USER'S MANUAL

VKM/VKMz/VC

Centrifugal inline fans

CONTENTS

This user's manual consisting of the technical details, operating instructions and technical specification covers the installation and mounting of the VKM/VKMz/VC centrifugal fan (hereinafter referred to as "the fan" or "the unit" as mentioned in the "Safety requirements" and "Manufacturer's warranty" sections as well as in warnings and information blocks).

SAFETY REQUIREMENTS

Read the user's manual carefully prior to installing and operating the unit.

Fulfil the user's manual requirements as well as the provisions of all the applicable local and national construction, electrical and technical norms and standards.

The warnings contained in the user's manual must be considered most seriously since they contain vital personal safety information.

Failure to follow the rules and safety precautions noted in this user's manual may result in an injury or unit damage.

After a careful reading of the manual, keep it for the entire service life of the unit.

While transferring the unit control the user's manual must be turned over to the receiving operator.

Symbol legend:

WARNING!

DO NOT!

UNIT MOUNTING AND OPERATION SAFETY PRECAUTIONS

- Disconnect the unit from power mains prior to any installation operations.

- Unpack the unit with care.

- Do not lay the power cable of the unit in close proximity to heating equipment.

- While installing the unit follow the safety regulations specific to the use of electric tools.

- Do not change the power cable length at your own discretion.
  Do not bend the power cable.
  Avoid damaging the power cable.
  Do not put any foreign objects on the power cable.

- Do not operate the unit outside the temperature range stated in the user's manual.
  Do not operate the unit in aggressive or explosive environments.

- Do not use damaged equipment or cables when connecting the unit to power mains.

- Disconnect the unit from power mains prior to any technical maintenance.

- Do not touch the unit controls with wet hands.
  Do not carry out the installation and maintenance operations with wet hands.

- Do not wash the unit with water.
  Protect the electric parts of the unit against ingress of water.

- Do not allow children to operate the unit.

- Use the unit only for its intended purpose.

- Do not store any explosive or highly flammable substances in close proximity to the unit.

- When the unit generates unusual sounds, odour or emits smoke disconnect it from power supply and contact the Seller.

- Do not open the unit during operation.

- Do not direct the air flow produced by the unit towards open flame or ignition sources.

- Do not block the air duct when the unit is switched on.

- In case of continuous operation of the unit periodically check the security of mounting.

DO NOT DISPOSE IN DOMESTIC WASTE.

DO NOT DISPOSE OF AS UNSORTED MUNICIPAL WASTE.

PURPOSE

The VENTS VKM/VKMz/VC centrifugal fans in a metal casing are designed for ventilation of domestic, public and manufacturing premises heated during winter.

The transported air temperature must be within the limits stated in the "Technical data" section.

The fan is designed for horizontal or vertical mounting in an air duct and is used both for supply and exhaust ventilation.

The unit is rated for continuous operation.

THE UNIT MAY NOT BE OPERATED BY CHILDREN OR PERSONS WITH REDUCED PHYSICAL, MENTAL OR SENSORY CAPACITIES, OR LACKING THE APPROPRIATE TRAINING.

THE UNIT MUST BE INSTALLED AND CONNECTED ONLY BY PROPERLY QUALIFIED PERSONNEL AFTER THE APPROPRIATE BRIEFING.

THE CHOICE OF UNIT INSTALLATION LOCATION MUST PREVENT UNAUTHORIZED ACCESS BY UNATTENDED CHILDREN.

Transported air must not contain any flammable or explosive mixtures, evaporation of chemicals, sticky substances, fibrous materials, coarse dust, soot and oil particles or environments favourable for the formation of hazardous substances (toxic substances, dust, pathogenic germs).

DELIVERY SET

Fan	1 item
Outer mounting bracket for VKM, VKMC, VKM Q, VKMz fans	2 items
Outer mounting bracket for VKM E fans	1 item
User's manual	1 item
Packing box	1 item

X X X X

Options:
Q - equipped with a low-watt motor
E - equipped with an energy-saving motor
Un - speed controller and temperature controller
P - speed controller
R - 0.4 m power cord with the C14 connector

EXHAUST SPIGOT DIAMETER
100; 125; 150; 200; 250; 315; 355; 400; 450 mm

S - increased capacity

Fan name:
VKM - inline centrifugal fan in a metal casing
VKMz - inline centrifugal fan in a galvanized steel casing
VC-VK - inline centrifugal extract fan for outside mounting
VC-PK - inline centrifugal supply fan for mounting into air duct
VC-PN - inline centrifugal supply fan for outside mounting
VC-VN - inline centrifugal extract fan for outside mounting
VCz-VN - inline centrifugal extract fan for outside mounting in a galvanized steel casing

DESIGNATION KEY

VKM 150 - inline centrifugal fan in a metal casing for mounting into Ø150 mm air duct.

VKMS 315 - inline centrifugal fan in a metal casing with increased capacity for mounting into Ø315 mm air duct.

VKM 250 Un - inline centrifugal fan in a metal casing for mounting into Ø250 mm air duct with control logic based on temperature sensor readings, equipped with an external temperature sensor.

VKMz 200 - inline centrifugal fan in a galvanized steel casing for mounting into Ø200 mm air duct.

VKMz 160P - inline centrifugal fan in a galvanized steel casing for mounting into Ø160 mm air duct with smooth speed control function.

VC-VK 250 - inline centrifugal extract fan for mounting into Ø250 mm air duct.

VC-PK 125 - inline centrifugal supply fan for mounting into Ø125 mm air duct.

VC-PN 100 - inline centrifugal supply fan for outdoor mounting into Ø100 mm air duct.

VC-VN 315 - inline centrifugal extract fan for outside mounting into Ø315 mm air duct.

VCz-VN 150 - inline centrifugal extract fan in a galvanized steel casing for outside mounting into Ø150 mm air duct.

TECHNICAL DATA

Permitted deviation of mains voltage: ±10 % of the rated voltage.
The fan must be grounded.
Ingress Protection Rating IPX4.

Fan model	Voltage, 50 Hz [V]	Power [W]	Current [A]	Air capacity [m³/h], max	RPM	Noise level at 3 m [dB(A)]	Transported air temperature [°C]
VKM 100 E	1~230	27	0.13	180	2745	32	-25 +55
VKM 100 Q	1~230	60	0.37	210	2620	36	-25 +55
VKM 100	1~230	73	0.32	270	2830	47	-25 +55
VKM 125 E	1~230	27	0.13	240	2780	32	-25 +55
VKM 125 Q	1~230	60	0.37	255	2535	36	-25 +55
VKM 125	1~230	75	0.33	355	2800	47	-25 +55
VKM 150 Q	1~230	75	0.33	470	2515	46	-25 +55
VKM 150	1~230	98	0.43	55	2705	47	-25 +45
VKMS 150	1~230	116	0.52	645	2625	50	-25 +55
VKM 160 Q	1~230	73	0.33	470	2500	46	-25 +55
VKM 160	1~230	98	0.43	555	2660	47	-25 +55
VKMS 160	1~230	115	052	645	2650	50	-25 +55
VKM 200	1~230	154	0.67	950	2375	48	-25 +50
VKMS 200	1~230	193	0.84	1100	2780	51	-25 +45
VKM 200 E	1~230	95	0.47	780	1950	39	-25 +55
VKM 250 Q	1~230	158	0.69	1190	2315	52	-25 +50
VKM 250	1~230	194	0.85	1310	2790	52	-25 +50
VKM 250 E	1~230	95	0.47	900	2050	44	-25 +55
VKM 315	1~230	171	0.77	1400	2600	52	-25 +50
VKMS 315	1~230	296	1.34	1880	2720	54	-25 +45
VKM 355 Q	1~230	233	1.06	2210	1375	58	-25 +45
VKM 400	1~230	460	2.23	3050	1370	61	-25 +80
VKM 450	1~230	665	2.89	5260	1265	65	-25 +70

Fan model	Voltage, 50 Hz [V]	Power [W]	Current [A]	Air capacity [m³/h]	RPM	Noise level at 3 m [dB(A)]	Transported air temperature [°C]
VKMz 100 Q	1~230	60	0.37	195	2670	35	-25 +55
VKMz 100	1~230	72	0.32	250	2820	46	-25 +55
VKMz 125 Q	1~230	60	0.37	230	2605	35	-25 +55
VKMz 125	1~230	78	0.34	330	2820	46	-25 +55
VKMz 150	1~230	75	0.33	455	2770	46	-25 +55
VKMz 160	1~230	78	0.34	455	2760	46	-25 +55
VKMz 200 Q	1~230	139	0.61	840	2790	48	-25 +55
VKMz 200	1~230	157	0.69	1000	2740	50	-25 +55
VKMz 250 Q	1~230	134	0.59	980	2785	51	-25 +55
VKMz 250	1~230	152	0.66	1070	2785	52	-25 +55
VKMz 315 Q	1~230	1513	0.66	1330	2680	52	-25 +55
VKMz 315	1~230	185	0.81	1540	2730	53	-25 +55

Fan model	Voltage, 50 Hz [V]	Power [W]	Current [A]	Air capacity [m³/h], max	RPM	Noise level at 3 m [dB(A)]	Transported air temperature [°C]
VC 100 Q	1~230	60	0.37	210	2620	36	-25 +55
VC 100	1~230	73	0.32	270	2830	47	-25 +55
VC 125 Q	1~230	60	0.37	255	2535	36	-25 +55
VC 125	1~230	75	0.33	355	2800	47	-25 +55
VC 150	1~230	98	0.43	555	2705	47	-25 +55
VC 160	1~230	98	0.43	555	2660	47	-25 +55
VC 200	1~230	154	0.67	950	2375	48	-25 +50
VCS 200	1~230	193	0.84	1100	2780	51	-25 +45
VC 250 Q	1~230	158	0.69	1190	2315	52	-25 +50
VC 250	1~230	194	0.85	1310	2790	52	-25 +50
VC 315	1~230	171	0.77	1400	2600	52	-25 +50
VCS 315	1~230	296	1.34	1880	2720	54	-25 +45

Fan model	Voltage, 50 Hz [V]	Power [W]	Current [A]	Air capacity [m³/h], max	RPM	Noise level at 3 m [dB(A)]	Transported air temperature [°C]
VCz 100Q-VN	1~230	60	0.37	195	2670	35	-25 +55
VCz 100-VN	1~230	72	0.32	250	2820	46	-25 +55
VCz 125Q-VN	1~230	60	0.37	230	2605	35	-25 +55
VCz 125-VN	1~230	78	0.34	330	2820	46	-25 +55
VCz 150-VN	1~230	75	0.33	455	2770	46	-25 +55
VCSz 150-VN	1~230	97	0.43	720	2760	46	-25 +55
VCz 160-VN	1~230	78	0.34	455	2760	46	-25 +55
VCSz 160-VN	1~230	97	0.43	720	2765	46	-25 +55
VCz 200Q-VN	1~230	139	0.61	840	2790	48	-25 +50
VCz 200-VN	1~230	157	0.69	1000	2740	50	-25 +50
VCSz 200-VN	1~230	193	0.84	1150	2780	51	-25 +50
VCz 250Q-VN	1~230	134	0.59	980	2785	51	-25 +50
VCz 250-VN	1~230	152	0.66	1070	2765	52	-25 +50
VCSz 250-VN	1~230	175	0.77	1185	2745	52	-25 +50
VCz 315Q-VN	1~230	151	0.66	1330	2680	53	-25 +50
VCz 315-VN	1~230	185	0.81	1540	2730	53	-25 +50
VCSz 315-VN	1~230	270	1.18	1755	2730	53	-25 +50

The unit design is constantly being improved, so some models can slightly differ from those ones described in this manual.

OVERALL AND CONNECTING DIMENSIONS

VKM 100 - 125 E

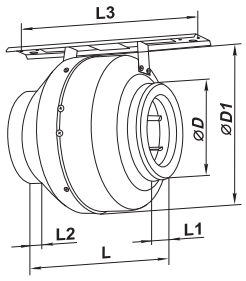


Fig. 1

VKM 100 - 315

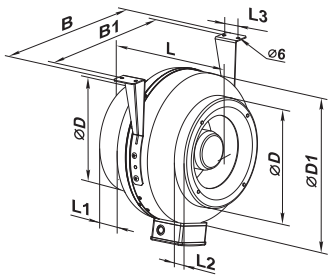


Fig. 2

VKM 355 - 450

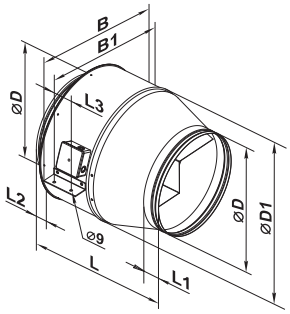
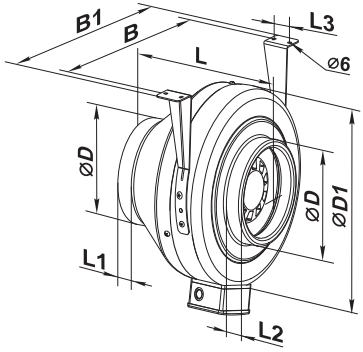


Fig. 3

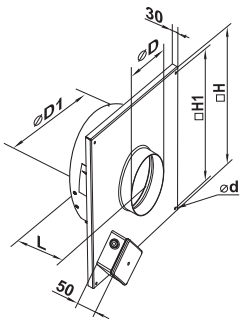
Model	Dimensions [mm]								Weight [kg]	Fig. no.
	Ø D	Ø D1	B	B1	L	L1	L2	L3		
VKM 100 E	100	204	-	-	195	20	20	258	2.1	1
VKM 100 Q	98	254	298	258	205	20	25	30	3.45	2
VKM 100	98	254	298	258	205	20	25	30	3.45	2
VKM 125 E	125	204	-	-	195	20	20	258	2.1	1
VKM 125 Q	123	254	298	258	205	20	25	30	3.58	2
VKM 125	123	254	298	258	205	20	25	30	3.58	2
VKM 150 Q	149	304	349	309	200	20	25	30	3.65	2
VKM 150	149	304	349	309	220	25	25	30	3.65	2
VKMS 150	149	340	386	346	226	20	20	40	4.7	2
VKM 160 Q	159	304	349	309	200	20	25	30	3.65	2
VKM 160	159	304	357	317	220	25	25	30	3.65	2
VKMS 160	159	340	386	346	226	20	20	40	4.7	2
VKM 200	198	344	390	350	240	25	29	40	5.7	2
VKMS 200	198	344	390	350	250	25	29	40	5.85	2
VKM 200 E	198	344	390	350	250	25	29	40	6.1	2
VKM 250 Q	248	344	390	350	249	25	31	40	5.1	2
VKM 250	248	344	390	350	249	25	31	40	5.1	2
VKM 250 E	248	344	390	350	249	25	31	40	6.1	2
VKM 315	314	404	454	414	260	25	40	40	7.3	2
VKMS 315	314	404	454	414	288	25	40	40	7.83	2
VKM 355 Q	353	460	522	522	506	60	60	70	18.8	3
VKM 400	398	570	663	634	570	60	60	70	25.1	3
VKM 450	448	608	700	670	644	60	60	80	27.26	3

VKMz 100 - 315

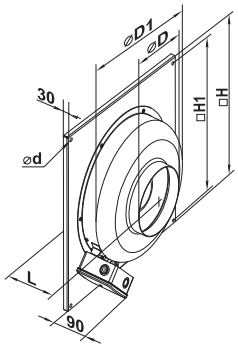


Model	Dimensions [mm]								Weight [kg]
	∅ D	∅ D1	B	B1	L	L1	L2	L3	
VKMz 100 Q	98	237	253	293	202	23	22	30	3.16
VKMz 100	98	237	253	293	202	23	22	30	3.16
VKMz 125 Q	123	237	253	293	202	23	22	30	3.16
VKMz 125	123	237	253	293	202	23	22	30	3.16
VKMz 150	148	278	294	334	200	25	23	30	3.42
VKMz 160	158	278	294	334	200	25	23	30	3.44
VKMz 200 Q	198	332	340	380	245	25	29	40	5.43
VKMz 200	198	332	340	380	245	25	29	40	5.43
VKMz 250 Q	249	332	340	380	213	25	29	40	5.25
VKMz 250	249	332	340	380	213	25	29	40	5.25
VKMz 315 Q	313	402	410	450	308	33	55	40	6.57
VKMz 315	313	402	410	450	308	33	55	40	6.57

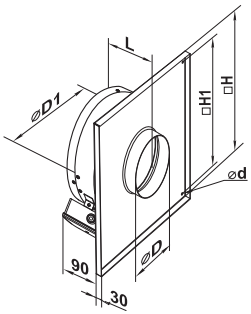
VC-VK



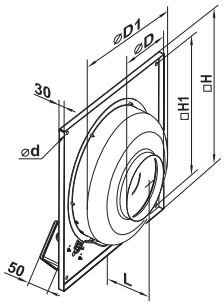
VC-VN / VCz-VN



VC-PN



VC-PK



Model	Dimensions [mm]						Weight [kg]
	∅ D	∅ D1	∅ d	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

DESIGN AND OPERATING LOGIC

The VKM/VKMz fan (Fig. 4-5) consists of the casing 1, the electric motor attached to the inner fixing bracket 4, the cover 2 that is fixed to the casing with screws 3 (the casing spigot diameter and the cover diameter are equal to the connected air duct diameter), the terminal box 5 that incorporates a terminal block and a capacitor and enables connection of the fan to single-phase power mains.

The fan models with a temperature and speed controller (Fig. 5) are equipped with a speed control knob 9, a thermostat control knob 10, a fan on/off LED light indicator 11 and a thermostat LED light indicator 12 that are located on the terminal box cover.

The fan models with the speed controller (Fig. 5) are equipped with a speed control knob 9 which is located on the terminal box 5 cover.

The fan models with a speed controller or with a speed and temperature controller are connected to power mains through a power cable with a plug.

VKM 100-125 E

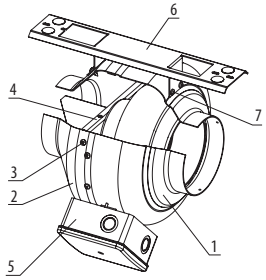


Fig. 4

VKM/VKMz 100 - 315

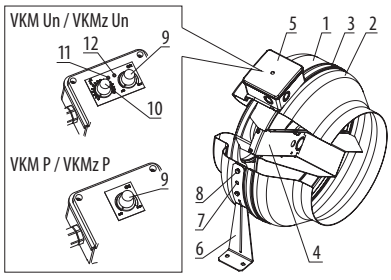


Fig. 5

1 - casing
2 - cover
3 - screws
4 - inner fixing bracket with an electric motor attached to it
5 - terminal box
6 - outer fixing bracket
7 - screws
8 - bolt
9 - fan speed control knob
10 - thermostat control knob
11 - fan on/off LED light indicator
12 - thermostat LED light indicator

The VC-VK fan (Fig. 6) consists of the casing 1 with the electric motor and impeller 4 fixed on the fixing bracket 2.

The fixing bracket is attached to the casing with four screws 3.

The terminal box 5 is located on lower part of the casing on intake spigot side to facilitate connection of the fan to single-phase power mains and placement of the capacitor.

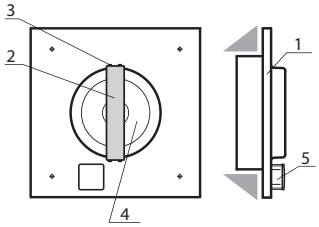
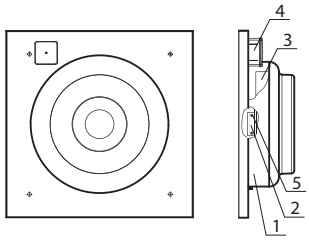


Fig. 6

1 - casing
2 - fixing bracket
3 - screws
4 - impeller with an electric motor
5 - terminal box

The VC-VN/VCz-VN fan (Fig. 7) consists of the casing 1. The electric motor and the impeller 3 are mounted inside the casing using the fixing bracket 2. The casing is attached to the base plate with screws 5.

The terminal box 4 is located on top of the casing on intake spigot side to facilitate connection of the fan to single-phase power mains and placement of the capacitor.



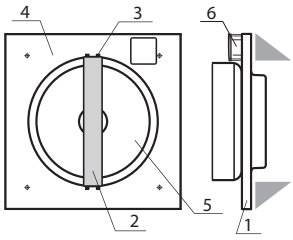
1 - casing
2 - fixing bracket
3 - impeller with an electric motor
4 - terminal box
5 - screws

Fig. 7

The VC-PN fan (Fig. 8) consists of the casing 1 with the electric motor and impeller 5 attached to the fixing bracket 2.

The fixing bracket is attached to the casing with four screws 3.

The terminal box 6 is located on top of the casing on intake spigot side to facilitate connection of the fan to single-phase power mains and placement of the capacitor.



1 - casing
2 - fixing bracket
3 - screws
4 - base plate
5 - impeller with an electric motor
6 - terminal box

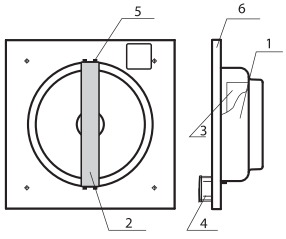
Fig. 8

The VC-PK fan (Fig. 9) consists of the casing 1 with the electric motor and impeller 3 attached to the fixing bracket 2 inside.

The fixing bracket 2 is attached to the casing with four screws 5.

The exhaust outlet of the fan is covered with a grille.

The terminal box 4 is located on top of the casing on intake spigot side to facilitate connection of the fan to single phase power mains and placement of the capacitor.



1 - casing
2 - fixing bracket
3 - impeller with an electric motor
4 - terminal box
5 - screws
6 - base plate

Fig. 9

THE UNIT MUST BE MOUNTED BY A QUALIFIED EXPERT ONLY, PROPERLY TRAINED AND HAVING THE REQUIRED TOOLS AND MATERIALS.

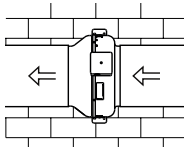
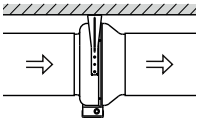
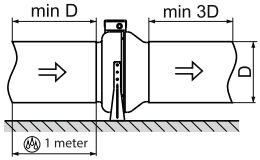
VKM/VKMz fan

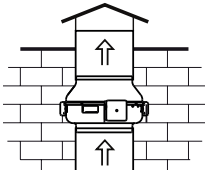
The fans are designed for vertical or horizontal mounting.

Air motion in the system must be in compliance with the direction of the arrow on the fan casing.

Install a hood on the intake spigot side in case of the vertical fan installation.

Provide a straight air duct section at least 1 m long on the intake spigot side in case of horizontal fan installation with maximum allowable humidity.

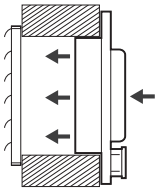


Mounting sequence:

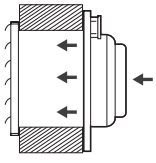
- remove the bolt from the casing 1 and install the fixing brackets in such a way so that the holes on the fixing brackets are aligned with the heads of the screws 3.
- Fix the fixing brackets on the casing with bolts.
- Drill the holes in the mounting surface to match the fitment holes of the fixing brackets.
- Fix the fan with the screws.
- Connect the air ducts of the respective size to the fan and fix them with clamps.

VC-VK, VC-PN, VC-PK, VC-VN, VCz-VN fan

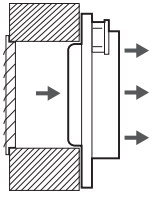
VC-VK



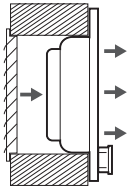
VC-VN / VCz-VN



VC-PN



VC-PK



Mounting sequence:

- Drill the holes in the mounting surface to match the fitment holes in the fan basement.
- Fix the fan with the screws.

CONNECTION TO POWER MAINS

DISCONNECT THE UNIT FROM POWER SUPPLY PRIOR TO ANY OPERATIONS WITH THE UNIT.

CONNECTION OF THE UNIT TO POWER MAINS IS ALLOWED BY A QUALIFIED ELECTRICIAN WITH A WORK PERMIT FOR THE ELECTRIC UNITS UP TO 1000 V AFTER CAREFUL READING OF THE PRESENT USER'S MANUAL.

THE RATED ELECTRICAL PARAMETERS OF THE UNIT ARE GIVEN ON THE MANUFACTURER'S LABEL. ANY TAMPERING WITH THE INTERNAL CONNECTIONS IS PROHIBITED AND WILL VOID THE WARRANTY.

The fan is designed for 230 V/50 Hz single-phase alternating current mains.

The fan shall be connected to power supply by means of insulated, durable and thermal-resistant cords (cables, wires) through the external circuit breaker with a thermal-magnetic trip built into the stationary wiring to disconnect all the power mains phases. The rated current must be not below the rated current consumption (refer to Technical data). The QF external switch location must ensure free access for quick shutdown of the fan.

The recommended rated current of the circuit breaker:

- 2 A for the VKMS 315, VKM 355Q, VCS 315 fans
- 3.15 A for the VKM 400, VKM 450 fans
- 1 A for all other fans

The recommended wire cross section is 0.75 mm^2.

The actual conductor cross-section selection must be based on its type, the maximum permissible heating, insulation, length and installation method (in the air, pipes or inside walls).

Connect the cables to the terminal block incorporated inside the terminal box located on the fan casing in compliance with the fan wiring diagram and the terminal designation.

The terminal designations are shown on the sticker inside the fan casing.

The wiring diagram for the VKM 400, VKM 450 fans is shown in Fig. 10. The wiring diagram for the other fans is shown in Fig. 11.

The fans with a speed controller and temperature and speed controller (VKM Un, VKMz Un, VKM P, VKMz P) are designed for connection to single-phase AC power mains 230 V/50 Hz and are equipped with a power cord and a plug (supplied connected to the terminal block).

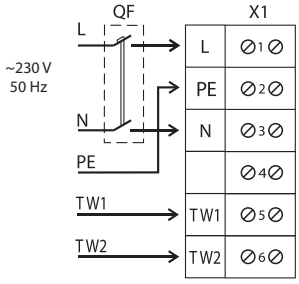


Fig. 10

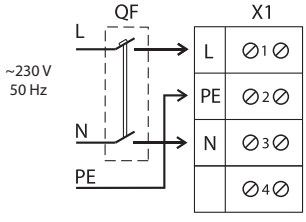


Fig. 11

The TW1, TW2 terminals are the electrical leads of the normally closed contact of the motor overheating protection. Connect the contact in series to power circuit of the magnetic starter coil KM1 that starts the motor after pressing the S1 button. In case of pressing the S2 button or motor overheating the contact gets broken and switches the starter coil off to cut power off and stop the motor. The QF circuit breaker, the magnetic starter KM1, the control knobs S1 and S2 are not included in the delivery and must be installed by the user.

The motor connection example with thermal protecting contacts leaded outside are shown in Fig. 12.

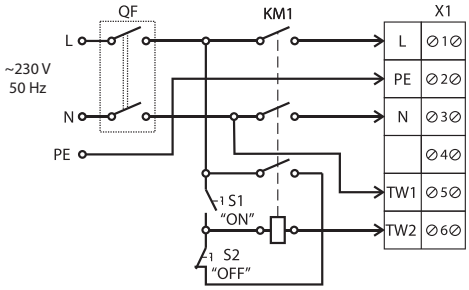


Fig. 12

CONTROL

The VKM P, VKMz P fans with a built-in electronic module

The electronic module is designed for smooth control of fan speed (air flow). The speed is controlled with the speed control knob 9 (Fig. 5).

The VKM Un, VKMz Un fans with a temperature and speed controller

The controller is designed for air temperature control and fan speed control depending on ambient air temperature.

The speed is controlled with the speed control knob 9 and the temperature control knob 10 (Fig. 5).

The VKM Un, VKMz Un fans are equipped with an external temperature sensor fixed on a 4 m cable.

The cover of the terminal box incorporates the following controls:

- speed control knob 9 (Fig. 5)
- temperature controller 10 (Fig. 5) to set the thermostat temperature threshold
- on/off LED light indicator 11 (Fig. 5)
- thermostat LED light indicator 12 (Fig. 5)

Operation algorithm of the VKM Un and VKMz Un fans

Set the thermostat temperature threshold with a thermostat control knob 10. Turn on the fan, then set the fan speed with the speed control knob 9. The fan on/off light indicator 11 lights up. The controller switches the fan to the maximum speed (maximum air flow) as the temperature rises and crosses the thermostat setpoint. The thermostat light indicator 12 glows if the temperature is above the thermostat setpoint. If the temperature falls 2 °C below the thermostat setpoint, the fan reverts to the preset lower speed. This prevents frequent speed changeovers during operation with the temperature close to the threshold value. This control logic enables tracking temperature fluctuations and respond to the temperature change with accuracy up to 2 °C. The rate of the speed switching depends exclusively on the air temperature fluctuations.

TECHNICAL MAINTENANCE

DISCONNECT THE UNIT FROM POWER MAINS PRIOR TO ANY MAINTENANCE OPERATIONS.

Disconnect the fan from power supply prior to maintenance and servicing operations.

The technical maintenance includes periodic cleaning of the surfaces from accumulated dust and dirt. Use a soft dry brush or a vacuum cleaner to remove dust. The impeller blades require thorough cleaning once in 6 months.

Connection sequence:

VKM/VKMz (Fig. 4, 5)

- remove the screws 3 and take off the cover 2.

VC-VK (Fig. 6)

- remove the screws 3 and pull out the electric motor-impeller block 4 with the fixing bracket 2.

VC-VN/VCz-VN (Fig. 7)

- remove the screws 5 and pull out the electric motor-impeller block 3 with the fixing bracket 2.

VC-PN (Fig. 8)

- remove the screws 3 and pull the fixing bracket 2 with the impeller 5 out of the casing.

VC-PK (Fig. 9)

- remove the screws 5 and pull the fixing bracket 2 with the impeller 3 out of the casing 1.

Clean the impeller blades with a soft cloth wetted in mild water detergent solution. Avoid liquid dripping on the motor.

STORAGE AND TRANSPORTATION REGULATIONS

Store the unit in the manufacturer's original packing box in a dry closed ventilated premise with temperature range from +5 °C to + 40 °C. Storage environment must not contain aggressive vapours and chemical mixtures provoking corrosion, insulation and sealing deformation.

The unit can be transported in the original packing by any mode of transport without limitation provided proper protection against precipitation and mechanical damage.

Use suitable hoist machinery for handling and storage operations to prevent possible damage to the unit.

Follow the handling requirements applicable for the particular type of cargo.

Avoid sharp blows, scratches or rough handling during loading and unloading.

Do not expose the unit to sudden changes in temperature. Such changes can lead to condensation of moisture inside the unit and performance disturbance when the unit is switched on. Prior to the initial power-up after transportation at subzero temperatures allow the unit to warm up at room temperature for at least 2 hours.

MANUFACTURER'S WARRANTY

The manufacturer hereby warrants normal operation of the unit for 24 months after the retail sale date provided the user's observance of the transportation, storage, mounting and operation regulations.

Should any malfunctions occur in the course of the unit operation through the Manufacturer's fault during the guaranteed period of operation the user is entitled to elimination of faults by the manufacturer by means of warranty repair at the factory free of charge.

The warranty repair shall include work specific to elimination of faults in the unit operation to ensure its intended use by the user within the guaranteed period of operation. The faults are eliminated by means of replacement or repair of the unit components or a specific part of such unit component.

The warranty repair does not include:

- routine technical maintenance
- unit installation / dismantling
- unit setup

To benefit from warranty repair the user must provide the unit, the user's manual with the purchase date stamp and the payment document certifying the purchase.

The unit model must comply with the one stated in the user's manual.

Contact the Seller for warranty service.

The manufacturer's warranty does not apply to the following cases:

- User's failure to submit the unit with the entire delivery package as stated in the user's manual including submission with missing component parts previously dismounted by the user.
- Mismatch of the unit model and the brand name with the information stated on the unit packing and in the user's manual.
- User's failure to ensure timely technical maintenance of the unit.
- External damage to the unit casing (excluding external modifications as required for installation) and internal components caused by the user.
- Redesign or engineering changes to the unit.
- Replacement and use of any assemblies, parts and components not approved by the manufacturer.
- Unit misuse.
- User's violation of the unit installation regulations.
- User's violation of the unit control regulations.
- Unit connection to the power mains with a voltage different from the one stated in the user's manual.
- Unit breakdown due to voltage surges in the power mains.
- Discretionary repair of the unit by the user.
- Unit repair by any persons without the manufacturer's authorization.
- Expiration of the unit warranty period.
- User's violation of the unit transportation regulations.
- User's violation of the unit storage regulations.
- Wrongful actions against the unit committed by third parties.
- Unit breakdown due to circumstances of insuperable force (fire, flood, earthquake, war, hostilities of any kind, blockades).
- Missing seals if provided by the user's manual.
- Failure to submit the user's manual with the unit purchase date stamp.
- Missing payment document certifying the unit purchase.

FOLLOWING THE REGULATIONS STIPULATED HEREIN WILL ENSURE A LONG AND TROUBLE-FREE OPERATION OF THE UNIT.

USERS' WARRANTY CLAIMS SHALL BE SUBJECT TO REVIEW ONLY UPON PRESENTATION OF THE UNIT, THE PAYMENT DOCUMENT AND THE USER'S MANUAL WITH THE PURCHASE DATE STAMP.

ACCEPTANCE CERTIFICATE

Unit type	**Centrifugal inline fan**
Model	☐ **VKM** _____ ☐ **VKMz** _____ ☐ **VC** _____
Serial Number	
Manufacture Date	
is compliant with the technical specifications and is hereby declared ready for service. We hereby declare that the product complies with the essential protection requirements of Electromagnetic Council Directive 2004/108/EC, 89/336/EEC and Low Voltage Directive 2006/95/EC, 73/23/EEC and CE-marking Directive 93/68/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. This certificate is issued following test carried out on samples of the product referred to above.	
Quality Inspector's Stamp	

SELLER INFORMATION

Seller	
Address	
Phone Number	
E-mail	
Purchase Date	

Seller's Stamp

This is to certify acceptance of the complete unit delivery with the user's manual. The warranty terms are acknowledged and accepted.	
Customer's Signature	

INSTALLATION CERTIFICATE

The unit has been connected to power mains pursuant to the requirements stated in the present user's manual.	
Company Name	
Address	
Phone Number	
Installation Technician's Full Name	
Installation Date:	**Signature:**

Installation Company Stamp

The unit has been installed in accordance with the provisions of all the applicable local and national construction, electrical and technical codes and standards. The unit operates normally as intended by the manufacturer.
Signature:

WARRANTY CARD

Unit type	**Centrifugal inline fan**
Model	☐ **VKM** _____ ☐ **VKMz** _____ ☐ **VC** _____
Serial Number	
Manufacture Date	
Purchase Date	
Warranty Period	
Seller	

Seller's Stamp

V05EN-07