

R3G355-RS02-H5 ebmpapst Datasheet

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## Nominal data

Type	R3G355-RS02-H5	
Motor	M3G084-FA	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min <sup>-1</sup>	1850
Power consumption	W	500
Current draw	A	2.2
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

		Actual	Req. 2015			
01 Overall efficiency $\eta_{es}$	%	67.2	48.3	09 Power consumption $P_{ed}$	kW	0.5
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h	2810
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa	396
04 Efficiency grade N		80.9	62	10 Speed (rpm) n	min <sup>-1</sup>	1850
05 Variable speed drive		Yes		11 Specific ratio <sup>*</sup>		1.00

Data obtained at optimum efficiency level.

The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

<sup>\*</sup> Specific ratio =  $1 + p_{fs} / 100\,000\text{ Pa}$ 

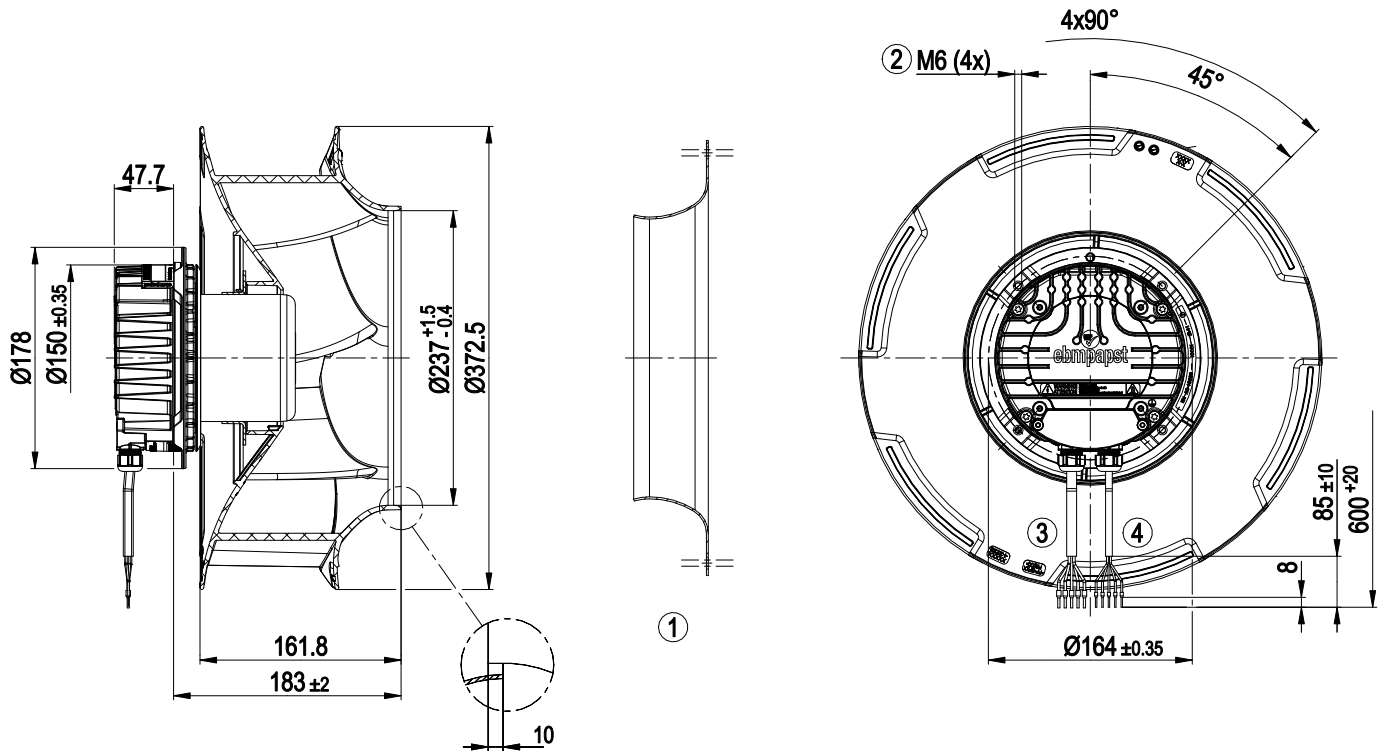
LU-182122



## Technical description

<b>Weight</b>	5.6 kg
<b>Fan size</b>	355 mm
<b>Rotor surface</b>	Painted black
<b>Electronics housing material</b>	Die-cast aluminum
<b>Impeller material</b>	PP plastic
<b>Number of blades</b>	6
<b>Direction of rotation</b>	Clockwise, viewed toward rotor
<b>Degree of protection</b>	IP55
<b>Insulation class</b>	"F"
<b>Moisture (F) / Environmental (H) protection class</b>	H1
<b>Max. permitted ambient temp. for motor (transport/storage)</b>	+80 °C
<b>Min. permitted ambient temp. for motor (transport/storage)</b>	-40 °C
<b>Installation position</b>	Shaft horizontal or rotor on bottom; rotor on top on request
<b>Condensation drainage holes</b>	On rotor side
<b>Mode</b>	S1
<b>Motor bearing</b>	Ball bearing
<b>Technical features</b>	<ul style="list-style-type: none"> <li>- Output 10 VDC, max. 10 mA</li> <li>- Operation and alarm display</li> <li>- Alarm relay</li> <li>- Integrated PID controller</li> <li>- Power limiter</li> <li>- Motor current limitation</li> <li>- PFC, active</li> <li>- RS-485 MODBUS-RTU</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Control interface with SELV potential safely disconnected from the mains</li> <li>- Thermal overload protection for electronics/motor</li> <li>- Line undervoltage / phase failure detection</li> </ul>
<b>EMC immunity to interference</b>	According to EN 61000-6-2 (industrial environment)
<b>EMC circuit feedback</b>	According to EN 61000-3-2/3
<b>EMC interference emission</b>	According to EN 61000-6-3 (household environment)
<b>Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)</b>	<= 3.5 mA
<b>Motor protection</b>	Thermal overload protector (TOP) internally connected
<b>With cable</b>	Variable
<b>Protection class</b>	I (with customer connection of protective earth)
<b>Conformity with standards</b>	EN 61800-5-1; EN 60335-1; CE
<b>Approval</b>	UL 1004-7 + 60730; C22.2 No.77 + CAN/CSA-E60730-1; EAC

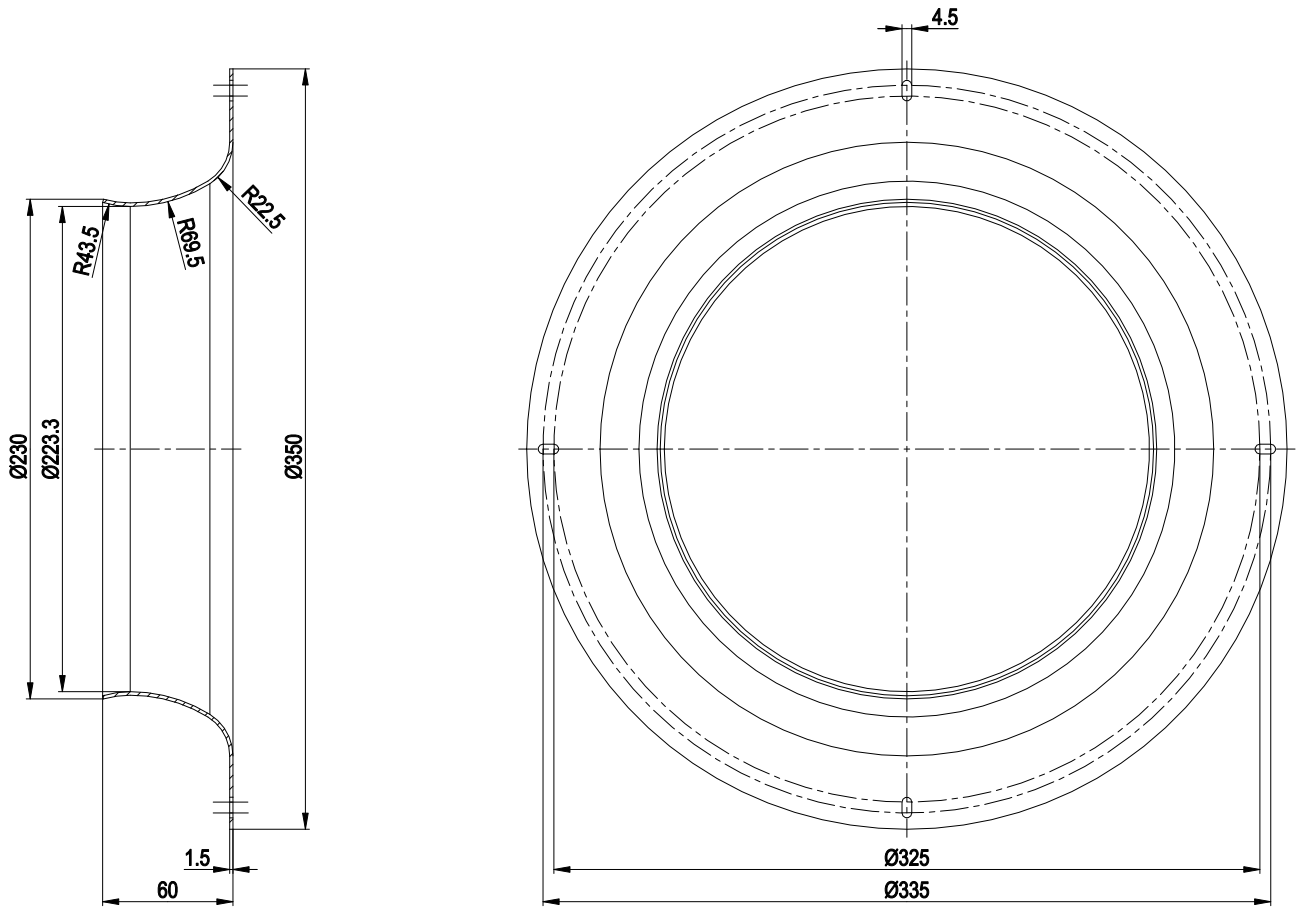
Product drawing



1	Accessory part: inlet ring 35500-2-4013 not included in scope of delivery
2	Max. clearance for screw 16 mm
3	Cable PVC AWG18, 5x crimped ferrules
4	Cable PVC AWG22, 5x crimped ferrules



## Accessory part



Inlet ring 35500-2-4013 not included in scope of delivery

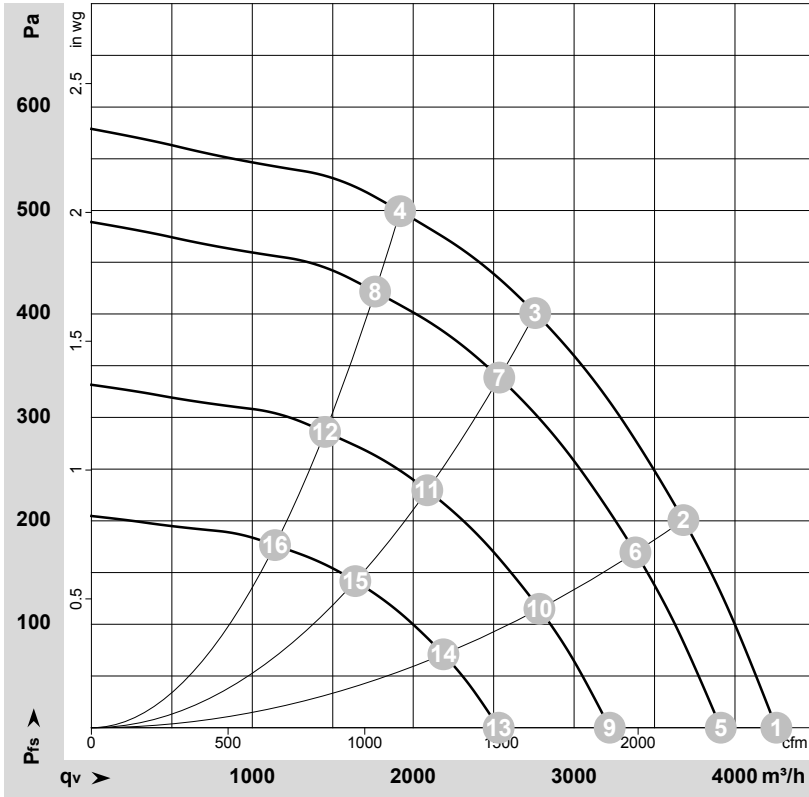
## Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Power supply, neutral conductor, 50/60 Hz
1	5	L	black	Power supply, phase, 50/60 Hz
1	6	NC	white 1	Status relay, floating status contact; break for failure, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact; common connection, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
2	8	0-10V	yellow	Analog input (set value); 0-10 V; $R_i = 100\text{ k}\Omega$ ; adjustable curve
2	10	RSB	brown	RS485 interface for MODBUS, RSB
2	11	RSA	white	RS485 interface for MODBUS, RSA
2	12	GND	blue	Reference ground for control interface, SELV
2	13	+10V	red	Fixed voltage output 10 VDC, +10 V $\pm 3\%$ ; 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-182122-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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 <sub>ed</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	q <sub>v</sub>	p <sub>fs</sub>	q <sub>v</sub>	p <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	m <sup>3</sup> /h	Pa	cfm	inH <sub>2</sub> O
1	230	50	1850	336	1.47	77	84	4255	0	2505	0.00
2	230	50	1850	452	1.97	63	70	3680	200	2165	0.80
3	230	50	1850	500	2.20	68	76	2760	400	1625	1.61
4	230	50	1850	487	2.12	67	75	1920	500	1130	2.01
5	230	50	1700	261	1.14	75	82	3910	0	2305	0.00
6	230	50	1700	351	1.53	61	68	3380	170	1990	0.68
7	230	50	1700	394	1.72	66	74	2535	339	1490	1.36
8	230	50	1700	378	1.64	65	72	1765	422	1040	1.69
9	230	50	1400	146	0.64	70	77	3220	0	1895	0.00
10	230	50	1400	196	0.85	56	63	2785	115	1640	0.46
11	230	50	1400	220	0.96	61	69	2090	230	1230	0.92
12	230	50	1400	211	0.92	60	68	1450	286	855	1.15
13	230	50	1100	71	0.31	64	71	2530	0	1490	0.00
14	230	50	1100	95	0.41	50	57	2190	71	1290	0.29
15	230	50	1100	107	0.46	55	63	1640	142	965	0.57
16	230	50	1100	102	0.45	54	61	1140	177	670	0.71

U = Power supply · f = Frequency · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
 q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

