S3G450-LL07-M7

EC axial fan - HyBlade

sickled blades (S series)

with guard grille for short nozzle

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Nominal data

Type	**S3G450-LL07-M7**
Motor	**M3G084-FA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	1520
Power input	W	530
Current draw	A	0.85
Max. back pressure	Pa	165
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	65

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data in accordance with ecodesign regulation EU 327/2011 (prEN 17166)

		Actual	Request 2015
01 Overall efficiency η_{es}	%	40.1	31.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		48.5	40
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.47
09 Air flow q_v	m^3/h	4505
09 Pressure increase p_{fs}	Pa	137
10 Speed (rpm) n	min^{-1}	1455
11 Specific ratio*		1.00

Data definition with optimum efficiency.

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

LU-194895

The indicated efficiency values for obtaining conformity with the Ecodesign Directive EU 327/2011 were achieved with defined air conduction components (e.g. inlet nozzles).
The dimensions are to be requested from ebm-papst. If other air guide geometries are used on the installation side, the ebm-papst evaluation loses its validity/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 features

Mass	7.6 kg
Size	450 mm
Motor size	84
Surface of rotor	Coated in black
Material of terminal box	PP plastic
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Material of guard grille	Steel, coated in black plastic (RAL9005)
Number of blades	5
Direction of air flow	V
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP55
Insulation class	"F"
Humidity (F) / environmental protection class (H)	H2
Note ambient temperature	Occasional start-up between -40 °C and -25 °C is permissible. For continuous operation at ambient temperatures below -25 °C (e.g. refrigeration applications), a fan version with special low-temperature bearings must be used.
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (programming) - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start -Maximum EEPROM write cycles 100,000 - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical connection	Terminal box
Motor protection	Thermal overload protector (TOP) wired internally
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Standard conformity	UKCA
Approval	CSA C22.2 no. 77 + CAN/CSA-E60730-1; UL 1004-7 + 60730-1

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Remark	Standard conformity as per EN 60335-1 in preparation

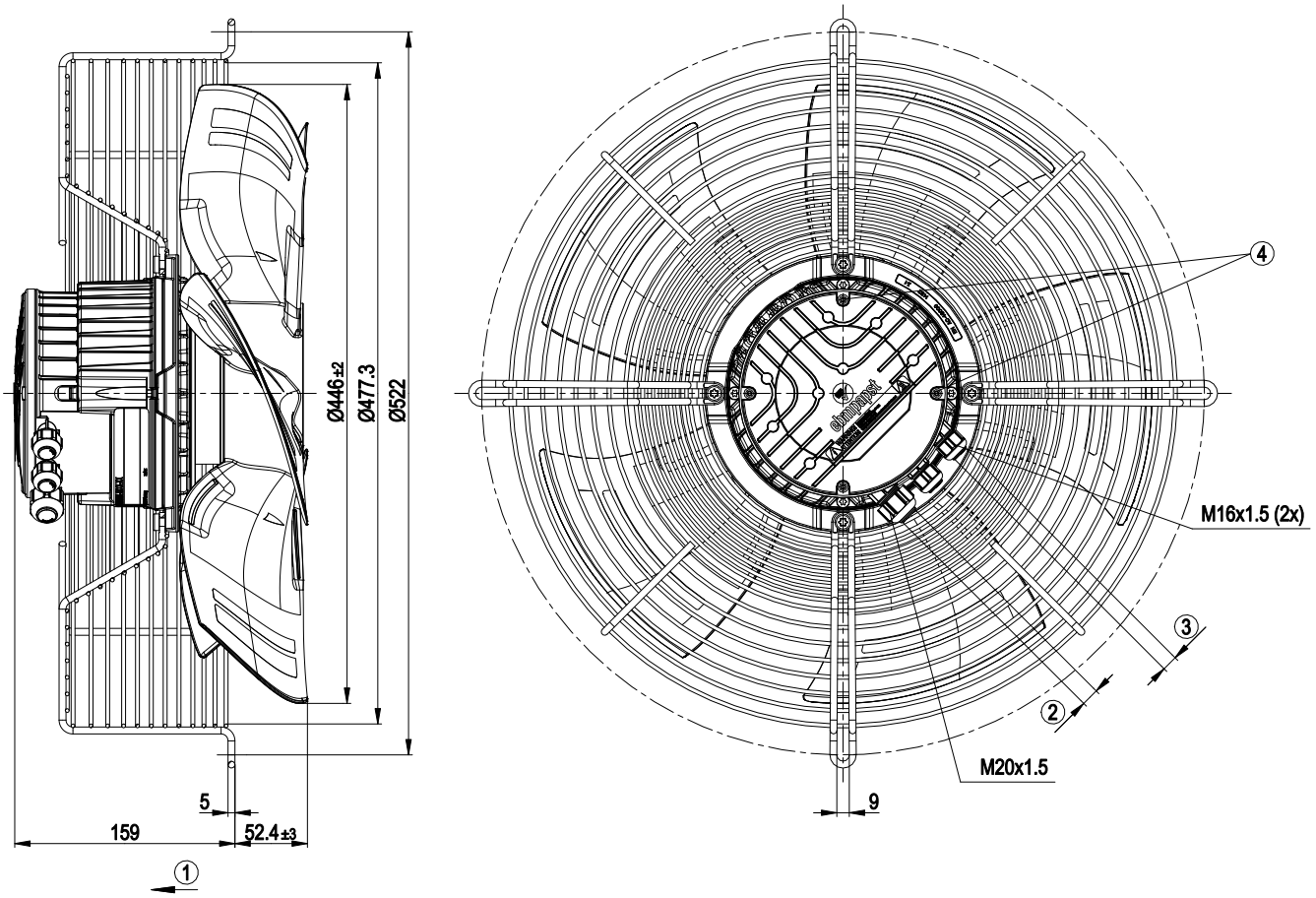
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Product drawing



1	Direction of air flow "V"
2	Cable diameter min. 8 mm, max. 12 mm, tightening torque 1.8±0.3 Nm (use the provided seal) Cable diameter min. 4 mm, max. 10 mm, tightening torque 1.8±0.3 Nm
3	Cable diameter min. 6 mm, max. 10 mm, tightening torque 1.8±0.3 Nm (use the provided seal) Cable diameter min. 4 mm, max. 7 mm, tightening torque 1.8±0.3 Nm
4	Tightening torque 1.5±0.2 Nm

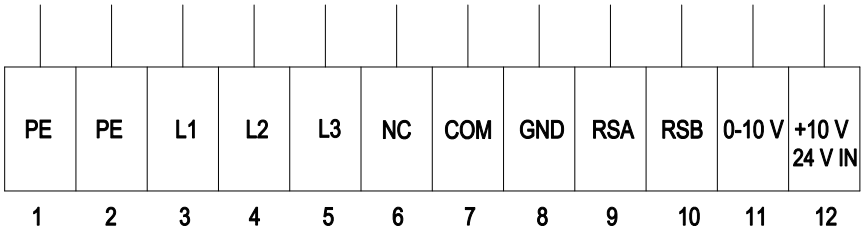
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Connection screen



No.	Conn.	Designation	Function / assignment
	1	PE	Protective earth
	2	PE	Protective earth
	3	L1	Power supply
	4	L2	Power supply
	5	L3	Power supply
	6	NC	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on mains side and basic insulation on control interface side
	7	COM	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on mains side and basic insulation on control interface side
	8	GND	Signal ground for control interface, SELV
	9	RSA	RS-485 interface for MODBUS, RSA; SELV
	10	RSB	RS-485 interface for MODBUS, RSB; SELV
	11	0-10 V	Analogue input (set value) SELV, 0-10 V, Ri=100kΩ, parametrisable curve
	12	+10 V	Fixed voltage output 10 VDC, SELV, +10 V +/-3%, max. 10 mA short-circuit-proof, power supply for ext. devices (e.g. potentiometer); Fixed voltage input 24 VDC for parameter setting via MODBUS without mains power supply

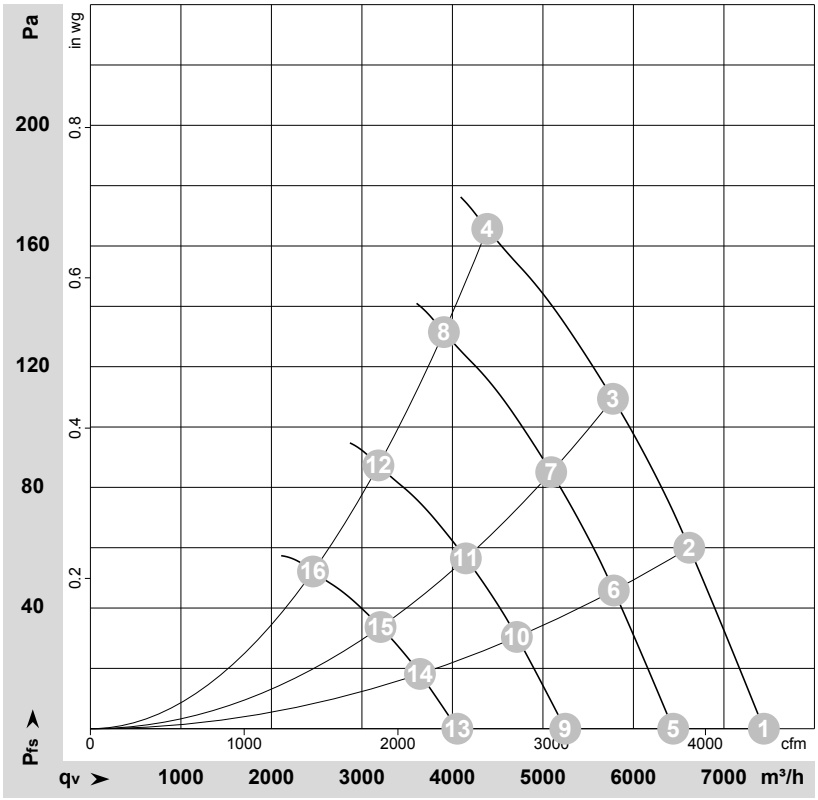
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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-156499-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	400	50	1550	457	0.73	66	74	7440	0	4380	0.00
2	400	50	1545	501	0.80	65	72	6615	60	3895	0.24
3	400	50	1530	519	0.82	63	71	5775	110	3400	0.44
4	400	50	1520	530	0.85	70	78	4385	165	2580	0.66
5	400	50	1350	296	0.47	63	70	6440	0	3790	0.00
6	400	50	1350	335	0.53	61	69	5785	47	3405	0.19
7	400	50	1350	356	0.56	60	68	5090	85	2995	0.34
8	400	50	1350	377	0.60	67	75	3905	131	2300	0.53
9	400	50	1100	160	0.26	57	65	5245	0	3090	0.00
10	400	50	1100	181	0.29	56	64	4710	31	2775	0.12
11	400	50	1100	193	0.31	55	63	4150	56	2440	0.22
12	400	50	1100	204	0.32	62	70	3185	87	1875	0.35
13	400	50	850	74	0.12	51	58	4055	0	2385	0.00
14	400	50	850	84	0.13	50	57	3640	19	2145	0.08
15	400	50	850	89	0.14	48	56	3205	34	1885	0.14
16	400	50	850	94	0.15	55	63	2460	52	1445	0.21

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · q_V = Air flow p_{fs} = Pressure increase

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