

R3G400-BD03-H2 ebmpapst Datasheet

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Nominal data

Type	R3G400-BD03-H2	
Motor	M3G084-FA	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min ⁻¹	1610
Power consumption	W	525
Current draw	A	2.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	50

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}	%	62.3	48.5	09 Power consumption P_{ed}	kW	0.51
02 Measurement category		A		09 Air flow q_v	m ³ /h	2800
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	375
04 Efficiency grade N		75.8	62	10 Speed (rpm) n	min ⁻¹	1610
05 Variable speed drive		Yes		11 Specific ratio [*]		1.00

Data obtained at optimum efficiency level.

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

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

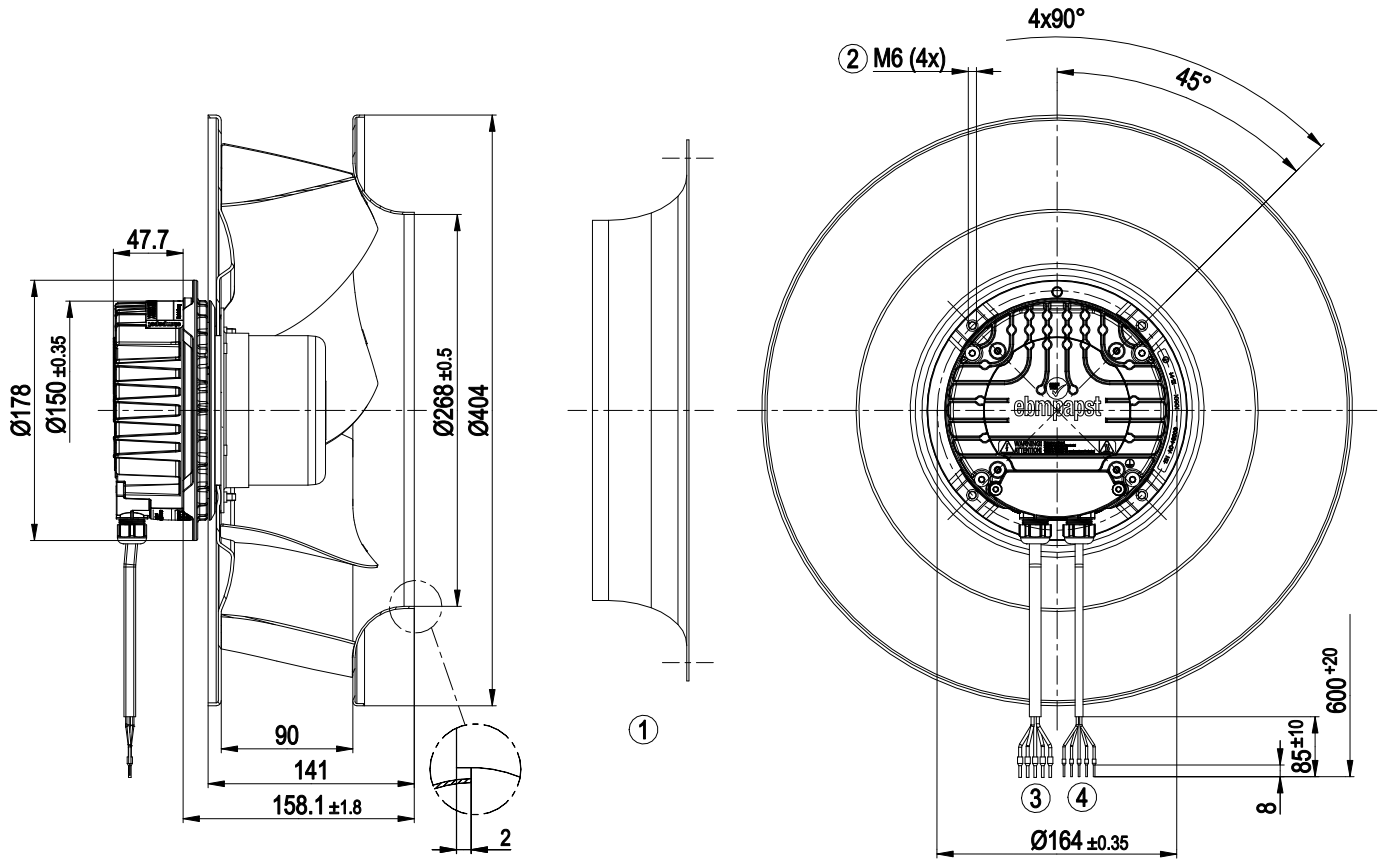
LU-158682



Technical description

Weight	0.001 kg
Size	400 mm
Motor size	84
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	IP55
Insulation class	"F"
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	<ul style="list-style-type: none"> - 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 the mains - 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
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; EN 60335-1; CE
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730

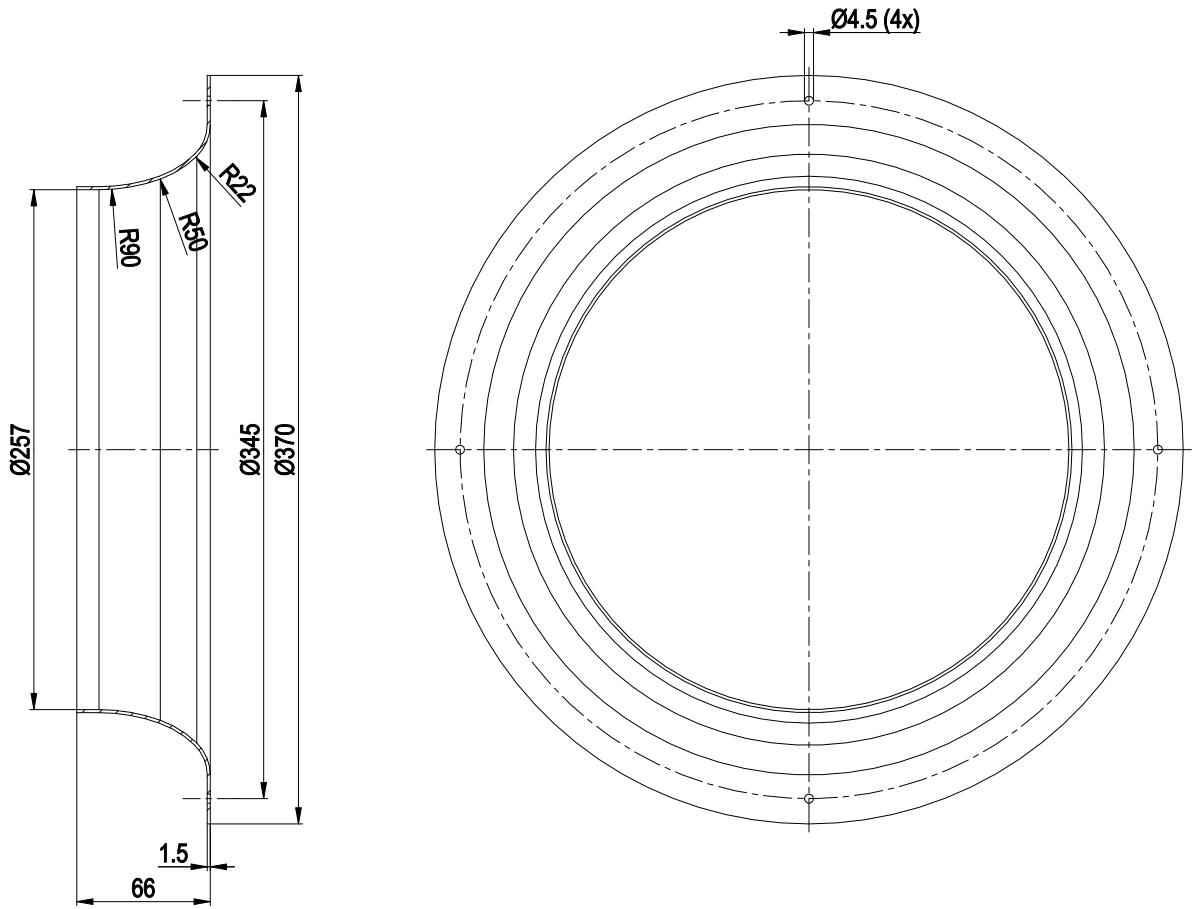
Product drawing



1	Accessory part: Inlet ring 54476-2-4013 not included in scope of delivery.
2	Max. clearance for screw 16 mm
3	Cable PVC AWG18 5x wire-end ferrule
4	Cable PVC AWG22 5x wire-end ferrule



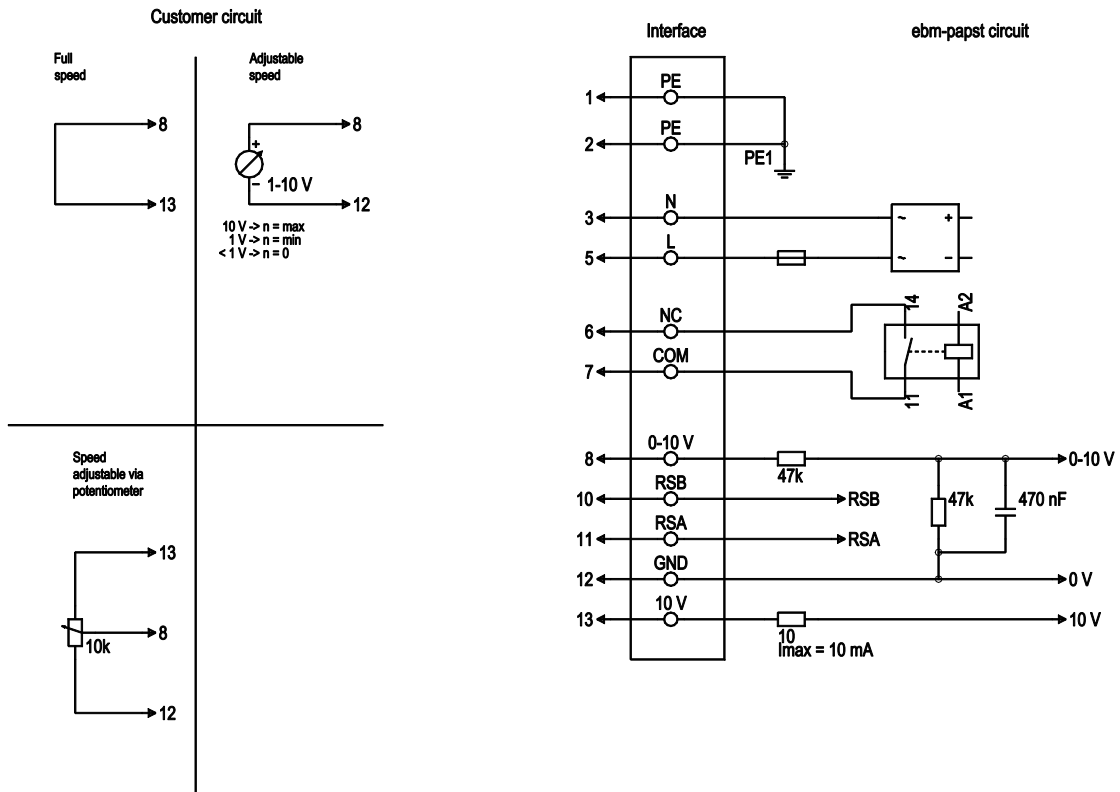
Accessory part



Inlet ring 54476-2-4013 not included in scope of delivery



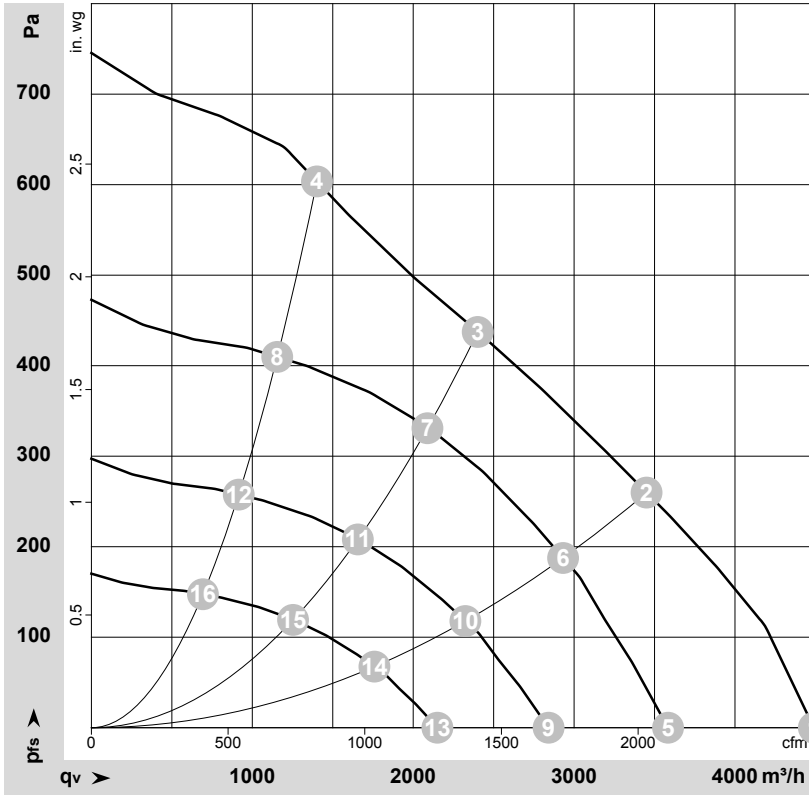
Connection diagram



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; Ri = 100 kΩ; 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 ±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-158682-1

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

	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	1~	230	50	1755	465	2.03	76	84	4490	0	2645	0.00
2	1~	230	50	1650	515	2.26	67	75	3450	260	2030	1.04
3	1~	230	50	1605	525	2.29	65	73	2400	438	1415	1.76
4	1~	230	50	1700	515	2.26	72	80	1400	604	825	2.42
5	1~	230	50	1400	235	1.03	71	79	3585	0	2110	0.00
6	1~	230	50	1400	315	1.38	64	72	2930	188	1725	0.75
7	1~	230	50	1400	345	1.51	61	69	2090	332	1230	1.33
8	1~	230	50	1400	290	1.27	68	76	1155	410	680	1.65
9	1~	230	50	1110	117	0.51	65	73	2840	0	1670	0.00
10	1~	230	50	1110	158	0.69	58	66	2325	118	1370	0.47
11	1~	230	50	1110	172	0.75	55	63	1655	209	975	0.84
12	1~	230	50	1110	145	0.63	63	70	915	258	540	1.04
13	1~	230	50	840	51	0.22	58	66	2150	0	1265	0.00
14	1~	230	50	840	68	0.30	51	59	1760	68	1035	0.27
15	1~	230	50	840	75	0.33	48	56	1250	120	735	0.48
16	1~	230	50	840	63	0.27	56	63	695	147	410	0.59

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

