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

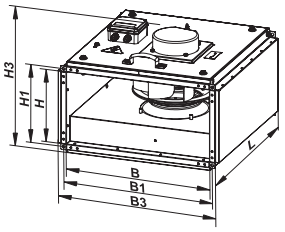
The impellers with backward curved blades are powered with high efficient electronically commutated (EC) direct current motors with an external rotor. As of today, such motor type is the most advanced solution for energy saving. EC motors are featured by high performance and the optimal control over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

Integrated functions and control

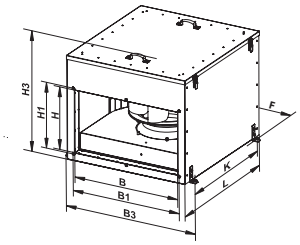
The fan is controlled with an external control signal 0-10 V (air flow as a function of temperature level, pressure and smoke conditions etc). If the control value factor changes, the EC motor changes its speed and the fan boosts as much air flow to the ventilation system as required. Maximum speed of 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

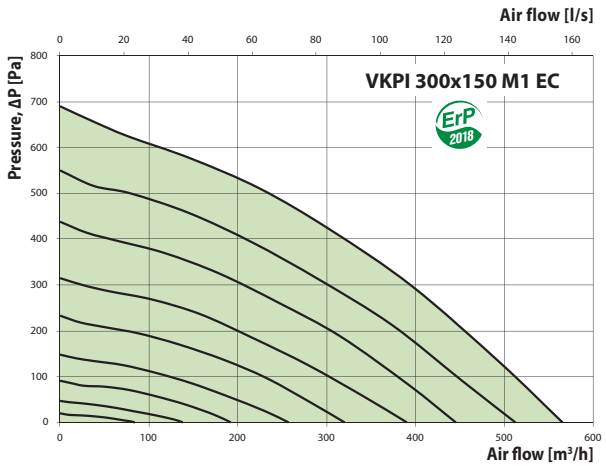
Mounting

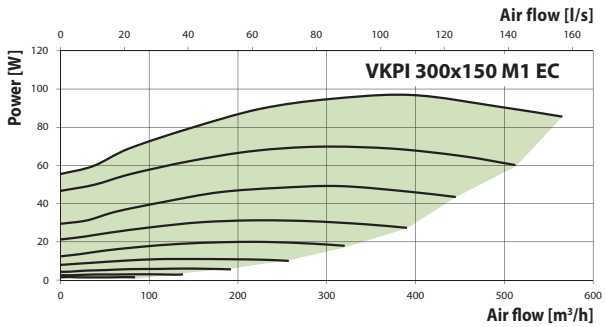
The fans are mounted into the rectangular ducts and require no special fixing in sizes 300x150–500x300. For large size fans and in case of connection through the flexible connectors, the fan is fixed to a building by means of supports, suspension brackets or fixation brackets. The fans can be mounted 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	

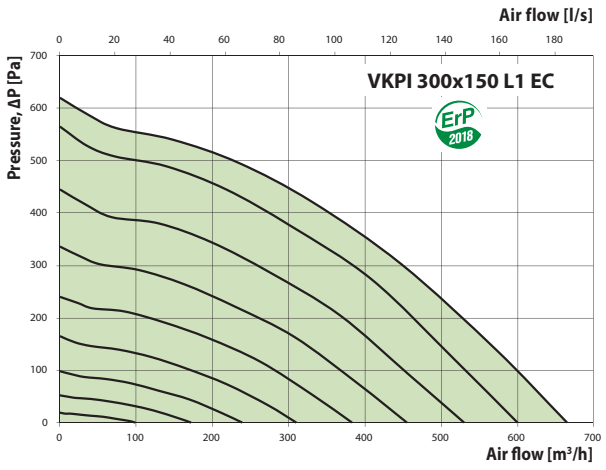
VENTS VKPI EC

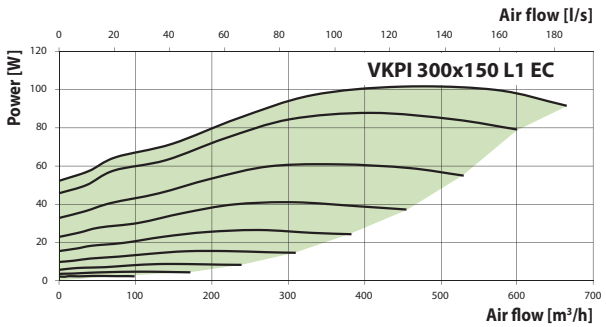




			Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	57	39	46	51	53	46	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



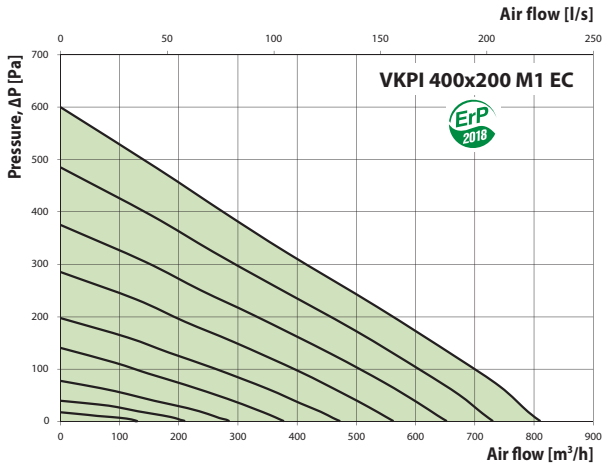


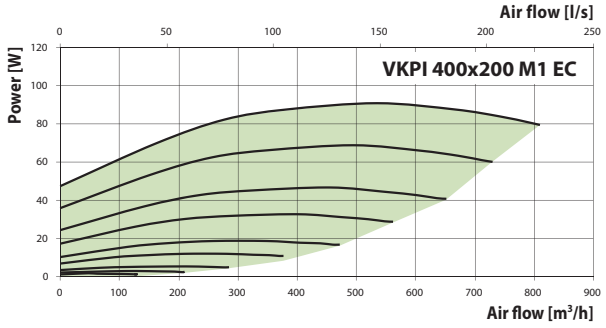
			Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	57	40	47	51	53	47	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	

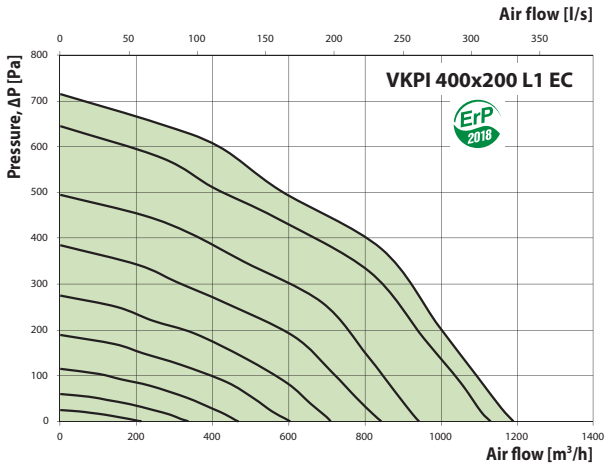
VENTS VKPI EC

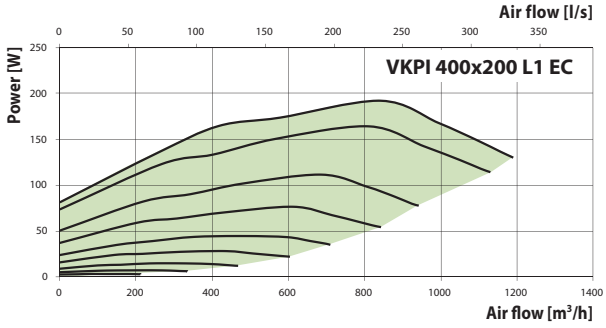




		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	63	33	45	59	54	57	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



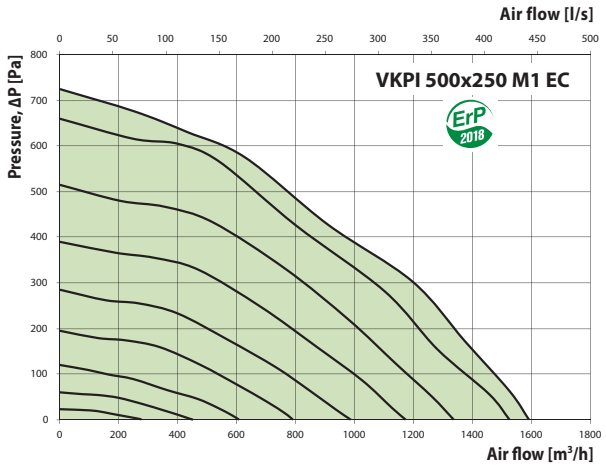


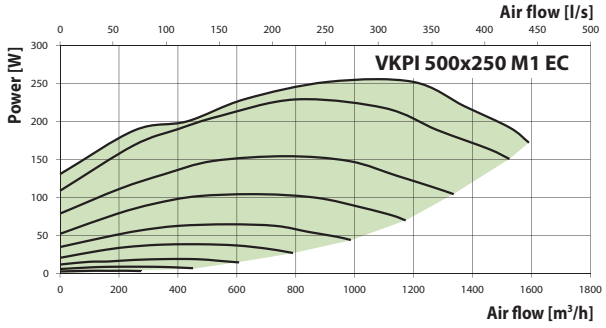
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	62	36	57	54	54	54	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	

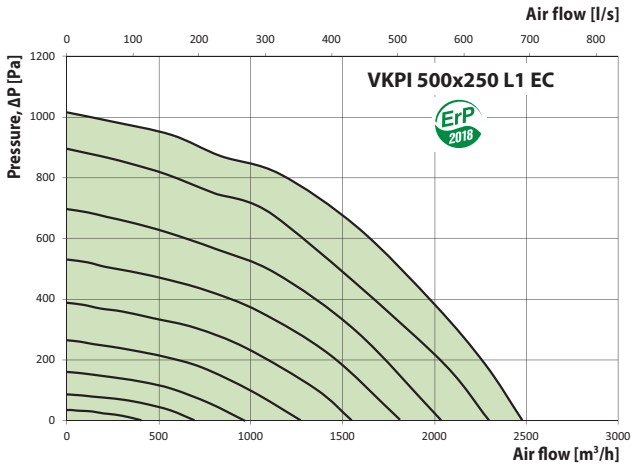
VENTS VKPI EC

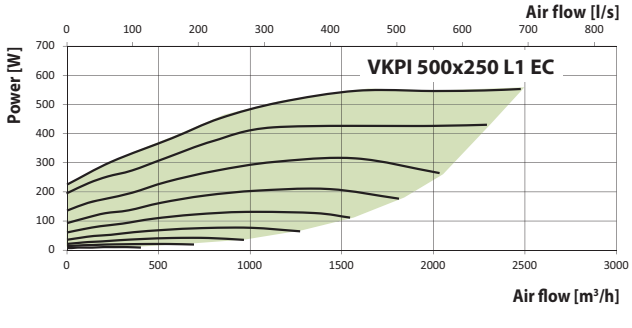




		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	64	38	59	56	57	57	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



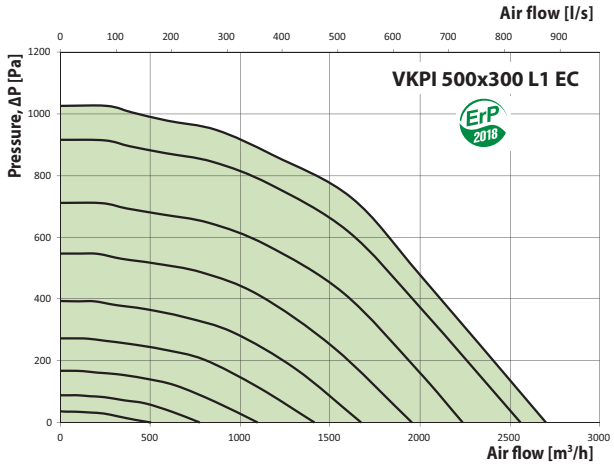


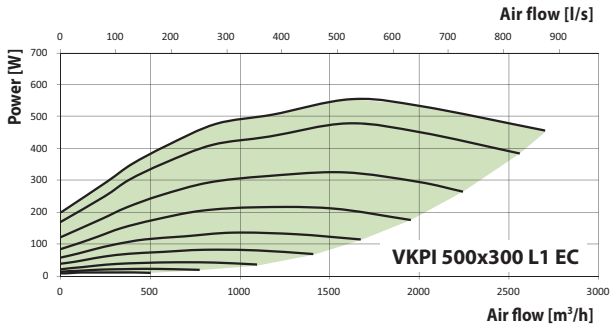
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	74	45	70	66	67	67	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	

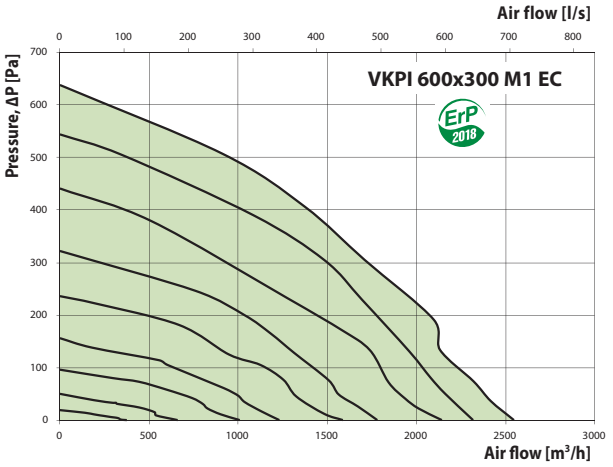
VENTS VKPI EC

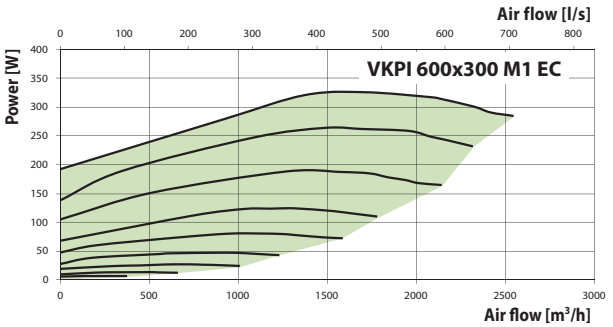




			Sound power level, A-filter applied									
		General	Octave frequency band [Hz]								Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	75	45	70	67	68	68	64	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



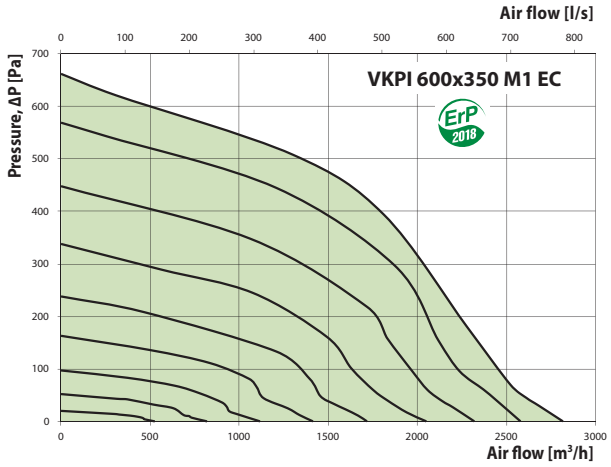


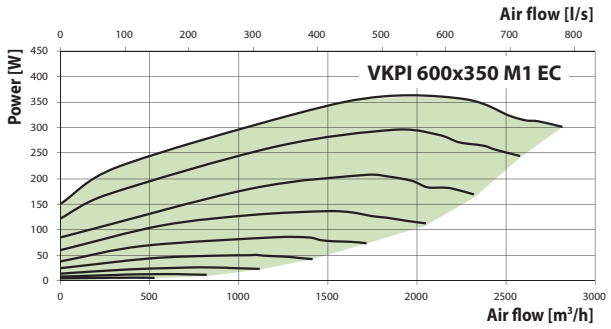
			Sound power level, A-filter applied									
		General	Octave frequency band [Hz]								Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{wA} to inlet	dBA	63	32	45	59	53	57	55	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	

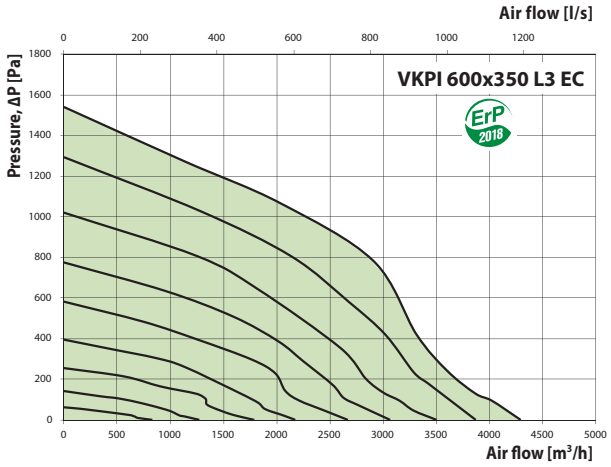
VENTS VKPI EC

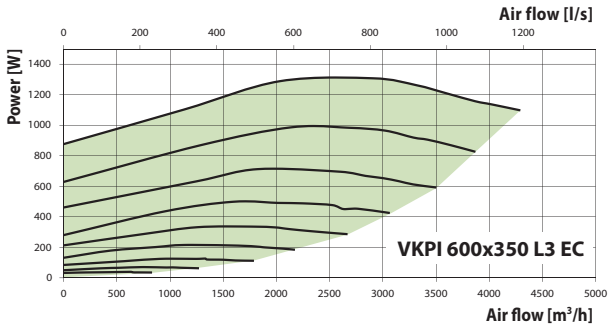




		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	69	36	49	65	58	62	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



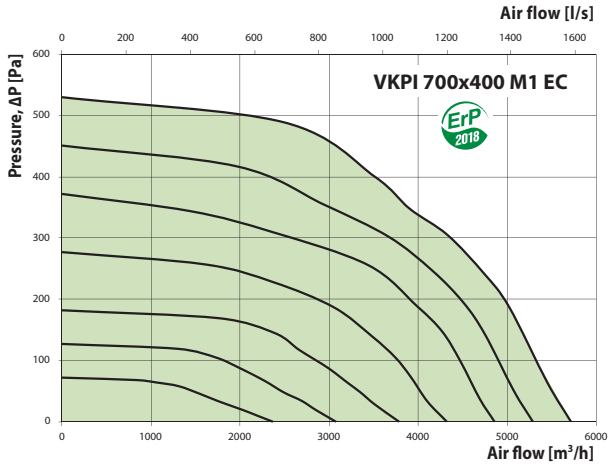


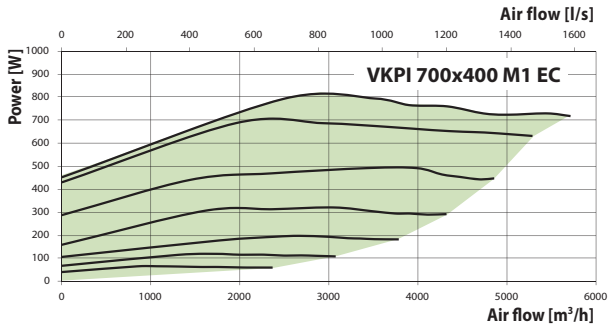
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	72	41	66	64	64	64	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	

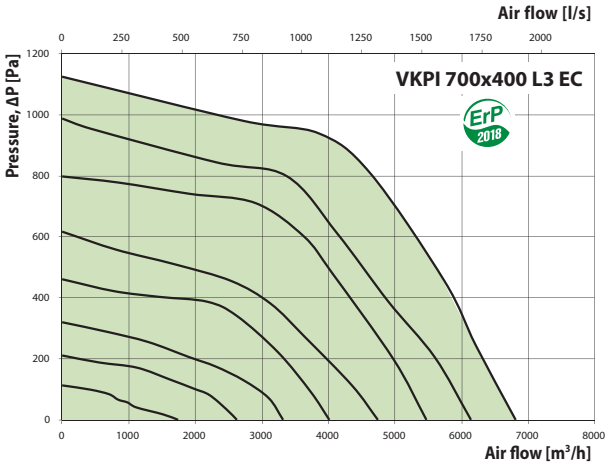
VENTS VKPI EC

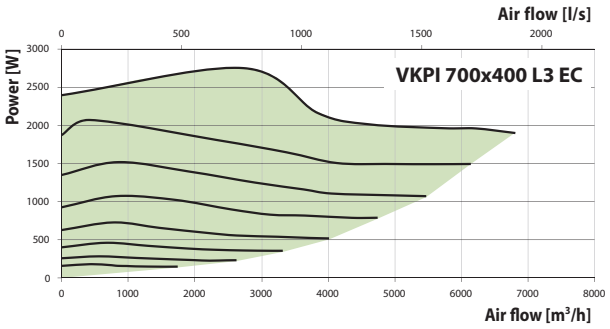




		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	66	38	60	59	59	59	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



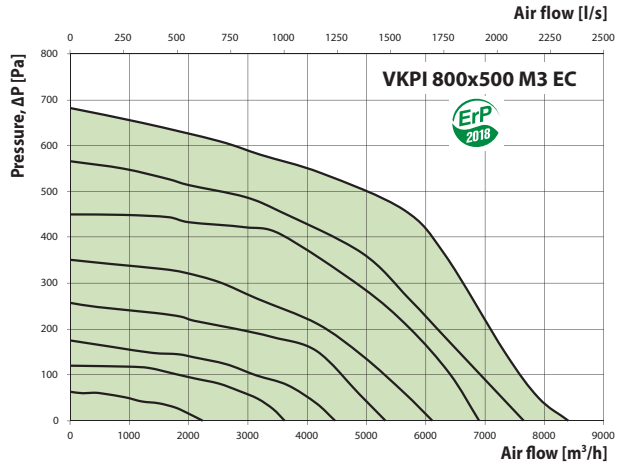


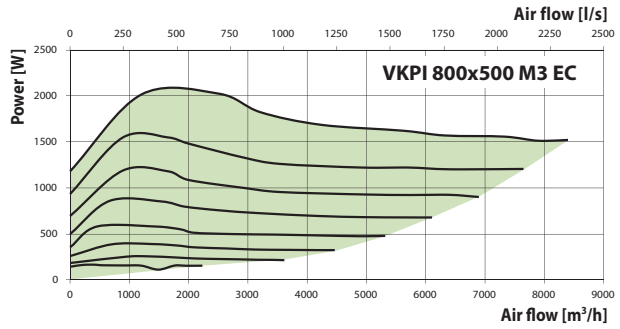
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	72	46	64	63	66	64	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	

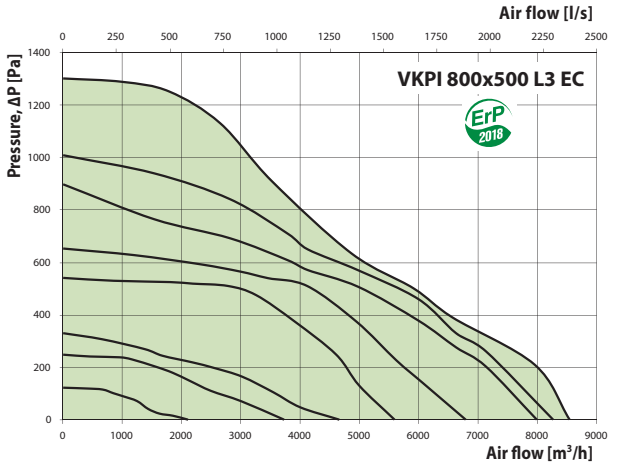
VENTS VKPI EC

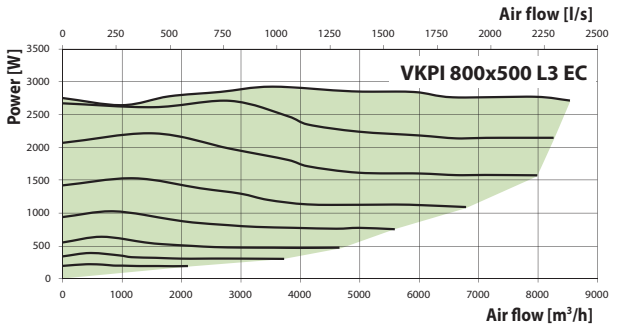




		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	70	36	50	66	60	63	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



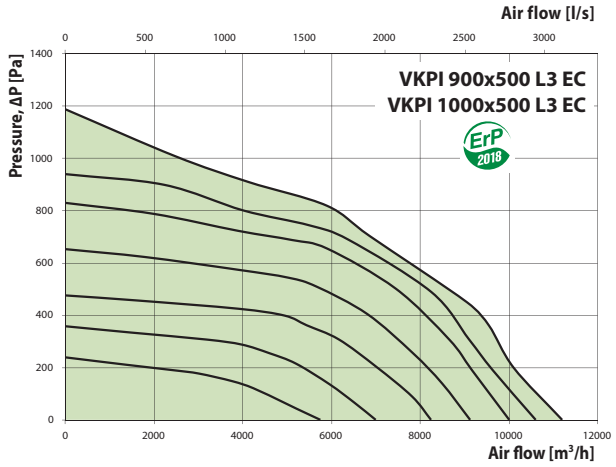


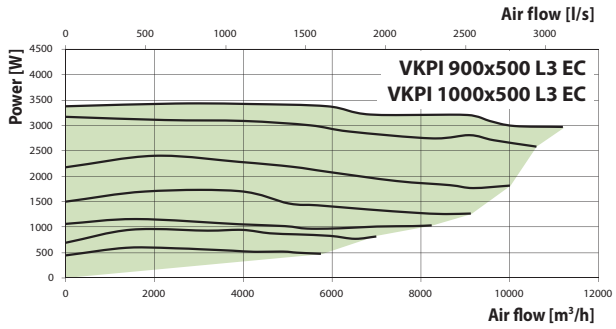
		Sound power level, A-filter applied										Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]										
	Hz		63	125	250	500	1000	2000	4000	8000		LpA, 3 m [dBA]	LpA, 1 m [dBA]
L_{WA} to inlet	dBA	69	44	61	60	63	61	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

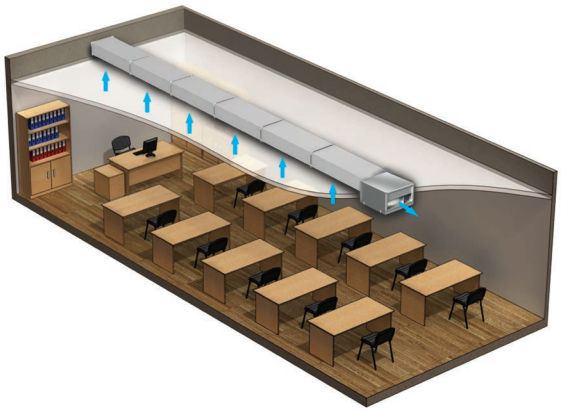
	VKPI 900x500 L3 EC	VKPI 1000x500 L3 EC
Voltage [V/50 (60) Hz]	3~400	3~400
Power [W]	3429	3429
Current [A]	5.00	5.00
Maximum air flow [m^3/h]	11190	11190
RPM [min^{-1}]	1800	1800
Noise level at 3 m [dBA]	47	47
Transported air temperature [°C]	-25...+50	
Motor protection	IP54	
Protection rating	IPX4	

VENTS VKPI EC

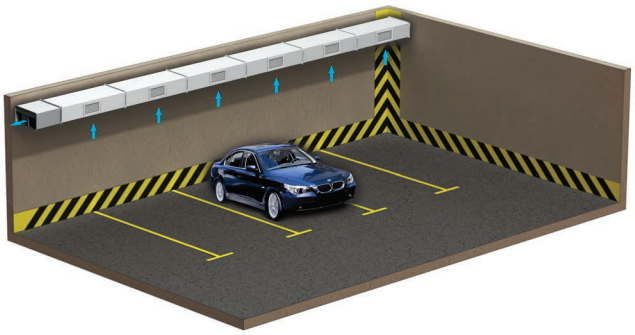




VKPI 900x500 L3 EC VKPI 1000x500 L3 EC		Sound power level, A-filter applied									Sound pressure level at 3 meters, A-filter applied	Sound pressure level at 1 meter, A-filter applied
		General	Octave frequency band [Hz]									
	Hz		63	125	250	500	1000	2000	4000	8000	LpA, 3 m [dBA]	LpA, 1 m [dBA]
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