

EC axial panel fan - HyBlade

sickle-shaped blades (S series)

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	A3G800-BA77-41	
Motor	M3G112-EA	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min ⁻¹	490
Power consumption	W	240
Current draw	A	1.1
Max. back pressure	Pa	50
Max. back pressure	in. wg	0.2
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}	%	48.8	29.6	09 Power consumption P_{ed}	kW	0.22
02 Measurement category	A			09 Air flow q_v	m³/h	8135
03 Efficiency category	Static			09 Pressure increase p_{fs}	Pa	43
04 Efficiency grade N	59.2		40	10 Speed (rpm) n	min ⁻¹	490
05 Variable speed drive	Yes			11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

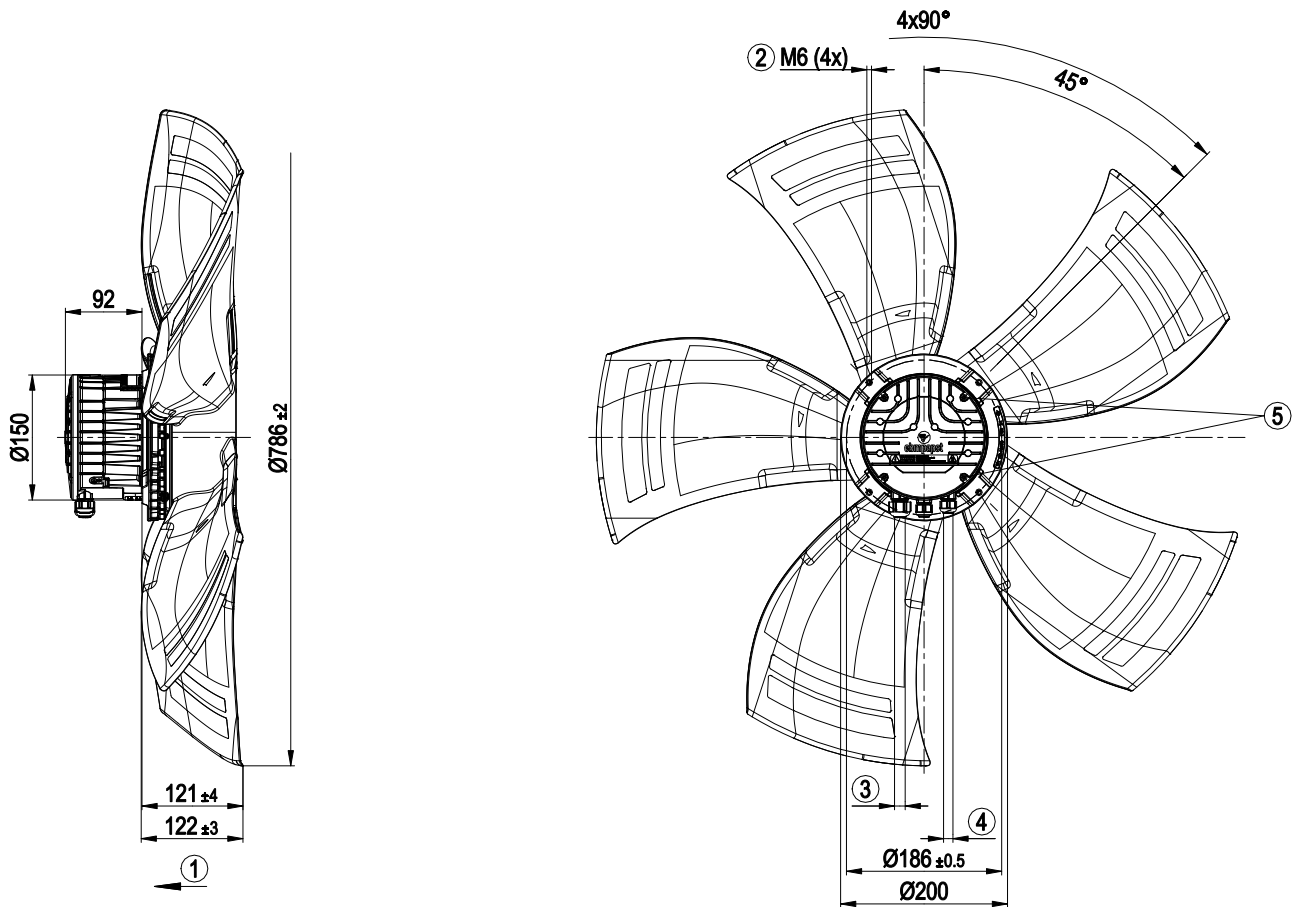
LU-188695

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	8.6 kg
Size	800 mm
Motor size	112
Rotor surface	Painted black
Terminal box material	PP plastic
Electronics housing material	Die-cast aluminum, painted black
Blade material	Press-fitted sheet steel blank, sprayed with 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
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	- Output 10 VDC, max. 10 mA - Operation and alarm display - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, active - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from supply - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
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
Electrical hookup	Terminal box
Motor protection	Thermal switch auto reset, internally connected
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730-1
Comment	Conformity with standard EN 60335-1 on request

Product drawing

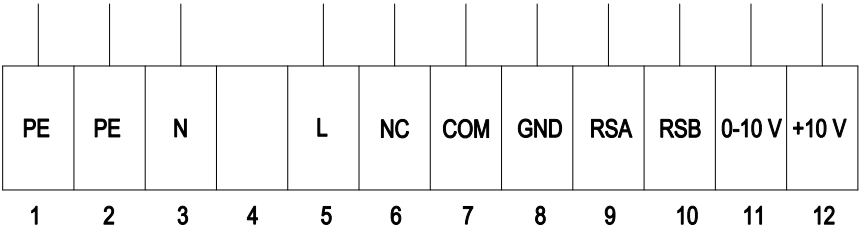


1	Direction of air flow "V"
2	Max. clearance for screw 16 mm
3	Cable diameter min. 8 mm, max. 12 mm, tightening torque 1.8 ± 0.3 Nm (use must be made of seal provided) Cable diameter min. 4 mm, max. 10 mm, tightening torque 1.8 ± 0.3 Nm
4	Cable diameter min. 6 mm, max. 10 mm, tightening torque 1.8 ± 0.3 Nm (use must be made of seal provided) Cable diameter min. 4 mm, max. 7 mm, tightening torque 1.8 ± 0.3 Nm
5	Tightening torque 1.5 ± 0.2 Nm

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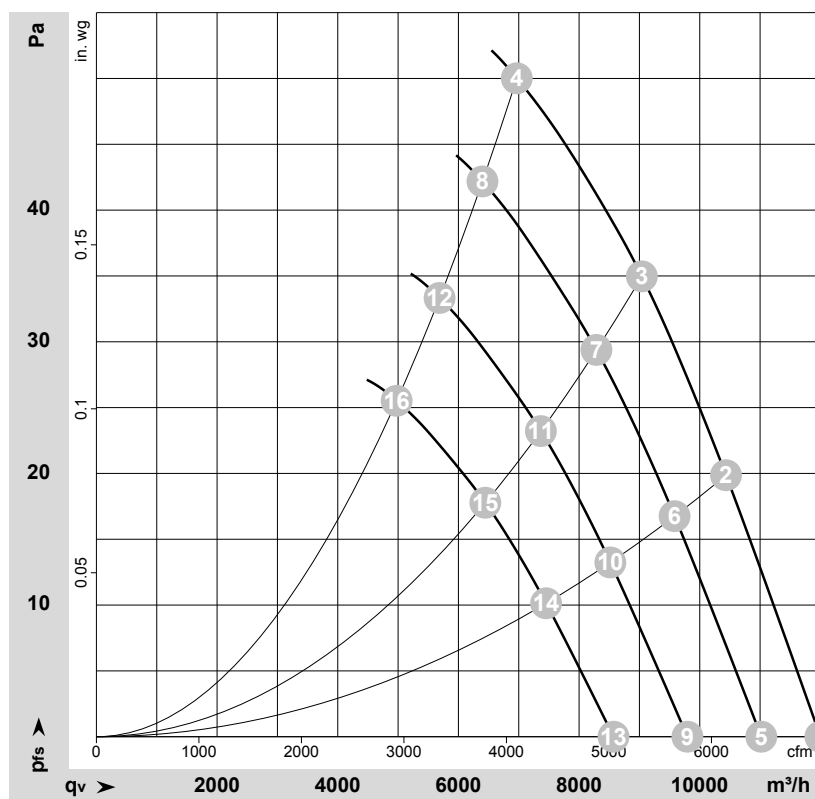
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Connection diagram



No.	Conn.	Designation	Function/assignment
1	PE	PE	Protective earth
2	PE	PE	Protective earth
3	N	N	Power supply, neutral conductor
4	-	-	not used
5	L	L	Power supply, phase
6	NC	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; basic insulation on supply side and reinforced insulation on control interface side
7	COM	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; basic insulation on supply side and reinforced insulation on control interface side
8	GND	GND	Reference ground for control interface, SELV
9	RSA	RSA	RS485 interface for MODBUS, RSA; SELV
10	RSB	RSB	RS485 interface for MODBUS, RSB; SELV
11	0-10 V	0-10 V	Analog input (set value) SELV, 0-10 V, Ri = 100 kΩ, adjustable curve
12	+10 V	+10 V	Fixed voltage output 10 VDC, SELV, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot)

Curves: Air performance 50 Hz



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

Measurement: LU-188695-1
Date: 2017-09-27
Housing: 38802-2-4037

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 _{ed}	I	LpA _{in}	LwA _{in}	LwA _{out}	q _v	p _{fs}	q _v	p _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m ³ /h	Pa	cfm	in. wg
1	1~	230	50	490	155	0.69	53	59	58	12000	0	7065	0.00
2	1~	230	50	490	190	0.84	51	57	56	10435	20	6140	0.08
3	1~	230	50	490	212	0.93	49	55	54	9040	35	5320	0.14
4	1~	230	50	490	240	1.10	51	59	58	6965	50	4100	0.20
5	1~	230	50	450	120	0.54	51	57	56	11020	0	6485	0.00
6	1~	230	50	450	147	0.65	49	54	54	9585	17	5640	0.07
7	1~	230	50	450	163	0.72	47	53	52	8285	30	4880	0.12
8	1~	230	50	450	183	0.80	49	57	56	6400	42	3765	0.17
9	1~	230	50	400	84	0.38	48	54	53	9795	0	5765	0.00
10	1~	230	50	400	103	0.46	46	51	51	8520	13	5015	0.05
11	1~	230	50	400	114	0.50	44	50	49	7365	23	4335	0.09
12	1~	230	50	400	129	0.56	46	54	53	5685	33	3345	0.13
13	1~	230	50	350	57	0.25	45	51	50	8570	0	5045	0.00
14	1~	230	50	350	69	0.31	42	48	47	7455	10	4385	0.04
15	1~	230	50	350	77	0.34	40	46	45	6445	18	3795	0.07
16	1~	230	50	350	86	0.38	43	50	50	4975	26	2930	0.10

Wired = Wiring · U = Voltage · 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
LwA_{out} = Sound power level outlet side · q_v = Air flow · p_{fs} = Pressure increase