

8300100844
VWT0500CSPLS

EC axial panel fan - AxiEco

Fan housing with guard grille

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<https://www.fansco.com>

Nominal data

Item	8300100844	
Motor	E09003-55	
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	1370
Power consumption	W	710
Current draw	A	3.1
Max. back pressure	Pa	230
Max. back pressure	in. wg	0.92
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	60

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

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

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	52.1	32.6	09 Power consumption P_{ed}	kW	0.67
02 Measurement category		A		09 Air flow q_v	m ³ /h	6010
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	194
04 Efficiency grade N		59.5	40	10 Speed (rpm) n	min ⁻¹	1370
05 Variable speed drive		Yes		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-224858

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).

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Technical description

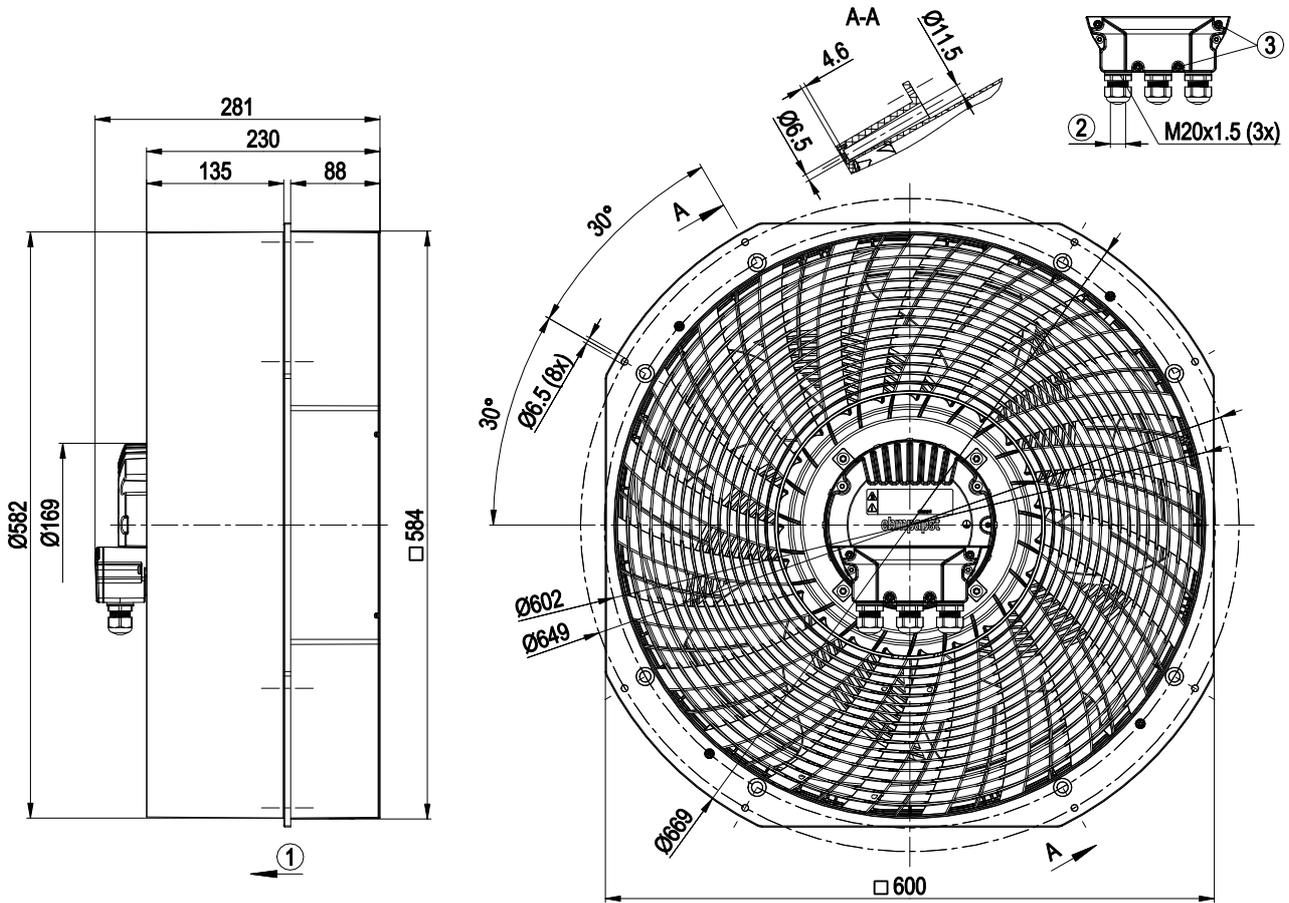
Size	500 mm
Motor size	90
Rotor surface	Painted black
Terminal box material	PP plastic
Electronics housing material	Die-cast aluminum, painted gray
Impeller material	PP plastic
Fan housing material	PP plastic
Number of blades	5
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2 = Wet – direct exposure to water
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	<ul style="list-style-type: none"> - 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
Power Factor Correction (PFC)	Active
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; UKCA; CE
Approval	CSA C22.2 No. 100; UL 1004-7

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Product drawing



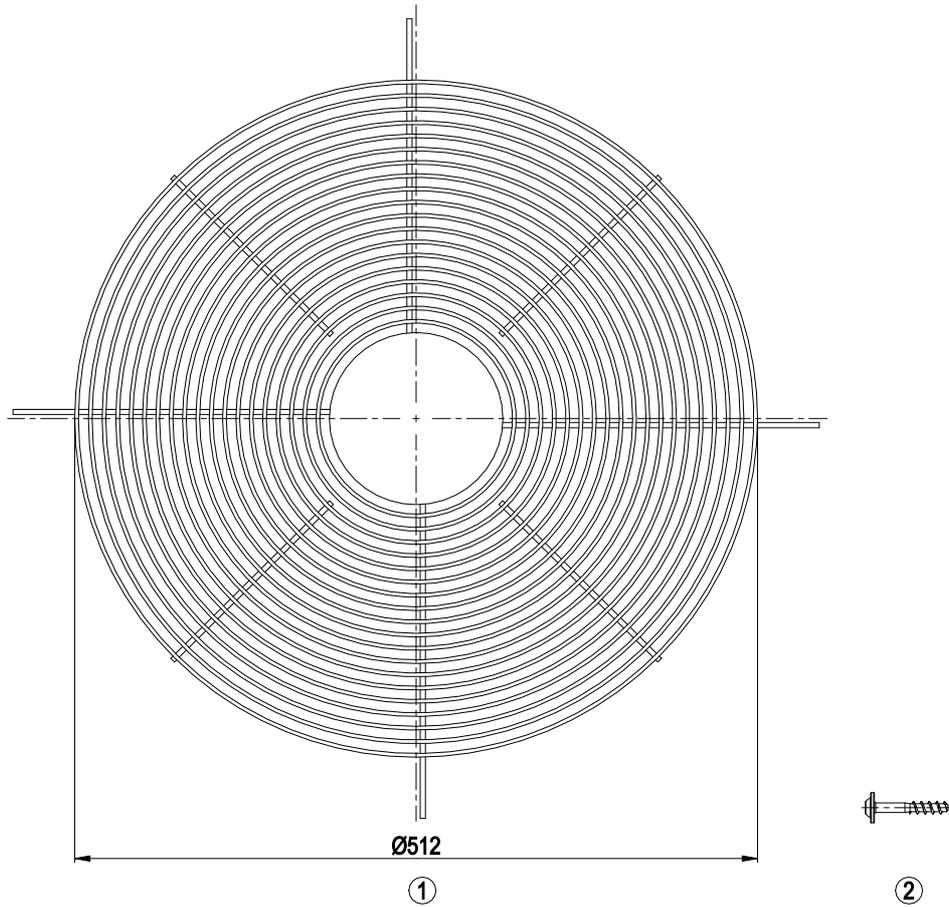
1	Airflow direction "V"
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm (The tightening torque is designed for PVC cables. If the cable materials are different, the tightening torque may have to be adjusted)
3	Tightening torque 2 ± 0.3 Nm
	Accessory part: Guard grill 50070-2-4039 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.

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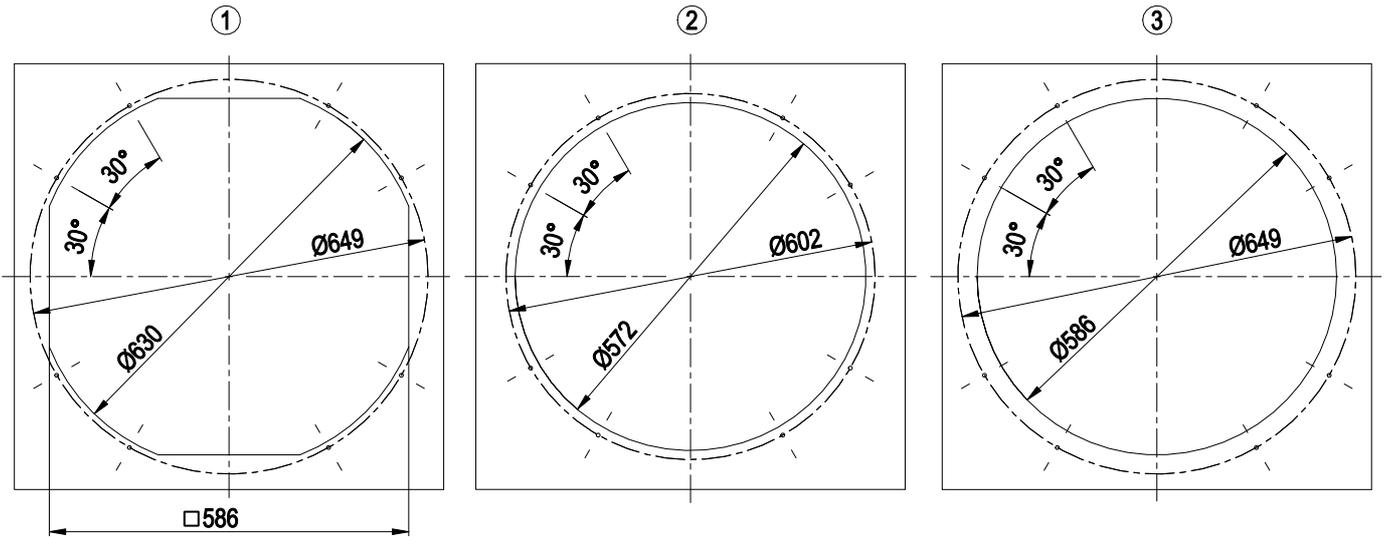
Fan housing with guard grille

Accessory part



- | | |
|---|-----------------------------------|
| 1 | Guard grill 50070-2-4039 |
| 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 $\text{Ø}6.5$ mm holes must be pierced from the underside with a mandrel or similar tool.

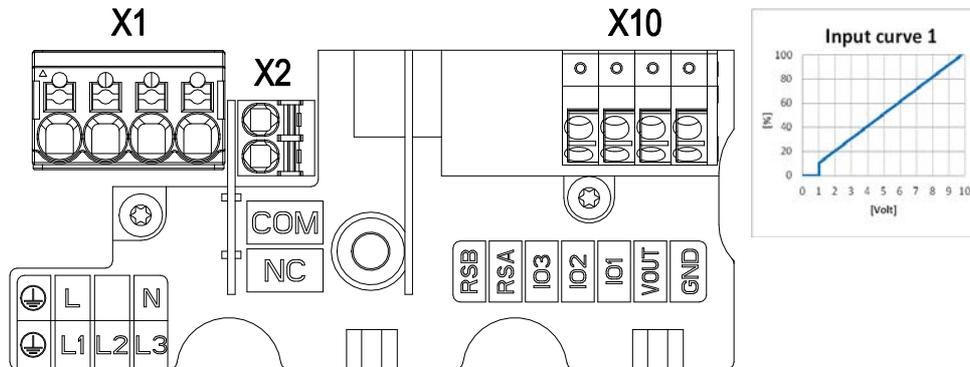
We recommend using M6 cheese-head screws with hexagon socket (DIN 912/DIN EN ISO 4762) for fastening.

3 outlet-side mounting on flange

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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)

Terminal/plug assignment

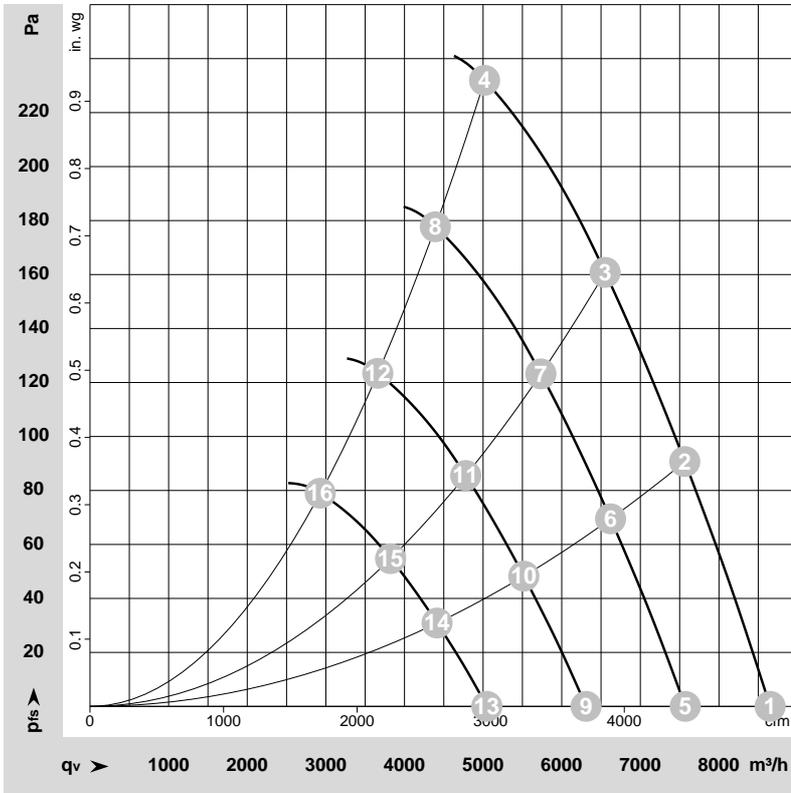
	configurable IO mode	electrical specification	INPUT	OUTPUT	
I01	<ul style="list-style-type: none"> Din1 (high active): digital input Ain1 0-10 V/PWM: analog input 	active: parametrizable voltage $x \cdot 30 \text{ VDC}$ not active: pin open or parametrizable voltage $< x \text{ VDC}$, SELV $R_i = 100 \text{ k}\Omega$, characteristic curve parametrizable, $f_{\text{PWM}} = 1 \text{ k} - 10 \text{ kHz}$, SELV	<input type="checkbox"/> source: set value <input type="checkbox"/> switch: parameter set: #1 / #2 <input type="checkbox"/> switch: direction of rotation: cw / ccw <input type="checkbox"/> switch: enable/disable input <input type="checkbox"/> configurable function	<input type="checkbox"/> signal: tach out <input type="checkbox"/> signal: diagnostics out <input type="checkbox"/> signal: alarm out <input type="checkbox"/> signal: run monitoring <input type="checkbox"/> signal: status <input type="checkbox"/> signal: configurable function	
I02	<ul style="list-style-type: none"> Tach out (open collector) Diagnostics out (open collector) Alarm out (open collector) Open collector 	$U_{\text{max}} = 50 \text{ VDC}$, $I_{\text{max}} = 20 \text{ mA}$, SELV $U_{\text{max}} = 50 \text{ VDC}$, $I_{\text{max}} = 20 \text{ mA}$, SELV $U_{\text{max}} = 50 \text{ VDC}$, $I_{\text{max}} = 20 \text{ mA}$, SELV $U_{\text{max}} = 50 \text{ VDC}$, $I_{\text{max}} = 20 \text{ mA}$, SELV			
COM	Relais	250 VAC / 2 A (AC1)			
NC					
Vout	Voltage output	Voltage 10 VDC, SELV			

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-224858-1
Date: 2023-01-26
Housing: 50031-2-2910
Nozzle: 50000-2-2943

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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	m ³ /h	Pa	cfm	in. wg
1	1~	230	50	1370	538	2.37	72	78	79	82	8650	0	5090	0.00
2	1~	230	50	1370	616	2.71	70	77	78	80	7565	90	4455	0.36
3	1~	230	50	1370	662	2.91	69	76	77	80	6550	160	3855	0.64
4	1~	230	50	1370	710	3.10	70	77	79	81	5020	230	2955	0.92
5	1~	230	50	1200	360	1.59	69	75	76	78	7570	0	4455	0.00
6	1~	230	50	1200	413	1.82	67	73	75	77	6620	69	3895	0.28
7	1~	230	50	1200	444	1.95	66	73	74	76	5735	123	3375	0.49
8	1~	230	50	1200	472	2.07	66	73	75	77	4395	178	2585	0.71
9	1~	230	50	1000	209	0.92	64	70	71	74	6310	0	3715	0.00
10	1~	230	50	1000	239	1.05	62	69	70	72	5520	48	3250	0.19
11	1~	230	50	1000	257	1.13	61	68	69	72	4780	86	2815	0.35
12	1~	230	50	1000	273	1.20	62	69	71	73	3660	124	2155	0.50
13	1~	230	50	800	107	0.47	58	65	66	68	5050	0	2970	0.00
14	1~	230	50	800	122	0.54	57	63	64	67	4415	31	2600	0.12
15	1~	230	50	800	132	0.58	56	62	64	66	3825	55	2250	0.22
16	1~	230	50	800	140	0.61	56	63	65	67	2930	79	1725	0.32

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