2400	2990	1380	1730	2300	2410	1350	1405	1380	1700
Noise level at 3 m [dBA]	50	51	60	61	55	56	60	61	58	59	62	63
Transported air temperature [°C]	-30...+60	-30...+50	-30...+60	-30...+50	-30...+60	-30...+50	-30...+60	-30...+50	-30...+60	-30...+50	-30...+60	-30...+50
Protection rating	IP24 (VKF IPX4)											

Fan overall dimensions

Type	Dimensions [mm]					Mass [kg]
	ØD	ØD1	H	L	L1	
VOK 2E 200	208	345	280	425	330	5.0
VOK 2E 250	262	405	280	425	330	7.0
VOK 4E 250	262	405	280	425	330	7.0
VOK 2E 300	314	555	340	585	450	10.5
VOK 4E 300	314	555	340	585	450	10.5
VOK 4E 350	364	555	350	655	535	12.0



Designation key

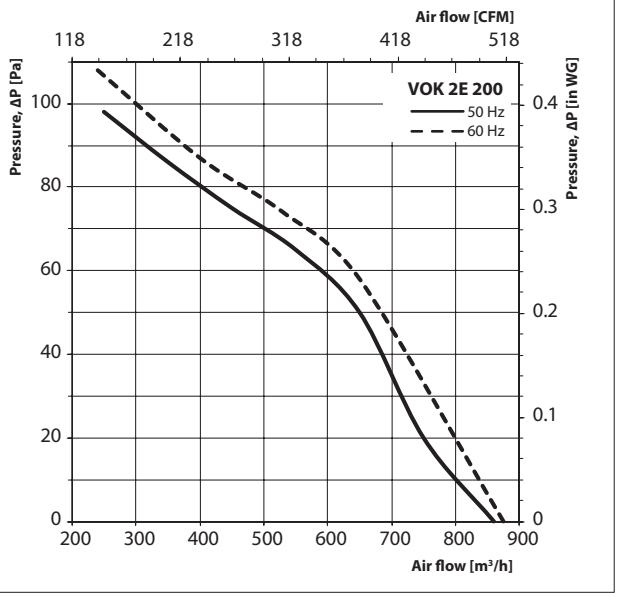
Series	Motor modification		Impeller diameter
	Number of poles	Phase	
VENTS VOK	2 4	**E**: single phase	200; 250; 300; 350

Accessories

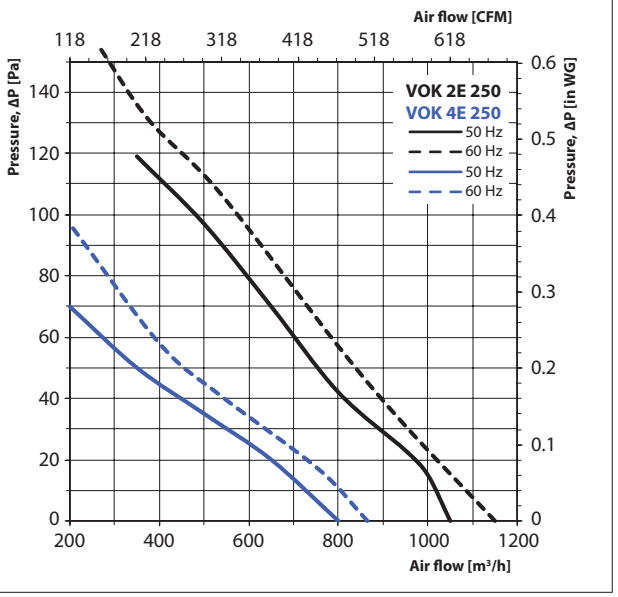
Mounting frame · Silencers · Backdraft damper · Air shutter · Speed controllers

ErP data	
Overall efficiency	η [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	kW
Current	A
Air flow	m³/h
Static pressure	Pa
Speed	n/min⁻¹
Specific ratio	SR

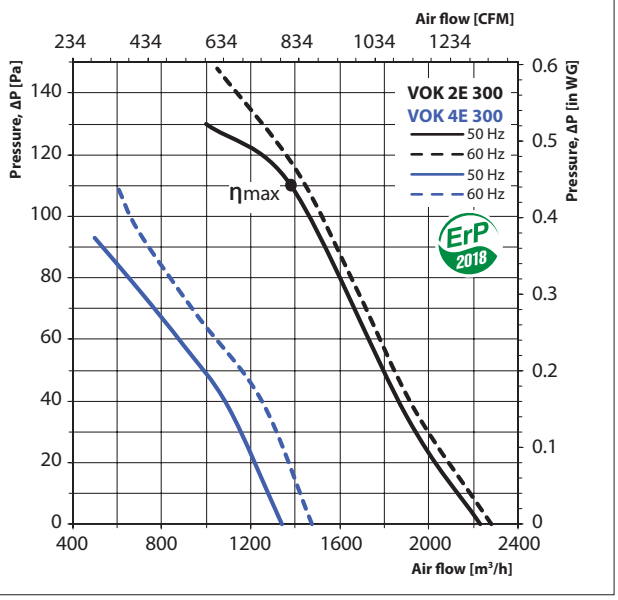
VENTS VOK



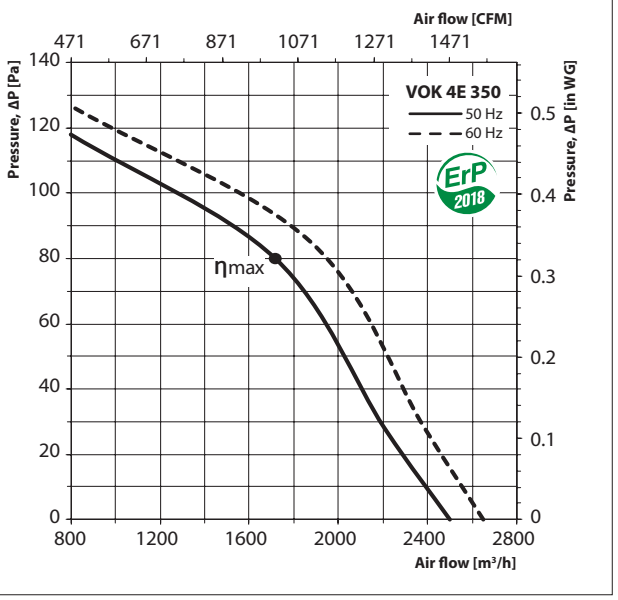
VENTS VOK



VENTS VOK



VENTS VOK



Series
VENTS VOK1

Axial roof fans with the air capacity up to **1700 m³/h** in the steel casing with the horizontal exhaust of air

Applications
Exhaust ventilation systems for commercial, office and other public or industrial premises for various premises suitable for roof mounting. Compatible with Ø 200 to 315 mm round air ducts.

Design
The fan casing is made of steel with polymeric coating, impeller is made of aluminium.

Motor
Single phase asynchronous motor with external rotor and built-in thermal protection with automatic restart. Ball bearings ensure long service life. Motor protection rating IP44.

Speed control
Both smooth or step speed control is performed by means of the thyristor or autotransformer controller. Several fans can be connected to one controller under condition that the total power and operating current do not exceed the rated controller values.

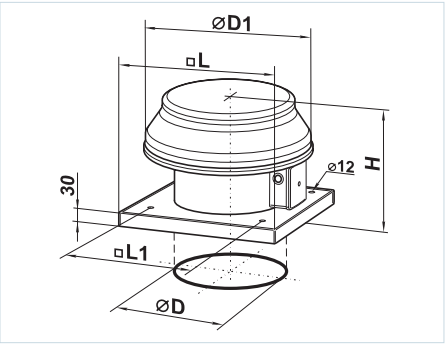
Mounting
The fan is mounted on the roof directly above the ventilating duct or shaft and is firmly fixed to the flat surface by means of a connecting plate. While mounting VOK1 fans directly onto the flat roof a supporting block shall be provided to prevent water and snow drops into the vent of the ventilation shaft. Electrical connection and installation shall be performed in compliance with the manual and wiring diagram on the terminal box.

Technical data

	VOK1 200		VOK1 250		VOK1 315	
Voltage [V]			1~230			
Frequency [Hz]	50	60	50	60	50	60
Power [W]	43	33	68	76	110	104
Current [A]	0.28	0.21	0.48	0.51	0.75	0.7
Max. air flow [m³/h]	405	470	1070	1050	1700	1650
RPM [min⁻¹]	1300	1615	1300	1450	1300	1365
Noise level at 3 m [dBA]	32	31	48	48	54	54
Transported air temperature [°C]	40					
Protection rating	IP24 (VKOM IPX4)					

Fan overall dimensions

Type	Dimensions [mm]					Mass [kg]
	ØD	ØD1	H	L	L1	
VOK1 200	208	345	280	425	330	6.1
VOK1 250	262	405	300	425	330	7.2
VOK1 315	314	555	380	585	450	11.5



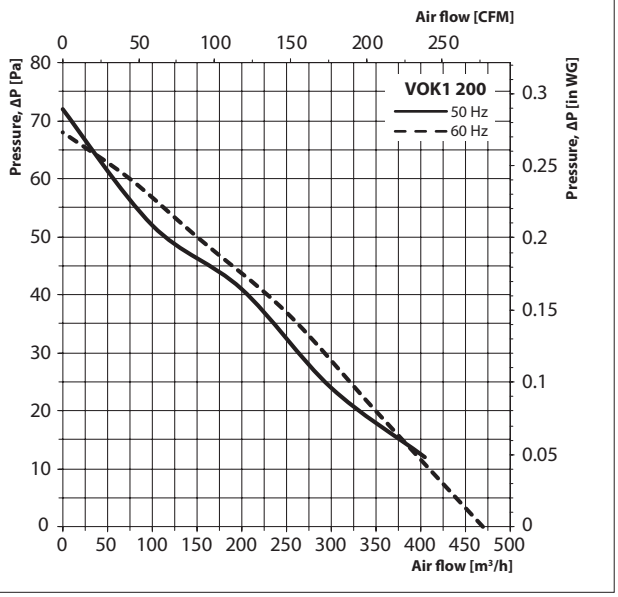
Designation key

Series	Impeller diameter
VENTS VOK1	200; 250; 315

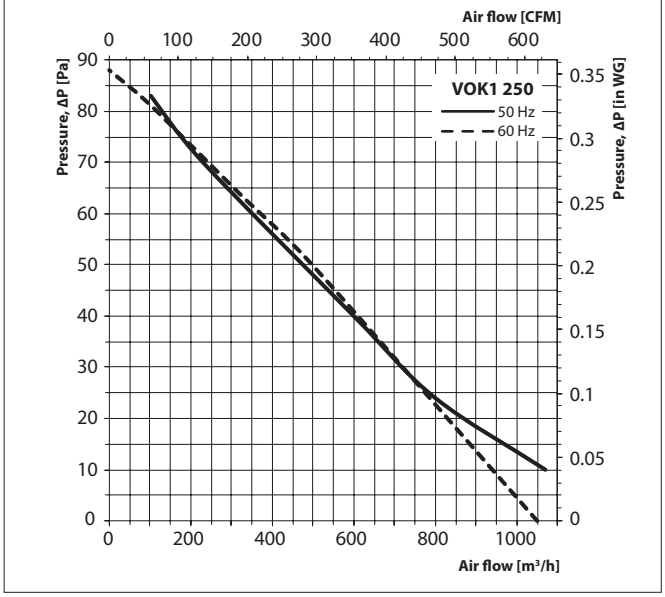
Accessories

Mounting frame | Silencers | Backdraft damper | Air shutter | Speed controllers

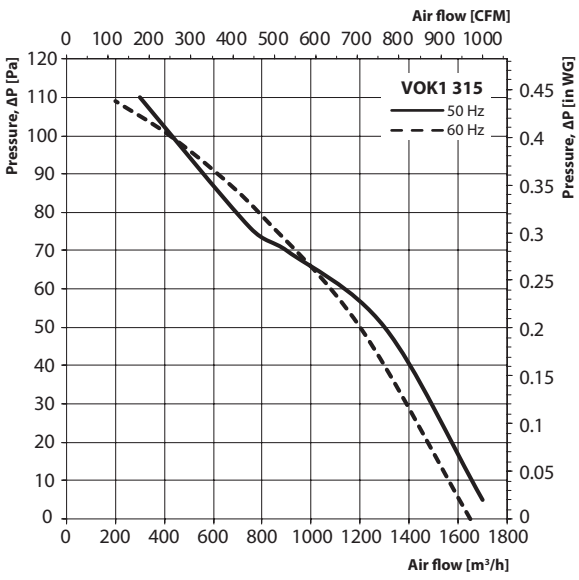
VENTS VOK1



VENTS VOK1



VENTS VOK1



Backdraft damper
KKV

Application

The KKV backdraft damper is designed for automatic shutoff of the air duct during the fan standby and reverse back flow prevention when the ventilation system is off. Designed for mounting of VKV, VKH, VKV EC, VKH EC fan series.

Design

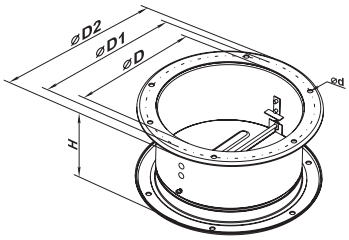
The casing and the rotating blade is made of galvanized steel plate. The damper vane is opened under air flow pressure and is automatically closed at no air supply. The backdraft damper has gravitation operating mechanism.

Mounting

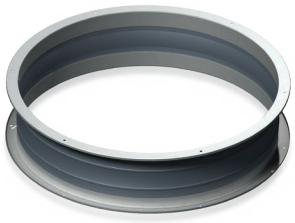
The damper is mounted into the ventilation system by means of fixing the end flanges to the mating flanges in the system. Fixation is effected with galvanized bolts and clamps. The connectors are suitable for installation into vertical exhaust air ducts only (no spring).

Overall dimensions

Type	Standard size of compatible fans	Dimensions [mm]					Mass [kg]
		ØD	ØD1	ØD2	Ød	H	
KKV 220-225	190, 220, 225	183	213	235	7	115	1.0
KKV 250-315	250, 280, 310	256	285	306	7	156	1.7
KKV 355-500	355, 400, 450, 500	402	438	464	9	220	3.5
KKV 560	560, 630	565	605	638	10	300	7.3
KKV 710	710	635	674	708	10	380	14.1



Flexible connector
GKV



Application

The GKV flexible connectors are designed for minimizing the vibration transmission from fans to the air duct as well as partial compensation of thermal distortion in the ductworks. Applied in ventilation systems with the transferred air temperature over the range of -40 °C to +80 °C. Designed for mounting of VKV, VKH, VKV EC, VKH EC fan series.

Design

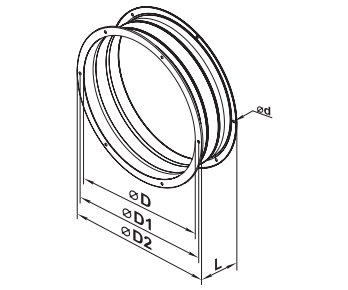
The flexible connectors consist of two flanges made of galvanized steel plates that are connected by a vibration-isolating material made of polyethylene band reinforced with polyamide textile. The connectors are not designed for mechanical load and cannot be used as a part of load-bearing construction.

Mounting

The connectors are mounted into the ventilation system by fixing the end flanges to the mating flanges in the system. Fixation is effected with galvanized bolts and clamps.

Overall dimensions

Type	Standard size of compatible fans	Dimensions [mm]					Mass [kg]
		ØD	ØD1	ØD2	Ød	L	
GKV 220-225	190, 220, 225	183	210	235	7	200	0.8
GKV 250-315	250, 280, 310	256	285	308	7	200	1.2
GKV 355-500	355, 400, 450, 500	402	430	484	9	200	1.75
GKV 560	560, 630	567	605	639	9	200	2.62
GKV 710	710	630	674	705	10	260	7.1



Mating flange

FKV

Application

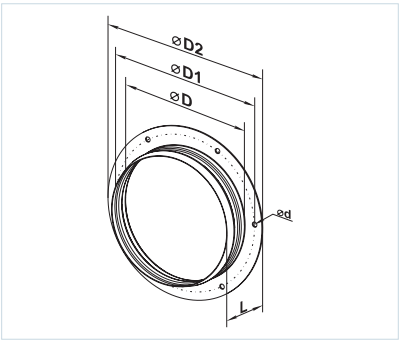
Designed for connection of the round air ducts with roof fans VKV, VKH, VKV EC, VKH EC.

Design

Made of galvanized steel.

Overall dimensions

Type	Standard size of compatible fans	Dimensions [mm]					Mass [kg]
		ØD	ØD1	ØD2	Ød	L	
FKV 220-225	190, 220, 225	183	210	235	7	40	0.34
FKV 250-315	250, 280, 310	256	285	306	7	40	0.52
FKV 355-500	355, 400, 450, 500	402	430	464	9	40	1.05
FKV 560	560, 630	567	605	639	9	40	1.60
FKV 710	710	634	674	708	9	40	3.15



Mounting frame

RKV
(RKVI – insulated)

Application

The mounting frame RKV (RKVI) is designed for mounting of roof fans on a flat surface, for example, for mounting of VKV, VKH, VKV EC, VKH EC , VKMK, VKMKp, VOK, VOK1 fan series.

Design

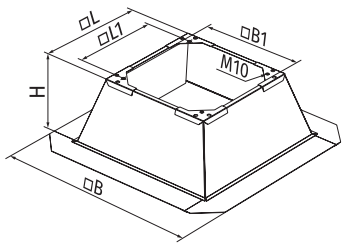
The RKV casing is made of galvanized steel and the RKVI casing is made of galvanized steel and provided with 20 mm thick thermal-insulating layer based on mineral cotton. The frame casing fully disables any water ingress and is used for final isolation directly on the roof. Specially designed flanges at the frame base ensure its easy and reliable mounting on the roof.

The models with the standard size 630 to 1100 are equiped with a detachable bolted panel for facilitation of mounting.

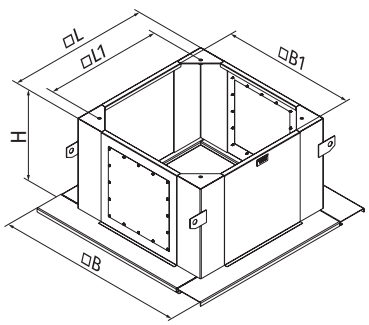
Overall dimensions

Type	Standard size of compatible fans	Dimensions [mm]					Mass [kg]
		B	B1	H	L	L1	
RKV 220-225	190, 220, 225	720	254	300.5	301	245	10.4
RKV 250-315	250, 280, 310	810	352	300.5	401	330	12.0
RKV 355-400	355, 400	980	506	300.5	561	450	16.4
RKV 450-500	450, 500	997	576	300.5	631	535	16.9
RKV 560	560	1180	769.9	300.5	817	750	26.7
RKV 630	630	1212	852	600.0	912	750	65.9
RKV 710, 800	710,800	1262	902	600.0	962	840	68.5
RKV 900	900	1512	1152	650.0	1212	1050	85.7
RKV 1000, 1100	1000, 1100	1712	1352	730.0	1412	1240	103.7

Type	Standard size of compatible fans	Dimensions [mm]					Mass [kg]
		B	B1	H	L	L1	
RKVI 220-225	190, 220, 225	720	254	300.5	301	245	13.8
RKVI 250-315	250, 280, 310	810	352	300.5	401	330	16.9
RKVI 355-400	355, 400	980	506	300.5	561	450	20.3
RKVI 450-500	450, 500	997	576	300.5	631	535	21.2
RKVI 560	560	1180	769.9	300.5	817	750	35.7
RKVI 630	630	1212	850	600.0	912	750	85.5
RKVI 710, 800	710,800	1262	900	600.0	962	840	89.0
RKVI 900	900	1512	1150	650.0	1212	1050	113.0
RKVI 1000, 1100	1000, 1100	1712	1350	730.0	1412	1240	140.6



RKV 220-225 - RKV 560
RKVI 220-225 - RKVI 560



RKV 630 - RKV 1000-1100
RKVI 630 - RKVI 1000-1100

ELECTRICAL ACCESSORIES COMPATIBILITY

		VKV 2E 220 VKH 2E 220	VKV 2E 225 VKH 2E 225	VKV 2E 250 VKH 2E 250	VKV 2E 280 VKH 2E 280	VKV 4E 310 VKH 4E 310	VKV 4D 310 VKH 4D 310	VKV 4E 355 VKH 4E 355	VKV 4D 355 VKH 4D 355	VKV 4E 400 VKH 4E 400	VKV 4D 400 VKH 4D 400	VKV 4E 450 VKH 4E 450	VKV 4D 450 VKH 4D 450	VKV 6E 500 VKH 6E 500	VKV 250 EC VKH 250 EC	VKV 280 EC VKH 280 EC	VKV 310 EC VKH 310 EC	VKV 355 EC VKH 355 EC	VKV 400 EC VKH 400 EC	VKV 450 EC VKH 450 EC	VKV 500 EC VKH 500 EC	VKV 560 EC VKH 560 EC
Thyristor speed controllers																						
	RS-1-300	●	●	●	●	●		●														
	RS-1-400	●	●	●	●	●		●						●								
	RS-1 N (V)	●	●	●		●																
	RS-1,5 N (V)	●	●	●	●	●		●														
	RS-2 N (V)	●	●	●	●	●		●						●								
	RS-2,5 N (V)	●	●	●	●	●		●		●		●		●								
	RS-0,5-PS	●																				
	RS-1,5-PS	●	●	●	●	●		●														
	RS-2,5-PS	●	●	●	●	●		●		●		●		●								
	RS-4,0-PS		●	●	●	●		●		●		●		●								
	RS-3,0-T	●	●	●	●	●		●		●		●		●								
	RS-5,0-T		●	●	●	●		●		●		●		●								
	RS-10,0-T							●		●		●		●								
	RS-3,0-TA	●	●	●	●	●		●		●		●		●								
	RS-5,0-TA		●	●	●	●		●		●		●		●								
	RS-10,0-TA							●		●		●		●								
Transformer speed controllers																						
	RSA5E-2-P	●	●	●	●	●		●						●								
	RSA5E-2-M	●	●	●	●	●		●						●								
	RSA5E-3-M	●	●	●	●	●		●		●		●		●								
	RSA5E-4-M	●	●	●	●	●		●		●		●		●								
	RSA5E-12-M	●	●	●	●	●		●		●		●		●								
	RSA5E-1,5-T	●	●	●	●	●		●														
	RSA5E-3,5-T	●	●	●	●	●		●		●		●		●								
	RSA5E-5,0-T	●	●	●	●	●		●		●		●		●								
	RSA5E-8,0-T	●	●	●	●	●		●		●		●		●								
	RSA5E-10,0-T	●	●	●	●	●		●		●		●		●								
	RSA5D-1,5-T						●		●		●		●									
	RSA5D-3,5-T						●		●		●		●									
	RSA5D-5-M						●		●		●		●									
	RSA5D-8-M						●		●		●		●									
	RSA5D-10-M						●		●		●		●									
	RSA5D-12-M						●		●		●		●									
Frequency speed controllers																						
	VFED-200-TA						●		●													
	VFED-400-TA						●		●		●		●									
	VFED-750-TA						●		●		●		●									
	VFED-1100-TA						●		●		●		●									
	VFED-1500-TA						●		●		●		●									
Temperature controllers																						
	RTS-1-400																					
	RTSD-1-400																					
	TST-1-300																					
	TSTD-1-300																					
	RT-10	●	●	●	●	●		●						●								
Multi-speed fan switches																						
	P2-5,0																					
	P3-5,0																					
	P5-5,0																					
	P2-1-300																					
	P3-1-300																					
	SP3-1																					
EC motors controllers																						
	R-1/010														●	●	●	●	●	●	●	●
Sensors																						
	T-1,5 N	●	●	●	●	●		●														
	TH-1,5 N	●	●	●	●	●		●														
	TF-1,5 N	●	●	●	●	●		●														
	TP-1,5 N	●	●	●	●	●		●														

● recommended
● suitable

														
		VKMK 150 VKMKp 150	VKMK 200 VKMKp 200	VKMK 250 VKMKp 250	VKMK 315 VKMKp 315	VOK 2E 200	VOK 2E 250	VOK 4E 250	VOK 2E 300	VOK 4E 300	VOK 4E 350	VOK1 200	VOK1 250	VOK1 315
Thyristor speed controllers														
	RS-1-300	•	•	•	•	•	•	•	•	•	•	•	•	•
	RS-1-400	•	•	•	•	•	•	•	•	•	•	•	•	•
	RS-1 N (V)	•	•	•		•	•	•	•	•	•	•	•	•
	RS-1,5 N (V)	•	•	•	•	•	•	•	•	•	•	•	•	•
	RS-2 N (V)	•	•	•	•	•	•	•	•	•	•	•	•	•
	RS-2,5 N (V)	•	•	•	•	•	•	•	•	•	•	•	•	•
	RS-0,5-PS	•				•	•	•		•		•	•	
	RS-1,5-PS	•	•	•	•	•	•	•	•	•	•	•	•	•
	RS-2,5-PS	•	•	•	•		•		•	•	•		•	•
	RS-4,0-PS	•	•	•	•				•		•		•	•
	RS-3,0-T	•	•	•	•		•		•	•	•		•	•
	RS-5,0-T		•	•	•				•		•			•
	RS-10,0-T				•									
	RS-3,0-TA	•	•	•	•		•		•	•	•		•	•
	RS-5,0-TA		•	•	•				•		•			•
	RS-10,0-TA				•									
Transformer speed controllers														
	RSA5E-2-P	•	•	•	•	•	•	•	•	•	•	•	•	•
	RSA5E-2-M	•	•	•	•	•	•	•	•	•	•	•	•	•
	RSA5E-3-M	•	•	•	•	•	•	•	•	•	•	•	•	•
	RSA5E-4-M	•	•	•	•	•	•	•	•	•	•	•	•	•
	RSA5E-12-M	•	•	•	•	•	•	•	•	•	•	•	•	•
	RSA5E-1,5-T	•	•	•	•	•	•	•	•	•	•	•	•	•
	RSA5E-3,5-T	•	•	•	•	•	•	•	•	•	•	•	•	•
	RSA5E-5,0-T	•	•	•	•	•	•	•	•	•	•	•	•	•
	RSA5E-8,0-T	•	•	•	•	•	•	•	•	•	•	•	•	•
	RSA5E-10,0-T	•	•	•	•	•	•	•	•	•	•	•	•	•
	RSA5D-1,5-T													
	RSA5D-3,5-T													
	RSA5D-5-M													
	RSA5D-8-M													
	RSA5D-10-M													
	RSA5D-12-M													
Frequency speed controllers														
	VFED-200-TA													
	VFED-400-TA													
	VFED-750-TA													
	VFED-1100-TA													
	VFED-1500-TA													
Temperature controllers														
	RTS-1-400													
	RTSD-1-400													
	TST-1-300													
	TSTD-1-300													
	RT-10	•	•	•	•	•	•	•	•	•	•	•	•	•
Multi-speed fan switches														
	P2-5,0													
	P3-5,0													
	P5-5,0													
	P2-1-300													
	P3-1-300													
	SP3-1													
EC motors controllers														
	R-1/010													
Sensors														
	T-1,5 N	•	•	•	•	•	•	•	•	•	•	•	•	•
	TH-1,5 N	•	•	•	•	•	•	•	•	•	•	•	•	•
	TF-1,5 N	•	•	•	•	•	•	•	•	•	•	•	•	•
	TP-1,5 N	•	•	•	•	•	•	•	•	•	•	•	•	•

• recommended
• suitable

ENERGY-SAVING INLINE UNITS

Energy-saving units X-VENT are the best solution for ventilation and conditioning systems!

- Do you have limited space in your room?
- Ventilating chambers are not provided?
- Do you want to conceal the whole ventilation system under the suspended ceiling?
- Do you need reasonable and energy-saving solution?

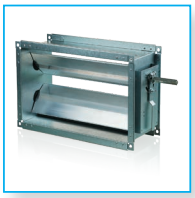
In this case X-VENT inline units are the best solution!

Based on inline X-VENT units you can arrange both complex and simple ventilation and conditioning systems. X-VENT units are designed for arranging any application: air supply, air exhaust, air handling with heat recovery.

Advantages of inline X-VENT units:

- Complex solution
- Complete range of products
- Small-sized and efficient
- Easy mounting
- Energy-saving technologies
- Complex automation system included into equipment list
- Low operating costs
- Easy fan maintenance and filter removal
- Long service life (at least 40 000 hours of continuous operation)
- High quality for the best price

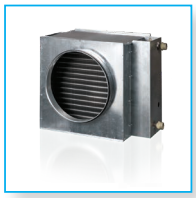
Basic components of the inline system:



RRV
air flow regulating damper

VKPF
radial fan

PK
bend

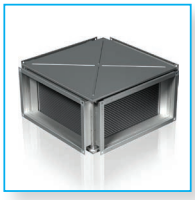


NKV
water heater

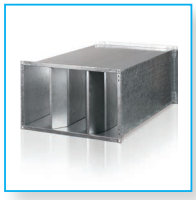
OKW/OKF
water/direct-expansion cooler

VKP...EC
radial-flow fan with EC motor

FB and **FBK**
filters

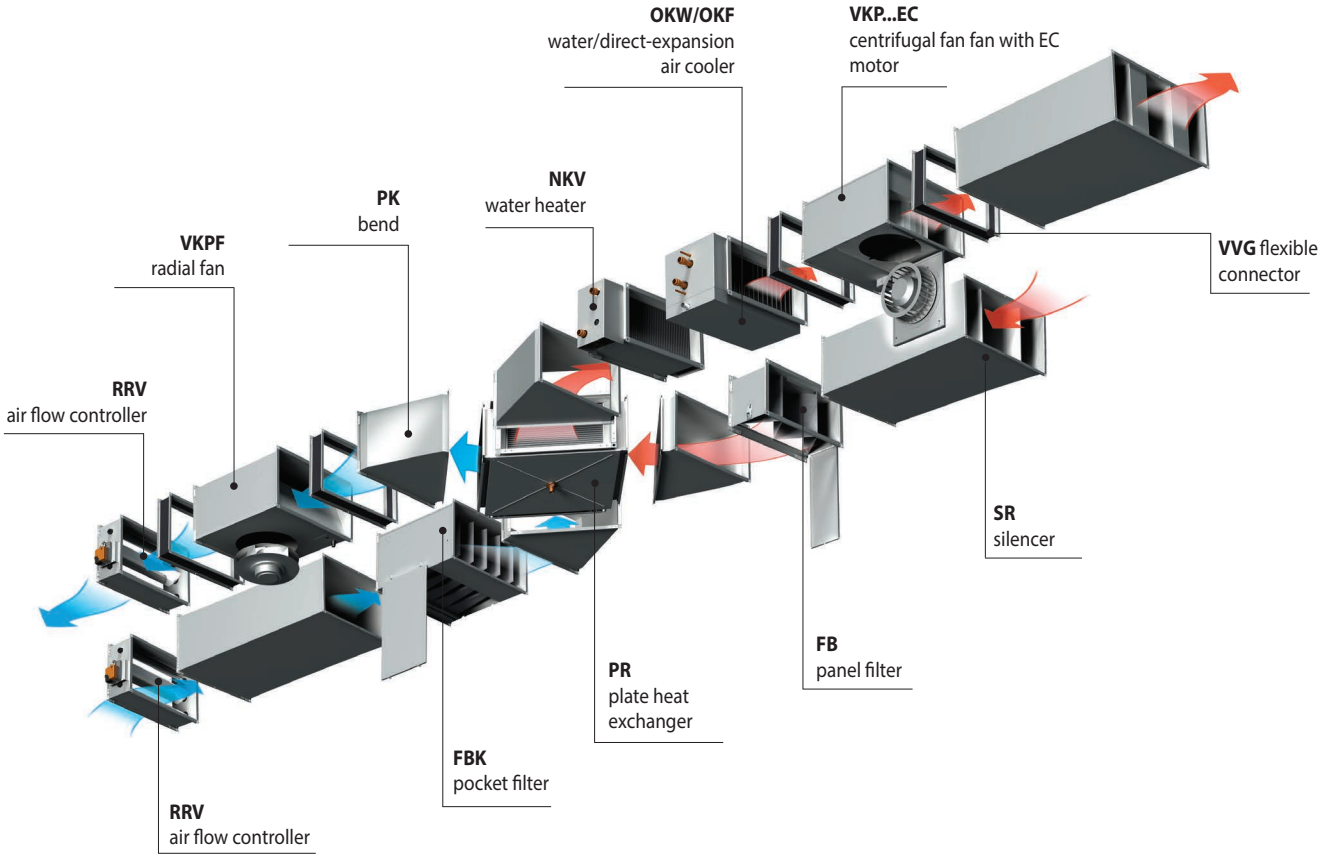


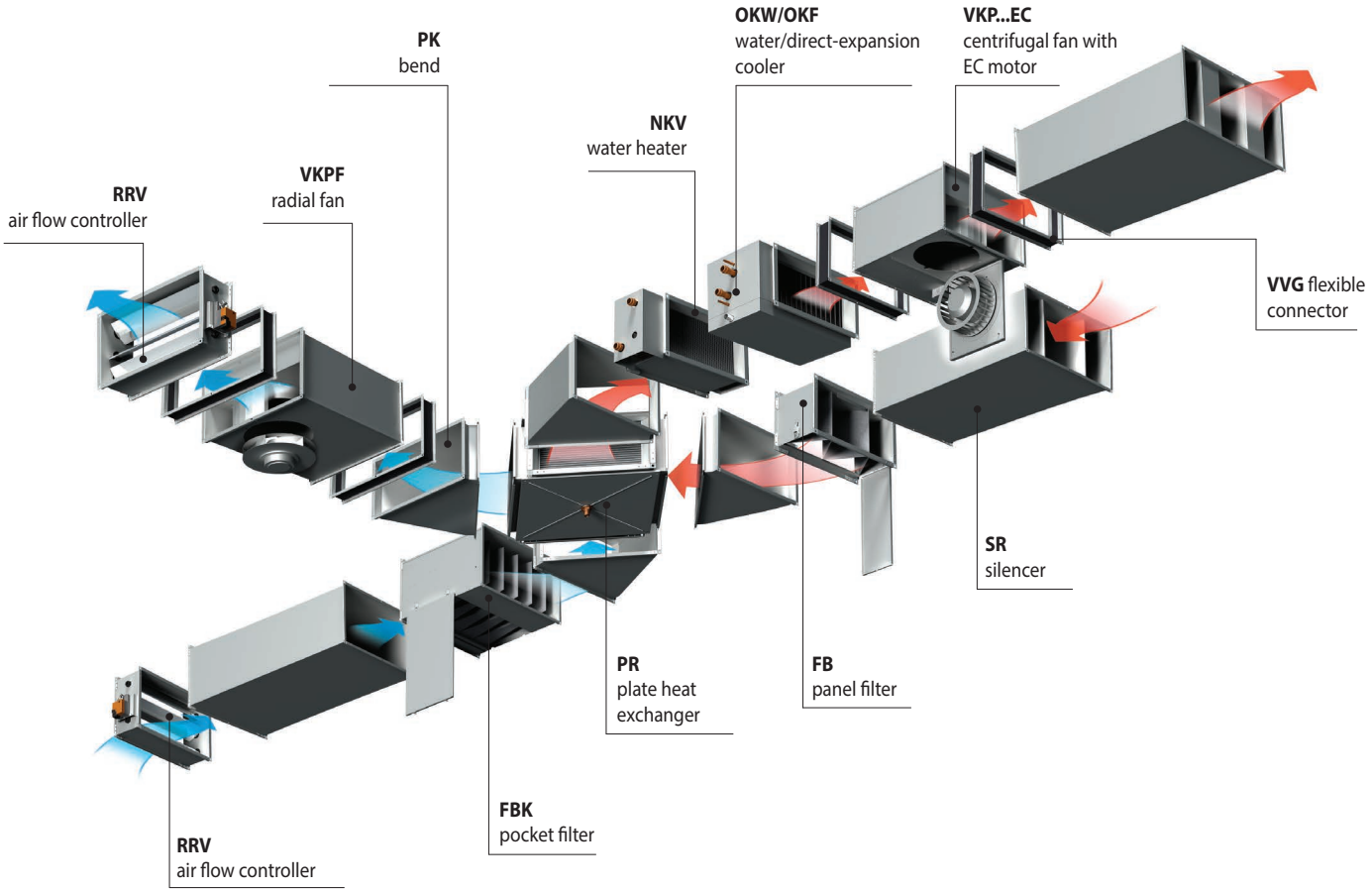
PR
plate heat exchanger



SR
silencer

VVG
flexible connector


OKW/OKF
water/direct-expansion air cooler
VKP...EC
centrifugal fan fan with EC motor
PK
bend
NKV
water heater
VKPF
radial fan
VVG flexible connector
RRV
air flow controller
SR
silencer
FB
panel filter
PR
plate heat exchanger
FBK
pocket filter
RRV
air flow controller


PK
bend
OKW/OKF
water/direct-expansion cooler
VKP...EC
centrifugal fan with EC motor
NKV
water heater
VKPF
radial fan
RRV
air flow controller
VVG flexible connector
SR
silencer
PR
plate heat exchanger
FB
panel filter
FBK
pocket filter
RRV
air flow controller

AIR HEATING (COOLING) UNITS

VENTS AOW and VENTS AOW1 series

Air unit with the water heat exchanger with heating capacity up to 45 kW. Designed for cost-saving and efficient air heating and cooling in various premises.

VENTS AOE series

Air heating unit with electric heat exchanger, heating capacity up to 30 kW. Used for cost-efficient and energy-efficient air heating of various premises.

VENTS PVZ series

Air curtains are designed against cold or hot air stream penetration into door or window openings. Water heater or electric heater may be integrtated into the unit. Available standard sizes: 600x350, 700x400, 800x500, 900x500 mm.

VENTS DRF-OV and VENTS DRFI-OV series

Destratificators are designed to prevent accumulation of heated air in upper part of premises and direction of warm air to occupied areas. Use of destratificators is reasonable in large premises above 5 m height, e.g. industrial workshops, stocks, supermarkets, exhibition and conference halls, enclosed sport halls, etc.

Series
AOW

Series
AOW1

Air unit with the water heat exchanger for arrangement of cost-saving and efficient air heating and cooling in various premises

Air heating (cooling) advantages:

- quick attaining of the set temperature in the premises;
- low system response time allows applying varying temperature conditions;
- high thermal capacity;
- lower investment costs for air heating (cooling) system as compared to similar water heating (cooling) systems.

Application

Designed for air heating or cooling by water heat medium with subsequent uniform air distribution by the fan and louvre shutters. The AOW1 unit is designed for air heating only. The units provide quick heating or cooling of large premises due to high efficient air heater and powerful fan and are suitable for local air heating or cooling of working areas in hangars or large industrial premises. Further application areas include workshops, garages, car showrooms, stock houses, trade facilities, super- and hypermarkets, shops, sport halls, conference halls, poultry and cattle farms, greenhouses and other similar premises. The unit design enables quick and easy mounting and reduces total investment costs for heating (cooling) system.

Design

AOW/AOW1 unit consists of the axial fan and aluminium-copper ribbed water heating coils located in steel casing with polymeric coating. The water coils are equipped with internally threaded pipes on the casig side for connection and supply of heat medium. The units are rated for operation at maximum operating pressure 1.6 Mpa (16 bar) and maximim heat medium temperature 100 °C. The AOW1 unit has a simplified design without a drain pipe and a drain pan.

Motor

AC motors with external rotor and built-in thermal overheating protection with automatic restart.

Control and regulation

Both smooth or step speed control with a thyristor or autotransformer controller. Motor speed decrease allows reducing flow and value of heating or cooling energy transfer.

The control unit **UWT-1E** is used for controlling the operation modes of the air heating (cooling) unit (available upon separate order). The control unit has three operation modes, i.e. three modes for speed control of AOW unit.

The unit incorporates a switch with a light indicator, cable entry seals for cable connection, safety fuse for short circuit protection. The automation unit is designed for joint operation either with TST-1-300 series digital thermostats with a sensor display (the thermostat TSTD-1-300 is equipped with a remote control panel) or with RTS-1-400 series thermostats with LCD display (RTSD-1-400 is equipped with a remote control panel). The digital thermostats are available upon separate order. Install the thermostat in the same room where the AOW /AOW1 unit is installed. It is used to measure the indoor temperature and control the unit operation. For correct functioning of the unit install the thermostat in places that are not subjected to temperature fluctuations, i.e. close to windows, doors, hot-water radiators. One thermostat can be used for control of several air heating (cooling) units located in the same room.

Mounting

The unit is suitable for vertical installation on walls or columns or horizontal installation on ceiling (beams). See mounting accessories.

Designation key

Series	Rated power [kW]
VENTS AOW **VENTS AOW1**	25; 30; 45

Accessories

UWT-1E | MK-AOW | MKP-AOW | RTS | RTSD | TST | TSTD

Technical data

	AOW/AOW1 25	AOW/AOW1 30	AOW/AOW1 45
Voltage [V/50 Hz]	230	230	230
Fan power [W]	136	191	255
Fan current [A]	0.6	0.85	1.12
RPM [min^{-1}]	1350	1440	1360
Noise level at 3m [dBA]	53	55	58
Maximum heat medium temperature [°C]	100	100	100
Protection rating	IP44	IP44	IP44
Insulation class	F	B	F
Air reach distance [m]	9	12	16

Technical data for heating mode:

Model	Air flow [m³/h]	Inlet air temp. [°C]	Temperature difference 90/70 °C				Temperature difference 80/60 °C				Temperature difference 70/50 °C				Temperature difference 60/40 °C			
			Power [kW]	Outlet air temp. [°C]	Water flow [m³/h]	Water pressure loss [kPa]	Power [kW]	Outlet air temp. [°C]	Water flow [m³/h]	Water pressure loss [kPa]	Power [kW]	Outlet air temp. [°C]	Water flow [m³/h]	Water pressure loss [kPa]	Power [kW]	Outlet air temp. [°C]	Water flow [m³/h]	Water pressure loss [kPa]
AOW/ AOW1 25	2200	-15	34.5	26.0	1.51	7.5	30.4	21.2	1.30	6.0	26.0	16.0	1.19	4.6	22.0	11.0	1.01	3.4
		-10	32.0	29.0	1.40	6.6	28.3	24.3	1.22	5.3	24.0	19.2	1.12	4.0	20.0	14.0	0.90	2.8
		-5	30.0	32.0	1.30	5.8	26.2	27.4	1.19	4.6	22.0	22.0	1.01	3.4	18.0	17.0	0.79	2.3
		0	28.0	35.0	1.19	5.2	24.1	30.4	1.12	4.0	20.0	25.0	0.90	2.8	16.0	20.0	0.68	1.8
		5	26.2	38.5	1.19	4.5	22.1	33.3	1.01	3.3	18.0	28.0	0.79	2.3	14.0	22.0	0.61	1.4
		10	24.2	41.4	1.12	3.9	20.1	36.1	0.94	2.8	15.9	30.6	0.68	1.9	12.0	25.0	0.50	1.0
		15	22.1	44.2	1.01	3.3	18.1	38.8	0.90	2.3	13.8	33.0	0.61	1.4	9.0	27.0	0.40	0.7
AOW/ AOW1 30	3000	-15	48.4	27.2	2.09	7.4	42.0	22.0	1.91	6.0	36.6	17.0	1.58	4.7	31.0	11.7	1.30	3.5
		-10	45.4	30.3	2.02	6.6	39.0	25.2	1.69	5.3	33.7	20.0	1.51	4.0	27.6	14.6	1.19	2.9
		-5	42.4	33.4	1.91	5.9	36.7	28.2	1.58	4.6	30.0	22.9	1.40	3.4	24.0	17.4	1.12	2.4
		0	39.5	36.4	1.69	5.2	33.8	31.1	1.51	3.9	28.0	25.7	1.19	2.9	21.0	20.0	1.01	1.9
		5	36.7	39.4	1.58	4.5	30.9	34.0	1.40	3.4	25.0	28.5	1.12	2.4	19.0	22.7	0.79	1.5
		10	33.8	42.1	1.51	3.9	28.1	36.7	1.19	2.8	22.0	31.1	1.01	1.9	16.0	25.2	0.68	1.1
		15	31.0	44.9	1.40	3.3	25.3	40.0	1.12	2.3	19.4	33.7	0.90	1.5	13.0	27.5	0.61	0.7
AOW/ AOW1 45	3850	-15	63.0	28.4	2.81	11.9	55.6	23.3	2.41	9.7	48.1	18.1	2.09	7.6	40.4	12.8	1.80	5.7
		-10	59.2	31.5	2.59	10.6	51.8	26.4	2.30	8.5	44.3	21.1	1.91	6.6	36.7	15.7	1.58	4.8
		-5	55.4	34.6	2.41	9.4	48.0	29.3	2.09	7.4	40.6	23.9	1.80	5.6	32.9	18.5	1.40	3.9
		0	51.6	37.5	2.30	8.3	44.3	32.2	2.02	6.4	36.9	26.8	1.58	4.7	29.2	21.3	1.30	3.2
		5	47.9	40.4	2.09	7.3	40.6	35.0	1.80	5.5	33.2	29.5	1.51	3.9	25.6	23.9	1.12	2.5
		10	44.3	43.2	2.02	6.3	37.0	37.8	1.58	4.6	29.6	32.2	1.30	3.2	21.9	26.4	1.01	1.9
		15	40.6	45.9	1.80	5.4	33.4	40.4	1.51	3.8	26.0	34.8	1.12	2.5	18.1	28.8	0.79	1.3

Accessory selection table:

Air heating unit model	Control unit	Digital thermostat		Mounting accessories	
		with sensor display	with LCD display	Mounting angles	Mounting brackets
					
AOW 25	UWT-1E	TST-1-300 TSTD-1-300	RTS-1-400 RTSD-1-400	MKP-AOW	MK-AOW 25
AOW1 25					MK-AOW1 25
AOW 30					MK-AOW 30
AOW1 30					MK-AOW 25*
AOW 45					MK-AOW 45
AOW1 45					MK-AOW 30*

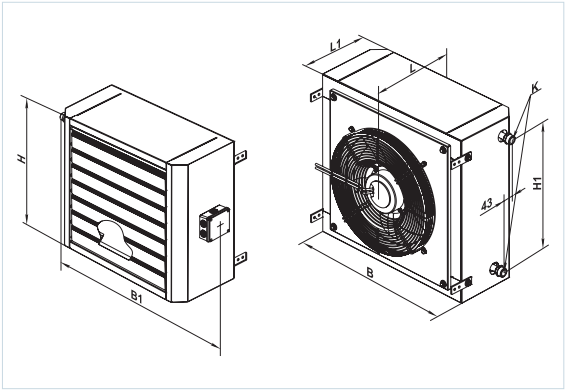
* The cross pieces between the MK-AOW mounting brackets are not applicable in case of AOW1 mounting.

Technical data for cooling mode

Model	Air flow [m³/h]	Inlet air temp. [°C]	Temperature difference 7/12 °C			
			Power [kW]	Outlet air temp. [°C]	Water flow [m³/h]	Water pressure loss [kPa]
AOW 25	2200	35	9.1	26.0	1.6	7.5
		30	5.8	22.5	1.0	6.1
		25	3.2	21.0	0.6	2.1
		20	2.0	18.0	0.3	0.9
AOW 30	3000	35	11.4	27.0	2.0	11.2
		30	7.3	22.9	1.3	5.0
		25	3.9	21.1	0.7	1.6
		20	2.4	17.7	0.4	0.7
AOW 45	3850	35	18.0	24.9	3.1	31.8
		30	10.8	21.7	1.9	12.9
		25	7.3	19.0	1.3	6.3
		20	3.2	17.4	0.5	1.4

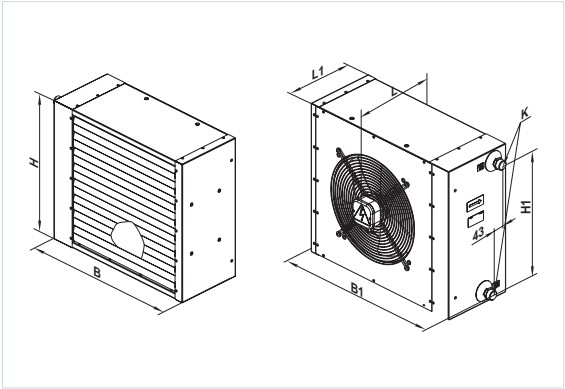
Overall dimensions without control unit

Type	Dimensions [mm]							Number of water coils	Mass [kg]
	B	B1	H	H1	L	L1	K		
AOW 25	680	785	605	468	360	286	G 3/4"	2	37.0
AOW 30	680	785	655	518	360	286	G 3/4"	2	40.0
AOW 45	780	885	710	570	380	300	G 3/4"	2	50.0

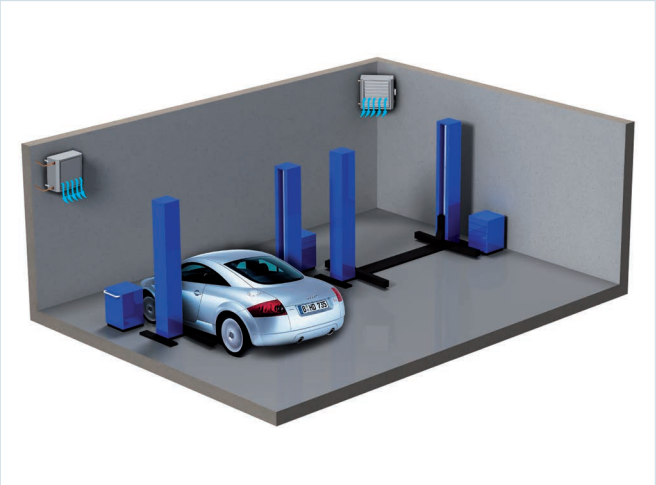


Overall dimensions without control unit

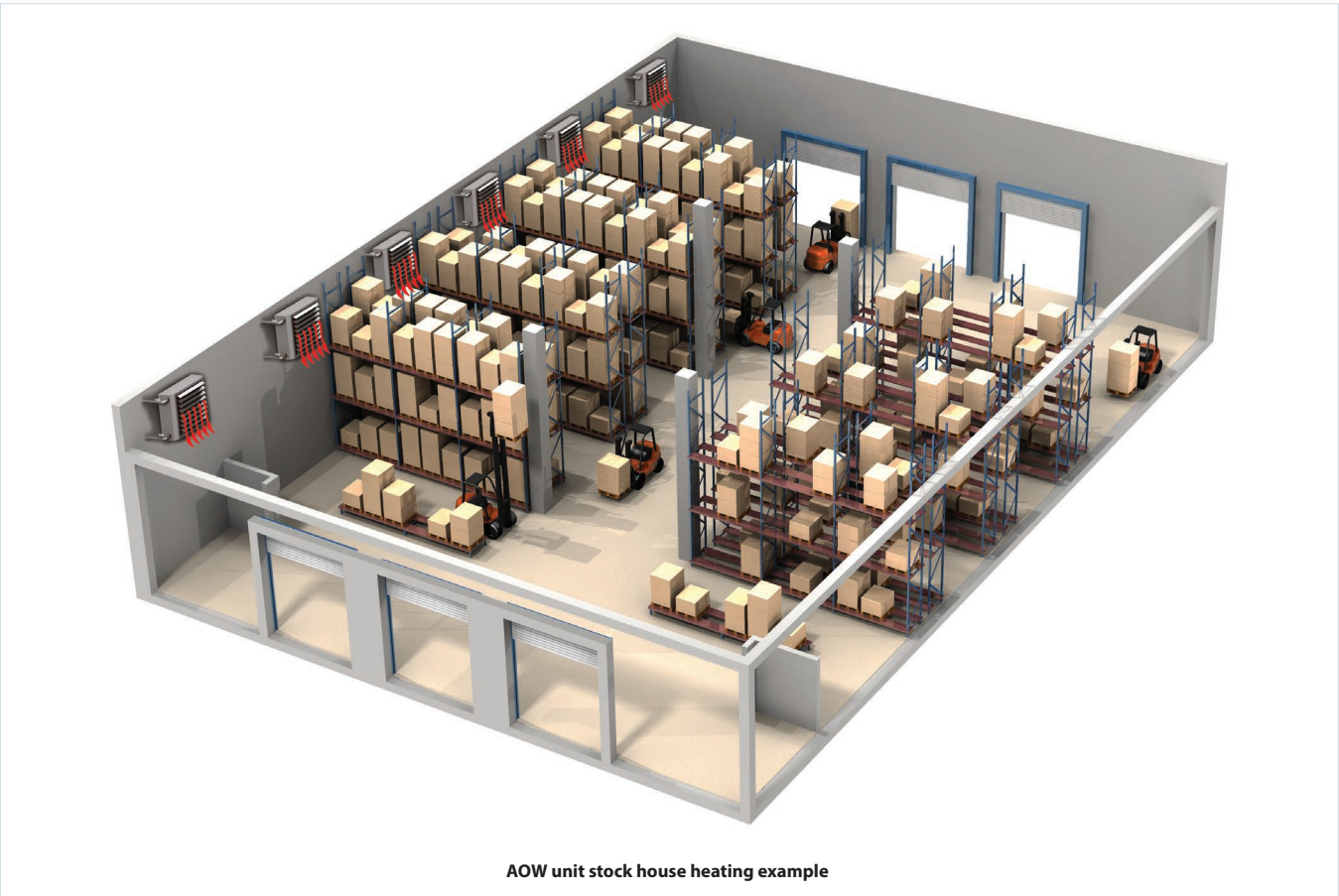
Type	Dimensions [mm]							Number of water coils	Mass [kg]
	B	B1	H	H1	L	L1	K		
AOW1 25	630	690	555	468	320	262	G 3/4"	2	28.0
AOW1 30	630	690	605	518	355	262	G 3/4"	2	31.0
AOW1 45	730	790	655	570	380	285	G 3/4"	2	41.0



AOW unit greenhouse heating example



AOW unit garage cooling example



AOW unit stock house heating example

Series
AOE

Air heating units with electric heaters for air heating of various premises

Advantages of air heating:

- quick air heating in the room up to set point;
- low inertance of the system allows to provide alternating heating mode or heating in some zones;
- high heating efficiency;
- capital investments for air heating system is much less as compared to the similar water heating system.

Application

Designed for air heating in the room with electric heater and air uniform distribution due to an integrated fan and louvre shutters. The air heating units enable quick air heating of large premises or provide local heating of a work zone, for example, in big airplane shed or production facilities.

The air heating units are designed for installation in manufacturing workshops, garages, car showrooms, stock houses, trade facilities, super- and hypermarkets, shops, sport halls, conference halls, poultry and cattle farms, greenhouses and other similar premises.

The unit design enables quick and easy mounting and its operation reduces total investment costs for heating system.

Design

The AOE unit consists of an axial fan and an electric heater enclosed into a steel polymer coated casing.

The electric heater is equipped with two overheating thermostats:

- the main overheating protection with automatic reset is activated at +50 °C. After the heater cooling the thermostat closes the heater control circuit.
- the alarm overheating protection with manual reset is activated at +90 °C. In case of alarm thermostat activation power supply to the heater is posible after manual alarm reset only.

Fan motor

AC motors with external rotor and built-in thermal overheating protection with automatic reset.

Control and regulation

For safe and correct operation the air heating unit must be controlled with integral control and protection automatic control system to provide the following functions:

- automatic power and heating temperature adjustment;
- power supply cut-off to the heater in case of the fan shutdown, low air flow or if integrated motor overheating thermostats are activated;
- air supply to the electric heating elements for heating removal after shutoff of the heating unit;
- power supply to the heater via an integrated automatic circuit breaker with tripping current depending on the heater power.

The heating unit operation modes are controlled from UET-15D or UET-30D (available upon separate order) control unit.

Air flow temperature is controlled by the heater on/off switch time (full heating power) in compliance with a set heating point. The control unit controls the fan speed and cuts off power supply to the heater in case of the fan shutdown or very low air flow.

The control unit is designed for joint operation with digital TST-1-300 thermostats with sensor display (TSTD-1-300 model is equipped with a remote controller) or RTS-1-400 with LCD display (RTSD-1-400 is

Designation key

Series	Rated power [kW]
VENTS AOE	9; 12; 15; 18; 24; 30

Accessories

UET | MK-AOW | MKP-AOW | RTS | RTSD | TST | TSTD

equipped with a remote controller). The thermostats are available on separate order. The thermostat is designed for indoor installation in the room heated by the air heating unit to determine its operation mode. The thermostat installation place must not be influenced by windows, doors and heating radiators. One thermostat is capable to control several connected air heating units in one room (max. 10 AOE units per each thermostat).

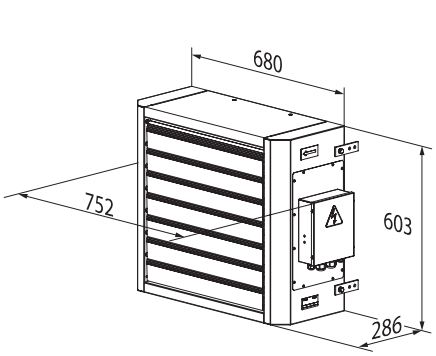
Mounting

The air heating unit is suitable for vertical installation on the walls (beams) or horizontal installation on the ceiling (beams).

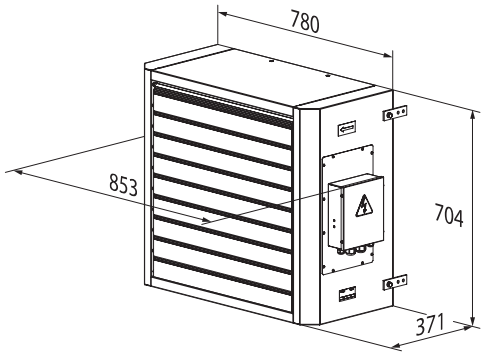
Technical data

	AOE 9	AOE 12	AOE 15	AOE 18	AOE 24	AOE 30
Voltage [V/50 Hz]	3~400			3~400		
Fan power [W]	140			253		
Fan current [A]	0.61			1.1		
Electric heater power [kW]	9	12	15	18	24	30
Electric heater current [A]	13.0	17.3	21.7	26.0	34.6	43.3
Total unit power [kW]	9.14	12.14	15.14	18.25	24.25	30.25
Total unit current [A]	13.6	17.9	22.3	27.1	35.7	44.4
Air flow [m^3/h]	2300			4000		
RPM [min^{-1}]	1420			1480		
Casing material	polymer-coated steel					
Noise level at 3m [dBA]	55			61		
Protection rating	IP21			IP21		
Mass [kg]	32			48		

Overall dimensions



AOE 9, AOE 12, AOE 15



AOE 18, AOE 24, AOE 30

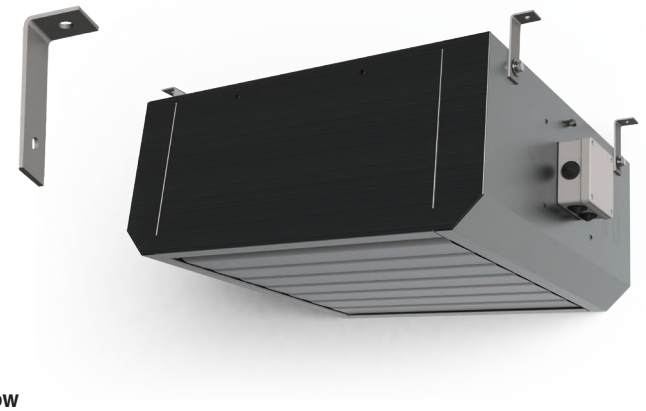
Accessory selection table

Air heating unit model	Control unit	Digital thermostat		Mounting accessories	
		with sensor display	with LCD display	Mounting angles	Mounting brackets
					
AOE 9					
AOE 12	UET-15D				MK-AOW 25
AOE 15					
AOE 18		TST-1-300 TSTD-1-300	RTS-1-400 RTSD-1-400	MKP-AOW	
AOE 24	UET-30D				MK-AOW 45
AOE 30					

AOW AND AOE UNIT MOUNTING ACCESSORIES

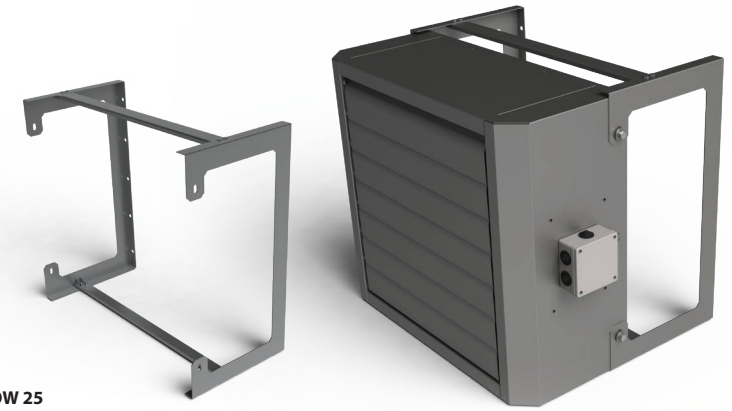
We offer the following mounting accessories to make the unit installation easy and quick:

✓mounting angles ✓mounting brackets ✓multi-angle bracket



MKP-AOW

1. The angles are used for horizontal attachment of the unit to the ceiling with mounting studs or chains. This mounting option is applied only for the units operating in heating mode.



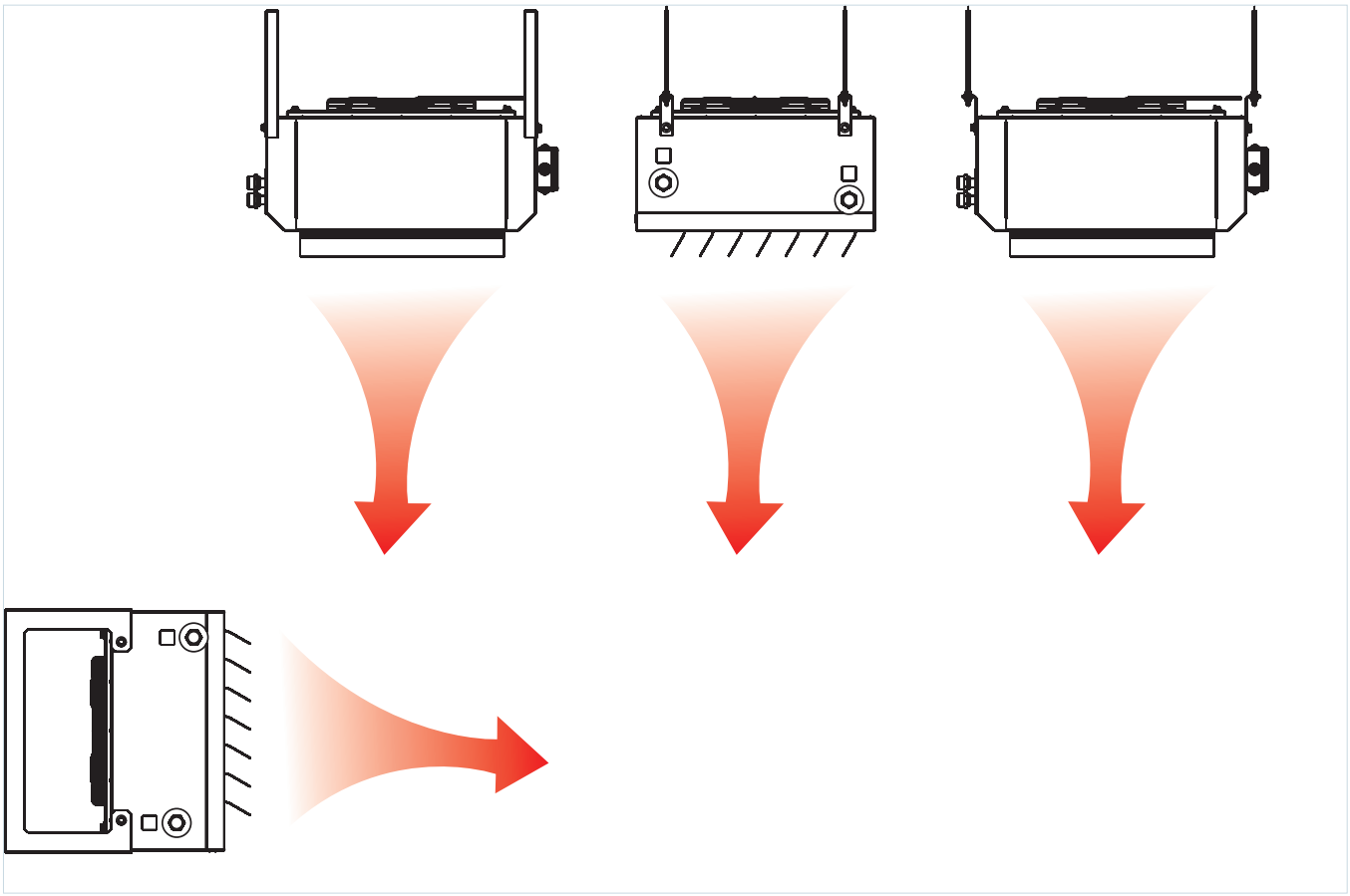
MK-AOW 25
MK-AOW 30
MK-AOW 45

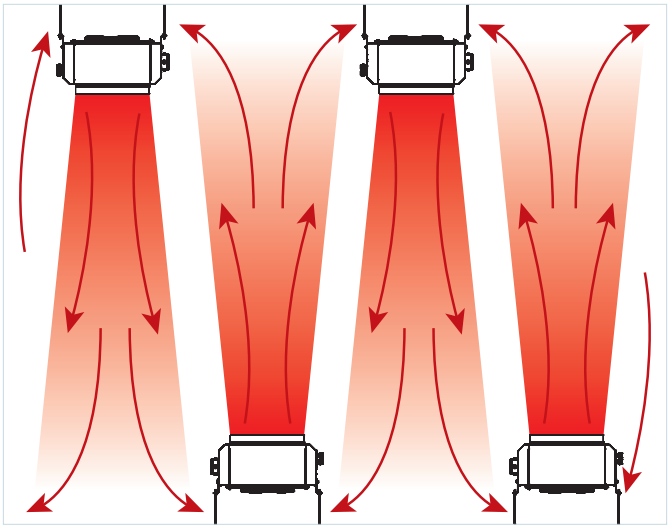
2. The mounting brackets enable vertical attachment of the unit to the wall or beam or horizontal fixing to the ceiling. This horizontal mounting is applied only for the units operating in heating mode.

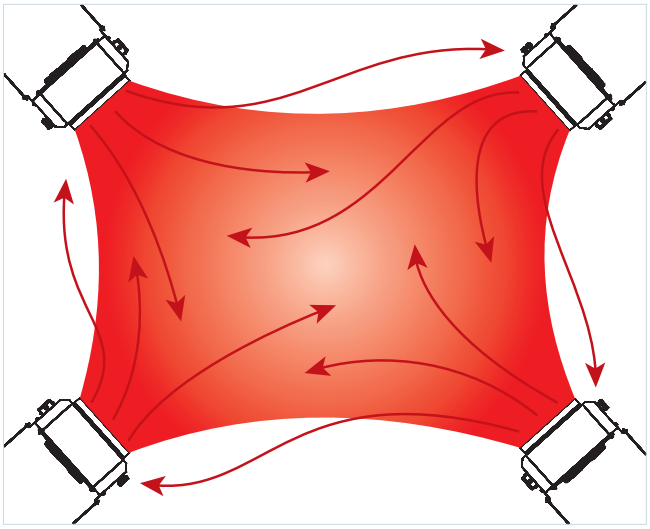
WARNING!

While mounting AOW/AOE units provide free air supply to the fan suction vent by keeping the minimum distance from the units to the wall or ceiling 300 mm.

Warm air distribution







Series
PVZ

The air curtains provide significant cost saving for the house cooling or heating due to invisible aerodynamic barrier between indoor and outdoor spaces, for instance, at the building entry.

Applications

The air curtains are designed to prevent the cold or hot air streams from outside into door openings or gateways.

The height or width of the covered areas ranges from 2 to 5 meters. The air curtains are suitable for crowded premises with increased traffic load. Designed for application in manufacturing premises, stocks, garages, car service centers and car wash shops, shopping malls, super- and hypermarkets, conference and exhibition halls, and other premises.

Operating logic of the air curtain

Rectangular duct high pressure fan is applied in air curtain. The supply air is filtered and then supplied to the premise through a narrow slit which ensures the outlet air speed increase and its correct operation. If the curtain has a water or electric heater the supplied air is warmed up to the set temperature. The aerodynamic barrier created in such a way separates the premise from environment.

Design

Air curtains are available in 4 standard sizes depending on the capacity. The curtains and their components are made of galvanized steel. Rectangular duct high pressure fan serves for air supply. G4 panel filter provides air filtration. Air is heated with a water or electric heater. If water serve as a heat medium these curtain types are suitable for the premises with the indoor temperature not below 0 °C only. Air distribution is performed through the slit sections. The standard slit sections are 1 to 1.5 m long that enables easy selection for any door opening.

Fan motor

The impellers with forward curved blades made of galvanized steel are powered by four- or six-pole asynchronous motors with external rotor. The fans with such turbine modification are featured with relatively high pressure differential and high air flow capacity. For thermal overheating protection the thermal contacts with the leaded terminals are built in the motor winding for connection to the external protection devices.

Mounting

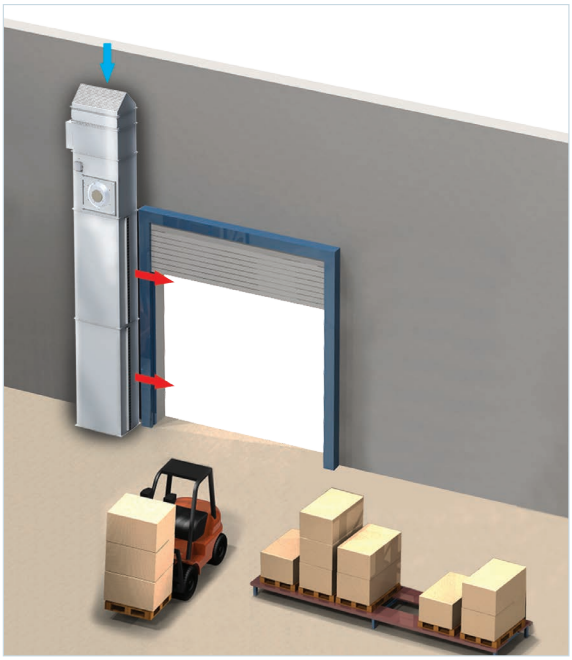
Both horizontal and vertical mounting is possible. In case of horizontal mounting the air curtain is fixed above the door opening and creates the air stream vertically downwards along the whole opening width. In case of vertical mounting the curtain is fixed at one side or at both sides of the opening and the air is streamed horizontally. One vertical curtain covers 10 to 12 m^2 space and for larger surfaces the air curtains at both sides shall be installed to increase the effective area.

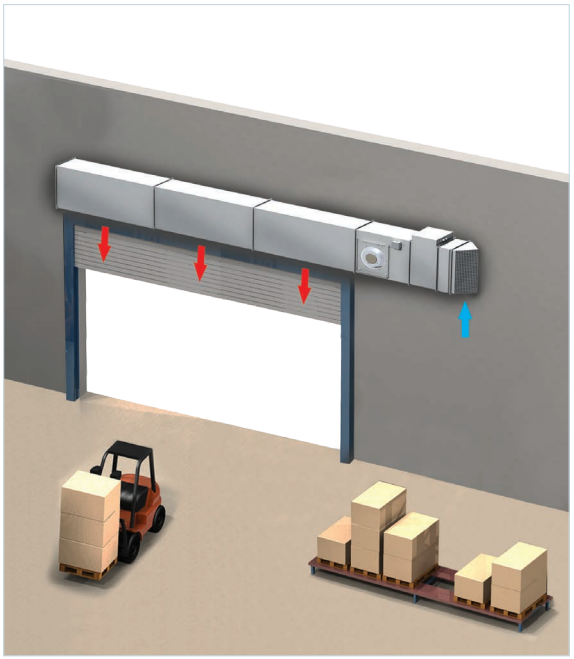
Designation key

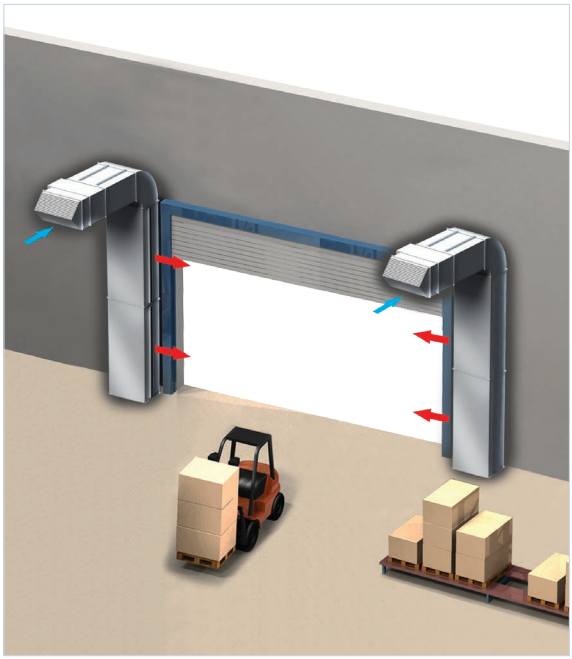
Series	Standard size	Heater type	Slit outlet section length
PVZ	600x350 700x400 800x500 900x500	**W**: water **E**: electric **N**: no heater	2; 2.5; 3; 3.5; 4; 4.5; 5

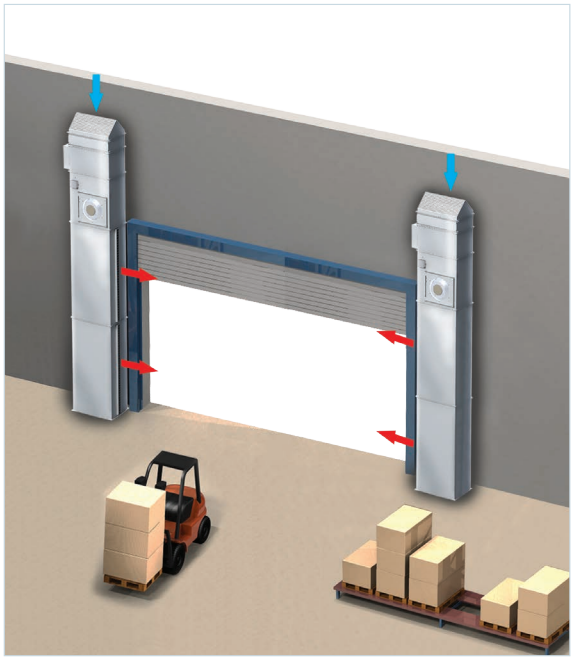
Technical data

	PVZ 600x350	PVZ 700x400	PVZ 800x500	PVZ 900x500
Voltage [V/50 Hz]	3~400	3~400	3~400	3~400
Air flow [m³/h]	4000	6000	6200	8400
Fan power [kW]	2.46	3.63	2.79	3.87
Fan current [A]	3.93	6.0	5.18	7.0
Electric heater power [kW]	21	36	36	45
Electric heater current [A]	30	52	52	65
Fan type	VKPF 4D 600x350	VKPF 4D 700x400	VKPF 6D 800x500	VKPF 6D 900x500
Filter type	FB 600x350	FB 700x400	FB 800x500	FB 900x500
Water heater type	NKV 600x350-2	NKV 700x400-2	NKV 800x500-2	NKV 900x500-2
Electric heater type	NK 600x350-21,0-3	NK 700x400-36,0-3	NK 800x500-36,0-3	NK 900x500-45,0-3



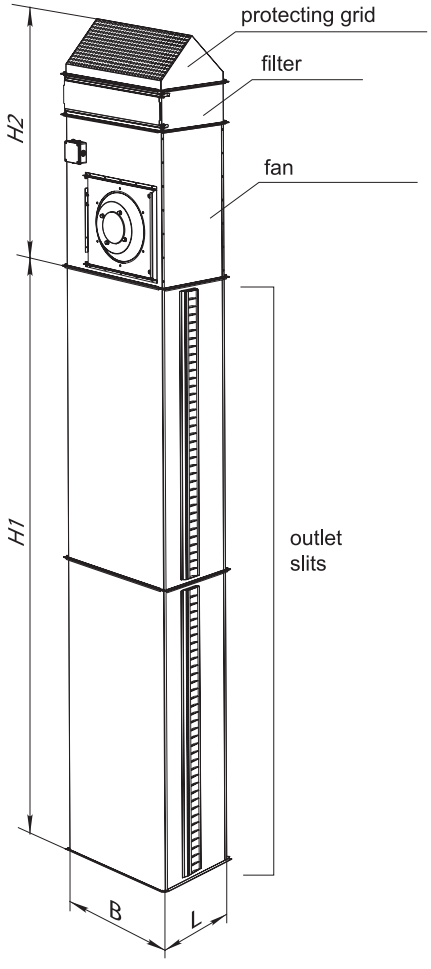




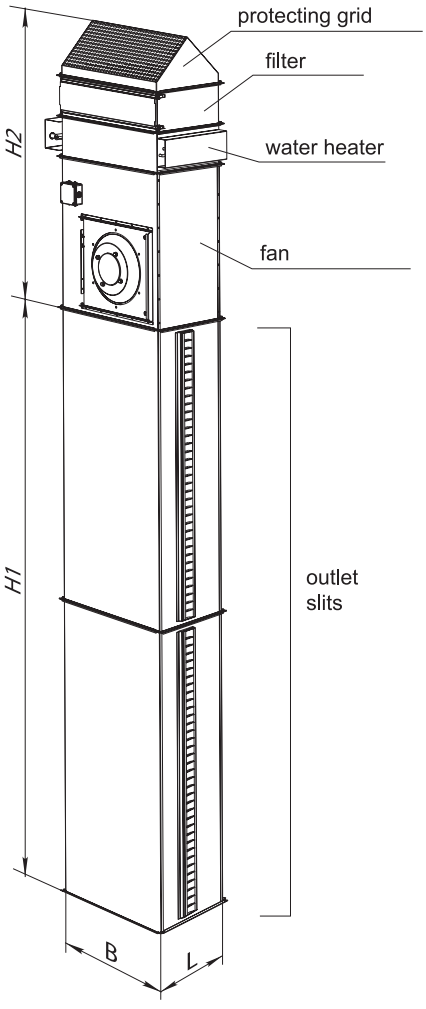


Overall dimensions

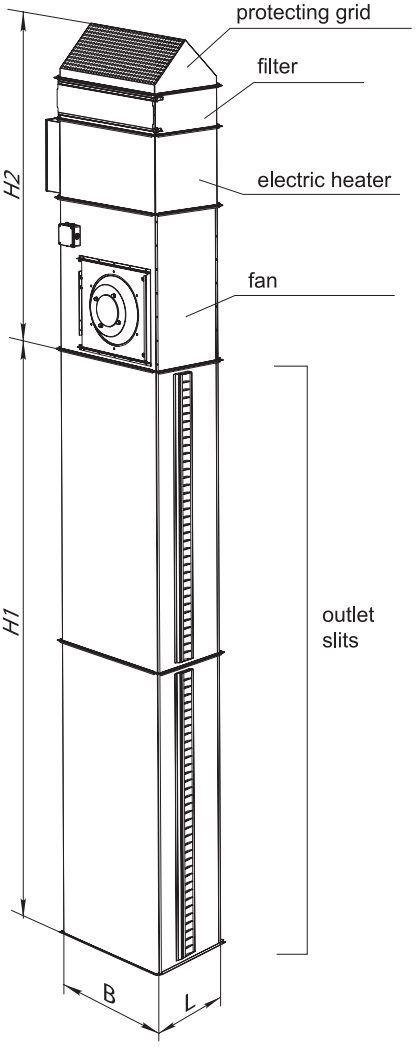
	PVZ 600x350	PVZ 700x400	PVZ 800x500	PVZ 900x500
W [mm]	600	700	800	900
L [mm]	350	400	500	500
H1 [mm]	from 2.0 up to 5.0			
H2 (curtain with no heating) [mm]	1150	1300	1450	1520
H2 (curtain with water heater) [mm]	1350	1500	1650	1720
H2 (curtain with electric heater) [mm]	1350	2050	1960	2270



air curtain
with no heating

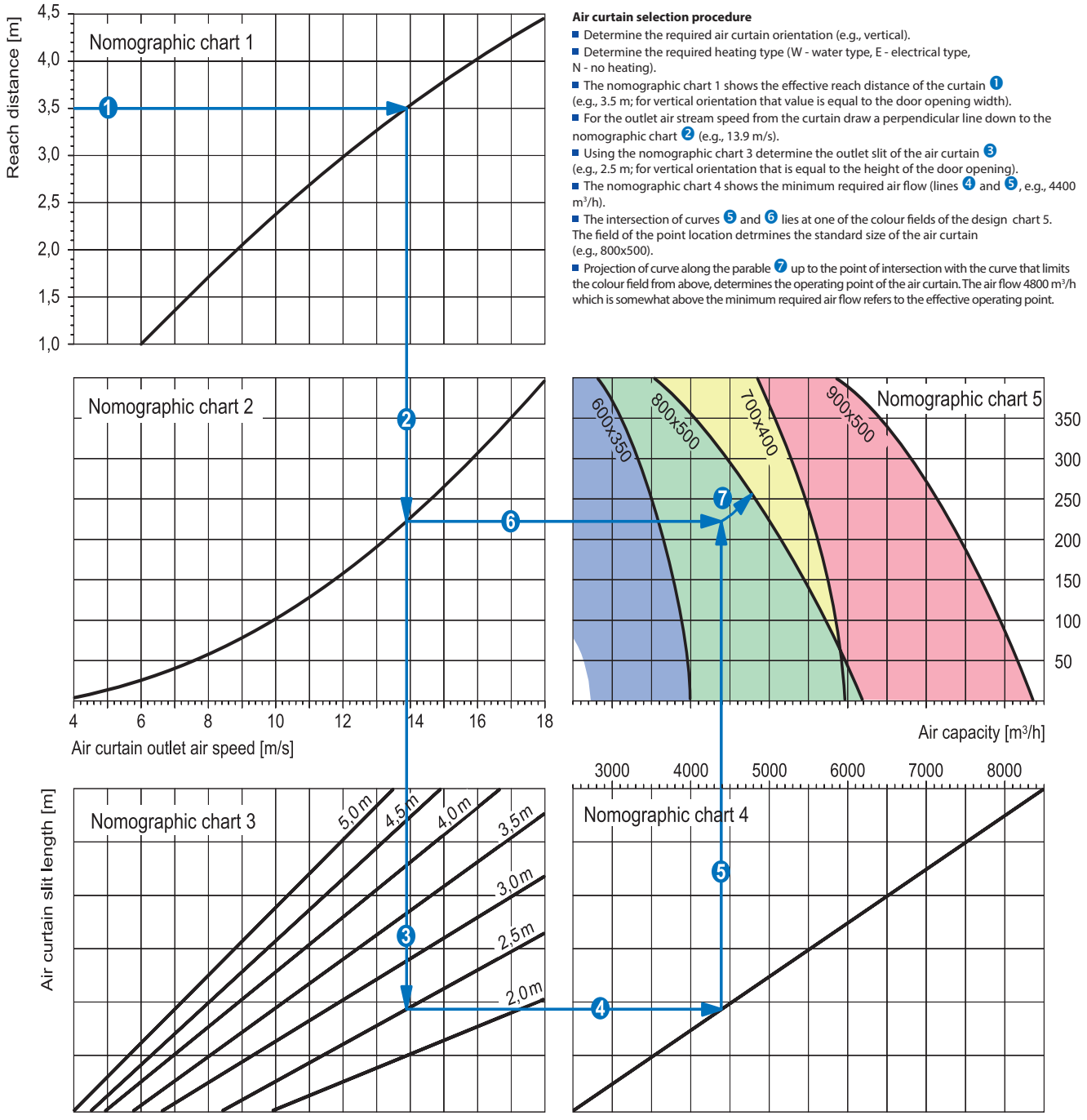


air curtain
with water heating



air curtain
with electric heating

Nomographic charts for air curtain selection



Air curtain selection procedure

- Determine the required air curtain orientation (e.g., vertical).
- Determine the required heating type (W - water type, E - electrical type, N - no heating).
- The nomographic chart 1 shows the effective reach distance of the curtain ❶ (e.g., 3.5 m; for vertical orientation that value is equal to the door opening width).
- For the outlet air stream speed from the curtain draw a perpendicular line down to the nomographic chart ❷ (e.g., 13.9 m/s).
- Using the nomographic chart 3 determine the outlet slit of the air curtain ❸ (e.g., 2.5 m; for vertical orientation that is equal to the height of the door opening).
- The nomographic chart 4 shows the minimum required air flow (lines ❹ and ❺, e.g., 4400 m³/h).
- The intersection of curves ❺ and ❻ lies at one of the colour fields of the design chart 5. The field of the point location detrmines the standard size of the air curtain (e.g., 800x500).
- Projection of curve along the parable ❼ up to the point of intersection with the curve that limits the colour field from above, determines the operating point of the air curtain. The air flow 4800 m³/h which is somewhat above the minimum required air flow refers to the effective operating point.

Series
DRF-OV

Series
DRFI-OV

The destratificator is mounted with an arched fixing bracket with position fixation pitch each 15° and a thread-connected mounting and a safety ropes, each 3 m long.

One of the most efficient energy saving techniques.
The destratificator is designed to prevent warm air accumulation in the building upper area and to direct warm air to the occupied area.

Applications

The destratificators are used in industrial workshops, stocks, supermarkets, exhibition and concert halls, closed sport halls, etc.

The destratificators are recommended for use in large premises above 5 m height where warmer air due to natural air convection is accumulated closer to ceiling whereas air temperature in the occupied area (2 m above floor level) remains lower.

Description

Warm air is accumulated above in the heated high premises.

Air temperature rises per 1 °C for each meter upwards, which results in heat losses through the roof.

The destratificators direct warm air accumulated under the ceiling to the occupied area. The temperature difference between a floor and a ceiling is minimized. The destratificators are designed to reduce heat losses and heating costs.

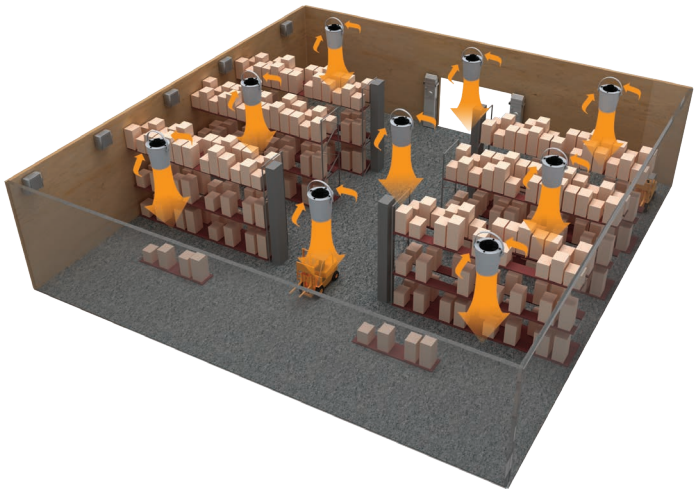
Design

The destratificator consists of an axial fan that is attached to the casing with anti-vibration mounts.

The DRF-OV and DRFI-OV destratificator casing is made of polymer-coated steel.

The DRFI-OV casing is perforated and has mineral wool insulation to attenuate sound produced by the axial fan.

The directing vanes are located at outlet from the DRFI-OV to provide a long linear air flow.



DRF-OV application example at a stock.

Motor

The destratificator is equipped with a single phase asynchronous external rotor motor and an axial impeller. The motors have built-in overheating protection with automatic restart. The motors are equipped with ball bearing. Ingress Protection Rating IP44.

Speed control

Step or smooth speed control with a thyristor or autotransformer speed controller.

One speed controller is able to control several destratificators on condition that the total power and operating current do not exceed the controller rated parameters.

Mounting

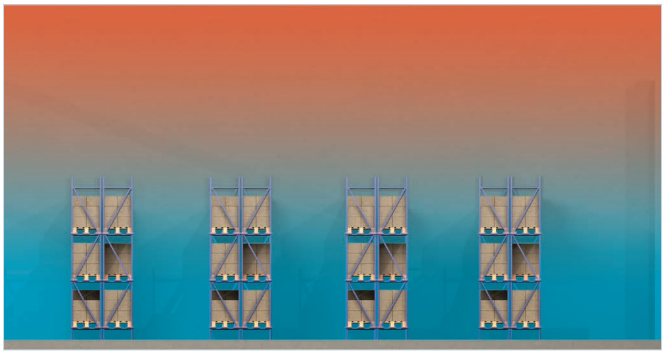
The destratificator is for indoor installation in weather-protected premises. The destratificators are designed for mounting under a ceiling with a directing nozzle downwards.

The destratificator must be either rigidly fixed to a bearing structure or for suspended with a mounting kit supplied with the delivery.

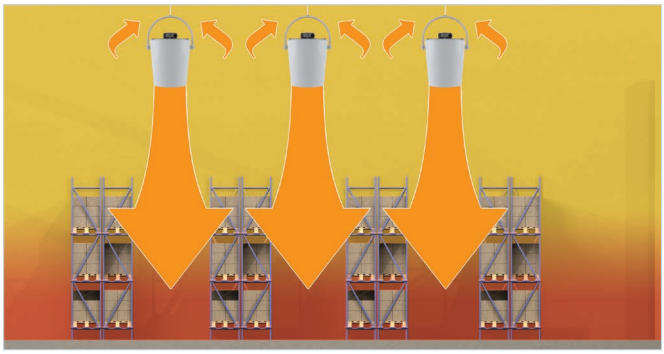
The destratificator is connected to power mains via an external terminal box. Electric connections and installations must comply with the product manual and a wiring diagram on the terminal block.

Selection

The destratificator selection is based on the assumption that the destratificator operation distance correlates to the premise height as 1:1.25. Number of the destratificators to be installed in the premise is selected on the assumption that the total air flow is 1 to 2 premise volume.



Uneven distribution of warm and cold air flows in the room without destratificators.



Even distribution of warm and cold air flows in the room with destratificators.

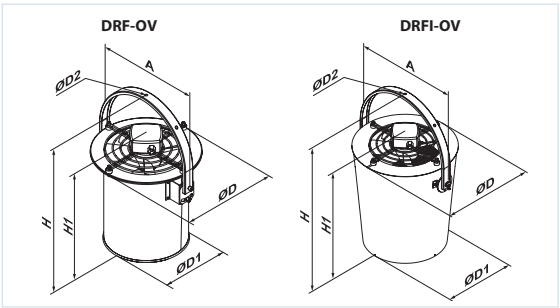
Technical data

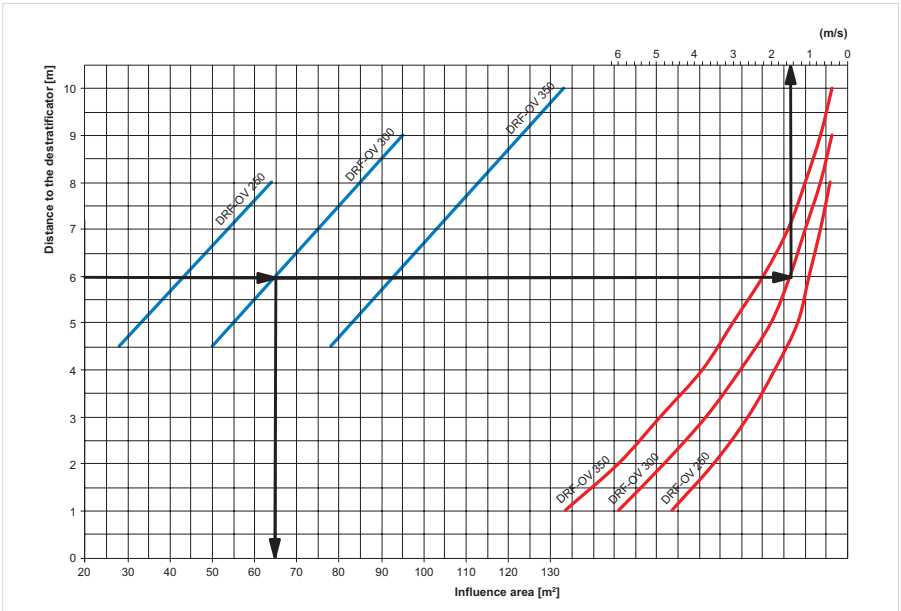
	DRF-OV 250 DRFI-OV 250	DRF-OV 300 DRFI-OV 300	DRF-OV 350 DRFI-OV 350
Voltage [V/50 Hz]	1~230	1~230	1~230
Power [W]	50	75	140
Current [A]	0.22	0.35	0.65
Max. air flow [m^3/h]	800	1340	2500
RPM [min^{-1}]	1380	1350	1380
Range of air stream [m]	8	9	10
Effective range [m]	6-9	8-11	10-13
Influence area [m^2]	28-64	50-95	78-133
Noise level at 3m [dBA]	53/46*	56/49*	60/53*
Transported air temperature [°C]	60	60	60
Protection rating	IPX4	IPX4	IPX4

* parameter for DRFI

Overall dimensions

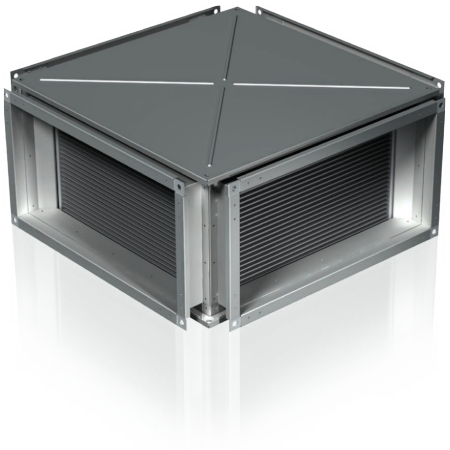
Model	Dimensions [mm]						Mass [kg]
	A	H	H1	ØD	ØD1	ØD2	
DRF-OV 250	390	524	386	341	260	9.1	6.0
DRV-OV 300	442	620	456	392	316	9.1	7.2
DRF-OV 350	490	705	516	442	360	9.1	9.7
DRFI-OV 250	456	626	468	384	302	9.1	11.0
DRFI-OV 300	506	701	518	434	352	9.1	14.5
DRFI-OV 350	556	776	569	484	402	9.1	17.0





ACCESSORIES

Series
PR



Applications

PR plate heat exchanger with X-shaped air passage designed for exhaust air heat recovery in conditioning and ventilating systems. The heat exchangers are connected directly to the rectangular ducts both with parallel and perpendicular or diagonal ducting at 45° Various connection modification are possible due to bend fittings which shall be ordered in the required quantity. The transported air shall not contain solid, fibrous, aggressive and explosive impurities.

Design

The heat exchanger casing is made of galvanized steel. The surface of the heat exchanger consists of thin aluminium plates for efficient heat exchange. Some condensate quantity which can be generated at exhaust surface can be removed at the bottom removable panel. PR heat exchangers equipment list includes connecting pipe on the bottom panel for condensate removing.

Technical data

Heat recovery efficiency and air resistance in the air duct are the basic factors that determine the heat exchanger performance. The thermal efficiency is calculated as following:

$$\eta = \frac{t_s - t_i}{t_e - t_i}$$

t_s – supply air temperature after heat recuperation;
t_i – intake air temperature before heat recuperation;
t_e – extract air temperature before heat recuperation.

Accessory

PK bend
Designed for easy mounting of the heat exchanger in any modifications of the air duct.

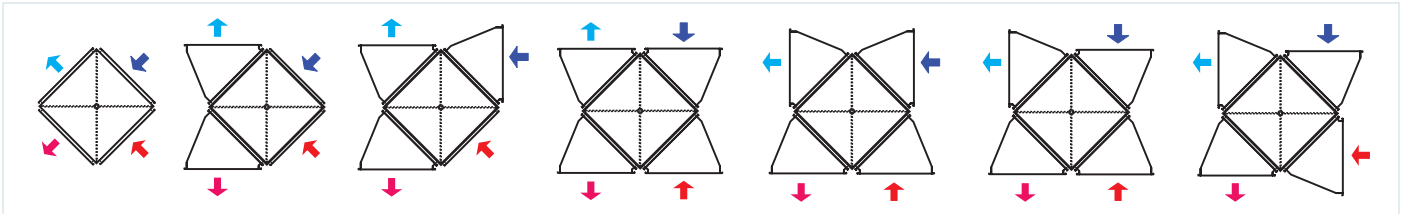
Bend designation
PK 600 x 300

PK bend

Accessory

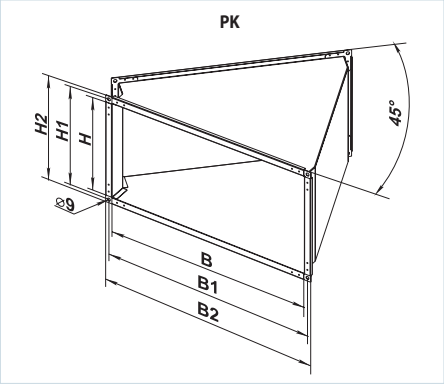
Summer block VL
For the summer period the heat exchanger can be replaced with the summer block VL which performs no heat recovery but reduces pressure loss by 10 %. It is applied in systems without by-pass at the inlet and in systems with no cooling.

Possible layout arrangements of PR heat exchanger and bends PK:



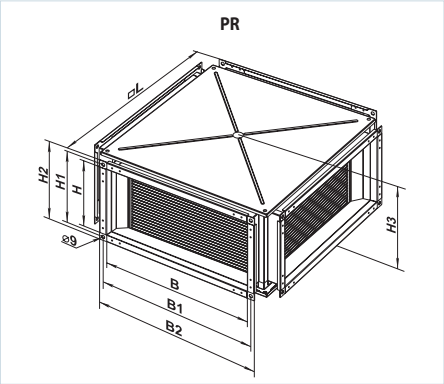
Designation key

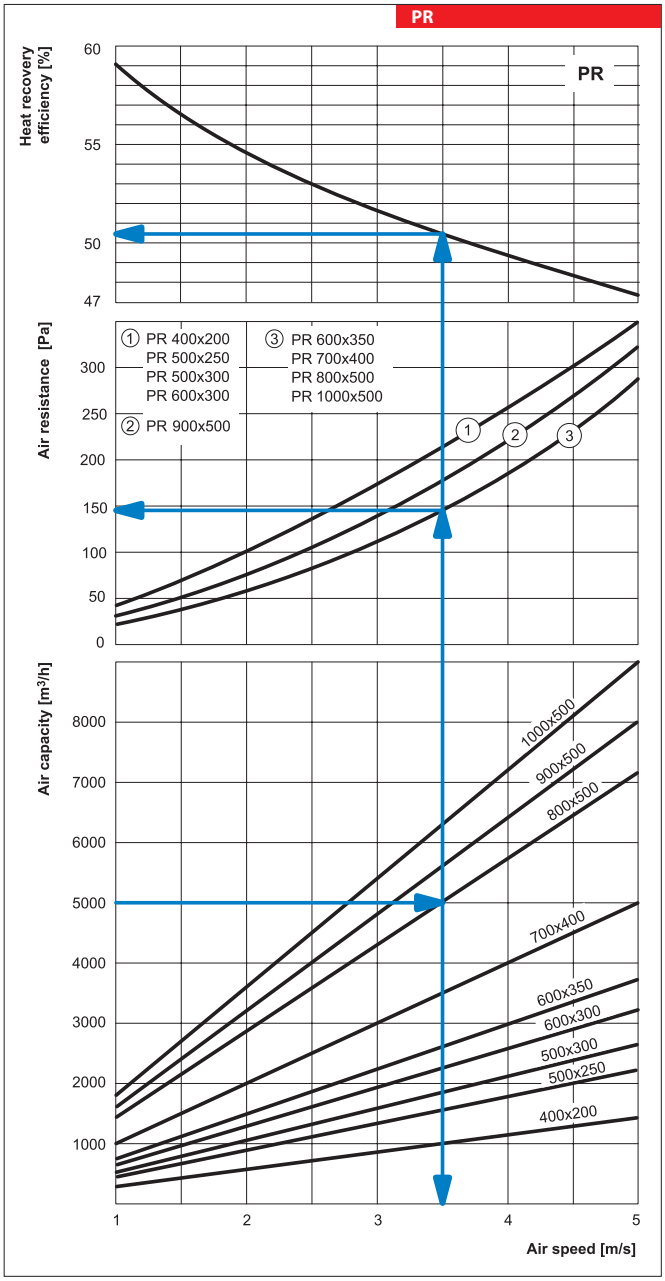
Series	Flange dimensions (WxH) [mm]
PR **PK**	400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500
VL	400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500



Overall dimensions

Type	Dimensions [mm]						Mass [kg]
	B	B1	B2	H	H1	H2	
PK 400x200	400	420	440	200	220	240	2.2
PK 500x250	500	520	540	250	270	290	3.3
PK 500x300	500	520	540	300	320	340	3.5
PK 600x300	600	620	640	300	320	340	4.5
PK 600x350	600	620	640	350	370	390	4.7
PK 700x400	700	720	740	400	420	440	5.9
PK 800x500	800	820	840	500	520	540	7.5
PK 900x500	900	920	940	500	520	540	8.7
PK 1000x500	1000	1020	1040	500	520	540	10.3

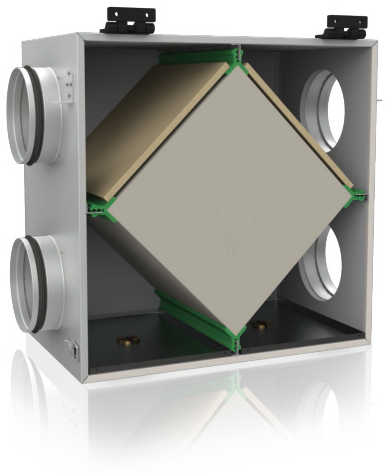




Overall dimensions

Type	Dimensions [mm]								Mass [kg]
	B	B1	B2	H	H1	H2	H3	L	
PR 400x200	400	420	440	200	220	240	275	530	17.1
PR 500x250	500	520	540	250	270	290	325	630	22.6
PR 500x300	500	520	540	300	320	340	375	630	24.2
PR 600x300	600	620	640	300	320	340	375	730	31.0
PR 600x350	600	620	640	350	370	390	425	730	33.4
PR 700x400	700	720	740	400	420	440	475	830	47.8
PR 800x500	800	820	840	500	520	540	575	930	61.1
PR 900x500	900	920	940	500	520	540	575	1130	78.8
PR 1000x500	1000	1020	1040	500	520	540	575	1130	78.3

Series
PR 150



Application

The plate heat exchanger PR 150 unit is an energy saving device designed to save thermal energy by means of thermal energy recovery and is used as a component part of energy saving technologies in buildings and premises. The unit with a passive heat exchanger is an integral element of ventilation systems of modern buildings and premises. The heat exchanger utilizes extract air thermal energy to warm up filtered supply air which allows reducing thermal energy loss and minimizing heating costs in cold season. The passive heat exchanger is designed for joint operation together with supply and exhaust fans, e.g. VENTS VK 150 fan models.

Design

The plate heat exchanger consists of:
AlZn casing internally filled with thermal- and sound insulating 15 mm penophole layer;
plate cross-flow heat exchanger made of aluminium or polystyrene;
replaceable G4 supply and extract filters.

Features

- Thermal- and sound-insulated corrosion-resistant casing.
- High-efficient counter-flow heat exchanger made of polystyrene or aluminium.
- Heat recovery efficiency up to 75 %.
- Built-in G4 filters for purification of supply and exhaust air flows.
- Compact sizes and low weight.

Technical parameters

Heat recovery efficiency and air resistance in the air duct are the basic factors that determine the heat exchanger performance.
Coefficient of thermal efficiency is calculated as follows:

$$\eta = \frac{t_s - t_i}{t_e - t_i}$$

where:
t_s – supply air temperature (after heat recovery)
t_i – intake air temperature (before heat recovery)
t_e – extract air temperature (extract air before heat recovery)

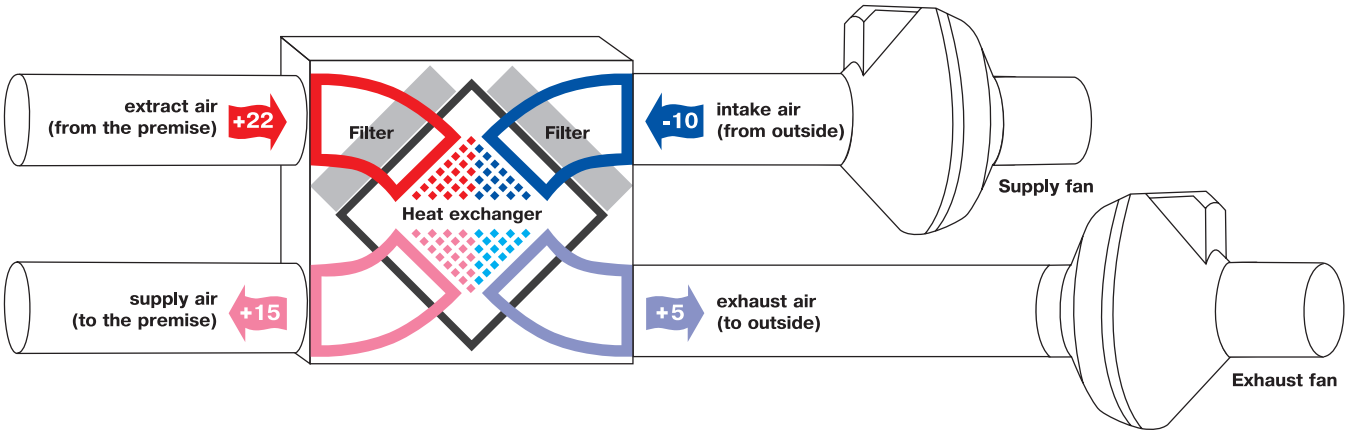
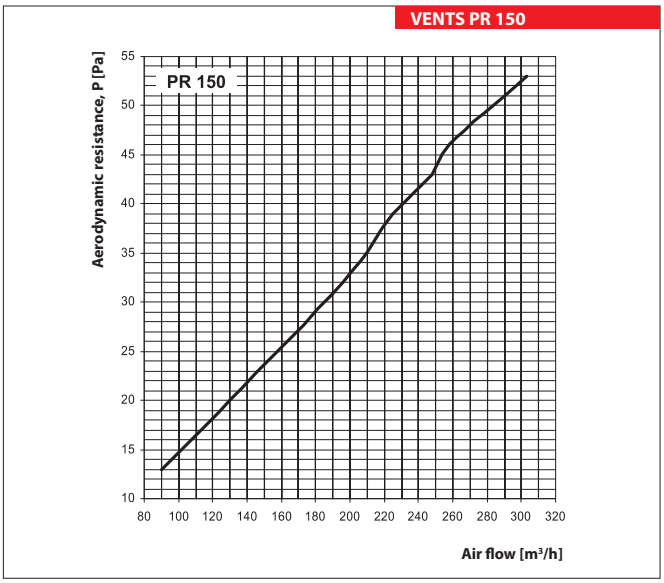


Plate heat exchanger operation example with VK fans in ventilation system

Designation key

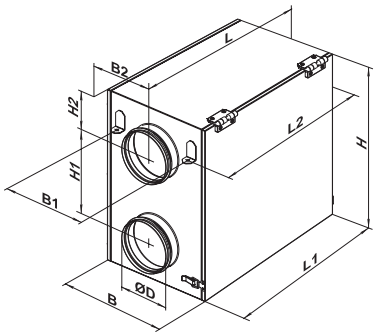
Series	Flange diameter [mm]	Type heat exchanger	–	Filtration class
PR	150	_: aluminum P: polysterene		G4

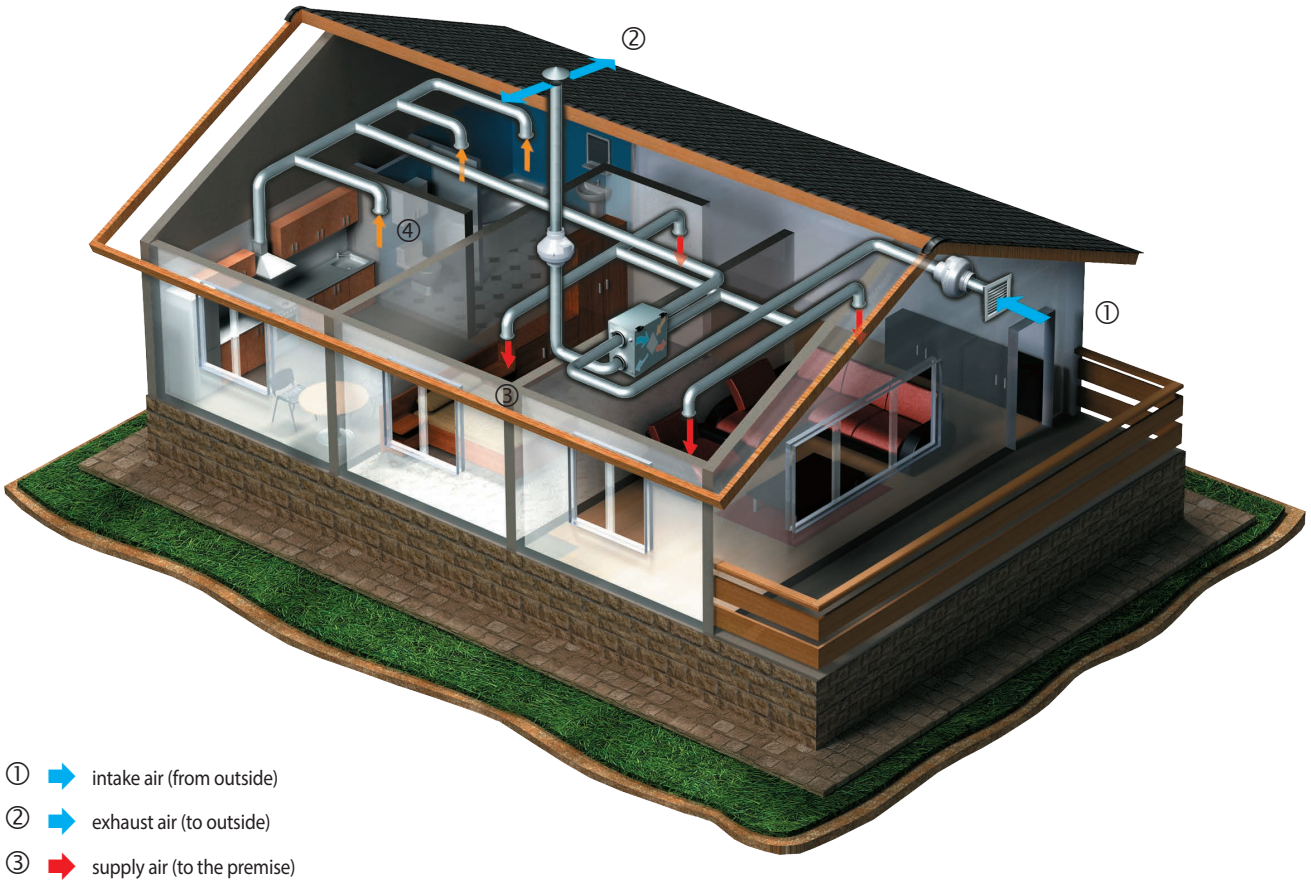
Technical data



Overall dimensions

Type	Dimensions [mm]									
	ØD	B	B1	B2	H	H1	H2	L	L1	L2
PR 150	149	329	239	165	510	266	122	609	510	540





① intake air (from outside)
② exhaust air (to outside)
③ supply air (to the premise)
④ extract air (from the premise)

Plate heat exchanger application example in cottage

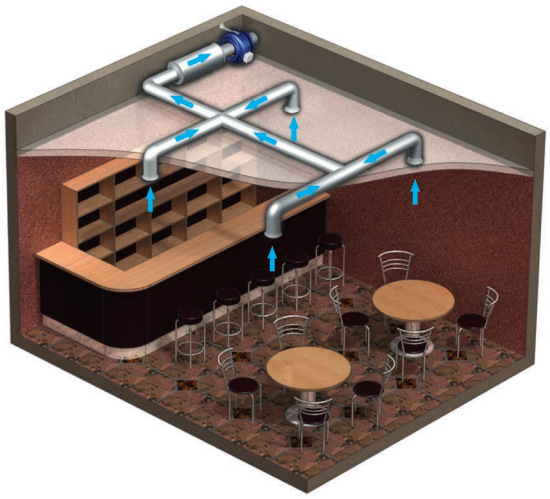
Series
SR

Series
SRF

Applications
Silencer is applied for noise absorption produced during the ventilating equipment operation and spread along the ducting systems. Suitable for installation into round ducts. The silencer reduces the noise level in the air duct significantly (refer the diagram «Noise level reduction»). For designing a ventilation system with low level of noise emission into the environment silencers should be used together with insulated fans.

Design
The galvanized steel casing of the SR silencer is filled with flameproof sound insulating material and equipped with protecting covering against fiber blowing-out. The SRF silencer casing consists of internal and external aluminium-alloy spiral seam tubes filled with flameproof sound insulating material. The casing inner surface is perforated and has the protecting over to prevent the fiber blowing-out. The minimum bending radius of the silencer is up to 2 diameters. Each standards size has several length modifications.
The SR and SRF silencers are equipped with connecting flanges with rubber sealing for airtight connection to the air ducts.

Mounting
The silencers can be mounted in any position. Installing several silencers in series is preferable to improve sound absorption effect. To prevent the flexible silencer sagging it should be fixed not only at the ends but also in the middle.



Application of silencer in ventilating exhaust system

Designation key

Series	Air duct diameter [mm]	/	Length
SR **SRF**	100; 125; 150; 160; 200; 250; 315; 355; 400		600; 900; 1200; 2000

	Noise level reduction, dB (Octave-frequency band [Hz])							
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
SR 100/600	4	8	10	20	34	30	13	14
SR 100/900	5	10	15	23	44	30	16	15
SR 100/1200	6	11	19	28	50	34	20	18
SR 125/600	3	5	6	15	28	17	10	9
SR 125/900	4	9	12	22	43	22	16	12
SR 125/1200	4	9	16	27	48	27	21	17
SR 150/600	2	4	8	16	32	11	7	7
SR 150/900	3	5	9	18	36	25	13	14
SR 150/1200	4	8	14	25	43	30	18	19
SR 160/600	2	4	8	17	33	11	7	7
SR 160/900	2	5	10	19	37	25	13	15
SR 160/1200	4	10	14	24	42	30	19	20
SR 200/600	2	4	6	10	27	13	7	7
SR 200/900	3	7	11	20	39	23	8	7
SR 200/1200	4	10	14	23	40	26	13	12
SR 250/600	4	5	6	11	22	12	7	6
SR 250/900	4	5	7	16	32	20	12	10
SR 250/1200	4	6	8	17	34	22	14	12
SR 315/600	2	4	5	10	17	9	6	5
SR 315/900	3	5	8	17	30	14	10	8
SR 315/1200	4	7	11	22	36	18	14	10
SR 355/600	4	9	16	22	17	13	14	13
SR 355/900	7	11	19	25	19	16	17	18
SR 355/1200	10	15	22	27	22	18	20	22
SR 400/900	6	10	18	23	17	15	16	20
SR 400/1200	9	14	21	25	20	17	19	25

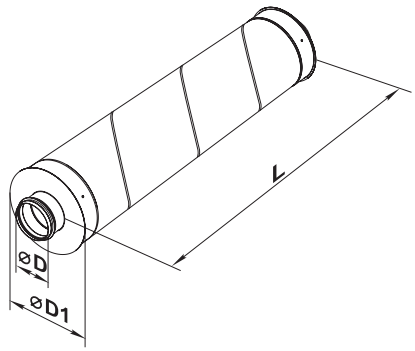
	Noise level reduction, dB (Octave-frequency band [Hz])							
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
SRF 100/600	6	8	13	22	28	34	17	20
SRF 100/900	8	10	15	25	33	40	21	23
SRF 100/2000	10	15	24	48	53	51	39	36
SRF 125/600	4	7	14	20	31	31	13	12
SRF 125/900	5	9	16	23	36	37	17	16
SRF 125/2000	7	15	23	47	55	50	28	25
SRF 150/600	3	7	12	32	40	40	19	20
SRF 150/900	4	8	14	40	48	49	26	25
SRF 150/2000	5	10	21	42	50	48	26	25
SRF 160/600	3	7	12	20	25	24	10	12
SRF 160/900	3	8	13	21	28	28	13	16
SRF 160/2000	5	11	20	40	48	48	25	25
SRF 200/600	2	5	12	20	26	21	10	10
SRF 200/900	3	6	12	22	28	24	12	13
SRF 200/2000	4	11	22	42	51	34	19	23
SRF 250/600	2	3	8	16	22	13	10	10
SRF 250/900	2	4	9	18	25	16	11	12
SRF 250/2000	3	6	16	30	39	27	17	22
SRF 315/600	2	4	9	18	21	12	7	9
SRF 315/900	2	5	11	21	24	14	8	10
SRF 315/2000	4	7	17	34	39	24	14	18

Overall dimensions

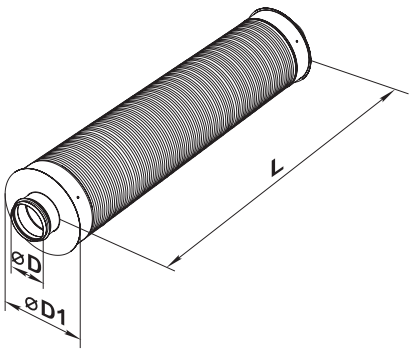
Type	Dimensions [mm]			Weight [kg]
	ØD	ØD1	L	
SR 100/600	99	202	600	2.9
SR 100/900	99	202	900	4.0
SR 100/1200	99	202	1200	5.2
SR 125/600	125	225	600	3.3
SR 125/900	125	225	900	4.6
SR 125/1200	125	225	1200	5.9
SR 150/600	149	252	600	3.7
SR 150/900	149	252	900	5.1
SR 150/1200	149	252	1200	6.5
SR 160/600	159	252	600	3.7
SR 160/900	159	252	900	5.1
SR 160/1200	159	252	1200	6.5
SR 200/600	198	318	600	4.65
SR 200/900	198	318	900	6.45
SR 200/1200	198	318	1200	8.1
SR 250/600	248	358	600	5.6
SR 250/900	248	358	900	7.8
SR 250/1200	248	358	1200	10
SR 315/600	313	403	600	7.1
SR 315/900	313	403	900	10.1
SR 315/1200	313	403	1200	13
SR 355/600	353	453	600	8.3
SR 355/900	353	453	900	11.6
SR 355/1200	353	453	1200	14.9
SR 400/600	398	503	600	10,75
SR 400/900	398	503	900	14.5
SR 400/1200	398	503	1200	18.2

Type	Dimensions [mm]			Weight [kg]
	ØD	ØD1	L	
SRF 100/600	99	220	600	1.6
SRF 100/900	99	220	900	2.4
SRF 100/2000	99	220	2000	5.2
SRF 125/600	124	270	600	2.0
SRF 125/900	124	270	900	3.0
SRF 125/2000	124	270	2000	6.6
SRF 150/600	149	270	600	2.1
SRF 150/900	149	270	900	3.1
SRF 150/2000	149	270	2000	6.8
SRF 160/600	159	270	600	2.1
SRF 160/900	159	270	900	3.2
SRF 160/2000	159	270	2000	7.0
SRF 200/600	199	320	600	2.6
SRF 200/900	199	320	900	3.9
SRF 200/2000	199	320	2000	8.6
SRF 250/600	249	370	600	3.0
SRF 250/900	249	370	900	4.5
SRF 250/2000	249	370	2000	10.1
SRF 315/600	314	420	600	3.4
SRF 315/900	314	420	900	5.1
SRF 315/2000	314	420	2000	11.4

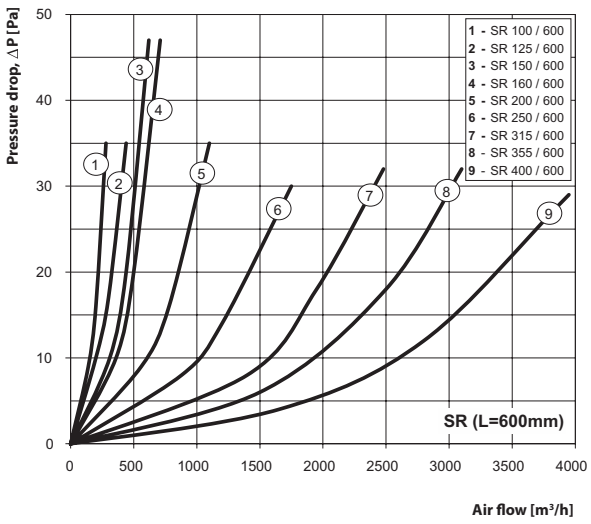
SR



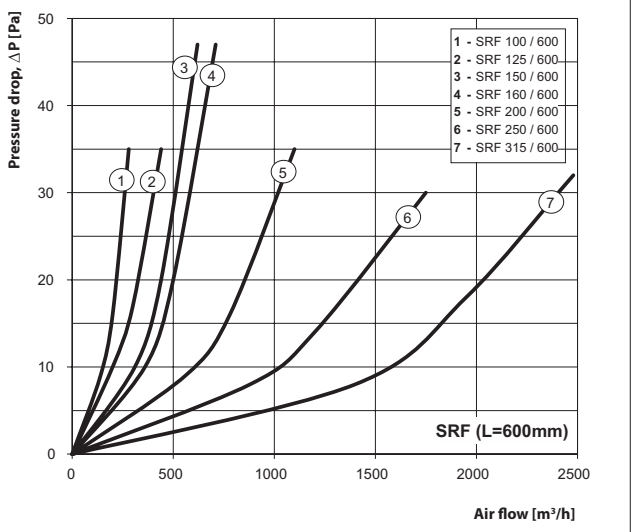
SRF



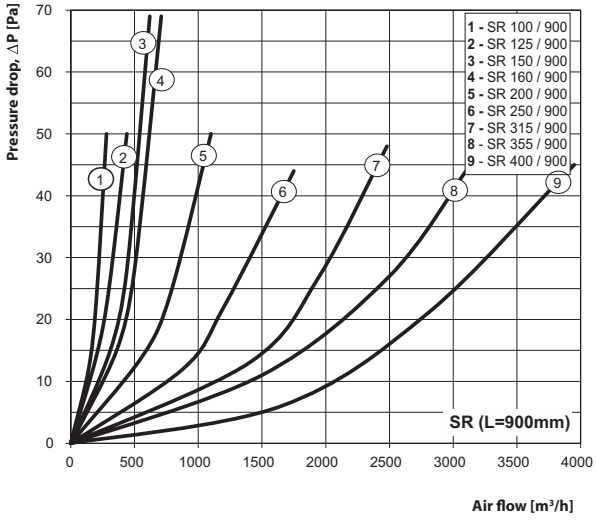
SR



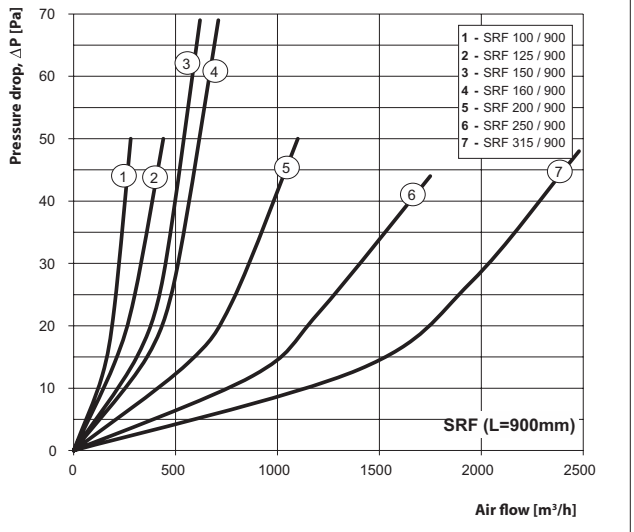
SRF



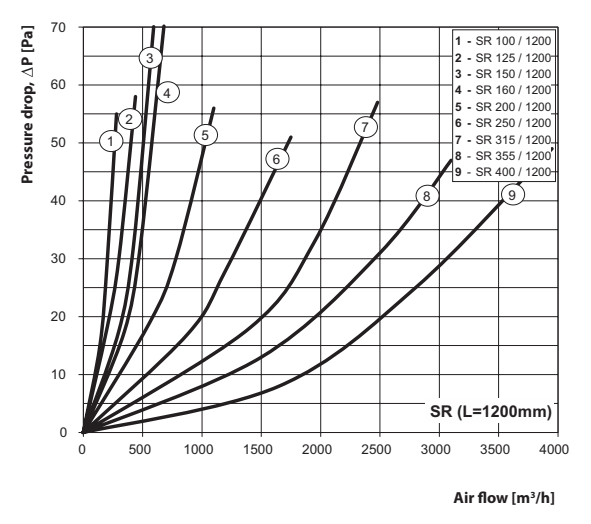
SR



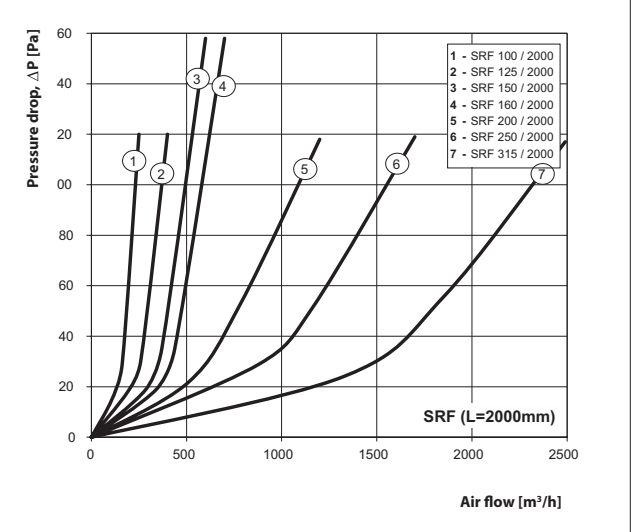
SRF



SR



SRF



Series
SRP

Applications

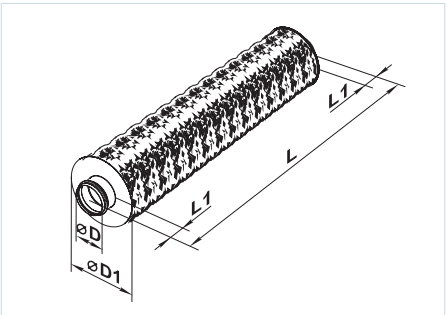
Silencer is applied for noise absorption produced during the ventilating equipment operation and spread along the ducting systems. Suitable for installation into round ducts. The silencer reduces the noise level in the air duct significantly (refer the diagram «Noise level reduction»). The silencer is applied jointly with the sound-insulated fan in case of high level requirements not only to the air duct but to the equipment altogether.

Design

SRP silencer consists of internal flexible air duct made of micro-perforated aluminum foil and laminated with polyether film. The ducts are reinforced by the scroll frame made of high-carbon steel wire and outer polyethylene sleeve. Silencer supplied with high quality 25 mm sound insulation material. The silencer is equipped with the connecting flanges with rubber sealing that provides the airtight connection to the air ducts. Each standards size has several length modifications.

Mounting

The silencer design allows fixing it on the round ducts in any position by means of clamps. Installation in series is preferable to attain the better effect. To prevent the flexible silencer sagging it should be fixed not only at the ends but in the middle as well.



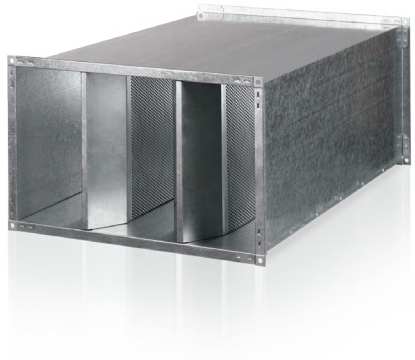
Габаритні розміри виробів

Type	Dimensions [mm]				Mass [kg]
	ØD	ØD1	L	L1	
SRP 100/500	99	162	600	50	0.56
SRP 100/600	99	162	700	50	0.62
SRP 100/750	99	162	850	50	0.72
SRP 100/900	99	162	1000	50	0.82
SRP 100/1200	99	162	1300	50	1.02
SRP 100/1500	99	162	1600	50	1.22
SRP 100/2000	99	162	2100	50	1.55
SRP 120/500	119	187	600	50	0.59
SRP 120/600	119	187	700	50	0.65
SRP 120/750	119	187	850	50	0.75
SRP 120/900	119	187	1000	50	0.85
SRP 120/1200	119	187	1300	50	1.05
SRP 120/1500	119	187	1600	50	1.25
SRP 120/2000	119	187	2100	50	1.58
SRP 125/500	124	187	600	50	0.66
SRP 125/600	124	187	700	50	0.74
SRP 125/750	124	187	850	50	0.86
SRP 125/900	124	187	1000	50	0.97
SRP 125/1200	124	187	1300	50	1.21
SRP 125/1500	124	187	1600	50	1.44
SRP 125/2000	124	187	2100	50	1.83
SRP 150/500	149	212	600	50	0.91
SRP 150/600	149	212	700	50	1.00
SRP 150/750	149	212	850	50	1.14
SRP 150/900	149	212	1000	50	1.27
SRP 150/1200	149	212	1300	50	1.54
SRP 150/1500	149	212	1600	50	1.81
SRP 150/2000	149	212	2100	50	2.27
SRP 160/500	159	212	600	50	0.94
SRP 160/600	159	212	700	50	1.03
SRP 160/750	159	212	850	50	1.16
SRP 160/900	159	212	1000	50	1.30
SRP 160/1200	159	212	1300	50	1.57
SRP 160/1500	159	212	1600	50	1.84
SRP 160/2000	159	212	2100	50	2.29
SRP 200/500	199	264	600	50	1.25
SRP 200/600	199	264	700	50	1.36
SRP 200/750	199	264	850	50	1.53
SRP 200/900	199	264	1000	50	1.71
SRP 200/1200	199	264	1300	50	2.05
SRP 200/1500	199	264	1600	50	2.40
SRP 200/2000	199	264	2100	50	2.98
SRP 250/500	249	314	600	50	1.53
SRP 250/600	249	314	700	50	1.67
SRP 250/750	249	314	850	50	1.88
SRP 250/900	249	314	1000	50	2.09
SRP 250/1200	249	314	1300	50	2.51
SRP 250/1500	249	314	1600	50	2.93
SRP 250/2000	249	314	2100	50	3.63
SRP 315/500	314	365	600	50	1.87
SRP 315/600	314	365	700	50	2.04
SRP 315/750	314	365	850	50	2.30
SRP 315/900	314	365	1000	50	2.55
SRP 315/1200	314	365	1300	50	3.06
SRP 315/1500	314	365	1600	50	3.56
SRP 315/2000	314	365	2100	50	4.41

Designation key

Series	Air duct diameter [mm]	/	Length
SRP	100; 125; 150; 160; 200; 250; 315		500; 600; 750; 900; 1200; 1500;2000

Series
SR



Applications

The plate silencer is applied for noise absorption produced during the ventilating equipment operation and spread along the ducting systems. Suitable for installation into rectangular ducts. The silencer reduces the noise level in the air duct significantly (refer the diagram «Noise level reduction»). The silencer is applied jointly with the sound-insulated fan in case of high noise level requirements not only to the air duct but to the equipment in general.

Design

Silencer casing and plate shells are made of galvanized steel. The plates are filled with flameproof sound insulating material with protecting covering to prevent the fiber blowing-out.

Mounting

The mounting is performed by means of flange connection with respect to air flow direction (indicated with an arror on the casing). The straight portion of at least 1 m long before the silencer is recommended to provide the peak efficiency. Installation in series is preferable to attain the better effect.

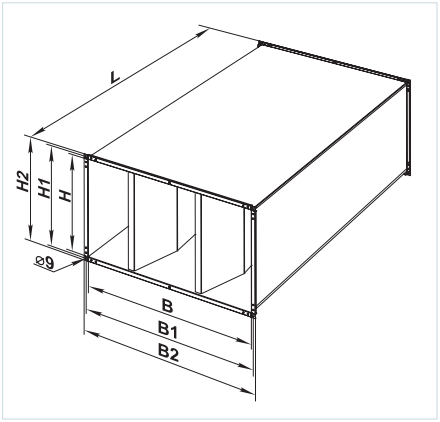
	Noise level reduction, dB (Octave-frequency band [Hz])							
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
SR 400x200	3	7	10	23	27	30	25	22
SR 500x250	3	6	11	22	26	25	27	22
SR 500x300	3	6	10	23	24	25	23	18
SR 600x300	3	6	10	21	24	30	24	17
SR 600x350	3	5	11	22	25	29	24	21
SR 700x400	4	7	10	15	22	19	21	18
SR 800x500	5	6	11	17	21	20	22	20
SR 900x500	3	6	10	16	20	20	21	15
SR 1000x500	4	6	11	16	21	21	23	17

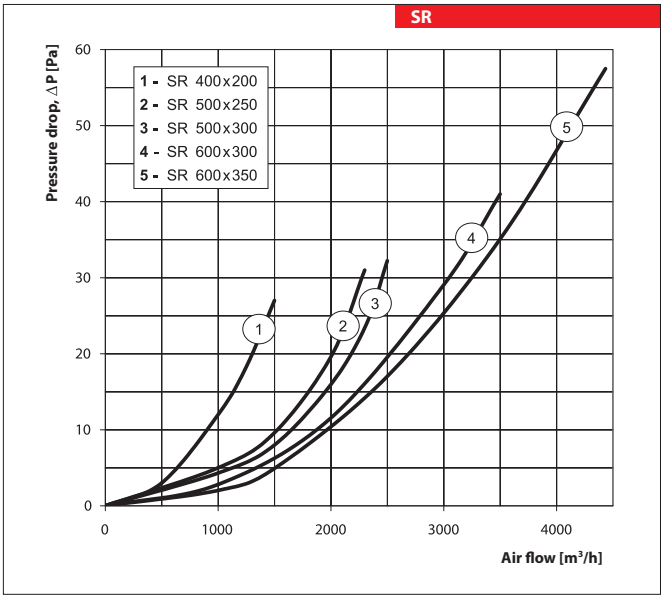
Designation key

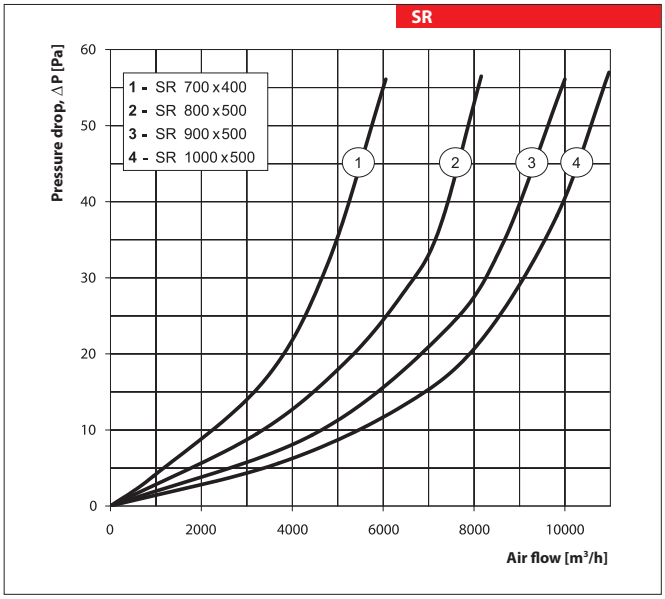
Series	Flange dimensions (WxH) [mm]
SR	400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500

Overall dimensions

Type	Dimensions [mm]							Mass [kg]
	B	B1	B2	H	H1	H2	L	
SR 400x200	400	420	440	200	220	240	950	18.5
SR 500x250	500	520	540	250	270	290	950	20.5
SR 500x300	500	520	540	300	320	340	950	24.5
SR 600x300	600	620	640	300	320	340	950	26.5
SR 600x350	600	620	640	350	370	390	950	28.7
SR 700x400	700	720	740	400	420	440	1010	36.7
SR 800x500	800	820	840	500	520	540	1010	50.0
SR 900x500	900	920	940	500	520	540	1010	51.7
SR 1000x500	1000	1020	1040	500	520	540	1010	57.3







Series
FB K2
FB K2 ES

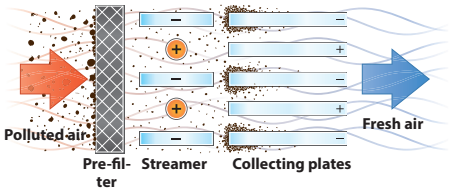
Application
Filters are designed for use in supply ventilation and conditioning systems requiring high level of air purification. Designed for connection to ø100, 125, 150 and 200 mm round air ducts.

Design
Corrosion resistant casing made of polymer coated steel. Convenient access for filter replacement.

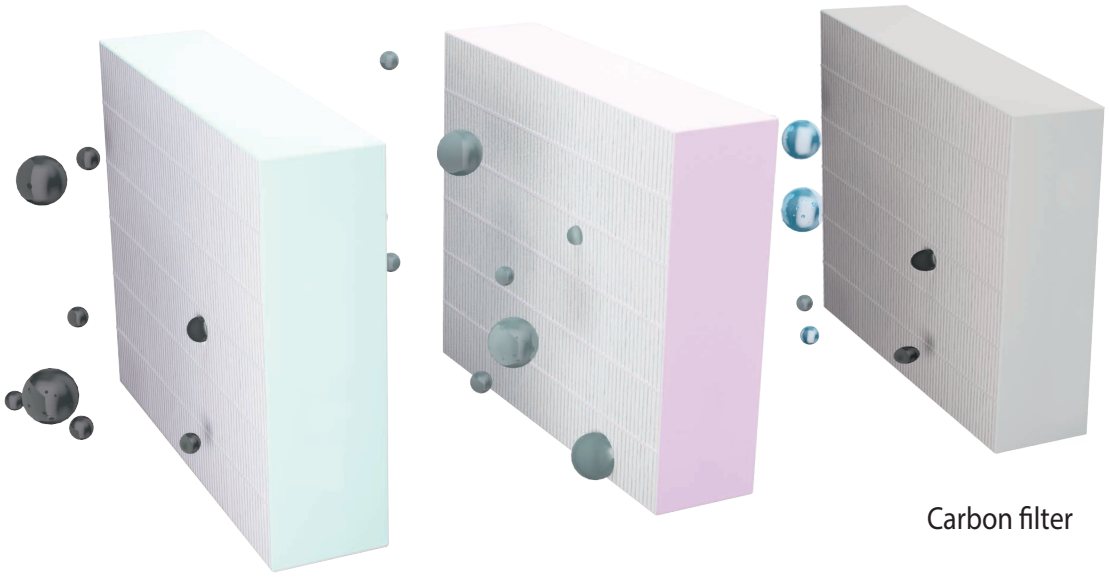
Mounting
The compact design offers the ideal mounting solutions for limited mounting space, including suspended ceiling mounting. Wall or ceiling mounting is performed by means of the supplied mounting brackets. Filters can be installed in any position.

Air filtration
The casing incorporates a service panel for quick access to the filters. Pre-filtering with a G4 filter. Secondary filtering with an F8 filter or H13 HEPA filter. F8 filter delays up to 98 % of solid particles with a diameter of 2.5 microns. H13 filter delays up to 99 % of solid particles with a diameter of 2.5 microns, as well as fluff and bacteria. For additional removal of unwanted odours and gases, it is possible to install a carbon filter. Fine filtration with an electrostatic filter (ES modification).

Electrostatic filter
Electrostatic filter enables purification of air from fine dust and soot, spray, smoke and other particles with the size of 0.01 microns and less. Maximum filter cleaning efficiency is 98 %. The electrostatic filters rely on gravity of oppositely charged particles. The polluted air stream flows through the spray charging unit for the particle ionization. As a result of the adsorption of the ions on the particle surface the ionized particles are moved by the air stream and accumulated on the collecting plates, which are oppositely charged.



The filter cleaning interval depends on the inlet air pollution density and may vary from 7 up to 21 days. The filter cleaning interval is determined according to the results of the visual inspection of the filters. Vacuum cleaning is allowed.

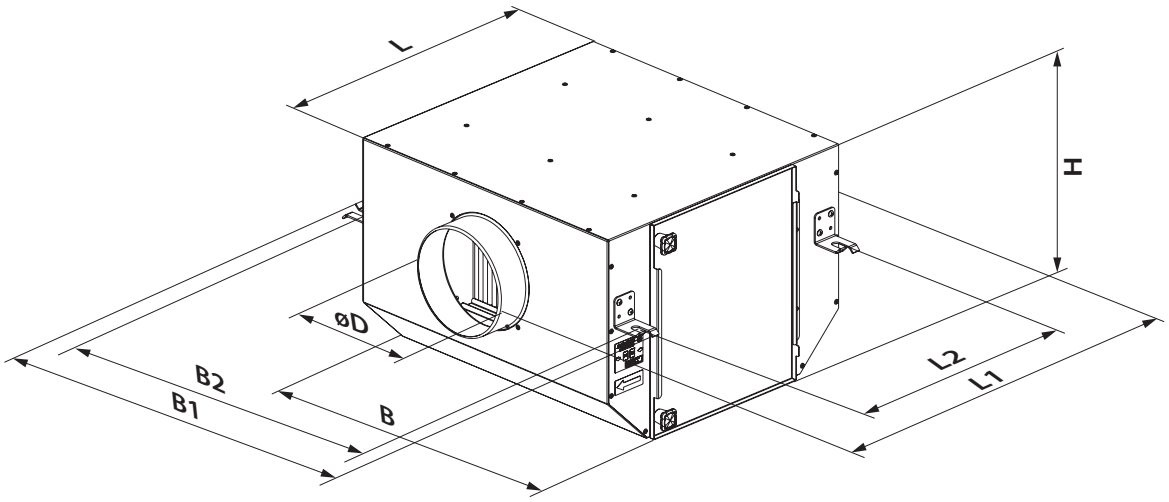


Designation key

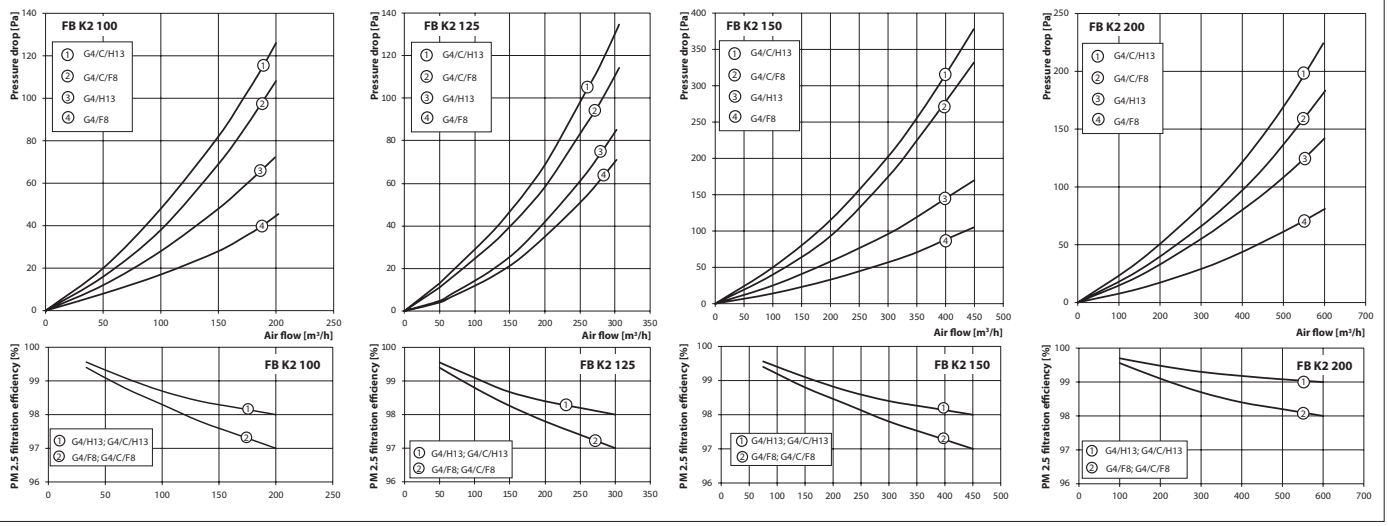
Series	Spigot diameter [mm]	Filters
FB K2	100; 125; 150; 200	**G4/F8**: G4 + F8 filters **G4/C/F8**: G4 + F8 filters + Carbon **G4/H13**: G4 + H13 filters **G4/C/H13**: G4 + H13 filters + Carbon **ES**: electrostatic filter

Overall dimensions

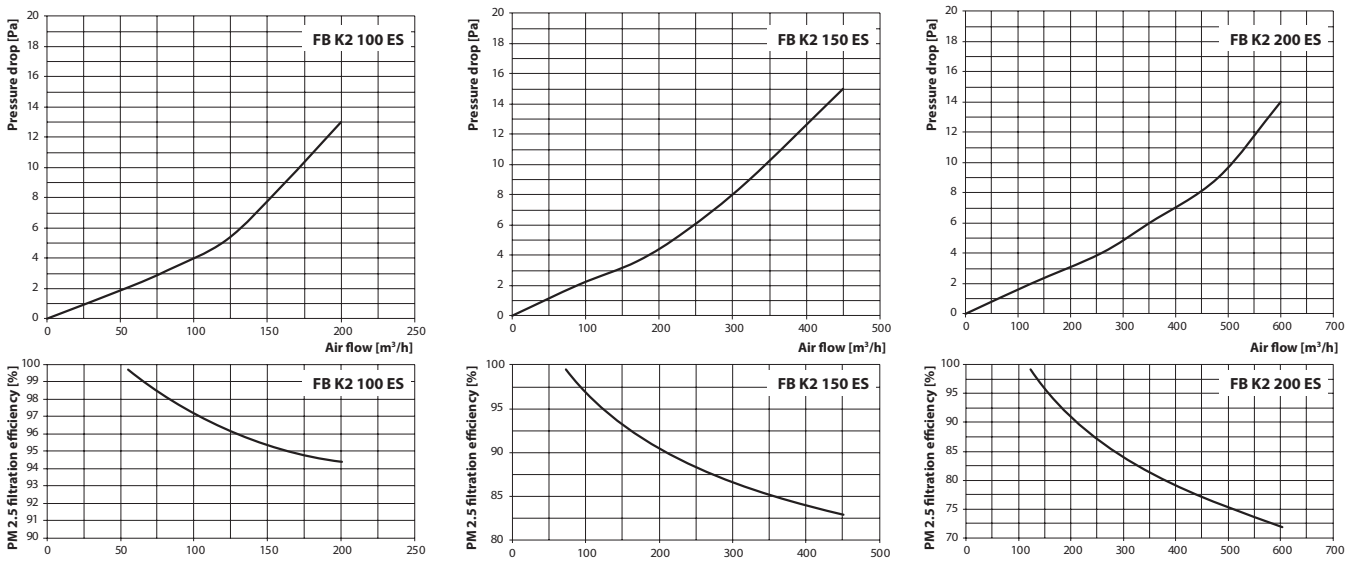
Model	Dimensions [mm]								Mass [kg]
	D	L	H	B	L1	B1	L2	B2	
FB K2 100 G4/F8	100		250	415		508		458	7.47
FB K2 100 G4/C/F8									8.18
FB K2 100 G4/H13									7.47
FB K2 100 G4/C/H13									8.18
FB K2 100 ES		514		458	614	551	456	502	11.5
FB K2 125 G4/F8	125		250	415		508		458	7.47
FB K2 125 G4/C/F8									8.18
FB K2 125 G4/H13									7.47
FB K2 125 G4/C/H13									8.18
FB K2 150 G4/F8	150	413.5	300	440	513.5	533	358.5	483	8.47
FB K2 150 G4/C/F8									9.04
FB K2 150 G4/H13									8.47
FB K2 150 G4/C/H13									9.04
FB K2 150 ES		514		458	614	551	456	502	12.7
FB K2 200 G4/F8	200		300	605		698		648	10.62
FB K2 200 G4/C/F8									11.84
FB K2 200 G4/H13									10.62
FB K2 200 G4/C/H13									11.84
FB K2 200 ES		514		658	614	751	456	702	16.8



FB K2



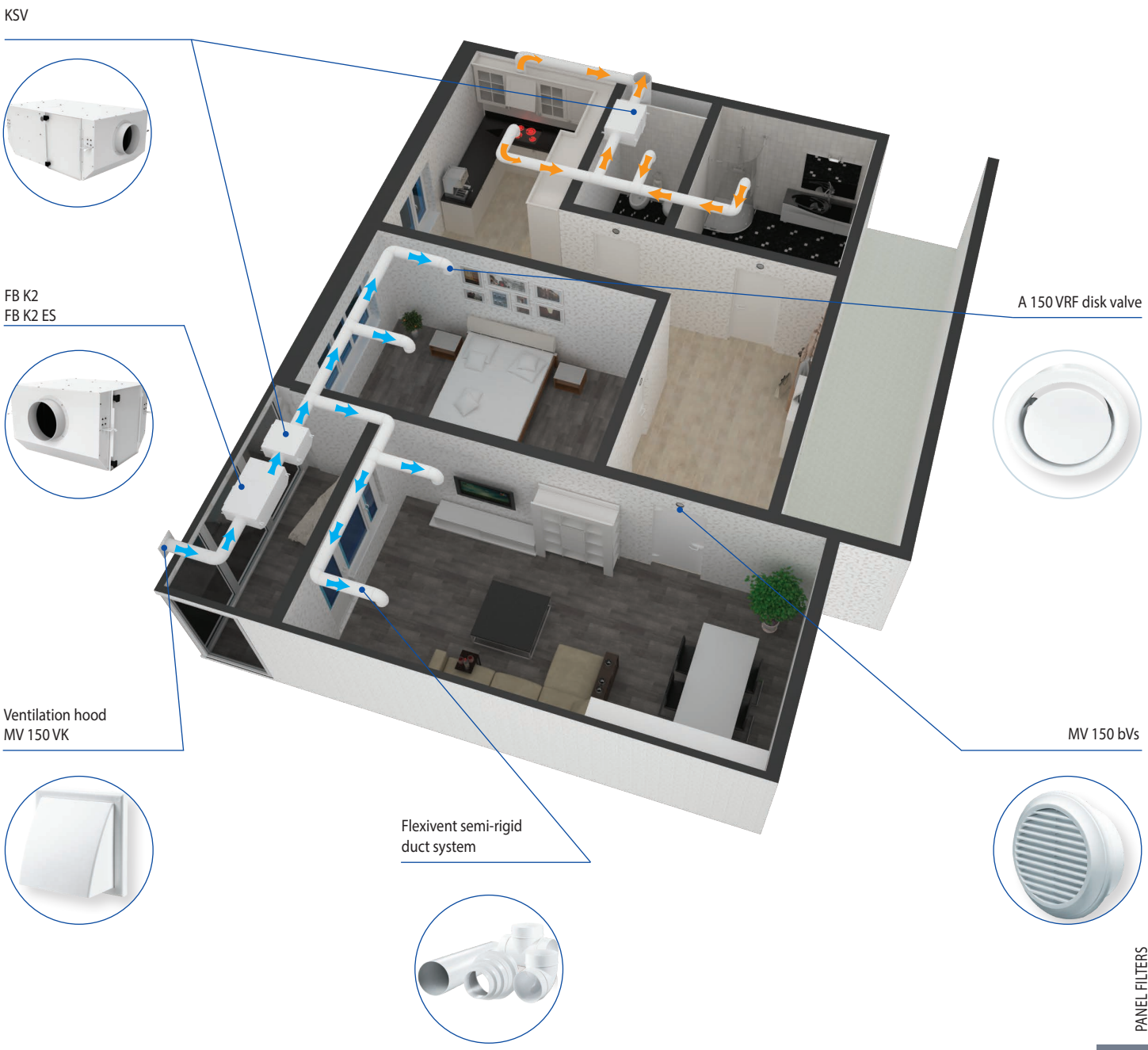
FB K2 ES



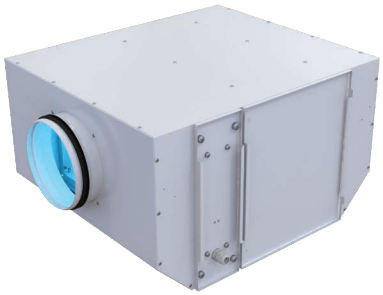
Accessories

Model	G4 replaceable panel filter	F8 replaceable panel filter	H13 replaceable panel filter	Replaceable carbon panel filter
FB K2 100	SF 220x400x47-G4	SF 220x400x47-F8	SF 220x400x47-H13	SF 220x400x47-C
FB K2 125	SF 220x400x47-G4	SF 220x400x47-F8	SF 220x400x47-H13	SF 220x400x47-C
FB K2 150	SF 270x425x47-G4	SF 270x425x47-F8	SF 270x425x47-H13	SF 270x425x47-C
FB K2 200	SF 270x590x47-G4	SF 270x590x47-F8	SF 270x590x47-H13	SF 270x590x47-C

Application options



FB K2 UV series



Application

Filter boxes are designed for use in supply ventilation and conditioning systems requiring high level of air purification and disinfection. Designed for connection to ø150, 160 and 200 mm round air ducts.

Design

Corrosion resistant casing made of polymer coated steel. Convenient access for UV lamp and filter replacement.

Mounting

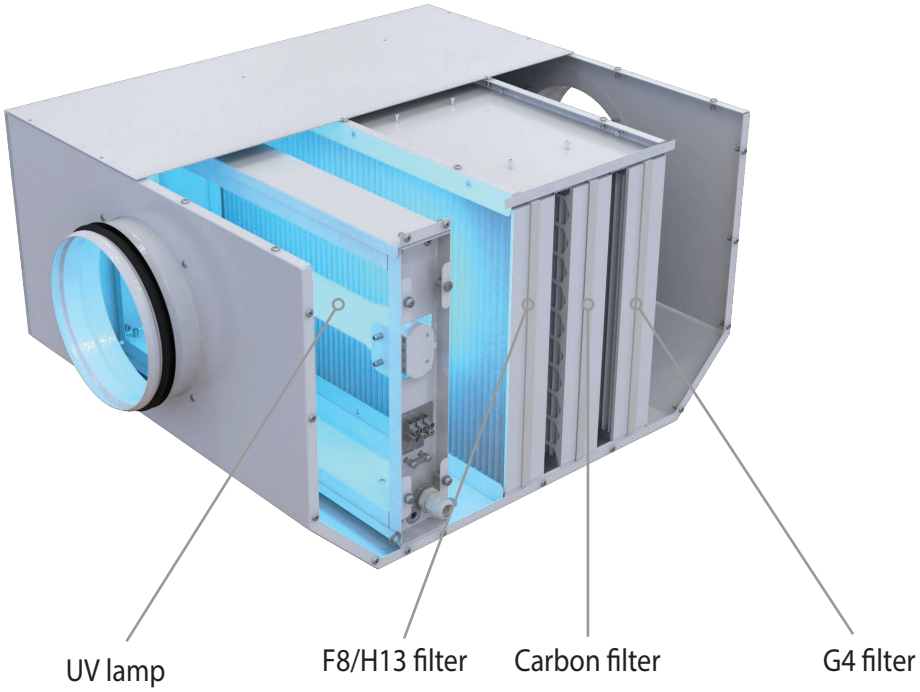
The compact design offers the ideal mounting solutions for limited mounting space, including suspended ceiling mounting.
Wall or ceiling mounting is performed by means of the supplied mounting brackets.
The filter can be installed in any position.

Air filtration

The service panel in the casing enables quick access to the filters. Pre-filtering with G4 filter. Secondary cleaning is provided by F8 filter or H13 HEPA filter.
F8 filter delays up to 95 % of solid particles with a diameter of 0.4 microns.
H13 filter delays up to 99 % of solid particles with a diameter of less than 0.4 microns, as well as fluff and bacteria.
For additional removal of unwanted odours and gases, it is possible to install a carbon filter.

UV lamp

The UV lamp with a wavelength of 256 nm cleans the air passing through the filter box from viruses and bacteria.
The detachable lamp unit can be easily removed for maintenance or replacement thanks to a special service panel.
The service life of UV lamps is up to 8000 hours.

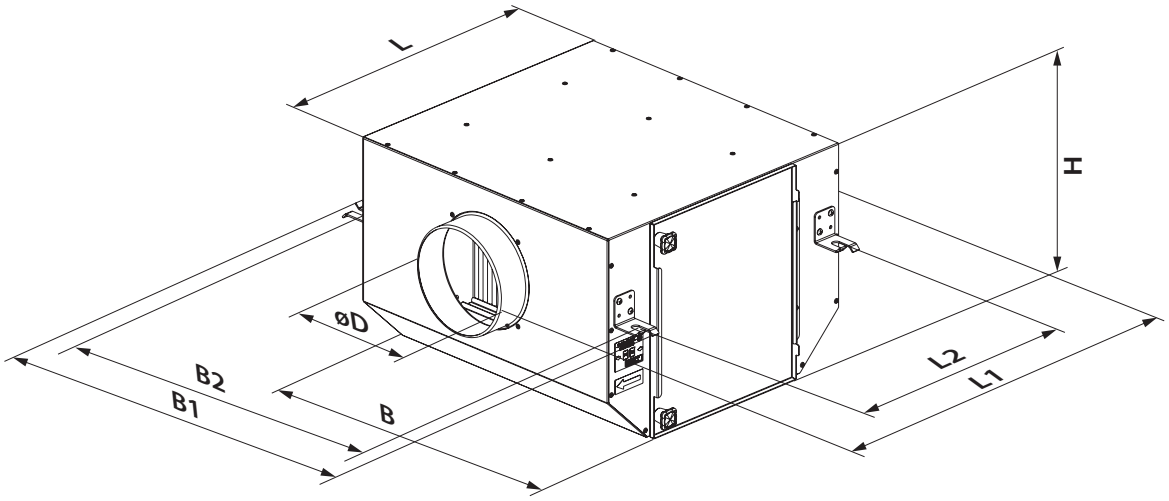


Designation key

Series	Spigot diameter [mm]	Filters	UV lamp
FB K2	150; 160; 200	**G4/F8**: G4 + F8 filters **G4/C/F8**: G4 + Carbon + F8 filters **G4/H13**: G4 + H13 filters **G4/C/H13**: G4 + Carbon + H13 filters	**UV**

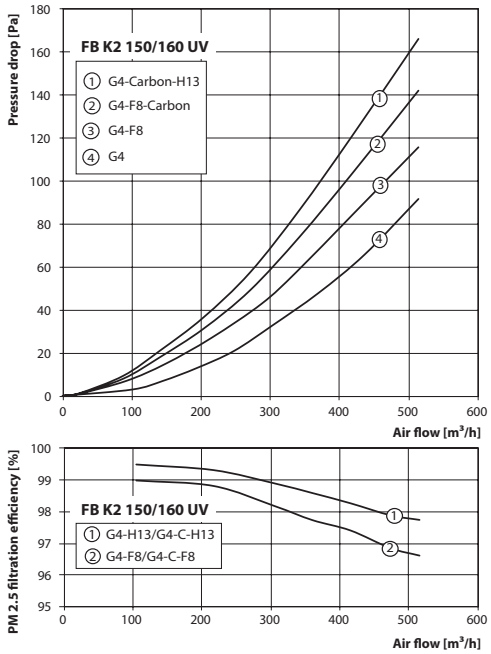
Overall dimensions

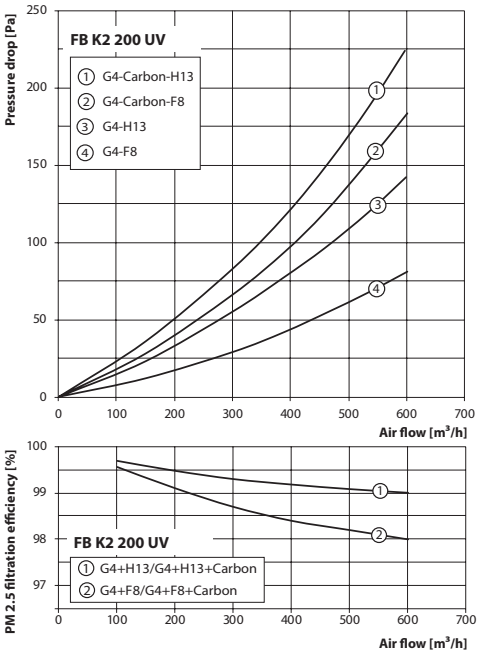
Model	D	L	H	B	L1	B1	L2	B2	Weight [kg]
FB K2 150 G4/F8 UV									12.4
FB K2 150 G4/C/F8 UV									13.3
FB K2 150 G4/H13 UV	147	513.5	299	440	611	533	458.5	484	12.4
FB K2 150 G4/C/H13 UV									13.3
FB K2 150 UV									11.9
FB K2 160 G4/F8 UV									13.9
FB K2 160 G4/C/F8 UV									14.8
FB K2 160 G4/H13 UV	157	513.5	299	440	611	533	458.5	484	13.9
FB K2 160 G4/C/H13 UV									14.8
FB K2 160 UV									13.4
FB K2 200 G4/F8 UV									17.2
FB K2 200 G4/C/F8 UV									18.5
FB K2 200 G4/H13 UV	197	513.5	299	605	611	698	458.5	649	17.2
FB K2 200 G4/C/H13 UV									18.5
FB K2 200 UV									16.6



	FB K2 150/160 UV	FB K2 200 UV
OSRAM lamp model	HNS L 60 W 2G11	HNS L 95 W 2G11
Supply voltage, 50 (60) Hz [V]	1~230	1~230
Power [W]	60	95
Rated current [A]	0.8	0.8
Starting current [A]	40	40
Radiation power (UVC) [W]	19	27
Lamp dimensions [mm]	408 x 40	533 x 40

FB K2 UV





Accessories

Model	G4 replaceable panel filter	F8 replaceable panel filter	H13 replaceable panel filter	Replaceable carbon panel filter
FB K2 150/160	SF 270x425x47-G4	SF 270x425x47-F8	SF 270x425x47-H13	SF 270x425x47-C
FB K2 200	SF 270x590x47-G4	SF 270x590x47-F8	SF 270x590x47-H13	SF 270x590x47-C

KSB, KSB EC, KSB K2, KSF K2 EC,
KSF K2 EC, KSV

FB K2
FB K2 ES
FB K2 UV

A 150 VRF disk valve

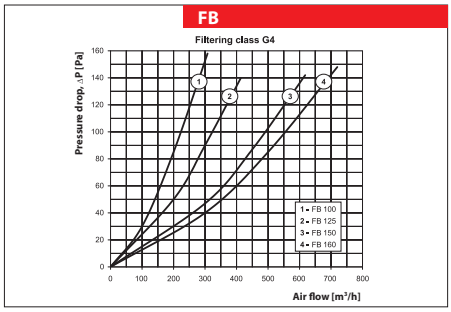
Ventilation hood MV 150 VK

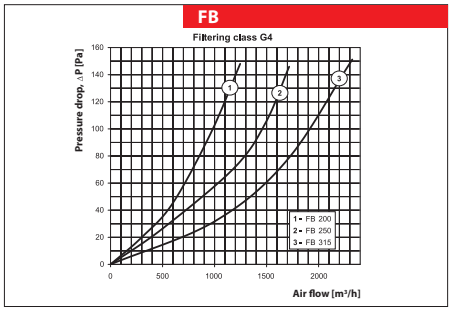
MV 150 bVs

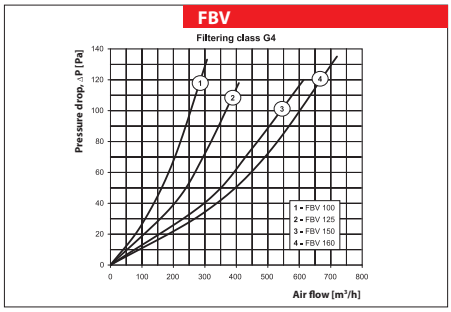
Flexivent
semi-rigid duct system

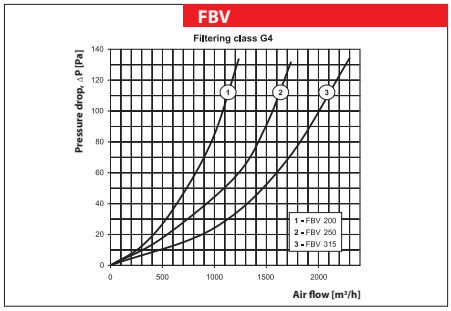
Series
FB

Series
FBV









Applications

Panel type air filters are applied for supply air and sometimes extract air purification in round duct ventilating and conditioning systems. Designed for protection of the air ducts, heat exchangers, control equipment and other ventilating equipment against dusting. The filters minimize wall and ceiling pollution near the air diffuser. Coarse filters can be used as first stage purification filters before more efficient filters.

Design

The casing is made of galvanized steel. The filtering box has connecting flanges with rubber seals for airtight connection to the air ducts. The swing-out access door equipped with lever locks provides easy and quick access to the replaceable filtering element. The filtering element is made of non-woven fabric from synthetic fibers and is fixed on the steel frame.

- **FB filter** with flat filtering element (filtering class G4)
- **FBV filter** with V-filtering element with increased filtering area (filtering class G4).

Mounting

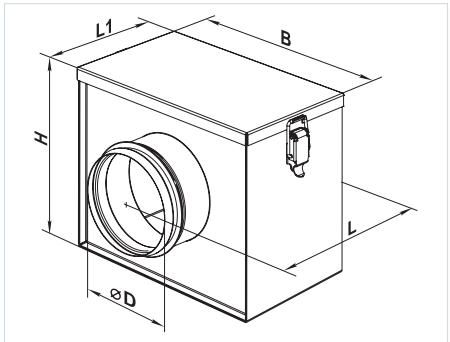
The filter design ensures its mounting on the round ducts by means of clamps with respect to air flow direction indicated with the pointer on the casing. Access for the fan maintenance shall be provided for the filter cleaning or replacement.

Overall dimensions

Type	Dimensions [mm]					Mass [kg]
	ØD	B	H	L	L1	
FB 100	99	210	175	215	123	1.4
FB 125	124	220	209	235	143	1.7
FB 150	149	270	237	250	158	2.5
FB 160	159	270	237	250	158	2.3
FB 200	199	320	279	275	183	3.1
FB 250	249	370	327	325	233	4.5
FB 315	314	430	392	425	333	6.7

Overall dimensions

Type	Dimensions [mm]					Mass [kg]
	ØD	B	H	L	L1	
FBV 100	99	233	175	215	123	1.4
FBV 125	124	243	209	235	143	1.7
FBV 150	149	293	237	250	158	2.2
FBV 160	159	293	237	250	158	2.2
FBV 200	199	343	279	275	183	3.1
FBV 250	249	393	327	325	233	4.2
FBV 315	314	453	392	425	333	6.3



Designation key

Series	Flange diameter [mm]
FB FBV SF SFV	100; 125; 150; 160; 200; 250; 315

Replaceable filter SF

Replaceable filter SFV

Series
FB

Applications

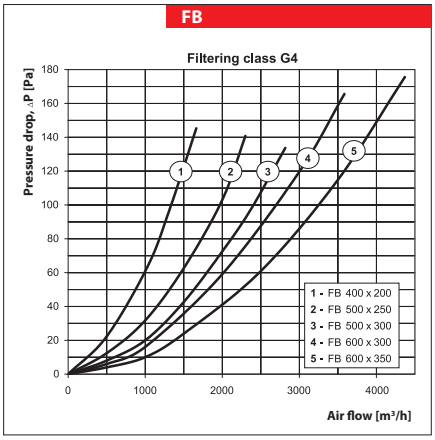
Panel type air filters are applied for supply air and sometimes extract air purification in rectangular duct ventilating and conditioning systems. Designed for protection of the air ducts, heat exchangers, control equipment and other ventilating equipment against dusting. The filters minimize wall and ceiling pollution near the air diffuser. Coarse filters can be used as first stage purification filters before more efficient filters.

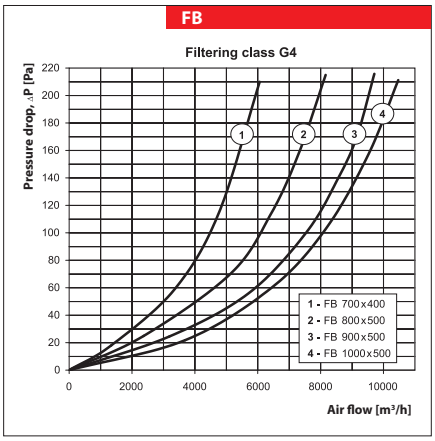
Design

The casing is made of galvanized steel. V-shaped form ensures filtering surface increase. The filtering element is made of non-woven fabric from synthetic fibers and has protecting metal mesh against deformation caused by air flow. Removable cover equipped with lever locks provides easy and quick access to the replaceable filtering element. The filters are small-sized and are suitable even for limited space. Filtering class G4.

Mounting

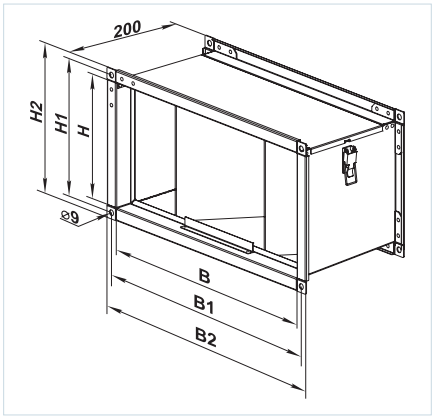
The filters are installed at heater and fan inlet along the air flow direction. The air flow direction shall match the designation on the filter. Access for the fan maintenance shall be provided for the filter cleaning or replacement.





Overall dimensions

Type	Dimensions [mm]						Mass [kg]
	B	B1	B2	H	H1	H2	
FB 400x200	400	420	440	200	220	240	2.4
FB 500x250	500	520	540	250	270	290	4.1
FB 500x300	500	520	540	300	320	340	4.4
FB 600x300	600	620	640	300	320	340	5.2
FB 600x350	600	620	640	350	370	390	5.8
FB 700x400	700	720	740	400	420	440	6.7
FB 800x500	800	820	840	500	520	540	7.9
FB 900x500	900	920	940	500	520	540	8.4
FB 1000x500	1000	1020	1040	500	520	540	8.9



Designation key

Series	Flange dimensions (WxH) [mm]
FB SF	400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500

Replaceable SF filter

Series
FBK

Applications

Pocket type air filters are applied for supply air and sometimes extract air purification in round duct ventilating and conditioning systems. Designed for protection of the air ducts, heat exchangers, control equipment and other ventilating equipment against dusting. The filters minimize wall and ceiling pollution near the air diffuser. Coarse filters can be used as first stage purification filters before more efficient filters.

Design

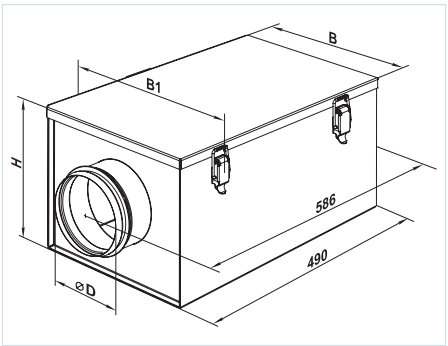
The casing is made of galvanized steel. The filtering box has connecting flanges with rubber seals for airtight connection to the air ducts. The swing-out door equipped with lever locks provides easy and quick access to the replaceable filtering element. The filtering element is made of non-woven fabric from synthetic fibers and is fixed on the galvanized steel frame. The filters are available in G4, F5, F7 filtering class.

Mounting

The filter design ensures its mounting on the round ducts in any position by means of clamps. The air flow direction shall match the pointer direction on the filter. Both horizontal and vertical mounting is possible. In case of vertical installation the air shall be streamed downwards in such a way as to avoid the filter crumpling. Access fior the filter cleaning or replacement shall be provided.

Overall dimensions

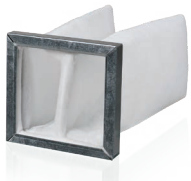
Type	Dimensions [mm]				Weight [kg]
	ØD	B	B1	H	
FBK 100	99	210	230	170	2.41
FBK 125	124	220	240	206	2.69
FBK 150	149	270	290	236	3.20
FBK 160	159	270	290	236	3.26
FBK 200	199	320	340	276	3.76
FBK 250	249	370	390	386	4.39
FBK 315	314	430	450	390	5.17



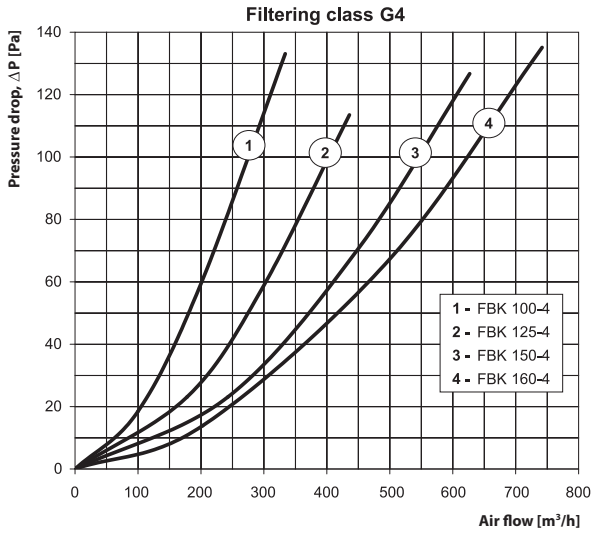
Designation key

Series	Flange diameter [mm]		Filtering class
FBK SFK	100; 125; 150; 160; 200; 250; 315	–	4: G4 5: F5 7: F7

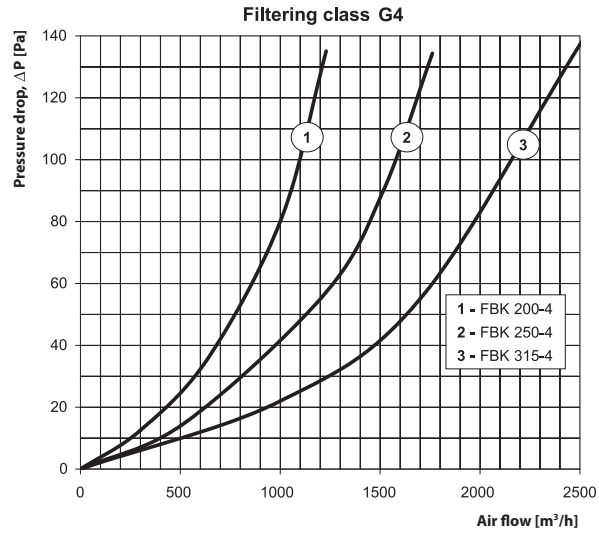
SFK replaceable filter



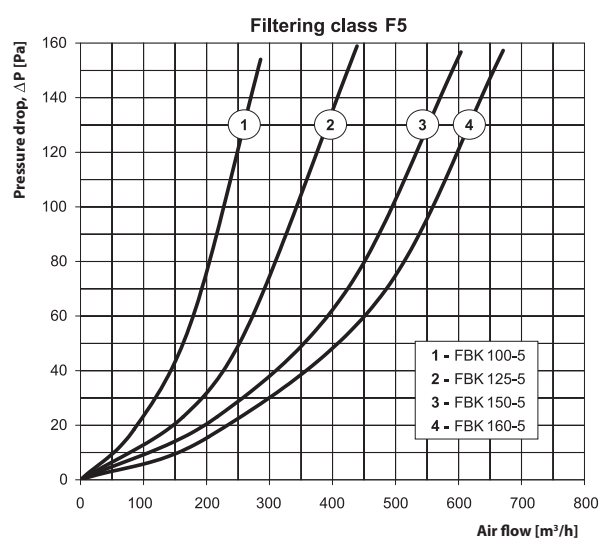
FBK



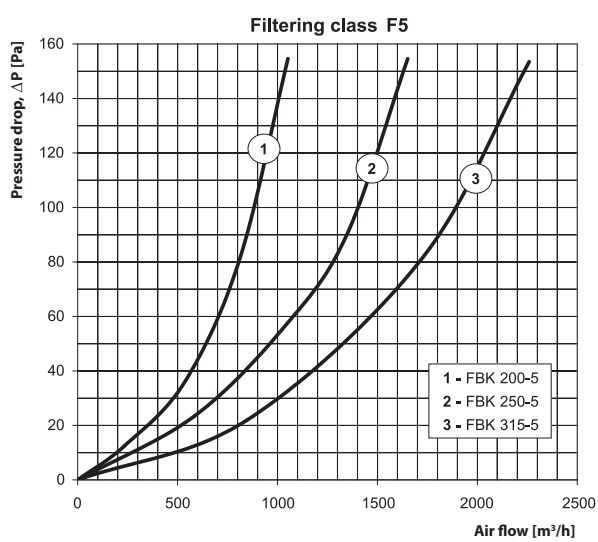
FBK



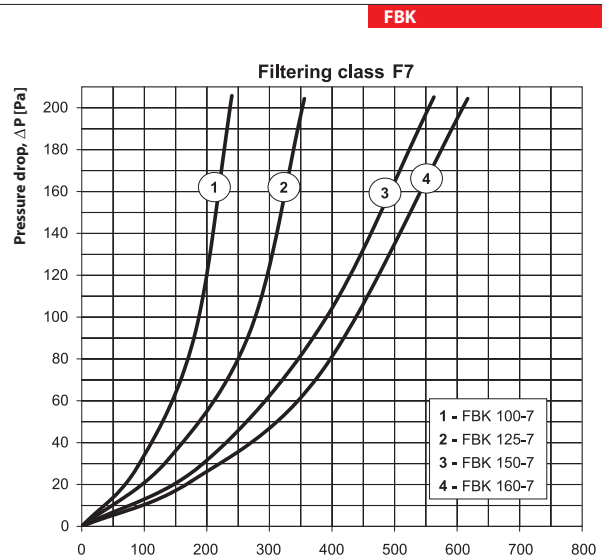
FBK



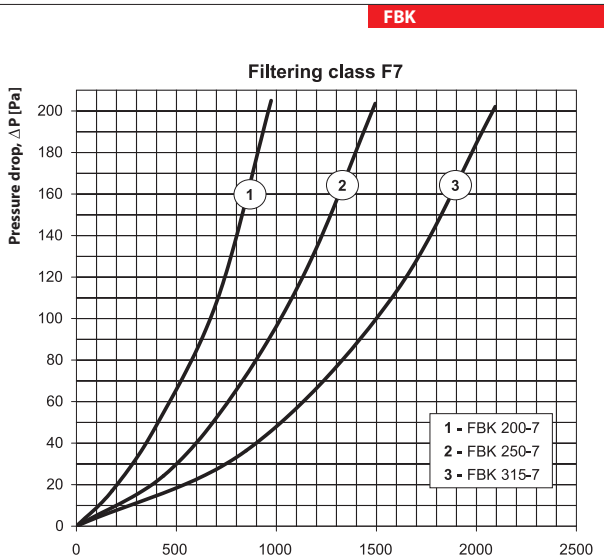
FBK



FBK



FBK



Series
FBK

Applications

Pocket type air filters are applied for supply air and sometimes for exhaust air purification in rectangular duct ventilating and conditioning systems. They serve to protect air ducts, heat exchangers, control equipment and other ventilating equipment against dusting. The filters minimize wall and ceiling pollution near the air diffuser. Coarse filters can be used as first stage purification filters before more efficient filters.

Design

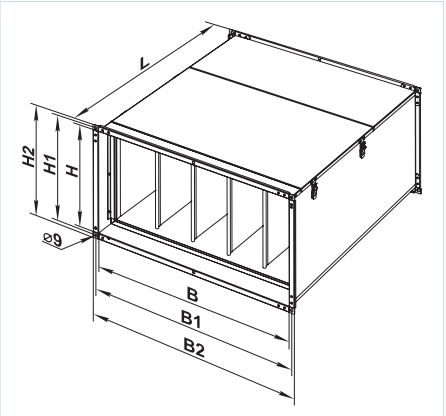
The casing is made of galvanized steel. The swing-out cover equipped with lever locks provides easy and quick access to the replaceable filtering element. The pocket-type filtering element is made of non-woven synthetic fibrous fabric and is fixed on the steel frame. The filters are available in G4, F5, F7 filtering classes.

Mounting

Mounting is performed by means of flange connection. The air flow direction must match the pointer direction on the filter. Both horizontal and vertical installation is possible. In case of vertical installation the air shall be streamed downwards in such a way as to avoid the filter crumpling. Access for the fan maintenance shall be provided for the filter cleaning or replacement.

Overall dimensions

Type	Dimensions [mm]							Mass [kg]
	B	B1	B2	H	H1	H2	L	
FBK 400x200	400	420	440	200	220	240	500	6.2
FBK 500x250	500	520	540	250	270	290	600	7.8
FBK 500x300	500	520	540	300	320	340	600	8.3
FBK 600x300	600	620	640	300	320	340	600	8.9
FBK 600x350	600	620	640	350	370	390	600	9.5
FBK 700x400	700	720	740	400	420	440	720	16.2
FBK 800x500	800	820	840	500	520	540	800	20.4
FBK 900x500	900	920	940	500	520	540	800	21.7
FBK 1000x500	1000	1020	1040	500	570	540	800	23.5

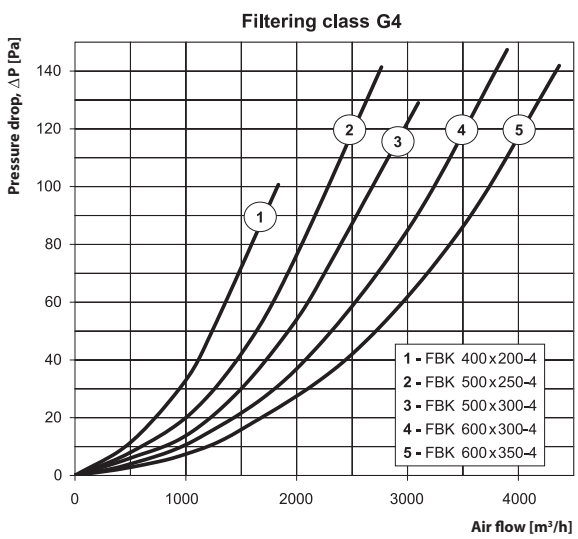


Designation key

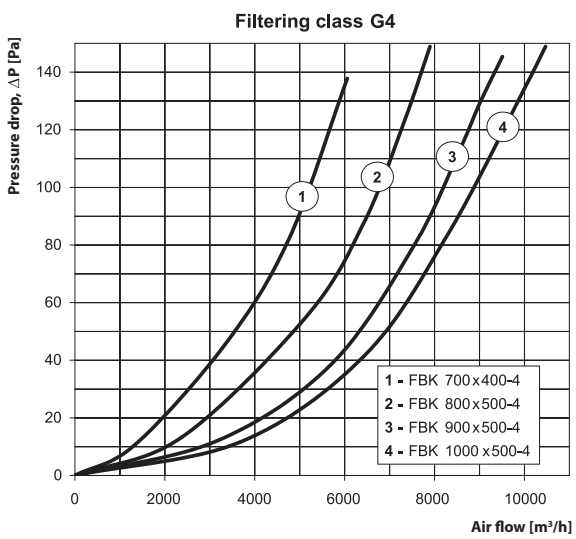
Series	Flange dimensions (WxH) [mm]	–	Filtering class
FBK **SFK**	400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500	–	4: G4 5: F5 7: F7

Replaceable filter SFK

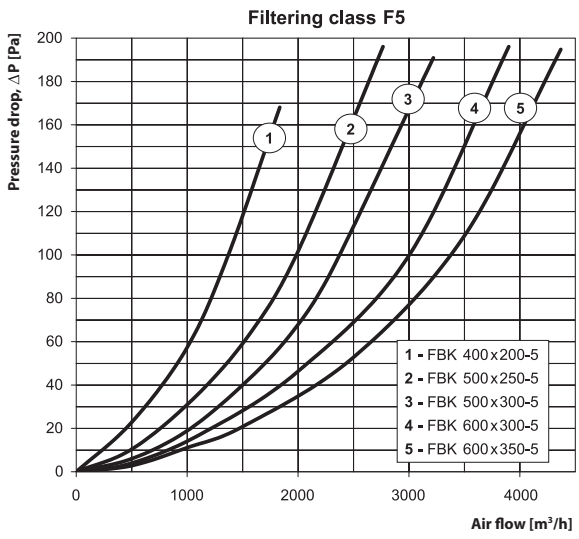
FBK



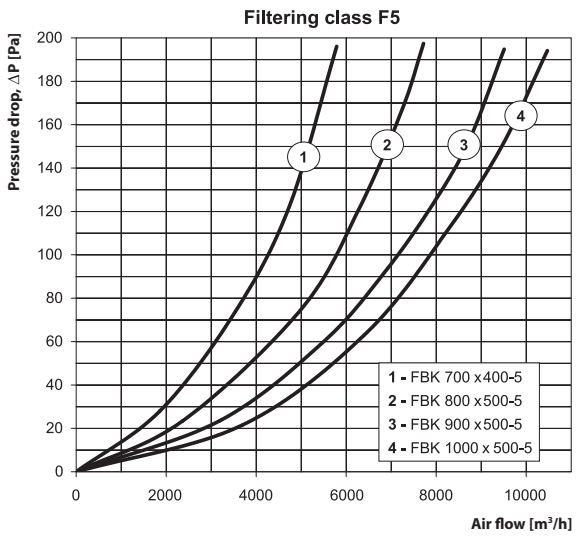
FBK



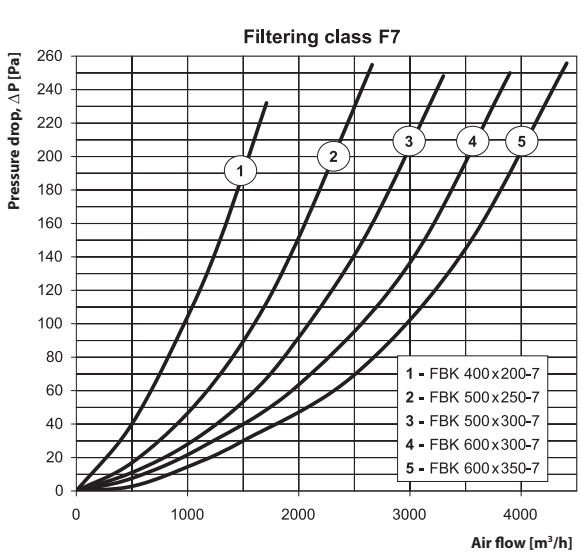
FBK



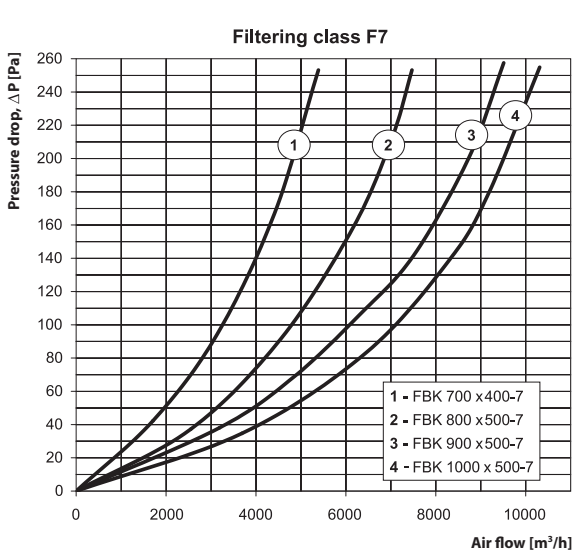
FBK



FBK



FBK



Series
NK

Duct electric heater

Series
NK...U/Un

Duct electric heater with a heating capacity from 0.6 kW up to 2.4 kW and an integrated temperature controller

Series
NK...U

Duct electric heater with heating capacity from 3.0 kW up to 9.0 kW and an integrated control unit

Applications

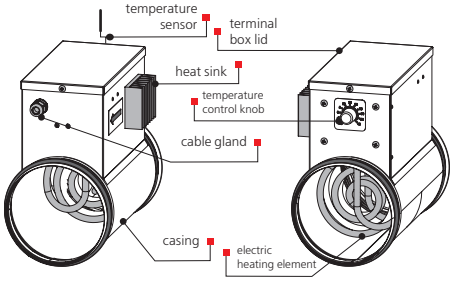
Duct electric heater are designed for supply air heating in round duct ventilating system. The heaters are applied in heating, ventilation and air conditioning systems for various premises.

Design

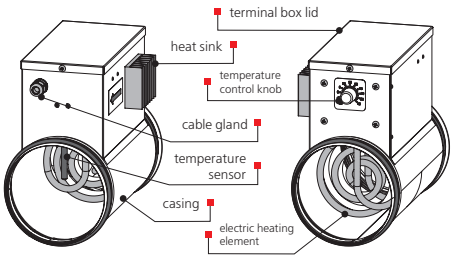
The casing and the terminal box are made of galvanized steel and the heating elements are made of stainless steel. The rubber seals in the casing provide airtight connection to the air ducts.

Each standard size is available with various heating capacity modifications. Installation of the heaters in series increases the heating capacity. All the three phase heaters have star connection.

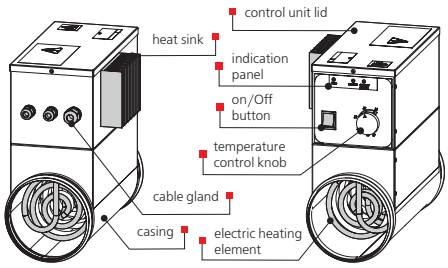
NK...Un duct heater design:



NK...U duct heater design:



NK...U with a control unit, heating capacity 3.0 up to 9.0 kW



The temperature is set with an integrated temperature control knob or by means of a control signal 0-10V from a connected external control device. The heating temperature in the air duct is proportional to the signal output value.

Complete set:

Model	Heating capacity range [kW]	Sensors		Temperature controller [°C]	Max. operation temperature of outlet air flow [°C]	Overheat protection	
		integrated	external			basic overheat protection actuated at +50 °C with automatic reset and emergency overheat protection actuated at +90 °C with manual reset	thermal shutdown at +60 °C with manual reset
NK	0,6…9,0	-	-	-	40	+	-
NK…U	0,6…2,4	+	-	-10…+40	40	-	+
NK…Un	0,6…2,4	-	+	-10…+40	40	-	+
NK…U with control unit	3,0…9,0	+	-	-30…+30	30	+	-

Designation key:

Series	Connected air duct diameter [mm]	-	Heater power [kW]	-	Phase	Options
NK	100; 125; 150; 160; 200; 250; 315		0,6; 0,8; 1,2; 1,6; 1,7; 2,0; 1,8; 2,4; 3,0; 3,4; 3,6; 5,1; 6,0; 9,0		1 – single phase 3 – three phase	**U** – integrated temperature control unit **Un** - temperature control unit with an external temperature sensor

Accessories

Model	 Pulser-M*	 KDT2-M*	 KDT2-M1*	 KDT2-MK*
NK	+	+	+	+
NK…U/Un from 0.6 up to 2.4 kW	-	-	-	-
NK…U from 3,0 up to 9,0 kW	-	+	+	+

* - refer to Electric Accessories section

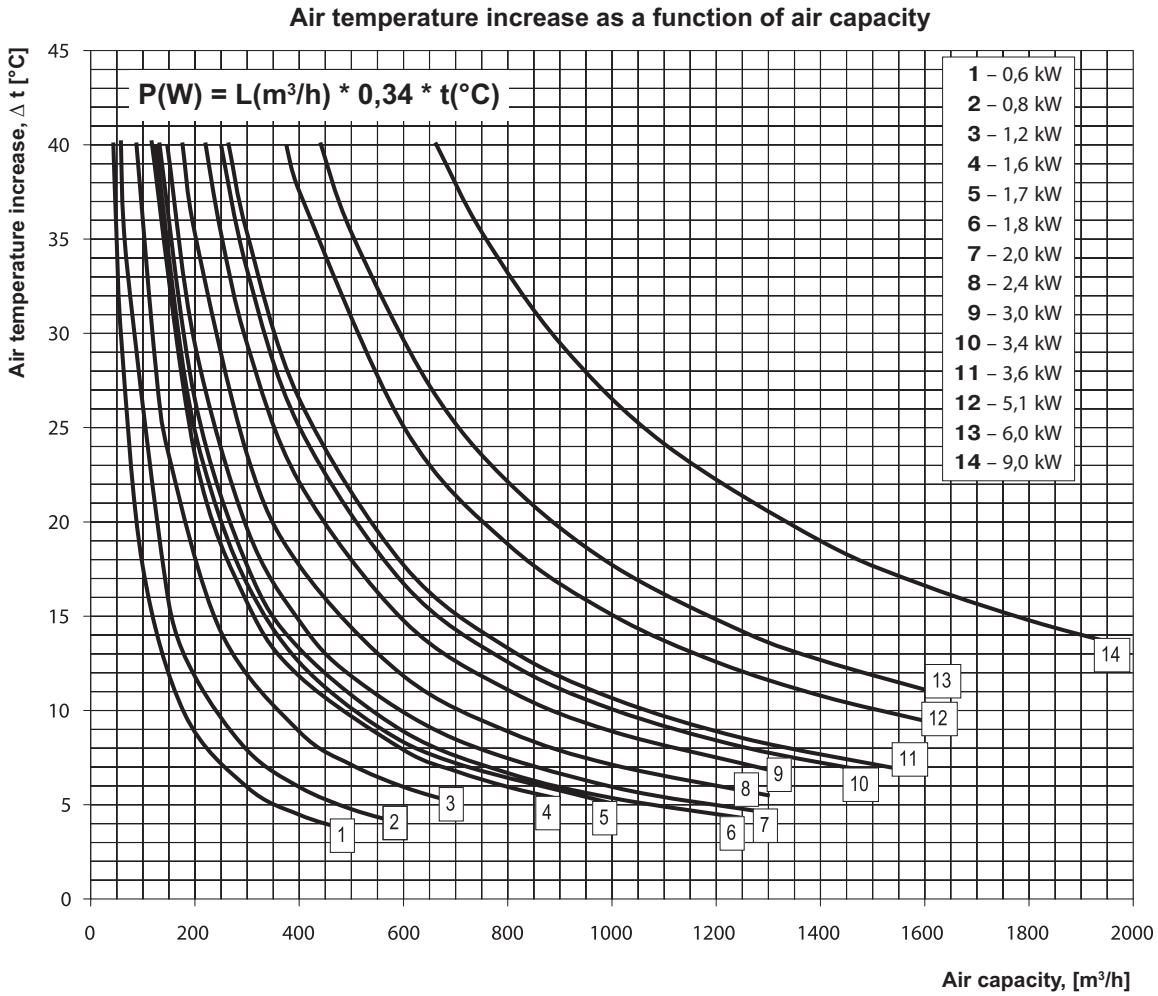
Mounting

Fixation	Clamp fixing. The fixation place location must be at least two diameters away from any device.
Position	Any mounting position. The terminal box or the control unit must not be directed downwards because of short circuit danger as a result of condensate drainage.
Air flow	The air direction must match the pointer on the heater casing. The air flow must be equal at any point in the heater and must not be below 1.5 m³/h .
Filters	Air filter prevents contamination.

Power supply to the heater must be disabled during the fan standby.

- To ensure the correct and safe heater operation the automation system is recommended to ensure the integrated control and protection:
  - ✓ automatic control of the heat output and air heating temperature
  - ✓ monitoring the filter contamination by means of the pressostat
  - ✓ disabling power supply to the heater in case of supply fan shutdown, decrease of air flow or tripping of the integrated overheating thermostats
  - ✓ shutoff of the ventilation system after cooling of the electric heating elements

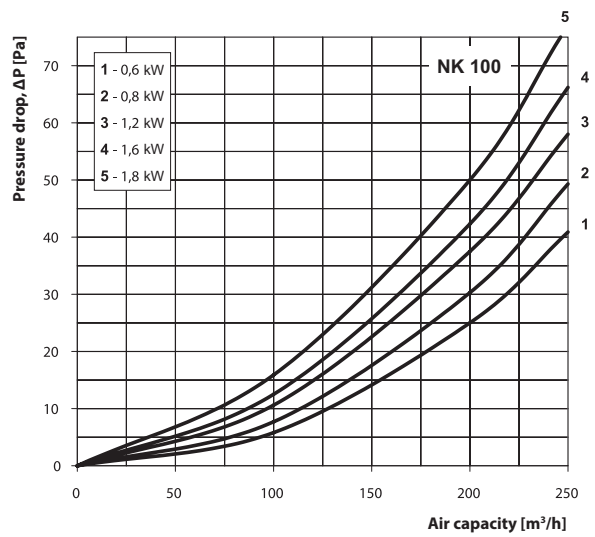
NK



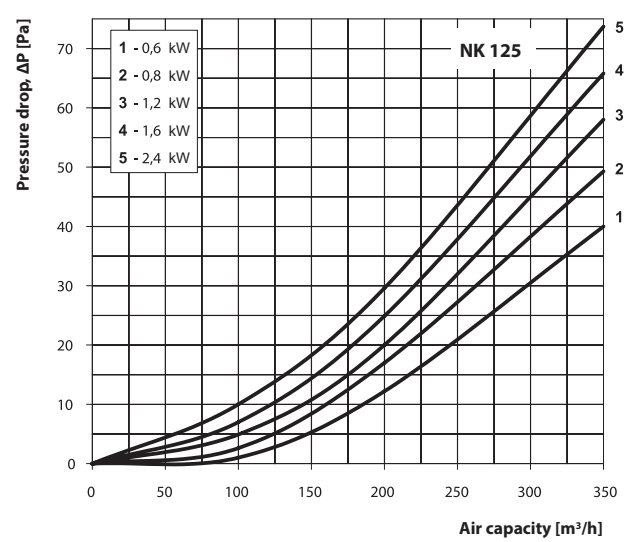
Technical data:

Model	Min. air flow [m³/h]	Current consumption [A]	Voltage [V]	Power [kW]	Number of heating coils x capacity [kW]	Phase
NK 100-0.6-1/NK 100-0.6-1 U/Un	60	2.6		0.6	1 x 0.6	1
NK 100-0.8-1/NK 100-0.8-1 U/Un	80	3.5		0.8	1 x 0.8	1
NK 100-1.2-1/NK 100-1.2-1 U/Un	90	5.2		1.2	2 x 0.6	1
NK 100-1.6-1/NK 100-1.6-1 U/Un	120	7.0		1.6	2 x 0.8	1
NK 100-1.8-1/NK 100-1.8-1 U/Un	130	7.8		1.8	3 x 0.6	1
NK 125-0.6-1/NK 125-0.6-1 U/Un	60	2.6		0.6	1 x 0.6	1
NK 125-0.8-1/NK 125-0.8-1 U/Un	80	3.5		0.8	1 x 0.8	1
NK 125-1.2-1/NK 125-1.2-1 U/Un	90	5.2	1~230	1.2	2 x 0.6	1
NK 125-1.6-1/NK 125-1.6-1 U/Un	120	7.0		1.6	2 x 0.8	1
NK 125-2.4-1/NK 125-2.4-1 U/Un	150	7.8		2.4	3 x 0.8	1
NK 150-1.2-1/NK 150-1.2-1 U/Un	120	5.2		1.2	1 x 1.2	1
NK 150-1.7-1/NK 150-1.7-1 U/Un	130	7.4		1.7	1 x 1.7	1
NK 150-2.0-1/NK 150-2.0-1 U/Un	140	8.7		2.0	1 x 2.0	1
NK 150-2.4-1/NK 150-2.4-1 U/Un	150	10.4		2.4	2 x 1.2	1
NK 150-3.4-1/NK 150-3.4-1 U	220	14.7		3.4	2 x 1.7	1
NK 150-3.6-3/NK 150-3.6-3 U	265	5.2		3.6	3 x 1.2	3
NK 150-5.1-3/NK 150-5.1-3 U	320	7.4	3~400	5.1	3 x 1.7	3
NK 150-6.0-3/NK 150-6.0-3 U	360	8.7		6.0	3 x 2.0	3
NK 160-1.2-1/NK 160-1.2-1 U/Un	150	5.2		1.2	1 x 1.2	1
NK 160-1.7-1/NK 160-1.7-1 U/Un	160	7.4		1.7	1 x 1.7	1
NK 160-2.0-1/NK 160-2.0-1 U/Un	170	8.7	1~230	2.0	1 x 2.0	1
NK 160-2.4-1/NK 160-2.4-1 U/Un	180	10.4		2.4	2 x 1.2	1
NK 160-3.4-1/NK 160-3.4-1 U	250	14.8		3.4	2 x 1.7	1
NK 160-3.6-3/NK 160-3.6-3 U	265	5.2		3.6	3 x 1.2	3
NK 160-5.1-3/NK 160-5.1-3 U	375	7.4	3~400	5.1	3 x 1.7	3
NK 160-6.0-3/NK 160-6.0-3 U	440	8.7		6.0	3 x 2.0	3
NK 200-1.2-1/NK 200-1.2-1 U/Un	150	5.2		1.2	1 x 1.2	1
NK 200-1.7-1/NK 200-1.7-1 U/Un	160	7.4		1.7	1 x 1.7	1
NK 200-2.0-1/NK 200-2.0-1 U/Un	170	8.7	1~230	2.0	1 x 2.0	1
NK 200-2.4-1/NK 200-2.4-1 U/Un	180	10.4		2.4	2 x 1.2	1
NK 200-3.4-1/NK 200-3.4-1 U	250	14.8		3.4	2 x 1.7	1
NK 200-3.6-3/NK 200-3.6-3 U	265	5.2		3.6	3 x 1.2	3
NK 200-5.1-3/NK 200-5.1-3 U	375	7.4	3~400	5.1	3 x 1.7	3
NK 200-6.0-3/NK 200-6.0-3 U	440	8.7		6.0	3 x 2.0	3
NK 250-1.2-1/NK 250-1.2-1 U/Un	180	5.2		1.2	1 x 1.2	1
NK 250-2.0-1/NK 250-2.0-1 U/Un	200	8.7	1~230	2.0	1 x 2.0	1
NK 250-2.4-1/NK 250-2.4-1 U/Un	265	10.4		2.4	2 x 1.2	1
NK 250-3.0-1/NK 250-3.0-1 U	375	13.0		3.0	1 x 3.0	1
NK 250-3.6-3/NK 250-3.6-3 U	375	5.2		3.6	3 x 1.2	3
NK 250-6.0-3/NK 250-6.0-3 U	440	8.7	3~400	6.0	3 x 2.0	3
NK 250-9.0-3/NK 250-9.0-3 U	660	13.0		9.0	3 x 3.0	3
NK 315-1.2-1/NK 315-1.2-1 U/Un	180	5.2		1.2	1 x 1.2	1
NK 315-2.0-1/NK 315-2.0-1 U/Un	200	8.7	1~230	2.0	1 x 2.0	1
NK 315-2.4-1/NK 315-2.4-1 U/Un	265	10.4		2.4	2 x 1.2	1
NK 315-3.6-3/NK 315-3.6-3 U	375	5.2		3.6	3 x 1.2	3
NK 315-6.0-3/NK 315-6.0-3 U	440	8.7	3~400	6.0	3 x 2.0	3
NK 315-9.0-3/NK 315-9.0-3 U	660	13.0		9.0	3 x 3.0	3

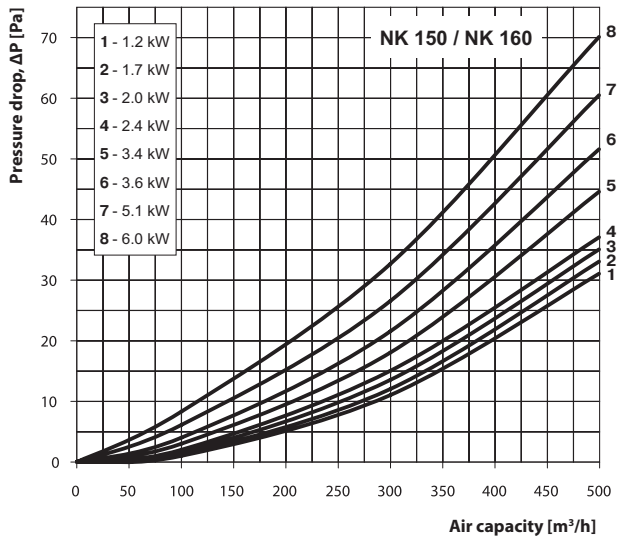
NK



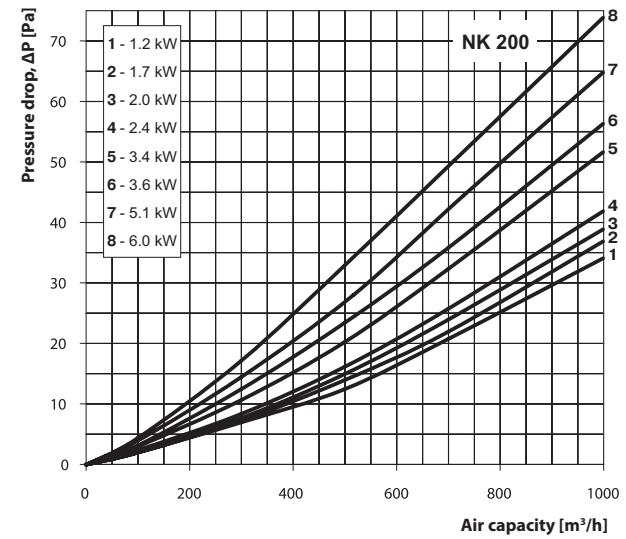
NK



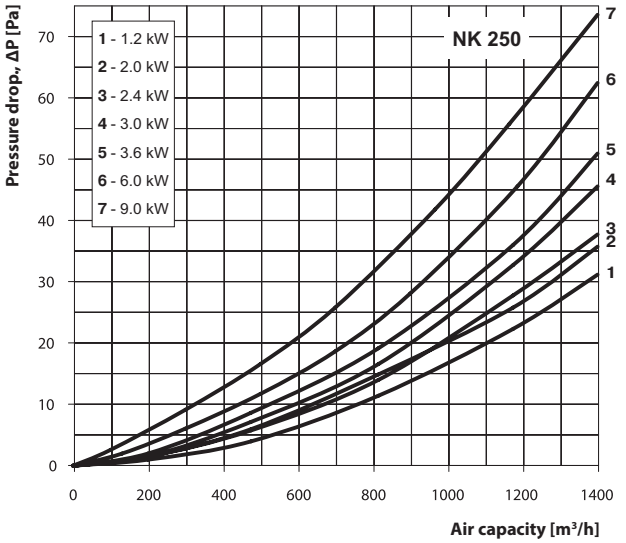
NK



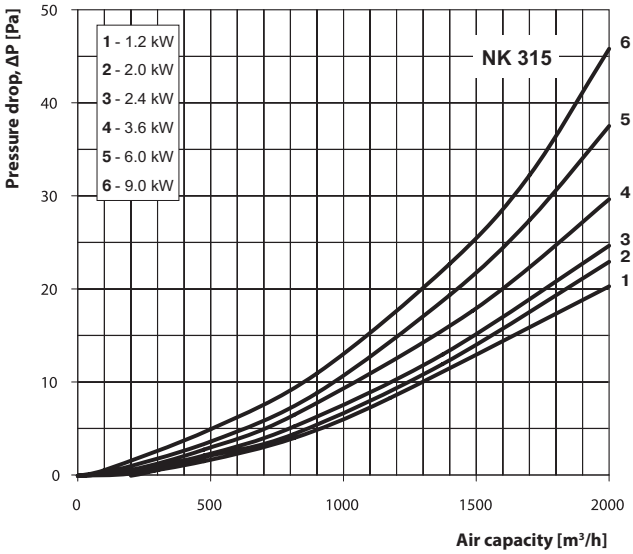
NK



NK

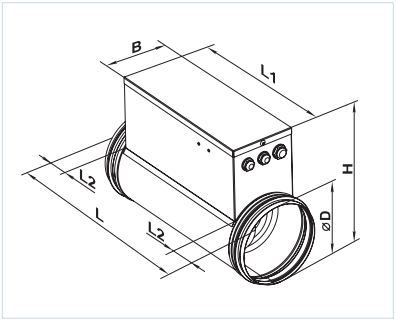


NK



Overall dimensions:

Model	Dimensions [mm]						Mass [kg]
	ØD	B	H	L	L1	L2	
NK-100-0.6-1	99	94	207	306	226	40	1.3
NK-100-0.8-1	99	94	207	306	226	40	1.3
NK-100-1.2-1	99	94	207	306	226	40	1.5
NK-100-1.6-1	99	94	207	306	226	40	1.5
NK-100-1.8-1	99	94	207	376	296	40	1.7
NK-125-0.6-1	124	103	230	306	226	40	1.4
NK-125-0.8-1	124	103	230	306	226	40	1.4
NK-125-1.2-1	124	103	230	306	226	40	1.7
NK-125-1.6-1	124	103	230	306	226	40	1.7
NK-125-2.4-1	124	103	230	376	296	40	1.9
NK-150-1.2-1	149	120	255	306	226	40	2.0
NK-150-1.7-1	149	120	255	306	226	40	2.0
NK-150-2.0-1	149	120	255	306	226	40	2.0
NK-150-2.4-1	149	120	255	306	226	40	2.4
NK-150-3.4-1	149	120	255	306	226	40	2.4
NK-150-3.6-3	149	120	255	376	296	40	2.8
NK-150-5.1-3	149	120	255	376	296	40	2.8
NK-150-6.0-3	149	120	255	376	296	40	2.8
NK-160-1.2-1	159	120	267	306	226	40	2.1
NK-160-1.7-1	159	120	267	306	226	40	2.1
NK-160-2.0-1	159	120	267	306	226	40	2.1
NK-160-2.4-1	159	120	267	306	226	40	2.5
NK-160-3.4-1	159	120	267	306	226	40	2.5
NK-160-3.6-3	159	120	267	376	296	40	3.0
NK-160-5.1-3	159	120	267	376	296	40	3.0
NK-160-6.0-3	159	120	267	376	296	40	3.0
NK-200-1.2-1	199	150	302	294	214	40	2.5
NK-200-1.7-1	199	150	302	294	214	40	2.5
NK-200-2.0-1	199	150	302	294	214	40	2.5
NK-200-2.4-1	199	150	302	294	214	40	3.0
NK-200-3.4-1	199	150	302	294	214	40	3.0
NK-200-3.6-3	199	150	302	376	296	40	3.5
NK-200-5.1-3	199	150	302	376	296	40	3.5
NK-200-6.0-3	199	150	302	376	296	40	3.5
NK-250-1.2-1	249	150	356	306	226	40	3.2
NK-250-2.0-1	249	150	356	306	226	40	3.2
NK-250-2.4-1	249	150	356	306	226	40	3.7
NK-250-3.0-1	249	150	356	306	226	40	3.2
NK-250-3.6-3	249	150	356	376	296	40	4.6
NK-250-6.0-3	249	150	356	376	296	40	4.6
NK-250-9.0-3	249	150	356	376	296	40	4.6
NK-315-1.2-1	313	150	425	294	214	40	4.0
NK-315-2.0-1	313	150	425	294	214	40	4.0
NK-315-2.4-1	313	150	425	294	214	40	4.8
NK-315-3.6-3	313	150	425	376	296	40	5.6
NK-315-6.0-3	313	150	425	376	296	40	5.6
NK-315-9.0-3	313	150	425	376	296	40	5.6



Overall dimensions:

Type	Dimensions [mm]					Mass [kg]	Fig. no.
	ØD	B	H	L	L1		
NK-100-0.6-1 U/Un	99	94	204	306	227	1.5	1
NK-100-0.8-1 U/Un	99	94	204	306	227	1.5	1
NK-100-1.2-1 U/Un	99	120	204	370	290	1.6	1
NK-100-1.6-1 U/Un	99	120	204	370	290	1.6	1
NK-100-1.8-1 U/Un	99	120	204	454	374	1.8	1
NK-125-0.6-1 U/Un	124	103	230	306	227	1.6	1
NK-125-0.8-1 U/Un	124	103	230	306	227	1.6	1
NK-125-1.2-1 U/Un	124	126	230	370	290	1.8	1
NK-125-1.6-1 U/Un	124	126	230	370	290	1.8	1
NK-125-2.4-1 U/Un	124	126	230	454	374	2	1
NK-150-1.2-1 U/Un	149	144	255	306	226	2.1	1
NK-150-1.7-1 U/Un	149	144	255	306	226	2.1	1
NK-150-2.0-1 U/Un	149	144	255	306	226	2.1	1
NK-150-2.4-1 U/Un	149	144	255	370	290	2.6	1
NK-150-3.4-1 U	149	187	340	370	298	4.3	2
NK-150-3.6-3 U	149	187	340	370	298	4.9	2
NK-150-5.1-3 U	149	187	340	370	298	4.9	2
NK-150-6.0-3 U	149	187	340	370	298	4.9	2
NK-160-1.2-1 U/Un	159	154	267	306	226	2.2	1
NK-160-1.7-1 U/Un	159	154	267	306	226	2.2	1
NK-160-2.0-1 U/Un	159	154	267	306	226	2.2	1
NK-160-2.4-1 U/Un	159	154	267	370	290	2.8	1
NK-160-3.4-1 U	159	187	350	370	298	4.6	2
NK-160-3.6-3 U	159	187	350	370	298	5.2	2
NK-160-5.1-3 U	159	187	350	370	298	5.2	2
NK-160-6.0-3 U	159	187	350	370	298	5.2	2
NK-200-1.2-1 U/Un	199	174	302	306	228	2.6	1
NK-200-1.7-1 U/Un	199	174	302	306	228	2.6	1
NK-200-2.0-1 U/Un	199	174	302	306	228	2.6	1
NK-200-2.4-1 U/Un	199	174	302	376	298	3.2	1
NK-200-3.4-1 U	199	237	389	376	298	5.2	2
NK-200-3.6-3 U	199	237	389	376	298	5.9	2
NK-200-5.1-3 U	199	237	389	376	298	5.9	2
NK-200-6.0-3 U	199	237	389	376	298	5.9	2
NK-250-1.2-1 U/Un	249	174	356	376	298	3.3	1
NK-250-2.0-1 U/Un	249	174	356	376	298	3.3	1
NK-250-2.4-1 U/Un	249	174	356	376	298	3.9	1
NK-250-3.0-1 U	249	237	446	376	298	5.1	2
NK-250-3.6-3 U	249	237	446	376	298	6.6	2
NK-250-6.0-3 U	249	237	446	376	298	6.6	2
NK-250-9.0-3 U	249	237	446	376	298	6.6	2
NK-315-1.2-1 U/Un	313	174	425	306	228	4.1	1
NK-315-2.0-1 U/Un	313	174	425	306	228	4.1	1
NK-315-2.4-1 U/Un	313	174	425	306	228	5	1
NK-315-3.6-3 U	313	237	514	376	298	7.4	2
NK-315-6.0-3 U	313	237	514	376	298	7.4	2
NK-315-9.0-3 U	313	237	514	376	298	7.4	2

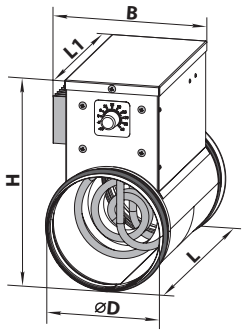


Fig. 1

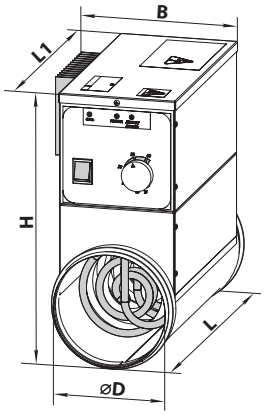
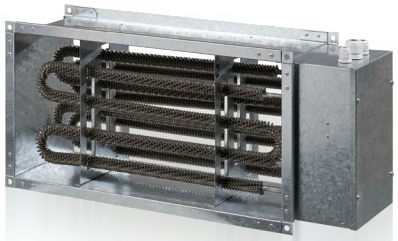


Fig. 2

Series
NK



Duct electric heater

Series
NK…U

Duct electric heater with a control unit

Applications

Duct electric heaters are designed for heating of intake air in rectangular ventilating system. The heaters are applied for air heating in ventilation and air conditioning systems in various premises.

Design

The casing and the terminal box are made of galvanized steel and the heating elements are of stainless steel. The models with the size from 400*200 to 600*350 the electric heating elements are extra ribbed to increase heat exchange surface. NK duct heaters are equipped with two overheating protection thermostats:

- basic protection with automatic restart (operating temperature +50 °C). After cooling the thermostat closes the control circuit of the heater automatically.
- emergency protection with manual restart (operating temperature above +90 °C). In case of response the power supply to the heater is allowed after the manual emergency reset only.
- the thermostat contacts are located in the terminal box for external connection.

Each standard size has several electric power capacity options. Higher capacity can be attained by means of installation of the heaters in series. In the heaters with heating capacity above 27 kW the tubular heating elements are grouped per 9 kW each. Each group consists of three Δ connected tubular elements.

Duct electric heater NK...U with heating capacity from 4.5 kW up to 54.0 kW and an integrated control unit

NK..U modification with an integrated control unit is offered for the whole NK model range for automatic maintaining of air temperature in the air duct.

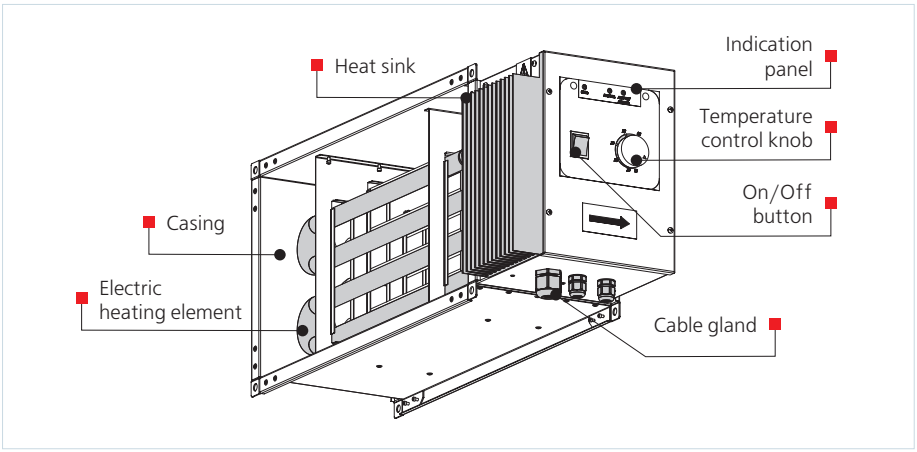
The NK…U model with a control unit is equipped with a three phase triac power control unit.

Power control is effected by means of switching on/off the maximum load commutated by the semiconductor device that is free of any mechanical wear parts. The load commutation starts at zero current and load to disable any magnetic field interferences. The load commutation starts at zero current and load to disable any magnetic field interferences.

- The NK…U heaters include two overheat protection thermostats:
  - ✓ the basic self-resetting overheat protection thermostat actuated at the temperature +50 °C. After cooling the thermostat closes the heater control circuit.
  - ✓ the emergency overheat protection thermostat with manual reset actuated at the temperature +90 °C. In case of the thermostat tripping power supply is resumed after manual alarm reset.
- Operation logic options for the NK…U heater with a control unit:
  - ✓ operation logic based on external temperature sensor readings to maintain set air temperature in the air duct.
  - ✓ proportional electric heat control from 0 up to 100 % with a 0-10 V control signal from the external controller.

The temperature is set with the integrated temperature controller. Optionally, an external 0-10 V control signal from another control unit may be connected to the control unit, which corresponds to the air duct temperature -30 up to +30 °C.

- If operation mode is based on readings of external temperature sensor, the duct temperature sensors may



Designation key

Series	Flange dimensions (WxH) [mm]	-	Heater power [kW]	-	Phase	Options
NK	400*200; 500*250; 500*300; 600*300; 600*350; 700*400; 800*500; 900*500; 1000*500		4,5; 6; 7,5; 9; 10,5; 12; 18; 21; 24; 27; 36; 45; 54		3: three phase	**U**: integrated temperature control

be optionally installed (not included in the delivery set):

- ✓ KDT2-M1 duct temperature sensor enclosed in a protecting sleeve with a sensing tip, 100 up to 400 mm long
- ✓ KDT2-M duct temperature sensor enclosed in a protecting sleeve with a mounting flange, 100 up to 400 mm long
- ✓ KDT2-MK duct temperature sensor enclosed in a protecting sleeve with a mounting flange, 100 up to 400 mm long

Mounting

The heater design ensures its mounting by means of flange connection. The air flow direction shall match the pointer on the filter. The duct heaters can be installed in any position except for with the electric control unit below to prevent condensate penetration and wiring short circuit.

The mounting shall be performed in such a way as to enable the uniform air stream distribution along the entire cross section.

The air filter shall be installed at the heater inlet to protect the heating elements against pollution.

We recommend to keep such distance between the heater and other system elements which is no less than the heater diagonal, i.e. the distance from one angle to another in its air passage part.

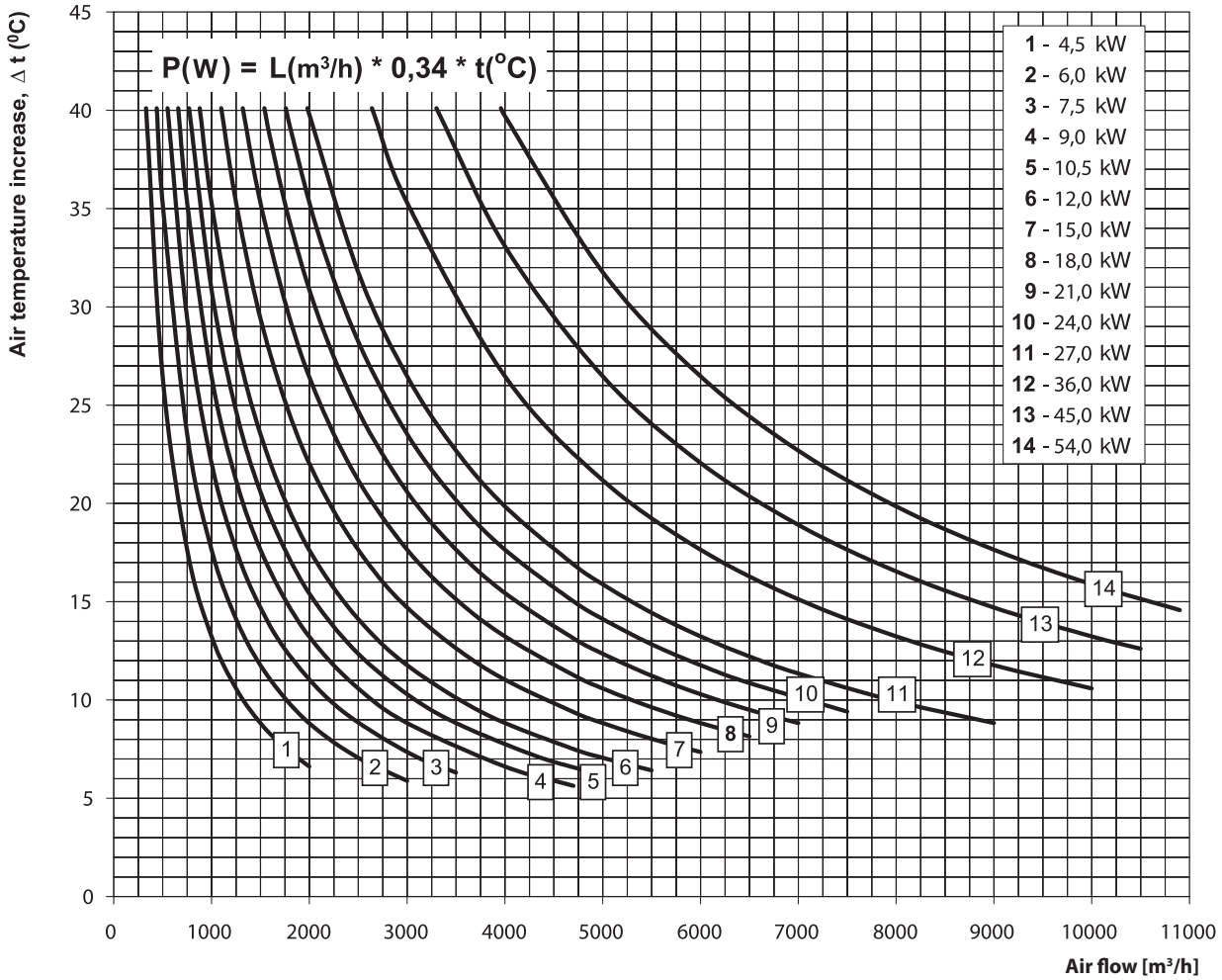
The duct heaters are designed for the minimum air flow 1.5 m/s and the operating air temperature +40°C for NK heaters and maximum air temperature +30°C for NK…U heaters. In case of speed control option ensure the minimum air flow through the heater.

Power supply to the heater shall be disabled if the fan is not running.

To ensure the correct and safe heater operation the automation system can be applied to ensure the complex control and protection:

- ✓ automatic control of heating elements capacity and air heating temperature;
- ✓ checking filter condition by means of differential pressure sensor;
- ✓ power supply disabling in case of the supply fan shutdown or airflow speed decrease as well as in case of the built-in overheating thermostats operation;
- ✓ shutoff of ventilating system after cooling of electric heating element.

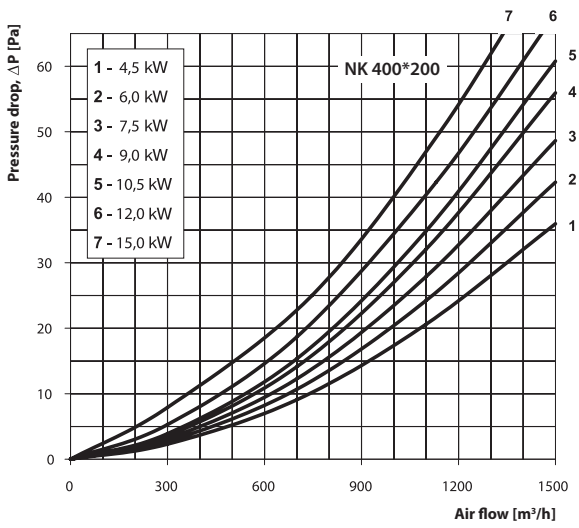
NK



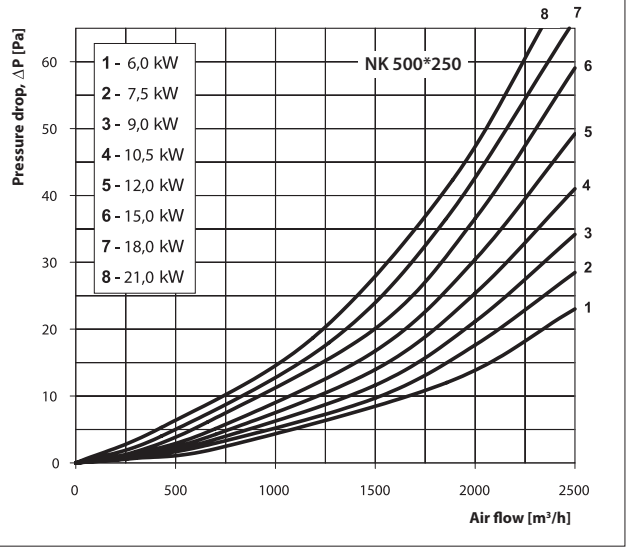
Technical data

Type	Minimum air capacity [m³/h]	Current [A]	Voltage [V]	Power [kW]	Number of heating coils x capacity [kW]	Connection diagram for tubular heating elements
NK 400*200-4.5-3/NK 400*200-4.5-3 U	330	6.5	400	4.5	3x1.5	Y
NK 400*200-6.0-3/NK 400*200-6.0-3 U	440	8.7	400	6.0	3x2.0	Y
NK 400*200-7.5-3/NK 400*200-7.5-3 U	550	10.9	400	7.5	3x2.5	Y
NK 400*200-9.0-3/NK 400*200-9.0-3 U	660	13.0	400	9.0	3x3.0	Y
NK 400*200-10.5-3/NK 400*200-10.5-3 U	770	15.2	400	10.5	3x3.5	Y
NK 400*200-12.0-3/NK 400*200-12.0-3 U	880	17.4	400	12.0	3x4.0	Y
NK 400*200-15.0-3/NK 400*200-15.0-3 U	1100	21.7	400	15.0	3x5.0	Y
NK 500*250-6.0-3/NK 500*250-6.0-3 U	440	8.7	400	6.0	3x2.0	Y
NK 500*250-7.5-3/NK 500*250-7.5-3 U	550	10.9	400	7.5	3x2.5	Y
NK 500*250-9.0-3/NK 500*250-9.0-3 U	660	13.0	400	9.0	3x3.0	Y
NK 500*250-10.5-3/NK 500*250-10.5-3 U	770	15.2	400	10.5	3x3.5	Y
NK 500*250-12.0-3/NK 500*250-12.0-3 U	880	17.4	400	12.0	3x4.0	Y
NK 500*250-15.0-3/NK 500*250-15.0-3 U	1100	21.7	400	15.0	3x5.0	Y
NK 500*250-18.0-3/NK 500*250-18.0-3 U	1320	26.0	400	18.0	3x6.0	Y
NK 500*250-21.0-3/NK 500*250-21.0-3 U	1540	30.0	400	21.0	3x7.0	Y
NK 500*300-6.0-3/NK 500*300-6.0-3 U	440	8.7	400	6.0	3x2.0	Y
NK 500*300-7.5-3/NK 500*300-7.5-3 U	550	10.9	400	7.5	3x2.5	Y
NK 500*300-9.0-3/NK 500*300-9.0-3 U	660	13.0	400	9.0	3x3.0	Y
NK 500*300-10.5-3/NK 500*300-10.5-3 U	770	15.2	400	10.5	3x3.5	Y
NK 500*300-12.0-3/NK 500*300-12.0-3 U	880	17.4	400	12.0	3x4.0	Y
NK 500*300-15.0-3/NK 500*300-15.0-3 U	1100	21.7	400	15.0	3x5.0	Y
NK 500*300-18.0-3/NK 500*300-18.0-3 U	1320	26.0	400	18.0	3x6.0	Δ
NK 500*300-21.0-3/NK 500*300-21.0-3 U	1540	30.0	400	21.0	3x7.0	Δ
NK 600*300-9.0-3/NK 600*300-9.0-3 U	660	13.0	400	9.0	3x3.0	Y
NK 600*300-12.0-3/NK 600*300-12.0-3 U	880	17.4	400	12.0	3x4.0	Y
NK 600*300-15.0-3/NK 600*300-15.0-3 U	1100	21.7	400	15.0	3x5.0	Y
NK 600*300-18.0-3/NK 600*300-18.0-3 U	1320	26.0	400	18.0	3x6.0	Δ
NK 600*300-21.0-3/NK 600*300-21.0-3 U	1540	30.0	400	21.0	3x7.0	Δ
NK 600*300-24.0-3/NK 600*300-24.0-3 U	1760	34.7	400	24.0	3x8.0	Δ
NK 600*350-9.0-3/NK 600*350-9.0-3 U	660	13.0	400	9.0	3x3.0	Y
NK 600*350-12.0-3/NK 600*350-12.0-3 U	880	17.4	400	12.0	3x4.0	Y
NK 600*350-15.0-3/NK 600*350-15.0-3 U	1100	21.7	400	15.0	3x5.0	Y
NK 600*350-18.0-3/NK 600*350-18.0-3 U	1320	26.0	400	18.0	3x6.0	Δ
NK 600*350-21.0-3/NK 600*350-21.0-3 U	1540	30.0	400	21.0	3x7.0	Δ
NK 600*350-24.0-3/NK 600*350-24.0-3 U	1760	34.7	400	24.0	3x8.0	Δ
NK 700*400-18.0-3/NK 700*400-18.0-3 U	1320	26.0	400	18.0	6x3.0	Δ
NK 700*400-27.0-3/NK 700*400-27.0-3 U	1980	39.0	400	27.0	9x3.0	Δ X 3 groups
NK 700*400-36.0-3/NK 700*400-36.0-3 U	2640	52.0	400	36.0	12x3.0	Δ X 4 groups
NK 800*500-27.0-3/NK 800*500-27.0-3 U	1980	39.0	400	27.0	9x3.0	Δ X 3 groups
NK 800*500-36.0-3/NK 800*500-36.0-3 U	2640	52.0	400	36.0	12x3.0	Δ X 4 groups
NK 800*500-54.0-3/NK 800*500-54.0-3 U	3960	78.0	400	54.0	18x3.0	Δ X 6 groups
NK 900*500-45.0-3/NK 900*500-45.0-3 U	3300	65.0	400	45.0	15x3.0	Δ X 5 groups
NK 900*500-54.0-3/NK 900*500-54.0-3 U	3960	78.0	400	54.0	18x3.0	Δ X 6 groups
NK 1000*500-45.0-3/NK 1000*500-45.0-3 U	3300	65.0	400	45.0	15x3.0	Δ X 5 groups
NK 1000*500-54.0-3/NK 1000*500-54.0-3 U	3960	78.0	400	54.0	18x3.0	Δ X 6 groups

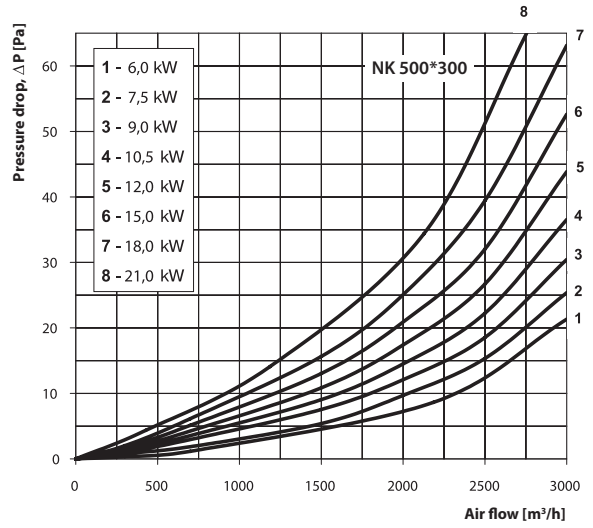
NK



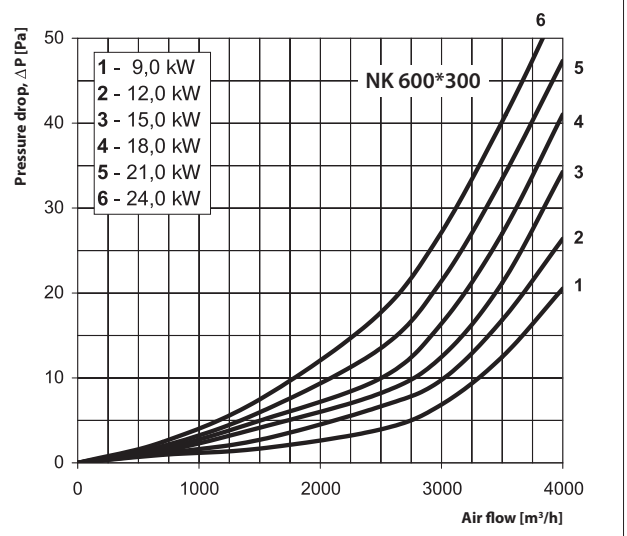
NK



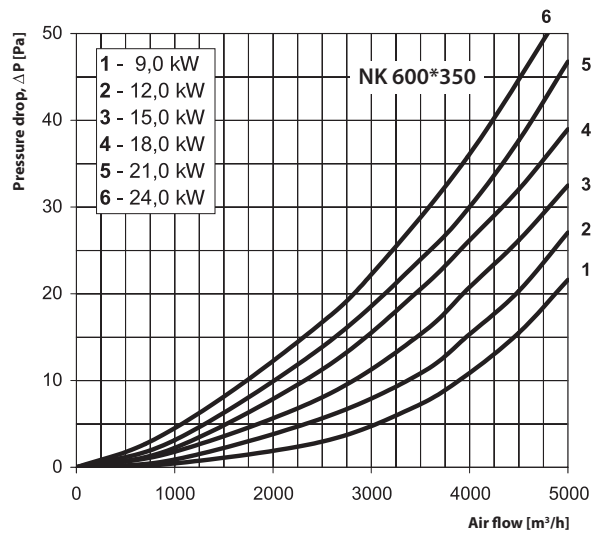
NK



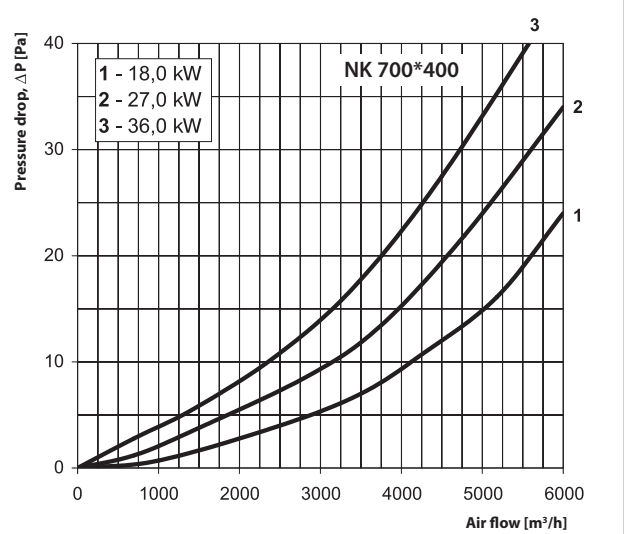
NK

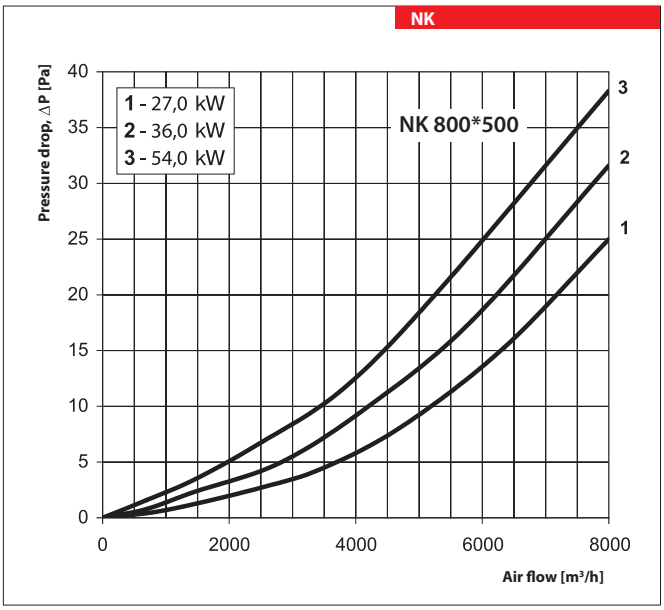


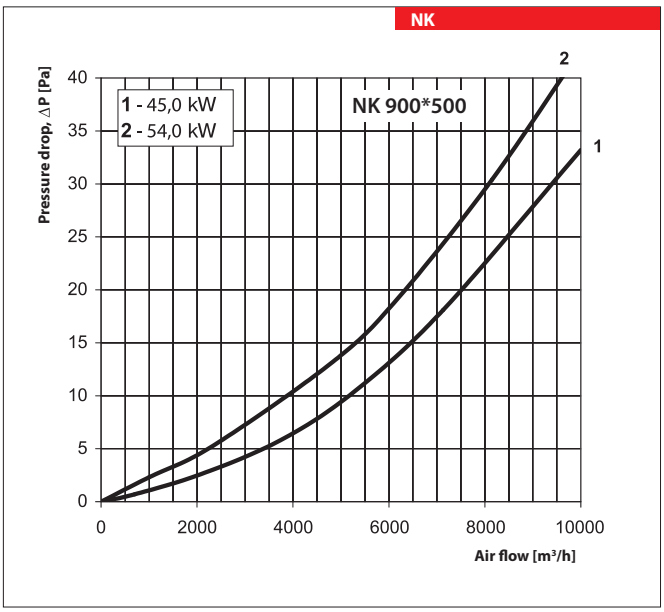
NK

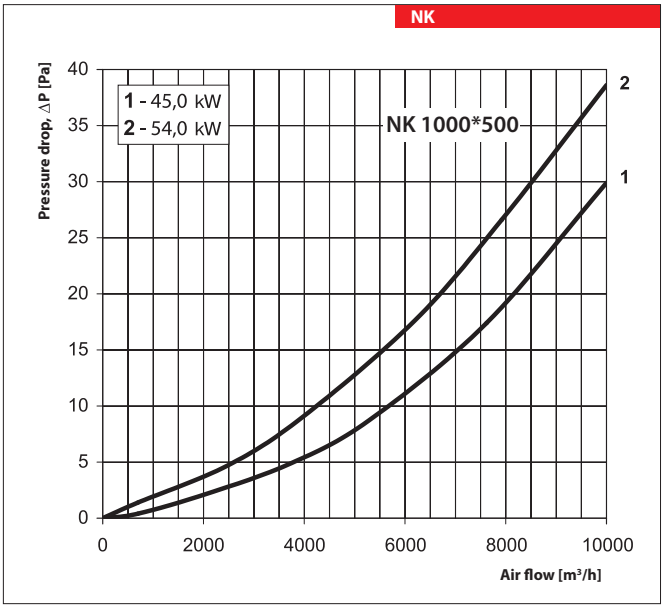


NK







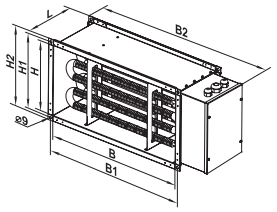


Overall dimensions

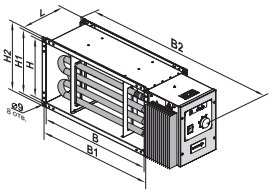
Type	Dimensions [mm]							Mass [kg]
	B	B1	B2	H	H1	H2	L	
NK 400*200-4.5-3	400	420	540	200	220	240	200	6.5
NK 400*200-6.0-3	400	420	540	200	220	240	200	6.5
NK 400*200-7.5-3	400	420	540	200	220	240	200	6.5
NK 400*200-9.0-3	400	420	540	200	220	240	200	6.5
NK 400*200-10.5-3	400	420	540	200	220	240	200	6.5
NK 400*200-12.0-3	400	420	540	200	220	240	200	6.5
NK 400*200-15.0-3	400	420	540	200	220	240	200	6.5
NK 500*250-6.0-3	500	520	640	250	270	290	200	7.65
NK 500*250-7.5-3	500	520	640	250	270	290	200	7.65
NK 500*250-9.0-3	500	520	640	250	270	290	200	7.65
NK 500*250-10.5-3	500	520	640	250	270	290	200	7.65
NK 500*250-12.0-3	500	520	640	250	270	290	200	7.65
NK 500*250-15.0-3	500	520	640	250	270	290	200	7.65
NK 500*250-18.0-3	500	520	640	250	270	290	200	7.65
NK 500*250-21.0-3	500	520	640	250	270	290	200	7.65
NK 500*300-6.0-3	500	520	640	300	320	340	200	8.2
NK 500*300-7.5-3	500	520	640	300	320	340	200	8.2
NK 500*300-9.0-3	500	520	640	300	320	340	200	8.2
NK 500*300-10.5-3	500	520	640	300	320	340	200	8.2
NK 500*300-12.0-3	500	520	640	300	320	340	200	8.2
NK 500*300-15.0-3	500	520	640	300	320	340	200	8.2
NK 500*300-18.0-3	500	520	640	300	320	340	200	8.2
NK 500*300-21.0-3	500	520	640	300	320	340	200	8.2
NK 600*300-9.0-3	600	620	740	300	320	340	200	9.4
NK 600*300-12.0-3	600	620	740	300	320	340	200	9.4
NK 600*300-15.0-3	600	620	740	300	320	340	200	9.4
NK 600*300-18.0-3	600	620	740	300	320	340	200	9.4
NK 600*300-21.0-3	600	620	740	300	320	340	200	9.4
NK 600*300-24.0-3	600	620	740	300	320	340	200	9.4
NK 600*350-9.0-3	600	620	740	350	370	390	200	9.75
NK 600*350-12.0-3	600	620	740	350	370	390	200	9.75
NK 600*350-15.0-3	600	620	740	350	370	390	200	9.75
NK 600*350-18.0-3	600	620	740	350	370	390	200	9.75
NK 600*350-21.0-3	600	620	740	350	370	390	200	9.75
NK 600*350-24.0-3	600	620	740	350	370	390	200	9.75
NK 700*400-18.0-3	700	720	840	400	420	440	390	14
NK 700*400-27.0-3	700	720	840	400	420	440	510	18.5
NK 700*400-36.0-3	700	720	840	400	420	440	750	25
NK 800*500-27.0-3	800	820	940	500	520	540	390	19
NK 800*500-36.0-3	800	820	940	500	520	540	510	23.5
NK 800*500-54.0-3	800	820	940	500	520	540	750	30
NK 900*500-45.0-3	900	920	1040	500	520	540	750	31
NK 900*500-54.0-3	900	920	1040	500	520	540	750	33.5
NK 1000*500-45.0-3	1000	1020	1140	500	520	540	750	33
NK 1000*500-54.0-3	1000	1020	1140	500	520	540	750	36

Overall dimensions

Type	Dimensions [mm]							Mass [kg]
	B	B1	B2	H	H1	H2	L	
NK 400*200-4.5-3 U	400	420	611	200	220	240	228	18.24
NK 400*200-6.0-3 U	400	420	611	200	220	240	228	18.24
NK 400*200-7.5-3 U	400	420	611	200	220	240	228	18.24
NK 400*200-9.0-3 U	400	420	665	200	220	240	228	18.52
NK 400*200-10.5-3 U	400	420	665	200	220	240	228	18.52
NK 400*200-12.0-3 U	400	420	665	200	220	240	228	18.52
NK 400*200-15.0-3 U	400	420	665	200	220	240	228	18.52
NK 500*250-6.0-3 U	500	520	702	250	270	290	228	22.4
NK 500*250-7.5-3 U	500	520	702	250	270	290	228	22.4
NK 500*250-9.0-3 U	500	520	702	250	270	290	228	23.0
NK 500*250-10.5-3 U	500	520	702	250	270	290	228	23.0
NK 500*250-12.0-3 U	500	520	702	250	270	290	228	23.0
NK 500*250-15.0-3 U	500	520	702	250	270	290	228	23.1
NK 500*250-18.0-3 U	500	520	702	250	270	290	228	23.1
NK 500*250-21.0-3 U	500	520	702	250	270	290	228	23.1
NK 500*300-6.0-3 U	500	520	702	300	320	340	228	22.9
NK 500*300-7.5-3 U	500	520	702	300	320	340	228	22.9
NK 500*300-9.0-3 U	500	520	702	300	320	340	228	23.5
NK 500*300-10.5-3 U	500	520	702	300	320	340	228	23.5
NK 500*300-12.0-3 U	500	520	702	300	320	340	228	23.5
NK 500*300-15.0-3 U	500	520	702	300	320	340	228	24.0
NK 500*300-18.0-3 U	500	520	702	300	320	340	228	24.0
NK 500*300-21.0-3 U	500	520	702	300	320	340	228	24.0
NK 600*300-9.0-3 U	600	620	802	300	320	340	228	27.0
NK 600*300-12.0-3 U	600	620	802	300	320	340	228	27.0
NK 600*300-15.0-3 U	600	620	802	300	320	340	228	27.5
NK 600*300-18.0-3 U	600	620	802	300	320	340	228	27.5
NK 600*300-21.0-3 U	600	620	802	300	320	340	228	27.5
NK 600*300-24.0-3 U	600	620	802	300	320	340	228	27.5
NK 600*350-9.0-3 U	600	620	802	350	370	390	228	28.2
NK 600*350-12.0-3 U	600	620	802	350	370	390	228	28.2
NK 600*350-15.0-3 U	600	620	802	350	370	390	228	28.5
NK 600*350-18.0-3 U	600	620	802	350	370	390	228	28.5
NK 600*350-21.0-3 U	600	620	802	350	370	390	228	28.5
NK 600*350-24.0-3 U	600	620	802	350	370	390	228	28.5
NK 700*400-18.0-3 U	700	720	924	400	420	440	410	16.8
NK 700*400-27.0-3 U	700	720	924	400	420	440	530	21.0
NK 700*400-36.0-3 U	700	720	924	400	420	440	750	28.0
NK 800*500-27.0-3 U	800	820	1024	500	520	540	410	20.6
NK 800*500-36.0-3 U	800	820	1024	500	520	540	530	25.9
NK 800*500-54.0-3 U	800	820	1024	500	520	540	750	36.1
NK 900*500-45.0-3 U	900	920	1130	500	520	540	750	33.4
NK 900*500-54.0-3 U	900	920	1130	500	520	540	750	38.0
NK 1000*500-45.0-3 U	1000	1020	1230	500	520	540	750	35.5
NK 1000*500-54.0-3 U	1000	1020	1230	500	520	540	750	41.2



NK heater series



NK...U heater series

Model	 RNS-16 (page ...)	 RNS-25 (page ...)	 KDT2-MK (page ...)
NK from 4,5 up to 16 kW	+	+	+
NK from 16 up to 25 kW	-	-	+
NK ...U from 4.5 up to 54.0 kW with an integrated control unit	-	-	+

Model	 KDT2-M (page ...)	 KDT2-M1 (page ...)
NK from 4,5 up to 16 kW	+	+
NK from 16 up to 25 kW	+	+
NK ...U from 4.5 up to 54.0 kW with an integrated control unit	+	+

Series
NKV

Applications

Duct water heaters are designed for heating of supply air in round ventilation systems. They can be also applied in supply or supply and exhaust ventilating units.

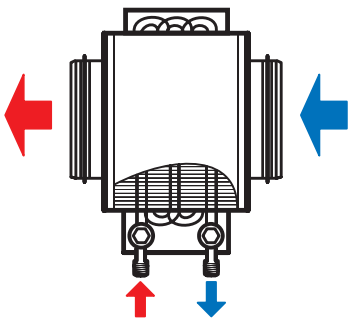
Design

The heater casing is made of galvanized steel, the tubular coils are of copper tubes and the heat exchange surface is made of aluminium plates. The heaters are equipped with rubber seals for airtight connection to the air ducts. The heaters are ailable in 2 and 4 rows modifications and are designed for maximum operating pressure 1.6 MPa (16 bar) and maximum water operating temperature +100 °C. The outlet manifold has a branch pipe for installation of submersible temperature probe or icing protecting device. The heater is equipped with a nipple for the system deaeration.

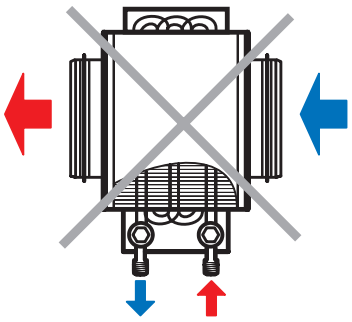
Mounting

- The heater design ensures its mounting on the round ducts in any position by means of clamps. The water heating coils can be installed in any position that enables the heater deaeration. The air flow direction shall match the pointer designation on the heater.
- The mounting shall be performed in such a way as to enable the uniform air stream distribution along the whole cross section.
- The air filter shall be installed at the heater inlet to protect the heating elements against pollution.
- The heater can be installed at the fan inlet ot outlet. If the heater is located at the filter outlet the air duct between the heater and the filter shall have the length of at least two connecting diameters to ensure the air flow stabilization as well as permissible air temperature level inside the fan.
- The heater shall be connected on the counter-flow basis, otherwise its efficiency can drop by 5-15 %. All the nomographic charts in the catalogue are valid for such connection.
- If water serves as a heat medium the heaters are suitable for indoor installation only. For outdoor installation use antifreeze mixture, i.e. ethylene glycol solution.
- To ensure the correct and safe heater operation use the automation system that provides complex control and freezing protection:

✓ automatic control of the heating capacity and air heating temperature;
✓ switching ventilating system on after preliminary heating with the heater;
✓ use of air curtains equipped with spring-loaded actuator;
✓ filter checking by means of differential pressure sensor;
✓ fan shutdown in case of the heater freezing danger.



Connection against air flow



Connection along air flow

Designation key

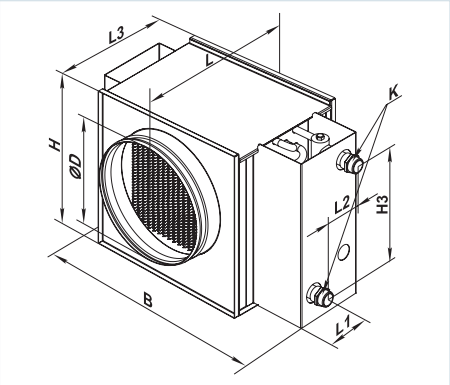
Series	Flange diameter [mm]	-	Number of water coil rows
NKV	100; 125; 150; 160; 200; 250; 315		2; 4

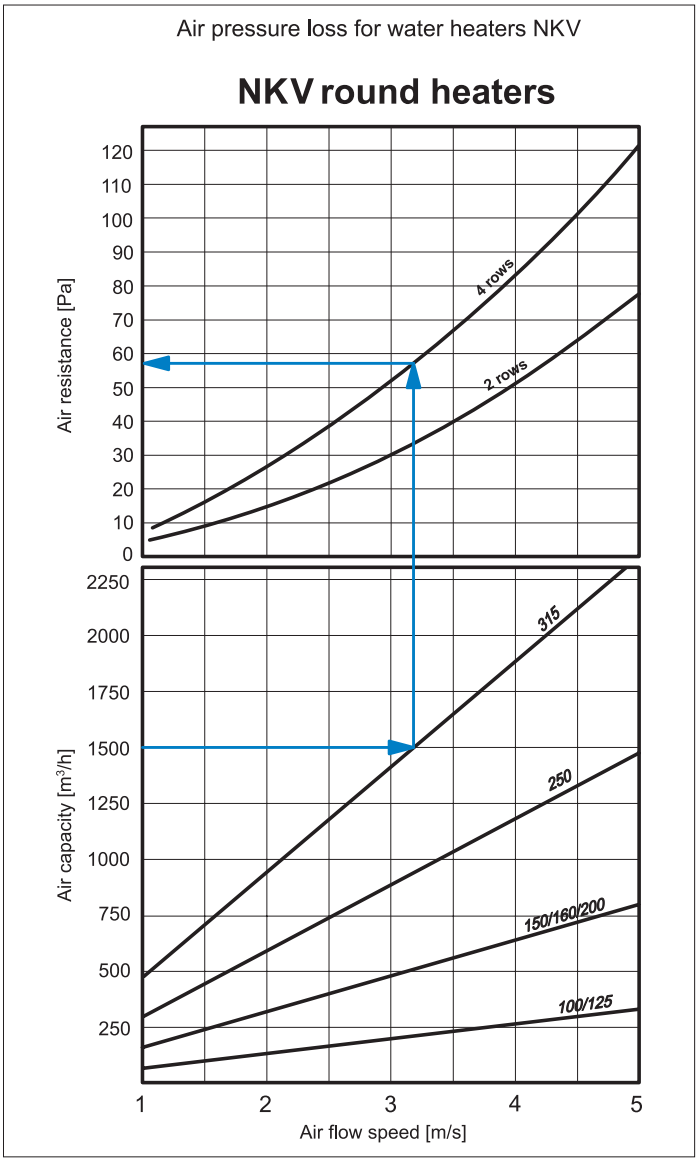
Accessories

page 424

Overall dimensions

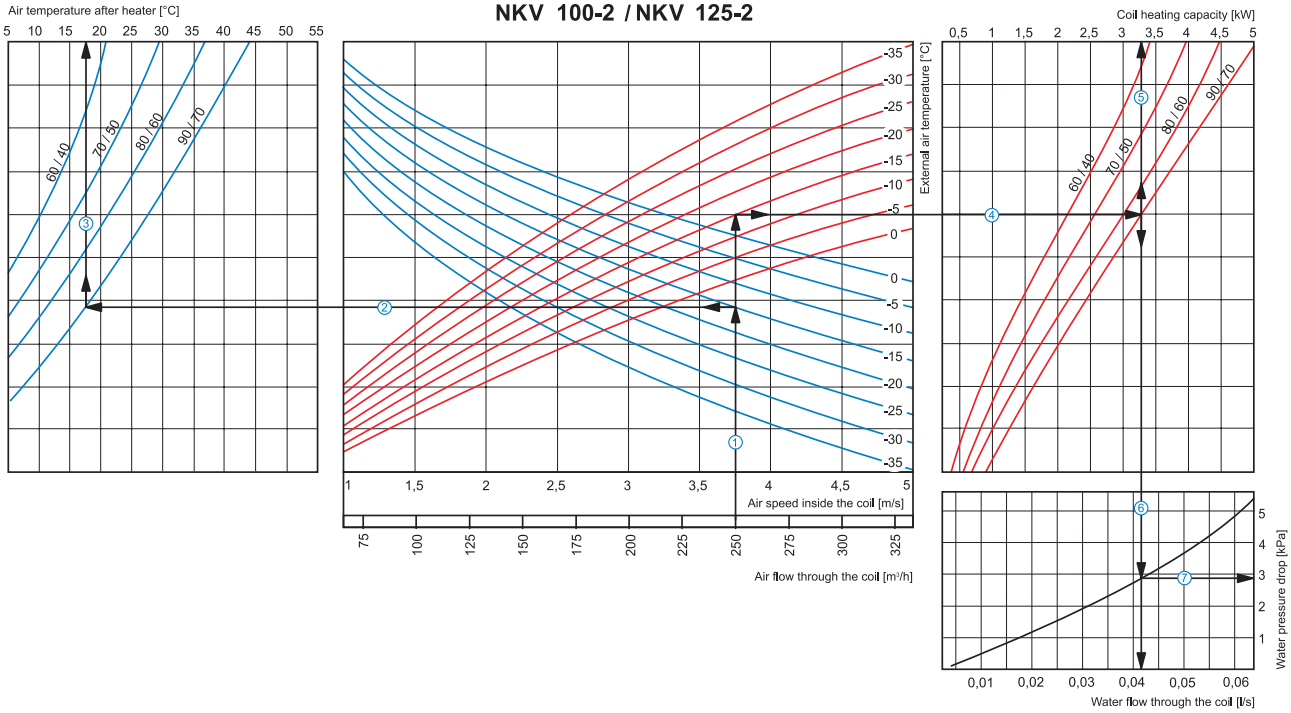
Type	Dimensions [mm]									Number of water coil rows	Mass [kg]
	ØD	B	H	H3	L	L1	L2	L3	K		
NKV 100-2	99	350	230	150	300	32	43	220	G 3/4″	2	3.9
NKV 100-4	99	350	230	150	300	28	65	220	G 3/4″	4	5.2
NKV 125-2	124	350	230	150	300	32	43	220	G 3/4″	2	4.0
NKV 125-4	124	350	230	150	300	28	65	220	G 3/4″	4	5.3
NKV 150-2	149	400	280	200	300	32	43	220	G 3/4″	2	7.5
NKV 150-4	149	400	280	200	300	28	65	220	G 3/4″	4	8.2
NKV 160-2	159	400	280	200	300	32	43	220	G 3/4″	2	7.5
NKV 160-4	159	400	280	200	300	28	65	220	G 3/4″	4	8.2
NKV 200-2	198	400	280	200	300	32	43	220	G 3/4″	2	7.5
NKV 200-4	198	400	280	200	300	28	65	220	G 3/4″	4	8.2
NKV 250-2	248	470	350	270	350	32	43	270	G 1″	2	10.3
NKV 250-4	248	470	350	270	350	28	65	270	G 1″	4	10.8
NKV 315-2	313	550	430	350	450	57	43	370	G 1″	2	12.6
NKV 315-4	313	550	430	350	450	53	65	370	G 1″	4	13.4





NKV

NKV 100-2 / NKV 125-2



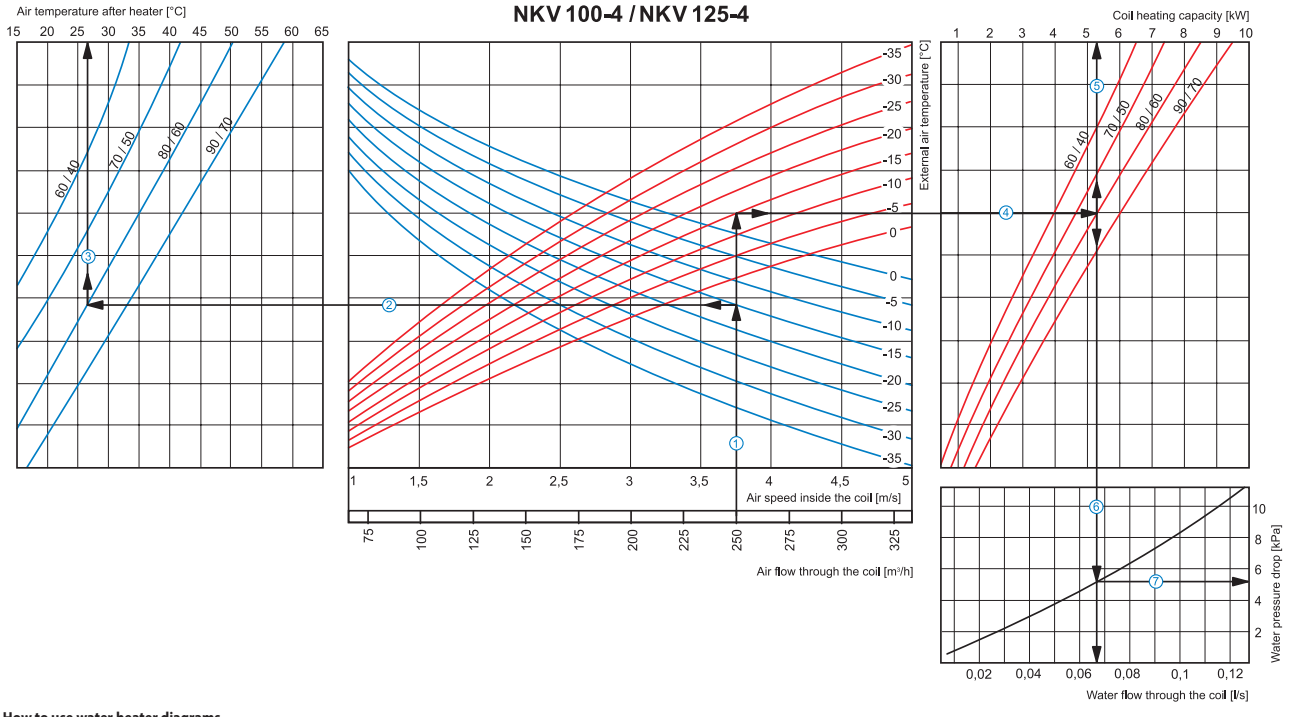
How to use water heater diagrams

Air Speed. Starting from 250 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.75 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -15 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+17,5 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature -15 °C (red curve) and draw a horizontal line ④ from this point to the right until it crosses water in/out temperature curve (90/70 °C), from here draw a vertical line ⑤ up to the scale representing the heating coil capacity (3.25 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.042 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (2.9 kPa).

NKV

NKV 100-4 / NKV 125-4



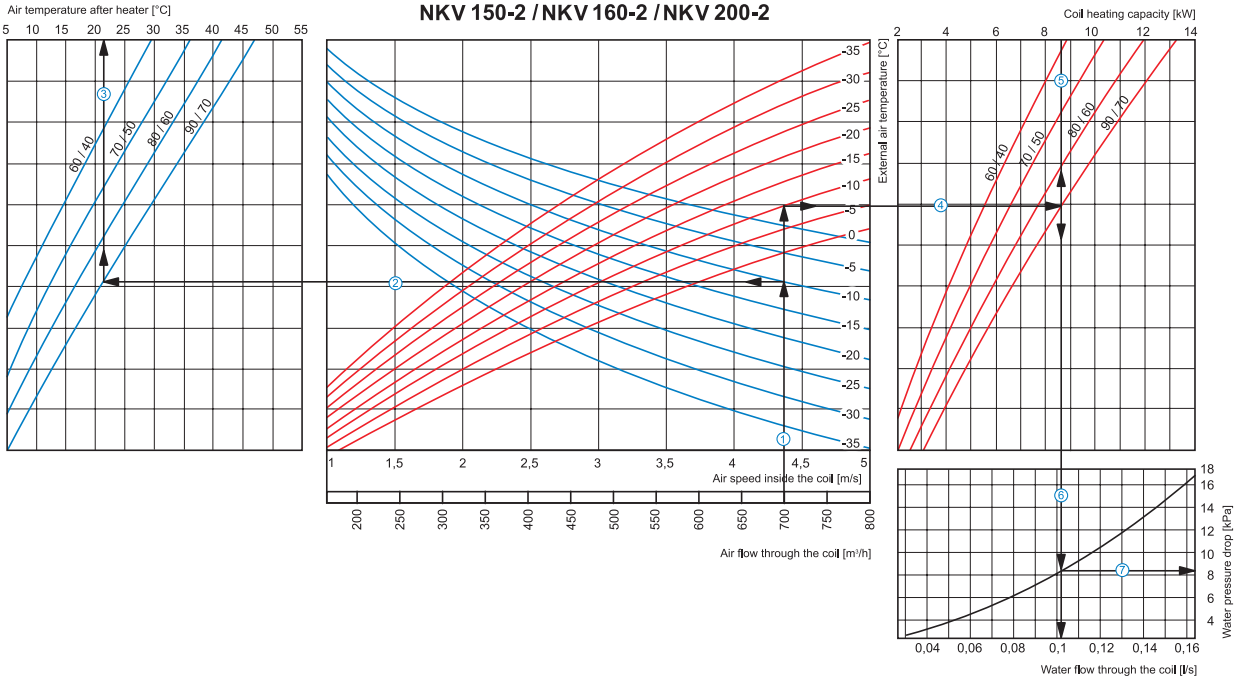
How to use water heater diagrams

Air Speed. Starting from 250 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.75 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -15 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (80/60 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+27 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -15 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 80/60 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (5.2 kW).
- Water flow. Prolong the line ⑥ down to water flow axis at the bottom of the graphic (0.067 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (5.2 kPa).

NKV

NKV 150-2 / NKV 160-2 / NKV 200-2



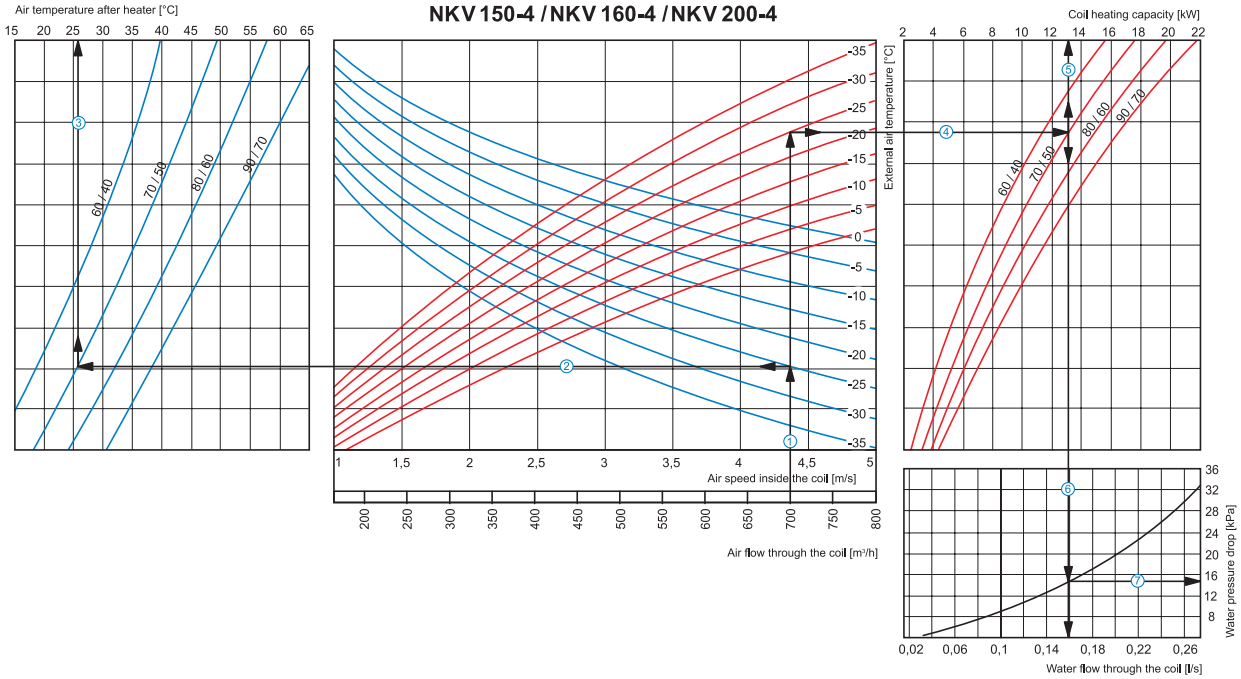
How to use water heater diagrams

Air Speed. Starting from 700 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 4.4 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -10 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+21 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -10 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (8.6 kW).
- Water flow. Prolong the line ⑥ down to water flow axis at the bottom of the graphic (0.11 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (8.2 kPa).

NKV

NKV 150-4 / NKV 160-4 / NKV 200-4



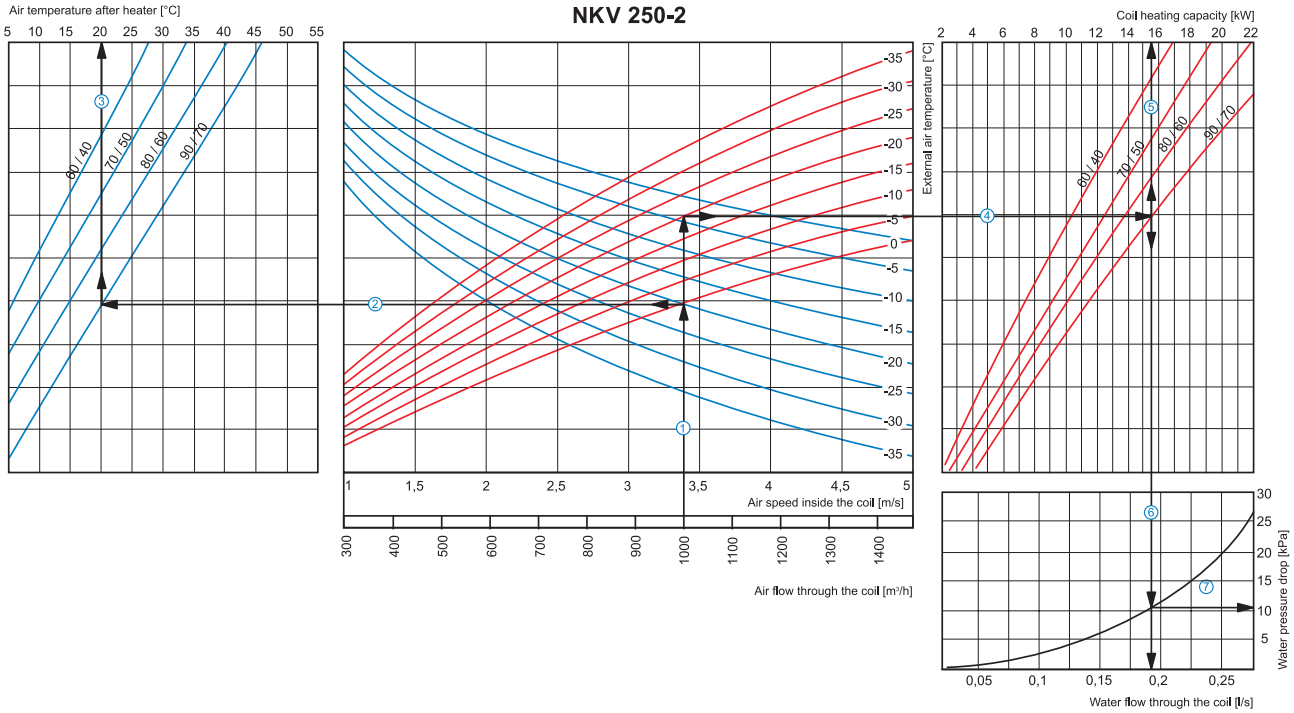
How to use water heater diagrams

Air Speed. Starting from 700 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 4.4 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -25 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (70/50 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+26 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -25 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 70/50 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (13.0 kW).
- Water flow. Prolong the line ⑥ down to water flow axis at the bottom of the graphic (0.16 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (15 kPa).

NKV

NKV 250-2



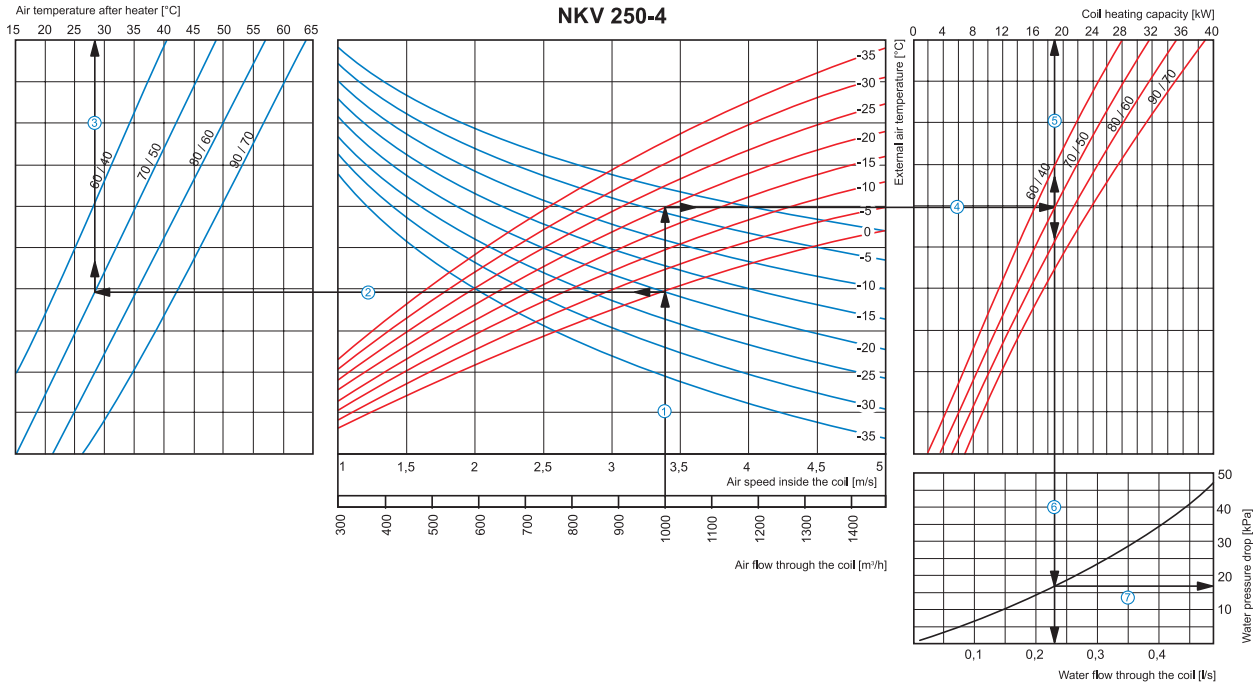
How to use water heater diagrams

Air Speed. Starting from 1000 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.4 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -20 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+20 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -20 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (15.5 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.19 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (11.0 kPa)

NKV

NKV 250-4



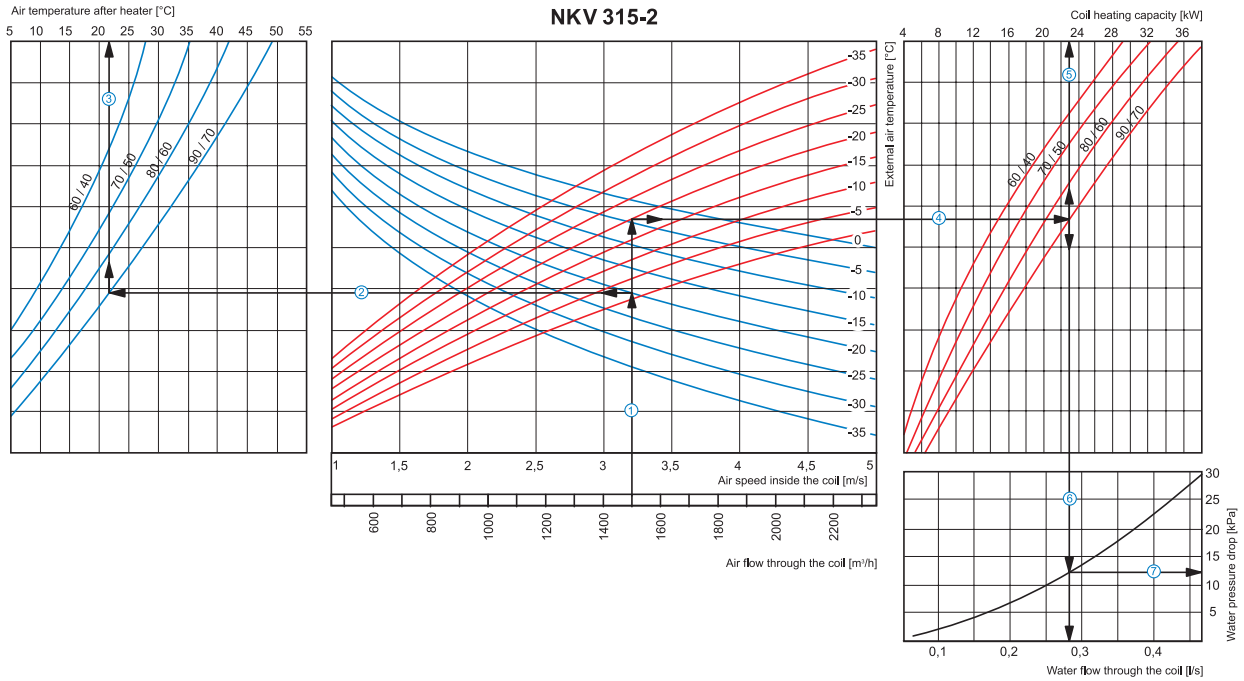
How to use water heater diagrams

Air Speed. Starting from 1000 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.4 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -20 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (70/50 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+28 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -20 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 70/50 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (19.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.23 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (17.0 kPa).

NKV

NKV 315-2



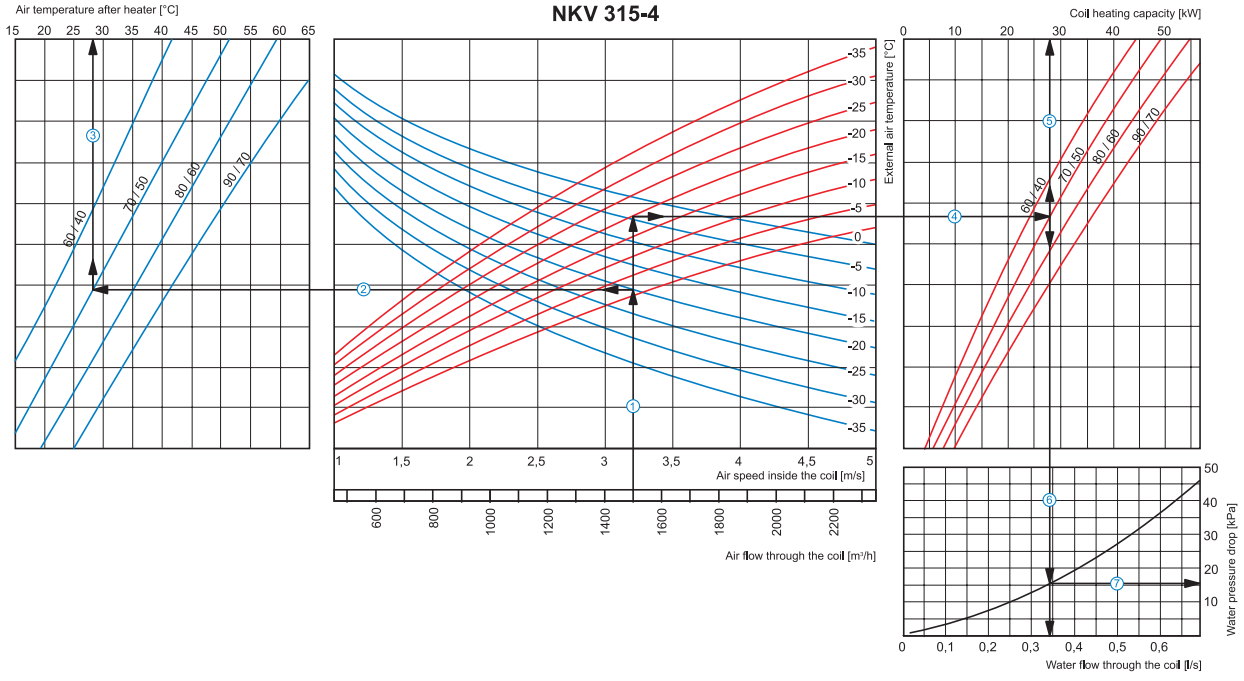
How to use water heater diagrams

Air Speed. Starting from 1500 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.2 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -20 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+21 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. -20 °C, red curve) and draw a horizontal line ④ from this point to the right until it crosses water in/out temperature curve (e.g., 90/70 °C), from here draw a vertical line ⑤ up to the scale representing the heating coil capacity (23.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.28 l/s)
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (12.5 kPa).

NKV

NKV 315-4



How to use water heater diagrams

Air Speed. Starting from 1500 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.2 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -20 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (70/50 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+28 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. -20 °C, red curve) and draw a horizontal line ④ from this point to the right until it crosses water in/out temperature curve (e.g., 70/50 °C), from here draw a vertical line ⑤ up to the scale representing the heating coil capacity (28.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.34 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (16.0 kPa).

Series
NKV

Applications

Duct water heaters are designed for heating of supply air in rectangular ventilating system and are applicable in supply or supply and exhaust units.

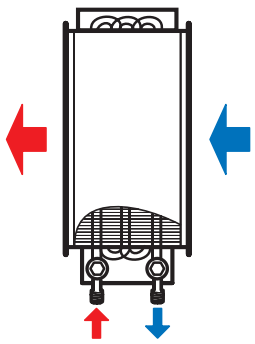
Design

The heater casing is made of galvanized steel, the manifold is made of copper tubes and the heat exchange surface is made of aluminium plates. The heaters are available in 2, 3 or 4 rows modifications and designed for operation at maximum operating pressure 1.6 MPa (16 bar) and maximum operating temperature +100 °C. The exhaust manifold of the heater has a branch pipe for submersible temperature sensor or iicng protecting device. The heater has a nipple to provide the system deaeration.

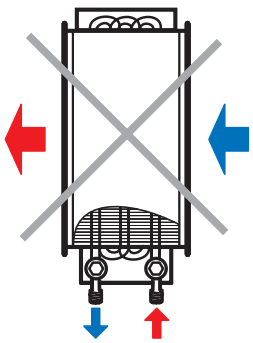
Mounting

- The heater design ensures its mounting by means of a flange connection. The water heater can be installed in any position to enable its deaeration. The air stream shall match the pointer on the heater.
- The heater shall be installed in such a way as to enable the uniform air distribution along the entire cross section.
- The air filter shall be installed at the heater inlet to provide protection against dust and dirt.
- The heater can be installed both at the fan inlet or outlet. If the heater is located at the fan outlet the air duct length between the heater and the fan shall be at least 1-1.5 m to ensure the air flow stabilization as well as permissible air temperature level inside the fan.
- The heater shall be connected on the counter-flow basis, otherwise its efficiency can drop by 5-15 %. All the nomographic charts in the catalogue are valid for such connection.
- If waters serves as a heat transfer agent the heaters are designed for indoor installation only. For outdoor installation use antifreeze mixture (i.e. ethylene glycol solution).
- To ensure the correct and safe heater operation use the automation system that provides the complex control and freezing protection:

✓ automatic control of heating elements capacity and air heating temperature;
✓ switching ventilating system on with preliminary heating by the heater;
✓ use of air curtains equipped with spring-loaded actuator;
✓ filter checking by means of differential pressure sensor;
✓ fan shutdown in case of water coil freezing danger.



Connection against air flow



Connection along air flow

Designation key

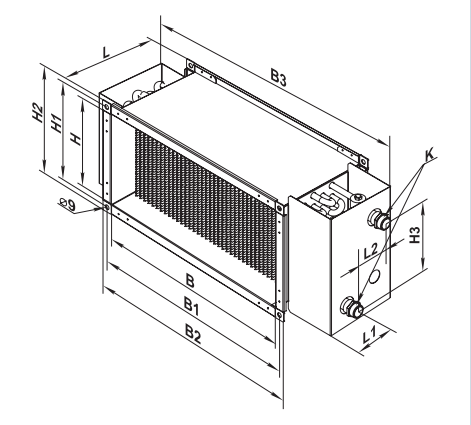
Series	Flange dimensions (WxH) [mm]	-	Number of water coil rows
NKV	400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500		2; 3; 4

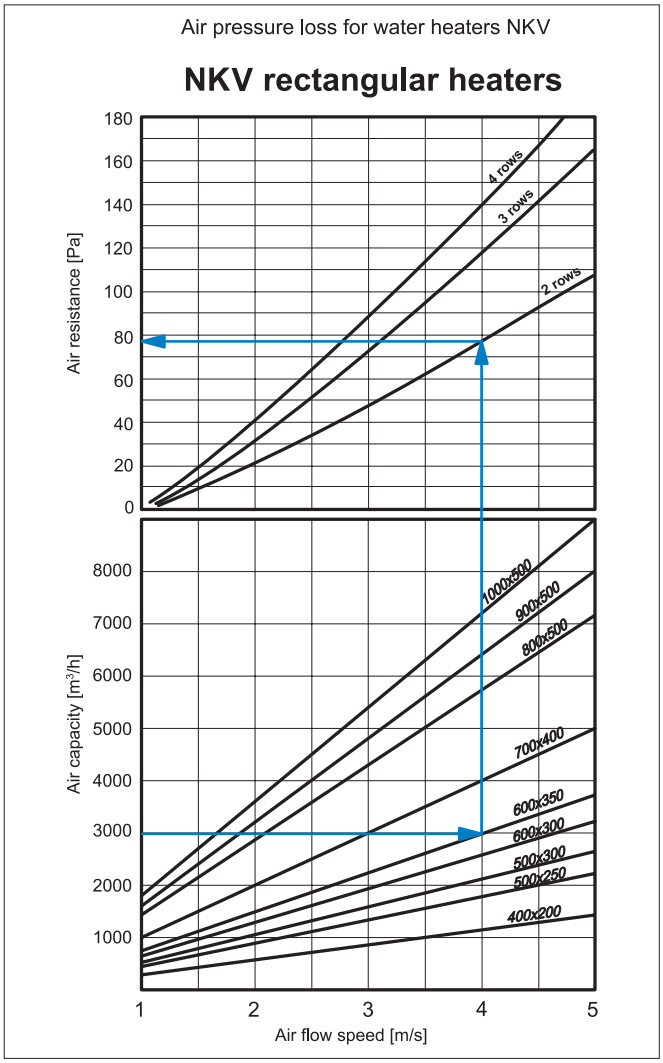
Accessories

page 424

Overall dimensions

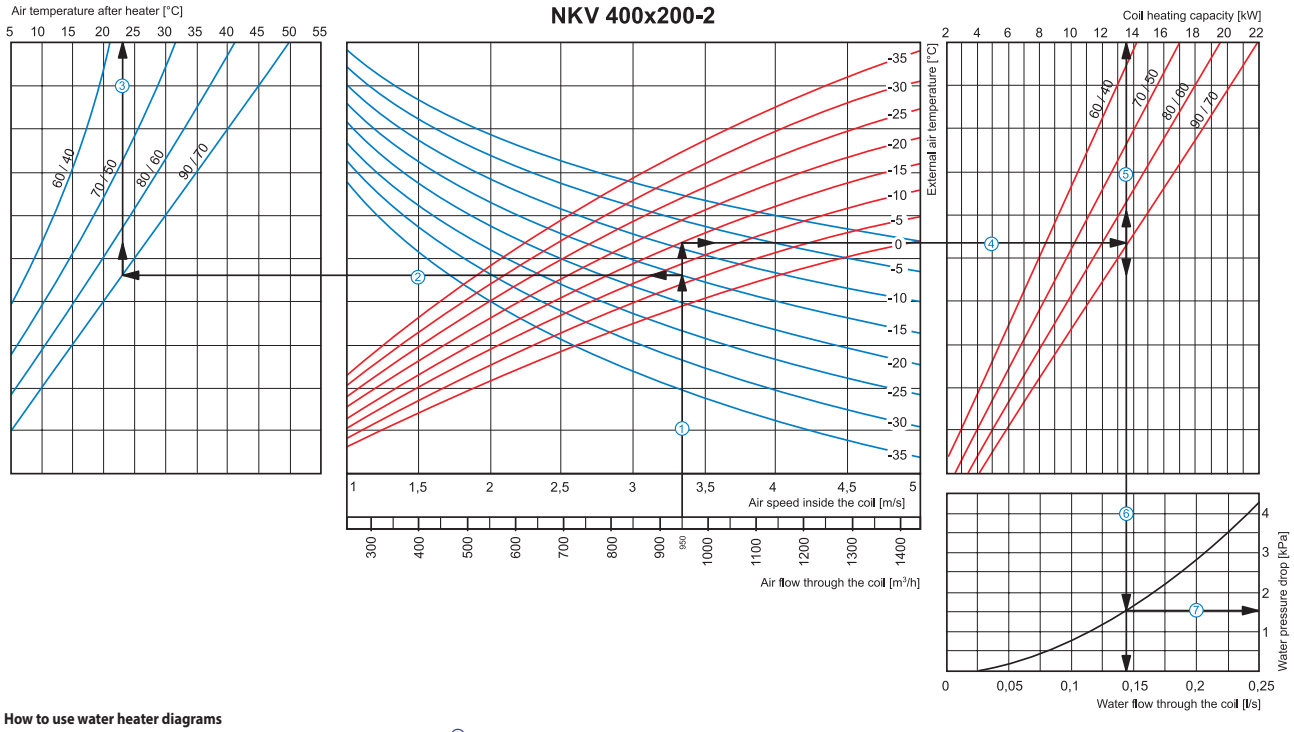
Type	Dimensions [mm]												Number of water coil rows	Mass [kg]
	B	B1	B2	B3	H	H1	H2	H3	L	L1	L2	K		
NKV 400x200-2	400	420	440	565	200	220	240	150	200	43	43	G 3/4″	2	7.6
NKV 400x200-4	400	420	440	565	200	220	240	150	200	38	65	G 3/4″	4	8.1
NKV 500x250-2	500	520	540	665	250	270	290	200	200	43	43	G 3/4″	2	15.8
NKV 500x250-4	500	520	540	665	250	270	290	200	200	38	65	G 3/4″	4	16.3
NKV 500x300-2	500	520	540	665	300	320	340	250	200	43	43	G 1″	2	11.5
NKV 500x300-4	500	520	540	665	300	320	340	250	200	38	65	G 1″	4	12.0
NKV 600x300-2	600	620	640	765	300	320	340	250	200	43	43	G 1″	2	21.8
NKV 600x300-4	600	620	640	765	300	320	340	250	200	38	65	G 1″	4	22.3
NKV 600x350-2	600	620	640	765	350	370	390	300	200	43	43	G 1″	2	22.4
NKV 600x350-4	600	620	640	765	350	370	390	300	200	38	65	G 1″	4	22.9
NKV 700x400-2	700	720	740	865	400	420	440	350	200	36	47	G 1″	2	27.8
NKV 700x400-3	700	720	740	865	400	420	440	350	200	42	58	G 1″	3	28.4
NKV 800x500-2	800	820	840	965	500	520	540	450	200	36	47	G 1″	2	36.5
NKV 800x500-3	800	820	840	965	500	520	540	450	200	42	58	G 1″	3	37.2
NKV 900x500-2	900	920	940	1065	500	520	540	450	200	36	47	G 1″	2	40.4
NKV 900x500-3	900	920	940	1065	500	520	540	450	200	42	58	G 1″	3	41.2
NKV1000x500-2	1000	1020	1040	1165	500	520	540	450	200	36	47	G 1″	2	44.3
NKV 1000x500-3	1000	1020	1040	1165	500	520	540	450	200	42	58	G 1″	3	45.2





NKV

NKV 400x200-2



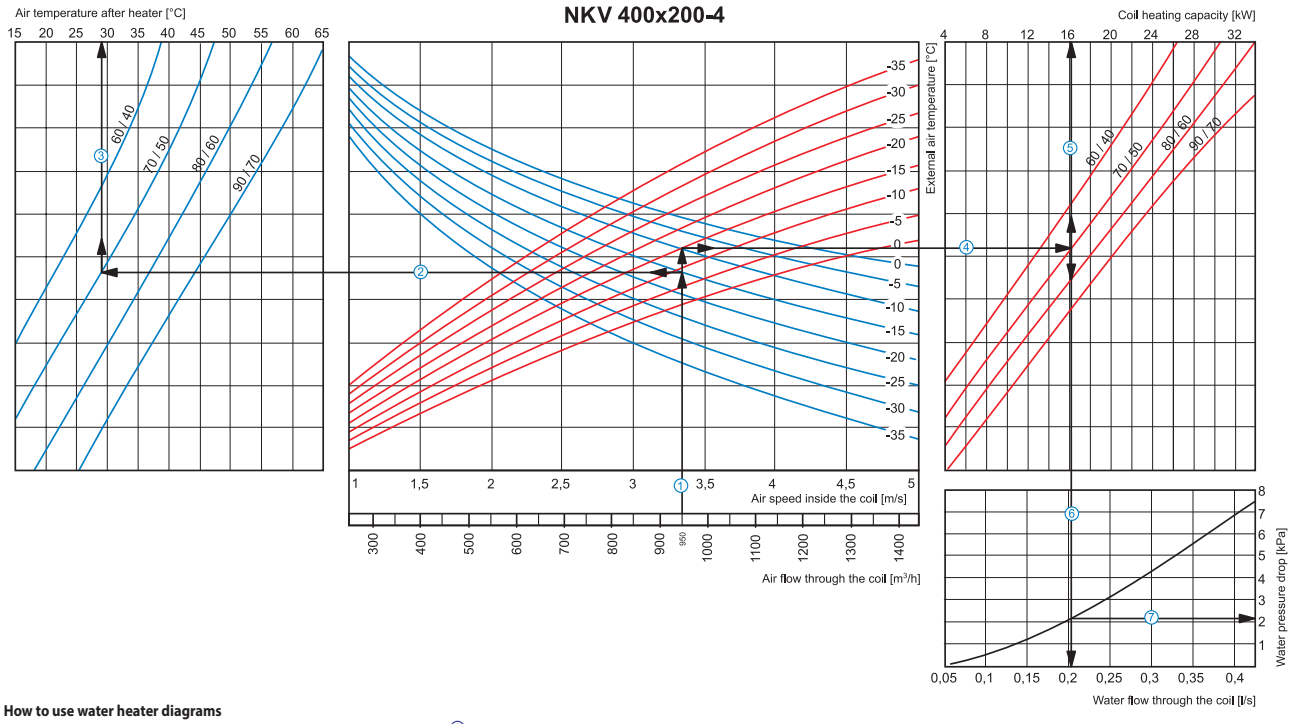
How to use water heater diagrams

Air Speed. Starting from 950 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.35 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -15 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+23 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -15 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (13.5 kW).
- Water flow. Prolong the line ⑥ down to water flow axis at the bottom of the graphic (0.14 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (1.5 kPa).

NKV

NKV 400x200-4

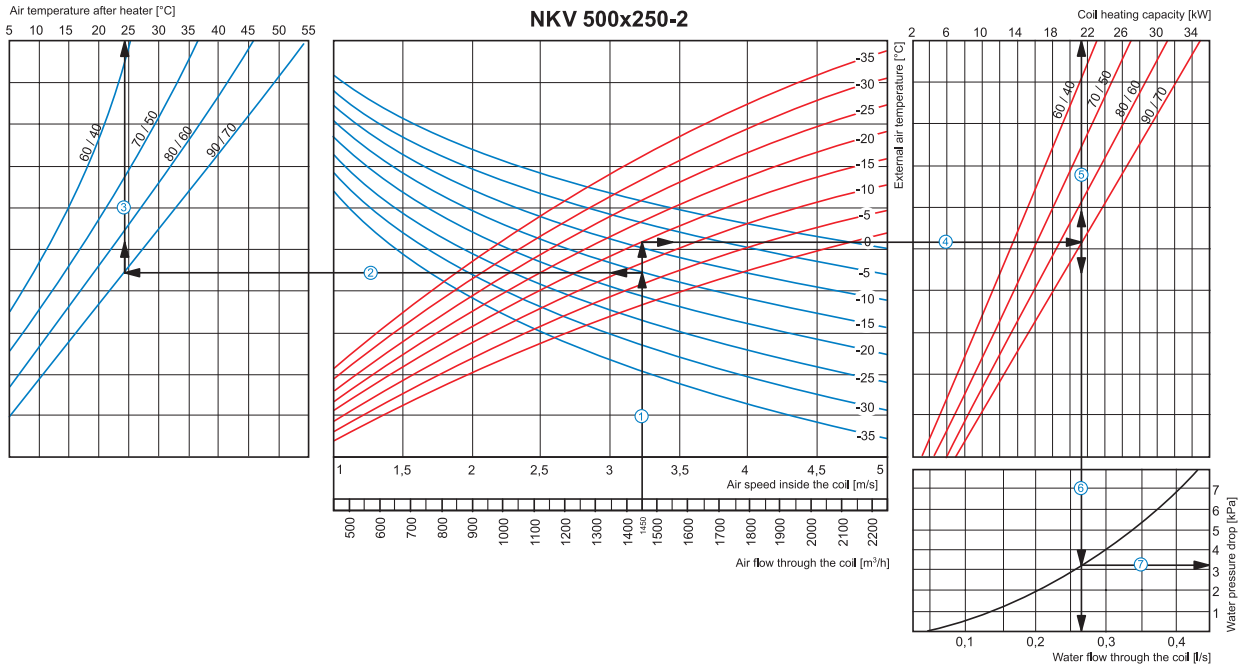


How to use water heater diagrams

Air Speed. Starting from 950 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.35 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -15 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (70/50 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+29 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -15 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 70/50 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (16.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.2 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (2.1 kPa).

NKV

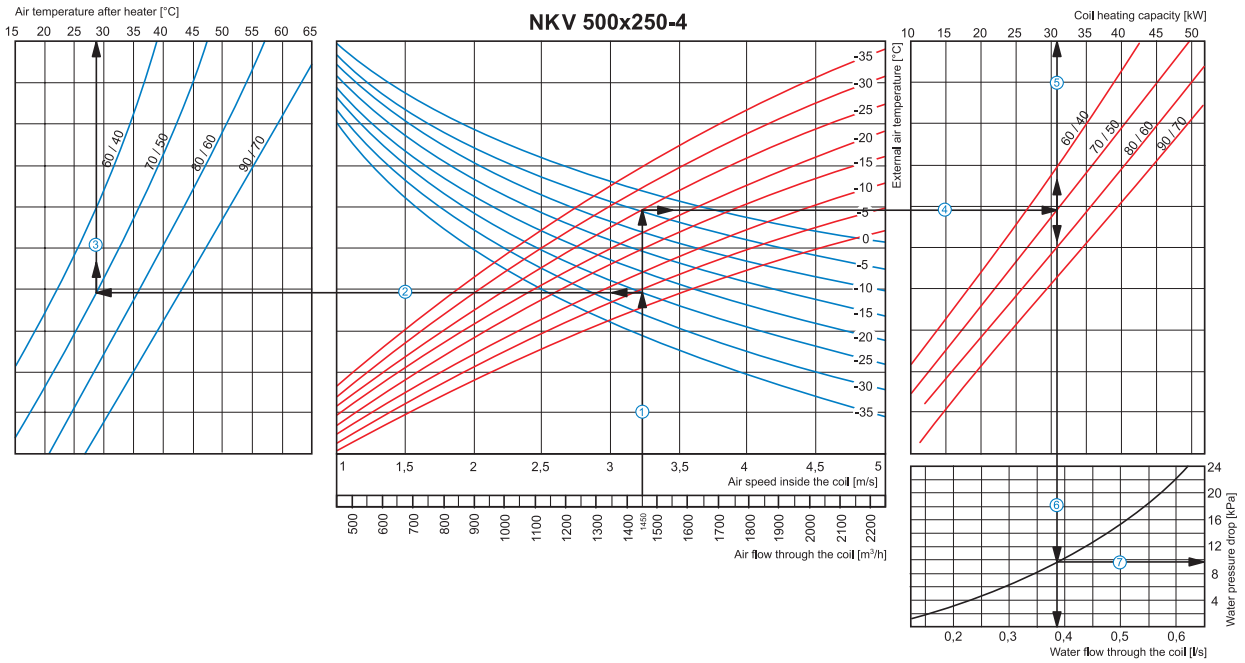


How to use water heater diagrams

Air Speed. Starting from 1450 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.2 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -15 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+24 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -15 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (21.5 kW).
- water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.27 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (3.2 kPa).

NKV

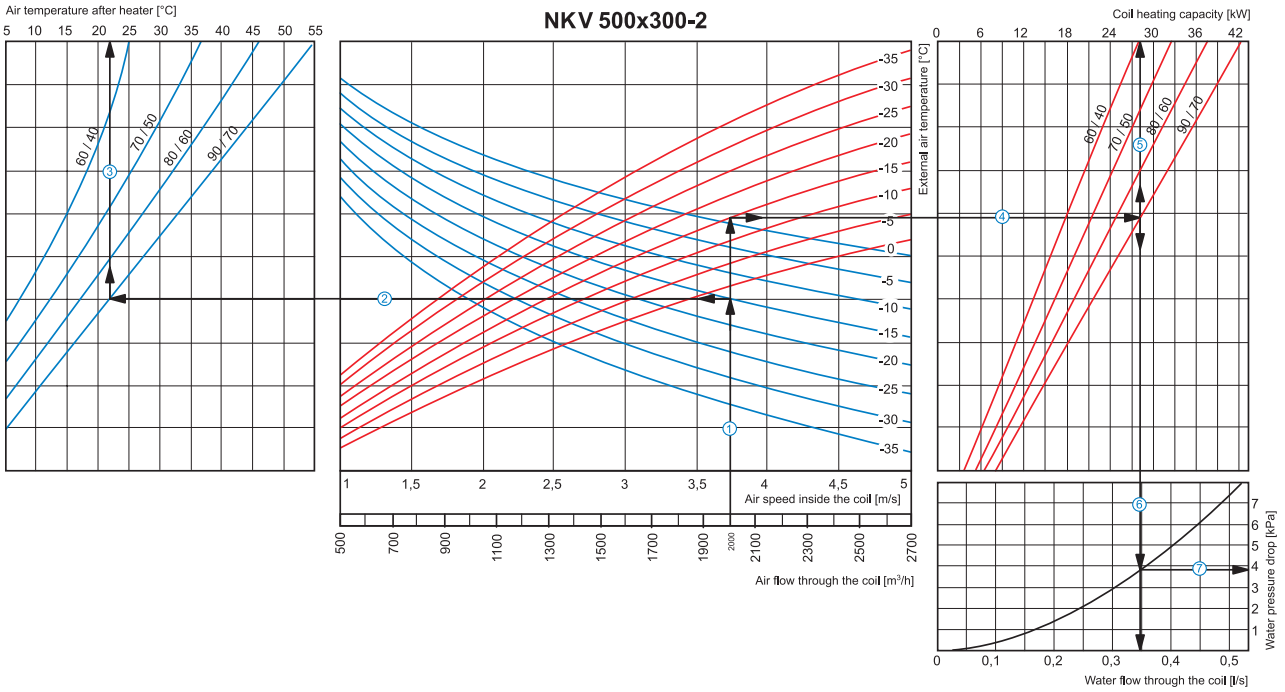


How to use water heater diagrams

Air Speed. Starting from 1450 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.2 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -25 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (70/50 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+28 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -25 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 70/50 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (31.0 kW).
- water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.38 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (9.8 kPa).

NKV

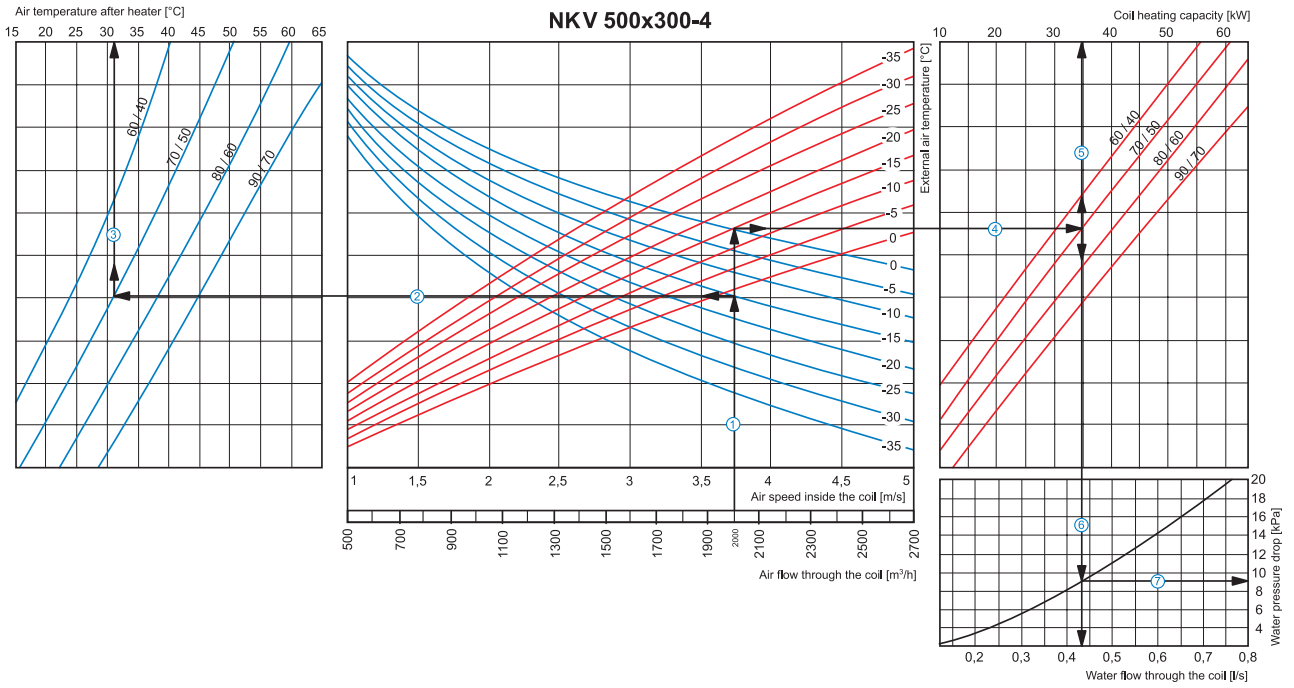


How to use water heater diagrams

Air Speed. Starting from 2000 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.75 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -15 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+22 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -15 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (28.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.35 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (3.8 kPa).

NKV

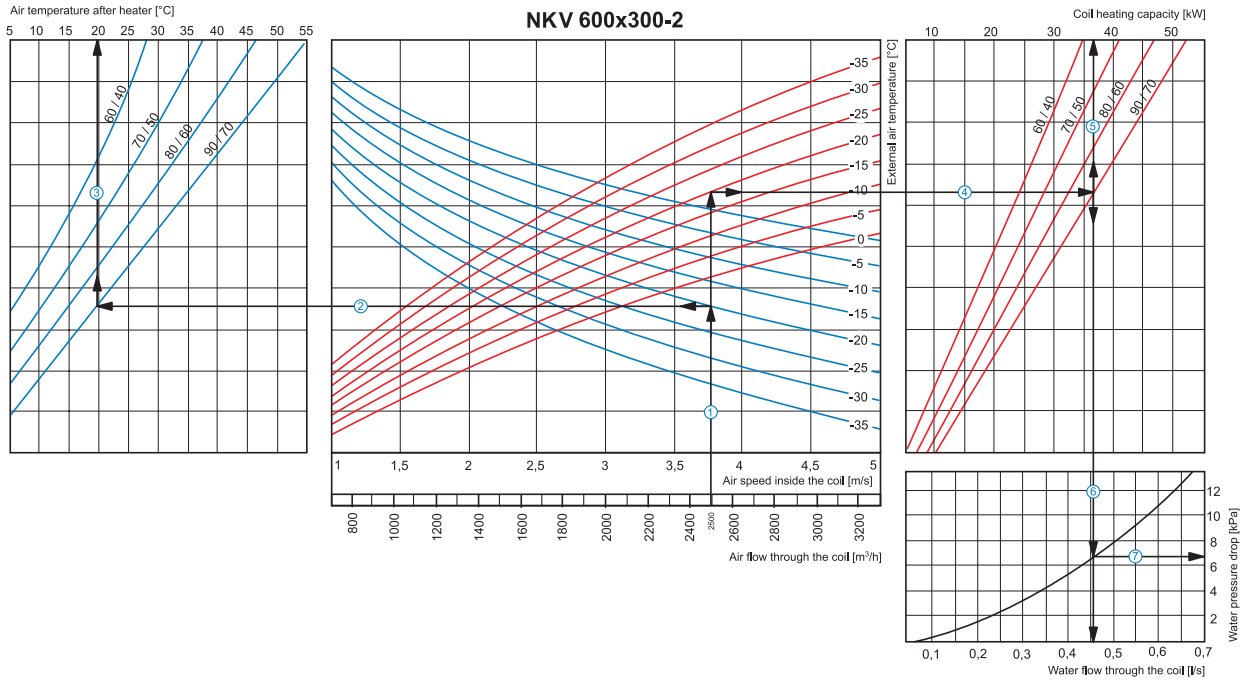


How to use water heater diagrams

Air Speed. Starting from 2000 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.75 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -15 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (70/50 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+31 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -15 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 70/50 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (35.0 kW).
- water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.43 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (9.0 kPa).

NKV

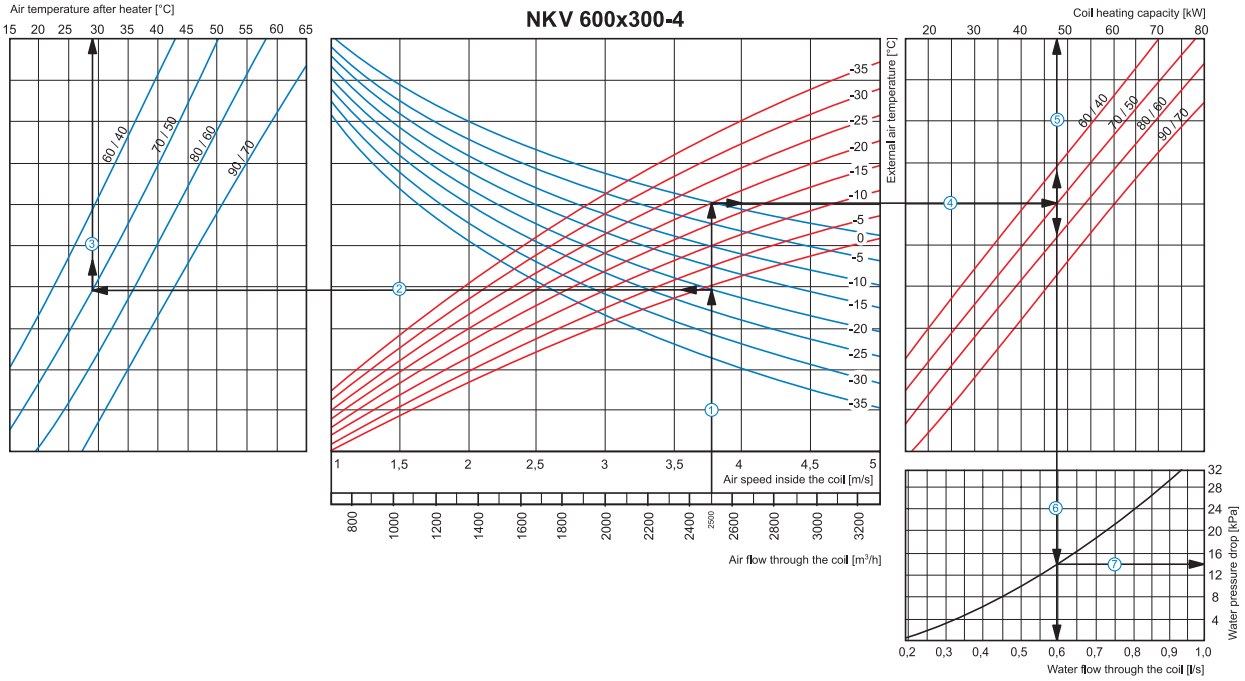


How to use water heater diagrams

Air Speed. Starting from 2500 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.75 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -20 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+20 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -20 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (37.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.46 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (6.7 kPa).

NKV



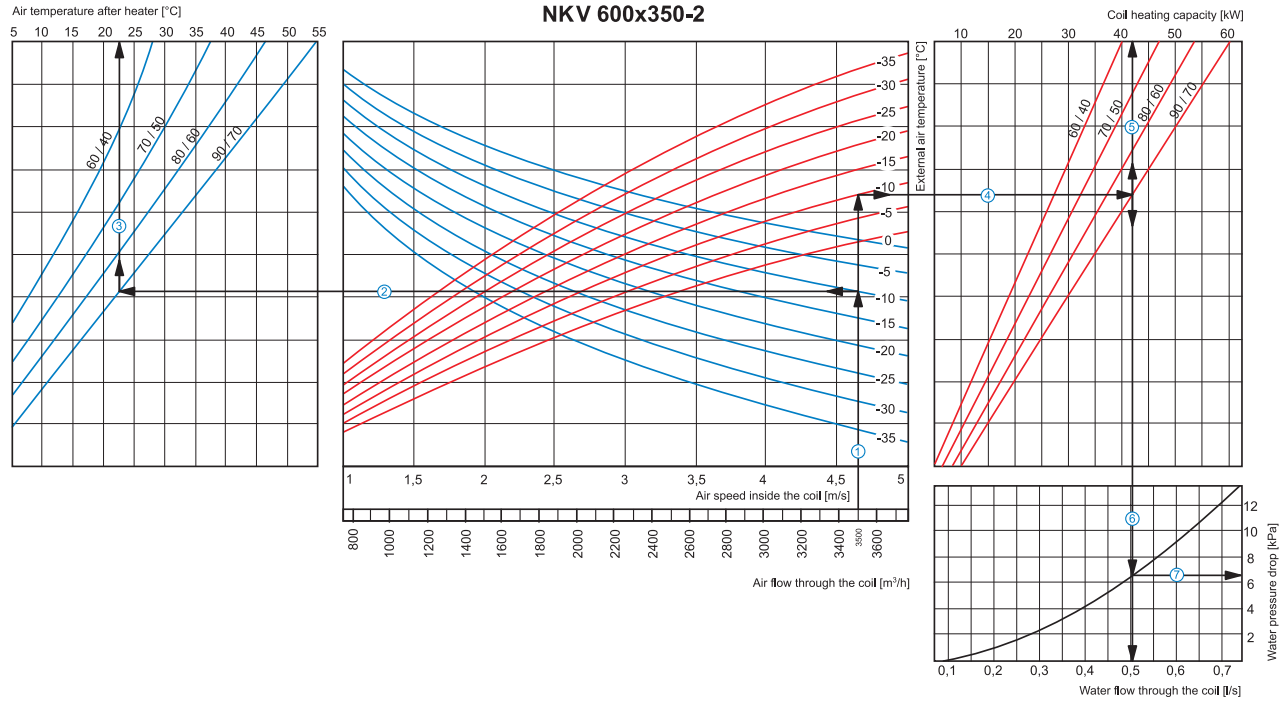
How to use water heater diagrams

Air Speed. Starting from 2500 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.75 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -20 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (70/50 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+29 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -20 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 70/50 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (48.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.6 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (14.0 kPa).

NKV

NKV 600x350-2



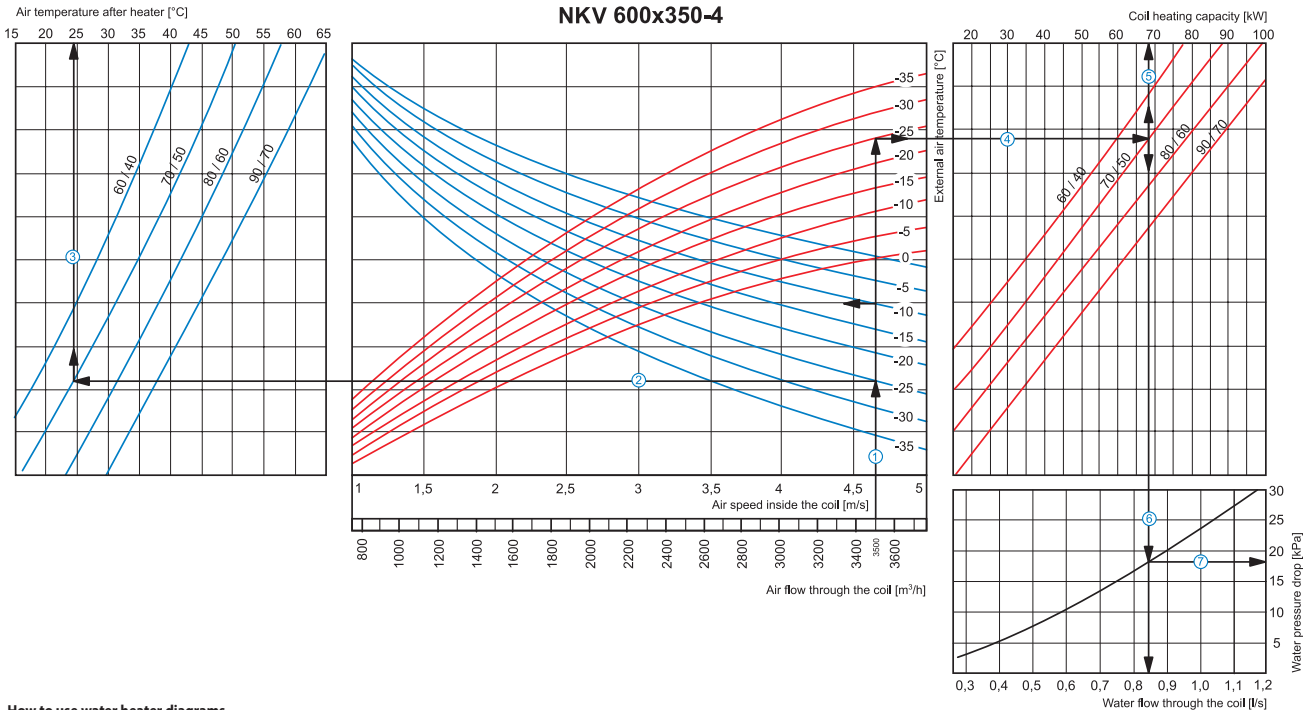
How to use water heater diagrams

Air Speed. Starting from 3500 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 4.65 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -10 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+22.5 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -10 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (42.0 kW).
- water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.5 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (6.5 kPa).

NKV

NKV 600x350-4



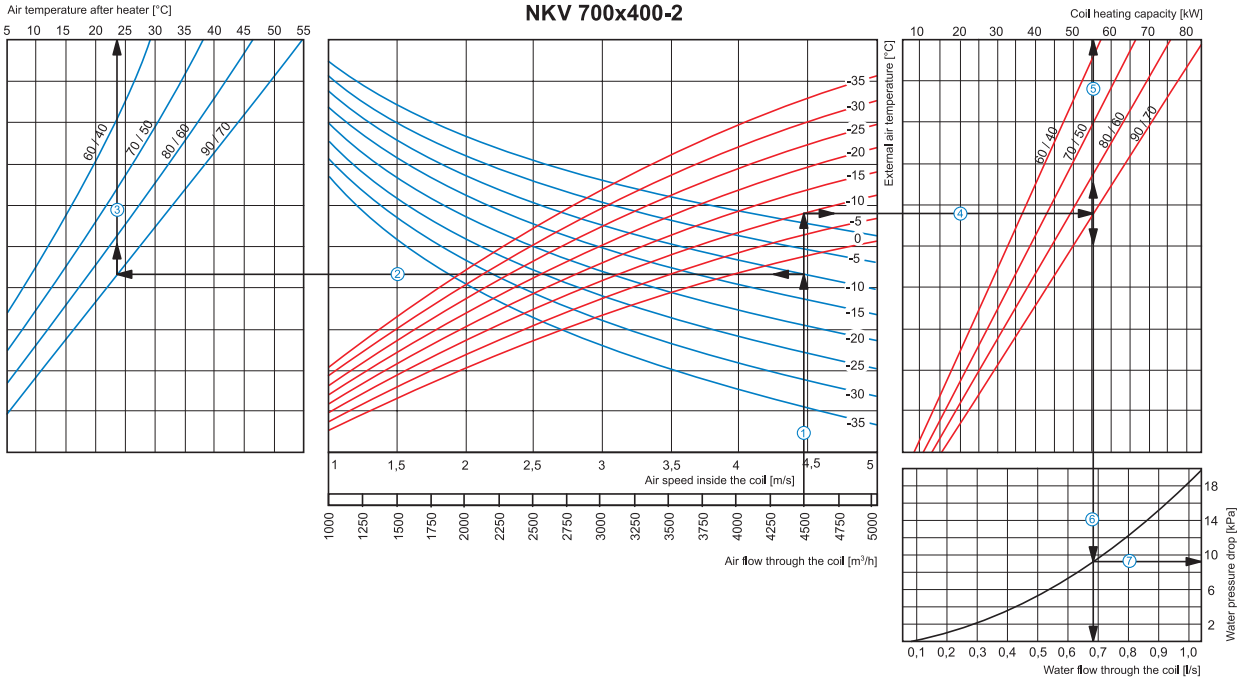
How to use water heater diagrams

Air Speed. Starting from 3500 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 4.65 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -25 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (70/50 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+24 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -25 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 70/50 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (68.0 kW).
- water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.84 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (18.0 kPa).

NKV

NKV 700x400-2



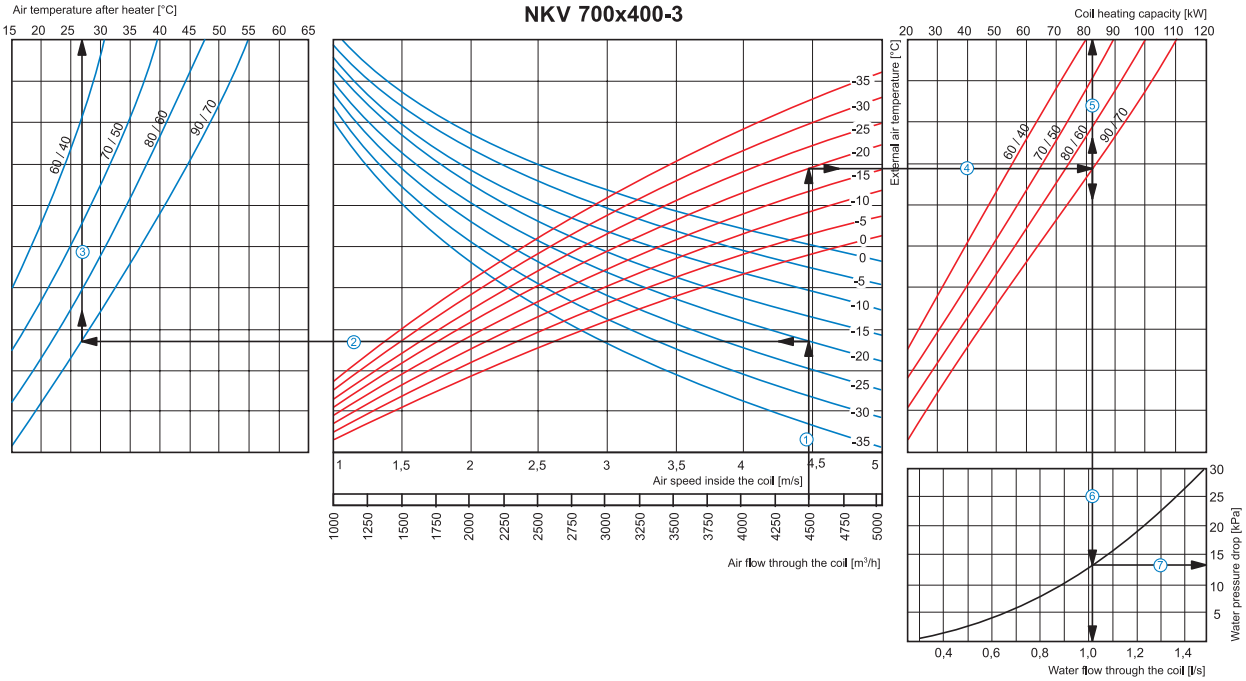
How to use water heater diagrams

Air Speed. Starting from 4500 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 4.45 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -10 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+24 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -10 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (55.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.68 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (9.2 kPa).

NKV

NKV 700x400-3

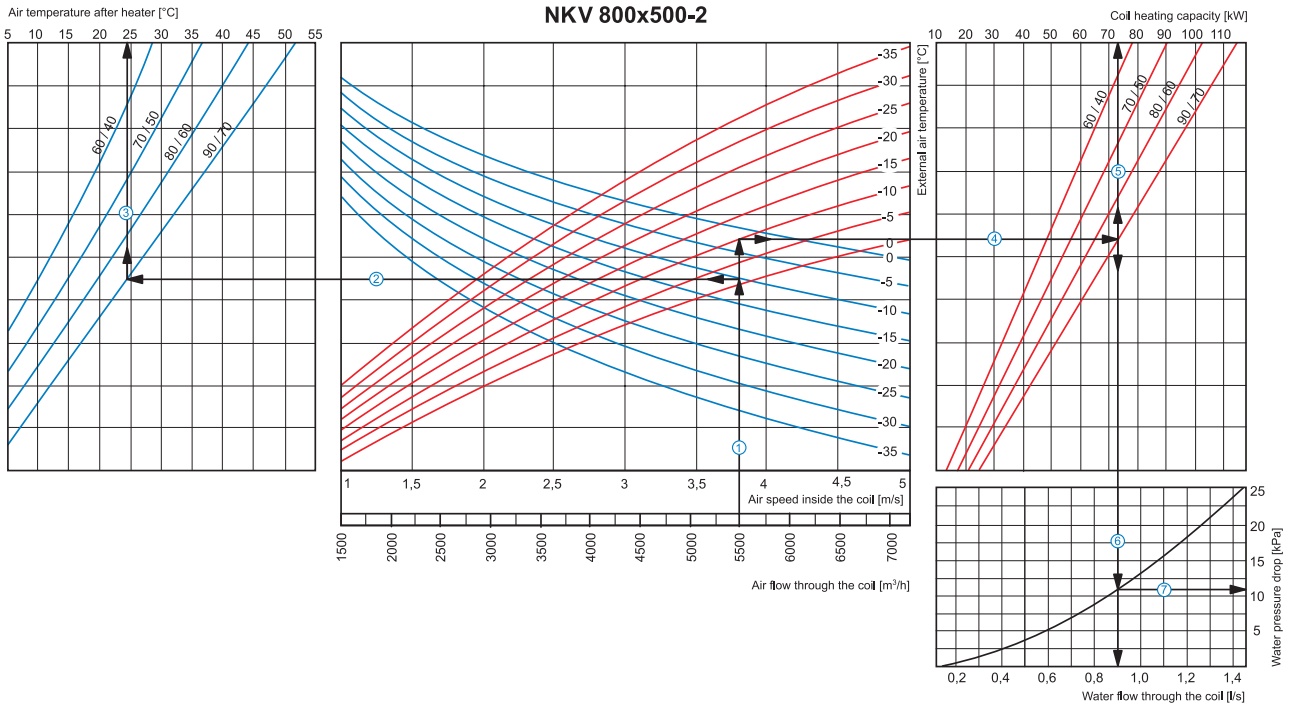


How to use water heater diagrams

Air Speed. Starting from 4500 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 4.45 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -20 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+27 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -20 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (82.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (1.02 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (13.0 kPa).

NKV

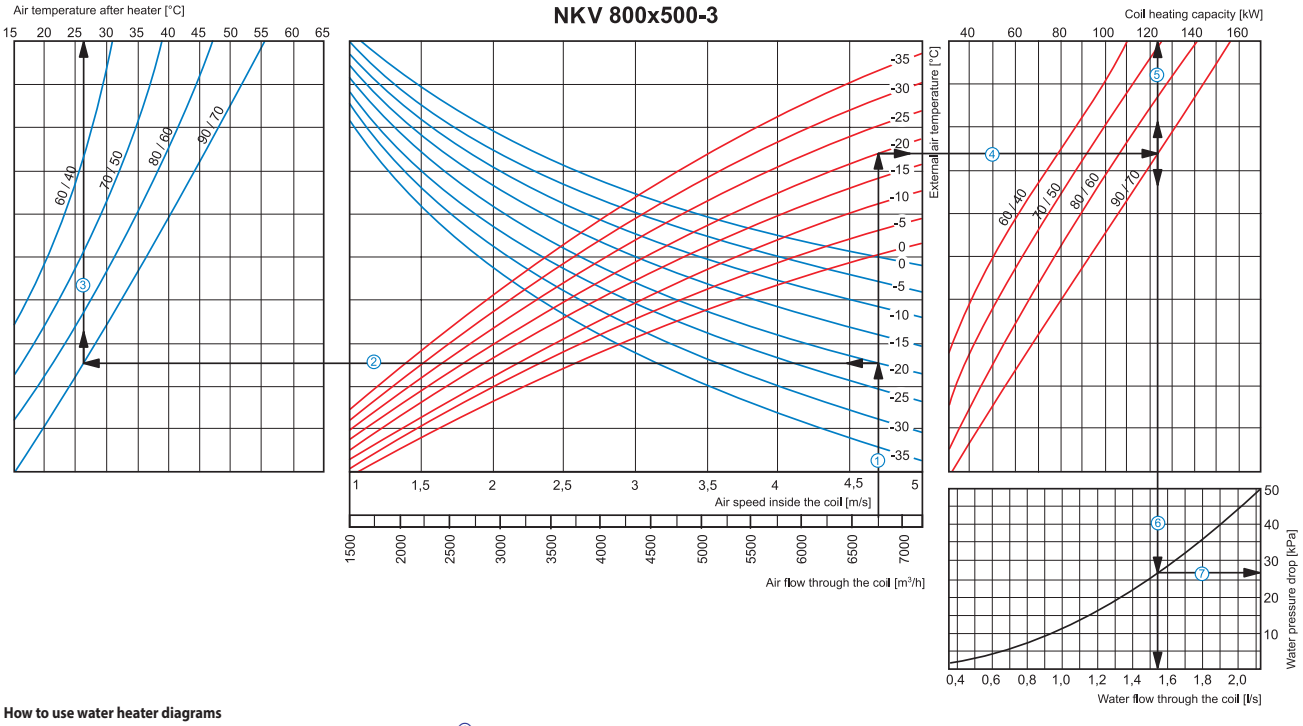


How to use water heater diagrams

Air Speed. Starting from 5500 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 3.8 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -10 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+24.5 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -10 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (73.0 kW).
- water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.9 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (11.0 kPa).

NKV

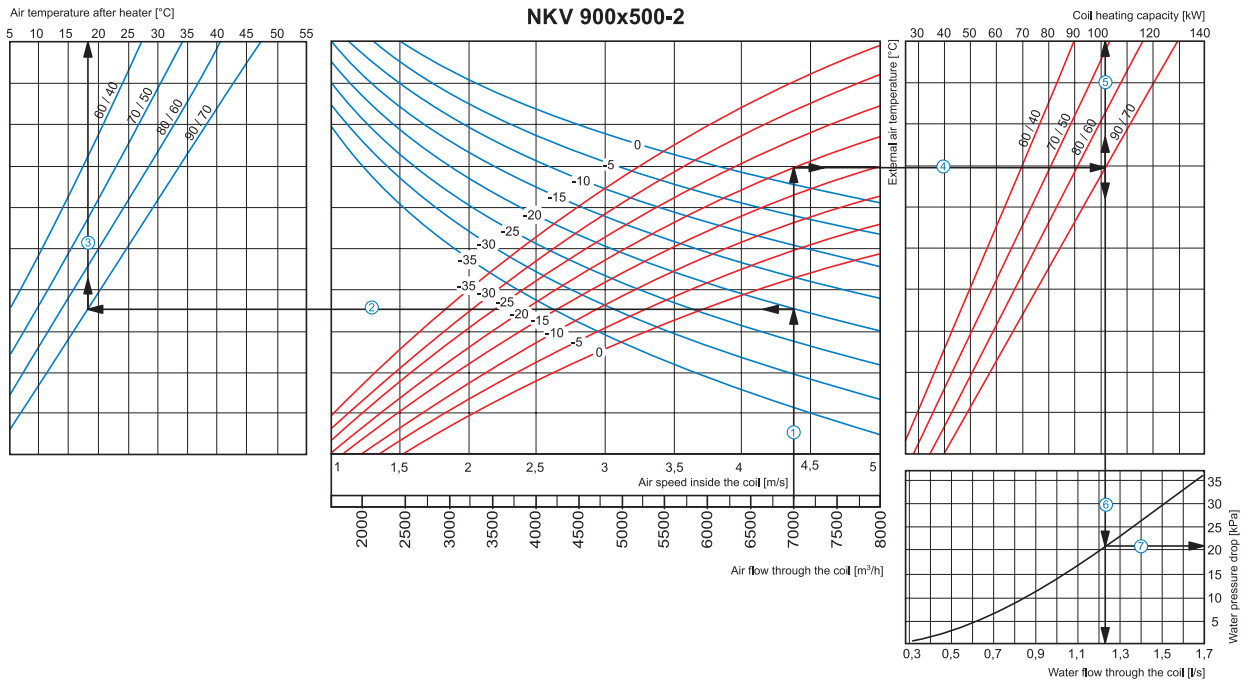


How to use water heater diagrams

Air Speed. Starting from 6750 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 4.7 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -20 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+26 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -20 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (123.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (1.54 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (27.0 kPa).

NKV

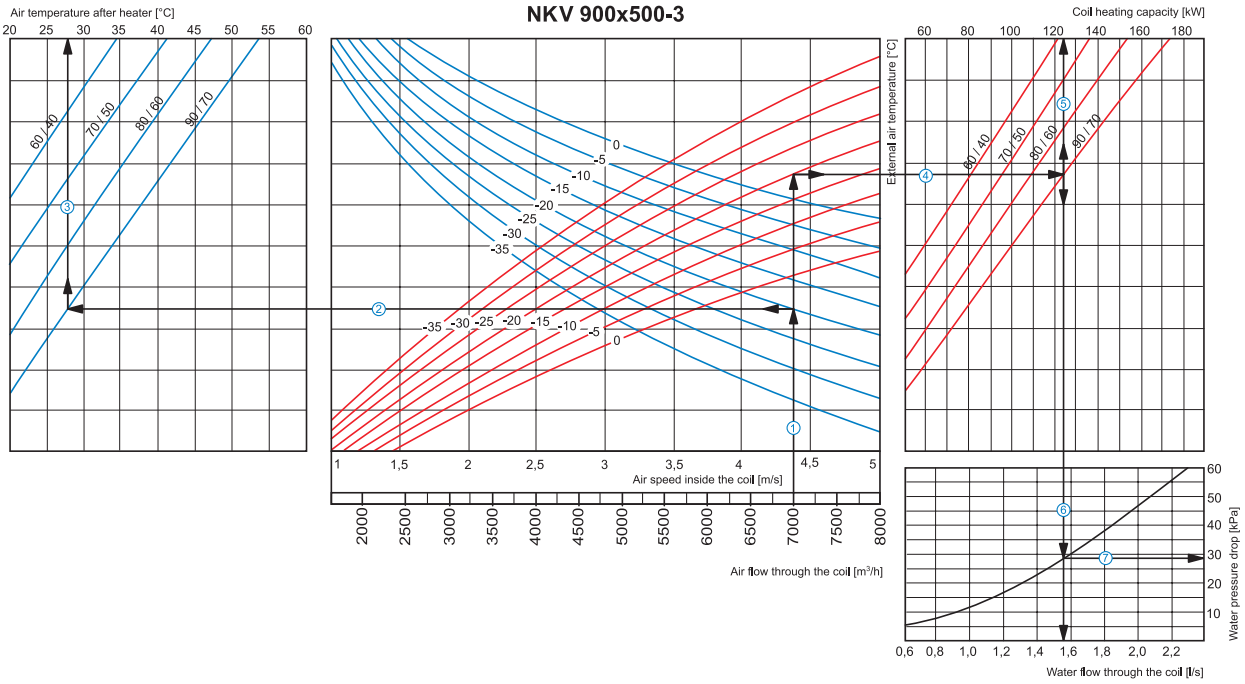


How to use water heating coils diagrams

Air Speed. Starting from 7000 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 4.4 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -20 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+18 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -20 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (102.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (1.23 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (21.0 kPa).

NKV

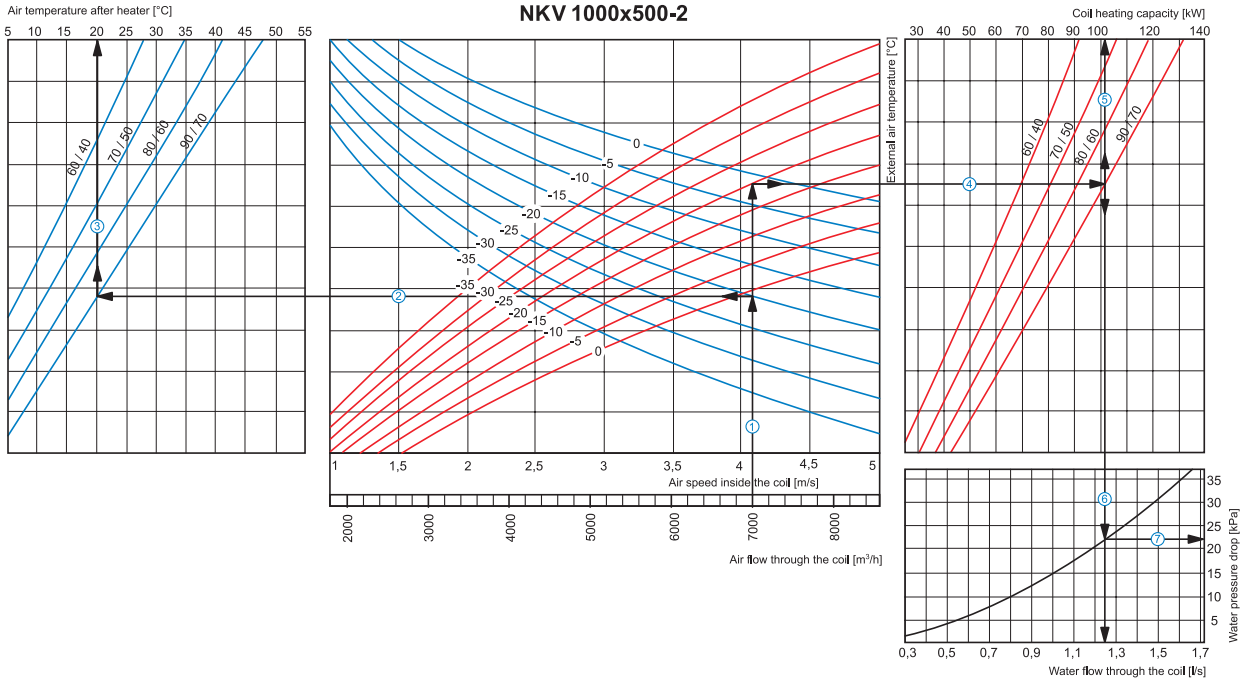


How to use water heater diagrams

Air Speed. Starting from 7000 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 4.4 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -20 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+28 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -20 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (124.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (1.55 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (28.0 kPa).

NKV

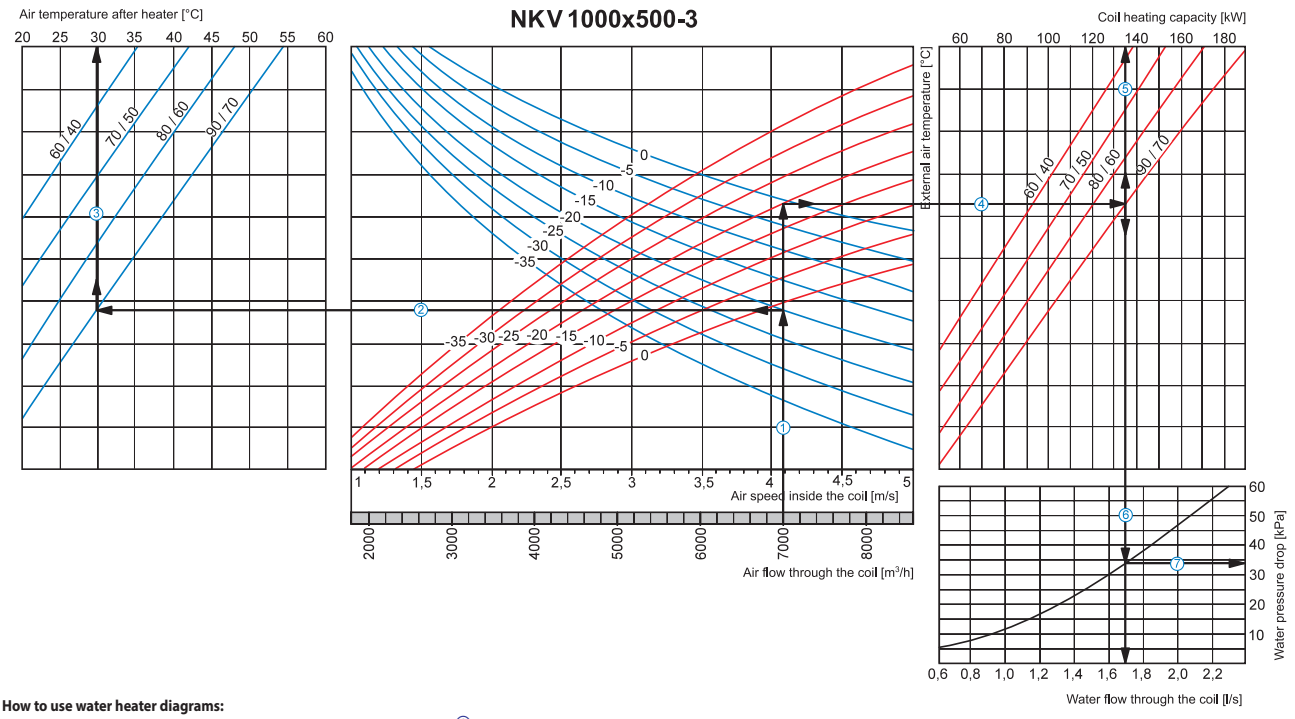


How to use water heater diagrams

Air Speed. Starting from 7000 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 4.1 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -20 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+20 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -20 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (101.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (1.25 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (22.0 kPa).

NKV



How to use water heater diagrams:

Air Speed. Starting from 7000 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 4.1 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -20 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (90/70 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+30 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -20 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 90/70 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (135.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (1.7 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (34.0 kPa).

Series
OKW

Series
OKW1

Applications

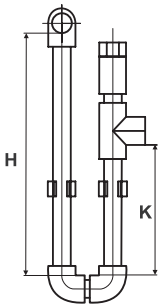
Duct water coil air coolers are designed for cooling of supply air in rectangular ventilation systems and can be applied in supply or supply and exhaust ventilation systems.

Design

The water coolers are available in OKW and OKW1 mofications. The OKW1 cooler has a simplified design. The cooler casing is made of galvanized steel, the manifold is made of copper tubes and the heat exchange surface is made of aluminium plates. The cooling coils are available in 3 rows modification and designed for the maximum operating pressure 1.5 MPa (15 bar). It is equipped with a droplet separator and a drain pan for condensate collection and removal. For OKW and OKW1 models by default the service side is located on the right side from the air stream direction. The OKW cooler service side location can be changed by coil turning by 180°. The OKW1 modification does not have this option.

Mounting

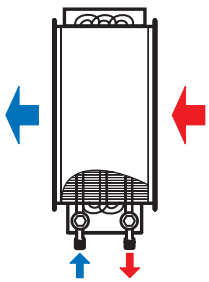
- Mounting is effected by means of flange connection. The water cooling coils can be installed only horizontally to enable the unit deaeration and condensate draining.
- The installation shall be performed in such a way as to enable the uniform air distribution along the entire cross section.
- The air filter shall be installed at the cooler inlet to protect the cooler against dirt and dusting.
- The cooler can be installed both at the fan inlet or outlet. If the cooling coils are located at the fan outlet the air duct between the cooler and the fan shall have the lehgth 1 to 1.5 m to ensure the air flow stabilization.
- To attain the maximum cooling capacity the cooler must be connected on counter-flow basis. All the nomographic charts in the catalogue are valid for such connection.
- If water serves as a cooling agent, the coolers are suitable for indoor installation only in the premises with the indoor temperature not below 0 °C. For outdoor installation use an antifreeze mixture, i.e.ethylene glycol solution.
- The droplet separator is made of polypropylene profile and prevents condensate dripping from the cooling tubes by the cooling air flow. While selecting a cooler type consider that the most suitable speed of the air flow for the efficient droplet separator operation is up to 4 m/s.
- Condensate drain from the cooler shall be performed through the U-trap. The U-trap height depends on the total pressure in the fan and can be calculated using the figures and the table below.



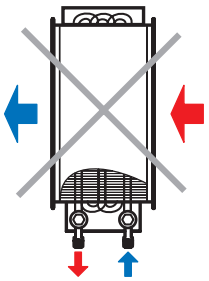
H [mm]	K [mm]	P [Pa]
100	55	600
200	105	1100
260	140	1400

H – U-trap height
K – drain height
P – total pressure in the fan

- To ensure the correct and safe cooler operation use the automation system providing the complex control and automatic regulation of the cooling capacity and air cooling temperature.



Counter flow connection



Parallel flow connection

Designation key

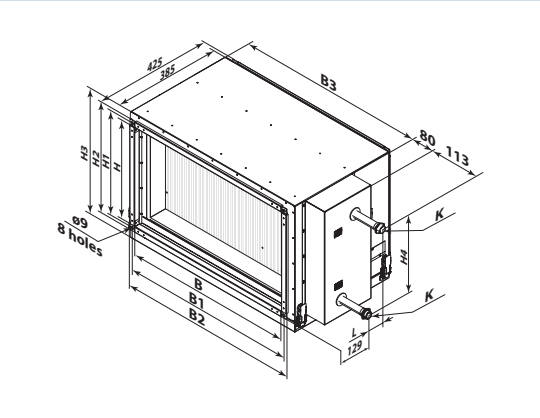
Series	Flange dimensions (WxH) [mm]	-	Number of cooling coils
OKW/OKW1	400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500		3

Accessories

page 424

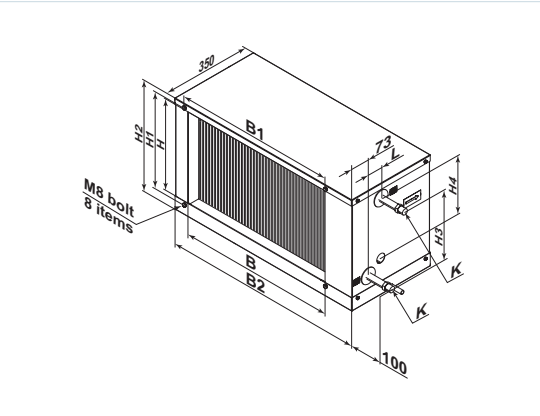
Overall dimensions

Type	Dimensions [mm]										
	B	B1	B2	B3	H	H1	H2	H3	H4	L	K (inch)
OKW 400x200-3	400	420	440	470	200	220	240	295	124	56	G 3/4″
OKW 500x250-3	500	520	540	570	250	270	290	345	188	45	G 3/4″
OKW 500x300-3	500	520	540	570	300	320	340	395	252	56	G 3/4″
OKW 600x300-3	600	620	640	670	300	320	340	395	252	56	G 3/4″
OKW 600x350-3	600	620	640	670	350	370	390	445	268	56	G 3/4″
OKW 700x400-3	700	720	740	770	400	420	440	495	314	56	G 3/4″
OKW 800x500-3	800	820	840	870	500	520	540	595	442	56	G 3/4″
OKW 900x500-3	900	920	940	970	500	520	540	595	442	56	G 3/4″
OKW 1000x500-3	1000	1020	1040	1070	500	520	540	595	442	56	G 1″



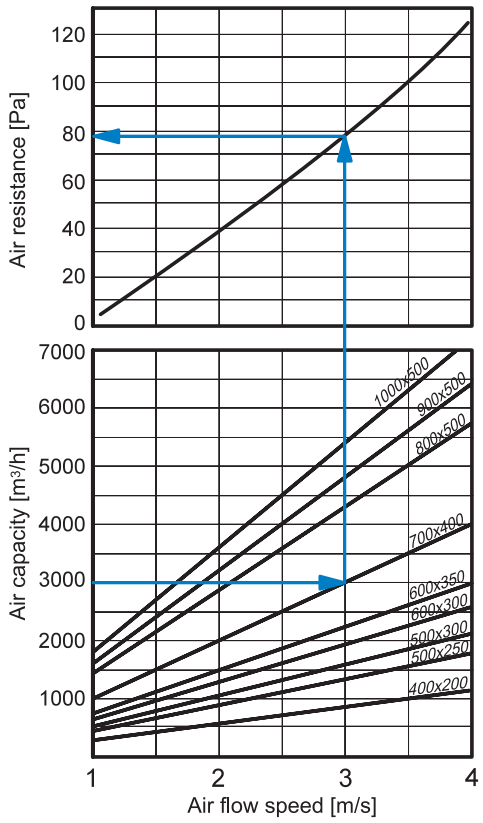
Overall dimensions

Type	Dimensions [mm]									
	B	B1	B2	H	H1	H2	H3	H4	L	K (inch)
OKW1 400x200-3	400	420	580	200	220	270	124	70	56	G 3/4"
OKW1 500x250-3	500	520	680	250	270	320	188	102	45	G 3/4"
OKW1 500x300-3	500	520	680	300	320	370	252	70	56	G 3/4"
OKW1 600x300-3	600	620	780	300	320	370	252	134	56	G 3/4"
OKW1 600x350-3	600	620	780	350	370	420	268	229	56	G 3/4"
OKW1 700x400-3	700	720	880	400	420	470	314	196	56	G 3/4"
OKW1 800x500-3	800	820	980	500	520	570	442	324	56	G 3/4"
OKW1 900x500-3	900	920	1080	500	520	570	442	324	56	G 3/4"
OKW1 1000x500-3	1000	1020	1180	500	520	570	442	324	56	G 1"



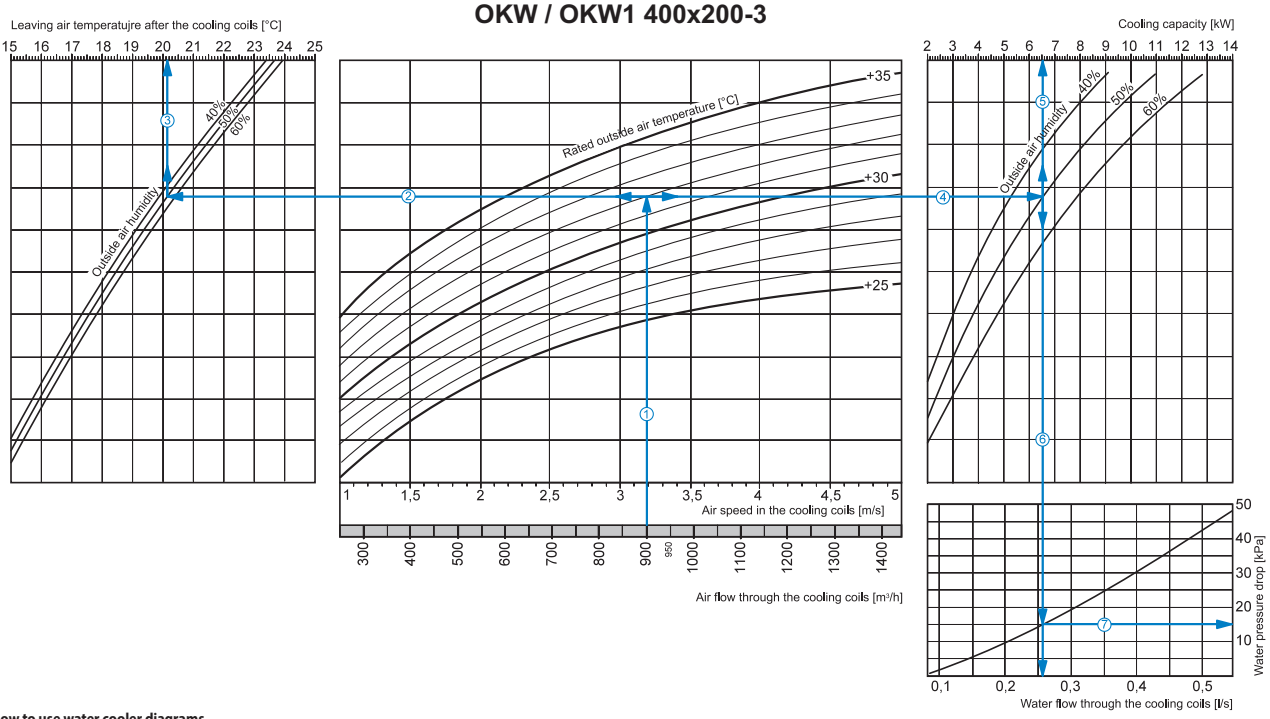
Air pressure loss in water coolers

Rectangular OKW / OKW1 series



OKW/OKW1

OKW / OKW1 400x200-3



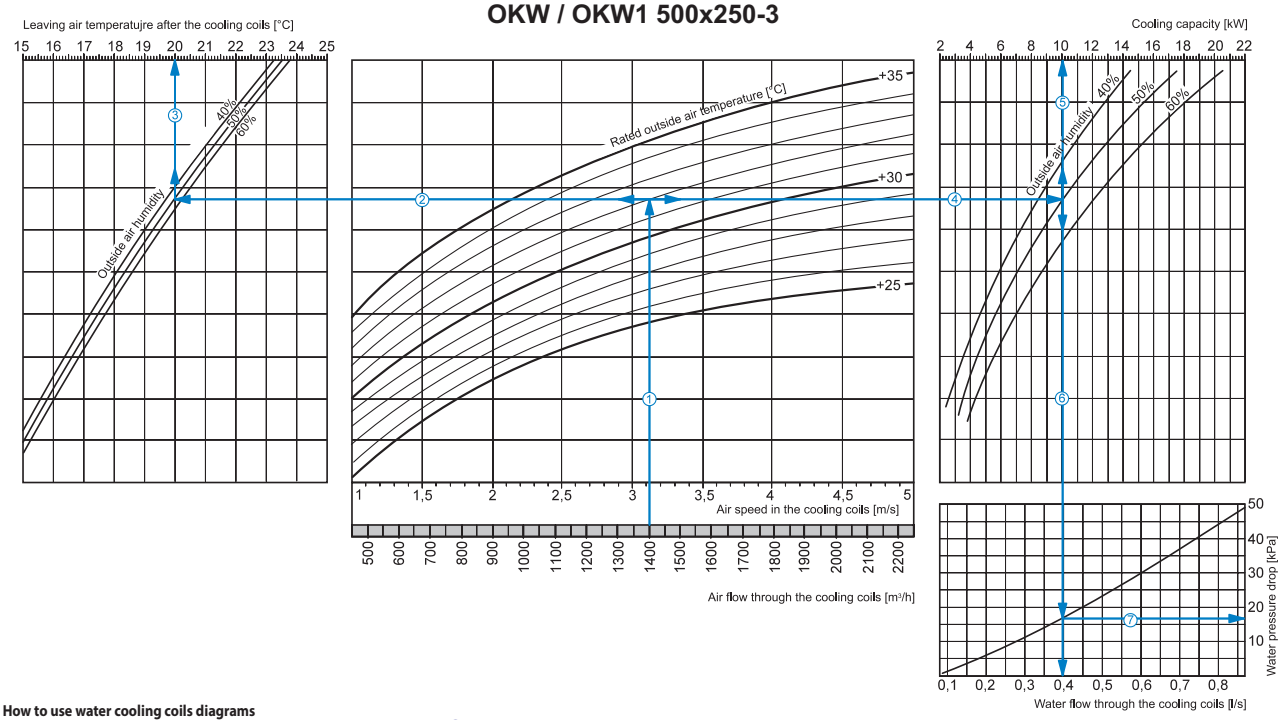
How to use water cooler diagrams

Air Speed. Starting from 900 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 3.2 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+20.1 °C).
- Cooling capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooler capacity (6.5 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.26 l/s).
- Water pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (15.0 kPa).

OKW/OKW1

OKW / OKW1 500x250-3



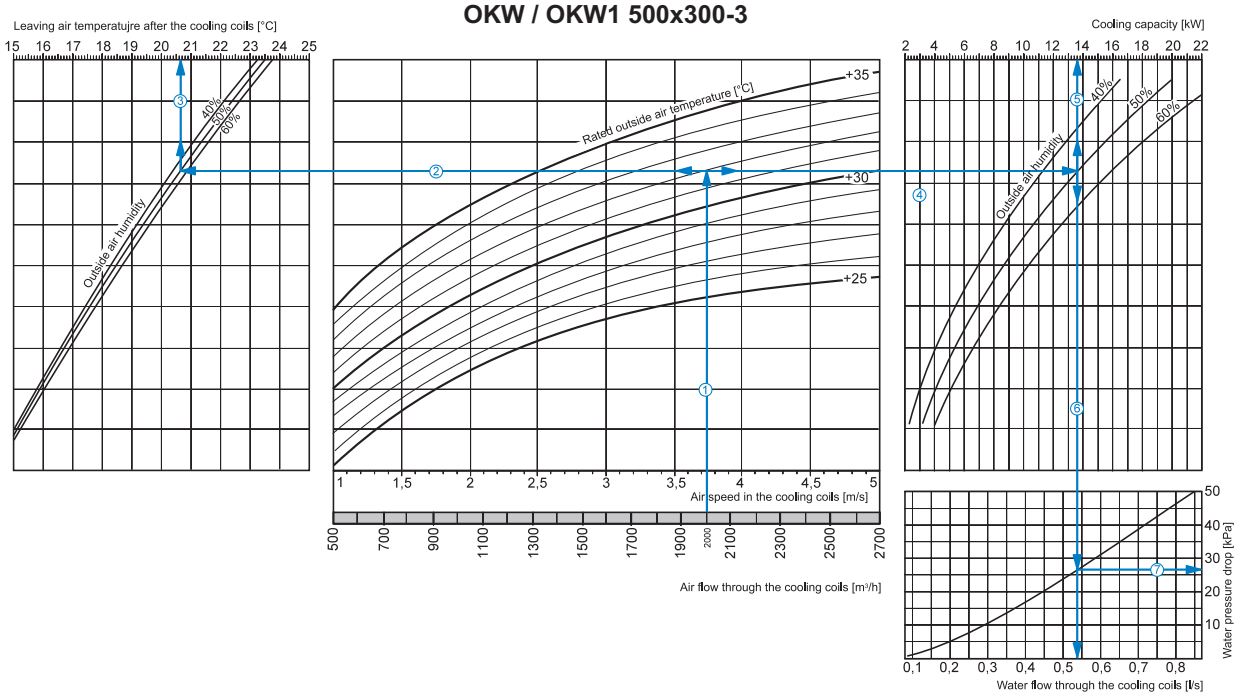
How to use water cooling coils diagrams

Air Speed. Starting from 1400 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 3.1 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+20 °C).
- Cooling capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (10.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.4 l/s).
- Water pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (17.0 kPa).

OKW/OKW1

OKW / OKW1 500x300-3



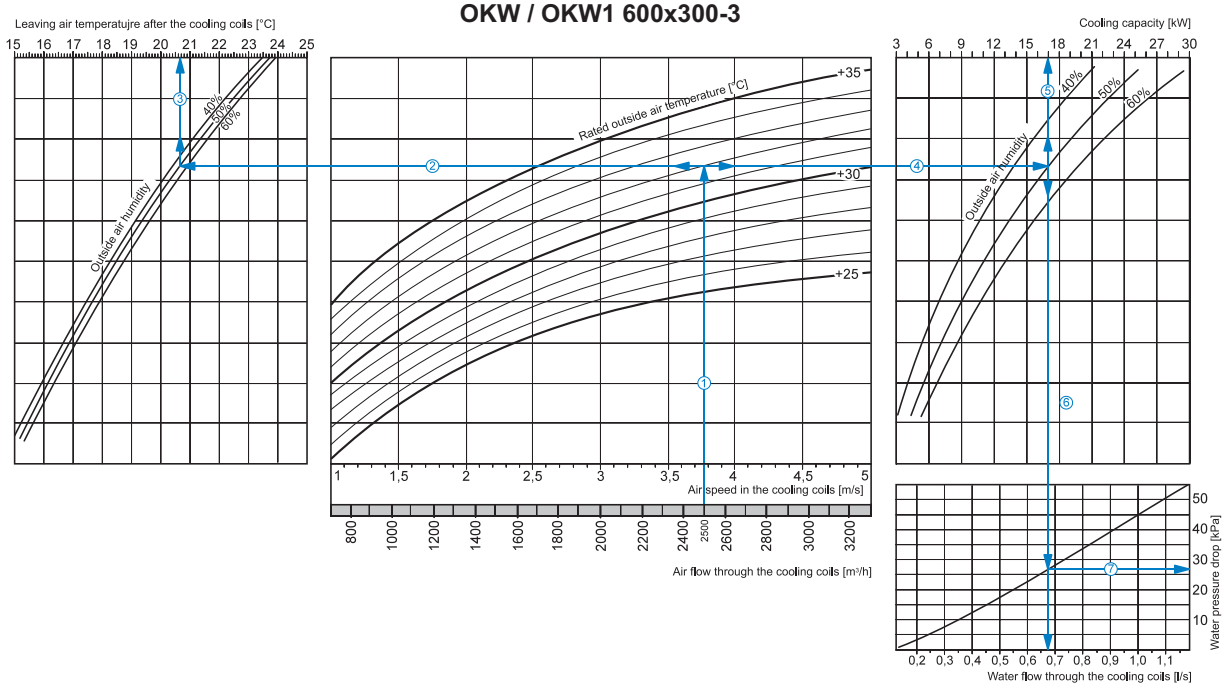
How to use water cooler diagrams

Air Speed. Starting from 2000 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 3.75 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+20.6 °C).
- Cooling capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (13.6 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.54 l/s).
- Water pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (27.0 kPa).

OKW/OKW1

OKW / OKW1 600x300-3



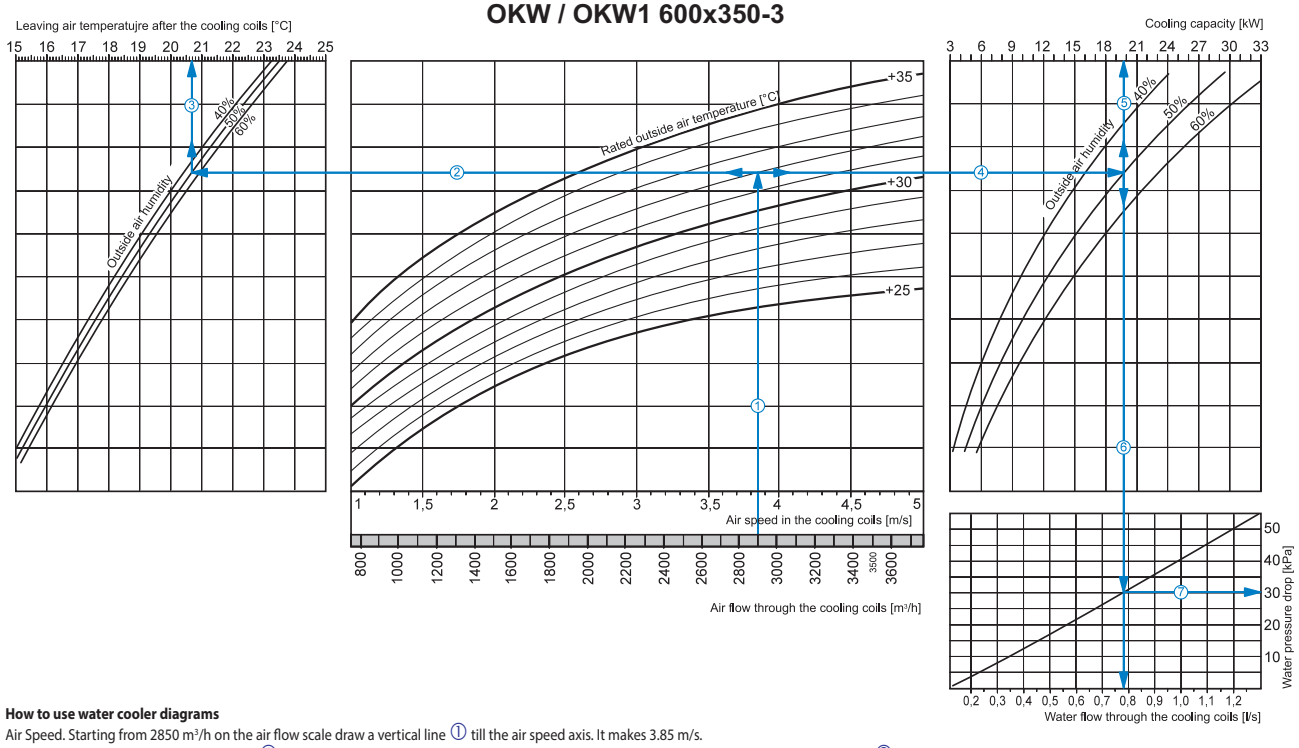
How to use water cooler diagrams

Air Speed. Starting from 2500 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 3.75 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+20.7 °C).
- Cooling capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (17.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.68 l/s).
- Water pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (27.0 kPa).

OKW/OKW1

OKW / OKW1 600x350-3



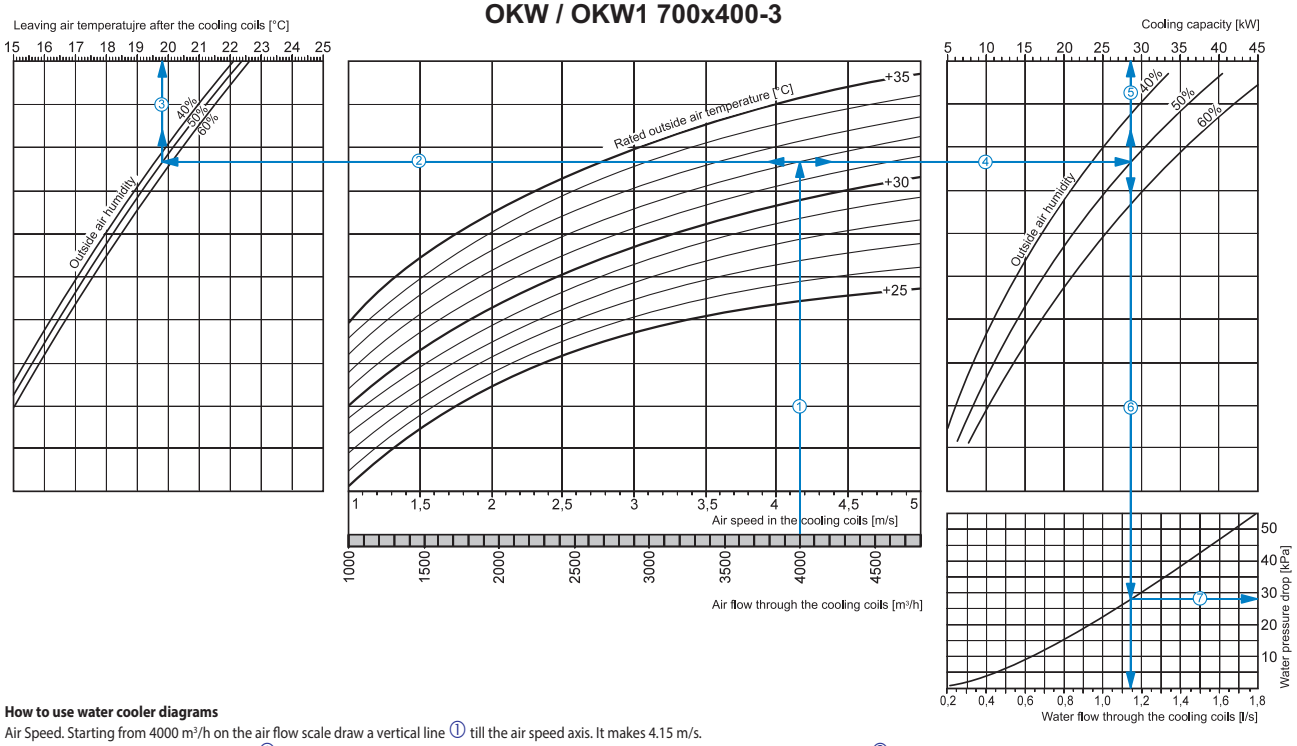
How to use water cooler diagrams

Air Speed. Starting from 2850 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 3.85 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+20.7 °C).
- Cooling capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (19.8 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.78 l/s).
- Water pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (30.0 kPa).

OKW/OKW1

OKW / OKW1 700x400-3



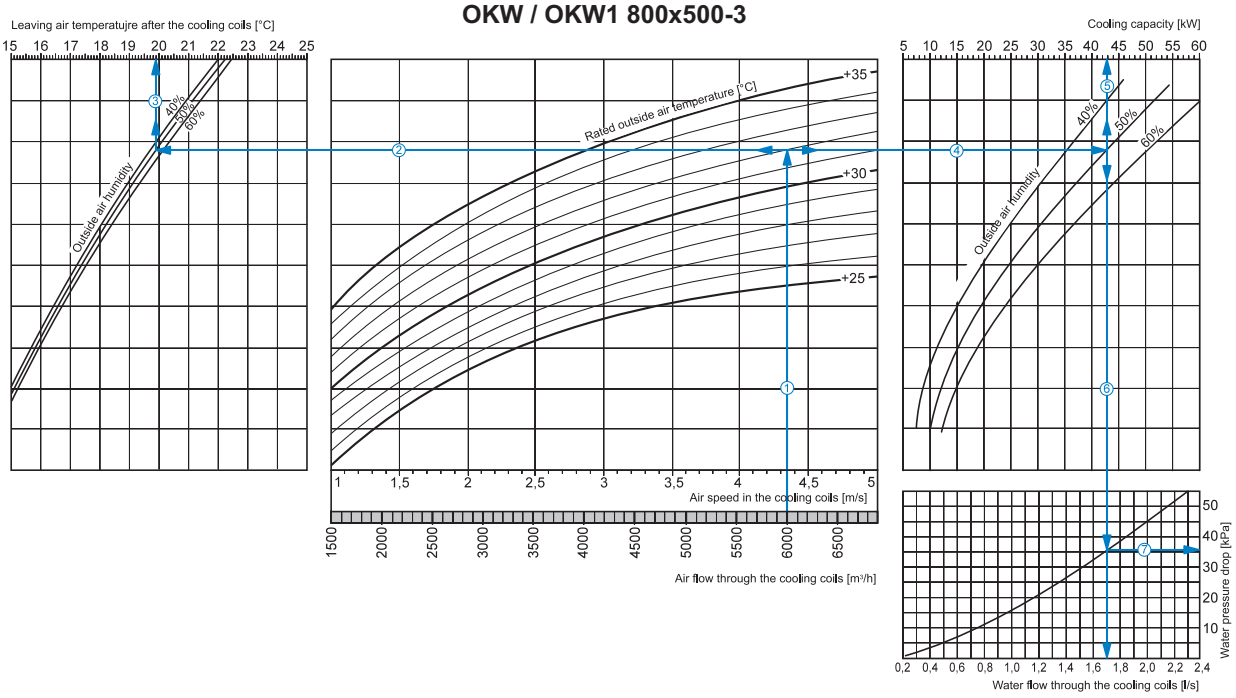
How to use water cooler diagrams

Air Speed. Starting from 4000 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 4.15 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+19.8 °C).
- Cooling capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (28.5 kW).
- water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (1.14 l/s).
- Water pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (28.0 kPa).

OKW/OKW1

OKW / OKW1 800x500-3



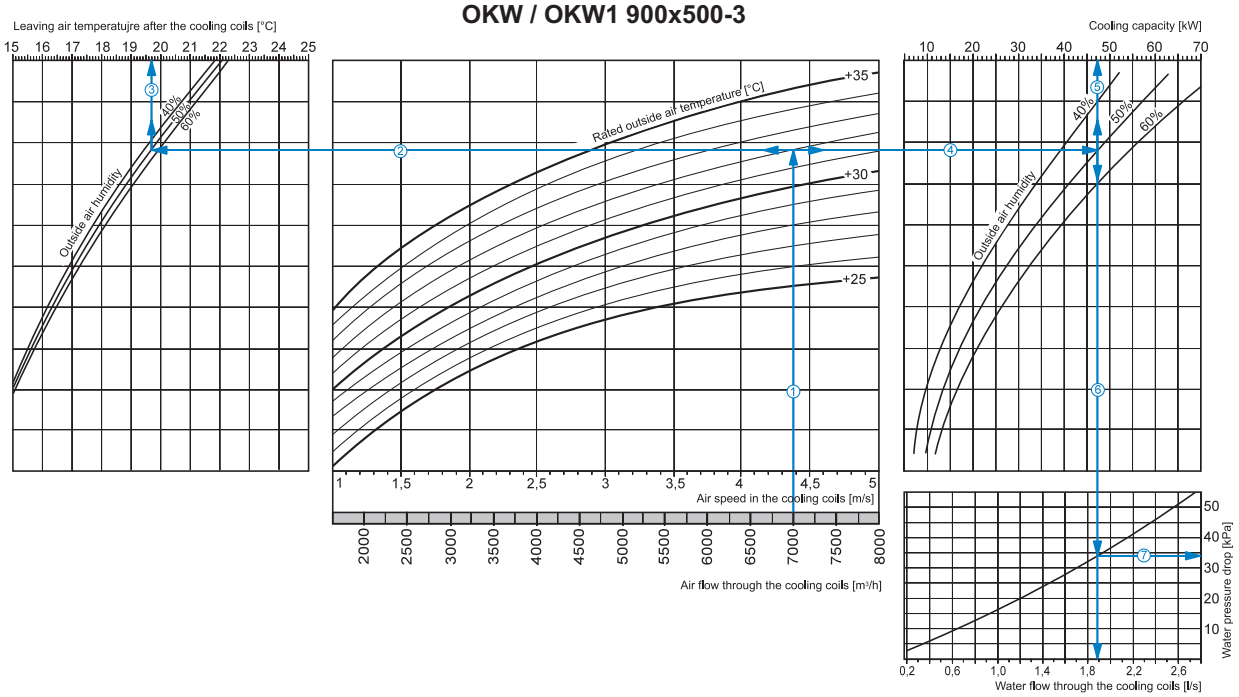
How to use water cooler diagrams

Air Speed. Starting from 6000 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 4.35 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+19.9 °C).
- Cooling capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (43 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (1.7 l/s).
- Water pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (36.0 kPa).

OKW/OKW1

OKW / OKW1 900x500-3

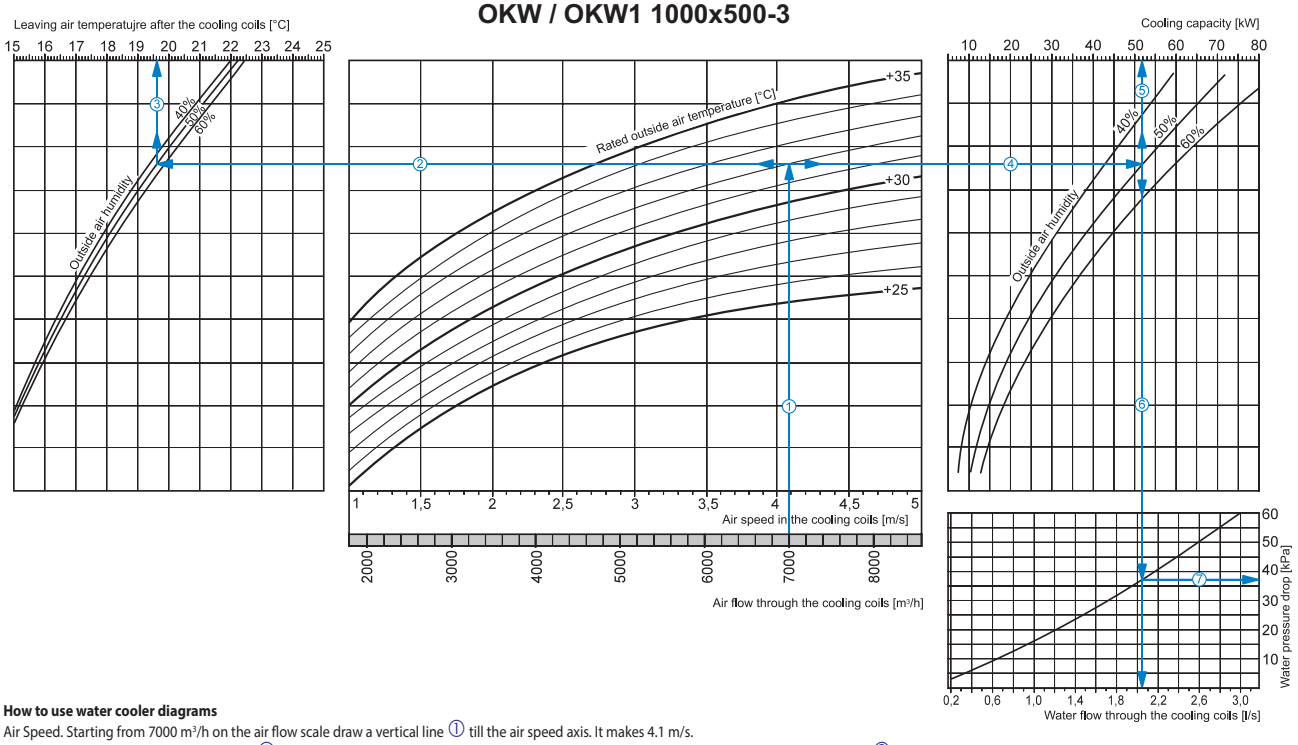


How to use water cooler diagrams

Air Speed. Starting from 7000 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 4.4 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+19.7 °C).
- Cooling capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (47.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (1.9 l/s).
- Water pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (34.0 kPa).

OKW / OKW1 1000x500-3



How to use water cooler diagrams

Air Speed. Starting from 7000 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 4.1 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+19.6 °C).
- Cooling capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +32 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (52.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (2.05 l/s).
- Water pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (37.0 kPa).

Series
OKF

Series
OKF1

Applications

Direct-expansion duct coolers are designed for cooling of supply air in rectangular ventilation systems and can be used either for supply or supply and exhaust units.

Design

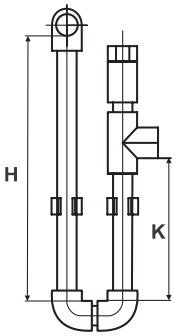
The DX coolers are available in OKF and OKF1 mofications. The OKF1 cooler has a simplified design.

The cooler casing is made of galvanized steel, the piping is made of copper tubes and the heat exhange surface is made of aluminium plates. The coolers are available in 3 rows modification and designed for operation with R123, R134a, R152a, R404a, R407c, R410a, R507, R12, R22, R32 cooling agents. It is equipped with a droplet separator and a drain pan for condensate collection and removal.

For OKF and OKF1 models by default the service side is located on the right side from the air stream direction. The OKF cooler service side location can be changed by coil turning by 180°. The OKF1 modification does not have this option.

Mounting

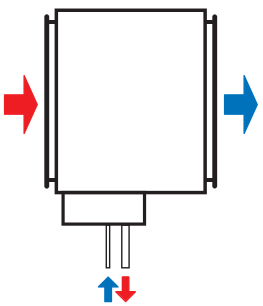
- Mounting is effected by means of flange connection. Direct-expansion cooling coils, can be installed horizontally only to enable the condensate draining.
- Installation shall be performed in such a way as to provide the uniform air srteam distribution along the entire cross section.
- The air filter shall be installed at the cooler inlet to ensure the cooler protection against dirt and dusting.
- The cooler can be installed at the fan inlet or outlet. If the cooler is located at the fan outlet the air duct between the cooler and the fan shall be at least 1-1.5 m long to ensure the air stream stabilization.
- To attain the maximum cooling capacity the cooler must be connected on counter-flow basis. All the nomographic charts in the catalogue are valid for such connection.
- The droplet separator is made of polypropylene profile and prevents condensate dripping from the cooling tubes by the cooling air flow. While selecting a cooler type consider that the most suitable speed of the air flow for the efficient droplet separator operation is up to 4 m/s.
- Condensate draining from the cooler shall be performed through the U-trap. The U-trap height depends on the total pressure in the fan. The trap height can be calculated using the figure and the table below.



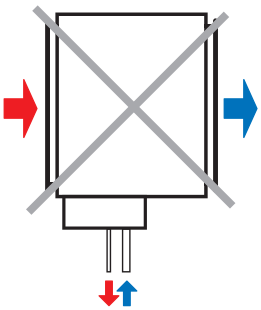
H [mm]	K [mm]	P [Pa]
100	55	600
200	105	1100
260	140	1400

H _ trap height
K _ drain height
P _ total pressure in the fan

- To ensure the correct and safe cooler operation use the automation system providing the complex control and automatic regulation of the cooling capacity and air cooling temperature.



Counterflow connection



Parallel flow connection

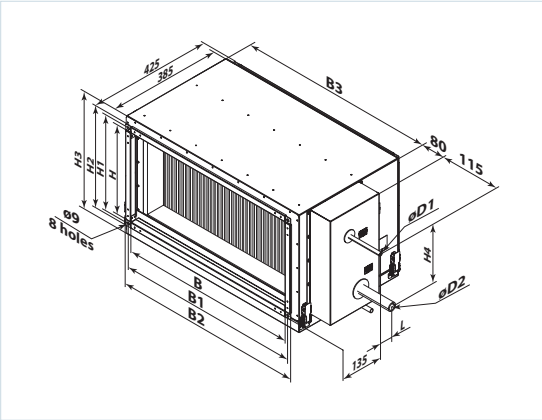
Series	Flange dimensions (WxH) [mm]	-	Number of cooling coils
OKF/OKF1	400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500		3

Designation key

Series	Flange dimensions (WxH) [mm]	-	Number of cooling coils	-	Modification (for OKF1)
OKF/OKF1	400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500		3		_: right-handed L: left-handed

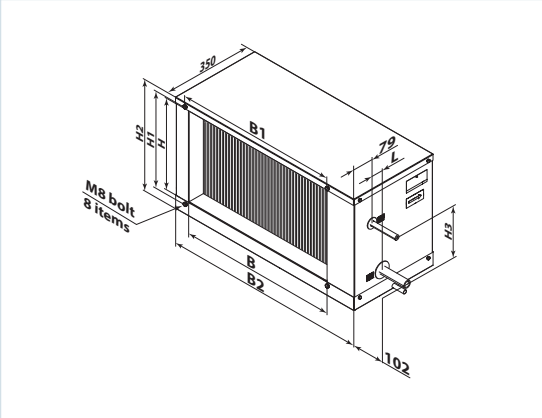
Overall dimensions

Type	Dimensions [mm]											
	B	B1	B2	B3	H	H1	H2	H3	H4	L	D1	D2
OKF 400x200-3	400	420	440	470	200	220	240	295	103	44	12	22
OKF 500x250-3	500	520	540	570	250	270	290	345	155	44	12	22
OKF 500x300-3	500	520	540	570	300	320	340	395	210	33	12	22
OKF 600x300-3	600	620	640	670	300	320	340	395	199	44	18	28
OKF 600x350-3	600	620	640	670	350	370	390	445	199	44	18	28
OKF 700x400-3	700	720	740	770	400	420	440	495	224	44	22	28
OKF 800x500-3	800	820	840	870	500	520	540	595	340	44	22	28
OKF 900x500-3	900	920	940	970	500	520	540	595	340	44	22	28
OKF 1000x500-3	1000	1020	1040	1070	500	520	540	595	325	44	22	28



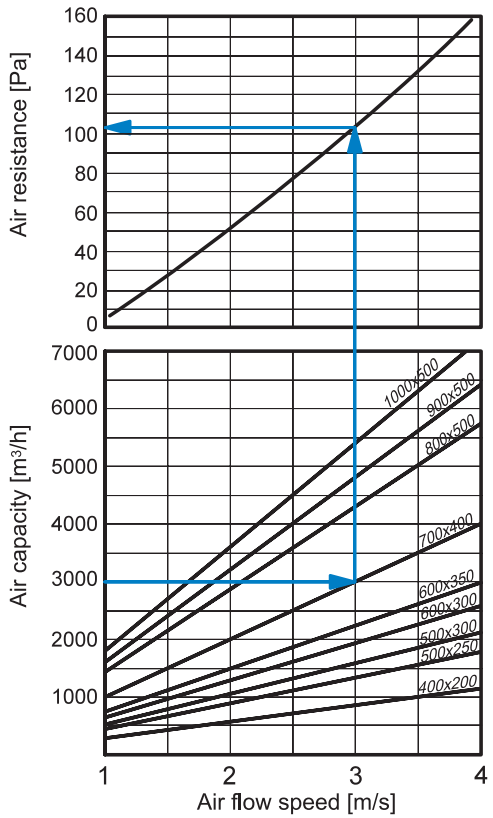
Overall dimensions

Type	Dimensions [mm]									
	B	B1	B2	H	H1	H2	H3	L	D1	D2
OKF1 400x200-3	400	420	580	200	220	270	103	44	12	22
OKF1 500x250-3	500	520	680	250	270	320	155	44	12	22
OKF1 500x300-3	500	520	680	300	320	370	210	33	12	22
OKF1 600x300-3	600	620	780	300	320	370	199	44	18	28
OKF1 600x350-3	600	620	780	350	370	420	199	44	18	28
OKF1 700x400-3	700	720	880	400	420	470	224	44	22	28
OKF1 800x500-3	800	820	980	500	520	570	340	44	22	28
OKF1 900x500-3	900	920	1080	500	520	570	340	44	22	28
OKF1 1000x500-3	1000	1020	1180	500	520	570	325	44	22	28



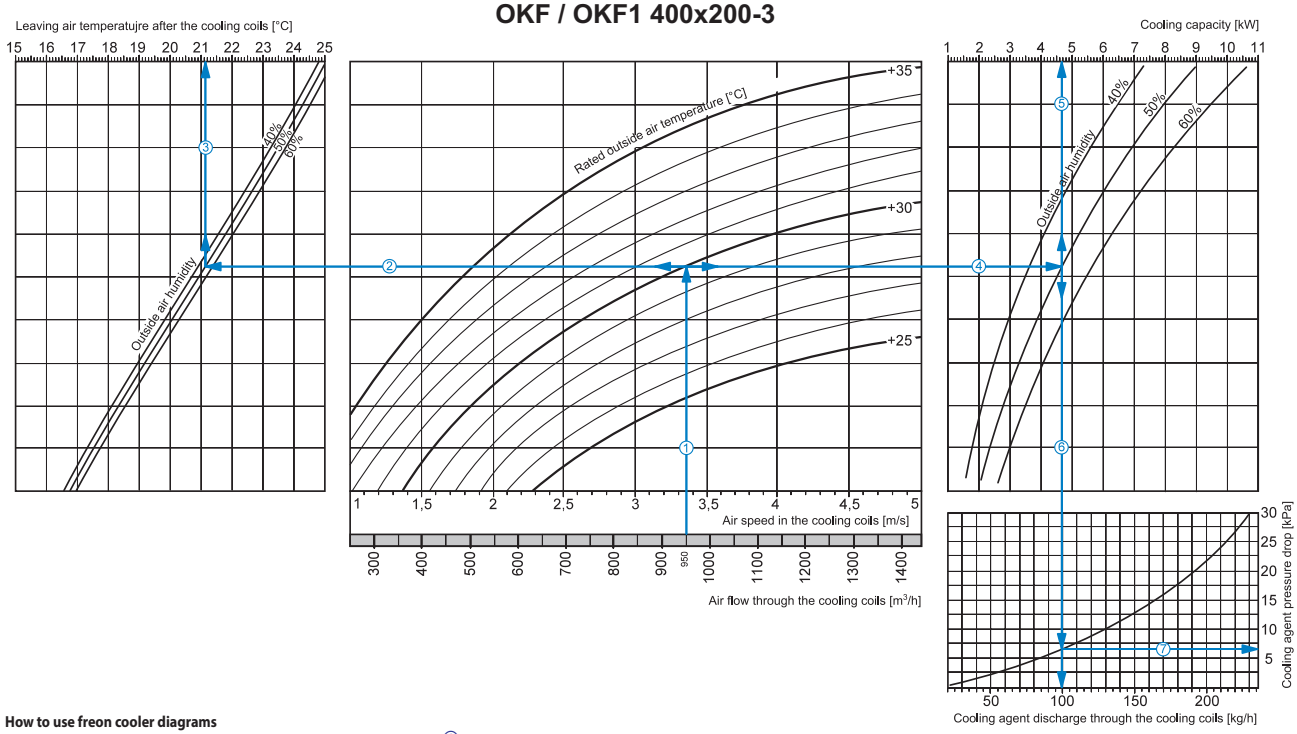
Air pressure losses in freon coolers

Rectangular OKF / OKF1 series



OKF/OKF1

OKF / OKF1 400x200-3



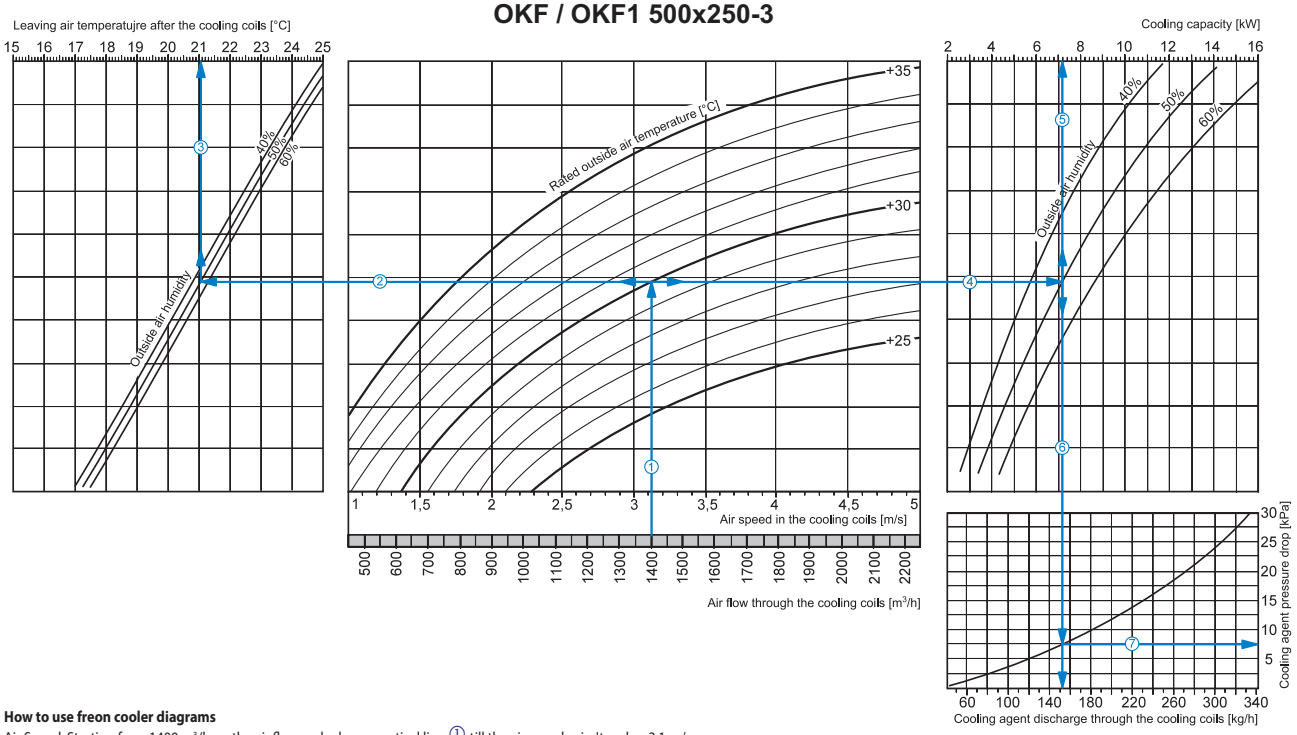
How to use freon cooler diagrams

Air Speed. Starting from 950 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 3.35 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+21.1 °C)
- Cooling capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (4.7 kW).
- Cooling agent discharge. Prolong the line ⑤ down to cooling agent discharge axis at the bottom of the graphic ⑥ (100 kg/hour).
- Cooling agent pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (6.5 kPa).

OKF/OKF1

OKF / OKF1 500x250-3



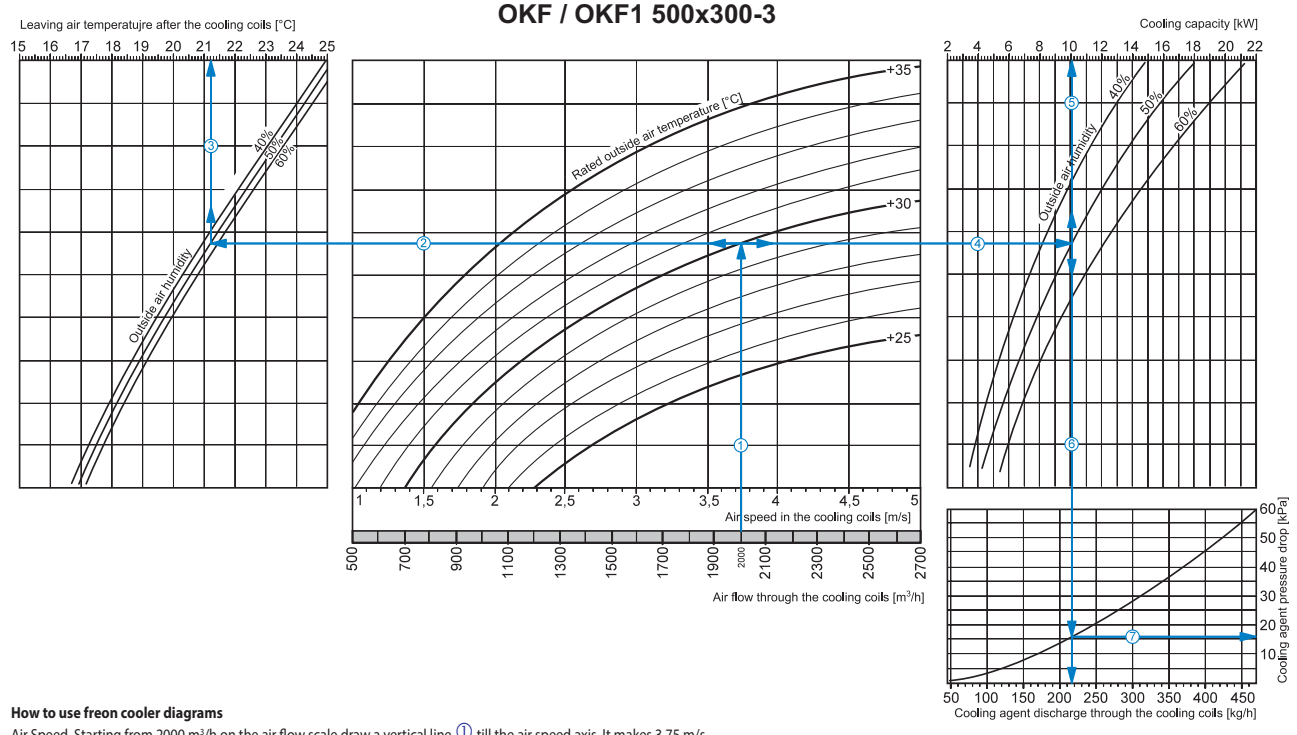
How to use freon cooler diagrams

Air Speed. Starting from 1400 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 3.1 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+21.2 °C).
- Cooling capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (7.2 kW).
- Cooling agent discharge. Prolong the line ⑤ down to cooling agent discharge axis at the bottom of the graphic ⑥ (152 kg/hour).
- Cooling agent pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (7.5 kPa).

OKF/OKF1

OKF / OKF1 500x300-3



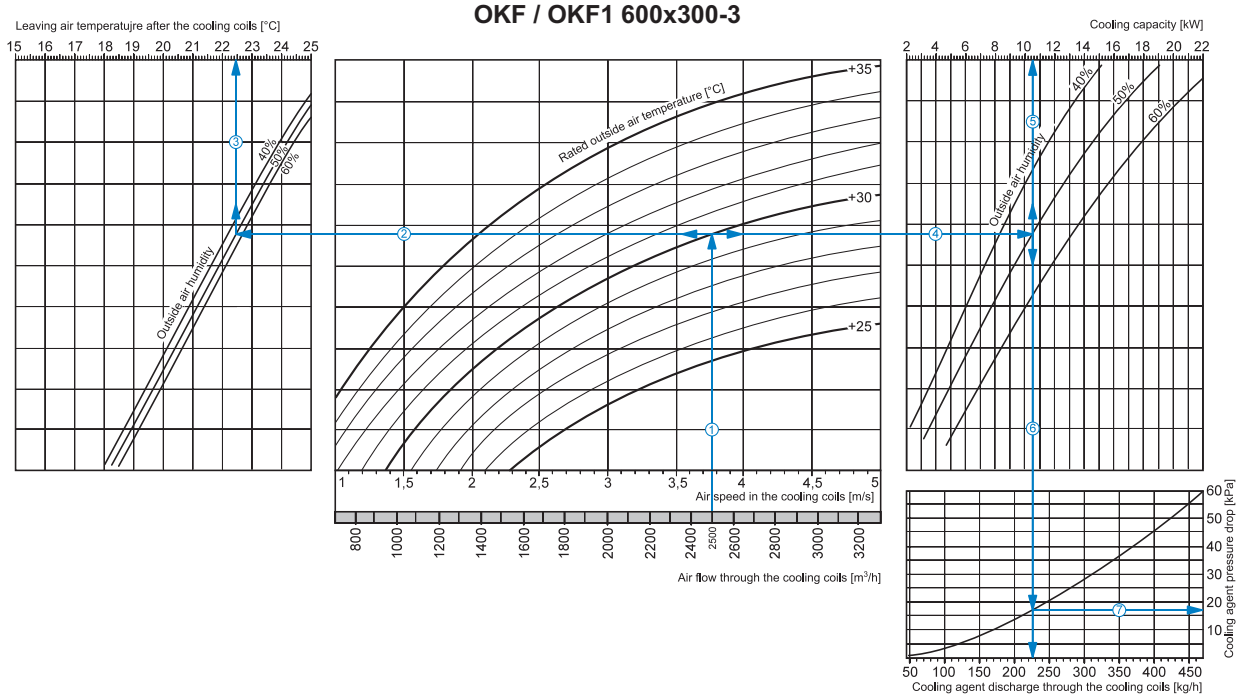
How to use freon cooler diagrams

Air Speed. Starting from 2000 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 3.75 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+21.2 °C).
- Cooling capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (10 kW).
- Cooling agent discharge. Prolong the line ⑤ down to cooling agent discharge axis at the bottom of the graphic ⑥ (215 kg/hour).
- Cooling agent pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (16.0 kPa).

OKF/OKF1

OKF / OKF1 600x300-3



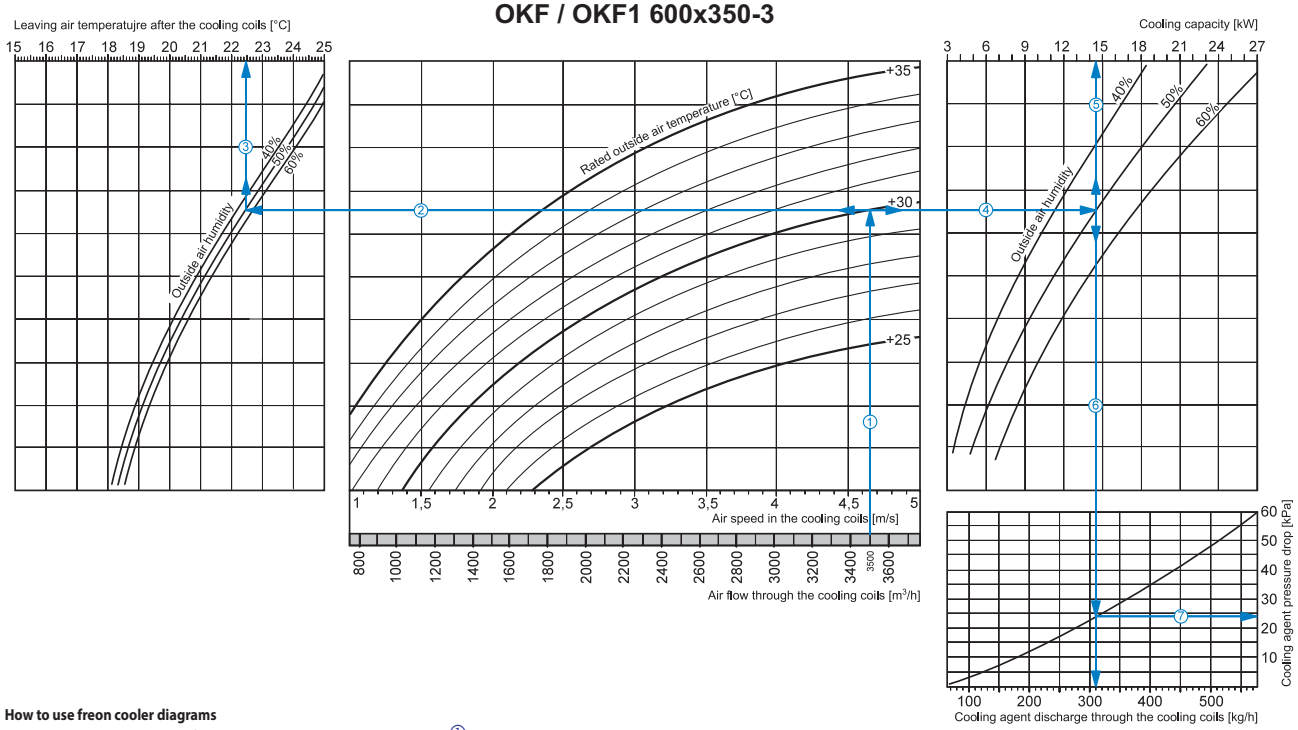
How to use freon cooler diagrams

Air Speed. Starting from 2500 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 3.75 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+22.5 °C).
- Cooling coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (10.5 kW).
- Cooling agent discharge. Prolong the line ⑤ down to cooling agent discharge axis at the bottom of the graphic ⑥ (225 kg/hour).
- Cooling agent pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (17.0 kPa).

OKF/OKF1

OKF / OKF1 600x350-3



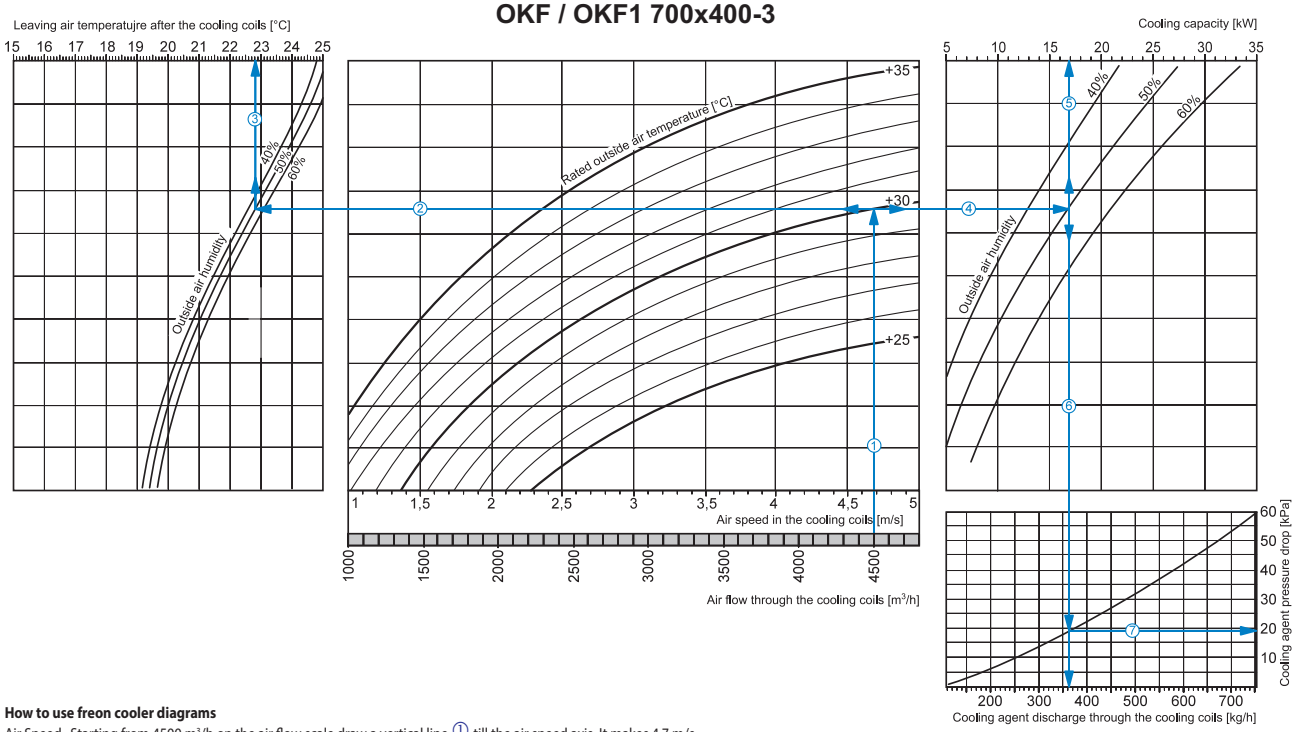
How to use freon cooler diagrams

Air Speed. Starting from 3500 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 4.65 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+22.5 °C).
- Cooling coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (14.5 kW).
- Cooling agent discharge. Prolong the line ⑤ down to cooling agent discharge axis at the bottom of the graphic ⑥ (310 kg/hour).
- Cooling agent pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (24.0 kPa).

OKF/OKF1

OKF / OKF1 700x400-3



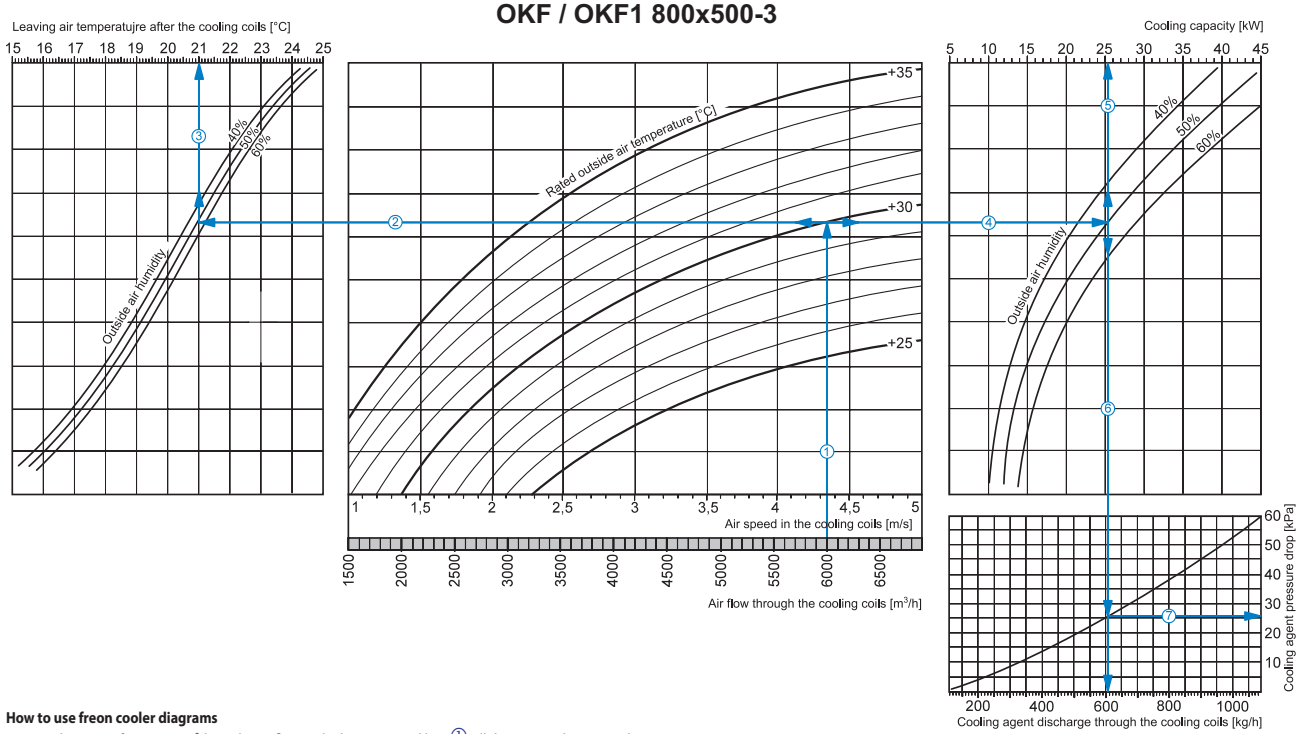
How to use freon cooler diagrams

Air Speed. Starting from 4500 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 4.7 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+22.8 °C).
- Cooling coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (17.0 kW).
- Cooling agent discharge. Prolong the line ⑤ down to cooling agent discharge axis at the bottom of the graphic ⑥ (360 kg/hour).
- Cooling agent pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (19.0 kPa).

OKF/OKF1

OKF / OKF1 800x500-3



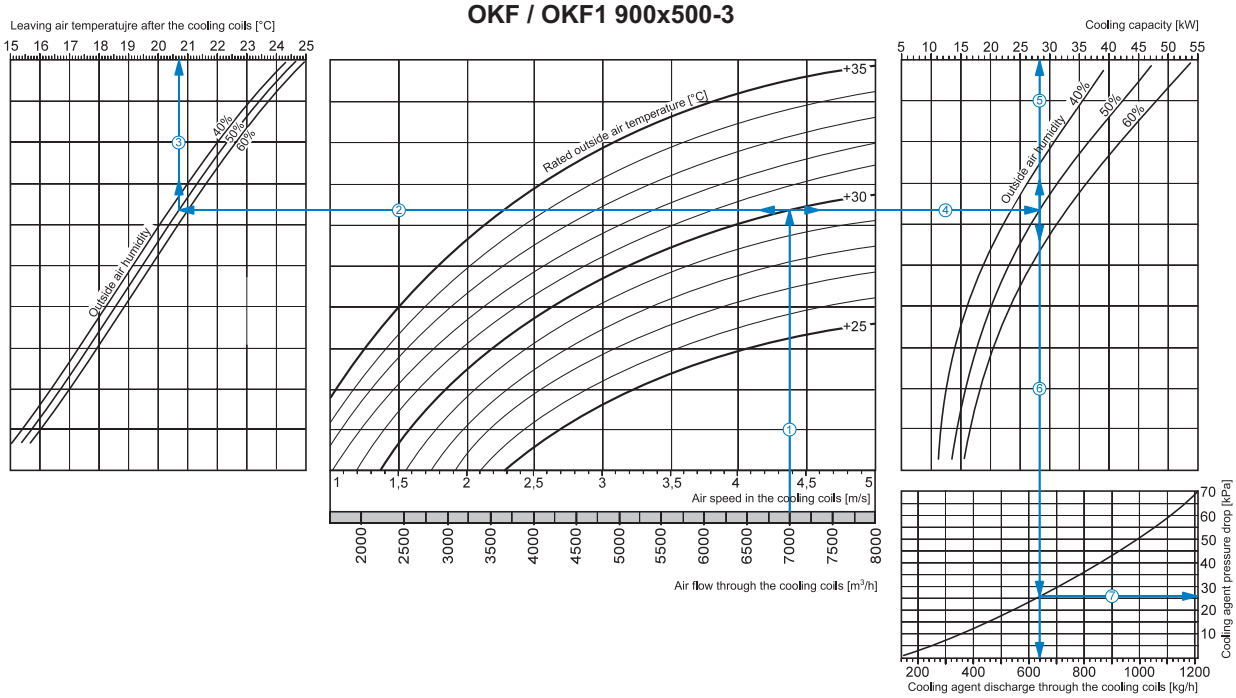
How to use freon cooler diagrams

Air Speed. Starting from 6000 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 4.35 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+21.0 °C).
- Cooling coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (25.5 kW).
- Cooling agent discharge. Prolong the line ⑤ down to cooling agent discharge axis at the bottom of the graphic ⑥ (605 kg/hour).
- Cooling agent pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (26.0 kPa).

OKF/OKF1

OKF / OKF1 900x500-3



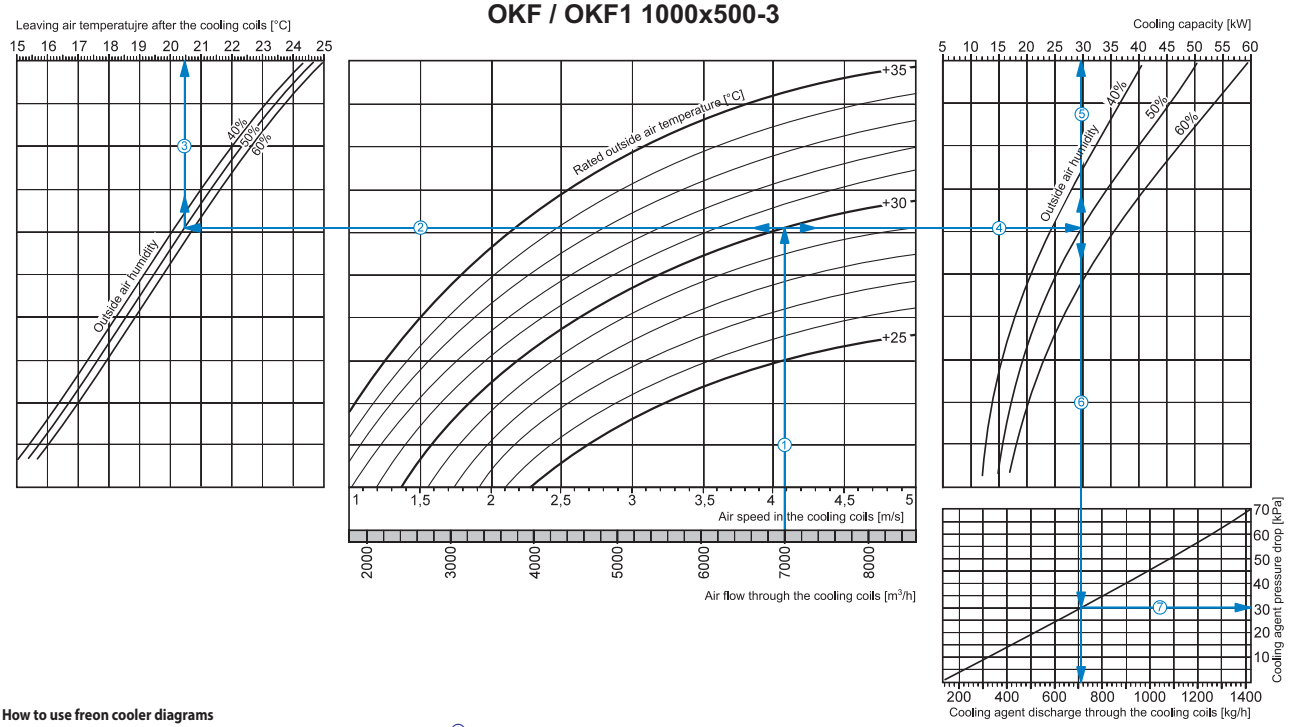
How to use freon cooler diagrams

Air Speed. Starting from 7000 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 4.4 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+20.7 °C).
- Cooling coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (28.0 kW).
- Cooling agent discharge. Prolong the line ⑤ down to cooling agent discharge axis at the bottom of the graphic ⑥ (640 kg/hour).
- Cooling agent pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (26.0 kPa).

OKF/OKF1

OKF / OKF1 1000x500-3

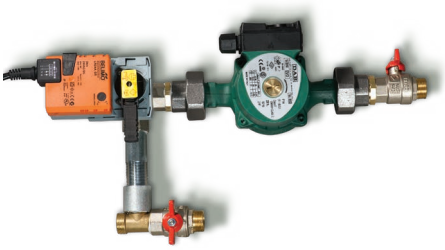


How to use freon cooler diagrams

Air Speed. Starting from 7000 m³/h on the air flow scale draw a vertical line ① till the air speed axis. It makes 4.1 m/s.

- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C); then draw a horizontal line ② from this point to the left till crossing the outside air humidity (e.g. 50 %). From this point draw a vertical line ③ to the supply air temperature at cooler outlet axis on top of the graphic (+20.5 °C).
- Cooling coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature (e.g. +30 °C) and draw a horizontal line ④ from this point to the right until it crosses the outside air humidity curve (e.g., 50 %), from here draw a vertical line ⑤ up to the scale representing the cooling capacity (30.0 kW).
- Cooling agent discharge. Prolong the line ⑤ down to cooling agent discharge axis at the bottom of the graphic ⑥ (710 kg/hour).
- Cooling agent pressure drop. Draw the line ⑦ from the point where the line ⑥ crosses the black curve to the pressure drop axis. (30.0 kPa).

Series
USWK



Application

The mixing unit USWK is designed for smooth heat medium flow control in ventilation systems equipped with water heaters or coolers for supply air temperature regulation. The mixing unit controls heat medium flow supplied to the water heat exchanger and in such a way maintains the supply air temperature. The mixing unit USWK is compatible with NKV water heaters, duct coolers OKW as well as all water heat exchangers (both heaters and coolers) integrated into air handling units.

Design and operating logic

Design of the mixing unit USWK is shown in fig. 1. The circulation pump (1) of the mixing unit ensures ongoing heat medium circulation through the water heat exchanger. The heat medium regulating three-way valve (3) with electric actuator (2) is installed before the circulation pump to mix the water supplied from the heating (cooling) system with the return water supplied through the recirculation pipe (4). The three-way valve is designed to provide the mixing ratio of two water streams and thus to control the heat medium temperature supplied to the water heat exchanger. The three-way valve actuator is controlled by 0-10 V output signal from the ventilation control system.

Connection to water mains

The mixing unit is connected directly to the water heat exchanger and water mains through rigid and/or flexible pipes.

In case of flexible pipe connection, fix the mixing unit firmly to the wall or another rigid surface with clapms.

While installing the mixing unit keep the motor horizontal position to disable any distortions and mechanical loads from the connected pipelines to USWK unit. While connecting the mixing unit to water mains make sure of no loads and distortions that may damage the unit structure and provoke USWK airtightness breach. While connecting the pipelines ensure their quick detachment for scheduled servicing and maintenance operations.

Electric connection

All electric installations are allowed by qualified electricians with valid permit for electric operations. Before connecting the pump make sure to have grounded it. Make steps to prevent contact with power cables.

Operating conditions

The pump motor bearings are greased by the pumped medium. The single phase pumps do not require extra overload protection and the three phase pumps must be provided with external overload protection. The maximum allowable heat medium pressure in the unit is 10 bar.

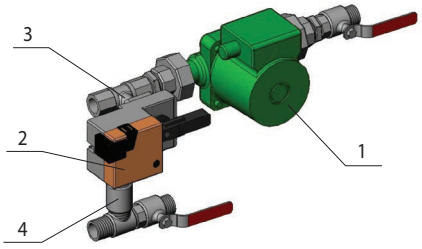
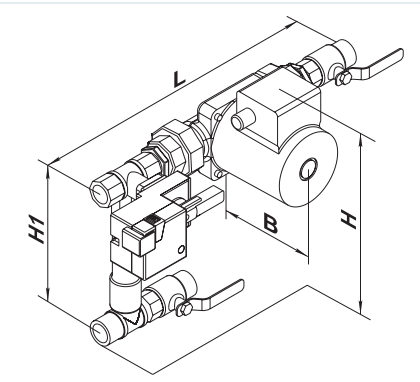


Fig. 1

Overall dimensions

Type	Dimensions [mm]				Mass [kg]
	B	H	H1	L	
USWK 3/4-4	150	290	180	460	4.1
USWK 3/4-6	150	290	180	460	4.1
USWK 1-6	175	320	210	490	6.8
USWK 1-10	175	320	210	490	6.8
USWK 1 1/4-10	175	355	240	500	7.4
USWK 1 1/4-16	175	355	240	500	7.4
USWK 1 1/2-16	266	420	255	610	23.0
USWK 1 1/2-25	266	420	255	610	23.0
USWK 2-25	312	474	290	660	31.0
USWK 2-40	312	474	290	660	31.0



*3–way valve $K_{VS} = \frac{V_{100}}{\sqrt{\frac{\Delta pv_{100}}{100}}}$, where

Δpv_{100} — pressure loss at fully opened valve;

V_{100} — rated water flow at Δpv_{100}.

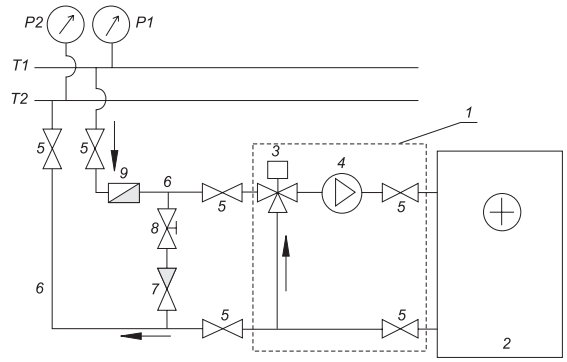
Designation key

Series		Connecting diameter	-	3–way valve [Kvs]*
USWK		3/4"; 1"; 1 1/4"; 1 1/2"; 2"		4; 6; 10; 16; 25; 40

Technical data

	value	USWK 3/4-4	USWK 3/4-6	USWK 1-6	USWK 1-10	USWK 1 1/4-10	USWK 1 1/4-16	USWK 1 1/2-16	USWK 1 1/2-25	USWK 2-25	USWK 2-40
Circulation pump	–	DAB VA65/ 180		DAB A50/ 180XM		DAB A56/ 180XM		DAB BPH 120/ 250.40M		DAB BPH 120/ 280.50T	
Three-way valve regulation mode	–	smooth 0…10 V									
Three-way valve with electric actuator	–	Belimo R317	Belimo R318	Belimo R322	Belimo R323	Belimo R329	Belimo R331	Belimo R338	Belimo R339G	Belimo R348	Belimo R349G
Three-way valve actuator	–	Belimo LR24A-SR						Belimo NR24A-SR	Belimo SR24A-SR	Belimo NR24A-SR	Belimo SR24A-SR
Connection	–	Thread						Flange			
Three-way valve nominal diameter	–	DN 20	DN 20	DN 25	DN 25	DN 32	DN 32	DN 40	DN 40	DN 50	DN 50
Three-way valve K_{vs}	–	4	6.3	6.3	10	10	16	16	25	25	40
Max. capacity	m³/h	2.3	3.0	4.1	6.0	6.8	9.0	11.0	14.0	21.0	27.0
Max. developed head	kPa	57	57	57	57	62	62	110	110	115	115
Connecting pipe diameter	inch	3/4"	3/4"	1"	1"	1 1/4"	1 1/4"	1 1/2"	1 1/2"	2"	2"
Pumped medium temperature	°C	-10…+110						-10…+120			
Max. glycol content in pumped medium	%	30	30	30	30	30	30	30	30	30	30
Number of pump speeds	–	3	3	3	3	3	3	3	3	3	3
Phase/ Pump voltage	V	1~230								3~400	
Max. pump power	W	78	78	184	184	271	271	510	510	898	898

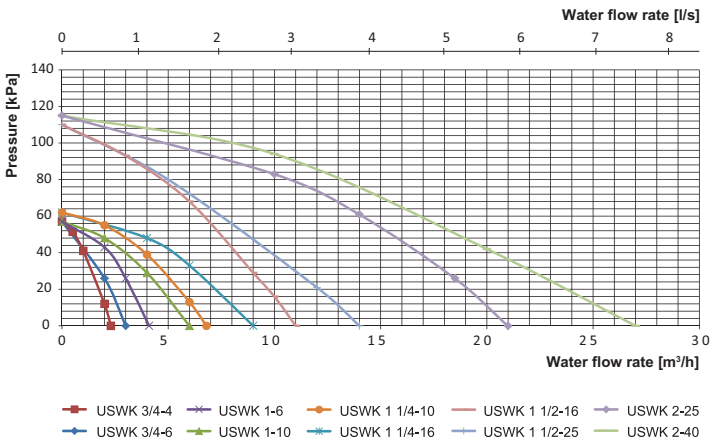
Recommended connection to water mains



T1 and T2 – supply and return pipeline;
P1 and P2 – manometers for supply and return pipelines in the water mains;

1 – USWK (mixing unit);
2 – Water heater;
3 – Three-way valve with actuator;
4 – Circulation pump;
5 – Shutoff valve;
6 – Supply and return pipeline from water mains to the water heater;
7 – Non-return valve;
8 – Balancing valve;
9 – Coarse filter.

Nomographic selection chart for USWK unit



To select the mixing unit according to the nomographic chart, calculate the required heat medium flow through the water heat exchanger and water pressure drop (water head). These parameters are calculated according to the heating/cooling diagrams specifically for each water heat exchanger stated specifically herein.

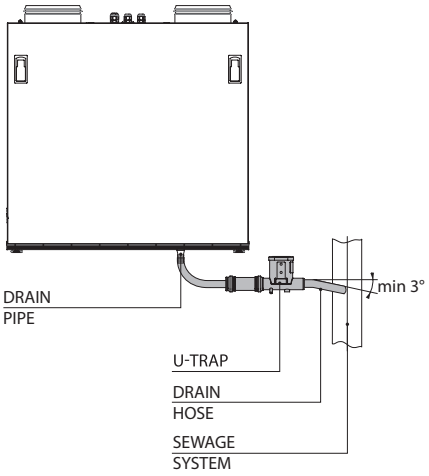
SH-32
series

Application

The hydraulic U-trap SH-32 is designed for condensate drainage from heat exchangers and coolers in ventilation and air conditioning systems.

The U-trap must be connected to a drain pan pipe F 18 mm.

A mounting example for the SH-32 U-trap



Design

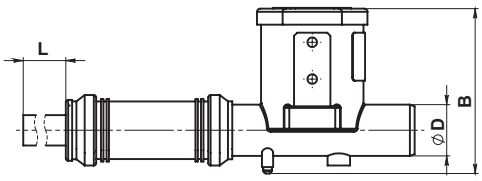
When the condensate is drained from the ventilation unit, it passes the drain pipe through the flexible PVC hose, the connection coupling and reaches the U-trap with the mechanical locking device that does not let sewage system odours out after the hydraulic seal dries out. Then the condensate is moved to the sewage system.

The SH-32 set consists of:

1. Coupling 32/32;
2. Rubber sleeve 32/20;
3. U-trap;
4. PVC hose 15x2 of 1000 mm length.

Overall dimensions:

Type	Dimensions, mm		
	ØD	B	L
SH-32	32	103	1000



DN-2

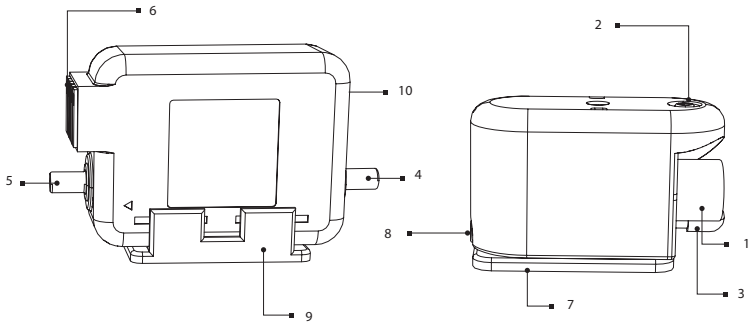
Application

Condensate may form in the heat exchanger during heat recovery. The drain pump provides extraction and discharge of condensate in ventilation systems.

Mounting

The condensate drain pan should only be mounted in a horizontal position. The drain pump can be installed both horizontally and vertically. See the User's manual for more details.

Design



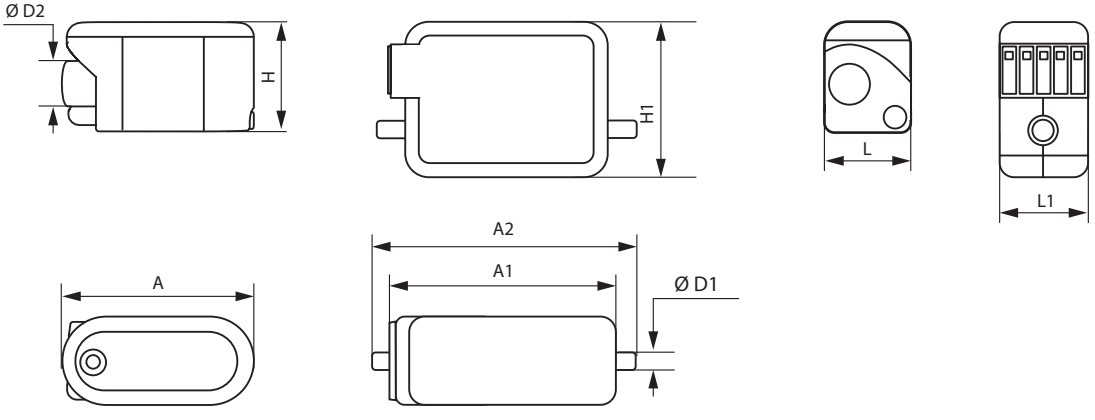
1 – condensate water inlet
2 – air intake fitting for Ø 4x6 hose
3 – condensate outlet fitting
4, 8 – fitting for Ø 4x6 connecting hose
5 – fitting for a drain pipe
6 – removable terminal block
7 – mounting plate
9 – pump lock
10 – removable electric cable socket

Technical data

Air flow [l/h]	7
Water lifting at inlet (evacuation) [m]	2
Water lifting at outlet (delivery) in vertical direction [m]	7
Voltage [V/Hz]	230/50
Noise level [dBA]	21
Power [W]	19
C – NO signal contact parameters [A]	8

Overall dimensions

Model	Dimensions [mm]								
	ØD2	ØD1	A	A1	A2	H	H1	L	L1
DN-2	18	5	68	68	82	55	38	32	30



Series
KOM

Applications
Spring-loaded backdraft damper for round ducts. The damper prevents back draft when the system is off. The blades are opened with air flow and are closed with a spring.

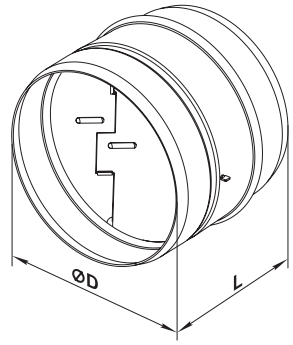
Design
The damper is made of galvanized steel housing with spring-loaded aluminium blades.

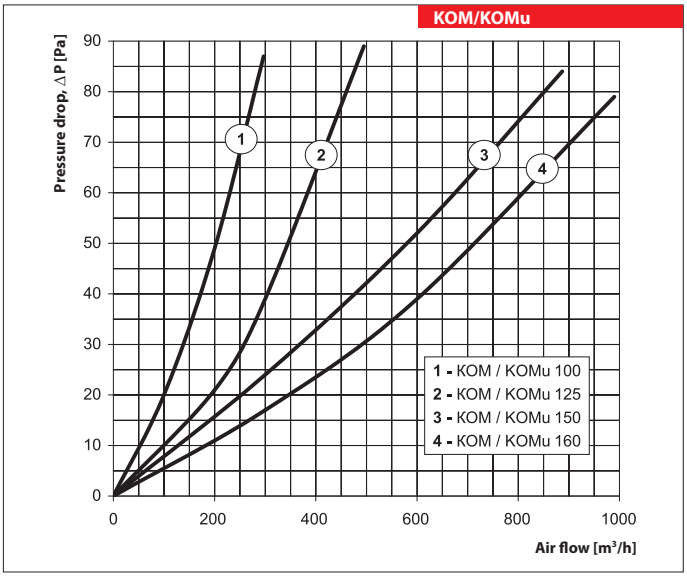
Modifications
KOMu model is sealed with foamed rubber for noise absorption and extra air tightness.

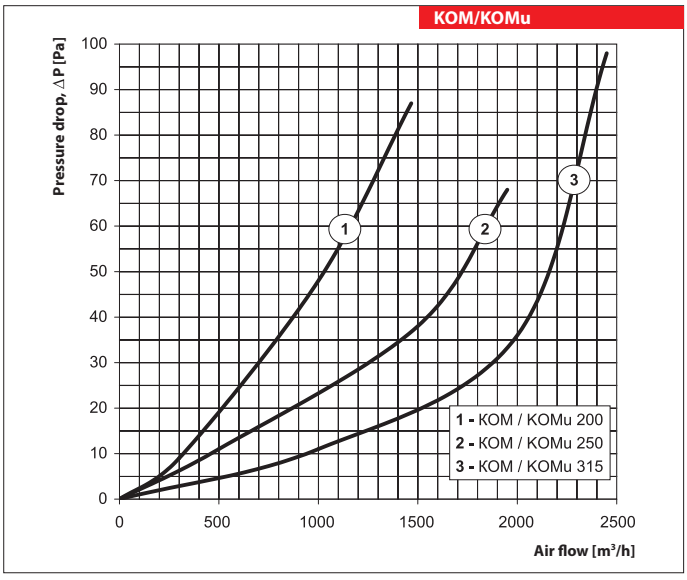
Mounting
The damper is connected to round air ducts and fixed with clamps. The blade axis should be in vertical position. Correct air flow direction should be considered.

Overall dimensions

Type	Dimensions [mm]		Mass [kg]
	ØD	L	
KOM 100 KOMu 100	99	80 90	0.18
KOM 125 KOMu 125	124	100 110	0.27
KOM 150 KOMu 150	149	115 125	0.38
KOM 160 KOMu 160	159	120 130	0.42
KOM 200 KOMu 200	199	145 155	0.63
KOM 250 KOMu 250	249	165 175	0.90
KOM 315 KOMu 315	314	190 200	1.31







Designation key

Series	Spigot diameter [mm]
KOM/KOMu	100; 125; 150; 160; 200; 250; 315

Series
KOM1

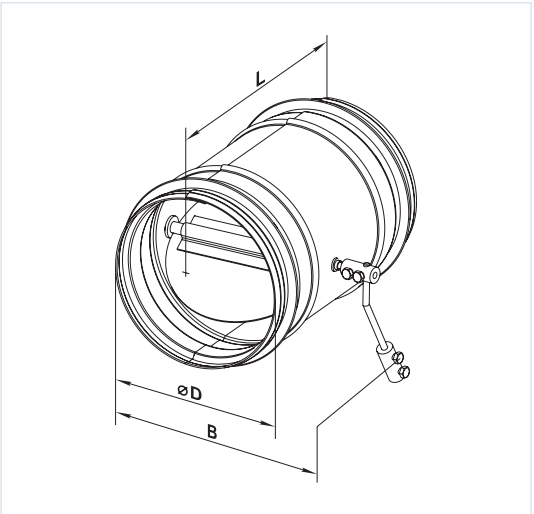
Applications
Gravity backdraft damper for round air duct. The damper prevents back draft when the system is off.

Design
The housing and the rotary blade made of galvanized steel. The damper spigots are rubber sealed for airtight connection to the air duct.
The damper is opened by the airflow and is closed when the system is off. The damper handle counterweight enables regulation of the damper opening-closing sensitivity.

Mounting
Standard spigot connection for round air ducts. The blade axis should be in horizontal position allowing the blade to close by its own weight. Correct airflow direction should be considered.

Overall dimensions

Type	Dimensions [mm]			Mass [kg]
	ØD	B	L	
KOM1 100	99	139	150	0.65
KOM1 125	124	162	170	0.81
KOM1 150	149	194	180	0.97
KOM1 160	159	204	190	1.06
KOM1 200	199	238	220	1.57
KOM1 250	249	290	270	2.2
KOM1 315	314	356	340	3.24
KOM1 355	348	400	400	3.9



Designation key

Series	Spigot diameter [mm]
KOM 1	100; 125; 150; 160; 200; 250; 315; 355

Series
KOM1

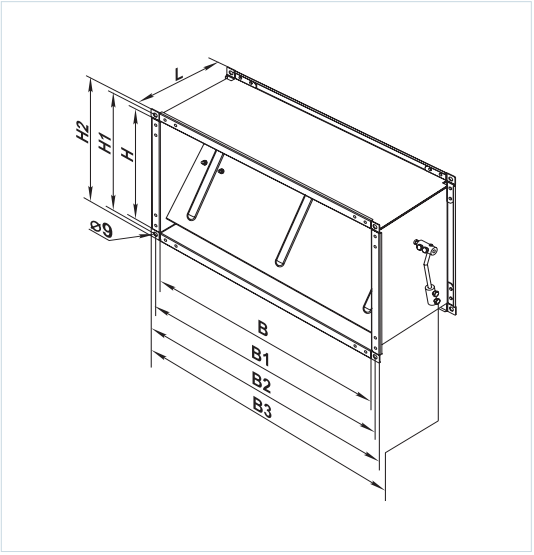
Applications
Gravity backdraft damper for air flow cut-off in rectangular air duct. The damper prevents back draft when the system is off.

Design
The housing and the rotary blade are made of galvanized steel. The damper blade is opened by the air pressure and is closed when the system is off.
The damper handle counterweight enables regulation of the damper opening-closing sensitivity.

Mounting
Standard spigot connection for rectangular air ducts.
The blade axis should be in horizontal position allowing the blade to close by its own weight. Correct airflow direction should be considered.

Overall dimensions

Type	Dimensions [mm]								Mass [kg]
	B	B1	B2	B3	H	H1	H2	L	
KOM1 400x200	400	420	440	461	200	220	240	202	2.9
KOM1 500x250	500	520	540	561	200	270	290	202	3.73
KOM1 500x300	500	520	540	561	300	320	340	202	4.1
KOM1 600x300	600	620	640	661	300	320	340	202	4.64
KOM1 600x350	600	620	640	661	350	370	390	202	5.03



Designation key

Series	Flange dimensions [mm]
KOM 1	400x200; 500x250; 500x300; 600x300; 600x350

Series
KR

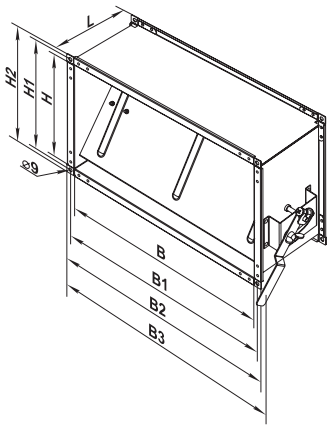
Applications
Air damper for air flow control in rectangular air ducts. Compatible with duct sizes 400x200, 500x250, 500x300, 600x300, 600x350 mm.

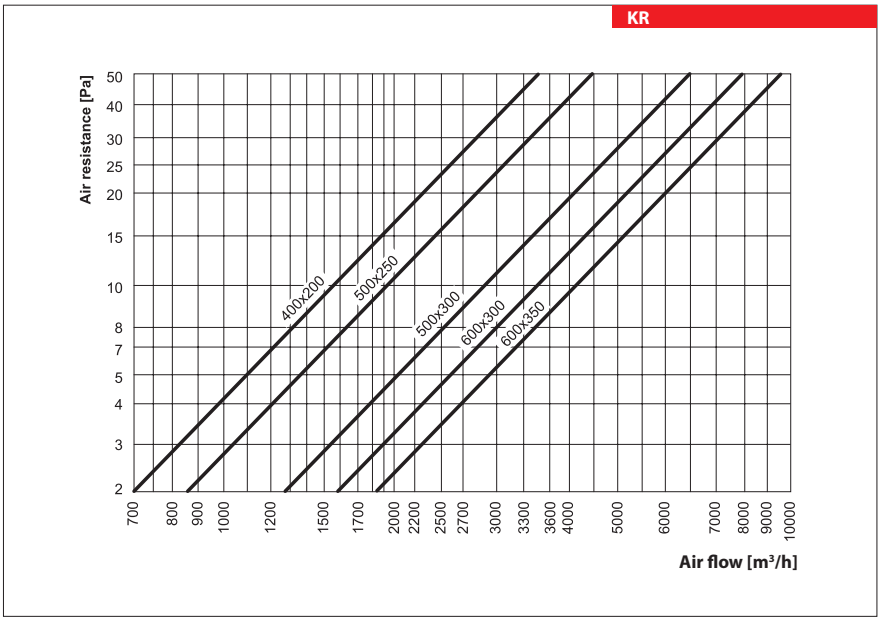
Design
The housing and the blade made of galvanized steel. Lever with metal handle and fixing clamp let fix the damper position with a butterfly bolt.

Mounting
Standard connection flange for rectangular air ducts or other ventilation system components.
Flanges should be connected with galvanized bolts and clamps.

Overall dimensions

Type	Dimensions [mm]								Mass [kg]
	B	B1	B2	B3	H	H1	H2	L	
KR 400x200	400	420	440	460	200	220	240	202	3.0
KR 500x250	500	520	540	560	250	270	290	202	3.8
KR 500x300	500	520	540	560	300	320	340	202	3.1
KR 600x300	600	620	640	660	300	320	340	202	4.2
KR 600x350	600	620	640	660	350	370	390	202	5.1





Designation key

Series	Flange dimensions (WxH) [mm]
KR	400x200; 500x250; 500x300; 600x300; 600x350

Series
KR

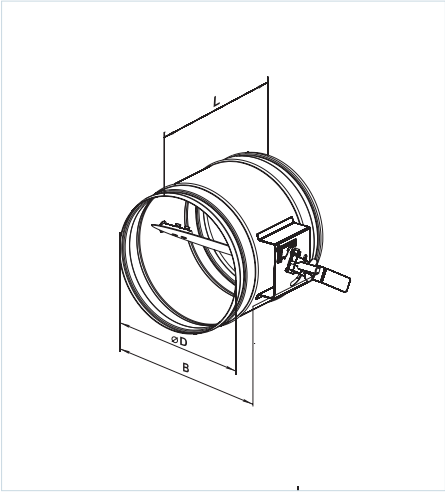
Application
Air damper for air flow control in round air ducts. Compatible with duct sizes: Ø 80, 100, 125, 150, 160, 200, 250, 315, 355, 400, 450, 500, 550 and 630 mm.

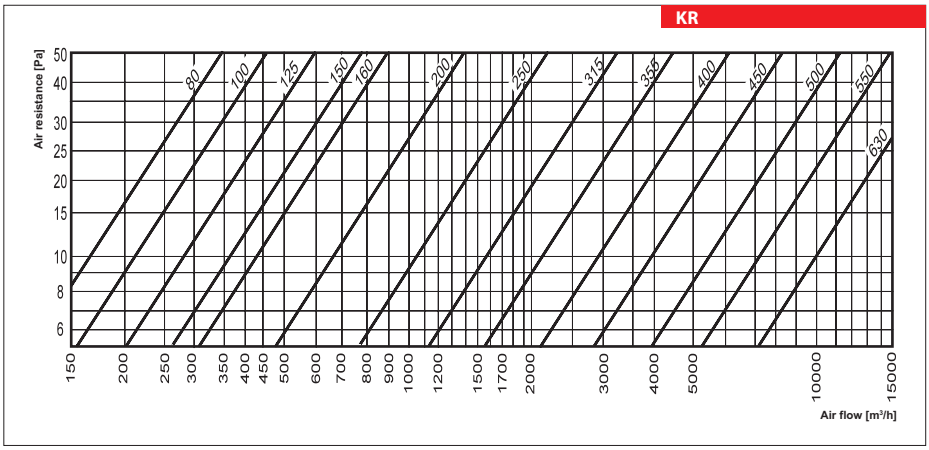
Design
The housing and the blade made of galvanized steel. Lever with metal handle and fixing clamp. In closed position about 10 % of cross section is left open. Connection spigots with rubber sealing gaskets.

Mounting
The damper is connected to round air ducts and fixed with clamps.

Overall dimensions

Type	Dimensions [mm]			Mass [kg]
	ØD	B	L	
KR 80	79	140	200	0.57
KR 100	99	170	200	0.68
KR 125	124	195	200	0.82
KR 150	149	220	200	0.95
KR 160	159	230	200	1.01
KR 200	199	270	200	1.29
KR 250	249	320	200	1.64
KR 315	314	385	240	2.51
KR 355	348	425	240	2.84
KR 400	399	470	240	3.38
KR 450	449	520	240	3.94
KR 500	499	570	240	5.72
KR 550	549	620	240	6.47
KR 630	629	700	240	7.76





Designation key

Series	Spigot diameter [mm]
KR	80; 100; 125; 150; 160; 200; 250; 315; 355; 400; 450; 500; 550; 630

Series
KRV

Application
Air damper for air flow cut-off in round air ducts. Compatible with duct sizes: Ø 80, 100, 125, 150, 160, 200, 250, 315, 355, 400, 450, 500, 550 and 630 mm.

Design
The housing and the blade made of galvanized steel.
Connecting spigots with rubber sealing gaskets.
Universal shaft for automatic actuator (available upon separate order). Compatible actuators are shown in the table below.

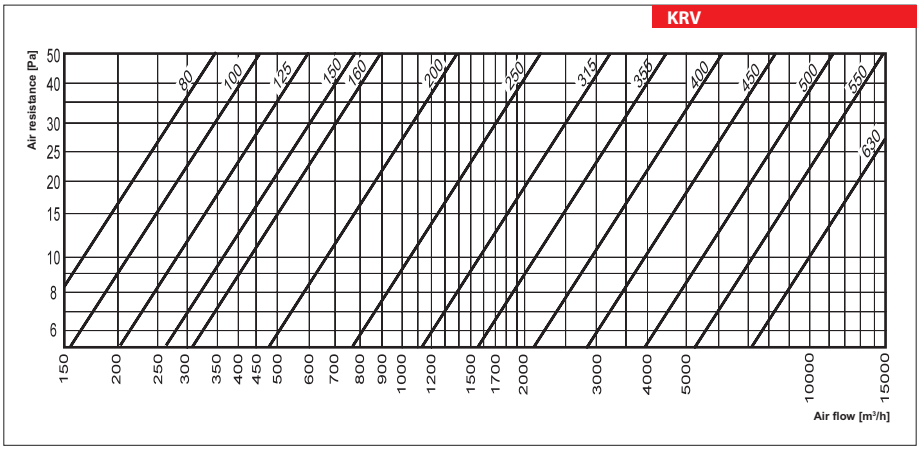
Mounting
The damper is connected to round air duct and fixed with clamps.

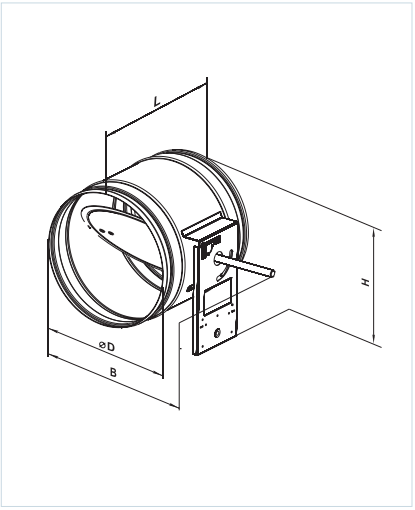
Compatible Belimo actuators

Model	Actuator drive			
	Electric actuator, 230 V	Electric actuator with spring return, 230 V	Electric actuator, 24 V	Electric actuator with spring return, 24 V
KRV 80 KRV 100	CM230/LM230A	TF230	CM24 / LM24A	TF24
KRV 125 KRV 150	CM230/LM230A	TF230	CM24 / LM24A	TF24
KRV 160 KRV 200	CM230/LM230A	TF230	CM24 / LM24A	TF24
KRV 250 KRV 315	CM230/LM230A	TF230	CM24 / LM24A	TF24
KRV 355 KRV 400 KRV 450	CM230/LM230A	TF230	CM24 / LM24A	TF24
KRV 500 KRV 550 KRV 630	CM230/LM230A	TF230	CM24/LM24A	TF24

Overall dimensions

Type	Dimensions [mm]				Mass [kg]
	ØD	B	L	H	
KRV 80	79	190	200	170	0.6
KRV 100	99	220	200	180	0.72
KRV 125	124	245	200	195	0.86
KRV 150	149	270	200	205	1.01
KRV 160	159	280	200	210	1.07
KRV 200	199	320	200	230	1.33
KRV 250	249	370	200	255	1.68
KRV 315	314	435	240	-	2.44
KRV 355	348	475	240	-	2.75
KRV 400	399	520	240	-	3.26
KRV 450	449	570	240	-	3.78
KRV 500	499	620	240	-	5.55
KRV 550	549	670	240	-	6.27
KRV 630	629	750	240	-	7.49





Designation key

Series	Spigot diameter [mm]
KRV	80; 100; 125; 150; 160; 200; 250; 315; 355; 400; 450; 500; 550; 630

Accessories

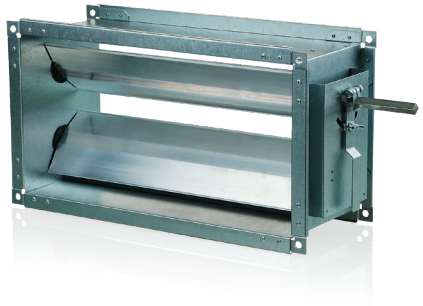

page 496


page 497


page 498


page 499

Series
RRV



Application

Multi-blade damper for air flow control or cut-off in rectangular air ducts.

Compatible with duct sizes 400x200, 500x250, 500x300, 600x300, 600x350, 700x400, 800x500, 900x500 and 1000x500 mm.

Design

The housing made of galvanized steel. The aluminium blades driven by plastic gearwheels. Lever with removable metal handle and fixing clamp.

Universal shaft for automatic actuator. Compatible actuators are shown in the table below (available upon separate order). For actuator connection the metal handle should be removed from the shaft.

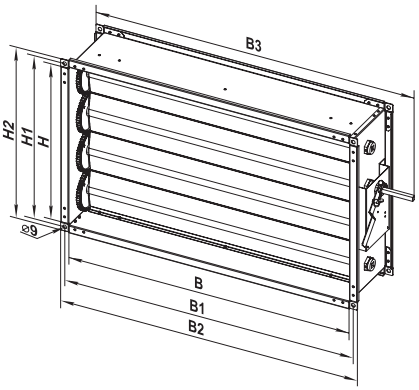
Mounting

Standard connection flange for rectangular air ducts or other ventilation system components.

Flanges should be connected with galvanized bolts and clamps.

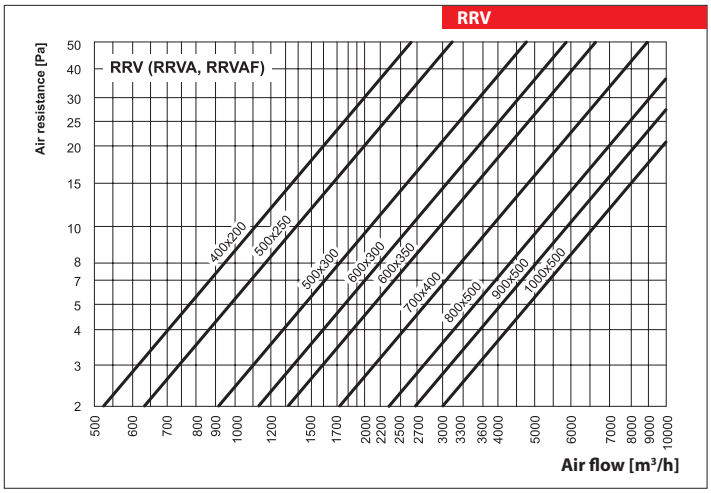
Overall dimensions

Type	Dimensions [mm]								Mass [kg]
	B	B1	B2	B3	H	H1	H2	L	
RRV 400x200	400	420	440	540	200	220	240	170	3.5
RRV 500x250	500	520	540	640	250	270	290	170	4.2
RRV 500x300	500	520	540	640	300	320	340	170	4.9
RRV 600x300	600	620	640	740	300	320	340	170	5.4
RRV 600x350	600	620	640	740	350	370	390	170	5.7
RRV 700x400	700	720	740	840	400	420	440	170	7.7
RRV 800x500	800	820	840	940	500	520	540	170	8.8
RRV 900x500	900	920	940	1040	500	520	540	170	9.6
RRV 1000x500	1000	1020	1040	1140	500	520	540	170	10.3



Compatible Belimo actuators

Model	Actuator type			
	Electric actuator, 230 V	Spring return electric actuator, 230 V	Electric actuator, 24 V	Spring return electric actuator, 24 V
RRV 400x200	CM230/ LM230A	TF230/LF230	CM24/ LM24A	TF24/LF24
RRV 500x250				
RRV 500x300				
RRV 600x300				
RRV 600x350				
RRV 700x400	LM230A	LF230	LM24A	LF24
RRV 800x500				
RRV 900x500				
RRV 1000x500				



Designation key

Series	Flange dimensions [mm]
RRV	400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500

Accessories


page 496


page 497


page 498


page 499

Series
SKRA

Applications

The mixing chambers is designed for mixing (recirculation) of extract and intake air in a required ratio.

Design

The housing made of galvanized steel. The dampers with aluminium blades driven by plastic gearwheels. Extract and supply air dampers are interconnected with one shaft and are opened synchronously with a single actuator. The recirculation damper is opened by a separate actuator.

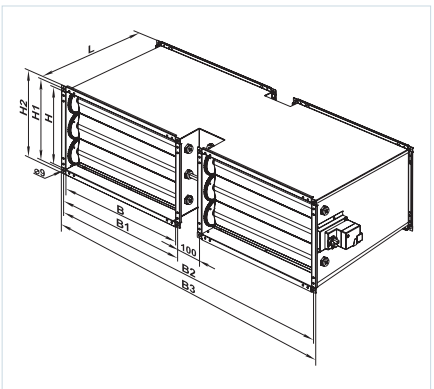
SKRA is equipped with two 24 V actuators for air flow control. Both actuators are driven by 0-10 V input voltage from 100 % recirculation to 100 % fresh air.

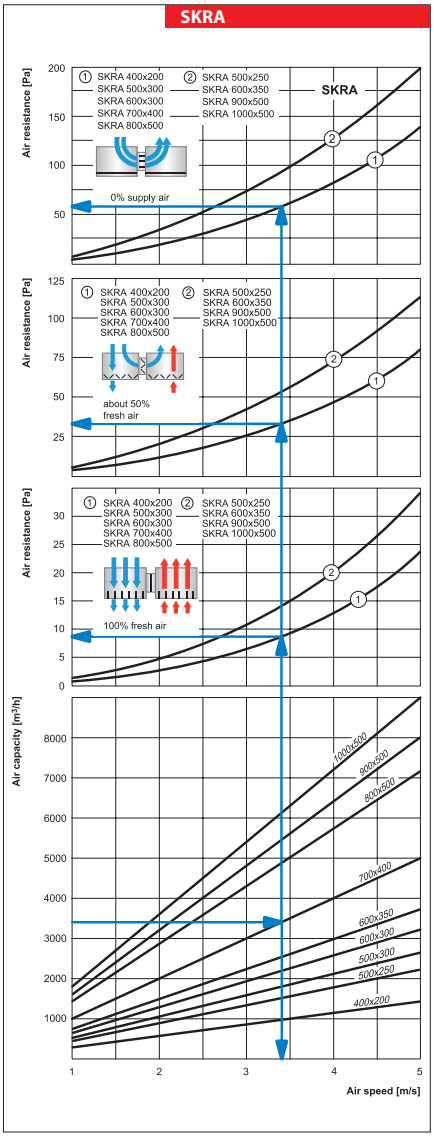
Mounting

Standard connection flange for rectangular air ducts or other ventilation system components. Fixation with galvanized bolts and clamps. The mixing units are suitable both for indoor and outdoor installation in any operating position. Service access to the actuators must be provided.

Overall dimensions

Type	Dimensions [mm]								Mass [kg]
	B	B1	B2	B3	H	H1	H2	L	
SKRA 400x200/24	400	420	940	960	200	220	240	390	20
SKRA 500x250/24	500	520	1140	1160	250	270	290	440	25
SKRA 500x300/24	500	520	1140	1160	300	320	340	490	33
SKRA 600x300/24	600	620	1340	1360	300	320	340	490	36
SKRA 600x350/24	600	620	1340	1360	350	370	390	540	40
SKRA 700x400/24	700	720	1540	1560	400	420	440	590	45
SKRA 800x500/24	800	820	1740	1760	500	520	540	690	55
SKRA 900x500/24	900	920	1940	1960	500	520	540	740	60
SKRA 1000x500/24	1000	1020	2140	2160	500	520	540	740	65





Designation key

Series	Flange dimensions [mm]	/	Automatic actuator power supply voltage, V
SKRA	400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500		24

Series
KG

Applications

Gravity louvre shutter for air flow cut-off in rectangular air ducts. The shutter is closed during the system standby preventing back draft.

Design

Galvanized steel with light-weighted plastic gravity blades.

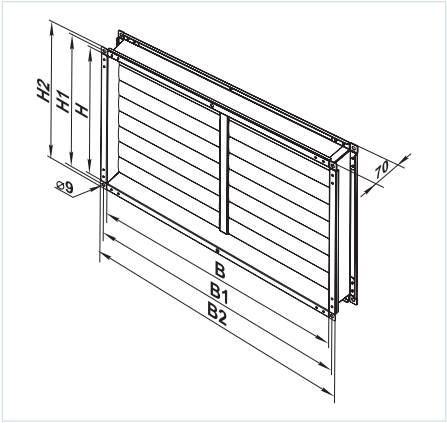
The blades open by the airflow and close when the fan is not running preventing back draft.

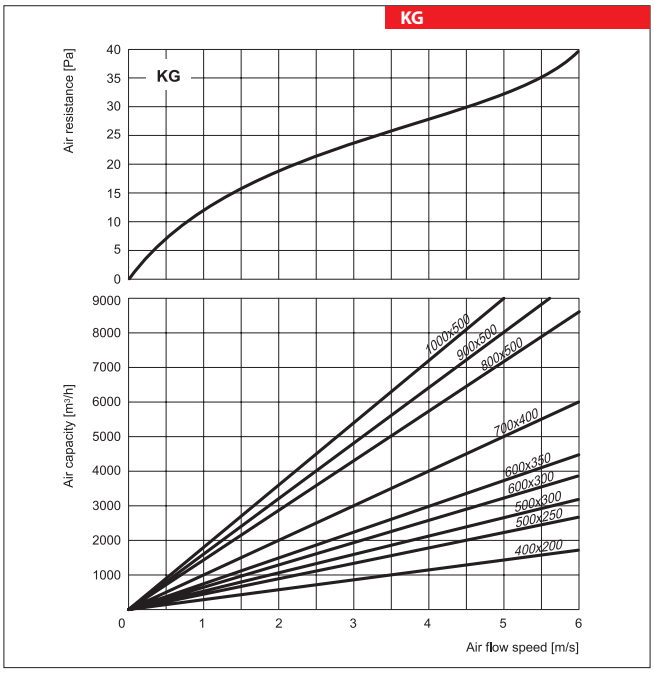
Mounting

Mounted horizontally in the duct allowing the blades to close under their own weight. Correct direction of airflow should be considered.

Overall dimensions

Type	Dimensions [mm]						Mass [kg]
	B	B1	B2	H	H1	H2	
KG 400x200	400	420	440	200	220	240	1.29
KG 500x250	500	520	540	250	270	290	1.58
KG 500x300	500	520	540	300	320	340	1.83
KG 600x300	600	620	640	300	320	340	2.05
KG 600x350	600	620	640	350	370	390	2.21
KG 700x400	700	720	740	400	420	440	3.0
KG 800x500	800	820	840	500	520	540	3.6
KG 900x500	900	920	940	500	520	540	3.8
KG 1000x500	1000	1020	1040	500	520	540	4.0





Designation key

Series	Flange dimensions [mm]
KG	400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500

GRAVITY LOUVRE SHUTTERS

Series
KG

Applications

Gravity louvre shutter for rectangular air ducts. The shutter is closed during the system standby preventing back draft.

Design

The shutter is made of galvanized steel. The housing equipped with light-weighted plastic gravity blades inserted into the external frame.

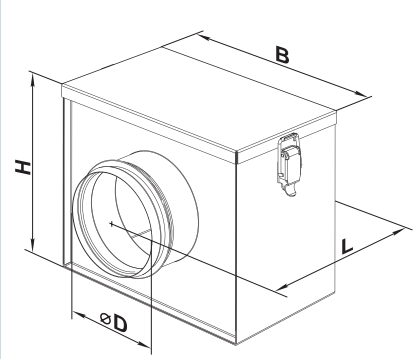
The blades are opened by the air flow and are closed when the fan is not running preventing back draft.

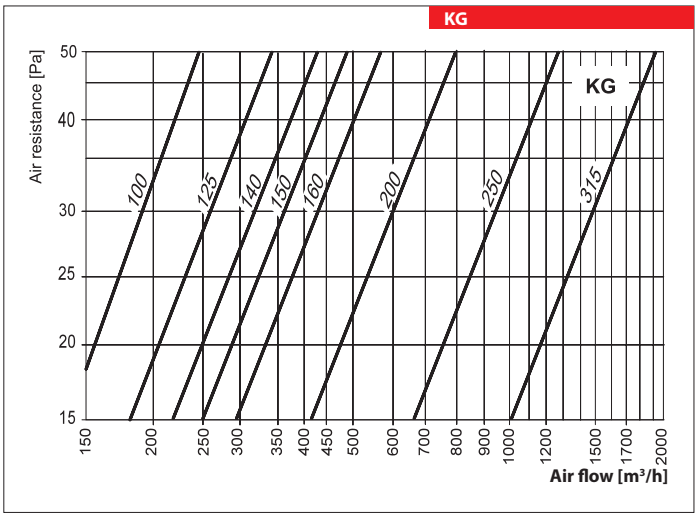
Mounting

Mounted horizontally in the duct allowing the blades to close under their own weight. Correct direction of air flow should be considered.

Overall dimensions

Type	Dimensions [mm]				Mass [kg]
	D	B	H	L	
KG 100	99	225	216	232	1.814
KG 125	124	225	216	232	1.794
KG 140	139	225	216	232	1.798
KG 150	149	225	216	232	1.774
KG 160	159	225	216	232	1.699
KG 200	199	295	316	232	2.764
KG 250	249	295	316	232	2.624
KG 315	314	365	366	232	3.238





Designation key

Series	Spigot diameter [mm]
KG	100; 125; 140; 150; 160; 200; 250; 315

Series
VVGF

Series
VVG

Applications

Flexible connectors are designed to exclude the vibration transmission from fans or ventilating units to the air duct as well as for the thermal distortion compensation within the air duct. Applied in ventilation systems with the transferred air temperature over the range of -40 °C to +80 °C. Compatible with round Ø 100 up to 500 mm air ducts for VVG models and from Ø 200 up to 630 mm air ducts for VVGF models.

Design

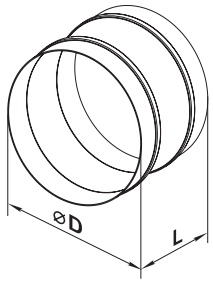
Flexible connectors are two flanges made of galvanized sheet steel interconnected by vibration-isolating material made of polyethylene tape reinforced with polyamide fiber. The connectors are not designed for mechanical load and cannot be used as a part of load-bearing construction.

Mounting

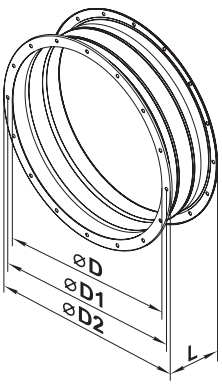
Mounting of flexible connector into the ventilation system is effected by means of end flanges fixing to the mating flanges in the ventilation system. Fixing is performed by means of galvanized bolts and brackets.

Overall dimensions

Type	Dimensions [mm]		Mass [kg]
	ØD	L	
VVG 100	101	130	0.14
VVG 125	126	130	0.17
VVG 140	139.5	130	0.2
VVG 150	151	130	0.21
VVG 160	161	130	0.22
VVG 180	179.5	130	0.26
VVG 200	201	130	0.28
VVG 225	222.5	130	0.31
VVG 240	238.5	130	0.34
VVG 250	251	130	0.35
VVG 280	279.5	130	0.38
VVG 315	316	130	0.44
VVG 355	356	130	0.50
VVG 400	401	130	0.56
VVG 450	451	130	0.64
VVG 500	501	130	0.71



Type	Dimensions [mm]				Mass [kg]
	ØD	ØD1	ØD2	L	
VVGF 200	205	235	255	160	1.29
VVGF 250	260	286	306	160	1.21
VVGF 300	310	356	382	160	1.90
VVGF 350	362	395	421	160	2.06
VVGF 400	412	438	465	160	2.57
VVGF 450	462	487	515	160	2.88
VVGF 500	515	541	570	160	3.81
VVGF 550	565	605	636	160	4.53
VVGF 630	645	674	715	160	5.13



Designation key

Series	Spigot diameter [mm]
VVG	100; 125; 140; 150; 160; 180; 200; 225; 240; 250; 280; 315; 355; 400; 450; 500

Series	Spigot diameter [mm]
VVGF	200; 250; 300; 350; 400; 450; 500; 550; 630

Series
VVG

Applications

Flexible connectors are designed to exclude the vibration transmission from fans or ventilating units to the air duct as well as for the thermal distortion compensation within the air duct. Applied in ventilation systems with the transferred air temperature over the range of -40 °C to +80 °C.

Design

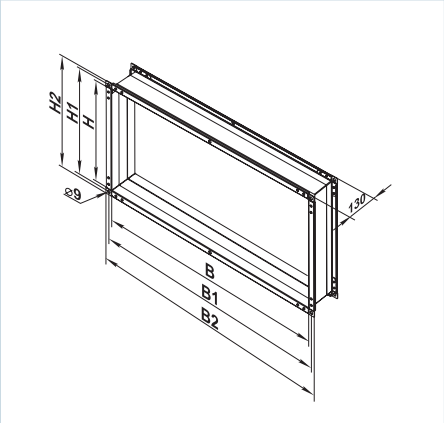
Flexible connectors are two flanges made of galvanized sheet steel interconnected by vibration-isolating material made of polyethylene tape reinforced with polyamide fiber. The connectors are not designed for mechanical load and cannot be used as a part of load-bearing construction.

Mounting

Mounting of flexible connector into the ventilation system is effected by means of end flanges fixing to the mating flanges in the ventilation system. Fixing is performed by means of galvanized bolts and brackets.

Overall dimensions

Type	Dimensions [mm]						Mass [kg]
	B	B1	B2	H	H1	H2	
VVG 400x200	400	420	440	200	220	240	1.1
VVG 500x250	500	520	540	250	270	290	1.4
VVG 500x300	500	520	540	300	320	340	1.6
VVG 600x300	600	620	640	300	320	340	1.82
VVG 600x350	600	620	640	350	370	390	1.95
VVG 700x400	700	720	740	400	420	440	2.4
VVG 800x500	800	820	840	500	520	540	2.8
VVG 900x500	900	920	940	500	520	540	3.0
VVG 1000x500	1000	1020	1040	500	520	540	3.2



Designation key

Series	Flange dimensions (WxH) [mm]
VVG	400x200; 500x250; 500x300; 600x300; 600x350; 700x400; 800x500; 900x500; 1000x500

Series
CZK

Applications
The quick-release clamp is designed for fastening round air ducts to supporting structures.

Design
The clamps are made of galvanized steel strip with the layer of microporous rubber for vibration damping. The clamp design allows its wall or cell mounting.

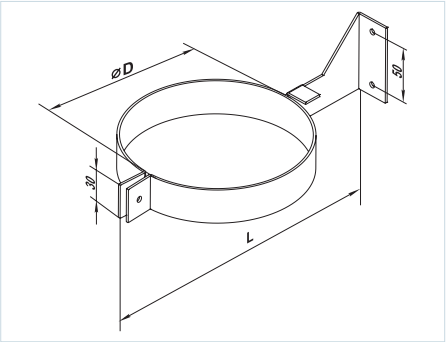
Series
CZ

Applications
The quick-release clamp is designed for quick and reliable connection of spigots and round-section ventilation system elements (for example, filters, heaters, fans, silencers). The clamp makes it easy to install and remove the fans for maintenance and cleaning.

Design
The clamp is made of galvanized steel strip sealed at one side with microporous rubber for the better airtight characteristics and vibration damping. The quick-detachable clamps are tightened with two bolts.

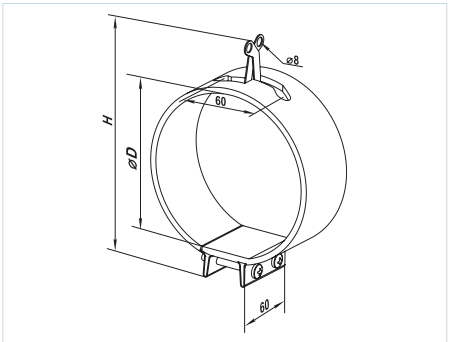
Overall dimensions

Type	Dimensions [mm]		Mass [kg]
	ØD	L	
CZK 100	100	204	0.21
CZK 125	125	229	0.22
CZK 150	150	254	0.25
CZK 160	160	264	0.26
CZK 200	200	304	0.31
CZK 250	250	354	0.35
CZK 315	315	419	0.42



Overall dimensions

Type	Dimensions [mm]		Mass [kg]
	ØD	H	
CZ 100	100	172	0.206
CZ 125	125	198	0.232
CZ 150	150	224	0.296
CZ 160	160	232	0.358
CZ 200	200	274	0.42
CZ 250	250	326	0.55
CZ 315	315	380	0.65



Designation key

Series	Flange diameter [mm]
CZK CZ	100; 125; 150; 160; 200; 250; 315

Series
C

Series
CB

Series
CBR

Applications

The clamps are designed for quick and reliable mounting and connection of various round ventilation system components. The clamps facilitate the installation and removal of fans for maintenance and cleaning.

Design

C series clamps are made of stainless steel (C series) or galvanized steel (C.. Z.) strips. The clamps are tightened with screws.

CB series clamps are the quick detachable clamps of stainless steel with the swing screw of stainless steel. The clamps are tightened with screw.

CBR 3000 series clamps are the band clamps in a plastic covering (roll 30 m x 9 mm x 0.8 mm). Locking devises set SU 50 (50 pcs) is supplied separately. Using a band of the worm drive clip of the required length and locking device you have the required diameter clamp. The clamps are tightened with screws.

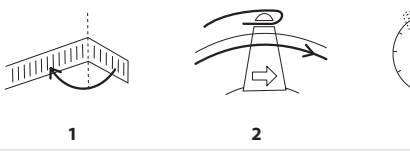
Tin snips are everything you need to have the required length clamp as the plastic casing has a special design and marking.

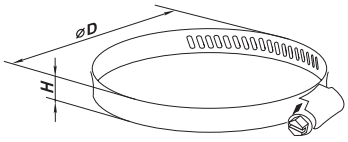
Application:

1. Bend the clamp edge.
2. Fix the bent edge of the band into the band holder.
3. Turn the band holder till the mark of the required diameter on the casing.
4. Cut the band away as applicable for the casing.
5. Fix the locking device on the clamp.

Overall dimensions

Type	Dimensions [mm]	
	ØD	H
C 100	90-110	9
C 125	110-130	9
C 130	120-140	9
C 150	140-160	9
C 160	150-170	9
C 200	190-210	9
C 250	240-260	9
C 315	300-330	9





SU 50 locking device for CBR 3000

Overall dimensions

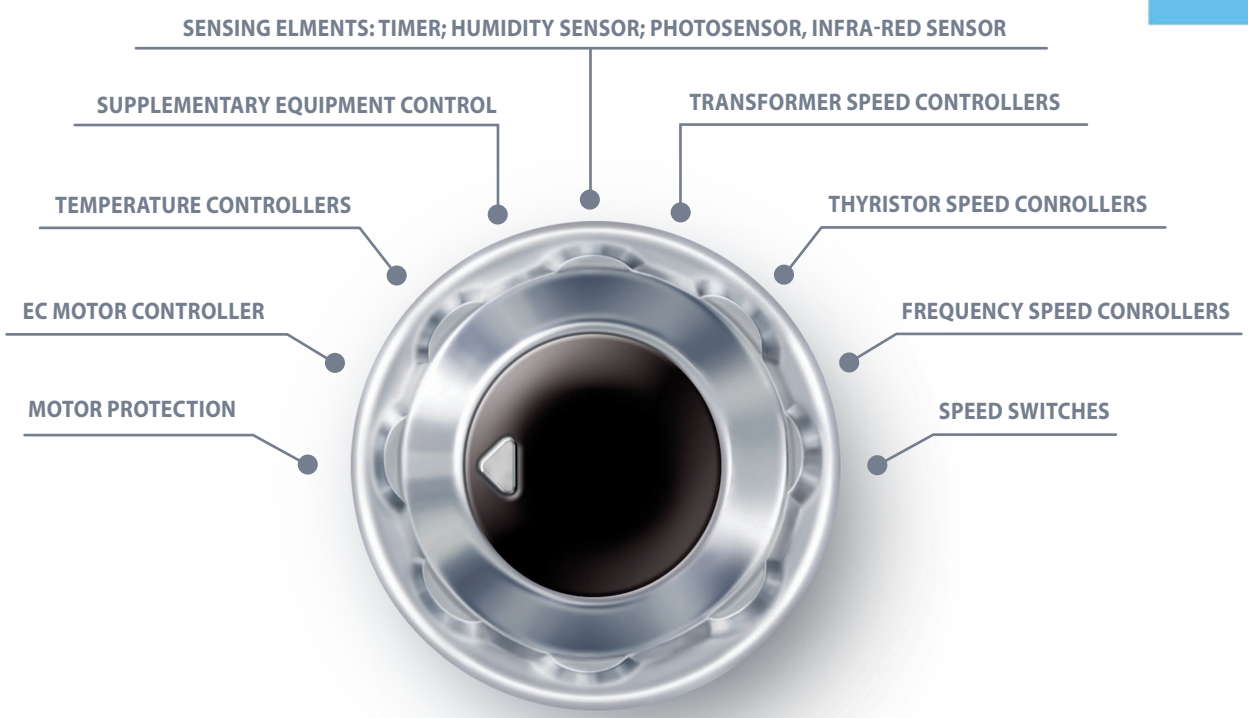
Type	Dimensions [mm]	
	ØD	H
CB 60-110	60-110	9
CB 60-135	60-135	9
CB 60-165	60-165	9
CB 60-180	60-180	9

Easy locking device for CB and CBR clamps.

Designation key

Series	Diameter [mm]
C CB CBR	100; 125; 130; 150; 160; 200; 250; 315 60-110; 60-135; 60-165; 60-180

ELECTRICAL ACCESSORIES

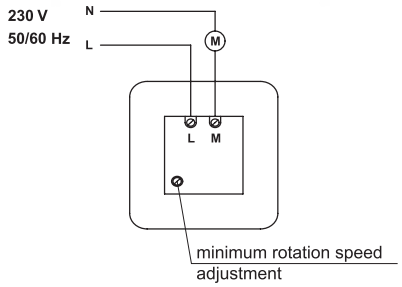


Model		Phase	Current	Protection	Casing	Functions
Thyristor speed controller						
RS-1-300		single phase	up to 1.5 A	IP40	Plastic casing for flush mounting	Smooth fan speed control with built-in switch.
RS-1-400			up to 1.8 A	IP40		
RS-1 N (V)		single phase	up to 1.0 A	IP44	Plastic casing for flush or surface mounting	Smooth fan speed control with built-in switch.
RS-1,5 N (V)			up to 1.5 A			
RS-2 N (V)			up to 2.0 A			
RS-2,5 N (V)			up to 2.5 A			
RS-0,5-PS		single phase	0.1 – 0.5 A	IP44	Plastic casing for flush or surface mounting	Smooth fan speed control with built-in switch, minimum speed setting.
RS-1,5-PS			0.15 – 1.5 A			
RS-2,5-PS			0.25 – 2.5 A			
RS-4,0-PS			0.4 – 4.0 A			
RS-3,0-T		single phase	0.3 – 3.0 A	IP54	Plastic casing for surface mounting	Smooth fan speed control with built-in switch, minimum speed setting.
RS-5,0-T			0.5 – 5.0 A			
RS-10,0-T			1.0 – 10.0 A			
RS-3,0-TA		single phase	0.3 – 3.0 A	IP54	Plastic casing for surface mounting	Smooth fan speed control. Control input 0-10 V or 4-20 mA, built-in switch, minimum speed setting.
RS-6,0-TA			0.5 – 6.0 A			
RS-10,0-TA			1.0 – 10.0 A			
Transformer speed controllers						
RSA5E-2-P		single phase	up to 2.0 A	IP54	Plastic casing for surface mounting	Step fan speed control. Overheating motor protection, thermostat and actuator driven air shutoff damper connections. Mechanical speed switching.
RSA5E-2-M		single phase	up to 2 A	IP21	Metal casing for surface mounting	Step fan speed control. Overheating motor protection, thermostat and actuator driven air shutoff damper connections. Mechanical speed switching.
RSA5E-3-M			up to 3 A			
RSA5E-4-M			up to 4 A			
RSA5E-10-M			up to 10 A	IP54		
RSA5E-12-M			up to 12 A			
RSA5E-1,5-T		single phase	up to 1.5 A	IP54	Plastic casing for surface mounting	Step fan speed control. Overheating motor protection, thermostat and actuator driven air shutoff damper connections. Mechanical speed switching.
RSA5E-3,5-T			up to 3.5 A			
RSA5E-5,0-T			up to 5 A			
RSA5E-7,5-T			up to 7.5 A			
RSA5D-1,5-T		three-phase	up to 1.5 A	IP44	Plastic casing for surface mounting	Step fan speed control. Overheating motor protection, thermostat and actuator driven air shutoff damper connections. Mechanical speed switching.
RSA5D-3,5-T			up to 3.5 A			
RSA5D-1,5-M		three-phase	up to 1.5 A	IP54	Metal casing for surface mounting	Step fan speed control. Overheating motor protection, thermostat and actuator driven air shutoff damper connections. Mechanical speed switching.
RSA5D-2,5-M			up to 2.5 A			
RSA5D-5-M			up to 5 A			
RSA5D-8-M			up to 8 A			
RSA5D-11-M			up to 11 A			
RSA5D-12-M			up to 12.0 A			

Model		Phase	Current	Protection	Casing	Functions
Room thermostats						
TST-1-300			up to 1 (0.6 A)	IP40	Plastic casing for wall surface mounting	Temperature control in ventilation, heating and air conditioning systems. Equipped with a highlighted sensor display. Automatic heating/cooling rate control.
TSTD-1-300						
Temperature controllers						
RTS -1-400		single phase	up to 2.0 A	IP40	Plastic casing for flush mounting	Temperature control in ventilation, air conditioning and heating systems. Equipped with digital LED display. Automatic heating/cooling rate control.
RTSD -1-400						
RT-10		single phase	up to 10 A	IP40	Plastic casing for surface mounting	Temperature regulation and control of ventilation, heating and air conditioning systems. Temperature control range from +10 up to +30°C.
Sensor speed switch						
SP3-1		single phase	up to 1 A	IP30	Plastic casing for flush mounting	Smooth fan speed control, integrated switch.
Speed control switches						
P2-1-300		single phase	up to 3 A	IP40	Plastic casing for flush mounting	2 speed step switching
P3-1-300						3 speed step switching
P2-5,0 N (V)		single phase	up to 5.0 A	IP40	Plastic casing for surface and flush mounting	2 speed step switching
P3-5,0 N (V)						3 speed step switching
P5-5,0 N (V)						5 speed step switching
EC motors regulators						
R-1/010		single phase	up to 1.1 mA	IP40	Plastic casing for flush mounting	Smooth control of speed, temperature and other characteristics. 0-10V output is equipped with max. 3A built-in switch.
Sensors						
T-1,5N		single phase	up to 1.5 A	IP54	Plastic casing for surface mounting	Fan operation with switch delay timer.
TH-1,5N						Fan humidity-dependent operation.
TF-1,5N						Fan operation with photo-sensor and running-out timer.
TP-1,5N						Fan operation with infra-red sensor and switch delay timer.

Speed controller

RS-1-300



Controller wiring diagram

Applications

Applied in ventilation systems for switching ON/OFF and speed controlling of single phase power-controlled motors. Several fans can be operated synchronously in case their total consumption current does not exceed the maximum permissible current value.

Design and control

The controller casing is made of plastic. The controller is featured with high efficiency and control accuracy. Switching to the maximum speed is effected by means of regulating the control knob. Regulating starts from the minimum to the maximum voltage value for the fan stable running. The minimum speed is set by means of the potentiometer at PCB.

Protection

The controller incorporates a thermal fuse for motor overload protection.

Mounting

The controller is designed for indoor mounting into special flush mounting junction box MKV-2 (under separate order) or into standard round electric junction boxes.

Technical data

	RS-1-300
Voltage [V/50 Hz]	1~230
Rated current [A]	1.5
Overall dimensions LxWxH [mm]	95x85x60
Maximum ambient temperature [°C]	40
Protection rating	IP40
Weight [kg]	0.11

FLUSH MOUNTING JUNCTION BOX

MKV-2

Speed controller

RS-1-400

Applications

Applied in ventilation systems for speed switching ON/OFF and speed control of the single phase power-controlled motors. Several fans can be controlled synchronously in case their total current does not exceed the maximum permissible values for the controller current.

Design and control

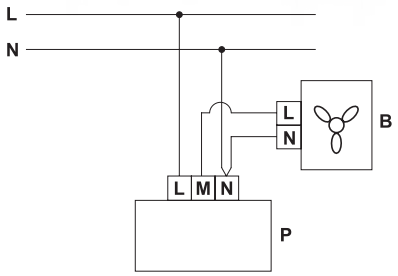
The controller casing is made of plastic. The controller is featured with high efficiency and control accuracy. Switching to the maximum speed is effected by means of regulating the control knob. Regulating starts from the minimum to the maximum voltage value for the fan stable running. The minimum speed is set by means of the potentiometer at PCB.

Protection

The controller contains a removable thermal fuse for motor overload protection and transient filter.

Mounting

The controller is designed for indoor mounting into special surface mounting (MKN-3) or flush mounting (MKV-4) junction box (under separate order) or into standard round electric junction boxes.

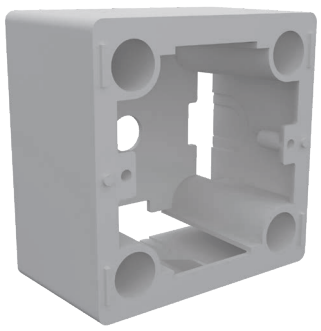


Controller wiring diagram

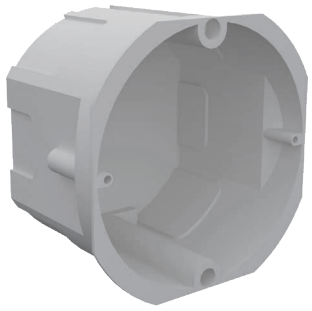
Technical data

	RS-1-400
Voltage [V/50 (60) Hz]	1~230
Rated current [A]	1.8
Overall dimensions LxWxH [mm]	78x78x63
Maximum ambient temperature [°C]	35
Protection rating	IP40
Weight [kg]	0.11

MOUNTING JUNCTION BOX



MKN-3 (for surface mounting)



MKV-4 (for flush mounting)

Speed controller

RS-...N (V)

Applications

Applied in ventilation systems for speed switching ON/OFF and speed control of the single phase power-controlled motors. Several fans can be controlled synchronously provided that the total current does not exceed the maximum controller current.

Design and control

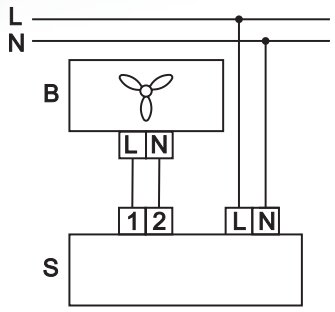
Controller has the plastic casing with the control knob, ON/OFF button and pilot light. The controller is featured with high efficiency and control accuracy. Regulation starts from the minimum fan stable running voltage value to the maximum one. The minimum rotation speed is set by means of the potentiometer on the PCB.

Protection

Input circuit of the speed controller has a thermal fuse for overload protection. The controller is fitted with a transient filter.

Mounting

The controller is designed for indoor wall mounting either on the wall (H modification) or through the wall (V modification).



Controller wiring diagram

Technical data

	RS-1 N (V)	RS-1,5 N(V)	RS-2 N (V)	RS-2,5 N(V)
Voltage [V/50 Hz]	1~230	1~230	1~230	1~230
Rated current [A]	1.0	1.5	2.0	2.5
Overall dimensions LxWxH [mm]	162x80x70	162x80x70	162x80x70	162x80x70
Maximum ambient temperature [°C]	40	40	40	40
Protection rating	IP44	IP44	IP44	IP44
Weight [kg]	0.3	0.3	0.3	0.3

Speed controller

RS...PS

Application

Used in ventilation systems for switching on/off and speed control of single-phase fan motors with voltage control.

Several fans can be controlled from the same unit in case the total consumption current does not exceed the permissible controller current value.

The controller has an additional terminal (230 V) for connecting external equipment.

Protection

The input circuit of the speed controller has overload protection.

Controller is equipped with a transient filter.

Design and control

The casing is made of plastic.

Equipped with a light indication of the controller operating status.

The controller is featured with high efficiency and control accuracy.

Start the controller by pressing the button.

Regulation starts from the minimum to the maximum voltage value. The maximum speed produces the smoothest rotation.

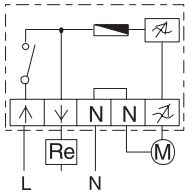
The minimum speed value is set by a variable resistor located at the controller circuit board.

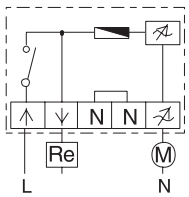
Mounting

The controller is suitable for indoor installation on the wall.

The versatile casing design allows fan mounting on the wall or inside the wall.

Suitable for installation inside the round junction boxes.





Technical data

	RS-0,5-PS	RS-1,5-PS	RS-2,5-PS	RS-4,0-PS
Voltage [V/50 Hz]	1~230	1~230	1~230	1~230
Minimum current [A]	0.05	0.1	0.2	0.4
Maximum current [A]	0.5	1.5	2.5	4.0
Overall dimensions LxWxH [mm]	82x82x65	82x82x65	82x82x65	82x82x65
Maximum ambient temperature [°C]	35	35	35	35
Protection rating	IP44	IP44	IP44	IP44
Weight [kg]	0.16	0.19	0.19	0.26

Speed controller

RS-...-T

Applications

Applied in ventilation systems for speed switching ON/OFF and speed control of single phase power-controlled motors. Several fans can be controlled synchronously in case their total consumption current does not exceed the maximum controller current.

Design and control

The controller casing is made of flame-retardant thermoplastic and fitted with ON/OFF knob with pilot light. The controller is featured with high efficiency and control accuracy. Output power is controlled from 30 to 100 % as a function of the control knob position. The minimum speed is set by means of the potentiometer at the PCB. The controller is equipped with an extra 230 V terminal for connection and controlling such external equipment as actuator-driven air dampers.

Protection

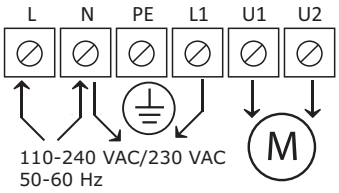
Input circuit of the speed controller has a thermal fuse for overload protection. The controller is fitted with a transient filter.

Mounting

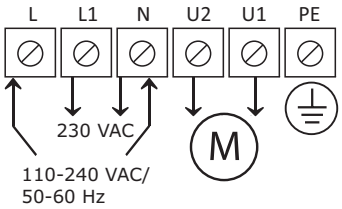
The controller is designed for indoor mounting. Installation shall be performed with respect to the free air circulation for inner circuit cooling. The controller is designed for vertical installation. Do not install the controller above the heaters and in bad air convection areas.

Technical data

	RS-3,0-T	RS-5,0-T	RS-10,0-T
Voltage [V/50(60) Hz]	1~230	1~230	1~230
Minimum current [A]	0.3	0.5	1.0
Maximum current [A]	3	5	10
Overall dimensions LxWxH [mm]	96x162x75	96x162x93	124x205x97
Maximum ambient temperature [°C]	-20...+35	-20...+35	-20...+35
Protection rating	IP54	IP54	IP54
Weight [kg]	0.46	0.62	1.04



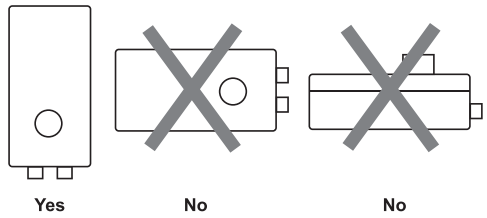
Controller wiring diagram RS-3,0-T; RS-10,0-T



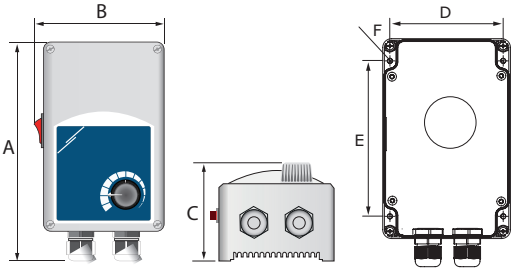
Controller wiring diagram RS-5,0-T

Wiring diagram and connections	
L	Power (230 VAC/50-60 Hz)
N	Neutral
PE	Ground terminal
L1	Non-adjustable output, (230 V/max. 2 A)
U1, U2	Adjustable motor output

Controller wiring diagram



Device operating position



	A	B	C	D	E	Ø F
RS-3,0-T	162	96	75	71	108,8	4,2
RS-5,0-T	162	96	93	71	108,8	4,2
RS-10,0-T	205	124	97	102	140	4,6

Overall dimensions [mm]

Speed controller

RS-...-TA

Applications

Applied in ventilation systems for switching ON/OFF and speed controlling of single phase power-controlled motors. Several fans can be operated synchronously in case their total consumption current does not exceed the maximum controller current.

Design and control

The controller casing is made of flame-retardant thermoplastic and fitted with a ON/OFF knob. Output power is controlled from 30 to 100 % with the control signal 0…10V or 4-20mA over the range set during the controller adjustment. The control signal type 0...10V or 4-20mA is selected with SW2 control switch located in the controller casing. Control can be performed by means of remote control panel, i.e., R-1/010 controller. The minimum speed is set by means of the potentiometer at the PCB. The controller is equipped with an extra 230 V terminal for connection and control of such external equipment as actuator driven air dampers.

Protection

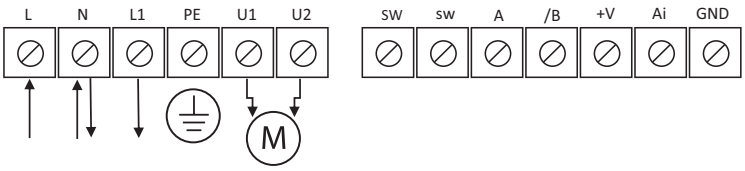
Input circuit of the speed controller has a thermal fuse for overload protection.

Mounting

The controller is designed for indoor mounting. Installation shall be performed with respect to the free air circulation for inner circuit cooling. The controller is for vertical installation. Do not install the controller above the heaters and in bad air convection areas.

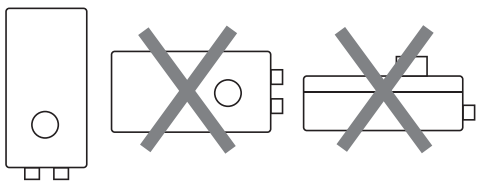
Technical data

	RS-3,0-TA	RS-6,0-TA	RS-10,0-TA
Voltage [V/50(60) Hz]	1~230	1~230	1~230
Minimum current [A]	0.3	0.5	1.0
Maximum current [A]	3	6	10
Overall dimensions LxWxH [mm]	205x124x92	180x127x95	180x127x95
Maximum ambient temperature [°C]	-20...+35	-20...+35	-20...+35
Protection rating	IP54	IP54	IP54
Weight [kg]	0.84	1.0	1.08

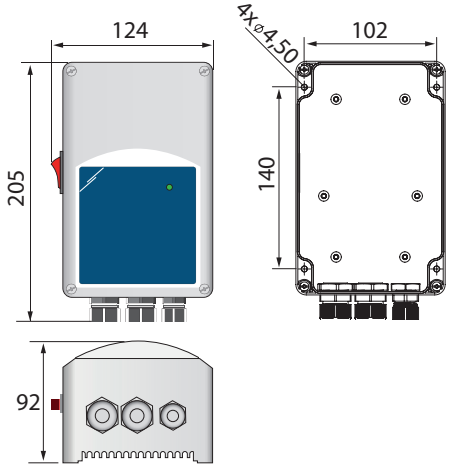


Controller wiring diagram

Wiring diagram and connections	
L	Power (230 VAC/50-60 Hz)
N	Neutral
PE	Ground terminal
L1	Non-adjustable output, (230 V/max. 2 A)
U1, U2	Adjustable motor output
SW	Remote switch/timer switch
A	Modbus RTU (RS485), signal A
/B	Modbus RTU (RS485) signal /B
+V	Power output +12 VDC/1 mA
Ai	Analogue input 0-10 V/0-20 mA (10-0 V/20-0 mA)/ Logic input (timer function)
GND	Grounding



Device operating position



Overall dimensions [mm]

Single phase speed controller

RSA5E-2-P

Speed control enables not only selecting the comfortable ventilation mode for the periodically visited premises but reducing the energy consumption for the ventilation.

Applications

RSA5E-2-P series speed controller is applied for air flow control of single phase fans by means of step control of motor speed. The controller has five speeds. Speed is set by means of rotating the control knob at the casing front panel. Several fans can be controlled synchronously in case their total consumption current does not exceed the maximum permissible value of the controller current.

Design

The controller casing is made of flame-retardant thermoplastic. The controller has five speeds with the output power 110V-130V-160V-190V-230V and incorporates ON/OFF button with pilot light, the control knob for speed switching and the emergency operation LED indicator. The integral motor protection device is included which cuts the supply voltage to the fan if the thermal contact in the fan motor is activated. After the temperature drops to the operating level the motor restarts.

The controller has the following supplementary functions:

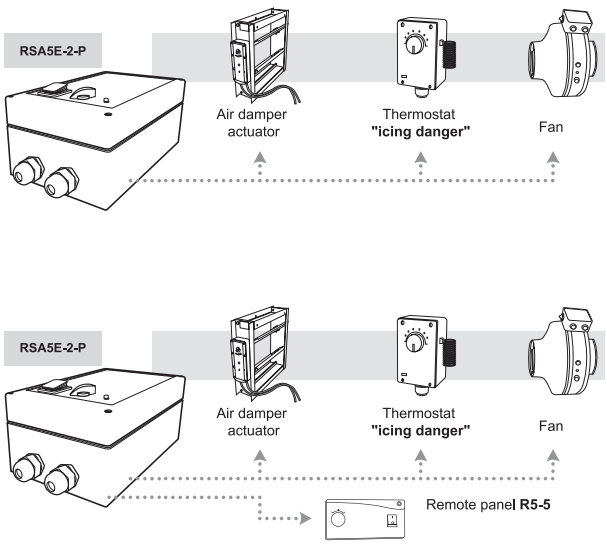
- terminals for connection to the room thermostat or to the thermostat for the icing protection. In case of the circuit breaking the power supply to the motor is disabled;
- terminals of 230 V, max. 2A for connection and controlling such external equipment actuator driven air damper;
- provision for remote speed control (refer the connection options).

Mounting

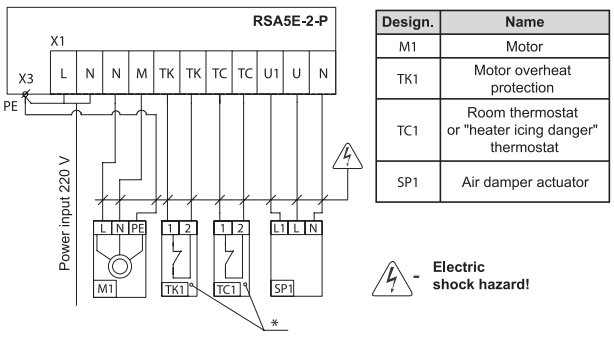
The controller is designed for indoor mounting. Installation shall be performed with respect to the free air recirculation for inner circuit cooling.

Technical data

	RSA5E-2-P
Voltage [V/50 Hz]	1~230
Rated current [A]	2.0
Overall dimensions LxWxH [mm]	222x120x100
Maximum ambient temperature [°C]	40
Protection rating	IP54
Weight [kg]	3.1



Controller connection options



Design.	Name
M1	Motor
TK1	Motor overheat protection
TC1	Room thermostat or "heater icing danger" thermostat
SP1	Air damper actuator

* - Controller operation without thermal motor protection (TK1) is effected with the jumper installed between TK terminals. Controller operation without thermostat TS1 is possible with the jumper installed between TS terminals.

Wiring diagram

Single phase speed controller

RSA5E-...-M

Speed controls enables not only selecting the comfortable ventilation mode for the periodically visited premises but reducing the energy consumption for the ventilation.

Applications

RSA5E-...-M series speed controllers are applied for air flow control of single phase fans by means of step speed control. The controller has five speeds. Speed is set by means of rotating the control knob at the casing front panel. Several fans can be controlled synchronously in case their total consumption current does not exceed the maximum permissible value of the controller current.

Design and control

Casing is made of steel with polymeric coating. The controller has five speeds with the output voltage 110 V – 130 V – 160 V – 190 V – 230 V (for RSA5E-10-M and RSA5E-13-M – 110 V – 140 V – 170 V – 190 V – 230 V). The controller is equipped with an operation indication lamp, a speed control knob.

Protection

The integral motor protection device is included which cuts the supply voltage to the fan if the thermal contact in the fan motor is activated. After the temperature drops to the operating level the motor restarts.

The controller has the following supplementary functions:

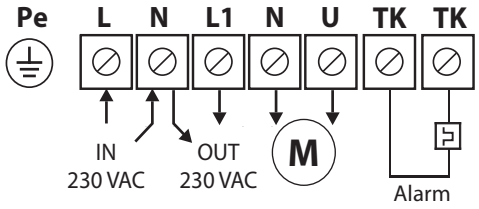
- terminals for connection to the room thermostat or to the icing protection thermostat. In case of the circuit breaking the power supply to the motor is cut, except for RSA5E-10-M and RSA5E-13-M;
- terminals of 230 V, max. 2A/3A/4A for connection and controlling such external equipment as actuator driven air damper;
- provision for remote speed control (refer the connection options), except for RSA5E-10-M and RSA5E-13-M.

Mounting

The controller is designed for indoor mounting. Installation shall be performed with respect to the free air circulation for inner circuit cooling.

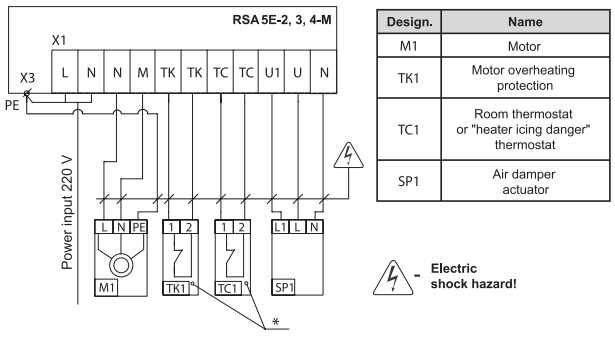
Technical data

	RSA5E-2-M	RSA5E-3-M	RSA5E-4-M	RSA5E-10-M	RSA5E-13-M
Voltage [V/50(60) Hz]	1~230	1~230	1~230	1~230	1~230
Rated current [A]	2	3	4	10	13
Overall dimensions LxWxH [mm]	226x144x120	241x164x138	241x184x132	325x300x185	325x300x185
Maximum ambient temperature [°C]	40	40	40	35	35
Protection rating	IP21	IP21	IP21	IP54	IP54
Weight [kg]	3.4	4.1	4.5	13.2	17.4



Controller wiring diagram

RSA5E-10-M, RSA5E-13-M wiring diagram and connections	
L	Power (230 VAC/50-60 Hz)
N	Power, neutral
L1	Non-adjustable output
N	Adjustable motor output, neutral
U	Adjustable motor output, phase
TK	TK control for thermal protection of motors
Pe	Ground terminal



Design.	Name
M1	Motor
TK1	Motor overheating protection
TC1	Room thermostat or "heater icing danger" thermostat
SP1	Air damper actuator

* - Controller operation without thermal motor protection (TK1) is possible with the jumper between TK terminals. Controller operation without thermostat TS1 is possible in case of jumper installation between TS terminals.

Wiring diagram

Single phase speed controller

RSA5E-...-T

Applications

RSA5E-…T series speed controllers are applied for air flow control of single phase fans by means of motor step speed control. The controllers have five speeds. Speed is set by means of rotating the control knob at the casing front panel to one of five available fixed positions. Several fans can be controlled synchronously in case their total consumption current does not exceed the maximum permissible value of the controller current.

Design and control

The controller casing is made of flame-retardant thermoplastic. The controller has five speeds with the output voltage 110V – 140V – 170V – 190V – 230V. 80V output is available, but not connected by default. It is possible to change the output voltages by changing the internal wiring. The controller is equipped with a speed control knob, an operation indication lamp. The integral motor protection device is included which cuts the supply voltage to the fan if the thermal contact in the fan motor is activated. After the temperature drops to the operating level the motor restarts.

The controller has the following supplementary functions:

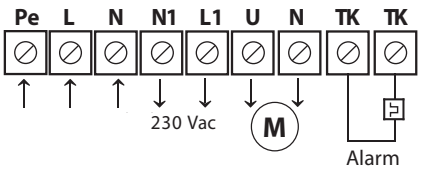
- terminals of 230 V, max. 2A for connection and controlling such external equipment as actuator driven air dampers.

Mounting

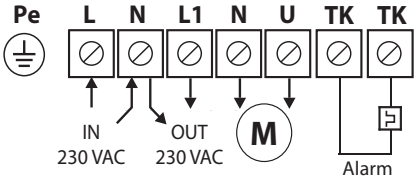
The controller is designed for indoor mounting. Installation shall be performed with respect to the free air recirculation for inner circuit cooling. The controller is for vertical installation. Do not install the controller above the heaters and in bad air convection areas.

Technical data

	RSA5E-1,5-T	RSA5E-3,5-T	RSA5E-5,0-T	RSA5E-7,5-T
Voltage [V/50(60) Hz]	1~230	1~230	1~230	1~230
Rated current [A]	1.5	3.5	5.0	7.5
Overall dimensions LxWxH [mm]	205x115x100	255x170x140	255x170x140	305x200x140
Maximum ambient temperature [°C]	-20…+35	-20…+35	-20…+35	-20…+35
Protection rating	IP54	IP54	IP54	IP54

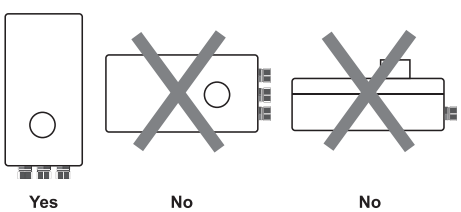


RSA5E 1,5-T wiring diagram and connections	
Pe	Ground terminal
L	Power (230 VAC/50-60 Hz)
N	Power, neutral
N1	Non-adjustable output, neutral
L1	Non-adjustable output
U	Adjustable motor output, phase
N	Adjustable motor output, neutral
TK	TK control for thermal protection of motors



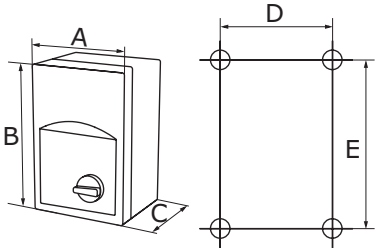
RSA5E 3,5; 5,0; 7,5-T wiring diagram and connections	
L	Power (230 VAC/50-60 Hz)
N	Power, neutral
L1	Non-adjustable output
N	Adjustable motor output, neutral
U	Adjustable motor output, phase
TK	TK control for thermal protection of motors
Pe	Ground terminal

Controller wiring diagram



Device operating position

	A	B	C	D	E
RSA5E-1,5-T	115	205	100	98	140
RSA5E-3,5-T	170	255	140	155	194
RSA5E-5,0-T	170	255	140	155	194
RSA5E-7,5-T	200	305	140	183	236



Overall dimensions [mm]

Three phase speed controller

RSA5D-...-T

Applications

RSA5D-…T series speed controllers are applied for air flow control of three phase fans by means of step speed control. The controllers have five speeds. Speed is set by means of rotating the control knob at the casing front panel to one of five available fixed positions. Several fans can be controlled synchronously in case their total consumption current does not exceed the maximum permissible value of the controller current.

Design and control

The controller casing is made of flame-retardant thermoplastic. The controller has five speeds with the output power 90V – 150V – 200V -280V – 400V and incorporates control speed knob, pilot light and controller emergency operatrion LED indicator.

The integral motor protection device is included which cuts the supply voltage to the fan if the thermal contact in the fan motor is activated. After the temperature drops to the operating level the motor restarts.

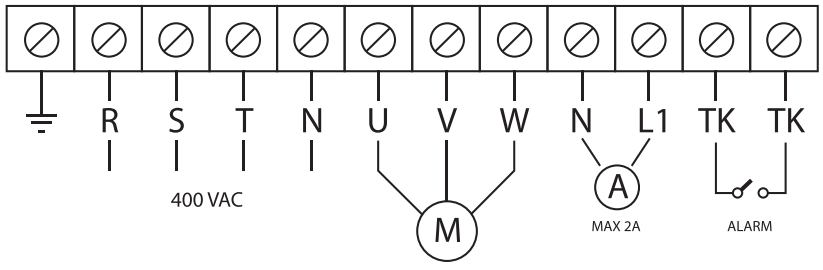
As supplementary functions the controller is fitted with terminals of 230 V, max. 2A for connection and controlling such external equipment as actuator driven air damper.

Mounting

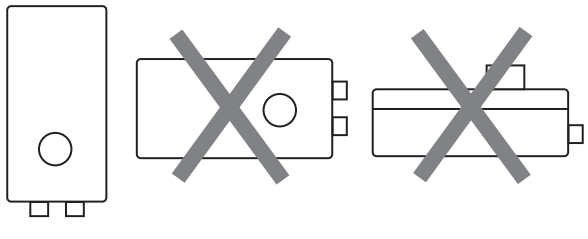
The controller is designed for indoor mounting. Installation shall be performed with respect to the free air recirculation for inner circuit cooling. The controller is for vertical installation. Do not install the controller above the heaters and in bad air convection areas.

Technical data

	RSA5D-1,5-T	RSA5D-3,5-T
Voltage [V/ 50 Hz]	3~400	3~400
Rated current [A]	1.5	3.5
Overall dimensions LxWxH [mm]	305x200x180	305x200x180
Maximum ambient temperature [°C]	+5…+35	+5…+35
Protection rating	IP44	IP44



Controller wiring diagram



Device operating position

Three phase speed controller

RSA5D-...-M

Applications

RSA5D-…M series speed controllers are applied for air flow control of three phase fans by means of step control of motor speed. The controllers have five speeds. Speed is set by means of rotating the control knob at the casing front panel to one of five available fixed positions. Several fans can be controlled synchronously in case their total consumption current does not exceed the maximum permissible value of the controller current.

Design and control

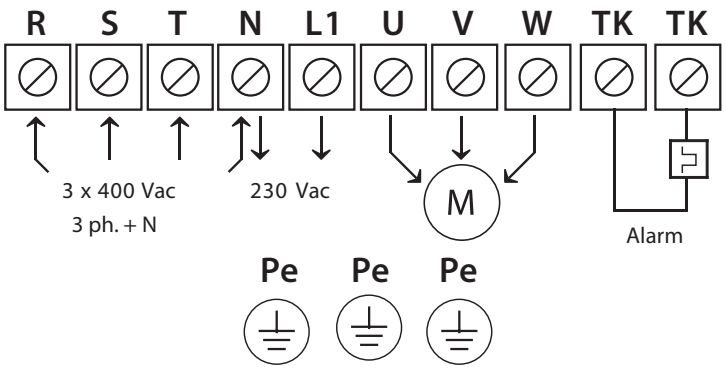
The controller casing is made of flame-retardant thermoplastic. The controller has five speeds with the output power 130 V – 180 V – 230 V – 300 V – 400 V and incorporates control speed knob, light indication for operation. The controller has built-in motor overheating protection which cuts power supply in case of exceeding the set temperature threshold. After the temperature drops to the operating level the motor restarts. As an additional function, the controller has terminals (230 V, max. 2 A) for connecting external equipment (e.g. air damper actuators).

Mounting

The controller is designed for indoor mounting. Installation shall be performed with respect to the free air recirculation for inner circuit cooling. The controller is for vertical installation. Do not install the controller above the heaters and in bad air convection areas.

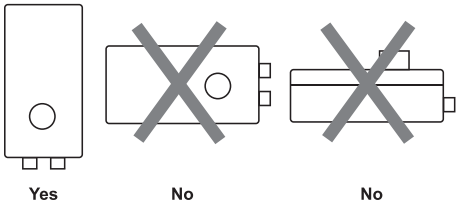
Technical data

	RSA5D-1,5-M	RSA5D-2,5-M	RSA5D-5,0-M	RSA5D-8,0-M	RSA5D-11,0-M	RSA5D-12,0-M
Voltage [V/50(60) Hz]	3~400	3~400	3~400	3~400	3~400	3~400
Rated current [A]	1.5	2.5	6.0	8.0	11.0	12.0
Overall dimensions LxWxH [mm]	325x300x185	325x300x185	425x300x235	425x300x235	430x400x235	425x300x250
Maximum ambient temperature [°C]	-20...+35	-20...+35	-20...+35	-20...+35	-20...+35	+5…+35
Protection rating	IP54	IP54	IP54	IP54	IP54	IP44



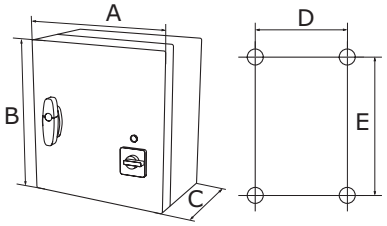
Controller wiring diagram

Wiring diagram and connections	
Pe	Ground terminals
R	3 x 400 VAC/50-60 Hz power supply
S	
T	
N	Neutral
L1	Non-adjustable output, phase (230 VAC/50-60 Hz/2 A)
U	
V	Adjustable motor output
W	
TK	TK control for thermal protection of motors



Device operating position

	A	B	C	D	E
RSA5D-1,5-M	300	325	185	255	255
RSA5D-2,5-M	300	325	185	255	255
RSA5D-5,0-M	300	425	235	255	355
RSA5D-8,0-M	300	425	235	255	355
RSA5D-11,0-M	400	430	235	355	355
RSA5D-12,0-M	400	430	235	355	355



Overall dimensions [mm]

Temperature controller

RT-10

Applications

Applied for control of the set indoor temperature as well as ventilation and air conditioning systems control.

Design and control

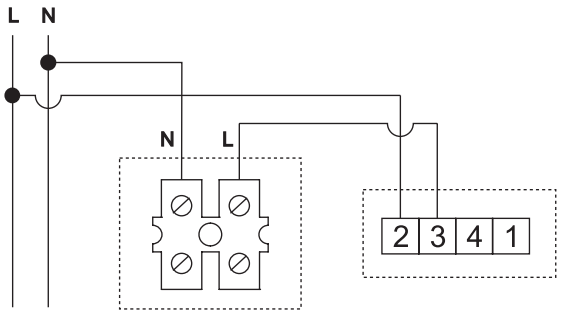
The casing is made of high-quality durable plastic. During the temperature increase or decrease with respect to the set value the thermostat opens or closes the contacts (the pattern is selected during the connection. The temperarture adjustment range is +10 up to +30 °C.

Mounting

The temperature controller is designed for indoor surface mounting. The recommended installation height is 1.5 m. Do not install the temperature controller close to windows, doors, heating or cooling devices.

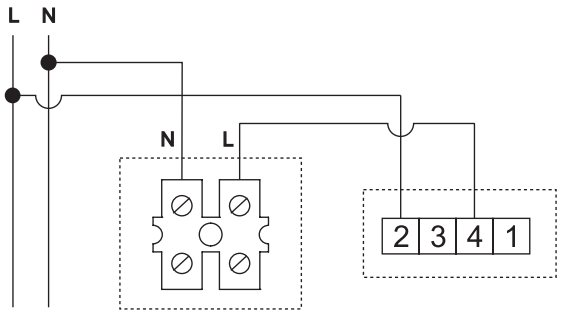
Technical data

	RT-10
Voltage [V/50 (60) Hz]	1~230
Overall dimensions LxWxH [mm]	84x84x35
Maximum ambient temperature [°C]	40
Protection rating	IP40
Hysteresis [°C]	0.5...1



The fan operates till reaching the temperature threshold level set in the temperature controller

fig. 1



The fan starts operation after reaching the temperature threshold set in the temperature controller

fig. 2

Temperature controller connection options

Wiring diagram, fig. 1

- maximum current of active load no more 10A
- maximum current of inductive load no more 3A

Wiring diagram, fig. 2

- maximum current of active load no more 6A
- maximum current of inductive load no more 2A

Temperature controller

TST-1-300
TSTD-1-300

Applications

Applied for temperature control in HVAC systems. Applicable for fan control as well as actuating of fan coils and air heating units driven by 230 V three-speed fans. Provides automatic air heating/cooling rate.

Design and control

The temperature sensor is built into the plastic control panel casing. A digital light-up LCD display and control knobs are located at the control face panel. The display shows the current and set indoor air temperature, selected mode for cooling, heating or automatic mode as well as set motor speed. The rotation speed can be adjusted manually by means of control knob rotation. Provision is made for automatic control of rotation speed (quick/medium/low) depending on the indoor temperature.

- LCD highlighting allows to use the room thermostat in low light conditions.
- Temperature control with accuracy up to 1 °C.
- The user setup saving during power cut-off.
- The model TSTD-1-300 is equipped with a remote controller.

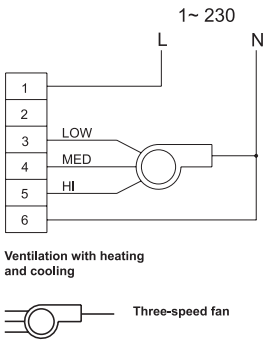
Mounting

The room thermostat is designed for indoor flush mounting. The recommended installation height is 1.5 m above floor level. The room thermostat is not designed for installation close to windows, doors, heating or cooling devices.

Technical data

	TST-1-300	TSTD-1-300
Voltage [V/50 Hz]	1~230	1~230
Rated current [A]	1 (0.6A)	1 (0.6A)
Number of selected speeds	3	3
Temperature adjustment range [°C]	+10…+30	+10…+30
Maximum ambient temperature [°C]	40	40
Protection rating	IP40	IP40
Remote control panel	no	yes

Controller connection options



Temperature controller

RTS-1-400
RTSD-1-400

Application

- Temperature control in ventilation, heating and air conditioning systems.
- Compatible with fans and fan coil valves, air heating units equipped with three-speed 230 V fans.
- Automatic control of heating/cooling capacity.

Design and control

- Plastic casing with a built-in temperature sensor.
- The front panel incorporates an integrated LCD display and control buttons.
- The display shows current and set indoor air temperature, set speed and a selected operation mode. The temperature controller may be set for cooling, heating or auto mode.
- The fan speed is set manually by pressing the control buttons.
- Automatic control of low/medium/high speed, depending on indoor air temperature.
- Due to illuminated LCD display the temperature controller is suitable for use in bad light conditions.
- Temperature control accuracy up to 1 °C.
- Saving of user setting saving in case of power outage.
- RTSD -1- 400 is available with a remote control.
- Night operation mode. For details, refer to the night operation mode diagram.

Mounting

- The temperature controller is designed for indoor wall flush mounting.
- The recommended installation height is 1.5 m above the floor level.
- The installation place must not be close to windows, doors and heating or cooling equipment.
- Wall flush mounting in the junction box MKV-1 (available upon separate order).

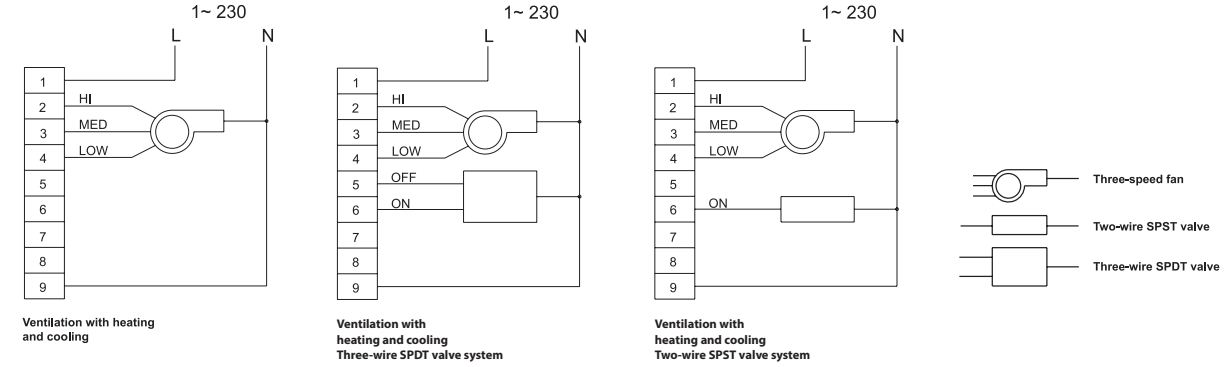
Technical data

	RTS-1-400	RTSD-1-400
Voltage [V] at 50 Hz	1~230	1~230
Rated current [A]	2,0	2,0
Number of speeds	3	3
Temperature range °C	+10…+30	+10…+30
Overall dimensions LxBxH [mm]	88x88x51	88x88x51
Maximum ambient temperature [°C]	40	40
Protection	IP40	IP40
Remote control	no	yes

Night mode operation

- **Operation in heating mode:** 30 minutes after activation of the night mode the indoor air temperature drops by 1 °C and by one more 1 °C in the next hour. In the next hour the air temperature drops by 1 °C more and remains constant for the next 5 hours. After turning the timer off the air temperature reaches the initial value.
- **Operation in cooling mode:** 30 minutes after activation of the night mode the indoor air temperature increases by 1 °C and by one more 1 °C in the next hour and remains constant for the next 6 hours. After turning the timer off the air temperature drops down to the initial value.

Temperature controller wiring options

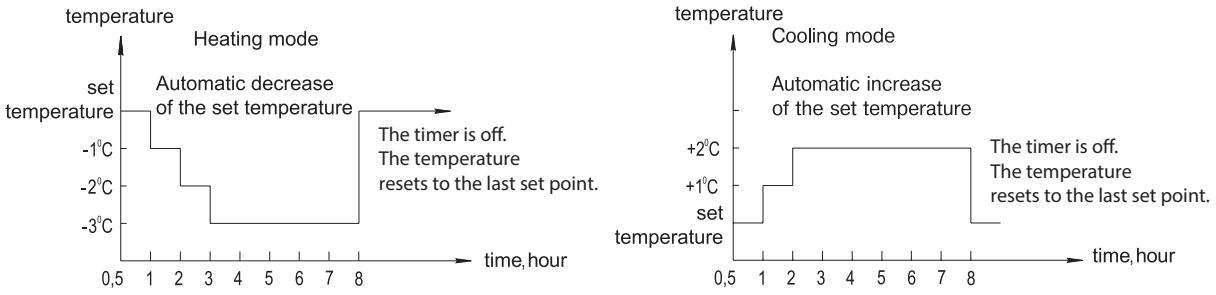


Ventilation with heating and cooling

Ventilation with heating and cooling Three-wire SPDT valve system

Ventilation with heating and cooling Two-wire SPST valve system

Operation in night mode



JUNCTION BOX FOR WALL FLUSH MOUNTING

MKV-1

Sensor speed switch

SP3-1

Application

Applied in ventilation systems for turning the fans on/off and speed switch of multi-speed fan motors.

Design and control

The casing is made of plastic and is equipped with a sensor panel made of hardened glass. The sensor panel has three speed switch buttons. Press a respective speed button to activate a required speed of a connected ventilation unit.

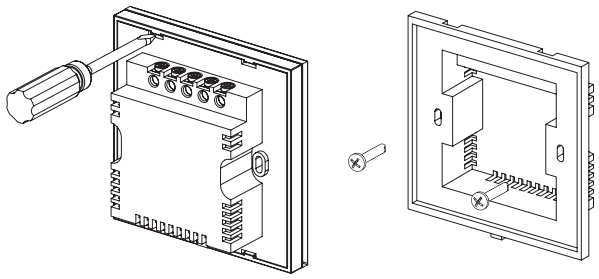
Press an activated speed button to turn the ventilation unit off. The activated speed button glows blue.

Mounting

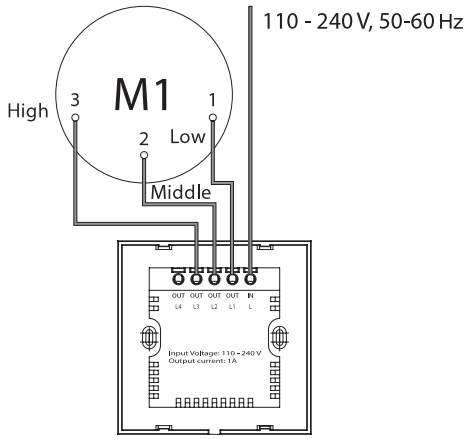
The speed switch is designed for indoor mounting into special surface mounting box MKN-5 (upon special order) or flush mounting junction box MKV-1 (included).

Technical data

	SP3-1
Voltage [V/50 (60) Hz]	110-240
Maximum load current [A]	1
Cable cross section	0.35 up to 1 mm²
Temperature range [°C]	from -10 up to +45
Humidity range	5 % up to 80 % (no condensation)
Service life	100 000 switching operations
Protection rating	IP30
Weight [kg]	0.138

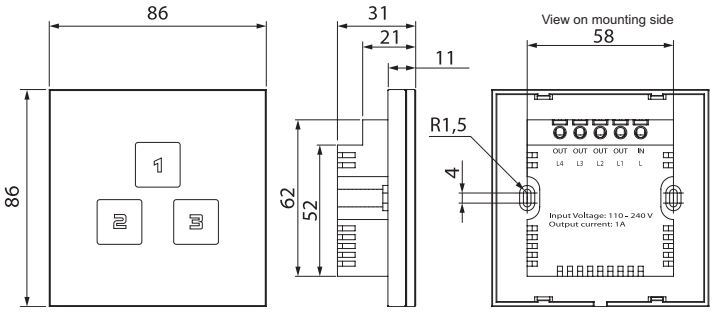


Sensor speed switch mounting



Sensor speed switch mounting

Overall dimensions:



SURFACE MOUNTING JUNCTION BOX

MKN-5

Switch

P2-1-300
P3-1-300

Applications

Applied for speed ON/OFF switching and speed select switching in the fans with multi-speed motors.

Design and control

The casing is made of plastic. Provision is made for the direct switching of the motor speeds (wiring diagram 1 and 3) as well as fan switching ON and control synchronically with lightening in the room (wiring diagram 2 and 4).

Mounting

Speed switch is designed for indoor wall mounting inside a flush mounting box MKV-2 (under separate order). It can be installed into standard round electric junction boxes.

Technical data

	P2-1-300	P3-1-300
Voltage [V/ 50 Hz]	1~230	1~230
Rated current [A]	3.0	3.0
Number of selected speeds	2	3
Overall dimensions LxWxH [mm]	88x88x51	88x88x51
Maximum ambient temperature [°C]	40	40
Protection rating	IP40	IP40
Weight [kg]	0.13	0.13

SWITCH CONNECTION OPTIONS

diagram 1

The fan can be manually switched ON to one of the three required speeds or switched OFF by means of external speed switch as P3-1-300.

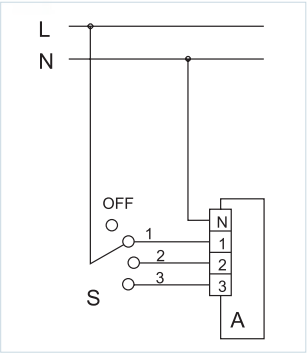


diagram 2

The fan can be manually switched ON to one of three speeds by means of such external S speed switch as P3-1-300. When switching the fan ON the light is switched in parallel ON. The fan can be switched OFF with parallel switching the light OFF. The fan operates both with light or without it.

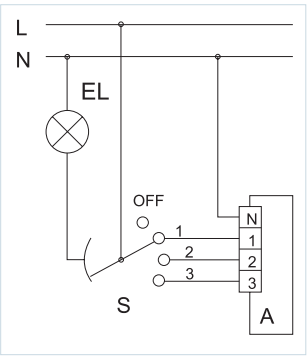


diagram 3

The fan can be manually switched ON to one of the two required speeds or switched OFF by means of the external speed switch as P2-1-300.

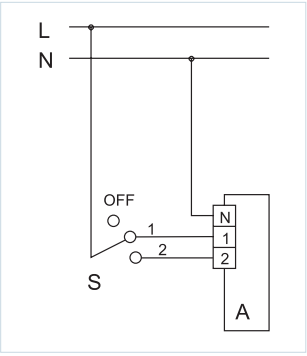
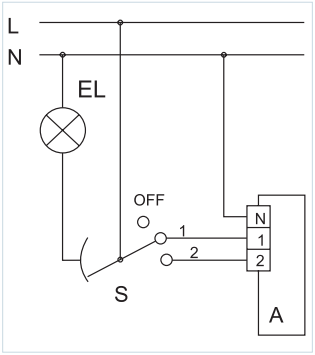


diagram 4

The fan can be manually switched ON to one of three speeds by means of the external S speed switch as P2-1-300. When switching the fan ON the light is switched in parallel ON. The fan can be switched OFF with parallel switching the light OFF. The fan operates both with light or without it.



FLUSH MOUNTING JUNCTION BOX

MKV-2

Switch

P2-5,0 N(V)
P3-5,0 N(V)
P5-5,0 N(V)

Applications

Applied for speed ON/OFF switching and speed selection in the fans with multi-speed motors.

Design and control

The switch casing is made of plastic and fitted with ON/OFF knob with operating mode indicator light. The fan speeds can be switched directly or by means of the remote panel for speed switching for multistage transformer speed controller as P5-5,0 for five-stage transformer speed controller.

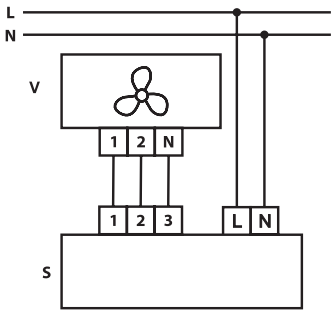
Mounting

The universal design of the controller enables its indoor wall mounting either on the wall (H modification) or through the wall (V modification).

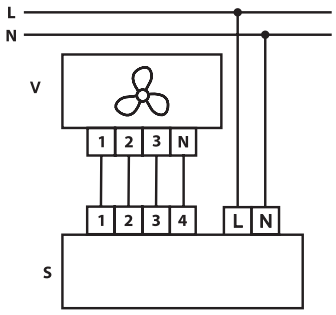
Technical data

	P2-5,0	P3-5,0	P5-5,0
Voltage [V/ 50 Hz]	1~230	1~230	1~230
Rated current [A]	5.0	5.0	5.0
Number of selected speeds	2	3	5
Overall dimensions LxWxH [mm]	162x80x70	162x80x70	162x80x70
Maximum ambient temperature [°C]	40	40	40
Protection rating	IP40	IP40	IP40
Weight [kg]	0.25	0.25	0.25

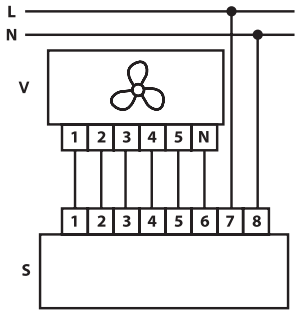
V – fan;
S – switch



P2-5,0 N(V)



P3-5,0 N(V)



P5-5,0 N(V)

Switch connection options

Speed switch

P2-10

Application

Turning fan on/off and speed switching for multi-speed fans.

Design and control

The speed switch casing is made of non-combustible and impact-resistant ABS plastic. The switch has an integrated on/off button and a speed switch button.

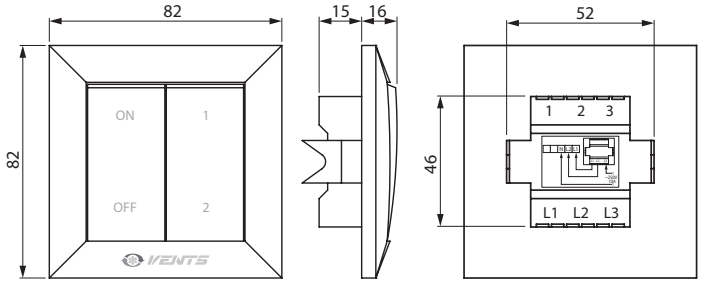
Mounting

The speed switch is designed for indoor installation and flush wall mounting inside a junction box and its fixation with screws or fixing lugs. A junction box and fasteners are not included in the delivery set.

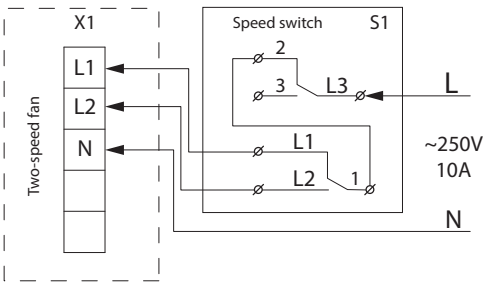
Technical data

Max. power voltage [V]	250
Max. load current [A]	10
Cable cross section [mm²]	from 0.35 up to 0.75
Temperature range [°C]	from -10 up to +45
Humidity range [%]	5 – 80 (no condensation)
Service life	1 000 000 switching operations
Protection rating	IP40
Weight [kg]	0.098

Overall dimensions [mm]:

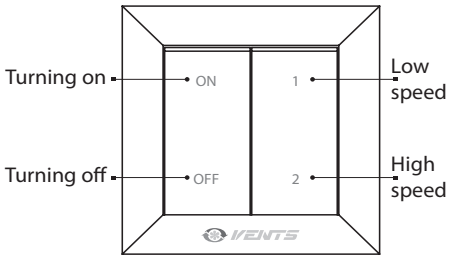


Wiring diagram:

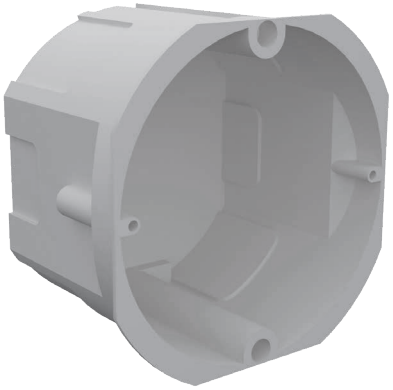


Speed switch control:

Control: switch buttons for turning on/off and speed changeover.



JUNCTION BOX



MKV-4 (flush mounting)

Speed controller

R-1/010

Applications

Applied for smooth speed control of EC motors with the control input 0-10 V.

Design and control

The controller casing is made of plastic. Switching ON/OFF is effected by means of control knob rotation. The control range starts from the minimum possible value and includes the maximum possible values.

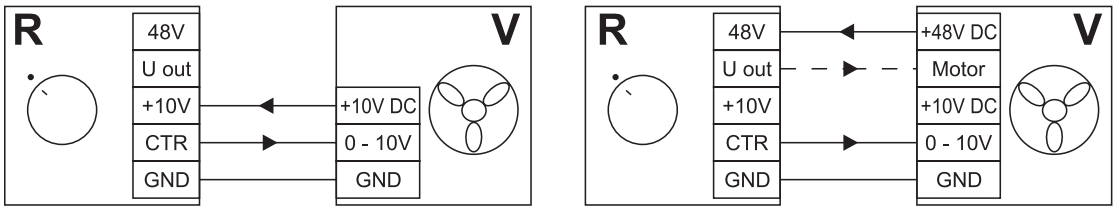
Mounting

The controller is designed for indoor mounting into special surface mounting (MKN-3) or flush mounting (MKV-4) junction box (under separate order) or into standard round electric junction boxes.

Technical data

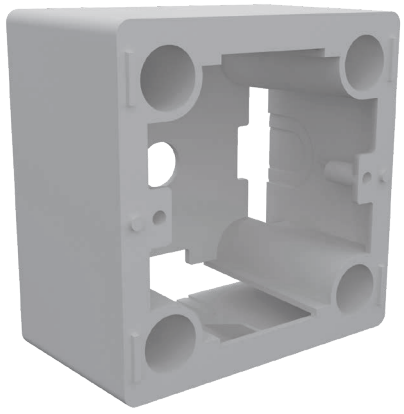
	R-1/010
Voltage [V]	10-48VDC
Control signal [V]	0-10
Maximum current [mA]	5mA
Overall dimensions LxWxH [mm]	78x78x63
Maximum ambient temperature [°C]	35
Protection rating	IP40
Weight [kg]	0.12

Designation key
V – fan;
R – controller R-1/010

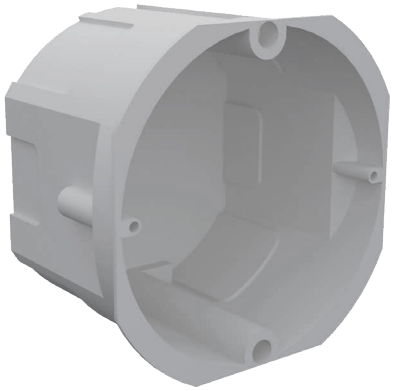


Controller wiring diagram

MOUNTING JUNCTION BOX



MKN-3 (for surface mounting)



MKV-4 (for flush mounting)

Electro-mechanical humidistats

HR-S

Purpose

The humidistat is designed for controlling humidification and/or dehumidification in ventilation, air conditioning and heating systems. Can also be used to alarm when the humidity exceeds or falls below a pre-set level.

Design

The single-stage humidistat HR-S uses a synthetic element as sensor medium. The synthetic element stretches as the humidity increases and shrinks as the humidity decreases.

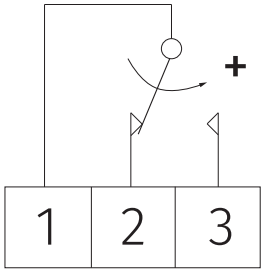
Mounting

The humidistat is designed for indoor mounting on the wall surface.

Technical data

Switch contact	250 V AC, 5 A
Moisture [%]	20-90 %
Casing material	Polycarbonate
Temperature range [°C]	0-40
Mounting	Wall surface mounting
Ingress protection	IP30
Dimensions [mm]	86x86x30

Humidistat wiring diagram



Humidification	Closing contact between terminals 1 and 2
Dehumidification	Closing contact between terminals 1 and 3

Series

DPWC11200

Features

The DPWC humidity sensor is intended for humidification control in air ventilation, air conditioning and heating systems.

Design

The DPWC11200 humidity and temperature sensor has 2 analogue outputs: 0-10 V and 4-20 mA. An analogue output provides for stepless fan speed control (requires an EC-motor fan or an extra speed controller with an output 0…10 V, for example, VFED). With stepless control the fan speed is changed in proportion to the humidity level.

Mounting

The sensor is mounted onto a wall in the serviced space. The unit is powered from a 24 V AC/DC low-current electric mains.

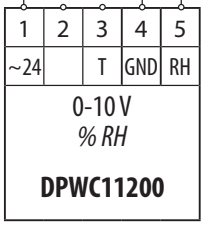
Technical data

Parameters	Values
Power source	8-30 V DC/12-24 V AC
Analogue outputs	0-10 V and 4-20 mA
Temperature measurement precision	±1,2 °C
Humidity measurement precision	±3 % RH
Operating conditions	-10-60 °C; 10-90 % humidity without condensate
Protection class	IP30
Dimensions [mm]	127x80x30

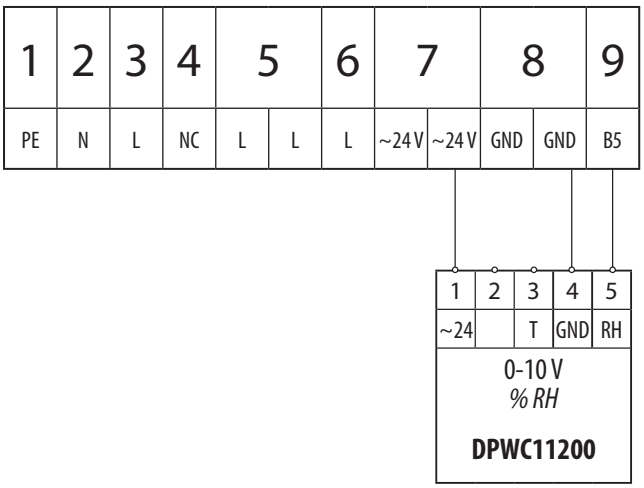
Connection diagram

VUTR P/V EC

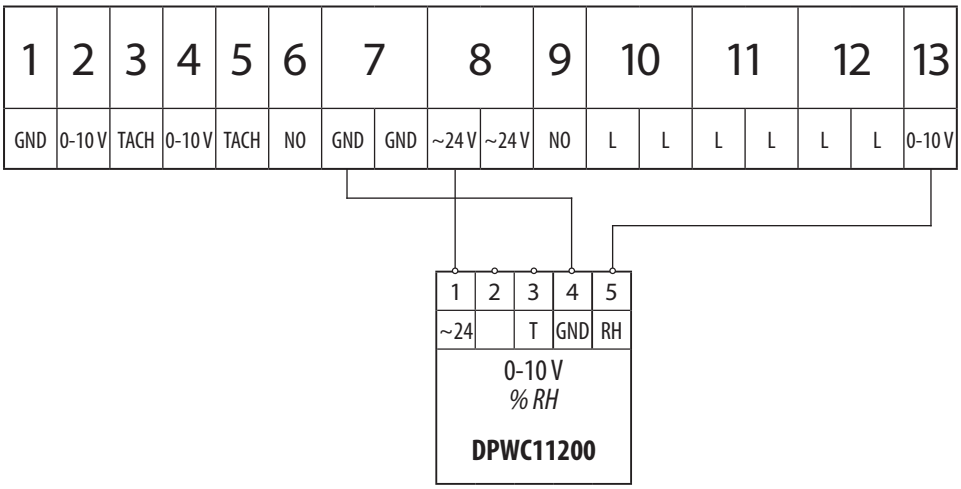
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
GND	R+	R-	GND~	~24 V	0-10 V	GND	~24 V	NO	NO	NO	NO	2	1	2	1	TS1	TS1	PE	N	L	N	L1



DVUT HB EC



DVUT PB EC



Sensor

T-1,5 N
TH-1,5 N
TF-1,5 N
TP-1,5 N

T-1,5 N – run out timer

Enables the fan operation within the set time period after pressing the knob for switching the fan OFF. After the set time from 2 to 30 minutes the fan switches automatically OFF. The run-out timer is generally applicable for the fans installed in bathrooms, WC or kitchens.

TH-1,5 N – humidity sensor

The fan with such sensor switches automatically ON in case of exceeding the set humidity level. A user can independently adjust the required humidity level based on personal preferences.The humidity sensor is generally applicable for the fans installed in the premises with increased humidity as bathrooms, kitchens, washing rooms or pools.

TF-1,5 N – timer + photo sensor

The built-in photo sensor responds to the indoor illumination rate fluctuations and has the provisions for automatic switching the fan ON accordingly. In case of light switching OFF the fan will be switched OFF with respect to the built-in run-out timer with the time period set between 2 to 30 minutes. In such a way the ventilation system fitted with a photo sensor is fully automated and requires no human control. The photo sensor is generally applicable for the fans installed in periodically visited premises.

TP-1,5 N – infra-red sensor

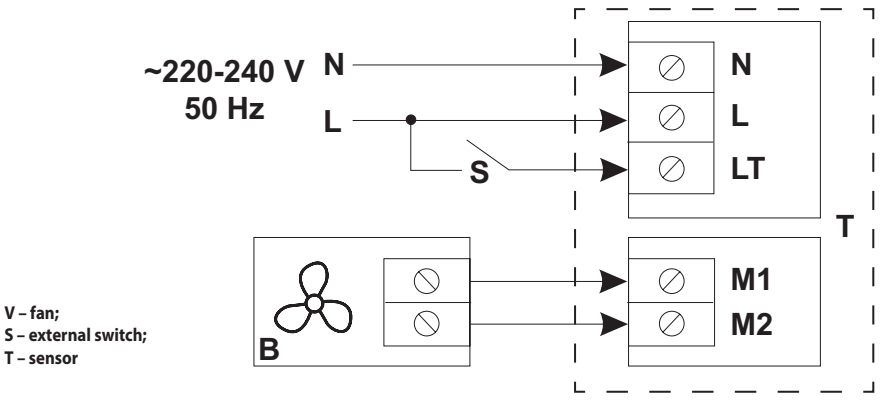
The built-in infra-red sensor responds to movement in a room and switches the fan automatically ON. If the room is empty the fan switches OFF with respect to the built-in run-out timer adjustable between 2 to 30 minutes. In such a way the ventilation system fitted with infra-red sensor is fully automated and requires no human control. The infra-red sensor is generally applicable for the fans installed in periodically occupied spaces.

Mounting

The sensors are designed for indoor wall surface installation (Modification N).

Technical data

	T-1,5 N/TH-1,5 N TF-1,5 N/TP-1,5 N
Voltage [V/50 Hz]	230
Max. power [VA]	330
Max. current [A]	1.5
Overall dimensions LxWxH [mm]	162x80x70
Timer operating conditions [°C]	from 1 up to +45
Protection rating	IP30
Weight [kg]	0.400

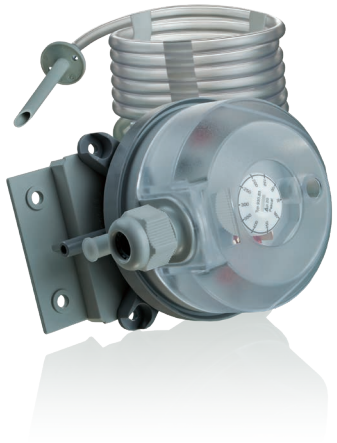


V – fan;
S – external switch;
T – sensor

Switch wiring diagram

Pressostat

DTV 500



Application

The pressure differential switch is used to determine air rarefaction or air (non-aggressive gases) pressure drop. It is used in ventilation systems to determine air filter clogging degree or belt breaking in centrifugal fans, etc.

Design and control

The pressostatt switch of made of plastic. The pressure differential for the pressure switch actuation is set by turning the disk in the casing. The delivery set includes 2 plastic pressure outlets for pressure tap-off, PVC tubes Ø 5 mm and 2 m long.

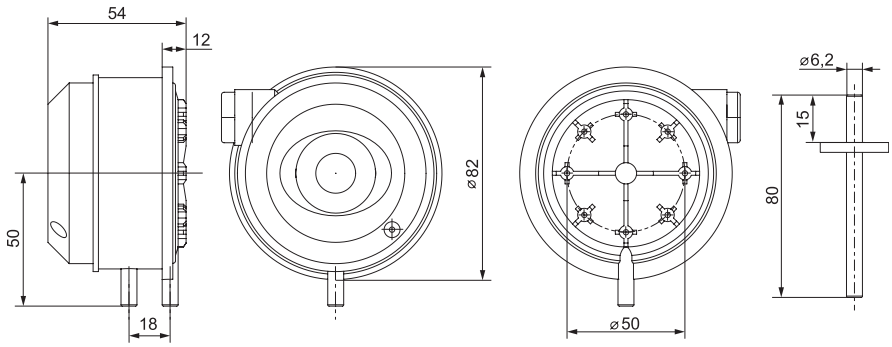
Mounting

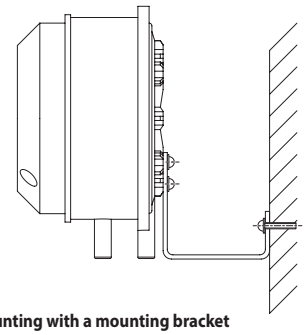
The pressure switch is designed for surface wall mounting or installation into air ducts on the mounting bracket with two Ø 5 mm openings located at 40 mm center-to-center distance. The switch is suitable both for vertical and horizontal installation. However vertical orientation is preferable because in case of horizontal orientation the switching point will be shifted for 11 Pa. The length of pressure outlet tubes is variable but the relay actuation time increases if the tube length is above 2 m. Install the differential pressure switch above the pressure tapping points. Connect the tubes in such a way as to avoid formation of tubular loops to prevent condensate accumulation inside the tubes.

Technical data

	DTV 500
Number of contacts	1
Contact data [A]	5 (0.8) 250 V AC
Reset mechanism	changeover
Pressure range [Pa]	50...500
Hysteresis loop	25 Pa +/- 8 Pa
Protection rating	IP54

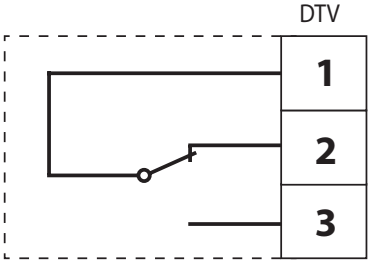
Overall dimensions





Mounting with a mounting bracket

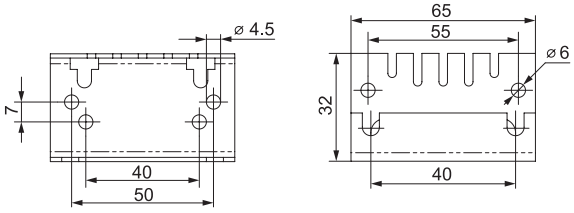
Pressostat wiring diagram



General

The switch closes the terminals 1-2 when the pressure is low

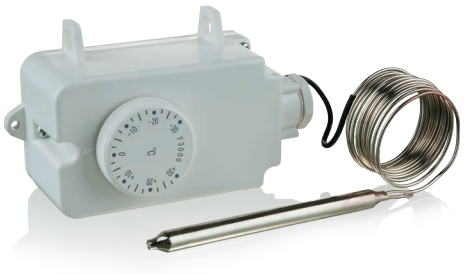
The switch closes the terminals 1-3 when the pressure is high



Metal mounting bracket

Thermostat

F-3000



Application

The thermostats with bridging contacts are designed for regulation of air temperature, temperature of liquids and gases and are widely used in electric water heaters, dishwashing and clothe washing machines, drying machines, electric furnaces, etc. The thermostat is used to prevent freezing of water heaters and heat exchangers according to exhaust air temperature readings.

Design and control

The operating logic is based on volumetric thermal extension. The thermostatic bulb is located in the copper sleeve. Liquid placed inside the thermostatic bulb is heated, expanded and its excessive volume is transferred through the capillary tube to the bellows. The bellows are elongated and transmit force to the relay contact. Thus the set temperature is maintained in the system. The thermostat casing is made of plastic. The temperature probe is made of copper. The response temperature is set by rotation of the disk in the casing.

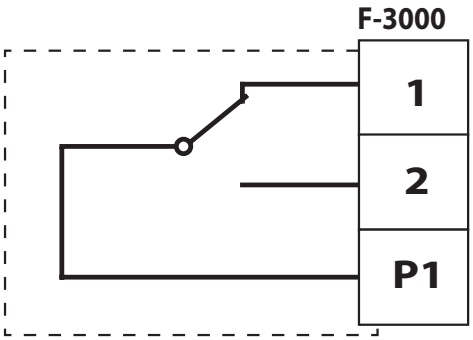
Mounting

The thermostat is suitable for wall surface mounting or installation in the duct in any position. The casing is fixed to the surface with screws on the front panel. The thermostatic bulb is designed for operation in tempersture-controlled environment. The thermostat is connected with the thermal bellows with 1.5 m long capillary tube.

Technical data

	F-3000
Relay switching capacity	16A 230 V (active load)
Length of the capillary tube [m]	1.5
Operating temperature range [°C]	-30 up to +30
Reset mechanism	changeover
Operating pressure range [Pa]	50...500
Number of contacts	1 per switch
Protection rating	IP54

Thermostat wiring diagram



If current temperature is below set value the contacts P1 and 1 are closed

If current temperature is above set value the contacts P1 and 2 are closed

General

Electric triac temperature controllers for single and two-phase electric heaters

PULSER-M

Application

The triac controller **PULSER-M** is designed for control of electric heaters power output. The controller design allows connecting to single or two phase heater.

Design and control

PULSER-M is equipped with a built-in temperature controller for indoor temperature control and external main sensor as well as input terminals for connection of the built-in temperature sensor that can be used as a main sensor and the sensor for minimum and maximum limitations. The temperature controller selects required voltage automatically depending on 230 or 400 V operation. P or PI control law is selected automatically. Temperature setting range depends on the used temperature sensor, refer temperature sensors TG-K.

Mounting

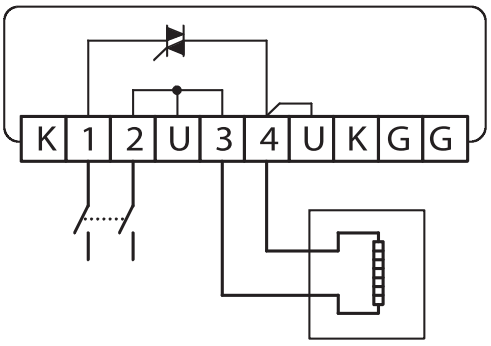
The controller is designed for mounting on the vertical level surface between power supply and the electric heater.

Technical data

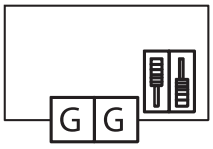
	PULSER-M
Maximum load current	16 A (3400/6000 W)
Voltage [V]	230/400
Pulse period	60 s
Overall dimensions [mm]	94x150x43
Weight [kg]	0.300
Protection rating	IP20

Wiring diagrams

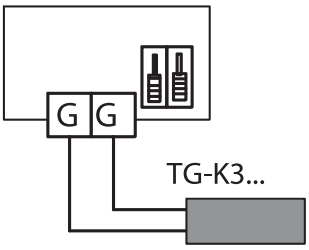
Connection to electric heater and power mains



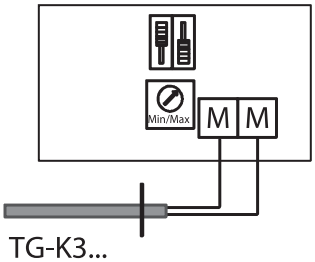
Built-in sensor and settings



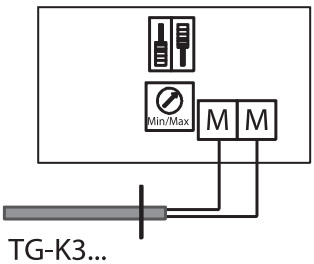
Connection of external sensors



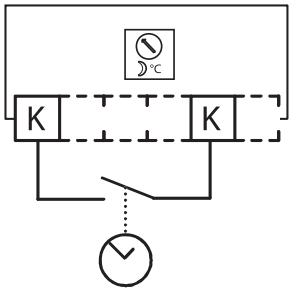
Connection of the sensor for minimum temperature



Connection of the sensor for maximum temperature



Connection for night set-back



TRIAC power controller for electric heaters

RNS

Applications

Applied in ventilation systems for regulating the power output of electric heaters with load current rating up to 120 A.

Design and control

The controller casing is made of flame-retardant thermoplastic. The controller is equipped with an ON/OFF button and a heating temperature control knob. Electric power output is regulated by proportional connection and disconnection of the full load depending on the pre-set heating temperature. The RNS-16 is capable of controlling only one heating stage. Unlike the smaller models, RNS-25 are capable of controlling one or three heating stages with the power output equal or exceeding that of the controlled stage. The power output of the first stage is controlled steplessly by switching the full load on and off. The second and third stages are controlled in steps. For overheating protection the electric heater must be equipped with two built-in thermal contacts: TK50 with intervention temperature of +50 °C and automatic restarting and TK90 with response temperature of +90 °C and manual restarting. The air temperature is set by means of the built-in potentiometer or the external control device generating a 0-10 V control input for increasing the duct temperature proportionally in the range from 0 to +40 °C. The duct temperature sensor must be installed downstream of the heater in the direction of the air stream at the minimum distance of 50 cm from the heater. If the controller runs in the heating power output mode in disregard of the temperature sensor feedback, no duct temperature sensor is necessary whereas the heating power output is regulated in the 0 to 100 % range by means of the 0-10 V control signal.

Protection

Input circuit of the power controller has a thermal fuse for overload protection.

Mounting

The controller is designed for indoor mounting. Installation shall be performed with respect to the free air circulation for inner circuit cooling. The controller is for vertical installation. Do not install the controller above the heaters and in bad air convection areas.

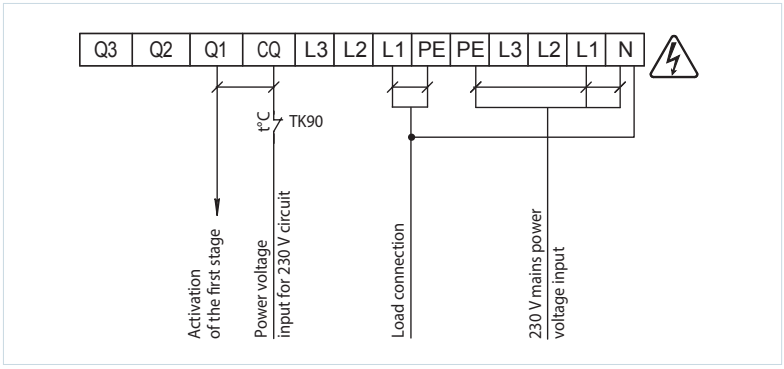
Technical data

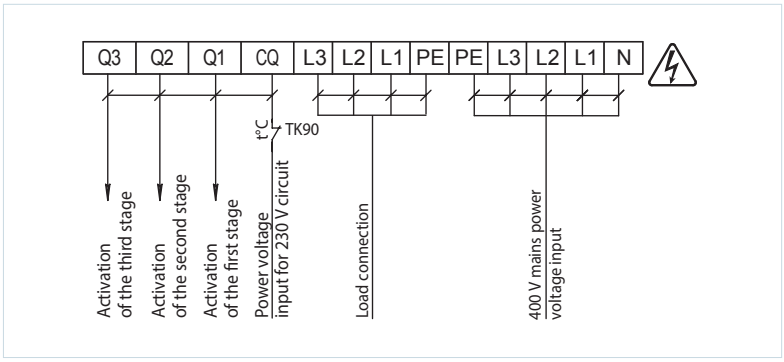
	RNS-16	RNS-25
Max. load current (single stage) [A]	25	40
Heater power (single stage) [kW]	16	25
Max. load current (three stages) [A]	–	120
Heater power (three stages) [kW]	–	75
Control circuit supply voltage	~230 V/50 Hz	
Nominal current of control circuit board fuse [A]	0.1	
Cross-section area of screw terminal block input pin [mm²]	4...10	
Protection rating	IP54	
Overall dimensions [mm]	170x255x140	
Weigh [kg]	1.2	
Mains parameters: • voltage [V] • frequency [Hz] • phases	 210-255, 380-415 50-60 1 or 3	
Operating temperature range [°C]	+5...+40	

Note: heat generated by the RNS-16 controller themselve is 50 W, by the RNS-25 controller – 80 W.

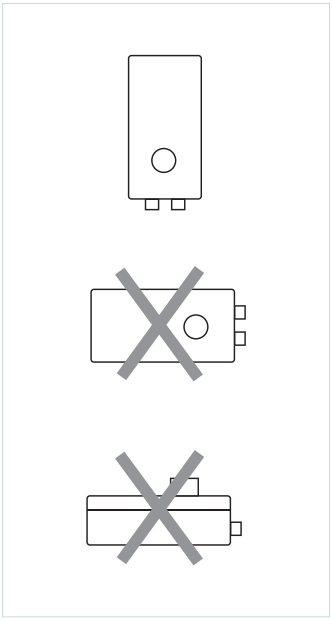
Control parameters	
Regulation time [s]	0.1 (fixed)
Cycle length [s]	1...10 (adjustable)
Indication	Power, operation and malfunction indicator
Type of temperature sensor used	LM 60
Input signal parameters [V]	0...10 (direct current)
Set temperature range [°C]	0...40 (adjustable)

External connections diagram

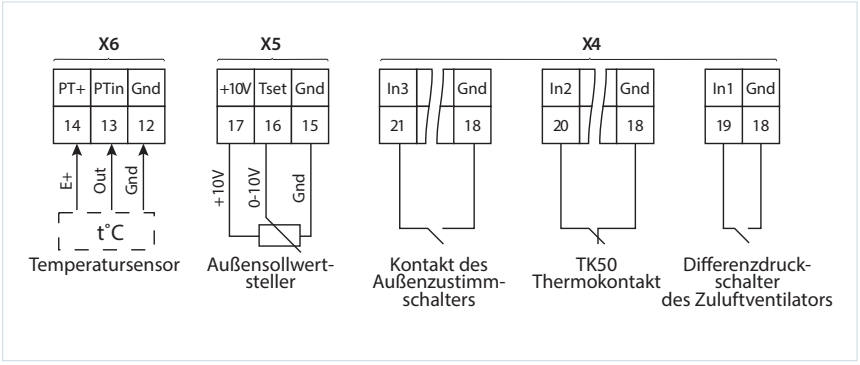




Attention!
THE CONTROLLER IS INTENDED FOR VERTICAL MOUNTING ONLY!



Control unit wiring diagrams



Duct temperature sensors

KDT-M/KDT-M1

Application

The duct temperature sensors are designed for installation in the air duct and temperature measurement of the air flow in the ventilation and air conditioning systems.

Design

The sensing element, NTC thermometer resistor, is enclosed in the aluminium sleeve. The thermometer resistor electric resistor depends on the temperature, the non-linear resistance. Connection of the sensor to the controller is double-wired, regardless of polarity.

The KDT-M sensor delivery set includes a mounting flange with a fixing screw for its fixation to the air duct wall. The sensors are supplied with a 2.5 m connecting cable. The immersion depth is adjusted for 100, 150, 200 or 400 mm.

Mounting

Fixation with screws to the air duct wall by means of the flange with the sensing element located the air stream.

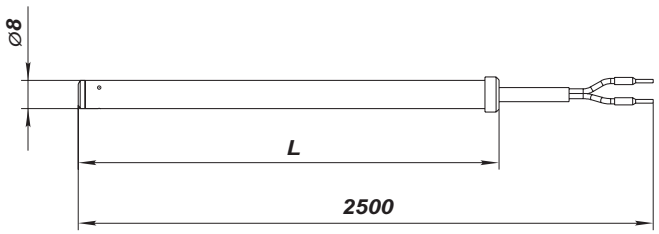
Technical data

	KDT-M/KDT-M1
Temperature measuring range [°C]	-30…+80
Voltage [V]	≤ 5 DC*
Output	resistance
Electric connection	double-wire, cross section 2x0.25 mm^2
Relative humidity	up to 90 %, no condensation
Protection rating	IP54
Electrical appliance class	III

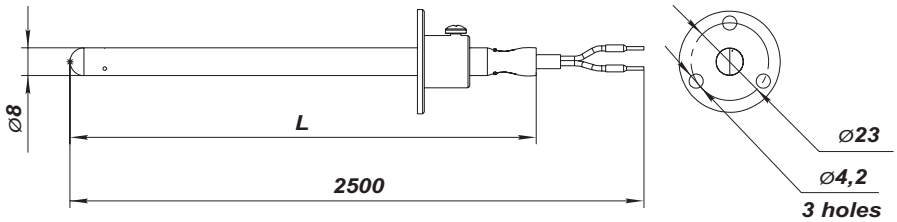
*Maximum current generated through the sensor by the applied voltage is 2 mA.

Overall dimensions:

Type	L [mm]
KDT-M 100/KDT-M1 100	100
KDT-M 150/KDT-M1 150	150
KDT-M 200/KDT-M1 200	200
KDT-M 400/KDT-M1 400	400



KDT-M1 duct temperature sensor



KDT-M duct temperature sensor

Duct temperature sensors

KDT2-M/KDT2-M1

Application

The duct temperature sensors are designed for installation in the air duct and temperature measurement of the air flow in the ventilation and air conditioning systems.

Design

The sensor consists of the integrated circuit chip located inside the plastic casing. This sensor type has a linear transfer characteristics of output voltage to temperature and a three-wire connection to power mains.

This sensor type is not compatible with resistance sensors. During electric connections the polarity of the outputs connected to the inputs of the air handling units must be considered.

The KDT-M sensor delivery set includes a mounting flange with a fixing screw for its fixation to the air duct wall.

The KDT-M sensor delivery set includes a mounting flange with a fixing screw for its fixation to the air duct wall. The sensors are supplied with a 2.5 m connecting cable. The immersion depth is adjusted for 100, 150, 200 or 400 mm.

Mounting

Fixation with screws to the air duct wall by means of the flange with the sensing element located the air stream.

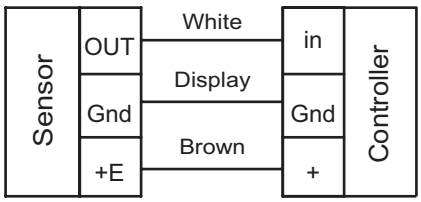
Technical data

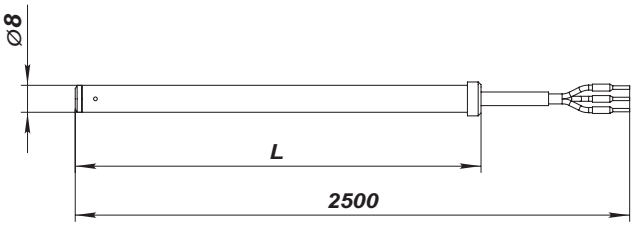
	KDT2-M/KDT2-M1
Temperature measuring range [°C]	-30…+80
Voltage [V]	2,7…10
Output resistance [Ohm]	800
Electric connection	three-wire, cross section 2x0.25 mm²
Relative humidity	up to 90 %, no condensation
Protection rating	IP54
Electrical appliance class	III

Overall dimensions

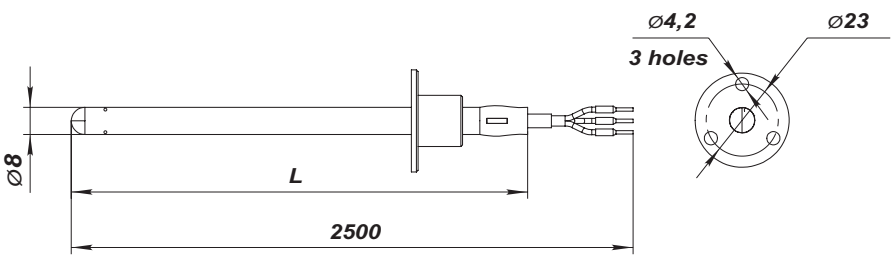
Type	L [mm]
KDT2-M 100/KDT2-M1 100	100
KDT2-M 150/KDT2-M1 150	150
KDT2-M 200/KDT2-M1 200	200
KDT2-M 400/KDT2-M1 400	400

Wiring diagram





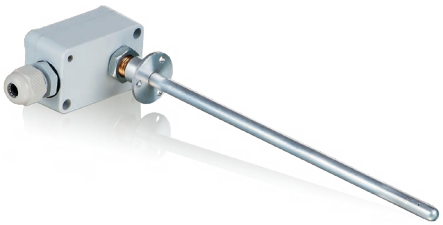
KDT2-M1 duct temperature sensor



KDT2-M duct temperature sensor

Duct temperature sensors with a terminal box

KDT-MK



Application

The duct temperature sensors are designed for installation in the air duct and temperature measurement of the air flow in the ventilation and air conditioning systems.

Design

The sensing element, NTC thermometer resistor, is enclosed in the aluminium sleeve. The thermometer resistor electric resistor depends on the temperature, the non-linear resistance. Connection of the sensor to the controller is double-wired, regardless of polarity.

The KDT-MK sensor delivery set includes a mounting flange with a fixing screw for its fixation to the air duct wall.

The sensors are supplied with a 2.5 m connecting cable. The immersion depth is adjusted for 100, 150, 200 or 400 mm.

Mounting

Fixation with screws to the air duct wall by means of the flange with the sensing element located the air stream.

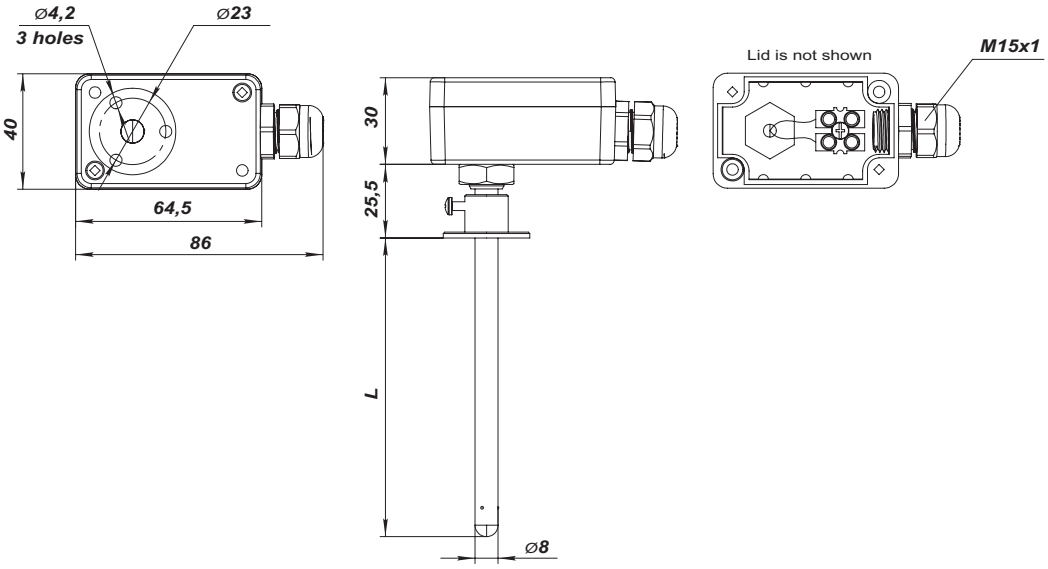
Technical data

	KDT-MK
Temperature measuring range [°C]	-30…+60
Voltage [V]	≤ 5 DC *
Output	resistance
Electric connection	double-wire, cross section 2x0.25 mm²
Relative humidity	up to 90 %, no condensation
Protection rating	IP54
Electrical appliance class	III

*Maximum current generated through the sensor by the applied voltage is 2 mA.

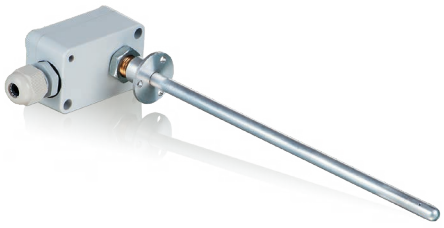
Overall dimensions:

Type	L [mm]
KDT-MK 100	100
KDT-MK 150	150
KDT-MK 200	200
KDT-MK 400	400



Duct temperature sensors with a terminal box

KDT2-MK



Application

The duct temperature sensors are designed for installation in the air duct and temperature measurement of the air flow in the ventilation and air conditioning systems.

Design

The sensor consists of the integrated circuit chip located inside the plastic casing. This sensor type has a linear transfer characteristics of output voltage to temperature and a three-wire connection to power mains.

This sensor type is not compatible with resistance sensors. During electric connections the polarity of the outputs connected to the inputs of the air handling units must be considered.

The KDT2-MK sensor delivery set includes a mounting flange with a fixing screw for its fixation to the air duct wall. The sensors are supplied with a 2.5 m connecting cable. The immersion depth is adjusted for 100, 150, 200 or 400 mm.

Mounting

Fixation with screws to the air duct wall by means of the flange with the sensing element located the air stream.

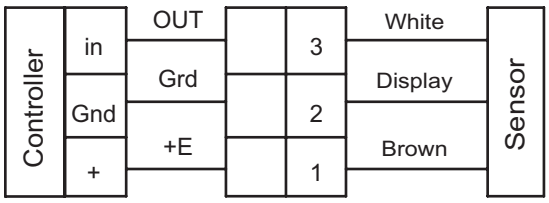
Technical data

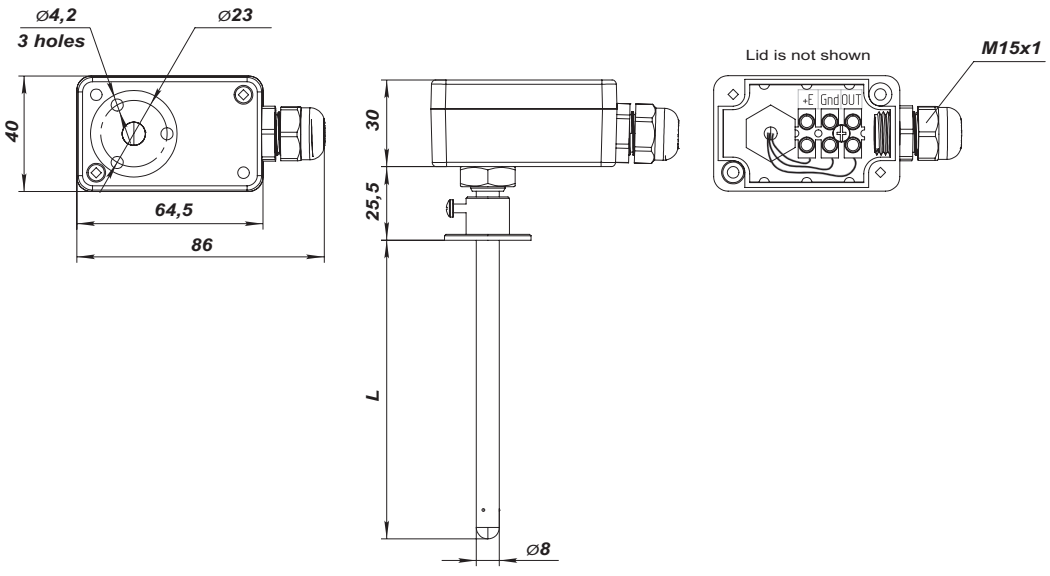
	KDT2-MK
Temperature measuring range [°C]	-30…+60
Voltage [V]	2,7…10
Output resistance [Ohm]	800
Electric connection	three-wire, cross section 3x0.25 mm²
Relative humidity	up to 90 %, no condensation
Protection rating	IP54
Electrical appliance class	III

Overall dimensions:

Type	L [mm]
KDT2-MK 100	100
KDT2-MK 150	150
KDT2-MK 200	200
KDT2-MK 400	400

Wiring diagram





Outdoor temperature sensor

NDT

Application

The outdoor temperature sensor is designed for outdoor temperature measurement in ventilation and air conditioning systems.

Design

The sensing element, NTC thermometer resistor, is enclosed in the plastic housing. The plastic housing incorporates also a copper probe for higher sensing efficiency. The thermometer resistor electric resistor depends on the temperature, the non-linear resistance. Connection of the sensor to the controller is double-wired, regardless of polarity.

The sensor is connected to power mains through the terminal blocks of the circuit board located in the casing.

Mounting

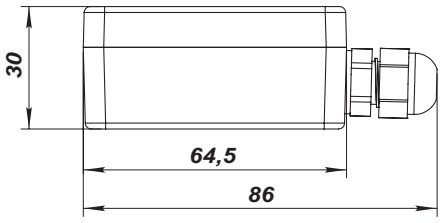
Outdoor mounting.

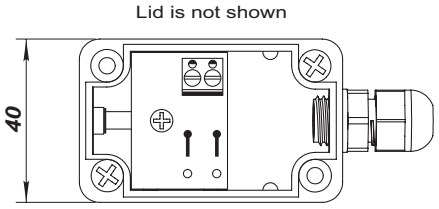
Technical data

	NDT
Temperature measuring range [°C]	-30…+60
Voltage [V]	≤ 5 DC *
Output	resistance
Electric connection	cross section 2x0.25 mm²
Relative humidity	up to 90 %, no condensation
Protection rating	IP54
Electrical appliance class	III

*Maximum current generated through the sensor by the applied voltage is 2 mA.

Overall dimensions [mm]





Outdoor temperature sensor

NDT2

Application

The outdoor temperature sensor is designed for outdoor temperature measurement in ventilation and air conditioning systems.

Design

The sensor consists of the integrated circuit chip located inside the plastic casing. This sensor type has a linear transfer characteristics of output voltage to temperature and a three-wire connection to power mains.

This sensor type is not compatible with resistance sensors. During electric connections the polarity of the outputs connected to the inputs of the air handling units must be considered.

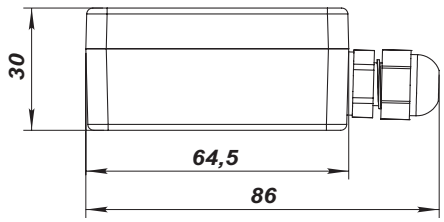
Mounting

Outdoor mounting.

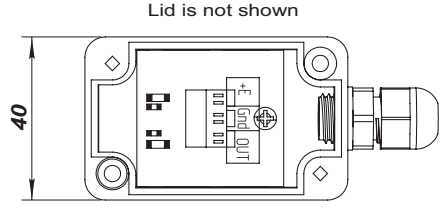
Technical data

	NDT2
Temperature measuring range [°C]	-40 …+60
Voltage [V]	4…10
Output resistance [Ohm]	800
Electric connection	cross section 3x0.25 mm²
Relative humidity	up to 90 %, no condensation
Protection rating	IP54
Electrical appliance class	III

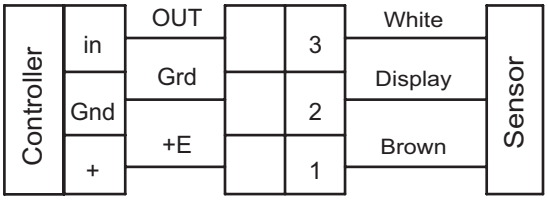
Overall dimensions [mm]



Lid is not shown



Wiring diagram



Duct temperature sensors

TG-K

Application

The duct sensors are used jointly with PULSER-M temperature controllers.

Design and control

The sensor is installed in the air duct. The sensors are supplied with connecting cable 1.5 m long and have adjustable length. The sensors differ in temperature sensitivity range.

Mounting

The sensor is installed in the air stream area. It is connected to the wall through a flange with two Ø 5 mm openings located at 40 mm center-to-center distance.

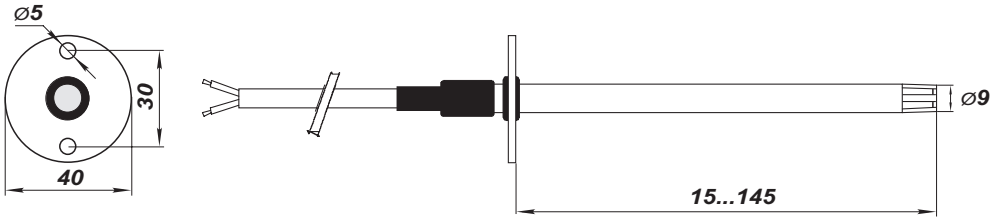
Technical data

	TG-K
Insertion length [mm]	15…145 (adjustable)
Length cable [m]	1.5
Sensitive element	linearized NTC sensor
Accuracy	above + /-1 °C
Pressure range [Pa]	50...500
Protection rating	IP54

Duct sensor model range:

Model	Temperature range
TG-K300	-30...+30 °C
TG-K330	0...30 °C
TG-K350	20...50 °C
TG-K360	0...60 °C

Overall dimensions [mm]



External
temperature controller
TS-1-90
for chimney fans

Applications

The temperature controller is designed for chimney fan control and applied for hot air distribution from chimney to the premises VENTS KAM T1, VENTS KAM Eco T1, VENTS KAM EcoDuo T1.

Design and control

The temperature controller casing is made of metal and equipped with the temperature control knob. The casing is connected with the temperature probe by means of a capillary tube of 1 m length. The temperature level is followed by the temperature probe which is installed directly inside the fireplace heat-exchanger. The appliance controls the fan operation and switches the chimney fan on or off depending on the set temperature increase or decrease.

Mounting

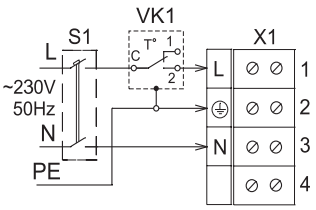
The temperature controller is mounted in the concealed or external mounting box. The temperature probe is installed inside the fireplace heat-exchanger. The temperature controller shall be installed away from the source of air heating.

Technical data

	TS-1-90
Voltage [V/50/60 Hz]	1~230
Maximum load current [A]	2.2
Maximum fan power [W]	500
Range of controllable temperatures [°C]	0…+90
Overall dimensions of the thermostat casing, [mm]	55 x 56 x 56
Capillary tube length [mm]	1000
Temperature probe [mm]	∅ 6.5 x 95
Maximum ambient temperarture for the casing [°C]	+80
Maximum temperature for the temperature probe and capillary tube [°C]	+150
Protection rating	IP40

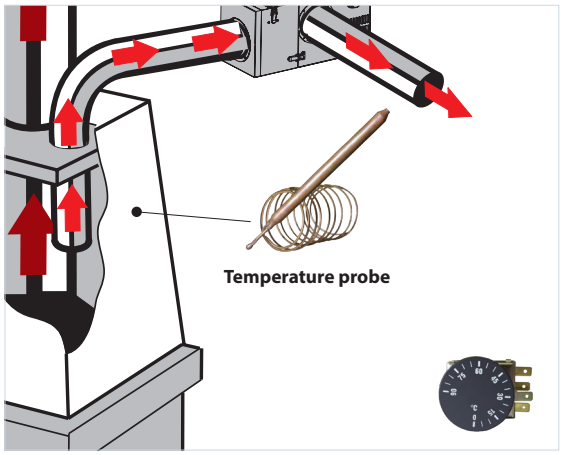
Wiring diagrams

Wiring diagram for KAM T1
single-phased motor fan to AC network

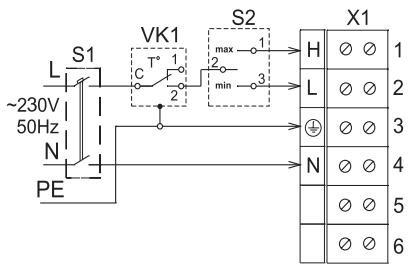


S1 - automatic switch
X1 - terminal block
VK1 - temperature regulator
S1 and VK1 available upon request

Applications



Wiring diagram for KAM EcoDuo T1
single-phased motor fan to AC network.



S1 - automatic switch
S2 - three-position switch
X1 - terminal block
VK1 - temperature regulator
S1, S2 and VK1 available upon request

Serie
DPWQ40200

Anwendung

Self-calibrating sensor with microprocessor control for measuring carbon dioxide contentration in the air within the range from 0 to 2,000 million^{-1} (parts per million).

Design

CO2 sensor has 2 analogue outputs: 0-10 V and 4-20 mA. An analogue output provides for stepless fan speed control (requires an EC motor fan or an additional fan speed controller with input 0 ... 10 V, for example, VFED). With stepless control the fan speed is changed in proportion to carbon dioxide concentration changes. The CO_2 dioxide concentration in the air is measured by means of a non-dispersive infrared analyser (NDIR).

Mounting

The sensor is mounted onto a wall or a mounting box inside the serviced space. The unit is powered from a 24 V AC/DC low-current electric mains.

Technical data

Parameters	Values
Power source	24 V AC/DC
Gas analyser	optical (NDIR)
CO_2 measurement range	0-2,000 million^{-1} (parts per million) of CO_2
CO_2 output signal	0-10 V
CO_2 measurement precision	± 30 million^{-1} (parts per million), ± 5 % of maximum value
Operating conditions	0-50 °C; 10-90 % relative humidity without condensate
Protection class	IP55
Dimensions [mm]	95x97x30

Connection diagram

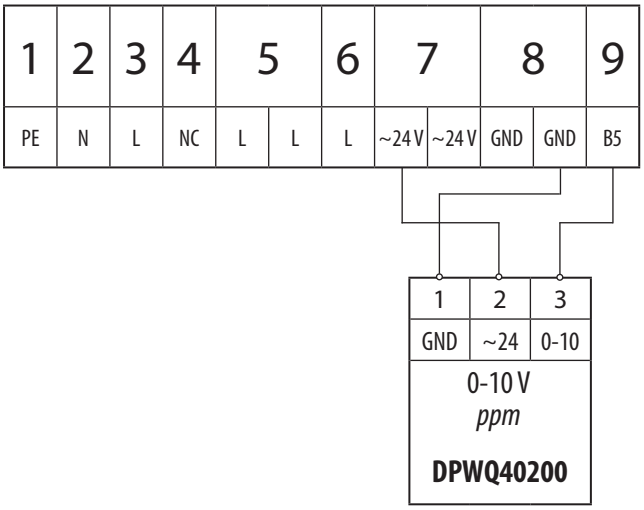
VUTR P/V EC

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
GND	R+	R-	GND~	~24 V	0-10 V	GND	~24 V	NO	NO	NO	NO	2	1	2	1	TS1	TS1	PE	N	L	N	L1

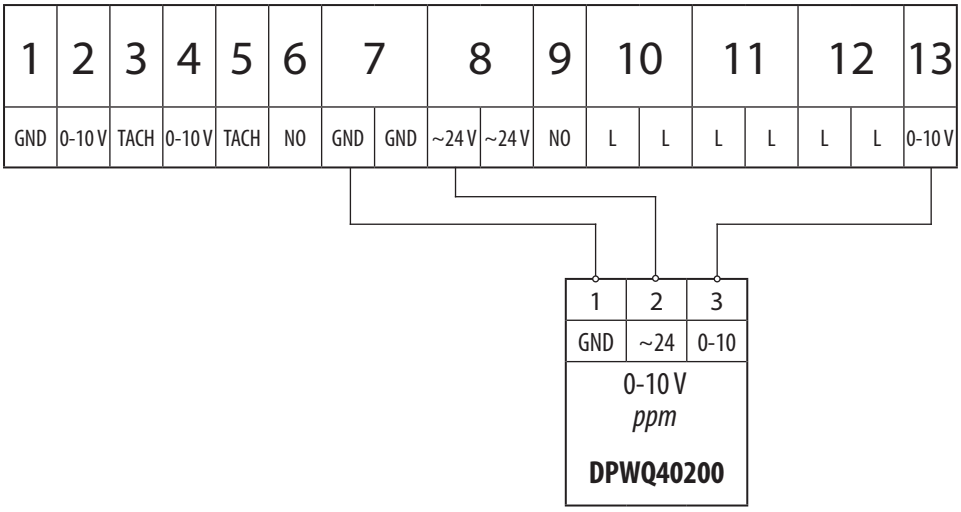
1	2	3
GND	~24	0-10

0-10 V
ppm
DPWQ40200

DVUT HB EC



DVUT PB EC



CO_2 sensor
CO2–1

CO_2 sensor
CO2–2

Application

The sensor is designed for indoor carbon dioxide concentration measurement and respective air flow regulation through the control output signal to the fan. Air flow control based on CO_2 concentration is an efficient energy saving solution.

Design and compatability

The sensor has two separate outputs: a normally opened dry relay contact and an analogue output 0…10 V (this output is adjustable for 2…10 V/0…20 mA/4…20 mA). The relay output is used to turn the fan on/off depending on indoor CO2-concentration and the analogue output is used for smooth fan speed control for a fan with EC-motor or a fan with extra speed controller with 0-10 V input, refer to RS...TA or VFED. In case of smooth fan speed control the fan speed varies proportionally to carbon dioxide emissions. The relay and analogue outputs make the sensor compatible with any ventilation system. The integrated self-calibration system ensures reliable sensor operation during the sensor service life.

Modifications

The sensor is available in two modifications: CO2-1 and CO2-2. The CO2-1 model incorporates LED lights for CO_2 concentration and operation buttons indicating the level of three operation modes: 1 – on, 2 – off, 3 – operation by CO_2 concentration. The button is used to switch the ventilation system on or off when CO_2-based ventilation control is not required. The CO2-2 model has no LED-lights and on/off button. The model is applied for premises requiring permanent ventilation, i.e. at school classes and other public premises.

Mounting and power supply

The sensor is designed for wall surface mounting. 24 VAC low current power supply.. If power supply 24 V is not available, connect the TRF plug that is offered as an accessory.

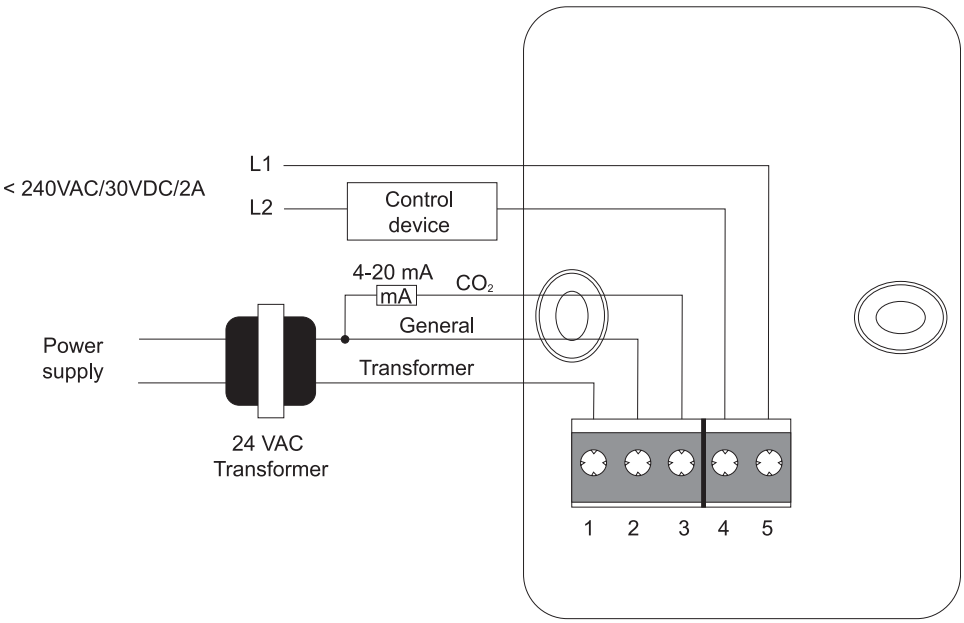
Accessories

Power supply unit is applied for connection of the sensor to 220 V (model **TRF-220/24-1,6**) or 120 V (**TRF-120/24-1,6**) AC power mains.

Technical data

Parameters	Value
Power supply/consumption	24 VAC (50/60 Hz ± 10 %), 24 VDC/1.6 W Max
Gas detection analyzer	Non-dispersive infrared detector (NDIR) with self-calibration system
CO_2 measuring range	0–2,000 ppm (parts per million)
Accuracy at 25 °C, 2,000 ppm	±30 ppm + 3 % of reading
Response time	max. 2 min
Warm up time for each turning-on	2 hours (first time), 2 minutes (operation)
Analogue output	0–10VDC (default), 4–20mA selectable by jumpers
On/Off output	1X2A switch load Four set points selectable by jumpers
6 LED lights for CO_2 concentration indication (for model CO2-1)	1st green indicator lights when CO_2 concentration is below 600 ppm; 1st and 2nd green indicators light when CO_2 concentration is 600–800 ppm; 1st yellow indicator lights when CO_2 concentration is 800–1200 ppm; 1st and 2nd yellow indicators light when CO_2 concentration is 1200–1400 ppm; 1st red indicator lights when CO_2 concentration is 1400–1600 ppm; 1st and 2nd red indicators light when CO_2 concentration is above 1600 ppm
Operating conditions/storage recommendations	0–50 °C; 0–95 % RH non condensing/0–50 °C
Mass/Dimensions	0.120 kg/100 mm x 80 mm x 30 mm

Sensor wiring diagram



Series

DPWQ30600

Use

Self-calibrating sensor DPWQ30600 VOC with a microprocessor control for air quality control. Qualitative assessment of air saturation with contaminants (cigarette smoke, exhaled air, solvent and detergent vapours). The sensor sensitivity can be adjusted with regards to the expected maximum level of air pollution. Enables on-demand ventilation which results in considerable energy savings as air is exchanged only upon reaching the pre-set level of pollution.

Design

VOC sensor has 2 analogue outputs: 0-10 V and 4-20 mA. An analogue output provides for stepless fan speed control (requires an EC-motor fan or an extra speed controller with an output 0…10 V, for example, VFED). With stepless control the fan speed is changed in proportion to air quality changes.

Mounting

The sensor is mounted onto a wall or a mounting box inside the serviced space.

The unit is powered from a 24 V AC/DC low-current electric mains.

Technical data

Parameters	Values
Power source	24 V AC/DC
Gas analyser	VOC sensor
Measurement range	0-100 % air quality
Output signal	0-10 V
Measurement precision	±20 %
Operating conditions	0-50 °C; 10-90 % relative humidity without condensate
Protection class	IP30
Dimensions [mm]	79x81x26

Connection diagram

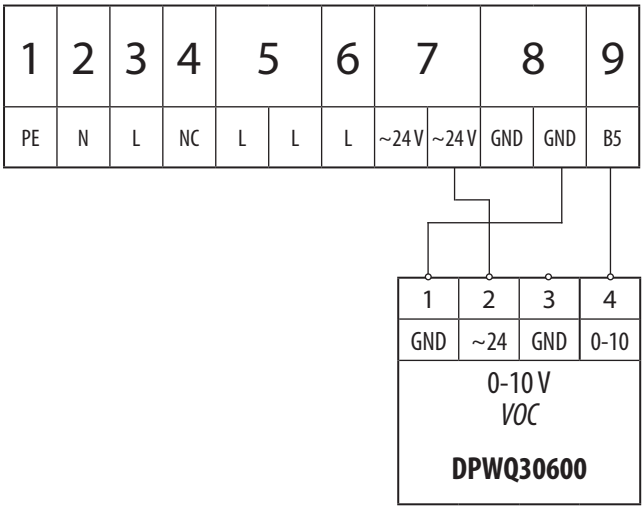
VUTR P/V EC

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
GND	R+	R-	GND~	~24 V	0-10 V	GND	~24 V	NO	NO	NO	NO	2	1	2	1	TS1	TS1	PE	N	L	N	L1

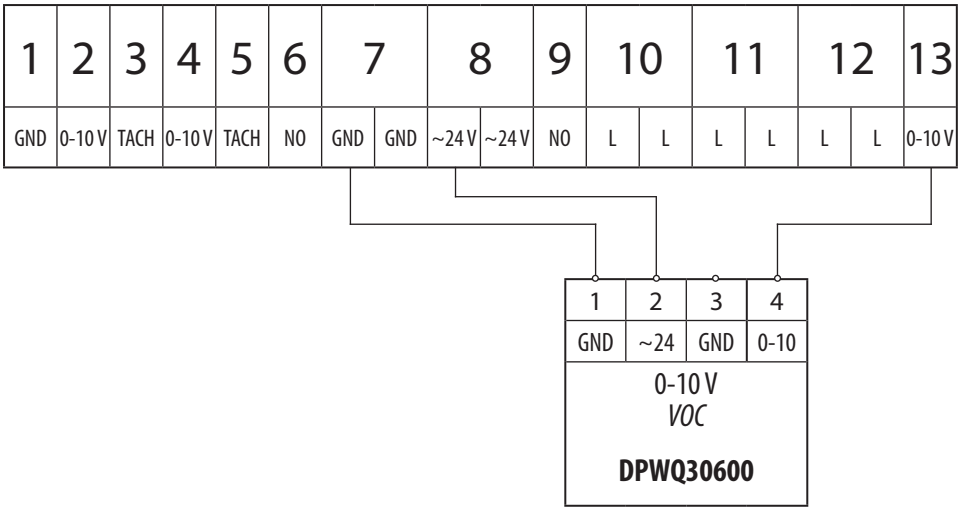
1	2	3	4
GND	~24	GND	0-10

0-10 V
VOC
DPWQ30600

DVUT HB EC



DVUT PB EC



Series

BELIMO CM230/CM24

Application

The SM series actuators with actuating torque 2 Nm are designed for controlling air dampers with cross section up to 0.4 m² installed in various ventilation and air conditioning systems.

Design

The actuator is installed directly on the damper axis and locked with a special spindle clamp to prevent its turning-through. The actuator overload protection stops the actuator once it reaches the end positions. In case of installation of a magnet on the actuator housing the gear is disengaged and the damper changes into manual operation mode. The turning angle is adjusted by mechanical end stops.

Control

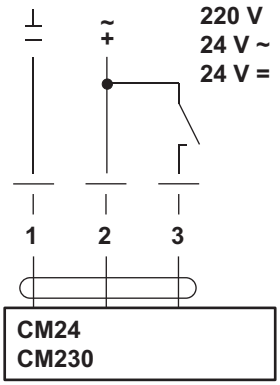
The **CM24A**, **CM230** models are controlled by the three-point control system. The damper is opened or closed by the single-circuit control.

Technical data

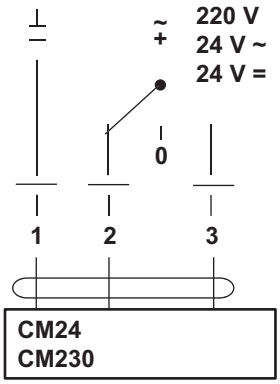
	CM24	CM230
Voltage	24 AC 50/60 Hz, 24 DC	230 AC 50/60 Hz
Nominal voltage range [V]	19.2...28.8 AC 19.2...28.8 DC	85...265 AC
Rated power [VA]	1	2
Power consumption in operation/at rest [W]	0.5/0.5	1/1
Connecting cable	1 m long, 3 x 0.75 mm²	
Positioning accuracy	± 5 %	
Rotation direction	determined by terminal connection	
Torque [Nm]	2, nominal voltage	
Rotation angle: – no end stop – with end stop	 endless fixed 315°/adjustable 0...287.5° with 2.5° increment	
Running time	75 s/90°	
Position indicator	mechanical	
Ingress protection	IP54 at any mounting position	
Electrical protection class	III low voltage II totally insulated	
Operation temperature [°C]	-30…+50	
Storage temperature [°C]	-40…+80	
Ambient humidity	95 %, no condensation	
Noise level [dBA]	35	
Maintenance	not required	
Weight [kg]	0.13	

Wiring diagram

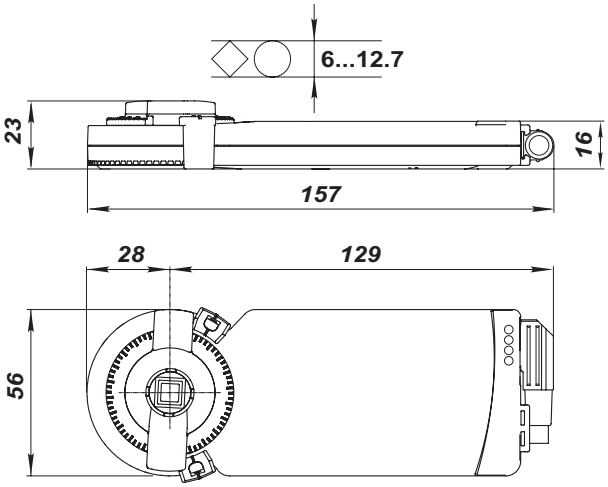
Single-wire control



Two-wire control



Overall dimensions [mm]



Series

BELIMO LM230A/LM24A

Application

The SM series actuators with actuating torque 5 Nm are designed for controlling air dampers with cross section up to 1 m² installed in various ventilation and air conditioning systems.

Design

The actuator is installed directly on the damper axis and locked with a special spindle clamp to prevent its turning-through. The actuator overload protection stops the actuator once it reaches the end positions. In case of pressing the button on the actuator housing the gear is disengaged and the damper changes into manual operation mode. The turning angle is adjusted by mechanical end stops.

Control

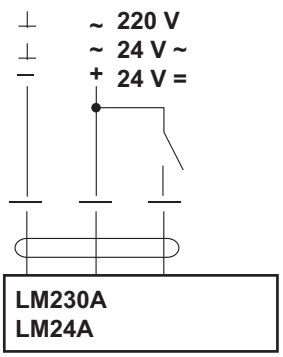
The **LM24A**, **LM230A** models are controlled by the three-point control system. The damper is opened or closed by the single-circuit control.

Technical data

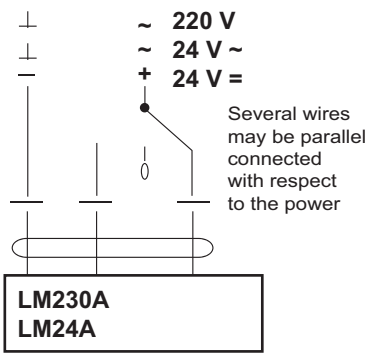
	LM24A	LM230A
Voltage	24 AC 50/60 Hz, 24 DC~	230 AC 50/60 Hz
Nominal voltage range [V]	19.2...28.8 AC 19.2...28.8 DC	85...265 AC
Rated power [VA]	2	4
Power consumption [W]	1	1.5
Feedback potentiometer	integrated 5 kOhm ± 5 %	
Connecting cable	1 m long, 3 x 0.75 mm²	
Rotation direction	selected by 0/1 switch positioning	
Mechanical control	self-resetting button	
Torque [Nm]	5 (at nominal voltage)	
Rotation angle:	max. 95°, adjustable with mechanical end stops	
Running time	150 s	
Position indicator	mechanical	
Ingress protection	IP54 at any mounting position	
Electrical protection class	III low voltage II totally insulated	
Operation temperature [°C]	-30…+50	
Storage temperature [°C]	-40…+80	
Ambient humidity	95 %, no condensation	
Noise level [dBA]	35	
Maintenance	not required	
Weight [kg]	0.6	

Wiring diagram

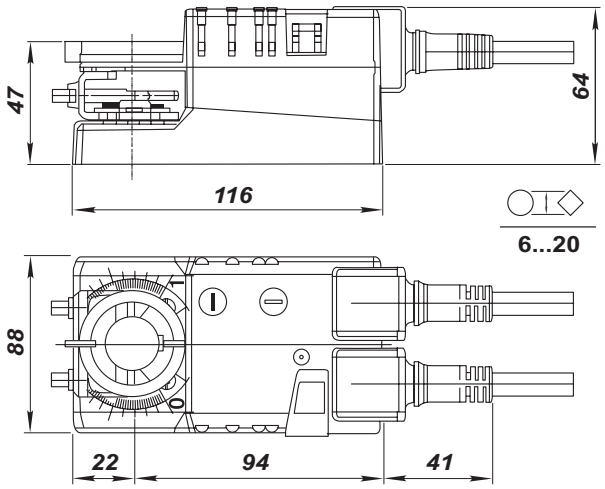
Single-wire control



Two-wire control



Overall dimensions [mm]



Series

BELIMO TF24/TF230

Application

The TF series actuators with actuating torque 2 Nm are designed for controlling air dampers with cross section up to 0.4 m² installed in various ventilation and air conditioning systems and performing protection functions, as freezing protection, smoke detection, etc.

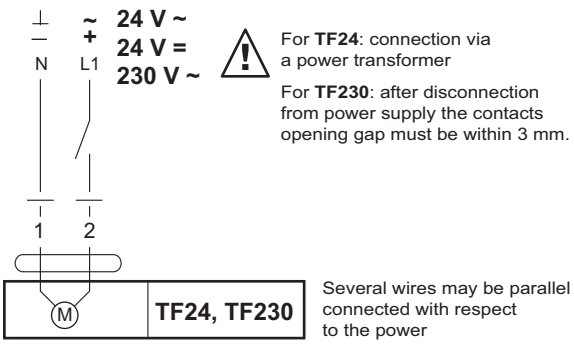
Design

The actuator moves the damper to its operating position while tensioning the return spring at the same time. In case of power supply cut-off, the damper moves back to its safe position by the spring energy. The actuator is installed directly on the damper axis and locked with a special spindle clamp to prevent its turning-through. The actuator overload protection stops the actuator once it reaches the end positions. The turning angle may be adjusted by a mechanical end stop.

Technical data

	TF24	TF230
Voltage	24 AC 50/60 Hz, 24 DC	230 V~50/60 Hz
Nominal voltage range [V]	19.2...28.8 AC 21.6…28.8 DC	85...265 AC
Rated power [VA]	4 (max. I 5.8 A at t = 5 ms)	4 (max. I 150 mA at t = 10 ms)
Power consumption in operation/at rest [W]	2/1.3	2/ 1.3
Connecting cable	1 m long, 2 x 0.75 mm²	
Rotation direction	determined by L/R positioning	
Torque (motor/spring) [Nm]	2, nominal voltage/2	
Rotation angle:	max. 95°, adjustable 37…100 % with a mechanical end stop	
Running time (motor/spring) [s]	40…75 (0…2 Nm)/< 25 at -20…50 °C	
Service life	60 000 switching operations	
Ingress protection	IP42	
Electrical protection class	III low voltage II totally insulated	
Operation temperature [°C]	-30…+50	
Storage temperature [°C]	-40…+80	
Ambient humidity	95 %, no condensation	
Noise level (motor/ spring) [dBA]	50 /~62	
Maintenance	not required	
Weight [kg]	0.6	

Wiring diagram

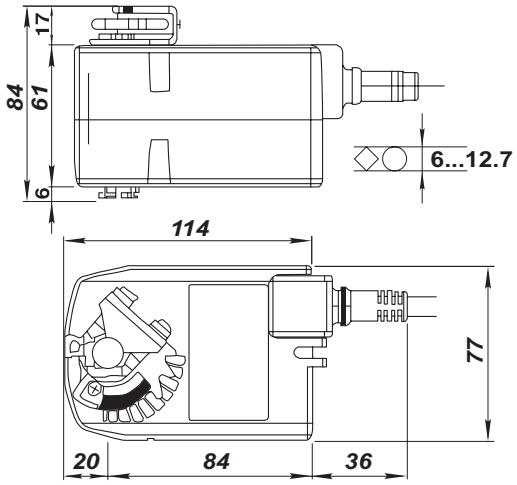


For **TF24**: connection via a power transformer

For **TF230**: after disconnection from power supply the contacts opening gap must be within 3 mm.

Several wires may be parallel connected with respect to the power

Overall dimensions [mm]



Series

BELIMO LF24/LF230

Application

The LF series actuators with actuating torque 4 Nm are designed for controlling air dampers with cross section up to 0.8 m² installed in various ventilation and air conditioning systems and performing protection functions, as freezing protection, smoke detection, etc.

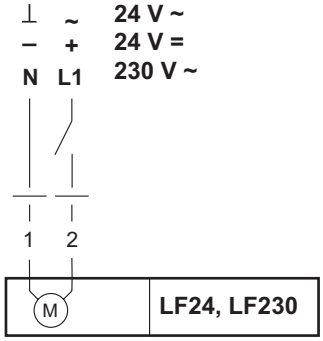
Design

The actuator moves the damper to its operating position while tensioning the return spring at the same time. In case of power supply cut-off, the damper moves back to its safe position by the spring energy.
The actuator is installed directly on the damper axis and locked with a special spindle clamp to prevent its turning-through. The actuator overload protection stops the actuator once it reaches the end positions. The turning angle may be adjusted by a mechanical end stop.

Technical data

	LF24	LF230
Voltage	24 AC 50/60 Hz, 24 DC	230 AC 50/60 Hz
Nominal voltage range [V]	19.2...28.8 AC 21.6…28.8 DC	198...264 AC
Rated power [VA]	7 (max. I 5.8 A at t = 5 ms)	7 (max. I 150 mA at t = 10 ms)
Power consumption in operation/at rest [W]	5/2.5	5/ 3
Connecting cable	1 m long, 2 x 0.75 mm²	
Rotation direction	determined by L/R positioning	
Torque (motor/spring) [Nm]	4 (at nominal voltage)/4	
Rotation angle:	max. 95°, adjustable 37…100 % with a mechanical end stop	
Running time (motor/spring) [s]	40…75 (0…4 Nm) /~20 at -20…50 °C	
Service life	60 000 switching operations	
Ingress protection	IP54 (installation with cable downwards)	
Electrical protection class	III low voltage II totally insulated	
Operation temperature [°C]	-30…+50	
Storage temperature [°C]	-40…+80	
Ambient humidity	95 %, no condensation	
Noise level (motor/ spring) [dBA]	50 /~62	
Maintenance	not required	
Weight [kg]	1.4	1.55

Wiring diagram



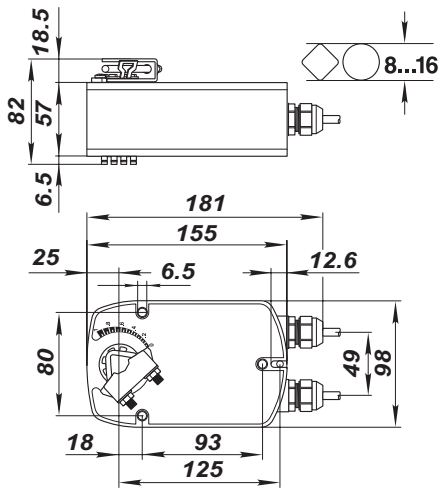
Warning!

For **LF24**: connection via a power transformer

For **LF230**: after disconnection from power supply the contacts opening gap must be within 3 mm.

Several wires may be parallel connected with respect to the power

Overall dimensions [mm]



ALPHABETIC INDEX

U

X

VENTS WORLD VENTILATION LEADER

ventilation systems

www.ventilation-system.com

Industrial and commercial ventilation

VENTS reserves the rights to modify any of its products' features, designs, components and specifications at any time and without notice to maintain the development and quality of manufactured goods.

2023-05

HVI MEMBER

ventilation.system

CORRESPONDING MEMBER EUROVENT