R3G355-AI56-07

EC centrifugal fan

backward-curved, single-intake

R3G355-AI56-07 ebmpapst Datasheet
sales@fansco.com
www.fansco.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**R3G355-AI56-07**
Motor	**M3G112-EA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2200
Power consumption	W	950
Current draw	A	1.75
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

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	59.9	51
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		70.9	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.9
09 Air flow q_v	m^3/h	2805
09 Pressure increase p_{fs}	Pa	642
10 Speed (rpm) n	min^{-1}	2220
11 Specific ratio*		1.01

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-78488

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Technical description

Weight	8.4 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 - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - Soft start - Control input 0-10 VDC / PWM - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Connector with cable
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE

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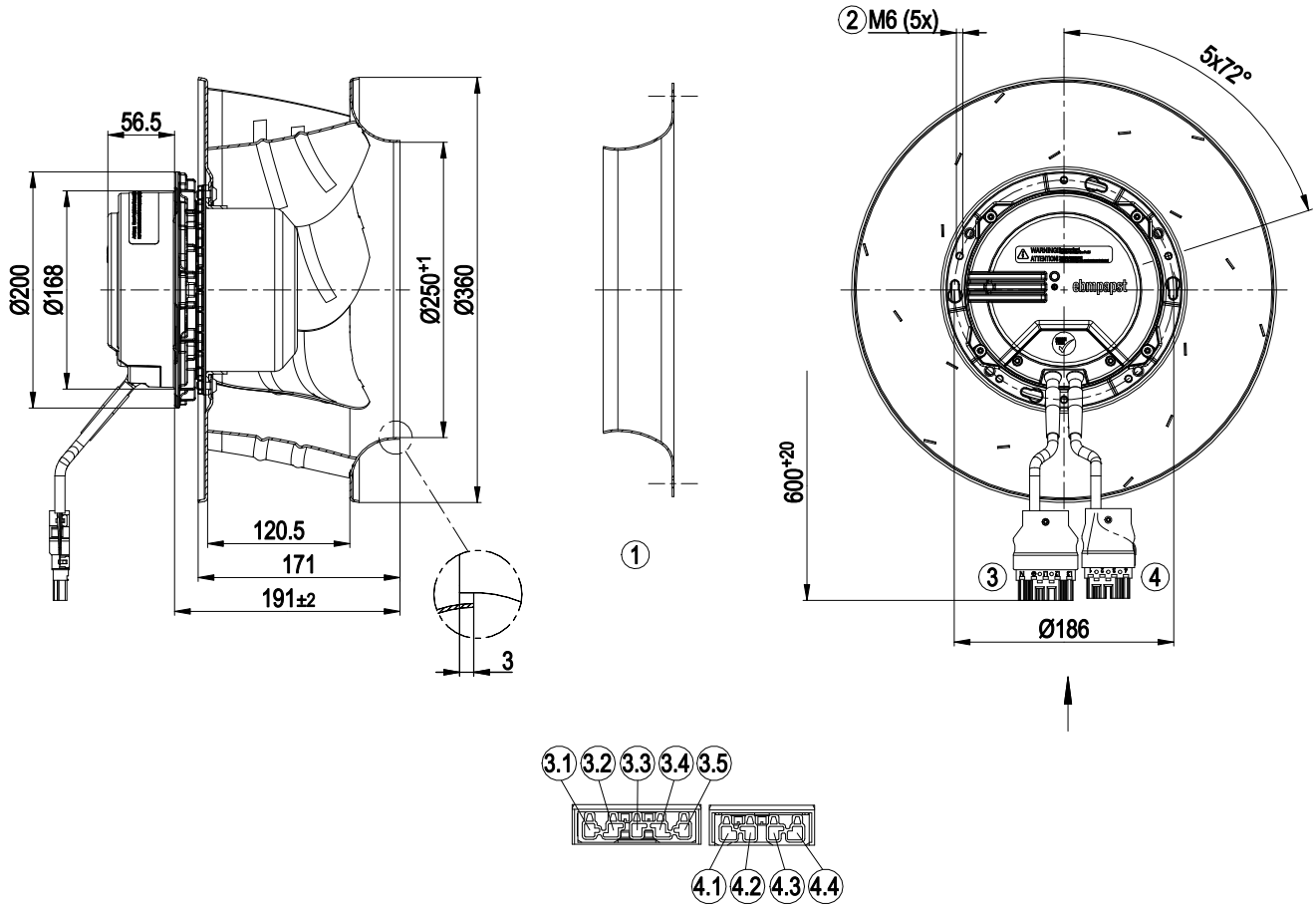
Product drawing



1	Accessory part: inlet ring 35560-2-4013 not included in scope of delivery
2	Max. clearance for screw 16 mm
3	Cable PVC AWG18
	5-pole connector housing WAGO 770-215, strain relief housing WAGO 770-505/023-000
3.1	not used
3.2	PE
3.3	L1
3.4	L2
3.5	L3
4	Cable PVC AWG22
	4-pole connector housing WAGO 770-214
4.1	NC
4.2	COM
4.3	0-10 V/PWM
4.4	GND

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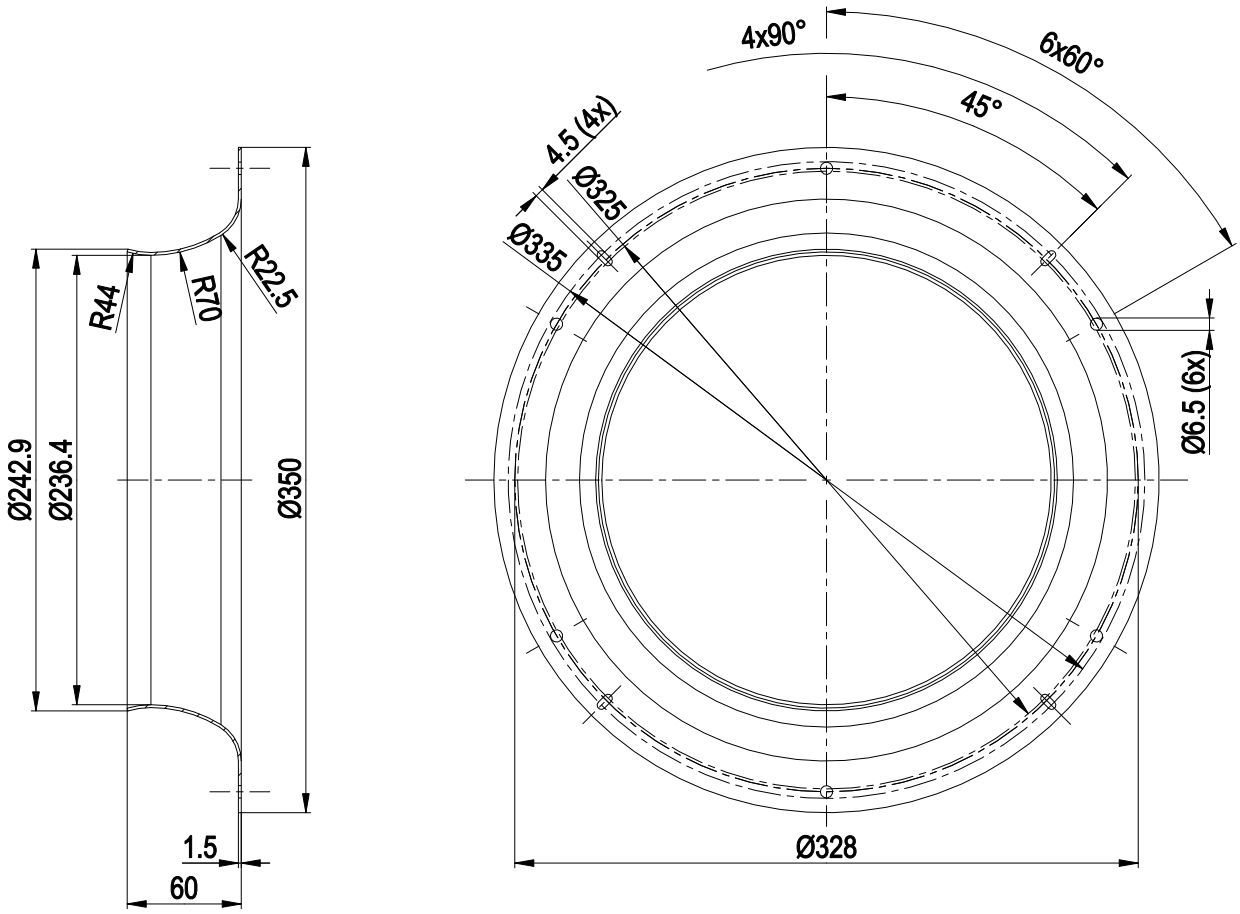
Accessory part



Inlet ring 35560-2-4013

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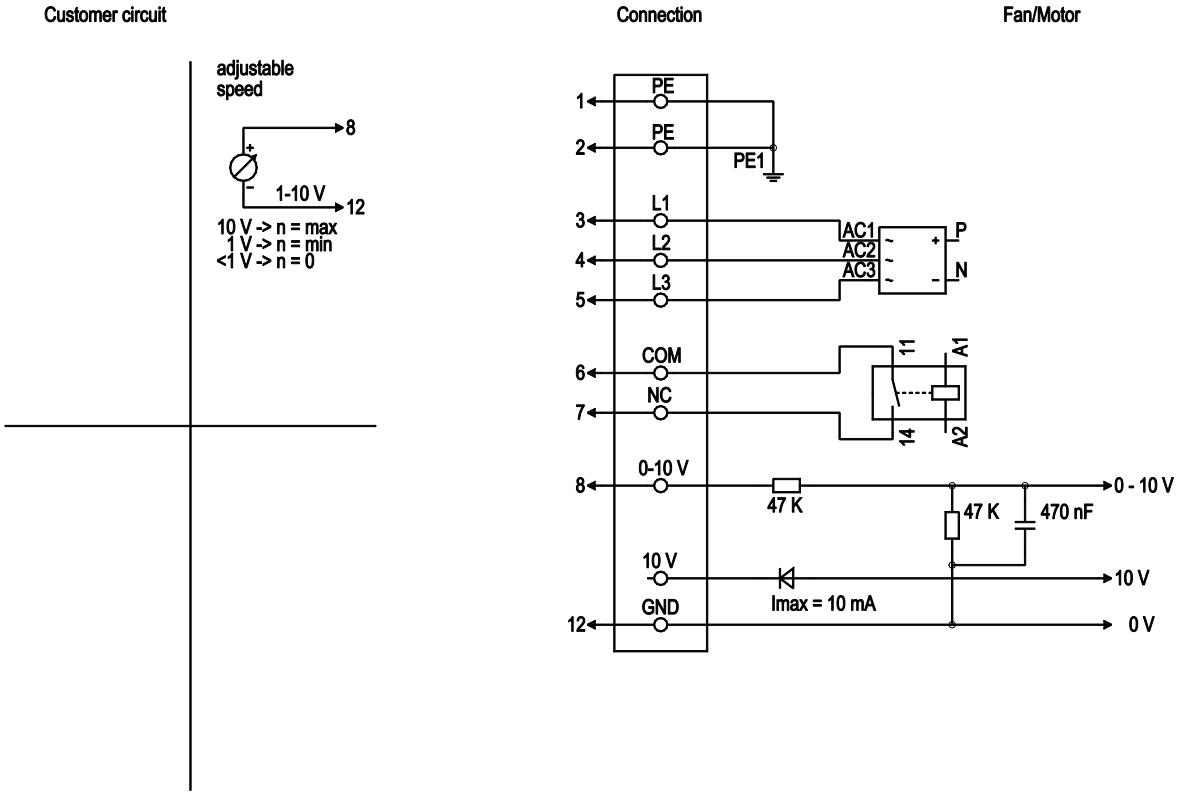
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3, 4, 5	L1, L2, L3	black	Power supply, phase, see nameplate for voltage range
1	6	COM	white 1	Floating status contact, break for failure (2 A, max. 250 VAC, min. 10 mA, AC1)
1	7	NC	white 2	Floating status contact, break for failure
2	8	0-10 V	yellow	Control input, set value 0-10 VDC, impedance 100 kΩ; SELV
2	11	+10 V	red	Voltage output 10 VDC (±3%), max. 10 mA, power supply for external devices (e.g. potentiometer); SELV
2	12	GND	blue	Reference ground for control interface, SELV

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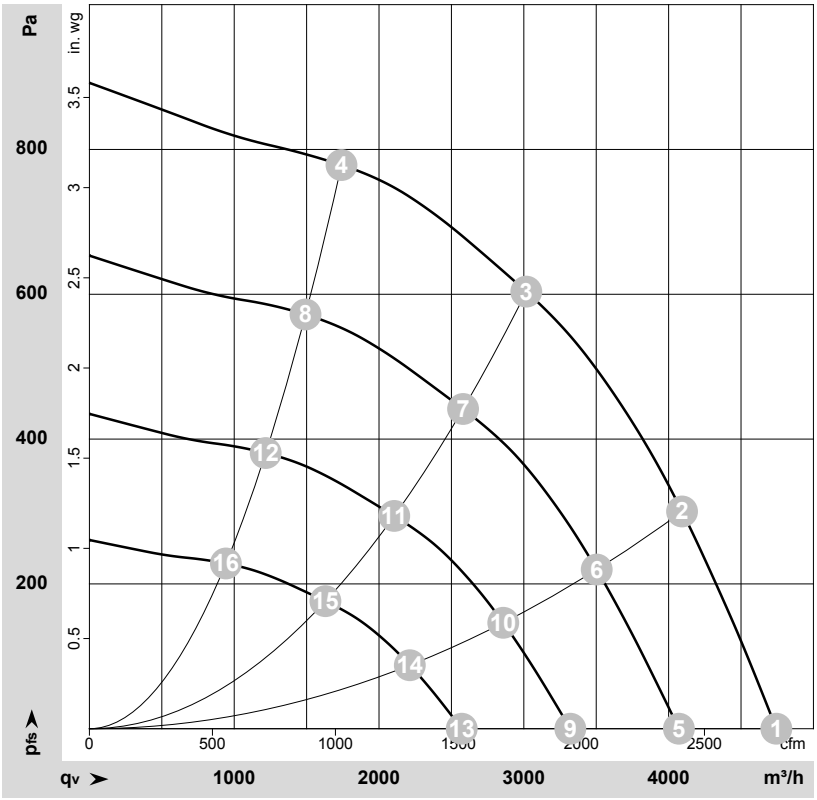
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-78488-1

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	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	3~	400	50	2200	690	1.35	4745	0	2790	0.00
2	3~	400	50	2200	868	1.63	4095	300	2410	1.20
3	3~	400	50	2200	950	1.75	3015	600	1775	2.41
4	3~	400	50	2200	788	1.51	1740	780	1025	3.13
5	3~	400	50	1900	436	0.85	4070	0	2395	0.00
6	3~	400	50	1900	544	1.02	3505	221	2060	0.89
7	3~	400	50	1900	582	1.08	2580	442	1520	1.77
8	3~	400	50	1900	496	0.95	1490	572	880	2.30
9	3~	400	50	1550	237	0.46	3320	0	1955	0.00
10	3~	400	50	1550	295	0.56	2860	147	1680	0.59
11	3~	400	50	1550	316	0.58	2105	294	1240	1.18
12	3~	400	50	1550	269	0.52	1215	381	715	1.53
13	3~	400	50	1200	110	0.21	2570	0	1515	0.00
14	3~	400	50	1200	137	0.26	2215	88	1305	0.35
15	3~	400	50	1200	147	0.27	1630	176	960	0.71
16	3~	400	50	1200	125	0.24	945	228	555	0.92

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase