

8300100836
VWT0450CSPHS

EC axial panel fan - AxiEco

Fan housing with guard grille

ebm-papst Mulfingen GmbH & Co. KG

Bachmühle 2 · D-74673 Mulfingen

Phone +49 7938 81-0

Fax +49 7938 81-110

info1@de.fansco.com

www.fansco.com

Limited partnership · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Item	8300100836	
Motor	E09002-40	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min ⁻¹	1480
Power consumption	W	500
Current draw	A	2.2
Max. back pressure	Pa	220
Max. back pressure	in. wg	0.88
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · oe = Customer equipment
Subject to change

Data according to Commission Regulation (EU) 327/2011 (prEN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	53.6	31.7	09 Power consumption P_{ed}	kW	0.49
02 Measurement category		A		09 Air flow q_v	m ³ /h	4350
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	198
04 Efficiency grade N		61.9	40	10 Speed (rpm) n	min ⁻¹	1480
05 Variable speed drive		Yes		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

* Specific ratio = $1 + p_s / 100\,000\text{ Pa}$

LU-222599

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.
The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

8300100836
VWT0450CSPHS

EC axial panel fan - AxiEco

Fan housing with guard grille

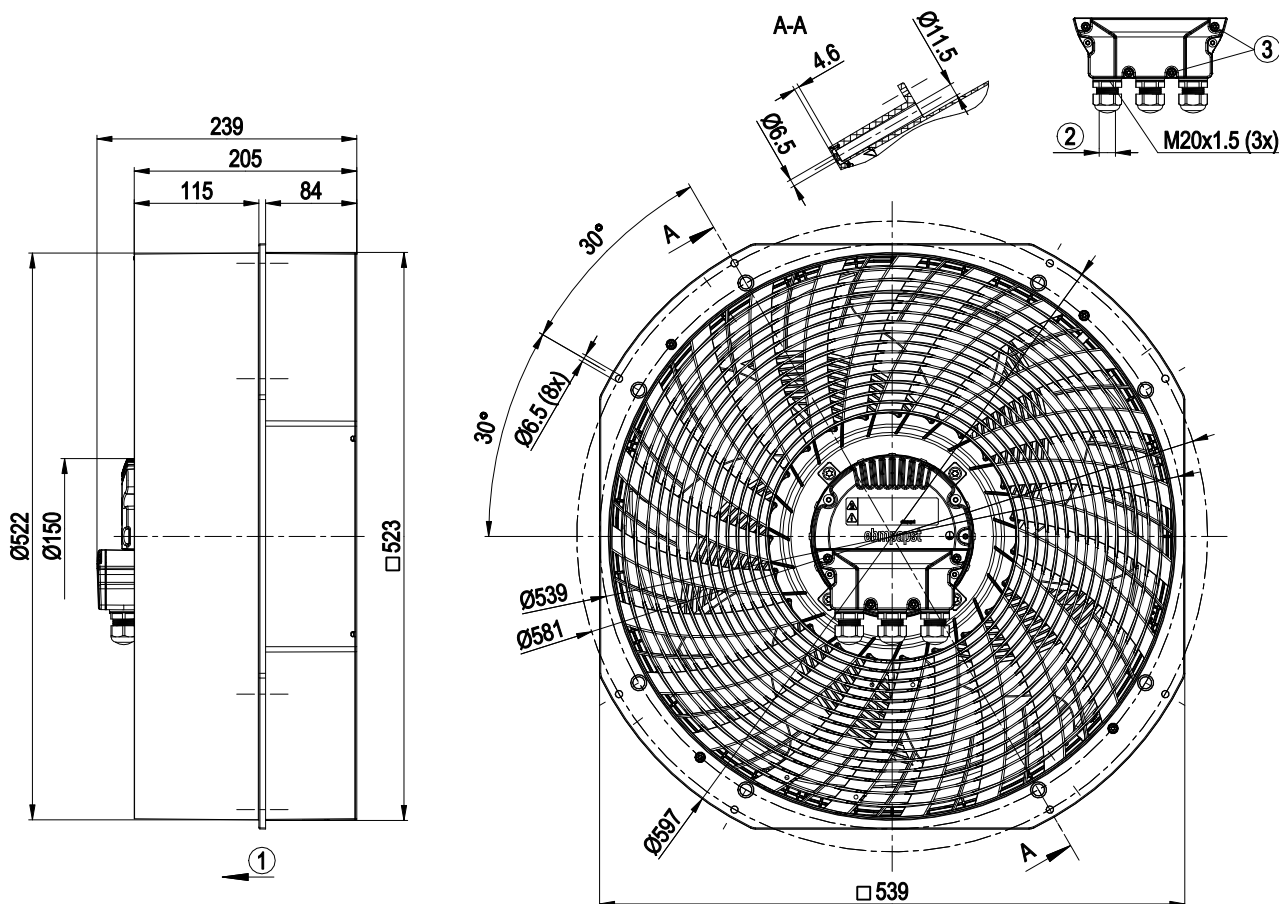
Technical description

Weight	8.84 kg
Size	450 mm
Motor size	90
Rotor surface	Painted black
Terminal box material	PA plastic
Electronics housing material	Die-cast aluminum, painted gray
Impeller material	PP plastic
Fan housing material	PP plastic
Inlet ring material	ABS plastic
Number of blades	5
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Locked-rotor detection - Speed control - Alarm relay - Power limiter - Motor current limitation - PFC, active - Soft start - Control interface with SELV potential safely disconnected from the mains - Temperature derating - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Electronic motor protection
Protection class assignment	I; If a protective earth is connected. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.
Conformity with standards	EN 60335-1; EN 61800-5-1; CE; UKCA
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1

EC axial panel fan - AxiEco

Fan housing with guard grille

Product drawing



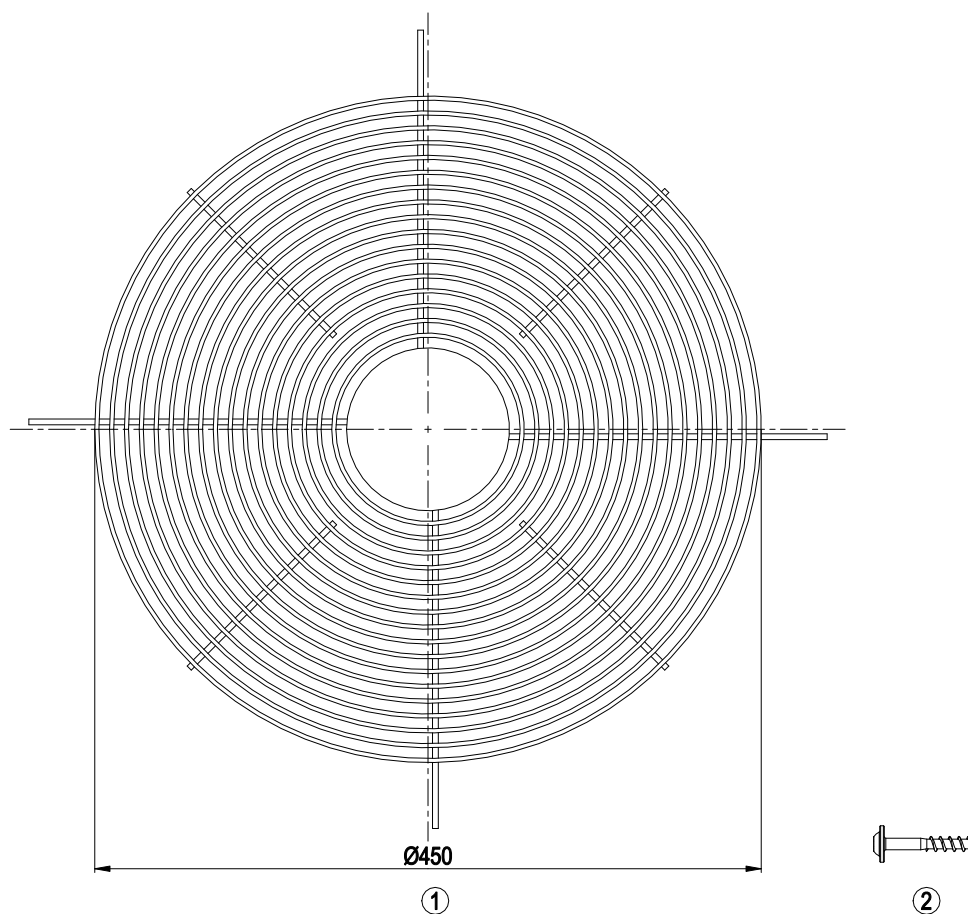
1	Airflow direction "V"
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm (The tightening torque is designed for PVC cables. If the cable materials are different, the tightening torque may have to be adjusted)
	(The tightening torque is designed for PVC cables. If the cable materials are different, the tightening torque may have to be adjusted)
3	Tightening torque 2 ± 0.3 Nm
	Accessory part: Guard grill 45050-2-4039 with oval head screw 60080-7-6201 (4x), can be fitted on the intake side. Not included in scope of delivery.
	The installation of accessories may change the air performance and noise values.

8300100836
VWT0450CSPHS

EC axial panel fan - AxiEco

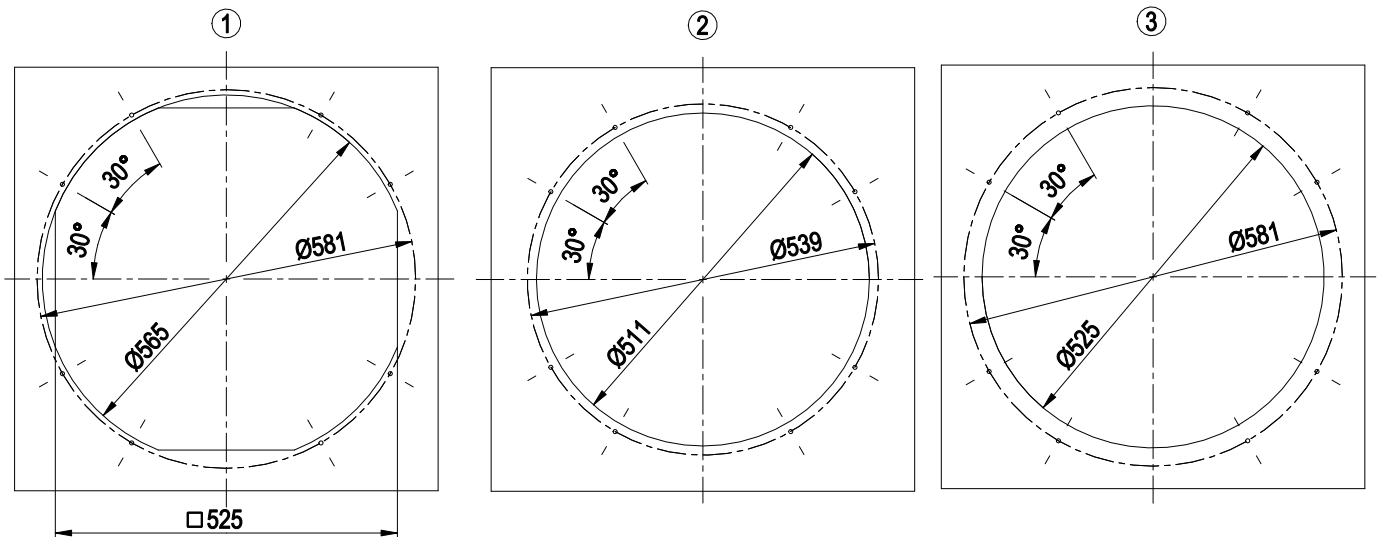
Fan housing with guard grille

Accessory part



1	Guard grill 45050-2-4039
2	Oval head screw 60080-7-6201 (4x)

Mounting dimensions



All 8 holes on the relevant pitch circle must always be used for all types of fastening.

1 intake-side mounting on flange

2 intake-side mounting on suction nozzle

The Ø6.5 mm holes must be pierced from the underside with a mandrel or similar tool.

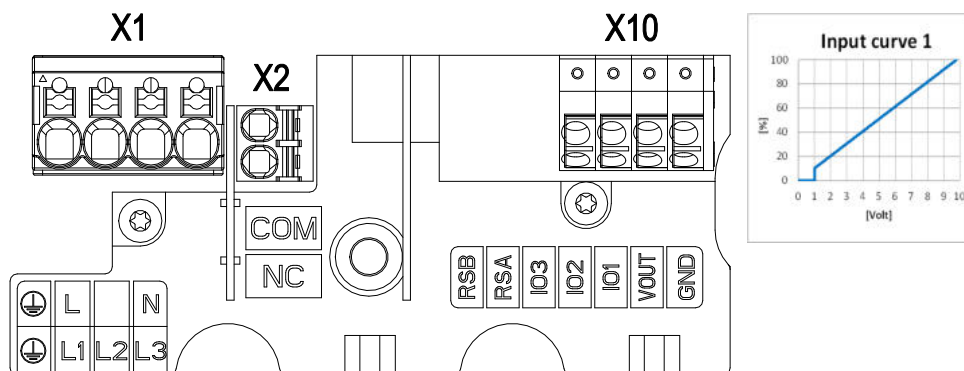
We recommend using M6 cheese-head screws with hexagon socket (DIN 912/DIN EN ISO 4762) for fastening.

3 outlet-side mounting on flange

EC axial panel fan - AxiEco

Fan housing with guard grille

Connection diagram



No.	Conn.	Designation	Function/assignment
X1	PWR	PE	Protective earth
X1	PWR	L	Power supply, phase, see nameplate for voltage range
X1	PWR	N	Power supply, neutral conductor, see nameplate for voltage range
X2	CTRL	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
X2	CTRL	NC	Status relay, floating status contact, break for failure
X10	CTRL	GND	Reference ground for control interface, SELV
X10	CTRL	Vout	Voltage output 10 VDC +/-3%, I _{max} =10 mA Short-circuit-proof, power supply for external devices, SELV
X10	CTRL	IO1	Factory setting: Analog input 0-10 V / PWM, R _i =100 kΩ, function: set value Characteristic curve parameterizable (see input characteristic curve "Input curve 1"), SELV Function parameterizable at the factory (see table Optional interface functions)
X10	CTRL	IO2	Factory setting: Open collector output, U _{max} =50 VDC, I _{max} =20 mA, function:Tacho output 1 pulse/revolution, SELV Function parameterizable at factory (see table Optional interface functions)

EC axial panel fan - AxiEco

Fan housing with guard grille

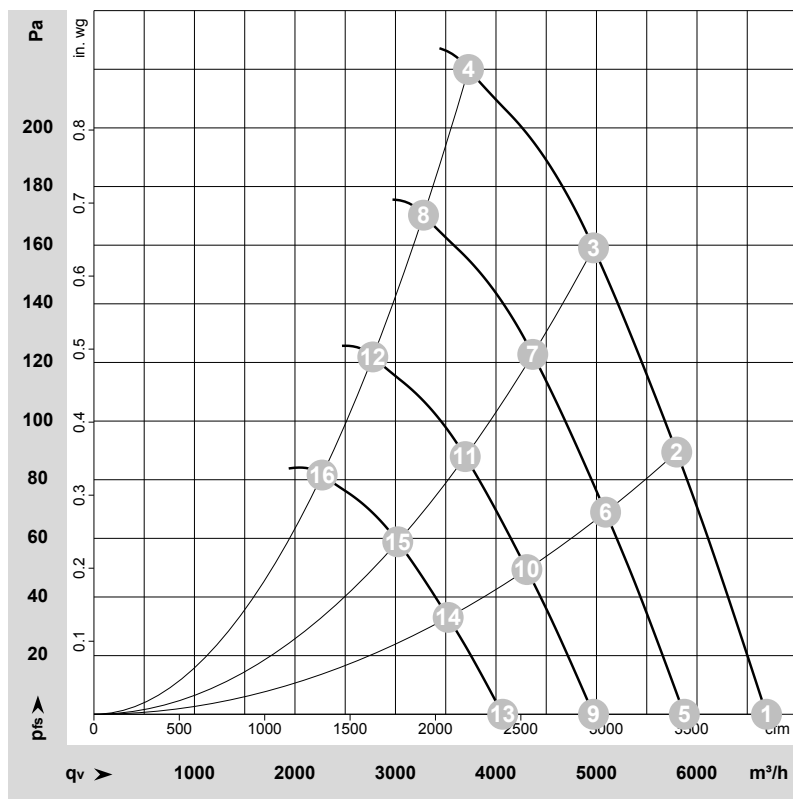
Terminal/plug assignment

			electrical specification		configurable IO mode		INPUT		OUTPUT			
			active: parametrizable voltage x - 30 VDC not active: pin open or parametrizable voltage < x VDC, SELV		Din1 (high active): digital input		switch: parameter set: #1 / #2		signal: tach out		signal: configurable function	
			Ri = 100 kΩ, characteristic curve parameterizable, f _{PWM} = 1 k - 10 kHz, SELV		Ain1 0-10 V/PWM: analog input		switch: direction of rotation: cw / ccw		configurable function		signal: alarm out	
			Umax = 50 VDC, Imax = 20 mA, SELV		Tach out (open collector)		switch: enable/disable input		signal: diagnostics out		signal: run monitoring	
			Umax = 50 VDC, Imax = 20 mA, SELV		Diagnostics out (open collector)				signal: tach out		signal: status	
			Umax = 50 VDC, Imax = 20 mA, SELV		Alarm out (open collector)							
			Umax = 50 VDC, Imax = 20 mA, SELV		Open collector							
COM			250 VAC / 2 A (AC1)		Relais							
NC												
Vout			Voltage 10 VDC, SELV		Voltage output							

Basic (B5)
Factory configuration option upon request

o factory configuration option

Curves: Air performance 50 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-222599-1
Date: 2023-01-26
Housing: 45002-2-2910
Nozzle: 45000-2-2943

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	Wired	U	f	n	P _e	I	LpA _{in}	LwA _{in}	LwA _{out}	LwA	q _V	P _{fs}	q _V	P _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	dB	m³/h	Pa	cfm	in. wg
1	1~	230	50	1480	386	1.71	70	76	78	80	6690	0	3940	0.00
2	1~	230	50	1480	445	1.97	68	74	76	78	5800	90	3415	0.36
3	1~	230	50	1480	476	2.10	67	74	76	78	4970	160	2925	0.64
4	1~	230	50	1480	500	2.20	68	75	78	80	3725	220	2195	0.88
5	1~	230	50	1300	261	1.16	67	73	75	77	5875	0	3455	0.00
6	1~	230	50	1300	301	1.33	64	71	73	75	5090	69	2995	0.28
7	1~	230	50	1300	322	1.42	64	70	72	74	4365	123	2570	0.49
8	1~	230	50	1300	341	1.50	65	72	74	76	3280	170	1930	0.68
9	1~	230	50	1100	158	0.70	62	69	70	73	4970	0	2925	0.00
10	1~	230	50	1100	182	0.81	60	67	69	71	4310	49	2535	0.20
11	1~	230	50	1100	195	0.86	59	66	68	70	3695	88	2175	0.35
12	1~	230	50	1100	207	0.91	61	68	70	72	2775	122	1635	0.49
13	1~	230	50	900	87	0.38	57	64	65	68	4065	0	2395	0.00
14	1~	230	50	900	100	0.44	55	62	64	66	3525	33	2075	0.13
15	1~	230	50	900	107	0.47	54	61	63	65	3025	59	1780	0.24
16	1~	230	50	900	113	0.50	56	63	65	67	2270	82	1335	0.33

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_V = Air flow · P_{fs} = Pressure increase