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General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	R3G400-RJ75-01	
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	2060
Power consumption	W	1320
Current draw	A	2.1
Min. ambient temperature	°C	-40
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 (EN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	62.9	52.8	09 Power consumption P_{ed}	kW	1.32
02 Measurement category		A		09 Air flow q_v	m ³ /h	4090
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	676
04 Efficiency grade N		72.1	62	10 Speed (rpm) n	min ⁻¹	2065
05 Variable speed drive		Yes		11 Specific ratio*		1.01

Data obtained at optimum efficiency level.

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

LU-152014

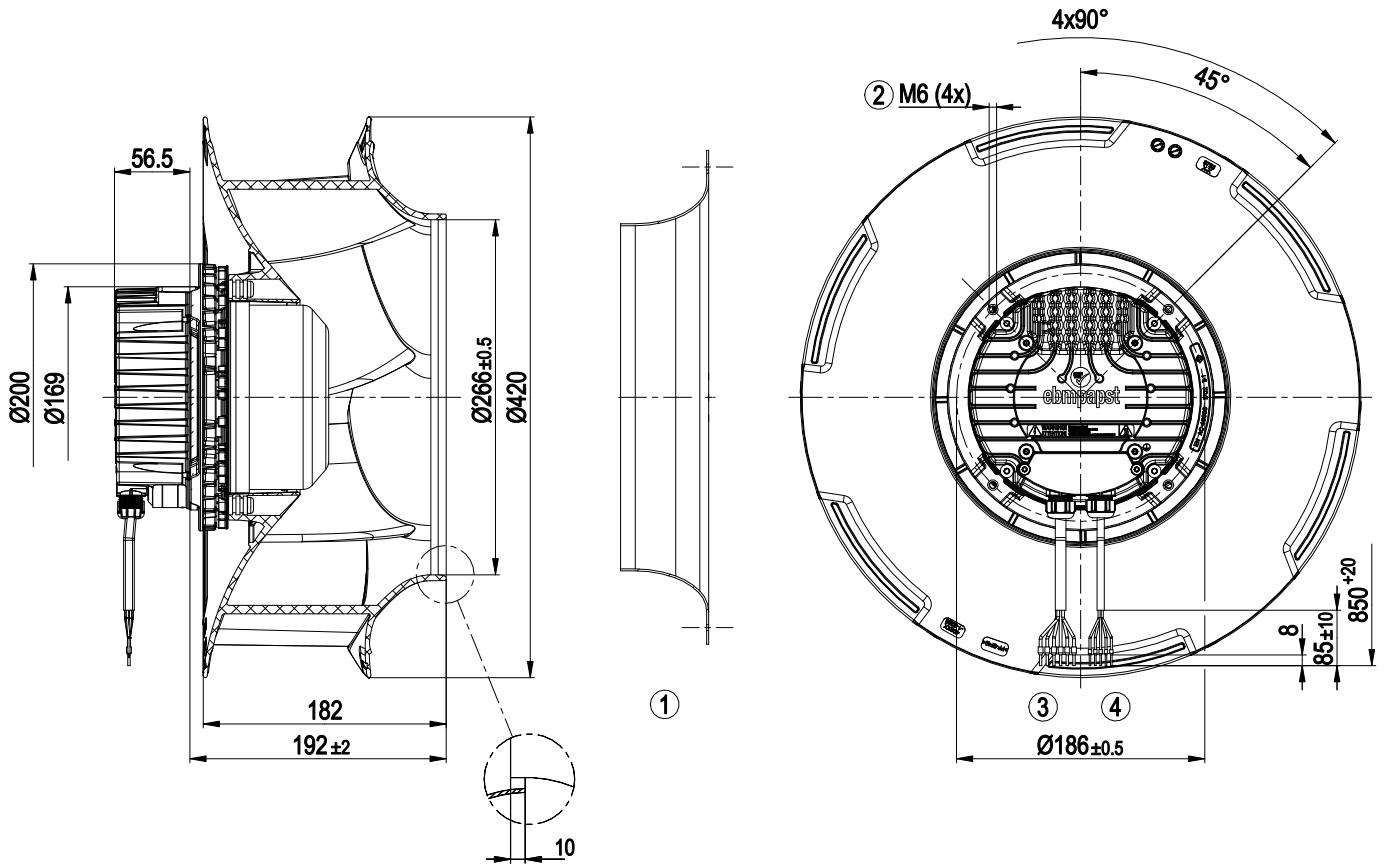
The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings). The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst 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).



Technical description

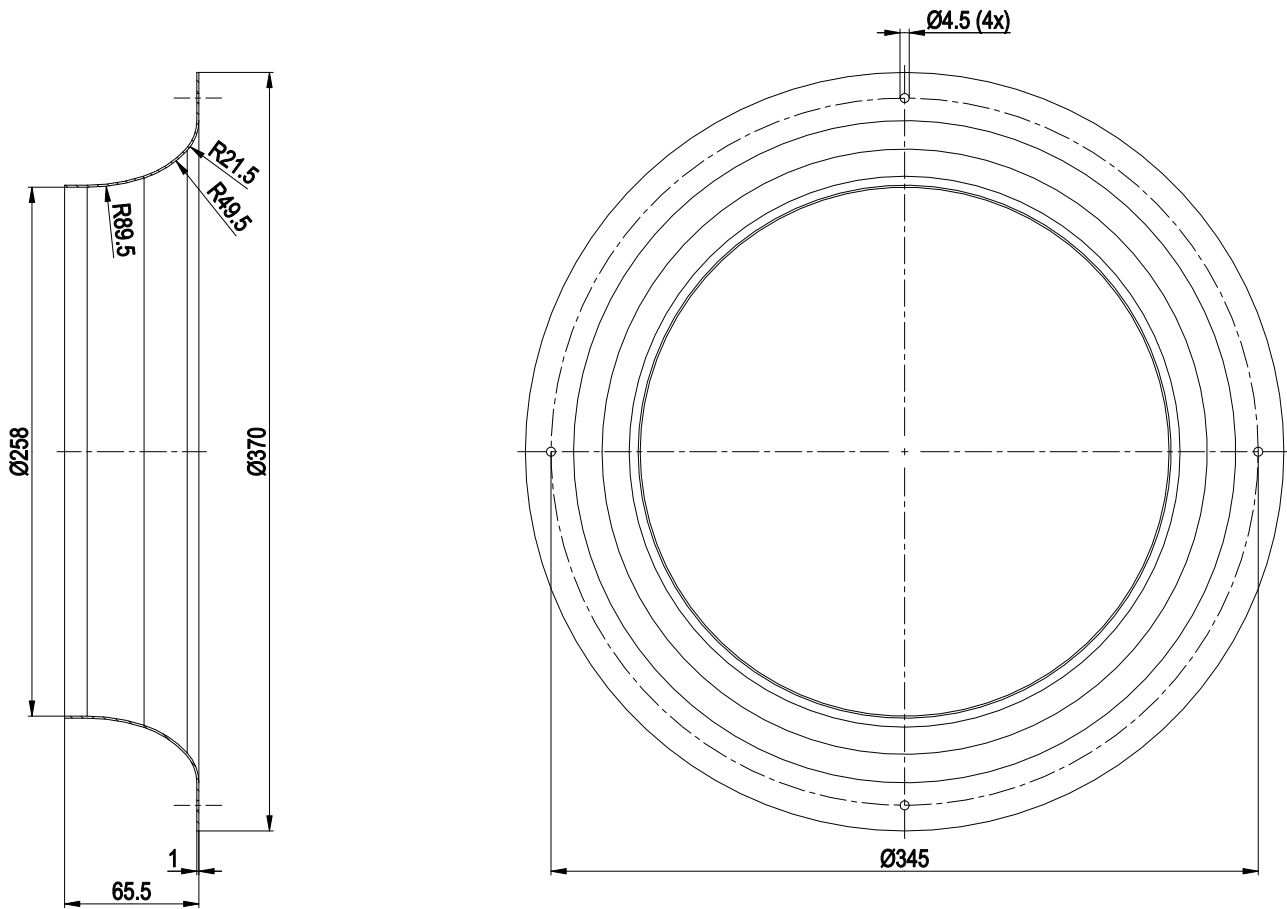
Weight	8.7 kg
Size	400 mm
Motor size	112
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
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 - Operation and alarm display - External 24 V input (parameter setting) - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - 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 interference emission	According to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
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	UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

Product drawing



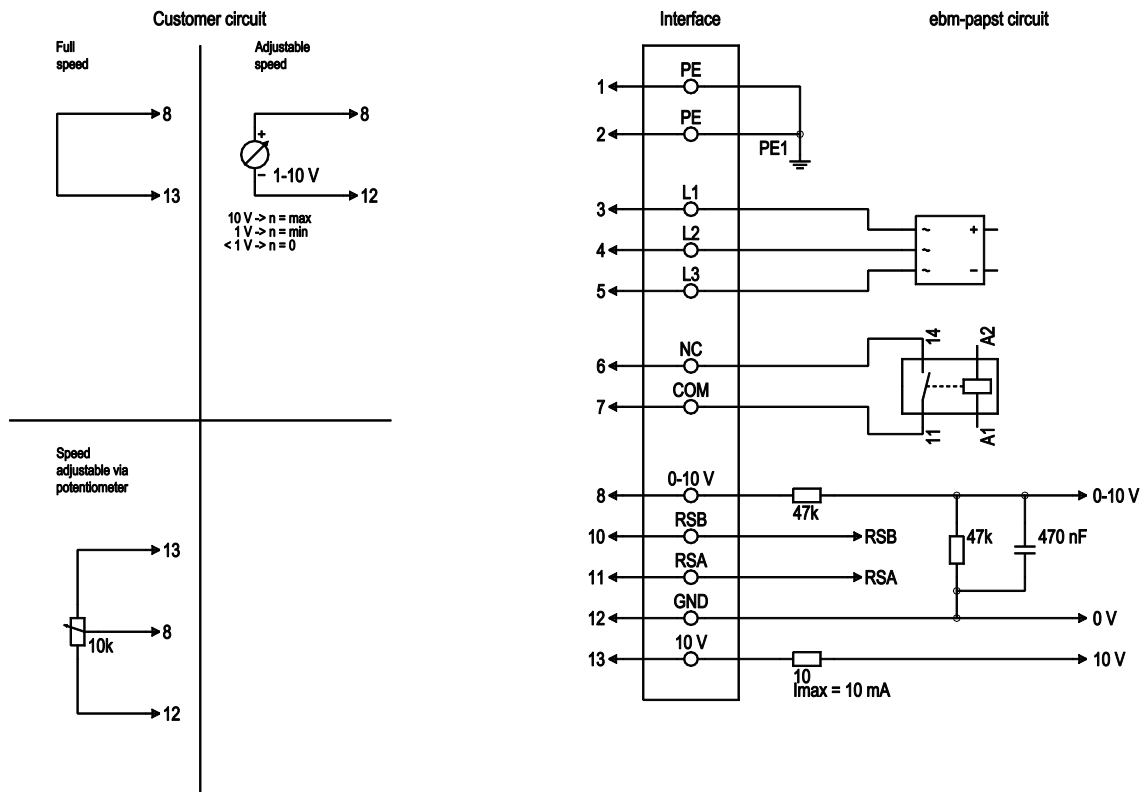
1	Accessory part: Inlet ring 54476-2-4013 not included in scope of delivery.
2	Max. clearance for screw 16 mm
3	Cable PVC AWG18 6x wire-end ferrule
4	Cable PVC AWG22 5x wire-end ferrule

Accessory part



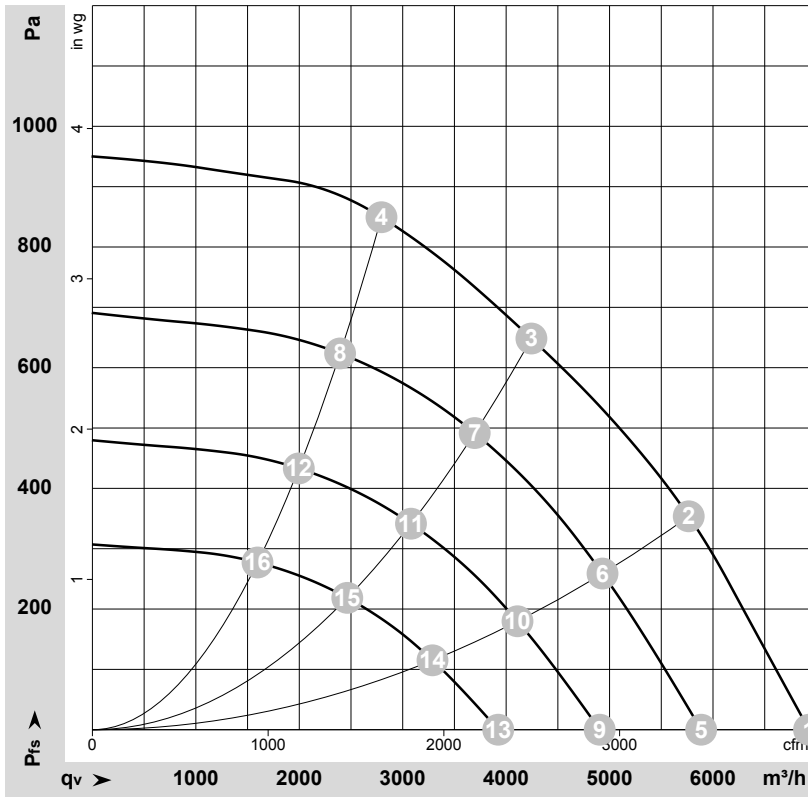
Inlet ring 54476-2-4013

Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	L1	black	Power supply
1	4	L2	black	Power supply
1	5	L3	black	Power supply
1	6	NC	white 1	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic insulation on control interface side
2	8	0-10V	yellow	Analog input (set value), 0-10 V, R _i = 100 kΩ, adjustable curve, SELV
2	10	RSB	brown	RS485 interface for MODBUS, RSB; SELV
2	11	RSA	white	RS485 interface for MODBUS, RSA; SELV
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), SELV fixed voltage input 24 VDC for setting parameters via MODBUS without line voltage supply

Curves: Air performance 50 Hz



$$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-152014-1

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

	U	f	n	P _{ed}	I	LpA _{in}	LwA _{in}	LwA _{out}	q _V	P _{fs}	q _V	P _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m ³ /h	Pa	cfm	in. wg
1	400	50	2100	965	1.56	84	89	92	6930	0	4080	0.00
2	400	50	2100	1245	2.00	75	82	88	5765	360	3395	1.45
3	400	50	2060	1320	2.10	68	75	81	4245	650	2500	2.61
4	400	50	2100	1285	2.06	71	78	83	2795	850	1645	3.41
5	400	50	1800	592	0.96	80	85	88	5885	0	3465	0.00
6	400	50	1800	775	1.24	71	78	84	4930	261	2905	1.05
7	400	50	1800	875	1.41	64	71	78	3695	494	2175	1.98
8	400	50	1800	809	1.30	67	74	79	2395	624	1410	2.51
9	400	50	1500	342	0.55	75	80	83	4905	0	2885	0.00
10	400	50	1500	448	0.72	67	73	79	4110	182	2420	0.73
11	400	50	1500	506	0.81	60	67	73	3080	343	1815	1.38
12	400	50	1500	468	0.75	63	70	74	1995	433	1175	1.74
13	400	50	1200	175	0.28	70	75	77	3925	0	2310	0.00
14	400	50	1200	230	0.37	61	67	73	3290	116	1935	0.47
15	400	50	1200	259	0.42	54	61	68	2465	219	1450	0.88
16	400	50	1200	240	0.38	57	64	69	1595	277	940	1.11

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
 LwA_{out} = Sound power level outlet side · q_V = Air flow · P_{fs} = Pressure increase

