

8300101395
VVY0500HSPFS

EC axial panel fan - HyBlade

sickle-shaped blades (S series)

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Nominal data

Item	8300101395	
Motor	E09001-28	

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60

Method of obtaining data		ml
Speed (rpm)	min ⁻¹	1140
Power consumption	W	400
Current draw	A	2.5
Max. back pressure	Pa	120
Max. back pressure	in. wg	0.48
Min. ambient temperature	°C	-25
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}	%	42.8	31.1	09 Power consumption P_{ed}	kW	0.39
02 Measurement category	A			09 Air flow q_v	m ³ /h	4570
03 Efficiency category	Static			09 Pressure increase p_{fs}	Pa	121
04 Efficiency grade N	51.7		40	10 Speed (rpm) n	min ⁻¹	1140
05 Variable speed drive	Yes			11 Specific ratio*	1.00	

Data obtained at optimum efficiency level.

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

LU-231625

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).

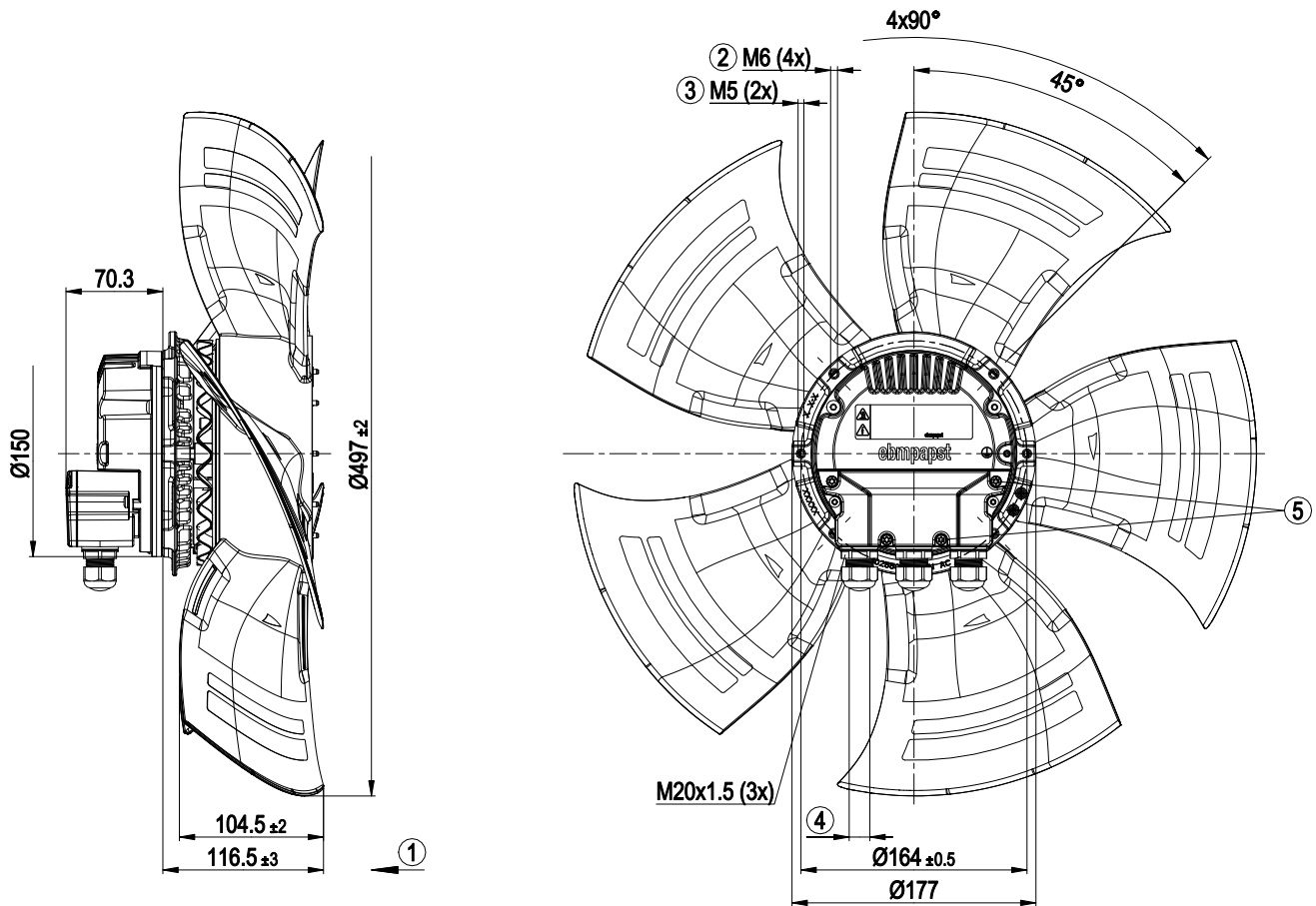
Technical description

Weight	5.1 kg
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
Number of blades	5
Airflow direction	V
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2 = Wet – direct exposure to water
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 - 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)	Passive
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.
Safety class of the permissible refrigerants according to EN378 / ISO5149-1	A3/B3
Maximum surface temperature	240 °C
Conformity with standards	EN 60335-1; EN 60335-2-40; EN 61800-5-1; CE; UKCA
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1

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Product drawing

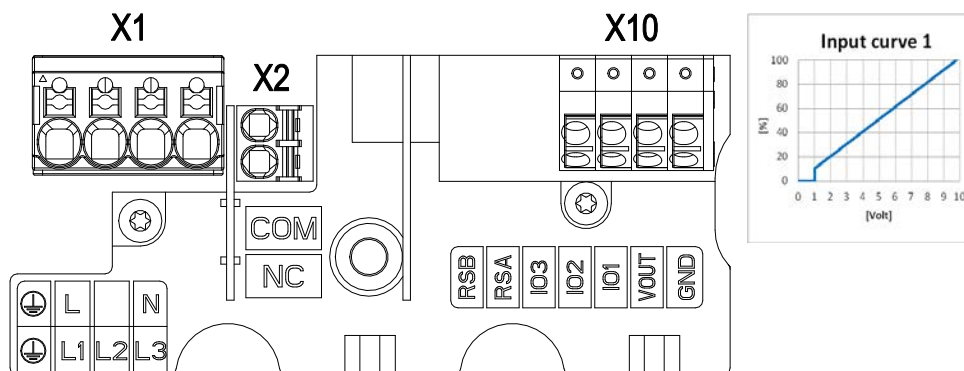


1	Airflow direction "V"
2	Max. clearance for screw 10 mm
3	Max. clearance for screw 10 mm
	The M5 tapped holes (2x) can be used to attach hoisting equipment.
4	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
	(The tightening torque is designed for PVC cables. If the cable materials are different, the tightening torque may have to be adjusted)
5	Tightening torque 2 ± 0.3 Nm

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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)

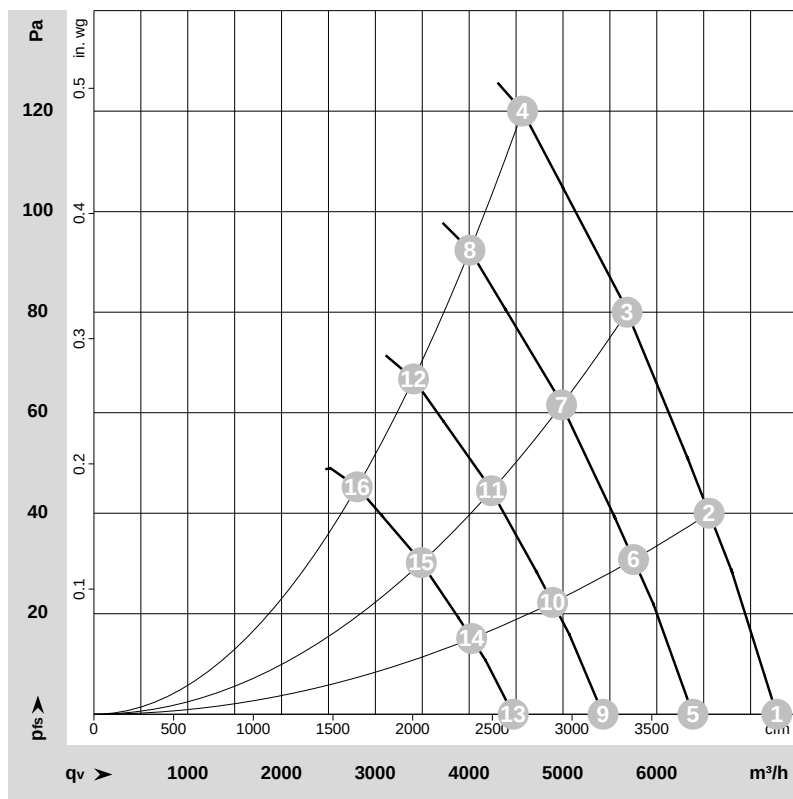
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Terminal/plug assignment

Basic (B5)									
Factory configuration option upon request									
factory configuration option									
configurable IO mode				electrical specification					
IO1		Din1 (high active): digital input	Ain1 0-10 V/PWM: analog input		active: parametrizable voltage x - 30 VDC not active: pin open or parametrizable voltage < x VDC, SELV Ri = 100 kΩ, characteristic curve parameterizable, $f_{PWM} = 1 \text{ k} - 10 \text{ kHz}$, SELV	INPUT			
						switch: parameter set: #1 / #2	switch: direction of rotation: cw / ccw	switch: enable/disable input	configurable function
IO2					Umax = 50 VDC, Imax = 20 mA, SELV Umax = 50 VDC, Imax = 20 mA, SELV Umax = 50 VDC, Imax = 20 mA, SELV Umax = 50 VDC, Imax = 20 mA, SELV	OUTPUT			
						signal: tach out	signal: diagnostics out	signal: alarm out	signal: run monitoring
						configurable function			signal: status
									signal: configurable function
COM NC		Relais			250 VAC / 2 A (AC1)				○
Vout		Voltage output			Voltage 10 VDC, SELV				○

Curves: Air performance 50 Hz



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

Measurement: LU-231625-1
Date: 2023-10-18
Housing: 10501-2-4037

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	m ³ /h	Pa	cfm	in. wg
1	1~	230	50	1140	268	1.72	65	72	71	75	7280	0	4285	0.00
2	1~	230	50	1140	314	1.99	63	70	69	73	6560	40	3860	0.16
3	1~	230	50	1140	358	2.25	60	67	67	70	5685	80	3345	0.32
4	1~	230	50	1140	397	2.47	59	67	66	69	4570	120	2690	0.48
5	1~	230	50	1000	181	1.16	62	69	68	71	6385	0	3760	0.00
6	1~	230	50	1000	212	1.34	60	66	66	69	5750	31	3385	0.12
7	1~	230	50	1000	241	1.52	57	64	64	67	4985	62	2935	0.25
8	1~	230	50	1000	268	1.67	56	64	63	66	4010	92	2360	0.37
9	1~	230	50	850	111	0.71	58	65	64	67	5430	0	3195	0.00
10	1~	230	50	850	130	0.83	55	62	62	65	4890	22	2880	0.09
11	1~	230	50	850	148	0.93	53	60	59	63	4235	44	2495	0.18
12	1~	230	50	850	164	1.02	52	60	58	62	3405	67	2005	0.27
13	1~	230	50	700	62	0.40	53	60	59	62	4470	0	2630	0.00
14	1~	230	50	700	73	0.46	51	58	57	60	4025	15	2370	0.06
15	1~	230	50	700	83	0.52	48	55	55	58	3490	30	2055	0.12
16	1~	230	50	700	92	0.57	47	55	54	57	2805	45	1650	0.18

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