Series
VENTS VKV EC

Roof exhaust centrifugal fans with vertical air exhaust and the air capacity up to **11400 m³/h**

Series
VENTS VKH EC

Roof exhaust centrifugal fans with horizontal air exhaust and the air capacity up to **11400 m³/h**

Application
The fans are rated for exhaust ventilation and air conditioning systems for various premises that require reasonable energy saving solutions and controlled ventilation systems. EC motors reduce energy demand by1.5-3 times and ensure high performance combined with low noise operation. Such characteristics are especially important for application in public premises as banks, supermarkets, restaurants, hotels, residential premises or domestic spaces, including water pools.

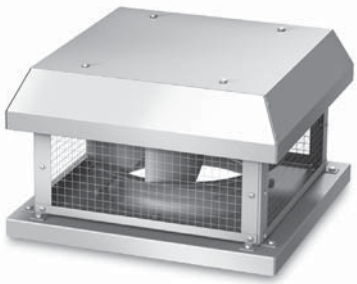
Design
The fan casing is made of polymer-coated steel (VKV EC and VKH EC models), aluminum (VKVA EC, VKHA EC), galvanized steel (VKVz EC, VKHz EC).

Motor
The fans are equipped with high-efficient electronically-commutated direct current motors with external rotor and impellers with backward curved blades. EC motor is free of friction and wear parts as a commutator and brushes. These components are replaced by a maintenance-free electronic circuit board. EC motors are featured with high performance and well controllable speed range. Premium efficiency reaching 90% is a definite advantage of electronically commutated motors.

Integrated functions and control
The fan is controlled by an external 0-10 V control signal. The fan capacity is regulated depending on temperature and pressure level, smoke content, etc. The fan has low energy consumption at any speed. Maximum fan speed does not depend on the available current frequency and is suitable for operation both at 50 and 60 Hz. Several fans can be integrated into a single computer-driven control system. Custom designed software provides high accuracy control of the fans integrated into a network. The LED-display of the computer shows all the system parameters and the operation mode can be set individually for each fan in the network.

Mounting
VKV/VKH...EC fans are designed for mounting on the roof. The mounting plate enables the fan installation on a level surface directly above a ventilation shaft or air duct and the holes on this mounting plate provide reliable rigid fixing of the fan to a static surface. While mounting the VKH...EC fans to the level surface provide a support to exclude possible water or snow ingress into an exhaust vent of the respective ventilation shaft. While installing the fan provide enough space for maintenance works. For connection of the fans to round air ducts use the following accessories: KKV damper, GVK flexible connector, FKV counter flange. For mounting of the fans to flat surface use the mounting frame RKV.

Model VENTS VKVA EC (aluminum)



Model VENTS VKHA EC (aluminum)

Designation key:

Series and modification	Casing material	Turbine standard size	Motor type
VENTS VKV – vertical air exhaust **VENTS VKH** – horizontal air exhaust	_ steel with polymeric coating A – aluminum z – galvanized steel	250; 280; 310; 355; 400; 450; 500; 560	**EC** – synchronous electronically commutated motor

ErP data	
Overall efficiency	η, [%]
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	[kW]
Current	[A]
Air flow	[m³/h]
Static pressure	[Pa]
Speed	[n/min⁻¹]
Specific ratio	SR

Accessories

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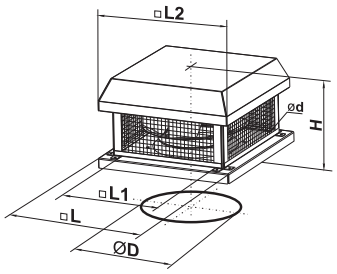
Fan overall dimensions:

Type	Dimensions [mm]						Weight [kg]
	ØD	Ød	H	L	L1	L2	
VKH 250 EC	285	11	289	435	330	411	16
VKH 280 EC	285	11	264	435	330	431	16
VKH 310 EC	285	11	272	435	330	431	19
VKH 355 EC	438	11	326	595	450	558	38
VKH 400 EC	438	11	357	595	450	558	81
VKH 450 EC	438	11	407	665	535	637	82
VKH 500 EC	438	11	437	665	535	637	81
VKH 560 EC	605	14	487	940	750	912	98

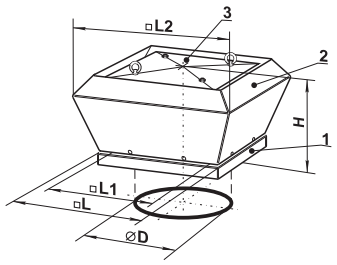
VKH EC

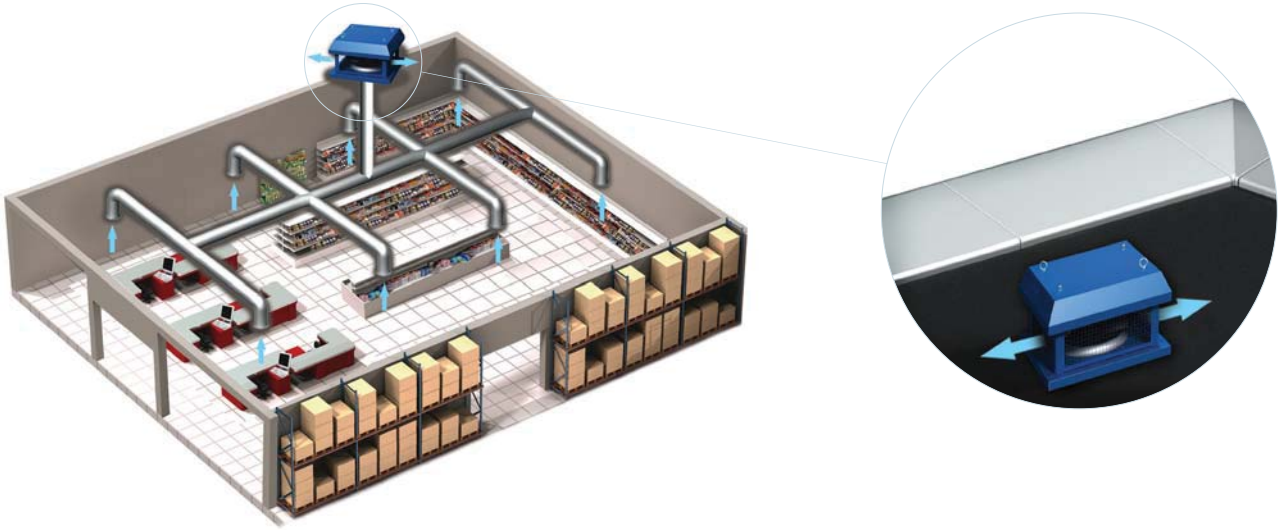


Fan overall dimensions:

Type	Dimensions [mm]					Weight [kg]
	ØD	H	L	L1	L2	
VKV 250 EC	285	320	435	330	528	16
VKV 280 EC	285	327	435	330	557	18
VKV 310 EC	285	327	435	330	557	21
VKV 355 EC	438	387	595	450	708	38
VKV 400 EC	438	387	595	450	708	82
VKV 450 EC	438	464	665	535	898	84
VKV 500 EC	438	464	665	535	898	88
VKV 560 EC	605	560	940	750	1150	98

VKV EC

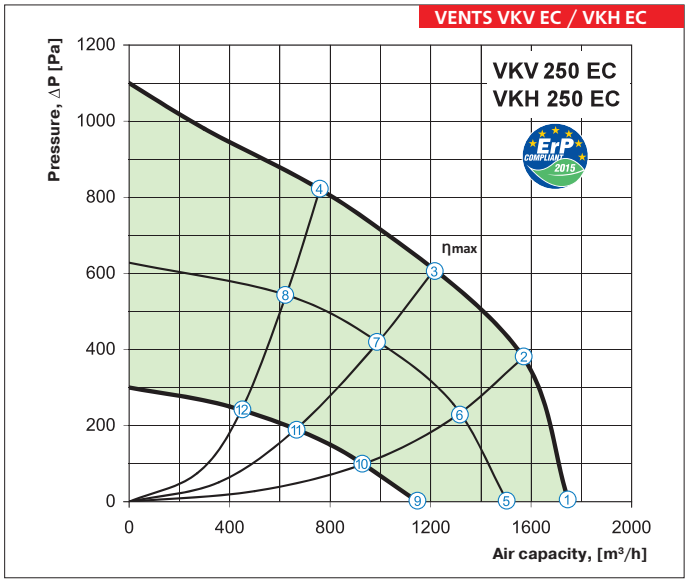




VKH EC fan store roof ventilation example

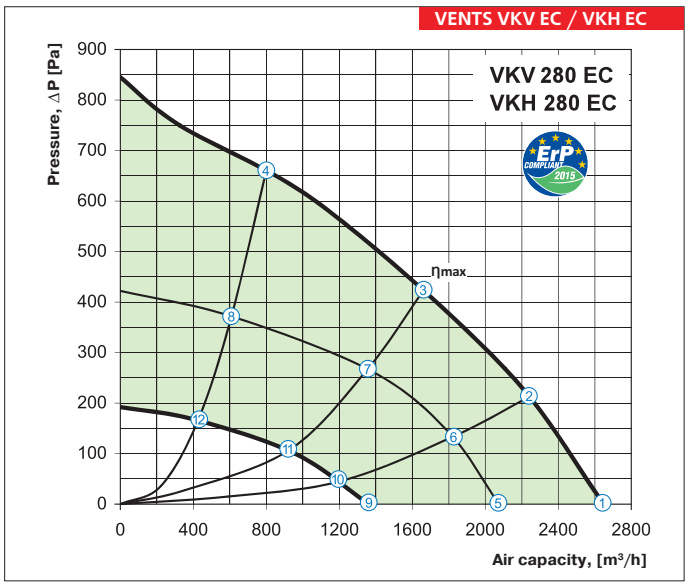
Technical data:

	VKV / VKH 250 EC	VKV / VKH 280 EC
Voltage [V / 50/60 Hz]	1~ 200-277	1~ 200-277
Power [kW]	0.485	0.455
Current [A]	3.0	2.8
Max. air capacity [m³/h]	1750	2650
RPM [min⁻¹]	3580	2600
Noise level at 3 m [dBA]	47	47
Transported air temperature [°C]	-25 +60	-25 +40
Protection rating	IP X4	IP X4



η, [%]	MC	EC	N	VSD	[kW]	[A]	[m³/h]	[Pa]	[RPM]	SR
47.6	A	Static	61.4	Yes	0.485	3.0	1211	606	3460	1

point	P, (W)	I, (A)	n, (min⁻¹)
1	380	2.30	3580
2	465	3.00	3460
3	485	3.00	3460
4	440	2.40	3520
5	193	1.20	2830
6	245	1.50	2830
7	260	1.60	2830
8	225	1.40	2830
9	80	0.50	2000
10	100	0.60	2000
11	106	0.70	2000
12	94	0.60	2000

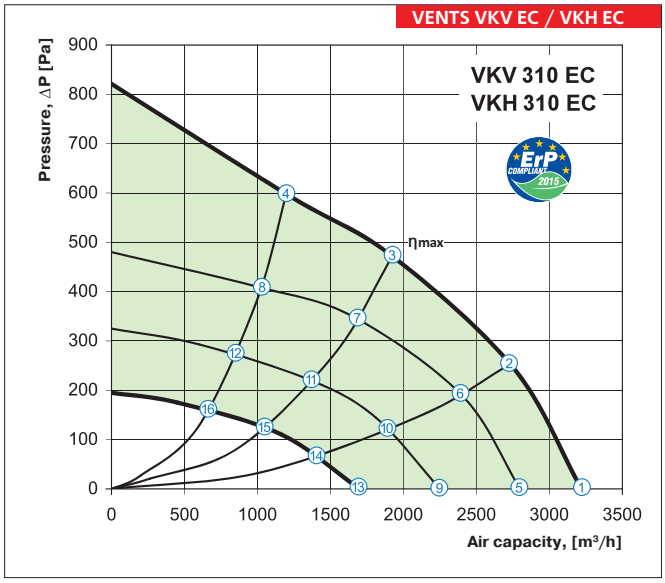


η, [%]	MC	EC	N	VSD	[kW]	[A]	[m³/h]	[Pa]	[RPM]	SR
52.2	A	Static	66.5	Yes	0.425	2.6	1661	423	2660	1

point	P, (W)	I, (A)	n, (min⁻¹)
1	355	2.20	2760
2	400	2.50	2670
3	425	2.60	2660
4	386	2.30	2740
5	150	1.00	2050
6	206	1.10	2050
7	232	1.40	2050
8	196	1.20	2050
9	65	0.40	1460
10	80	0.50	1460
11	88	0.60	1460
12	70	0.50	1460

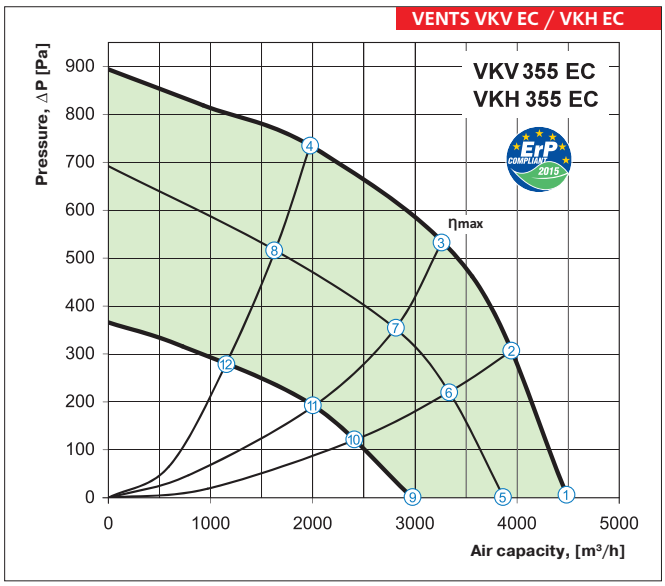
Technical data:

	VKV / VKH 310 EC	VKV / VKH 355 EC
Voltage [V / 50/60 Hz]	1~ 200-277	3~ 380-480
Power [kW]	0.48	0.94
Current [A]	3.1	1.5
Max. air capacity [m³/h]	3220	4500
RPM [min⁻¹]	2300	2215
Noise level at 3 m [dBA]	48	51
Transported air temperature [°C]	-25 +60	-25 +60
Protection rating	IP X4	IP X4



η, [%]	MC	EC	N	VSD	[kW]	[A]	[m³/h]	[Pa]	[RPM]	SR
59.2	A	Static	73	Yes	0.480	3.1	1920	470	2170	1

point	P, (W)	I, (A)	n, (min⁻¹)
1	370	2.35	2300
2	445	2.85	2215
3	480	3.10	2170
4	448	2.85	2220
5	210	1.30	1900
6	284	1.70	1900
7	312	1.80	1900
8	278	1.70	1900
9	124	0.80	1560
10	158	1.00	1560
11	175	1.10	1560
12	158	1.00	1560
13	57	0.40	1200
14	73	0.50	1200
15	80	0.50	1200
16	70	0.50	1200

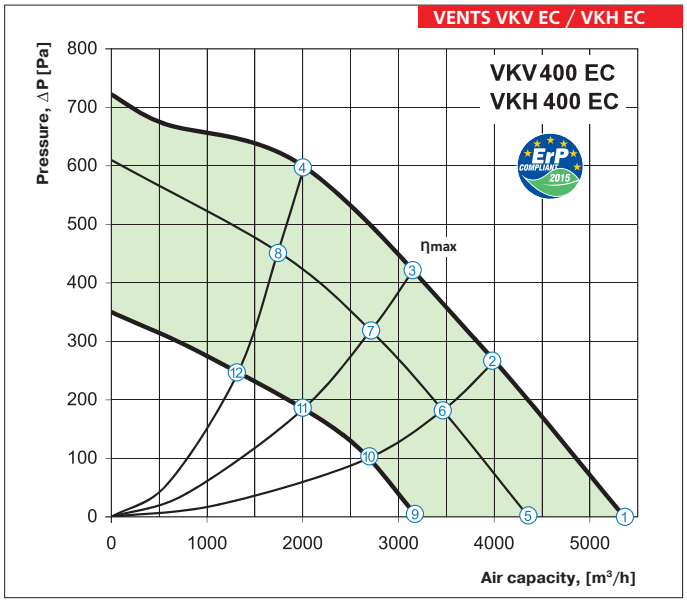


η, [%]	MC	EC	N	VSD	[kW]	[A]	[m³/h]	[Pa]	[RPM]	SR
57.3	A	Static	68.1	Yes	0.940	1.5	3266	534	2215	1

point	P, (W)	I, (A)	n, (min⁻¹)
1	700	1.30	2205
2	880	1.40	2215
3	940	1.50	2215
4	850	1.40	2215
5	380	0.70	1825
6	470	0.90	1805
7	490	0.90	1790
8	460	0.90	1800
9	170	0.40	1335
10	200	0.40	1315
11	210	0.40	1315
12	190	0.40	1310

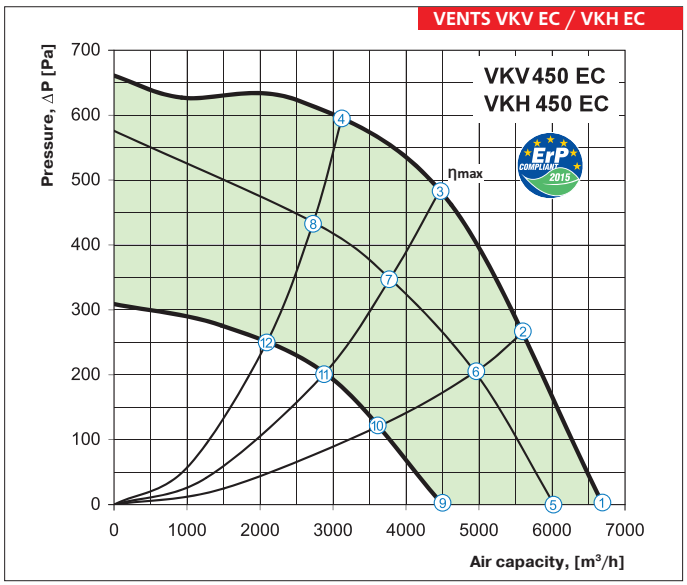
Technical data:

	VKV / VKH 400 EC	VKV / VKH 450 EC
Voltage [V / 50/60 Hz]	3~ 380-480	3~ 380-480
Power [kW]	0.77	1.01
Current [A]	1.3	1.6
Max. air capacity [m³/h]	5360	6700
RPM [min⁻¹]	1755	1560
Noise level at 3 m [dBA]	53	55
Transported air temperature [°C]	-25 +60	-25 +60
Protection rating	IP X4	IP X4



η, [%]	MC	EC	N	VSD	[kW]	[A]	[m³/h]	[Pa]	[RPM]	SR
53.3	A	Static	65	Yes	0.770	1.3	3148	420	1760	1

point	P, (W)	I, (A)	n, (min⁻¹)
1	630	1.10	1755
2	750	1.30	1760
3	770	1.30	1760
4	720	1.20	1760
5	400	0.80	1510
6	420	0.80	1470
7	430	0.80	1465
8	410	0.80	1485
9	170	0.40	1100
10	180	0.40	1090
11	180	0.40	1085
12	180	0.40	1095

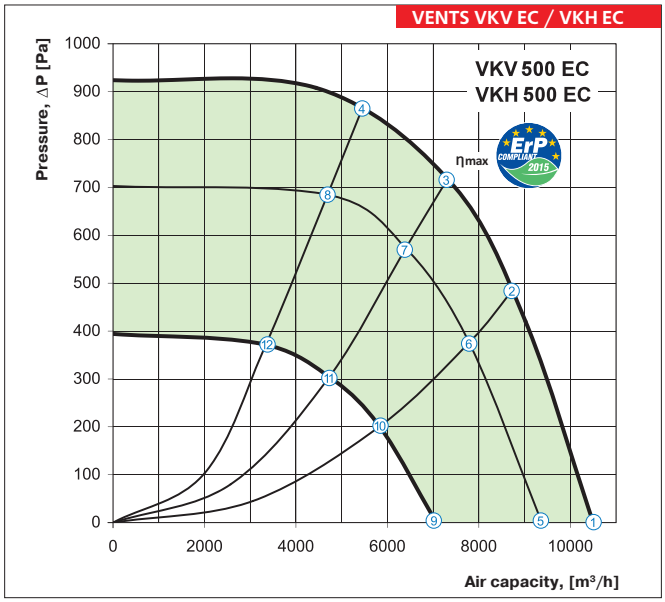


η, [%]	MC	EC	N	VSD	[kW]	[A]	[m³/h]	[Pa]	[RPM]	SR
65.8	A	Static	76.2	Yes	1.010	1.6	4460	483	1555	1

point	P, (W)	I, (A)	n, (min⁻¹)
1	690	1.10	1560
2	910	1.50	1555
3	1010	1.60	1555
4	960	1.50	1560
5	430	0.80	1345
6	530	1.00	1315
7	580	1.00	1300
8	540	1.00	1315
9	190	0.40	985
10	220	0.50	970
11	250	0.50	965
12	230	0.50	970

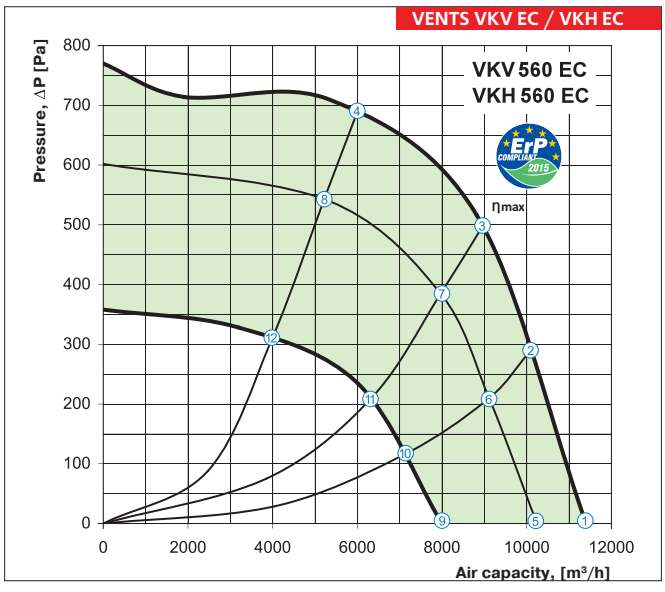
Technical data:

	VKV / VKH 500 EC	VKV / VKH 560 EC
Voltage [V / 50/60 Hz]	3~ 380-480	3~ 380-480
Power [kW]	2.7	2.3
Current [A]	4.3	3.6
Max. air capacity [m³/h]	10500	11400
RPM [min⁻¹]	1700	1350
Noise level at 3 m [dBA]	63	65
Transported air temperature [°C]	-25 +60	-25 +60
Protection rating	IP X4	IP X4



point	P, (W)	I, (A)	n, (min⁻¹)
1	1850	2.90	1700
2	2500	3.90	1700
3	2650	4.10	1700
4	2400	3.60	1700
5	1300	2.10	1500
6	1700	2.60	1500
7	1750	2.70	1500
8	1650	2.60	1500
9	570	1.10	1100
10	700	1.30	1100
11	750	1.30	1100
12	700	1.30	1100

η, [%]	MC	EC	N	VSD	[kW]	[A]	[m³/h]	[Pa]	[RPM]	SR
59.8	A	Static	65.8	Yes	2.650	4.1	7330	720	1700	1



point	P, (W)	I, (A)	n, (min⁻¹)
1	1330	2.20	1350
2	1900	2.90	1350
3	2150	3.40	1350
4	2100	2.20	1350
5	900	1.60	1200
6	1300	2.10	1200
7	1550	2.50	1200
8	1430	2.30	1200
9	450	0.90	910
10	600	1.10	910
11	700	1.20	910
12	650	1.20	910

η, [%]	MC	EC	N	VSD	[kW]	[A]	[m³/h]	[Pa]	[RPM]	SR
62.9	A	Static	69.9	Yes	2.150	3.4	8980	499	1350	1