EC centrifugal fan

backward-curved, single-intake

R3G355-AI62-06 ebmpapst Datasheet
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Nominal data

Type	**R3G355-AI62-06**
Motor	**M3G112-EA**

Phase		3~
Nominal voltage	VAC	200
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2200
Power consumption	W	940
Current draw	A	3
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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	59.7	51.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		70.5	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.93
09 Air flow q_v	m^3/h	2715
09 Pressure increase p_{fs}	Pa	680
10 Speed (rpm) n	min^{-1}	2205
11 Specific ratio*		1.01

Data obtained at optimum efficiency level.

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

LU-116519

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

Weight	8.5 kg
Size	355 mm
Motor size	112
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
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 - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 ebmBUS - 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 - Line undervoltage detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Thermal overload protector (TOP) internally connected
Protection class	I (according to EN 61800-5-1)
Conformity with standards	EN 61800-5-1; CE
Approval	UL 1004-3; EAC; CCC

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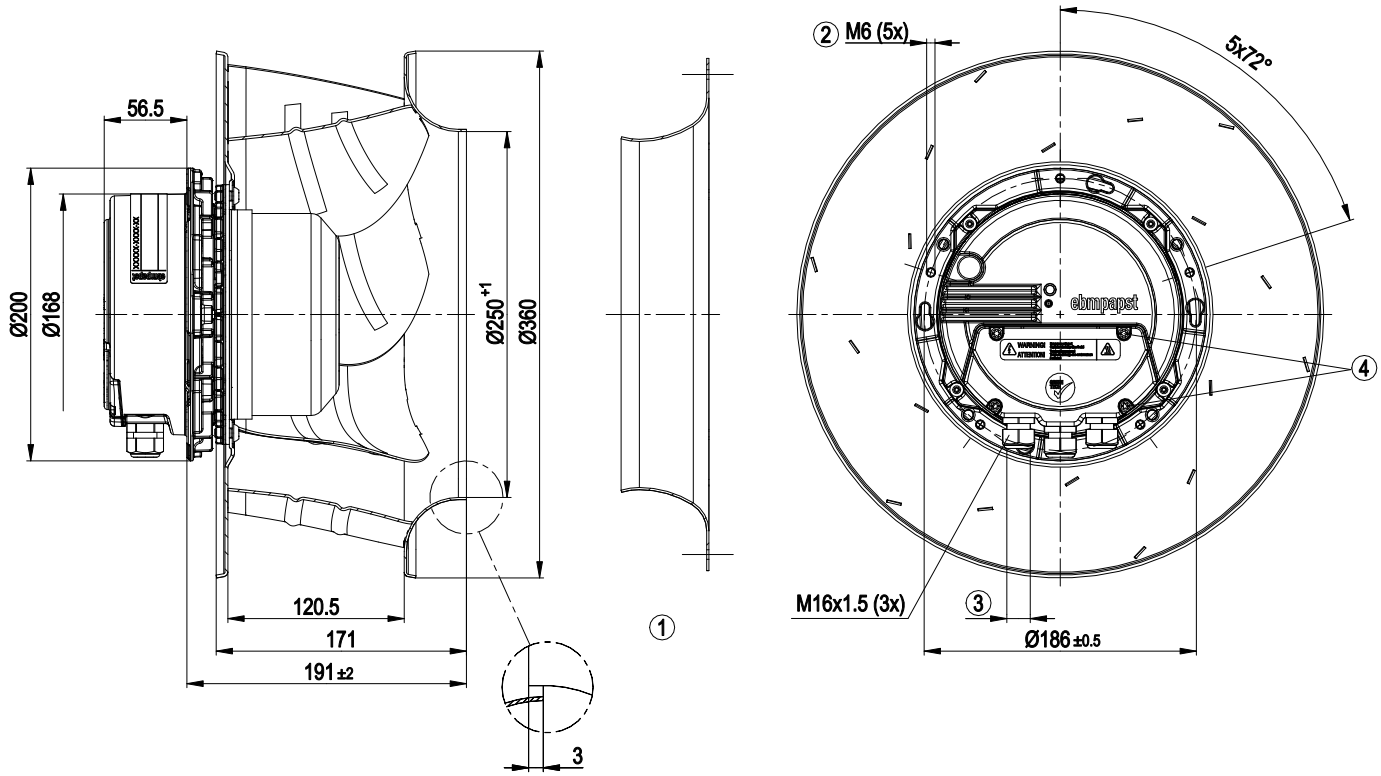
Product drawing



1	Accessory part: inlet ring 35560-2-4013 not included in scope of delivery
2	Max. clearance for screw 16 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 2.5 ± 0.4 Nm
4	Tightening torque 3.5 ± 0.5 Nm

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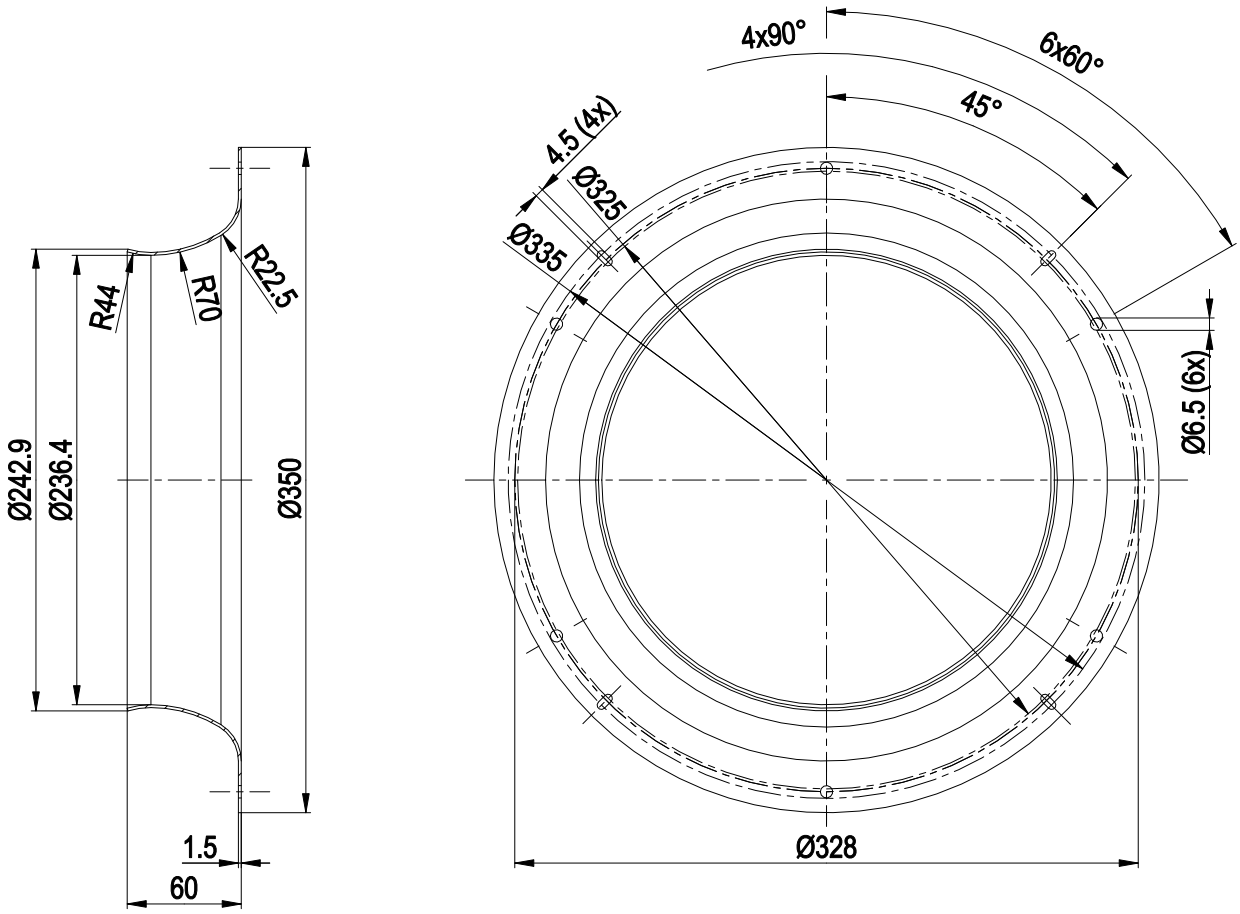
Accessory part



Inlet ring 35560-2-4013

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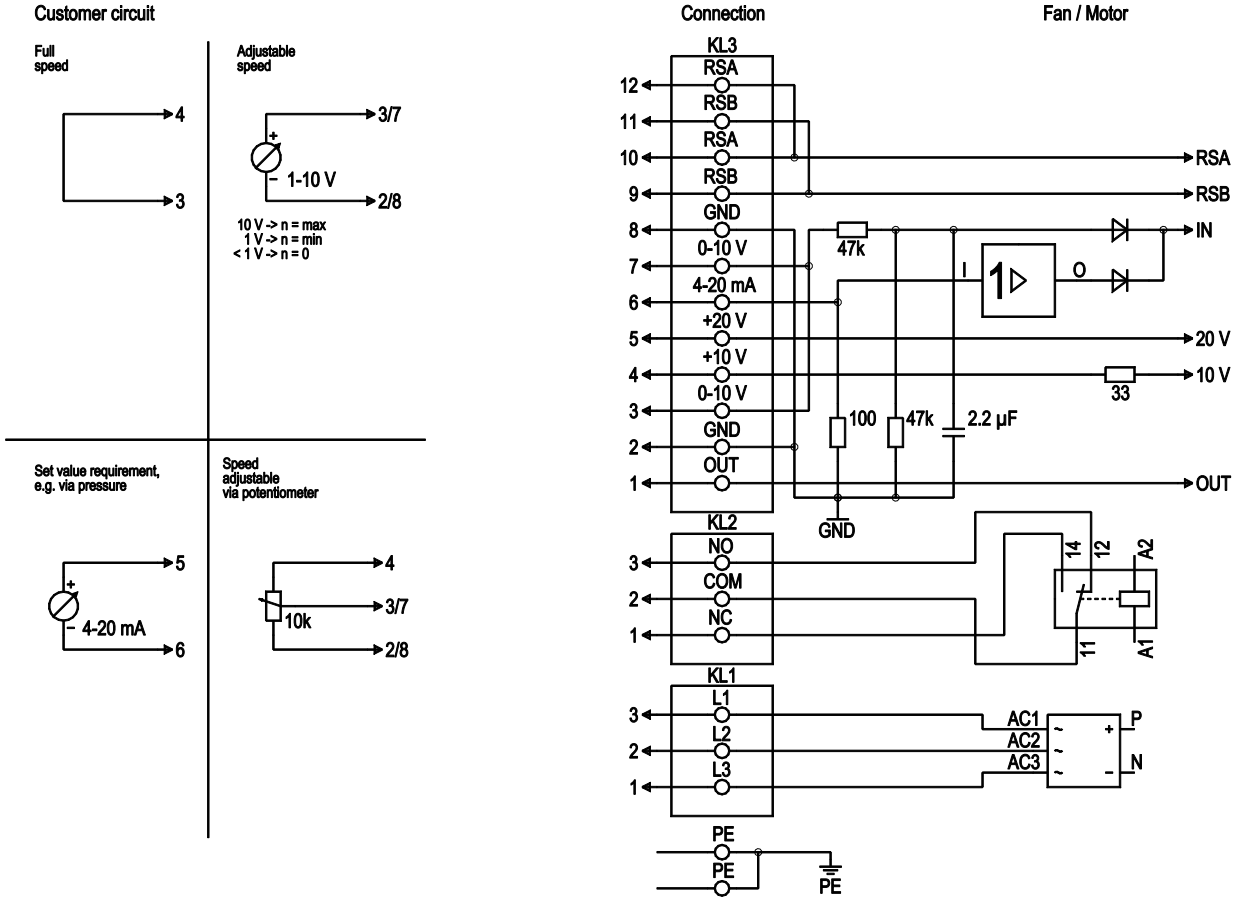
Connection diagram



No.	Conn.	Designation	Function/assignment
PE		PE	Protective earth terminal
KL1	1, 2, 3	L1, L2, L3	Power supply 50/60 Hz
KL2	1	NC	Floating status contact, break for failure
KL2	2	COM	floating status contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status contact, make for failure
KL3	1	OUT	Analog output, 0-10 VDC, max. 3 mA, SELV, output of current motor modulation level: 1 V corresponds to 10% modulation level. 10 V corresponds to 100% modulation level.
KL3	2, 8	GND	Reference ground for control interface, SELV
KL3	3, 7	0-10 V	Use control / current sensor value input 0-10 VDC, impedance 100 kΩ only as alternative to 4-20 mA input, SELV
KL3	4	+10 V	Voltage output 10 VDC (±3%), max. 10 mA, power supply for external devices (e.g. potentiometer), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25%/-10%), max. 50 mA, power supply for external devices (e.g. sensors), SELV
KL3	6	4-20 mA	Use control / current sensor value input 4-20 mA, impedance 100 Ω only as alternative to 0-10 V input, SELV
KL3	9, 11	RSB	RS485 interface for ebmBUS, RSB, SELV

No.	Conn.	Designation	Function/assignment
KL3	10, 12	RSA	RS485 interface for ebmBUS, RSA, SELV

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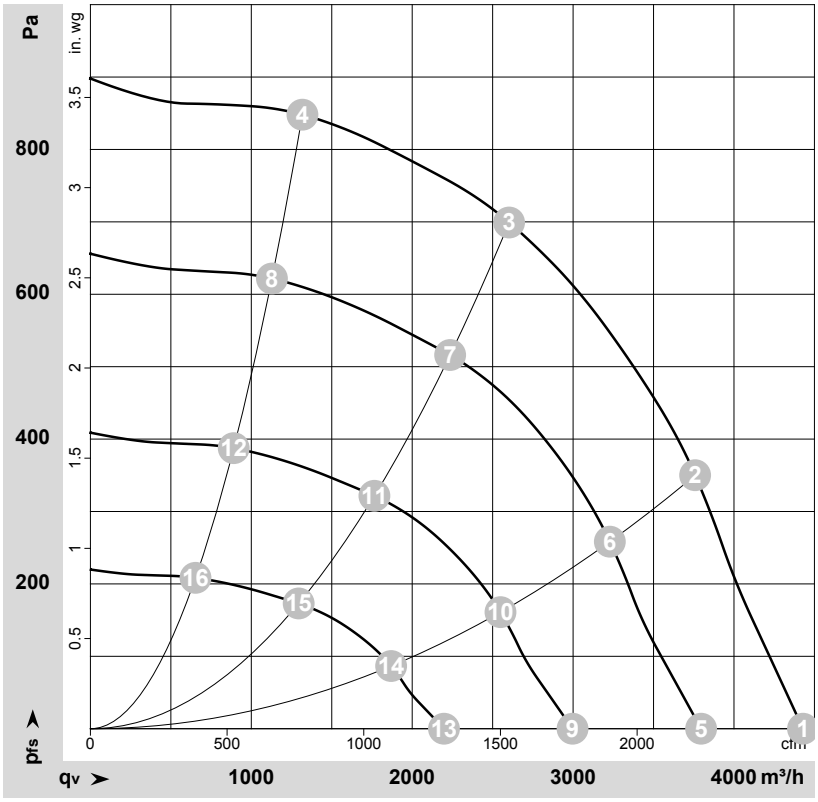
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-116519-1

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

	Wired	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	3~	200	50	2200	791	2.86	80	88	4430	0	2605	0.00
2	3~	200	50	2200	918	3.22	76	84	3760	350	2210	1.41
3	3~	200	50	2200	940	3.00	71	79	2600	700	1530	2.81
4	3~	200	50	2200	725	2.78	73	80	1320	850	775	3.41
5	3~	200	50	1900	498	1.80	77	85	3795	0	2235	0.00
6	3~	200	50	1900	582	2.04	72	80	3230	258	1900	1.04
7	3~	200	50	1900	585	2.12	67	75	2235	516	1315	2.07
8	3~	200	50	1900	455	1.75	69	76	1130	622	665	2.50
9	3~	200	50	1500	245	0.89	71	79	2995	0	1765	0.00
10	3~	200	50	1500	286	1.00	66	74	2550	161	1500	0.65
11	3~	200	50	1500	288	1.04	61	69	1765	322	1040	1.29
12	3~	200	50	1500	224	0.86	63	70	890	388	525	1.56
13	3~	200	50	1100	97	0.35	63	71	2200	0	1295	0.00
14	3~	200	50	1100	113	0.40	58	66	1870	87	1100	0.35
15	3~	200	50	1100	114	0.41	54	61	1295	173	760	0.69
16	3~	200	50	1100	88	0.34	55	63	655	209	385	0.84

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
q_V = Air flow · p_{fs} = Pressure increase