

Series VENTS VKM EC



Inline centrifugal fans with the air capacity up to **2100 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 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 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

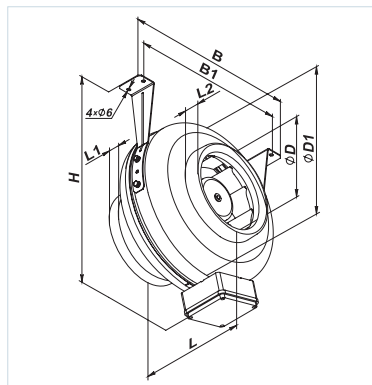
The fan is controlled with the external control signal 0-10 V (air capacity control as a function of temperature, pressure, smoke conditions and other parameters). Should the control value get changed, the EC motor adjusts its speed and the fan boosts as much air capacity to the ventilation system as 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 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.

Fan overall dimensions

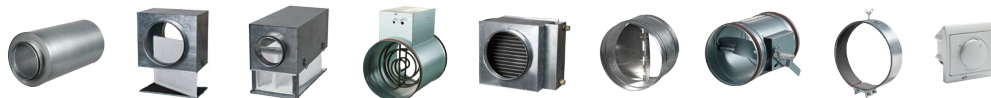
Model	Dimensions [mm]									Weight [kg]
	ØD	ØD1	H	B	B1	L	L1	L2	L3	
VKM 100 EC	98	255	340	310	270	203	20	25	30	3.45
VKM 125 EC	123	255	340	310	270	203	20	25	30	3.58
VKM 150 EC	149	305	365	360	320	220	25	25	30	4.17
VKM 160 EC	159	305	365	360	320	220	25	25	30	4.32
VKM 200 EC	198	345	435	395	355	245	25	30	40	5.7
VKMS 200 EC	198	345	435	395	355	255	25	30	40	5.7
VKM 250 EC Q	248	345	435	395	355	250	25	30	40	5.1
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	410	420	505	475	440	60	60	50	16.0



Designation key

Series	Air duct diameter	Motor	Options
VENTS VKM VENTS VKMS: High-power version	100; 125; 150; 160; 200; 250; 315	EC: electronically commutated synchronous motor	Q: low-power motor

Accessories



page 378

page 386

page 388

page 392

page 406

page 442

page 446

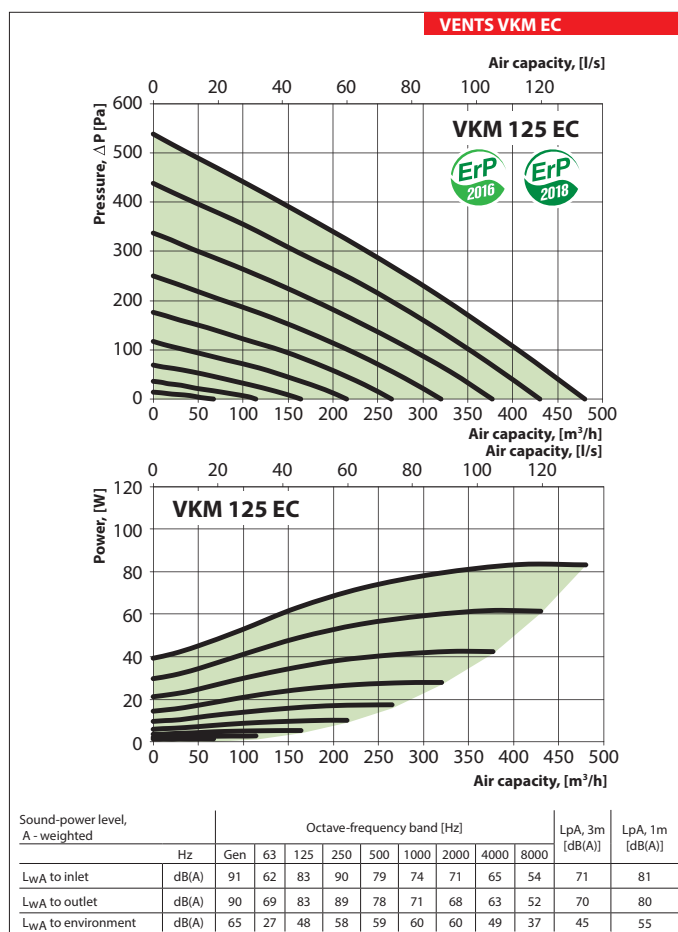
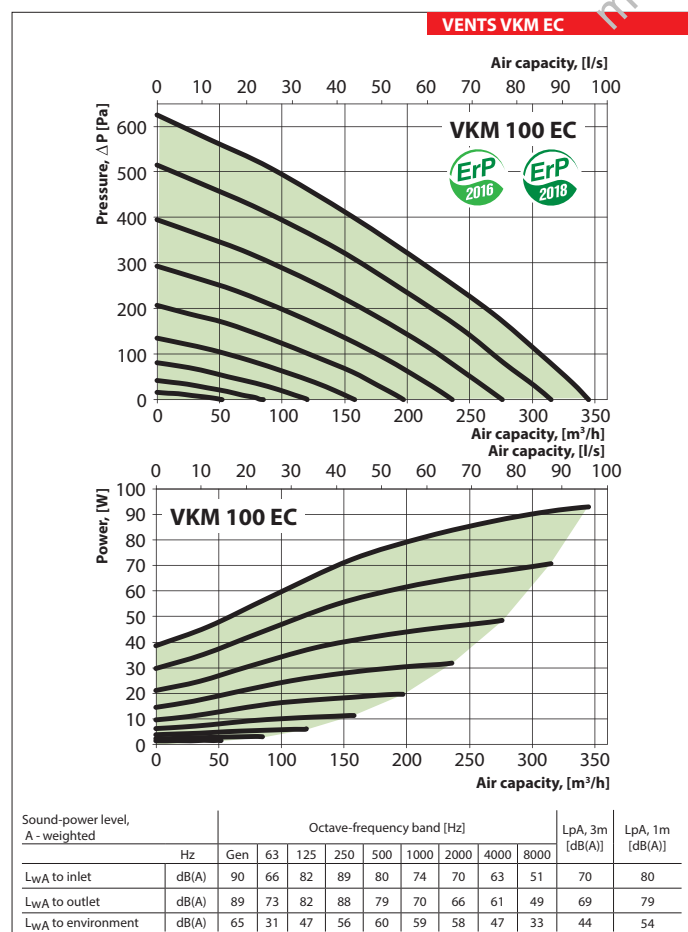
page 454

page 479

Technical data

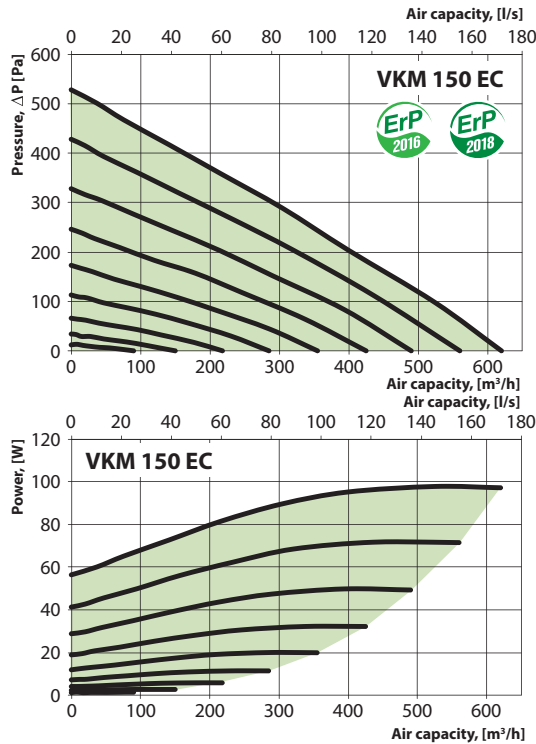
	VKM 100 EC	VKM 125 EC	VKM 150 EC	VKM 160 EC	VKM 200 EC
Voltage [V / 50(60) Hz]	1~220-277				
Power [W]	90	83	98	95	83
Current [A]	0.70	0.58	0.73	0.72	0.63
Max. air capacity [m³/h]	345	480	620	685	845
RPM [min⁻¹]	3600	3400	2800	2800	2500
Noise level at 3 m [dBA]	44	45	47	47	47
Transported air temperature [°C]	-25...+60				
SEC class	B	B	B	B	B
Protection rating	IP X4				

	VKMS 200 EC	VKM 250 EC Q	VKM 250 EC	VKM 315 EC	VKMS 315 EC
Voltage [V / 50(60) Hz]	1~220-277				
Power [W]	100	100	164	164	270
Current [A]	0.74	0.74	1.15	1.15	1.80
Max. air capacity [m³/h]	1010	985	1230	1370	2100
RPM [min⁻¹]	2400	2500	2900	2900	2300
Noise level at 3 m [dBA]	48	44	46	48	51
Transported air temperature [°C]	-25...+60				
SEC class	B	B	-	-	-
Protection rating	IP X4				



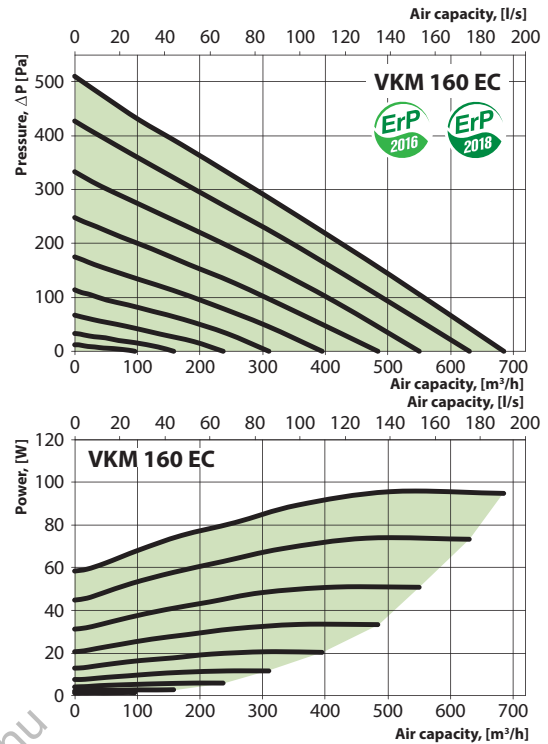
FANS FOR ROUND DUCTS

VENTS VKM EC



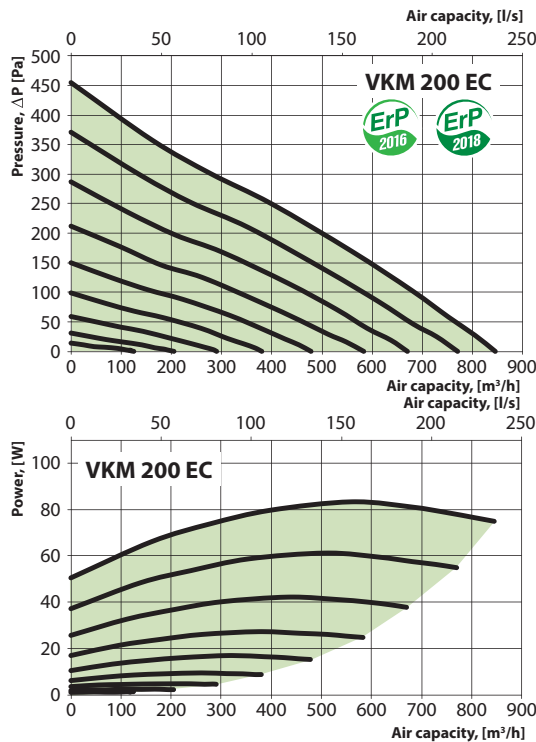
Sound-power level, A - weighted	Hz	Octave-frequency band [Hz]									LpA, 3m [dB(A)]	LpA, 1m [dB(A)]
		Gen	63	125	250	500	1000	2000	4000	8000		
L _{WA} to inlet	dB(A)	88	52	85	84	73	72	69	67	53	67	77
L _{WA} to outlet	dB(A)	86	51	84	81	69	67	63	62	50	66	76
L _{WA} to environment	dB(A)	68	27	49	60	63	62	61	53	40	47	57

VENTS VKM EC



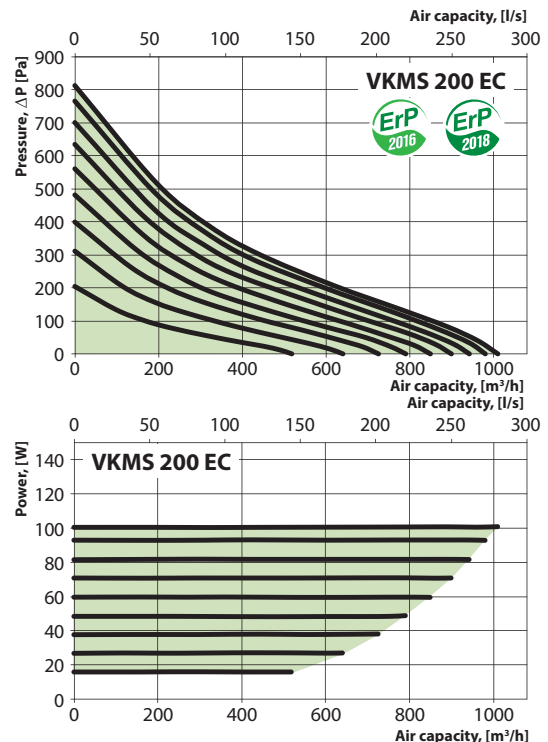
Sound-power level, A-weighted	Hz	Octave-frequency band [Hz]									LpA, 3m [dB(A)]	LpA, 1m [dB(A)]
		Gen	63	125	250	500	1000	2000	4000	8000		
L _{WA} to inlet	dB(A)	88	64	80	86	78	72	68	61	50	67	77
L _{WA} to outlet	dB(A)	87	71	80	85	77	68	65	59	48	67	77
L _{WA} to environment	dB(A)	67	32	49	58	63	62	60	49	35	47	57

VENTS VKM EC

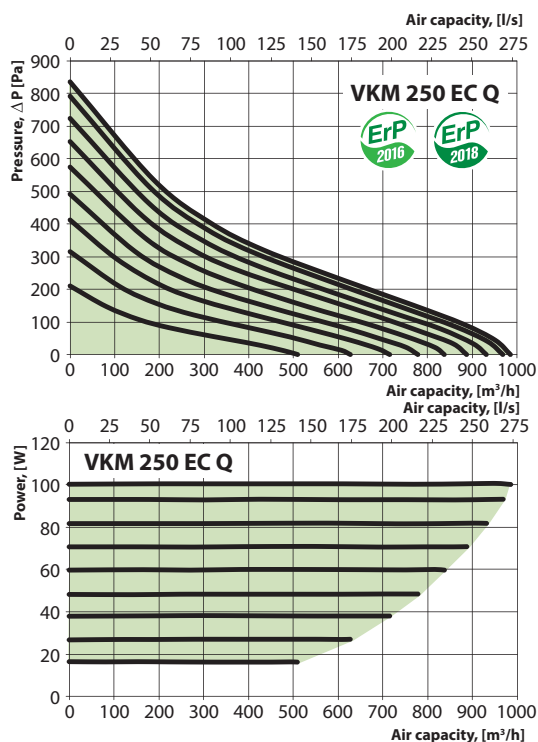


Sound-power level, A - weighted	Hz	Octave-frequency band [Hz]								LpA, 3m [dB(A)]	LpA, 1m [dB(A)]	
		Gen	63	125	250	500	1000	2000	4000			8000
L _{WA} to inlet	dB(A)	87	48	76	84	79	79	80	72	61	67	77
L _{WA} to outlet	dB(A)	85	45	75	79	77	77	80	72	62	64	74
L _{WA} to environment	dB(A)	67	27	49	60	62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

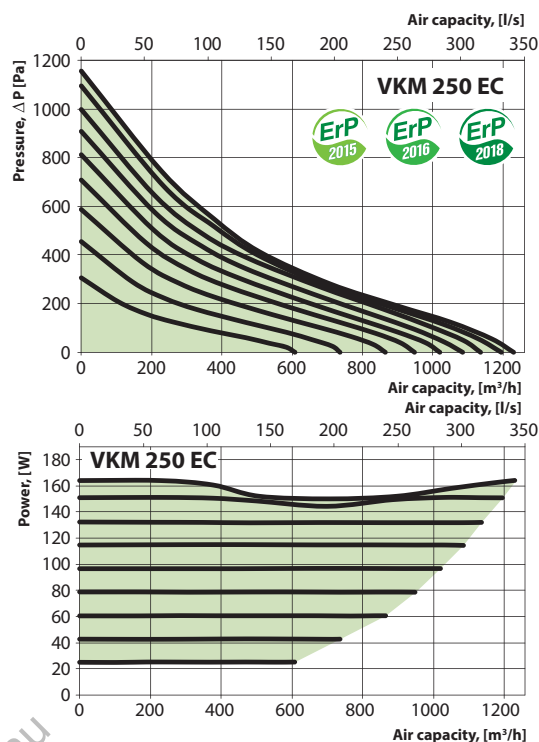
VENTS VKM EC



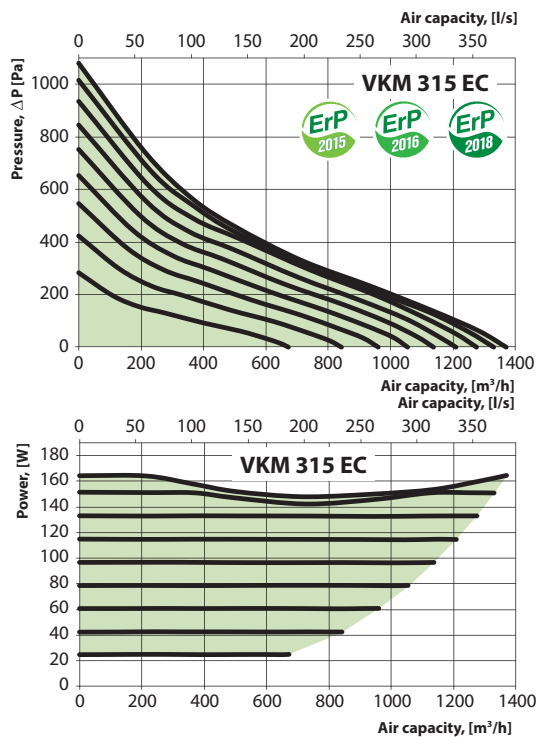
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		Gen	63	125	250	500	1000	2000	4000	8000		
L _{WA} to inlet	dB(A)	93	63	80	88	85	87	84	79	67	72	82
L _{WA} to outlet	dB(A)	89	65	77	74	83	84	83	77	64	68	78
L _{WA} to environment	dB(A)	68	30	49	58	62	65	61	52	38	48	58

VENTS VKM EC

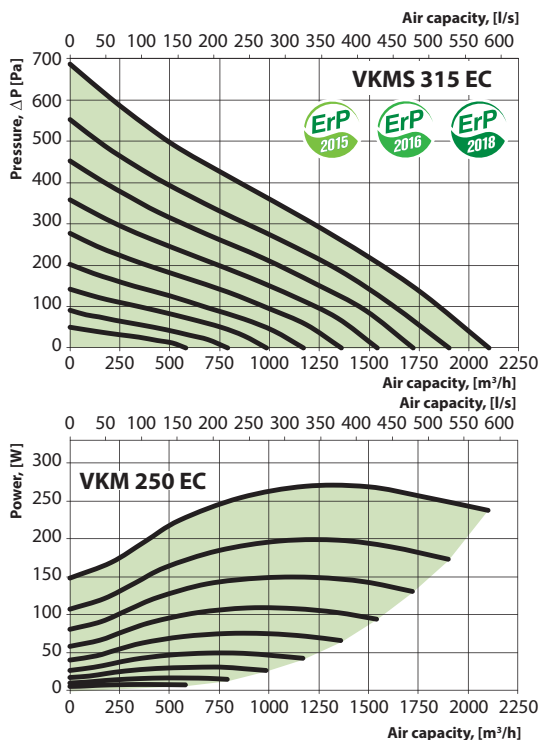
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		Gen	63	125	250	500	1000	2000	4000		
L _{WA} to inlet	dB(A)	88	60	76	83	81	83	79	75	63	78
L _{WA} to outlet	dB(A)	87	63	75	72	81	82	81	76	62	77
L _{WA} to environment	dB(A)	65	28	46	55	58	61	57	49	36	44

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

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

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Sound-power level, A - weighted	Hz	Octave-frequency band [Hz]								LpA, 3m [dB(A)]	LpA, 1m [dB(A)]
		Gen	63	125	250	500	1000	2000	4000		
L _{WA} to inlet	dB(A)	93	63	80	88	86	88	84	80	68	83
L _{WA} to outlet	dB(A)	91	67	79	76	85	87	85	80	65	81
L _{WA} to environment	dB(A)	72	32	51	61	65	68	64	55	40	61