



## Sound-insulated fans with EC motor

# Iso-V EC

Air capacity – up to 16740 m<sup>3</sup>/h

### Use

- Supply and exhaust ventilation systems installed in premises with high requirements to the noise level.
- A perfect solution for various ventilation system configurations due to a special transformable casing design.
- Suitable for use as a component of a modular air handling unit.
- For arranging energy-saving and controllable ventilation systems.
- Compatible with Ø 315 up to 630 mm round air ducts or 500x500 up to 800x800 mm rectangular air ducts.

### Design

- Casing made of aluminium frame and removable aluzinc thermal and sound-insulated double-skinned sandwich panels.
- Casing internally filled with 20 mm non-flammable mineral wool.
- Position of the removable panels can be adjusted to inline air flow or 90° angle air flow.
- Due to corrosion-resistant and thermally insulated casing the fan is suitable for external use.
- The fan is compatible with square to square vibration absorbing connectors (**AKV** series) or square to round connector-reducers (**ARV** series), both available upon separate order.
- The round spigot of the **ARV** connector-reducer is rubber sealed for air tight connection.

### Motor

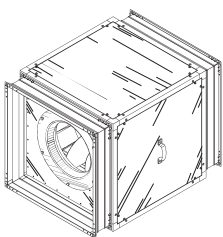
- High-efficient direct current EC motor with external rotor and backward curved blades.
- EC technologies meet the latest requirements to arrange high-efficient energy saving ventilation.
- Equipped with ball bearings for longer service life.
- Overheating protection by built-in thermal switches with automatic restart.
- Dynamically balanced turbine.

### Operation and speed control

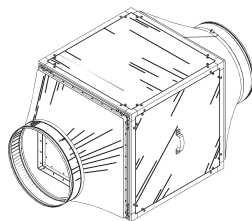
- The fan is controlled with a 0-10 V external control signal, e.g. CDTE/0-10 speed controller for EC motors.
- The fan capacity is regulated by various parameters, including temperature level, pressure, smoke, etc.
- EC motor changes its rotation speed synchronously with the fluctuation of the control parameter to ensure the best suitable air flow.
- The fan is compatible with 50 and 60 Hz power mains with the same maximum speed.
- The parameters may be set and controlled due to data exchange between a PC and the fan.
- The fans can be integrated into a unified decentralized computerized network to adjust ventilation system with respect to specific user's demands.

### Mounting

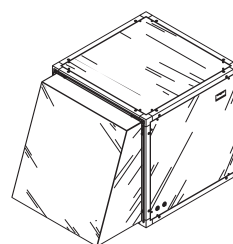
- Compatible both with square and round air ducts.
- Connection to air ducts through flexible vibration absorbing connectors or connector-reducers of a matching section.
- External terminal box for connection to power mains.
- Mounting in any position in compliance with the air flow direction. Maintenance space must be provided.
- In case of outdoor mounting the fan may be equipped with the upper protecting cover (**RSD-IV** series) or the outer hood (**AH-IV** series) to be installed at air inlet/outlet.



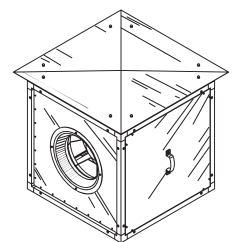
Iso-V EC fan with vibration-absorbing flexible connectors **AKV** series



Iso-V EC fan with connecting reducers **ARV** series



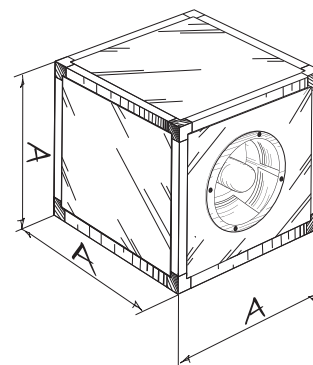
Iso-V EC fans with **AH-IV** outer hood



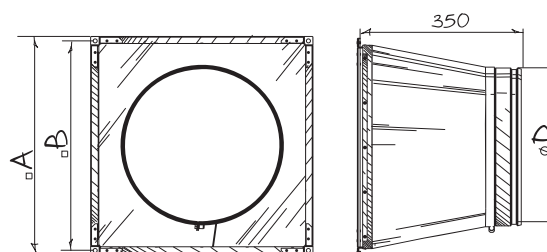
Iso-V EC fans with **RSD-IV** protecting cover

**Fan and accessories overall dimensions**

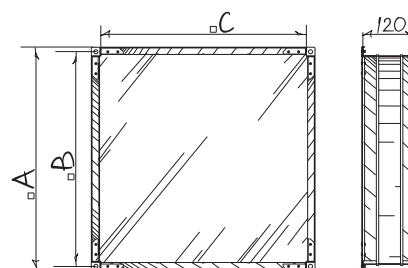
Type	Dimen- sions [mm]	Weight [kg]	Options			
	A		ARV connector- reducer	AKV vibration absorbing connector	RSD-IV protecting cover	AH-IV outer hood
Iso-V EC 315	500	25	ARV 315	AKV 500	RSD-IV 315-355	AH-IV 315-355
Iso-V EC 355	500	25	ARV 355			
Iso-V EC 400	670	39	ARV 400	AKV 670	RSD-IV 400-500	AH-IV 400-500
Iso-V EC 450	670	39	ARV 450			
Iso-V EC 500	670	43	ARV 500			
Iso-V EC 560	670	43	ARV 560	AKV 800	RSD-IV 560-630	AH-IV 560-630
Iso-V EC 630	670	52	ARV 630			


**Iso-V EC**

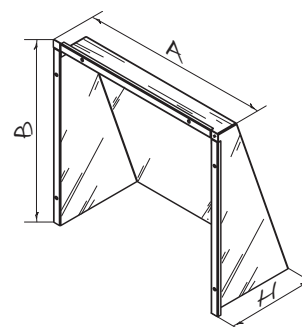
Type	Dimensions [mm]		
	A	B	∅D
ARV 315	490	470	315
ARV 355	490	470	355
ARV 400	660	640	400
ARV 450			450
ARV 500			500
ARV 560	790	770	560
ARV 630			630


**ARV**

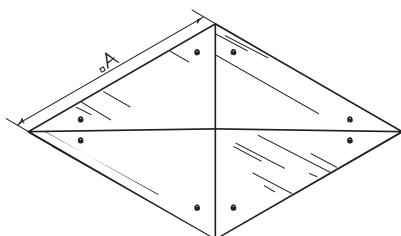
Type	Dimensions [mm]		
	A	B	C
AKV 500	490	470	445
AKV 670	660	640	615
AKV 800	790	770	745


**AKV**

Type	Dimensions [mm]			Weight [kg]
	A	B	H	
AH-IV 315-355	478	458	225	3.2
AH-IV 400-500	648	628	321	6
AH-IV 560-630	778	758	421	9.1






**AH-IV**

Type	Dimensions [mm]	Weight [kg]
	A	
RSD-IV 315-355	600	2.3
RSD-IV 400-500	770	4.65
RSD-IV 560-630	900	7.65

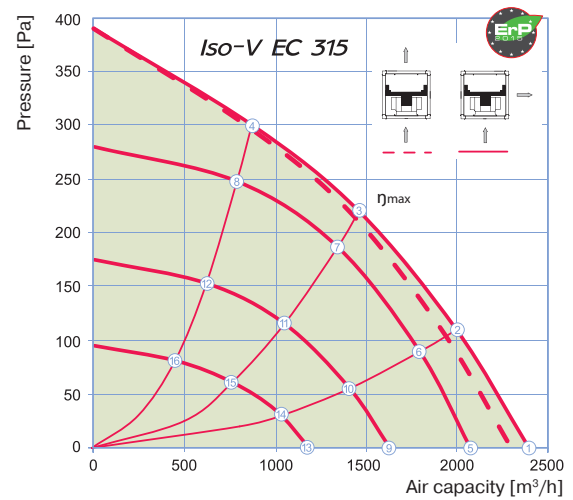

**RSD-IV**

ErP data	
Overall efficiency	$\eta$ , (%)
Measurement category	MC
Efficiency category	EC
Efficiency grade	N
Variable speed drive	VSD
Power	[kW]
Current	[A]
Air flow	[m <sup>3</sup> /h]
Static pressure	[Pa]
Speed	[n/min <sup>-1</sup> ]
Specific ratio	SR

## Specifications

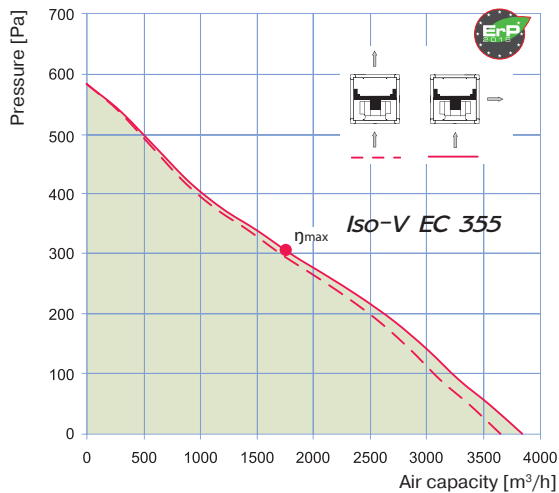
Parameters	Iso-V EC 315 	Iso-V EC 355 	Iso-V EC 400 	Iso-V EC 450 
Voltage [V / 50 / 60 Hz]	1 ~ 230			
Power [W]	150	250	500	750
Current [A]	1.23	1.1	2.2	3.3
Max. air flow at air flow direction [m³/h]:				
– perpendicular air flow	2370	3830	5660	6800
– direct air flow	2252	3639	5377	6460
RPM [min <sup>-1</sup> ]	1600	1450	1500	1440
Sound pressure level at 3 m distance [dBA]	35	44	39	50
Max. operating temperature [°C]	-40 +80	-25 +60	-25 +50	-25 +60
Ingress protection rating	IPX4	IPX4	IPX4	IPX4

Point	Power [W]		
	Iso-V EC 315	Iso-V EC 450	Iso-V EC 630
1	115	574	1779
2	137	750	2509
3	150	750	2750
4	137	750	2651
5	77	337	1060
6	102	458	1495
7	118	557	1648
8	102	502	1584
9	37	178	581
10	50	242	819
11	57	294	902
12	50	265	868
13	14	79	273
14	19	107	385
15	22	130	425
16	19	117	408



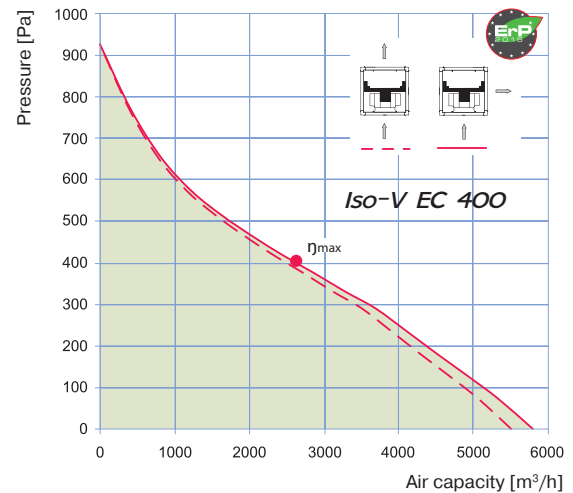
Sound-power level	Octave-frequency band [Hz]								
	Gen	63	125	250	500	1000	2000	4000	8000
L <sub>WA</sub> to inlet, [dBA]	69	37	64	58	64	62	57	56	48
L <sub>WA</sub> to outlet, [dBA]	73	49	71	62	65	65	60	56	47
L <sub>WA</sub> to environment, [dBA]	56	29	52	46	49	49	45	34	27

η <sub>v</sub> (%)	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



Sound-power level	Octave-frequency band [Hz]								
	Gen	63	125	250	500	1000	2000	4000	8000
L <sub>WA</sub> to inlet, [dBA]	76	44	65	66	71	67	69	67	58
L <sub>WA</sub> to outlet, [dBA]	77	44	70	67	71	71	70	67	59
L <sub>WA</sub> to environment, [dBA]	64	61	54	53	55	52	54	51	36




η <sub>v</sub> (%)	MC	EC	N	VSD	[kW]	[A]	[m³/h]	[Pa]	[RPM]	SR
59.4	A	Static	76.3	Yes	0.250	0.94	1680	312	1450	1

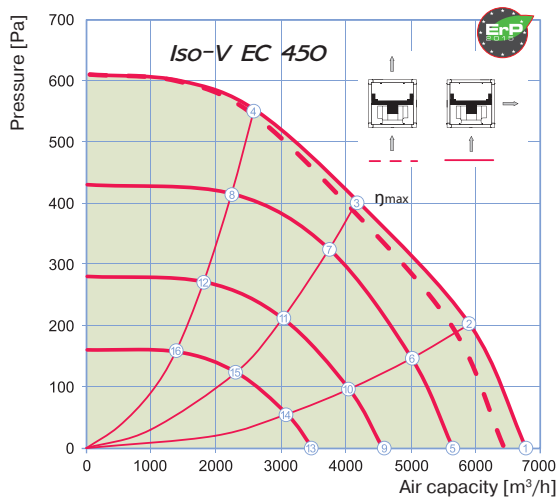


Sound-power level	Octave-frequency band [Hz]								
	Gen	63	125	250	500	1000	2000	4000	8000
L <sub>WA</sub> to inlet, [dBA]	71	42	61	62	66	66	63	60	51
L <sub>WA</sub> to outlet, [dBA]	75	50	68	64	68	69	66	61	53
L <sub>WA</sub> to environment, [dBA]	60	32	52	53	49	55	52	44	31

η <sub>v</sub> (%)	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

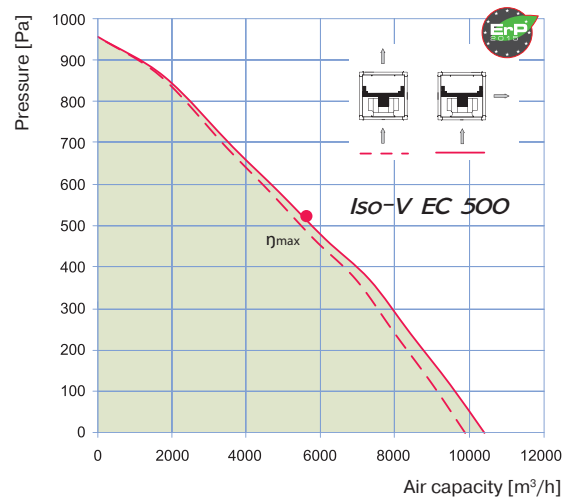
## Specifications

Parameters	Iso-V EC 500 	Iso-V EC 560 	Iso-V EC 630 
Voltage [V / 50 / 60 Hz]	3 ~ 400		
Power [W]	1320	2360	2750
Current [A]	2.1	3.65	4.3
Max. air flow at air flow direction [m <sup>3</sup> /h]:			
– perpendicular air flow	10450	13600	16740
– direct air flow	9928	12920	15903
RPM [min <sup>-1</sup> ]	1350	1540	1300
Sound pressure level at 3 m distance [dBA]	45	50	50
Max. operating temperature [°C]	-25 +50	-25 +60	-25 +55
Ingress protection rating	IPX4	IPX4	IPX4



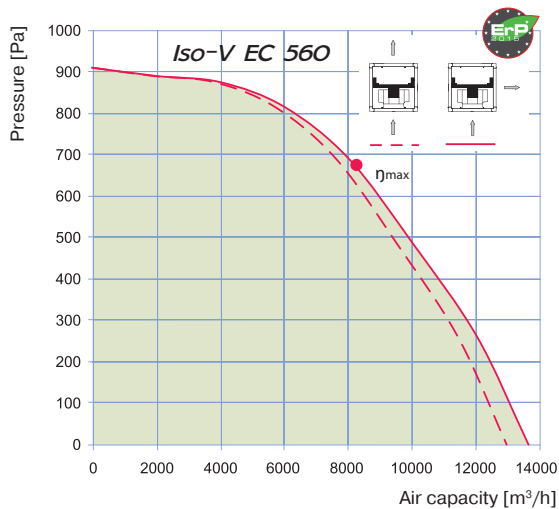
Sound-power level	Octave-frequency band [Hz]								
	Gen	63	125	250	500	1000	2000	4000	8000
L <sub>WA</sub> to inlet, [dBA]	79	48	70	71	73	72	70	65	62
L <sub>WA</sub> to outlet, [dBA]	83	70	76	72	76	78	75	69	64
L <sub>WA</sub> to environment, [dBA]	71	33	68	63	61	61	58	53	44

η <sub>v</sub> (%)	MC	EC	N	VSD	[kW]	[A]	[m <sup>3</sup> /h]	[Pa]	[RPM]	SR
64.2	A	Static	76	Yes	0.750	3.3	4195	405	1440	1



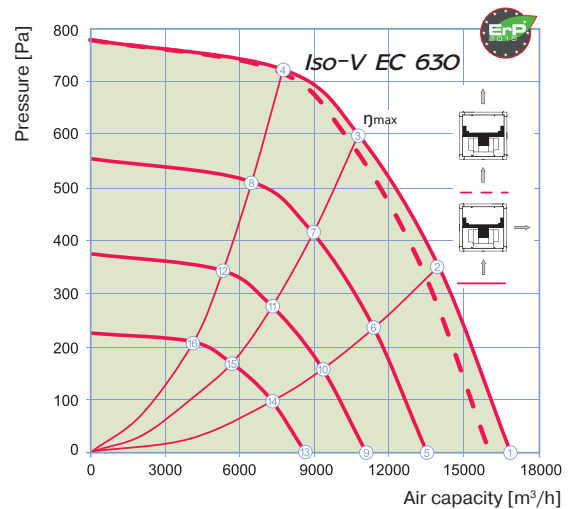
Sound-power level	Octave-frequency band [Hz]								
	Gen	63	125	250	500	1000	2000	4000	8000
L <sub>WA</sub> to inlet, [dBA]	78	49	71	69	73	70	70	66	61
L <sub>WA</sub> to outlet, [dBA]	81	51	70	71	76	75	72	68	64
L <sub>WA</sub> to environment, [dBA]	66	36	54	62	60	57	57	52	40

η <sub>v</sub> (%)	MC	EC	N	VSD	[kW]	[A]	[m <sup>3</sup> /h]	[Pa]	[RPM]	SR
54.2	A	Static	63.4	Yes	1.320	2.1	4723	534	1350	1



Sound-power level	Octave-frequency band [Hz]								
	Gen	63	125	250	500	1000	2000	4000	8000
L <sub>WA</sub> to inlet, [dBA]	82	52	72	77	74	77	73	68	64
L <sub>WA</sub> to outlet, [dBA]	78	58	70	71	72	72	67	65	59
L <sub>WA</sub> to environment, [dBA]	71	41	67	63	63	61	60	50	40

η <sub>v</sub> (%)	MC	EC	N	VSD	[kW]	[A]	[m <sup>3</sup> /h]	[Pa]	[RPM]	SR
67.8	A	Static	74.4	Yes	2.360	3.65	8250	684	1540	1



Sound-power level	Octave-frequency band [Hz]								
	Gen	63	125	250	500	1000	2000	4000	8000
L <sub>WA</sub> to inlet, [dBA]	82	52	72	77	74	77	73	68	64
L <sub>WA</sub> to outlet, [dBA]	78	58	70	71	72	72	67	65	59
L <sub>WA</sub> to environment, [dBA]	71	41	67	63	63	61	60	50	40

η <sub>v</sub> (%)	MC	EC	N	VSD	[kW]	[A]	[m <sup>3</sup> /h]	[Pa]	[RPM]	SR
67.2	A	Static	73.1	Yes	2.750	4.3	10850	601	1300	1