

Series  
**VENTS VKM EC**



Inline centrifugal fans with the air capacity up to **1460 m<sup>3</sup>/h** in steel casing

■ **Application**

Supply and exhaust ventilation and air conditioning systems for various premises requiring cost-effective solution and controllable ventilation. 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 im-

portance 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 160, 200, 250 and 315 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 IP 44.

■ **Speed control**

The fan is controlled with the external control signal 0-10 V (air capacity 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 capacity 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 display shows 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
<b>VENTS VKM</b>	160; 200; 250; 315	<b>EC</b> – electronically commutated synchronous motor

ErP data

Overall efficiency	η <sub>1</sub> , [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	[kW]
Current	[A]
Air flow	[m <sup>3</sup> /h]
Static pressure	[Pa]
Speed	[n/min <sup>-1</sup> ]
Specific ratio	SR

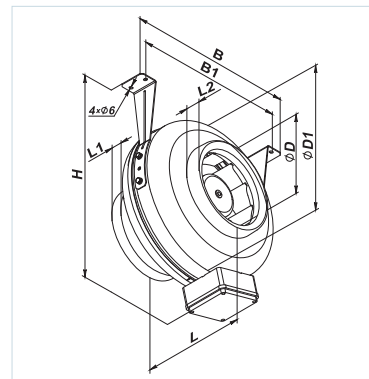
Accessories



page 378   page 386   page 388   page 392   page 406   page 442   page 446   page 454   page 479



**Fan overall dimensions:**

Type	Dimensions [mm]									Weight [kg]
	∅D	∅D1	H	B	B1	L	L1	L2	L3	
VKM 160 EC	159	304	360	351	311	200	25	25	30	4.32
VKM 200 EC	198	344	437	390	350	238	25	25	40	5.7
VKM 250 EC	248	344	437	390	350	249	30	25	40	5.1
VKM 315 EC	313	404	466	450	410	259	30	30	40	7.3



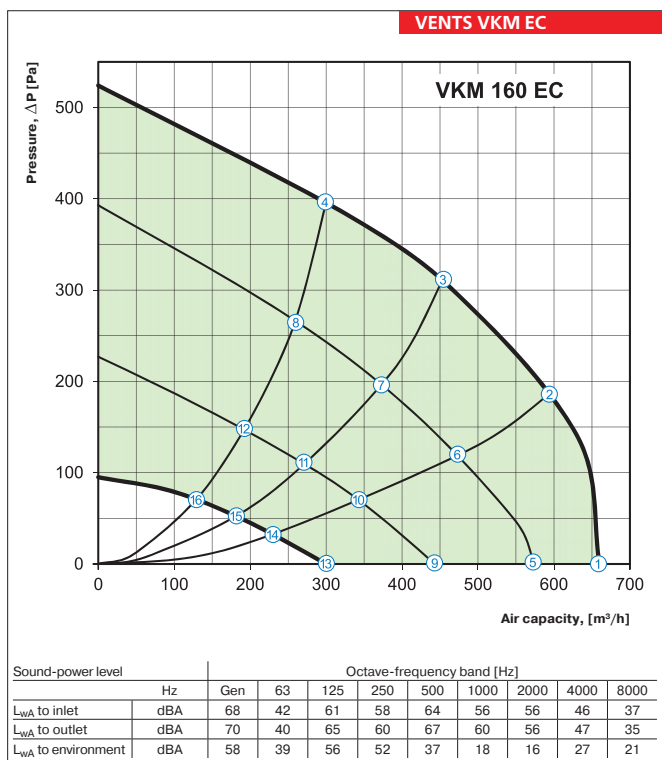
VENTS  
VKM EC  
FAN SERIES

**Technical data:**

	VKM 160 EC*	VKM 200 EC *	VKM 250 EC 	VKM 315 EC 
Voltage [V / 50/60 Hz]	1~ 230	1~ 230	1~ 230	1~ 230
Power [W]	80	84	161	160
Current [A]	0.58	0.49	0.94	0.94
Max. air capacity [m³/h]	660	840	1275	1460
RPM [min <sup>-1</sup> ]	3250	2490	2700	2780
Noise level at 3 m [dBA]	45	50	46	48
Transported air temperature [°C]	-25 +60	-25 +60	-25 +60	-25 +60
SEC class**	B	B	-	-
Protection rating	IP X4	IP X4	IP X4	IP X4

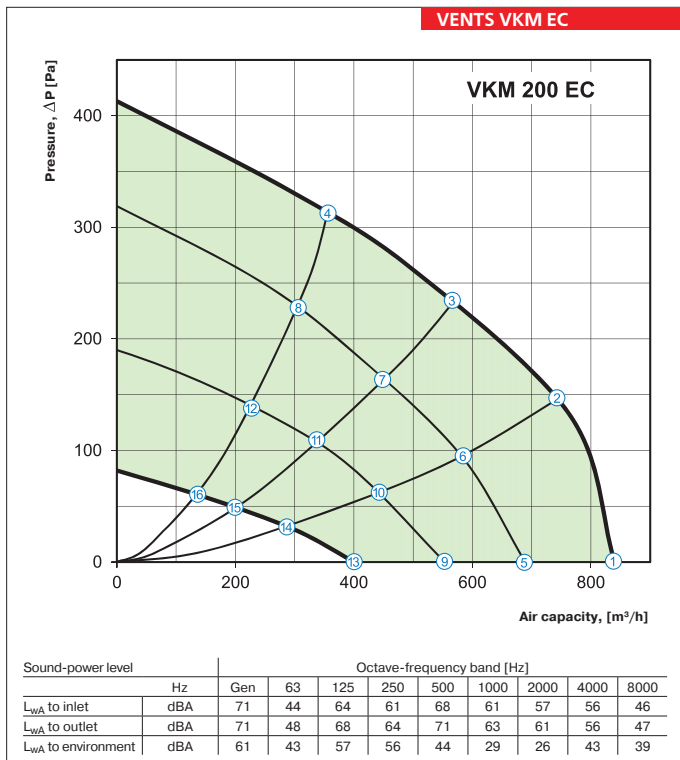
\* Compliant to the ErP-regulation (EC) 327/2011, the power consumption at optimum efficiency is < 125W.

\*\* The EC norm 1254/2014 does not apply if maximum air capacity is >1000 m³/h

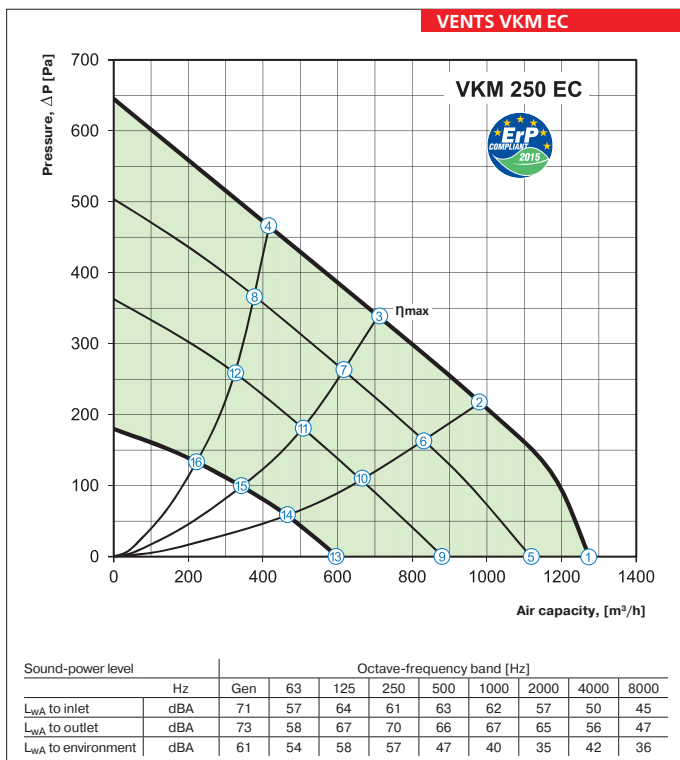


point	n, (min <sup>-1</sup> )	R, (W)
1	3260	70
2	3190	77
3	3130	80
4	3170	77
5	2610	36
6	2560	40
7	2500	41
8	2530	40
9	1960	15
10	1910	16
11	1880	17
12	1890	16
13	1310	4
14	1280	5
15	1250	5
16	1280	5

## FANS FOR ROUND DUCTS

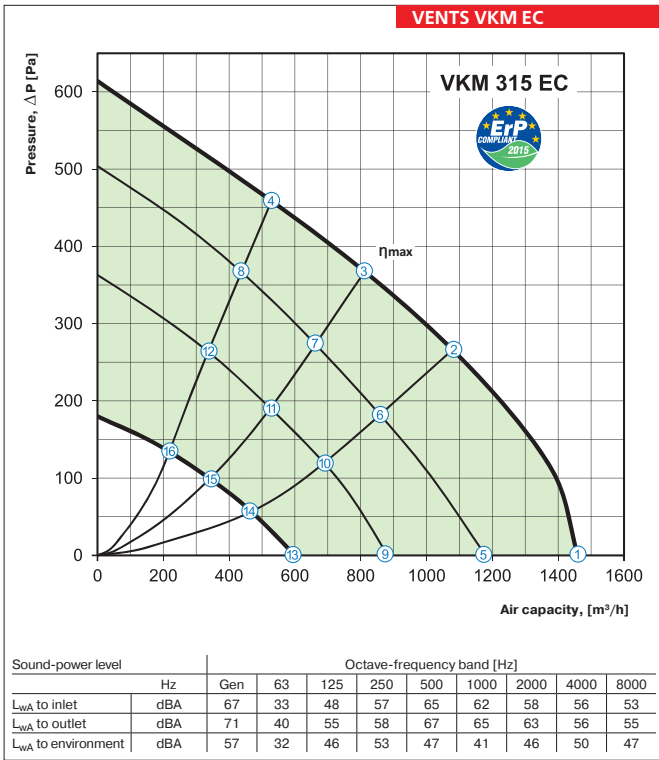


point	n, (min <sup>-1</sup> )	R, (W)
1	2780	64
2	2630	75
3	2510	84
4	2520	83
5	2220	33
6	2090	39
7	2000	43
8	2010	42
9	1670	14
10	1560	16
11	1500	18
12	1510	18
13	1110	4
14	1060	5
15	1000	6
16	1010	6



point	n, (min <sup>-1</sup> )	R, (W)
1	2760	123
2	2670	146
3	2610	161
4	2680	146
5	2460	88
6	2380	106
7	2340	116
8	2400	105
9	2000	53
10	1960	62
11	1940	69
12	1965	61
13	1380	22
14	1360	25
15	1350	28
16	1360	25

$\eta$ , [%]	MC	EC	N	VSD	[kW]	[A]	[m³/h]	[Pa]	[RPM]	SR
48.1	A	Static	67	Yes	0.161	0.94	708	338	2610	1



point	n, (min <sup>-1</sup> )	R, (W)
1	2750	121
2	2660	145
3	2600	160
4	2670	145
5	2450	85
6	2370	103
7	2330	112
8	2390	101
9	1990	49
10	1950	61
11	1930	65
12	1955	60
13	1370	21
14	1350	22
15	1340	25
16	1350	24

$\eta$ , [%]	MC	EC	N	VSD	[kW]	[A]	[m <sup>3</sup> /h]	[Pa]	[RPM]	SR
60.9	A	Static	79.8	Yes	0.160	0.94	815	369	2600	1

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