EC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

W3G450-DD08-A4 ebmpapst Datasheet
sales@fansco.com
www.fansco.com

Nominal data

Type	**W3G450-DD08-A4**
Motor	**M3G084-GF**

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}	1450
Power consumption	W	440
Current draw	A	2.0
Max. back pressure	Pa	140
Max. back pressure	inH2O	0.56
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 ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	44.1	31.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		52.7	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.44
09 Air flow q_v	m^3/h	4505
09 Pressure increase p_{fs}	Pa	142
10 Speed (rpm) n	min^{-1}	1455
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-140131

EC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

Technical description

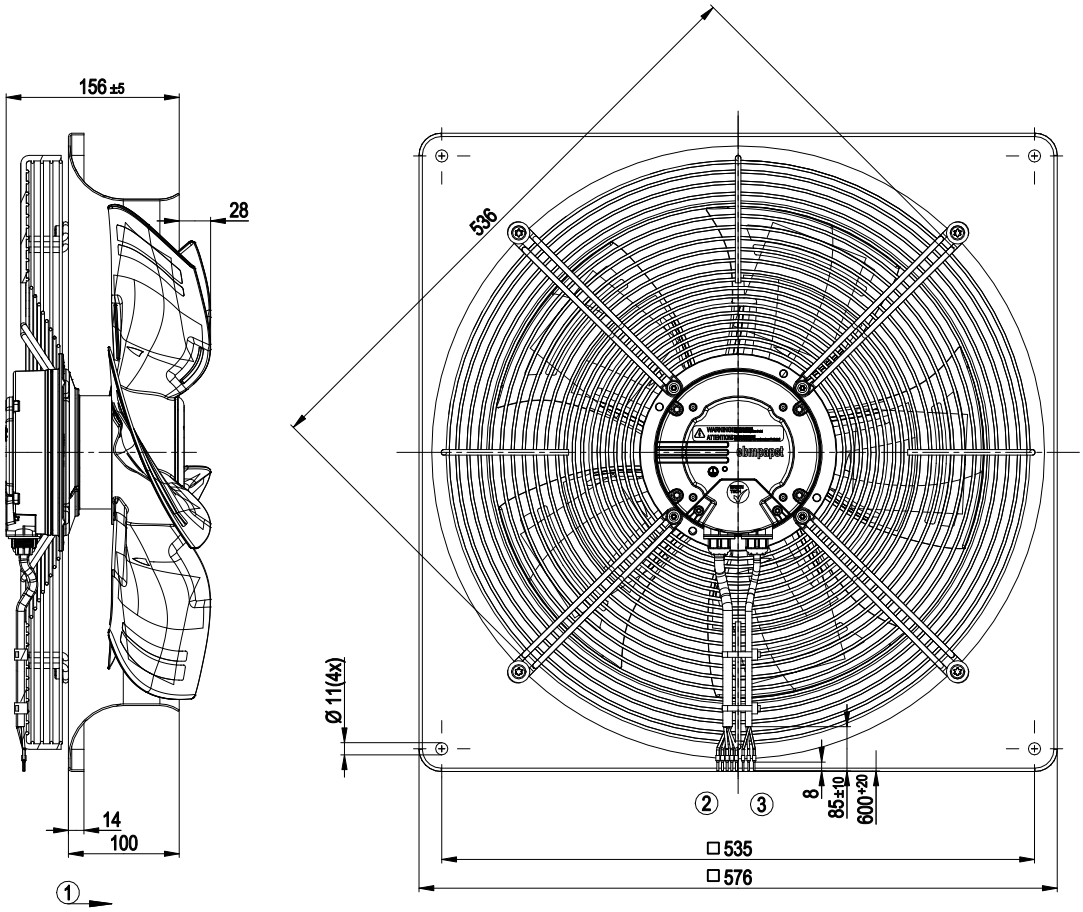
Weight	10.7 kg
Fan size	450 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Blade material	PP plastic
Fan housing material	Sheet steel, pre-galvanized and coated with black plastic (RAL 9005)
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	"A"
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F3-1
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
Technical features	- Output 10 VDC, max. 10 mA - Alarm relay - Motor current limitation - PFC, active - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	CE

EC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

Product drawing



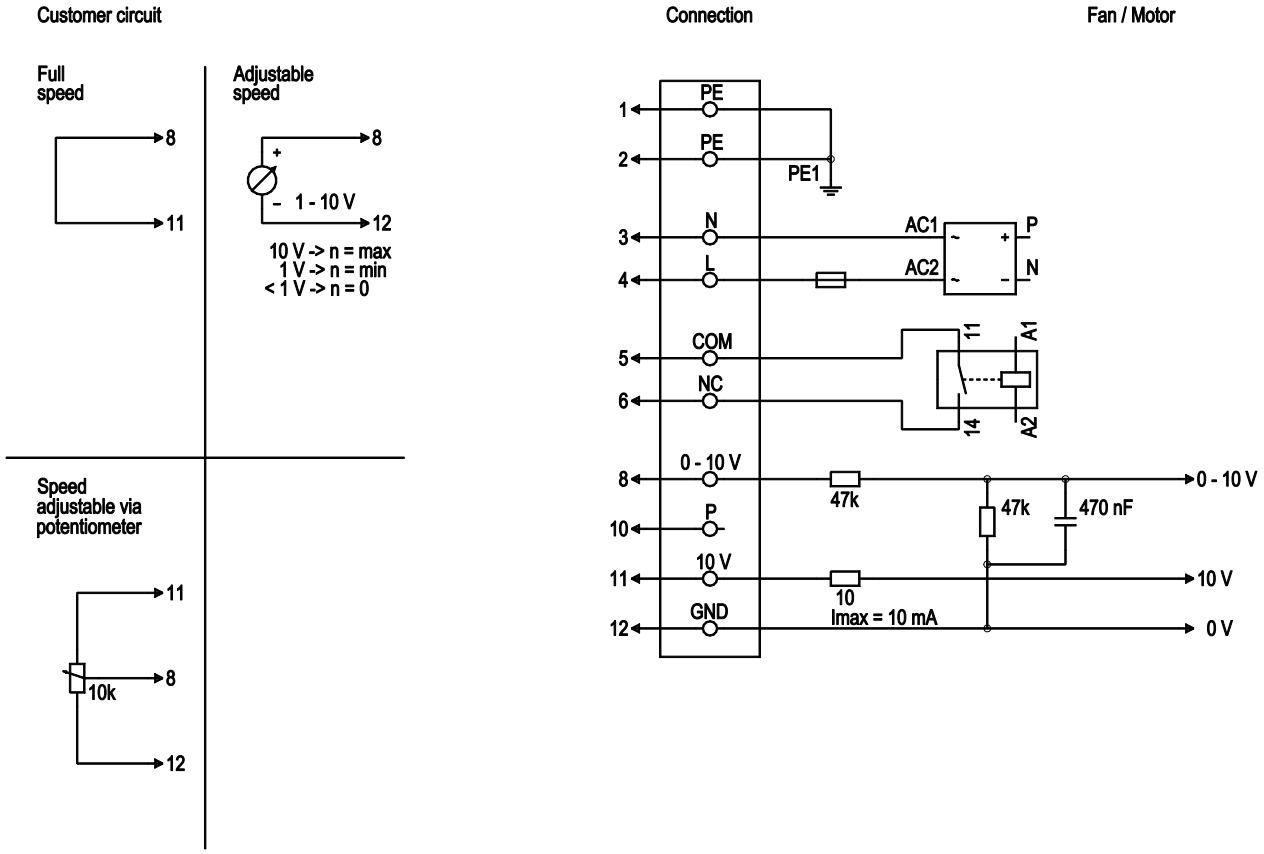
1	Direction of air flow "A"
2	Cable PVC AWG18, 5x crimped ferrule
3	Cable PVC AWG22, 3x crimped ferrule

EC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

Connection diagram



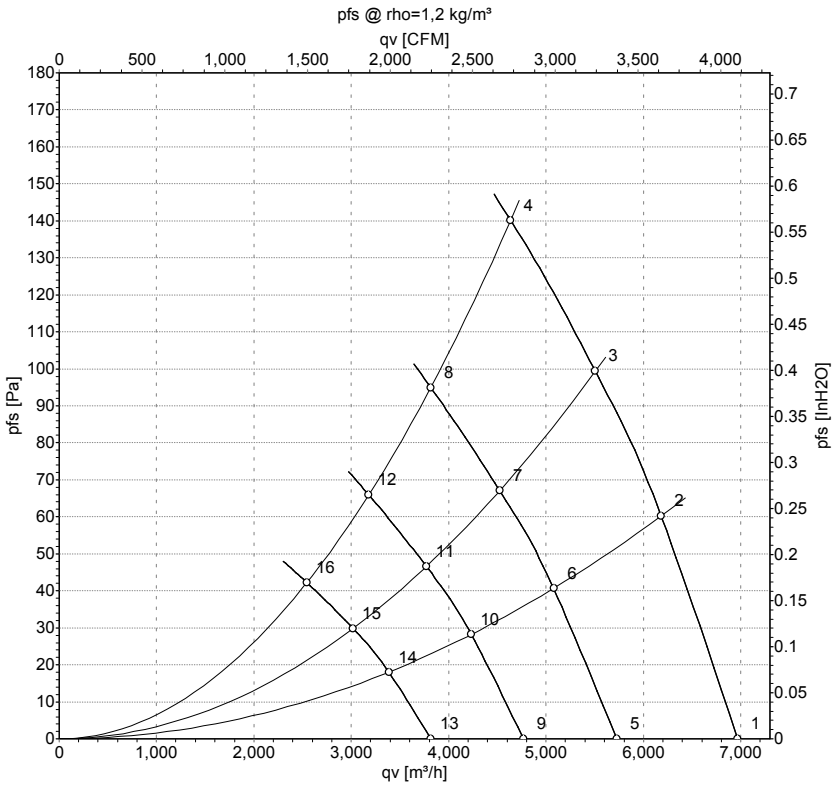
No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Power supply, neutral conductor, see nameplate for voltage range, 50/60 Hz
1	4	L	black	Power supply, phase, see nameplate for voltage range, 50/60 Hz
1	5	COM	white 1	Floating status contact, break for failure (2 A, max. 250 VAC, min. 10 mA)
1	6	NC	white 2	Floating status contact, break for failure
2	8	0 -10 V	yellow	Control input, set value 0-10 VDC, impedance 100 kOhm, SELV
2	10	P	orange	not used
2	11	10 VDC	red	Voltage output 10 VDC (±3%), max. 10 mA, power supply for external devices (e.g. potentiometers), SELV
2	12	GND	blue	Reference ground for control interface, SELV

EC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

Curves: Air performance 50 Hz



Measurement: LU-140131-1

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

	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	230	50	1450	346	1.52	68	75	6970	0	4100	0.00
2	230	50	1450	396	1.74	65	72	6185	60	3640	0.24
3	230	50	1450	422	1.85	63	70	5505	100	3240	0.40
4	230	50	1450	440	2.00	63	70	4635	140	2730	0.56
5	230	50	1200	192	0.84	63	70	5725	0	3370	0.00
6	230	50	1200	220	0.96	60	67	5080	41	2990	0.16
7	230	50	1200	234	1.03	58	65	4525	67	2665	0.27
8	230	50	1200	247	1.08	58	65	3815	95	2245	0.38
9	230	50	1000	111	0.49	58	65	4770	0	2810	0.00
10	230	50	1000	127	0.56	55	62	4235	28	2490	0.11
11	230	50	1000	136	0.59	54	61	3770	47	2220	0.19
12	230	50	1000	143	0.63	53	60	3180	66	1870	0.26
13	230	50	800	57	0.25	53	59	3815	0	2245	0.00
14	230	50	800	65	0.29	50	57	3385	18	1995	0.07
15	230	50	800	69	0.30	48	55	3015	30	1775	0.12
16	230	50	800	73	0.32	47	55	2545	42	1495	0.17

U = Power supply · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
qv = Air flow · p_{fs} = Pressure increase