Series

VENTS VKM EC

Inline centrifugal fans with air capacity up to **1460 m³/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 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 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. The fan may be equipped with a power cord and a plug for more comfortable connection and operation (VKM... EC R).

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.

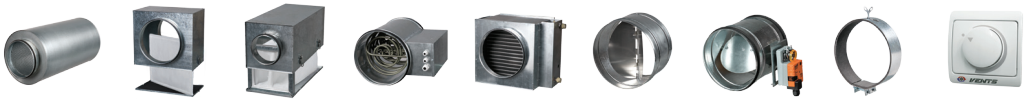
Mounting

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:

Fan series	Air duct diameter	Motor	Options
VENTS VKM	160; 200; 250; 315	**EC** - electronically commutated synchronous motor	**R** - power cord with C14 plug

Accessories



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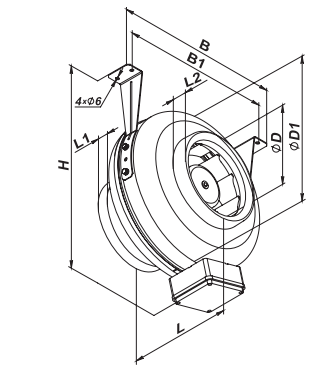
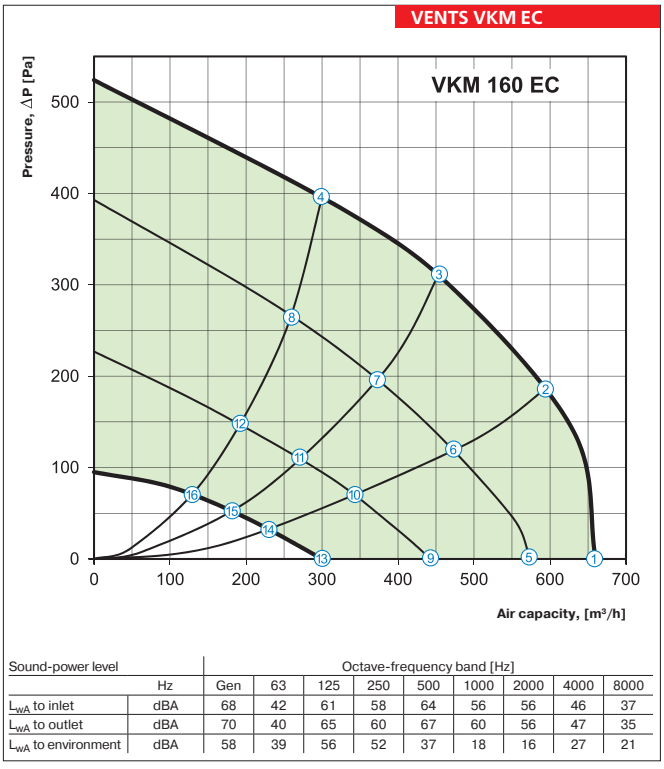
Fan overall dimensions:

Type	Dimensions [mm]									Weight [kg]
	ØD	ØD1	H	B	B1	L	L1	L2	L3	
VKM 160 EC	159	304	360	351	311	200	25	25	30	5,9
VKM 200 EC	198	344	437	390	350	238	25	25	40	7,1
VKM 250 EC	248	344	437	390	350	249	30	25	40	8,0
VKM 315 EC	313	404	466	450	410	259	30	30	40	8,5



Technical data:

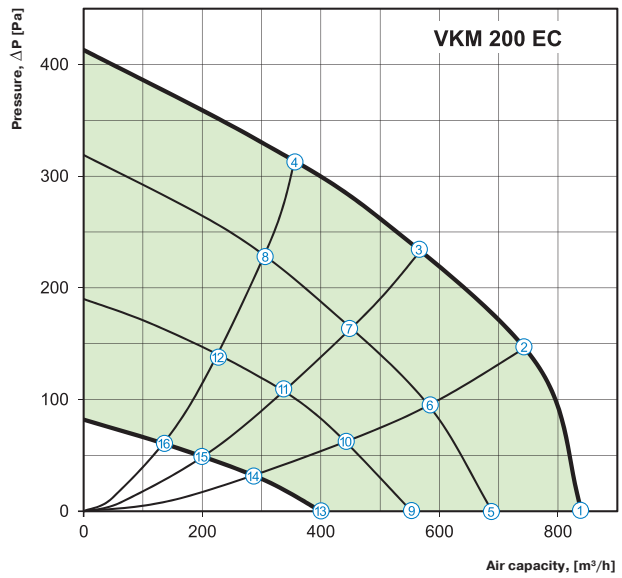
	VKM 160 EC	VKM 200 EC	VKM 250 EC	VKM 315 EC
Voltage [V / 50/60 Hz]	1~ 230	1~ 230	1~ 230	1~ 230
Power [W]	80	84	161	160
Current [A]	0,58	0,49	0,94	0,94
Maximum air flow [m^3/h]	660	840	1275	1460
RPM [min^{-1}]	3250	2490	2700	2780
Noise level at 3 m [dBA]	45	50	46	48
Maximum operating temperature [^0C]	-25 +60	-25 +60	-25 +60	-25 +60
Protection class	IP X4	IP X4	IP X4	IP X4



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	68	42	61	58	64	56	56	46	37
L_{wA} to outlet	dBA	70	40	65	60	67	60	56	47	35
L_{wA} to environment	dBA	58	39	56	52	37	18	16	27	21

point	n, (min^{-1})	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

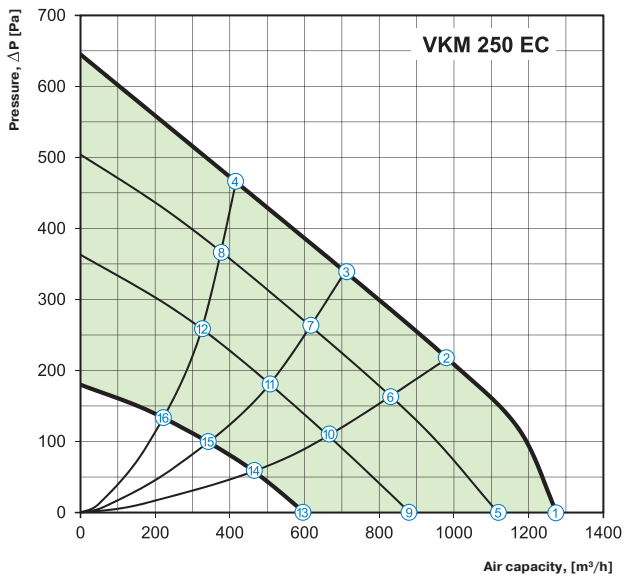
VENTS VKM EC



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	71	44	64	61	68	61	57	56	46
L_{wA} to outlet	dBA	71	48	68	64	71	63	61	56	47
L_{wA} to environment	dBA	61	43	57	56	44	29	26	43	39

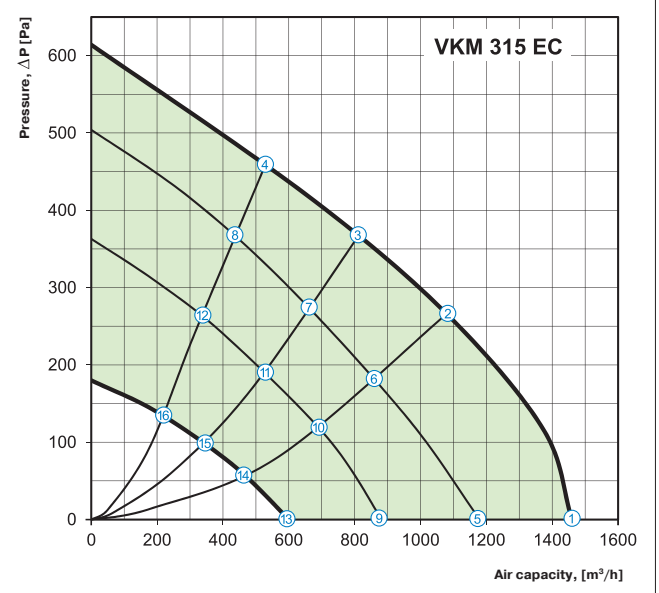
point	n, (min^{-1})	R, (W)
1	2780	64
2	2630	75
3	2510	84
4	2520	83
5	2220	33
6	2090	39
7	2000	43
8	2010	42
9	1670	14
10	1560	16
11	1500	18
12	1510	18
13	1110	4
14	1060	5
15	1000	6
16	1010	6

VENTS VKM EC



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	71	57	64	61	63	62	57	50	45
L_{wA} to outlet	dBA	73	58	67	70	66	67	65	56	47
L_{wA} to environment	dBA	61	54	58	57	47	40	35	42	36

point	n, (min^{-1})	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



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	67	33	48	57	65	62	58	56	53
L_{wA} to outlet	dBA	71	40	55	58	67	65	63	56	55
L_{wA} to environment	dBA	57	32	46	53	47	41	46	50	47

point	n, (min^{-1})	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