Series
VENTS VS EC

Inline centrifugal fans in heat- and sound-insulated casing with the air flow up to **16 740 m³/h**.

Applications

Supply and exhaust ventilation systems for commercial, office and other public or industrial premises with energy-efficient and low-noise requirements.

The VS EC fan design enables both inline and 90° air outlet due to changeable positions of the removable panels. The aluzinc casing with high corrosion-resistant properties and heat-insulating material enables outdoor installation of the fan.

Design

The fan casing is made of aluminium frame, fastened with aluminium bends and removable double-skinned aluzinc panels, heat- and sound-insulated with 20 mm non-combustible mineral wool.

The connecting pipes that also serve as vibration absorbing connectors are available with round and square sections.

The round connecting pipes are fitted with rubber sealing rings. The connecting pipes are not included into the delivery set and are available upon separate order.

Motor

The impellers with backward curved blades powered with high efficient electronically commutated (EC) motors with external rotor.

As of today, such motor type is the most advanced solution for energy saving.

EC motors are featured with high performance and the optimal control over the whole range of fan speeds.

Premium efficiency reaching up to 90 % is the absolute advantage of electronically commutated motors.

Built-in functions and control

The fan is controlled with the external control signal 0-10V (air flow as a function of temperature level, pressure, etc.). Should the control value factor get changed 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. The fans can be integrated to the unified PC control system. The respective software allows controlling all the fan units with high accuracy and setting particular operation mode for each fan.

Mounting

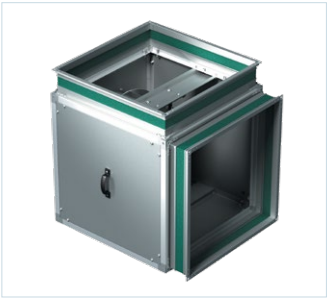
The fans are designed for connection to rectangular or round air ducts with a flexible connector of respective cross section.

The fan can be fixed with supports, suspension or mounting bracket and it is suitable for any mounting position, on condition that the pointer on the fan casing matches the air motion direction in the system. While mounting the fan provide enough access for its servicing.

VS EC fan with VPG flexible anti-vibration connectors

VS EC fan with KN-VS outer hood

VS EC fan with VPR-VS protection cowl

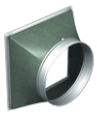


VS EC fan with VVG flexible anti-vibration connectors

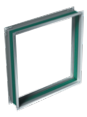
Designation key

Series	Impeller diameter	Motor
VENTS VS	315; 355; 400; 450; 500; 560; 630	**EC**: synchronous electronically commutated motor

Accessories



VPG



VVG

KN-VS

VPR-VS

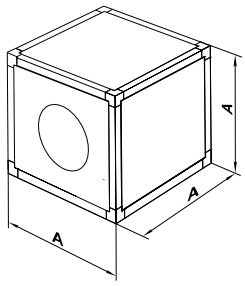
Speed controller R-1/010

Technical data

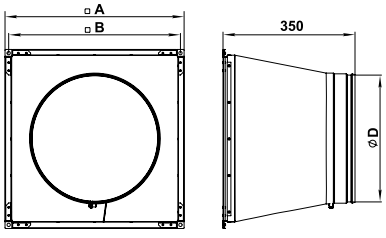
	VS 315 EC	VS 355 EC	VS 400 EC	VS 450 EC	VS 500 EC	VS 560 EC	VS 630 EC
Voltage [V/50 (60) Hz]	1~230	1~230	1~230	1~230	3~400	3~400	3~400
Power [W]	150	250	500	750	1320	2360	2750
Current [A]	1.23	1.1	2.2	3.3	2.1	3.65	4.3
Max. air flow [m^3/h] with the air flow: – perpendicularly	2370	3830	5660	6800	10450	13600	16740
– straight forward	2252	3639	5377	6460	9928	12920	15903
RPM [min^{-1}]	1600	1450	1500	1440	1350	1540	1300
Noise level at 3 m [dBA]	35	44	39	50	45	50	50
Transported air temperature [°C]	-40...+80	-25...+60	-25...+50	-25...+60	-25...+50	-25...+60	-25...+55
Protection rating	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4

Fan and accessories overall dimensions

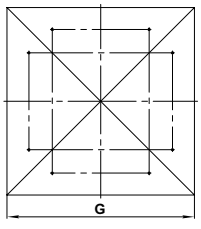
Type	Dimensions [mm]	Mass [kg]	Options				Dimensions [mm]								
	A		VPG	VVG	KN-VS	VPR-VS	A	A1	B	B1	C	ØD	E	F	G
VS 315 EC	500	25.7	VPG 500/315	VVG 500x500	KN-VS 315-355	VPR-VS 315-355	490	478	470	458	445	315	458	225	600
VS 355 EC	500	29.3	VPG 500/355	VVG 500x500	KN-VS 315-355	VPR-VS 315-355	490	478	470	458	445	355	458	225	600
VS 400 EC	670	42.2	VPG 670/400	VVG 670x670	KN-VS 400-500	VPR-VS 400-500	660	648	640	628	615	400	628	321	770
VS 450 EC	670	46.3	VPG 670/450	VVG 670x670	KN-VS 400-500	VPR-VS 400-500	660	648	640	628	615	450	628	321	770
VS 500 EC	670	50	VPG 670/500	VVG 670x670	KN-VS 400-500	VPR-VS 400-500	660	648	640	628	615	500	628	321	770
VS 560 EC	800	60.5	VPG 800/560	VVG 800x800	KN-VS 560 630	VPR-VS 560 630	790	778	770	758	745	560	758	421	900
VS 630 EC	800	69	VPG 800/630	VVG 800x800	KN-VS 560 630	VPR-VS 560 630	790	778	770	758	745	630	758	421	900



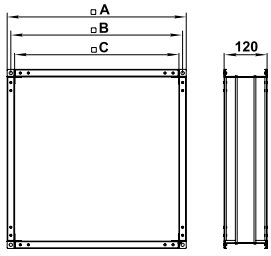
VS EC



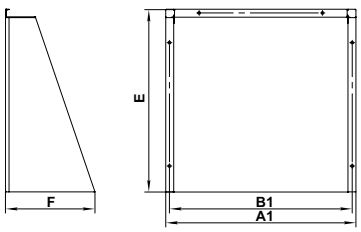
VPG



VPR-VS

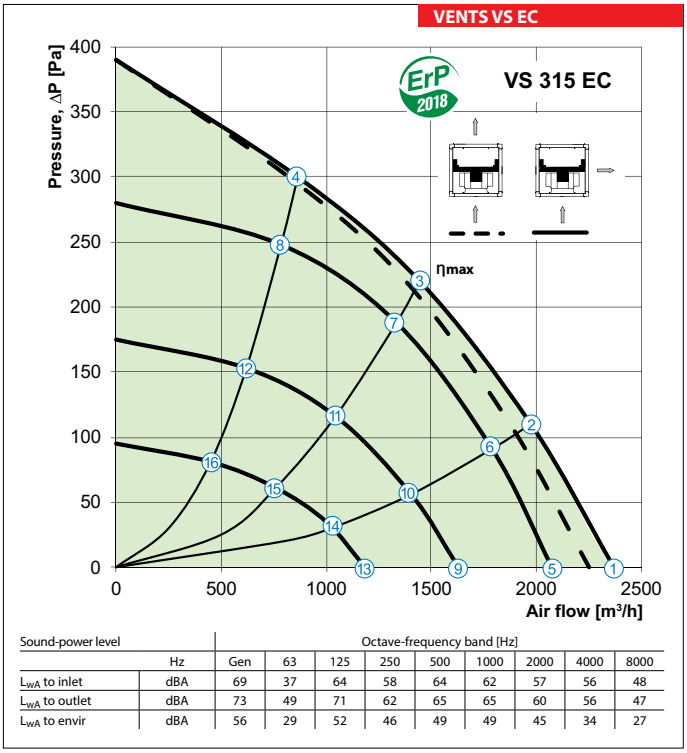


VVG



KN-VS

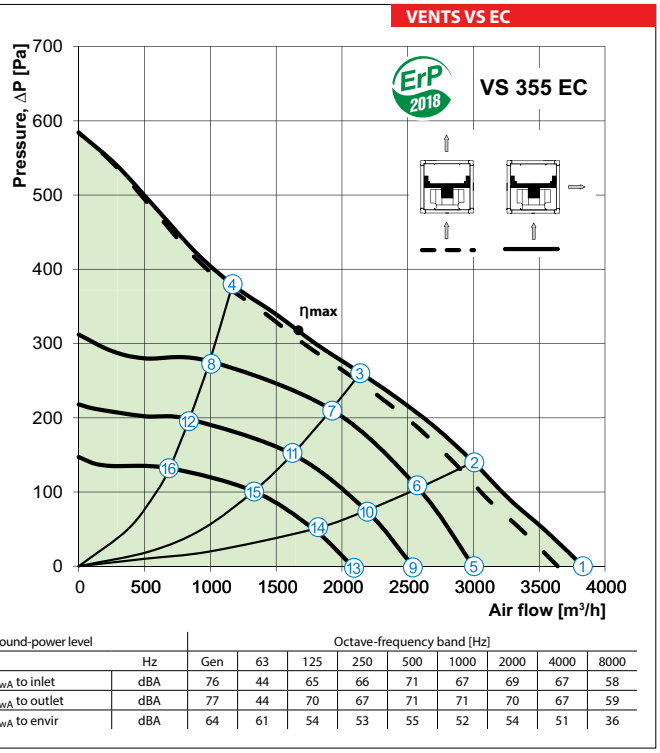
VENTS VS EC



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	69	37	64	58	64	62	57	56	48
L_{WA} to outlet	dBA	73	49	71	62	65	65	60	56	47
L_{WA} to envir	dBA	56	29	52	46	49	49	45	34	27

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
61.3	A	Static	80.5	Yes	0.150	1.23	1455	223	1600	1

VENTS VS EC

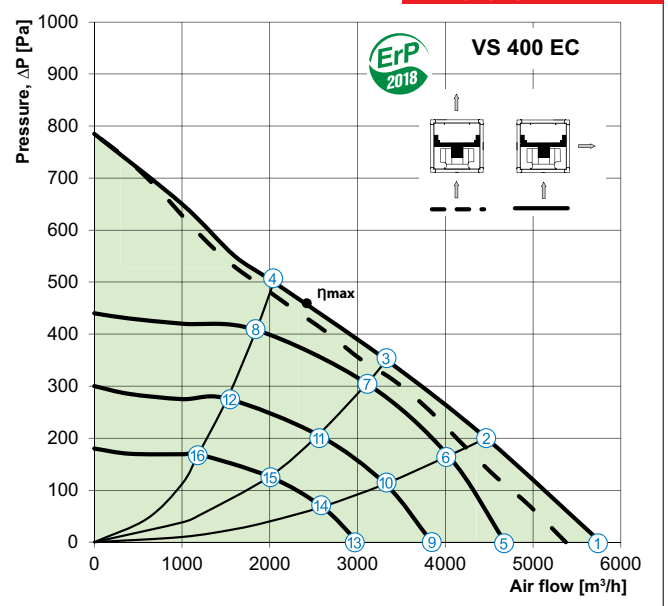


Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	76	44	65	66	71	67	69	67	58
L_{WA} to outlet	dBA	77	44	70	67	71	71	70	67	59
L_{WA} to envir	dBA	64	61	54	53	55	52	54	51	36

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
59.4	A	Static	76.3	Yes	0.250	1.1	1680	312	1450	1

Point	Power [W]			
	VS 315 EC	**VS 355 EC**	**VS 400 EC**	**VS 450 EC**
1	115	250	500	574
2	137	250	500	750
3	150	250	500	750
4	137	250	500	750
5	77	121	277	337
6	102	164	383	458
7	118	185	424	557
8	102	158	382	502
9	37	73	153	178
10	50	99	212	242
11	57	112	235	294
12	50	96	212	265
13	14	40	74	79
14	19	54	102	107
15	22	61	113	130
16	19	53	102	117

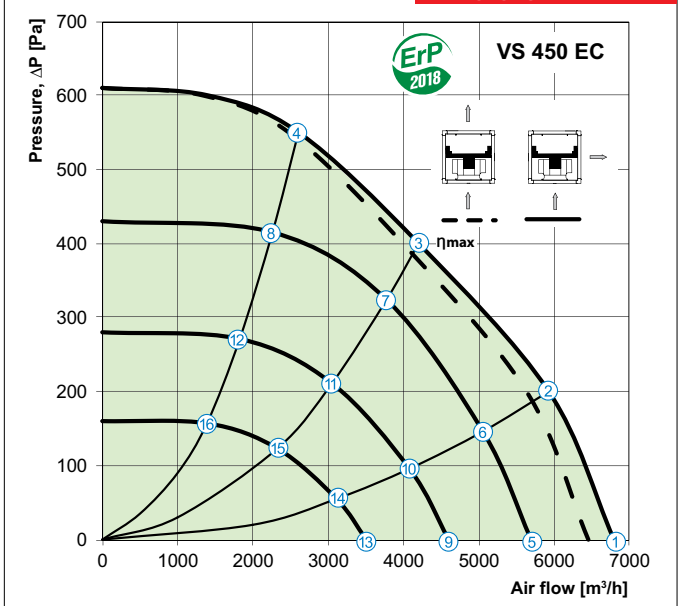
VENTS VS EC



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	71	42	61	62	66	66	63	60	51
L_{wA} to outlet	dBA	75	50	68	64	68	69	66	61	53
L_{wA} to envir	dBA	60	32	52	53	49	55	52	44	31

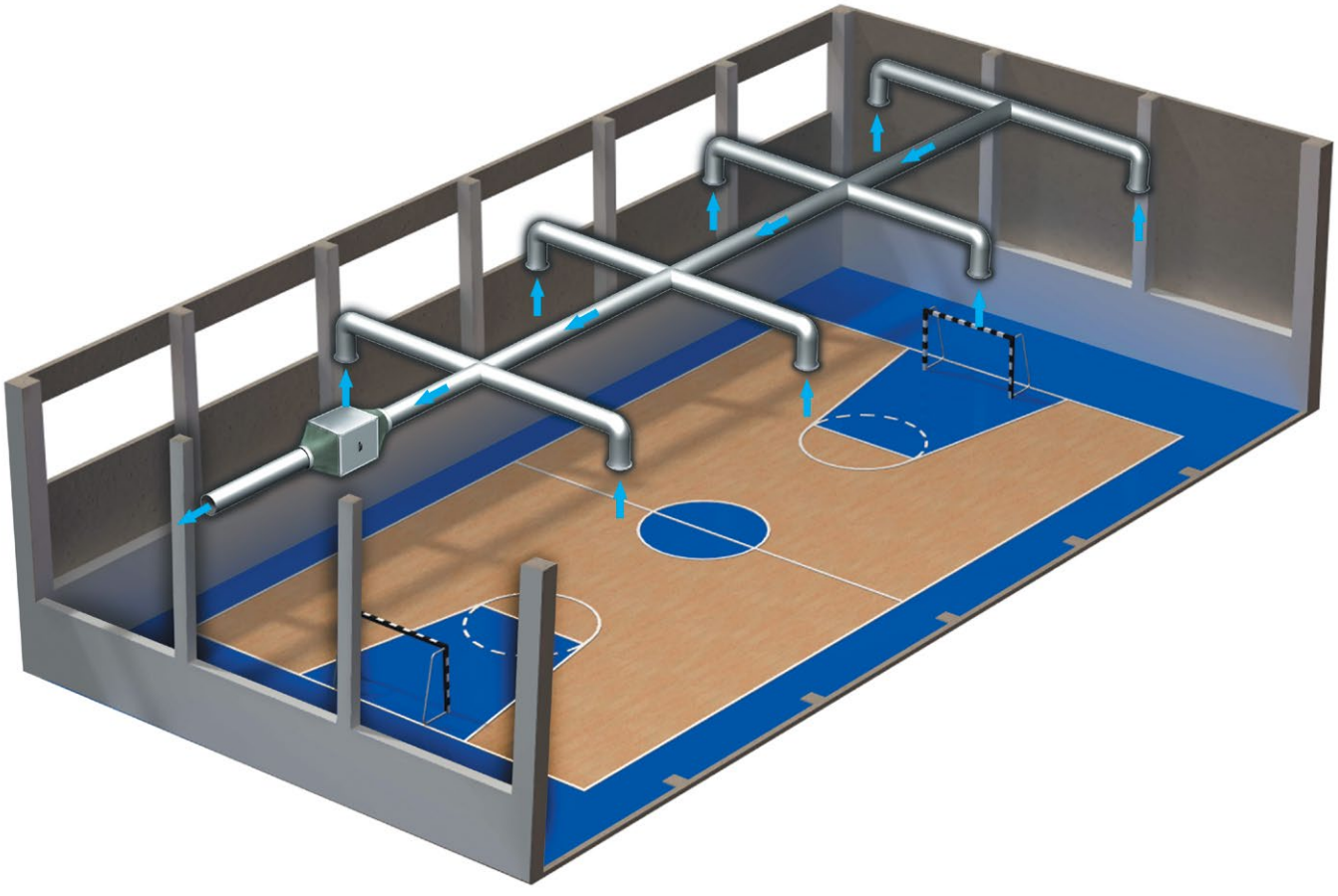
η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
58.4	A	Static	72.1	Yes	0.500	2.2	2558	403	1500	1

VENTS VS EC



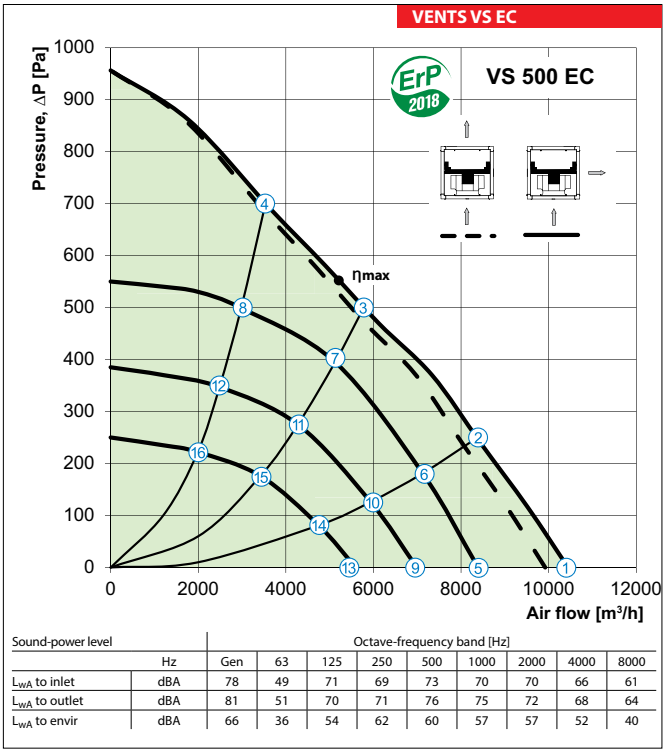
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	79	48	70	71	73	72	70	65	62
L_{wA} to outlet	dBA	83	70	76	72	76	78	75	69	64
L_{wA} to envir	dBA	71	33	68	63	61	61	58	53	44

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
64.2	A	Static	76	Yes	0.750	3.3	4195	405	1440	1



VS EC fan gym ventilation example

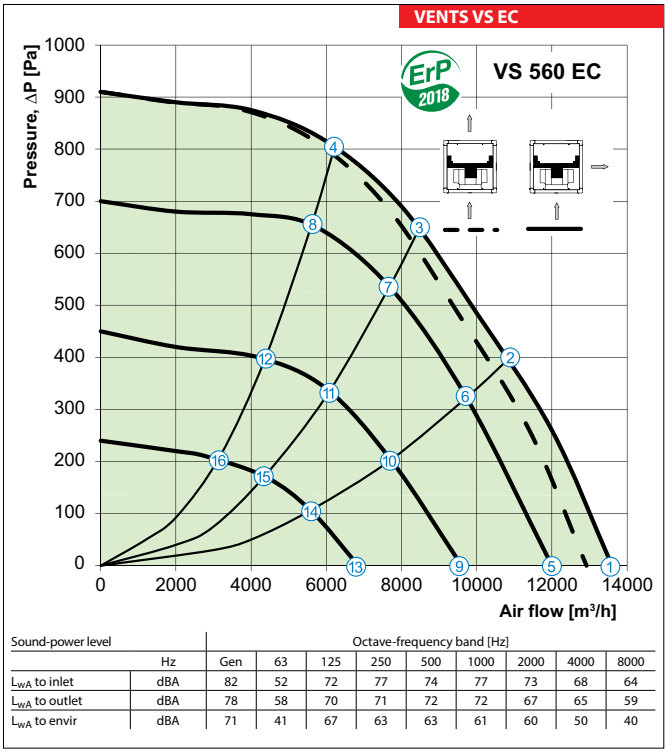
VENTS VS EC



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	78	49	71	69	73	70	70	66	61
L_{wA} to outlet	dBA	81	51	70	71	76	75	72	68	64
L_{wA} to envir	dBA	66	36	54	62	60	57	57	52	40

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
54.2	A	Static	63.4	Yes	1.320	2.1	4723	534	1350	1

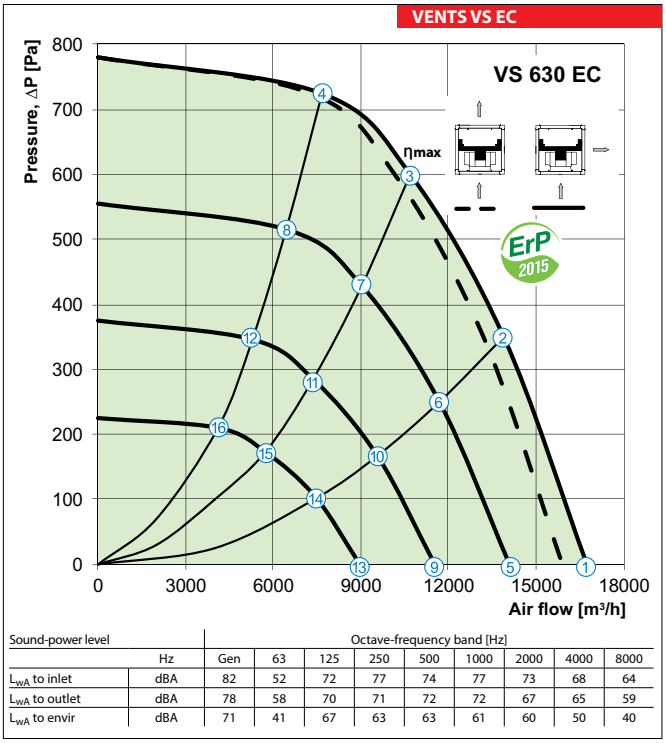
VENTS VS EC



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	82	52	72	77	74	77	73	68	64
L_{wA} to outlet	dBA	78	58	70	71	72	72	67	65	59
L_{wA} to envir	dBA	71	41	67	63	63	61	60	50	40

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
67.8	A	Static	74.4	Yes	2.360	3.65	8250	684	1540	1

Point	Power [W]		
	VS 500 EC	**VS 560 EC**	**VS 630 EC**
1	1215	1840	1779
2	1320	2296	2509
3	1320	2360	2750
4	1320	2313	2651
5	630	1240	1060
6	823	1672	1495
7	929	1736	1648
8	795	1669	1584
9	364	601	581
10	476	811	819
11	538	842	902
12	460	810	868
13	187	231	273
14	244	312	385
15	275	324	425
16	236	311	408



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	82	52	72	77	74	77	73	68	64
L_{wA} to outlet	dBA	78	58	70	71	72	72	67	65	59
L_{wA} to envir	dBA	71	41	67	63	63	61	60	50	40

η [%]	MC	EC	N	VSD	kW	A	m³/h	Pa	RPM	SR
67.2	A	Static	73.1	Yes	2.750	4.3	10850	601	1300	1

VS EC fan office ventilation example