R3G280-AA52-01

EC centrifugal fan

backward curved, single inlet

ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G280-AA52-01**
Motor	**M3G074-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		fa
Speed	min^{-1}	2000
Power input	W	145
Current draw	A	1.1
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	48.9	39.4	43.4
Efficiency grade N		67.5	58	62
Power input P_{ed}	kW	0.17		
Air flow q_v	m^3/h	1205		
Pressure increase p_{fs}	Pa	219		
Speed n	min^{-1}	1785		

Data definition with optimum efficiency. LU-72157
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

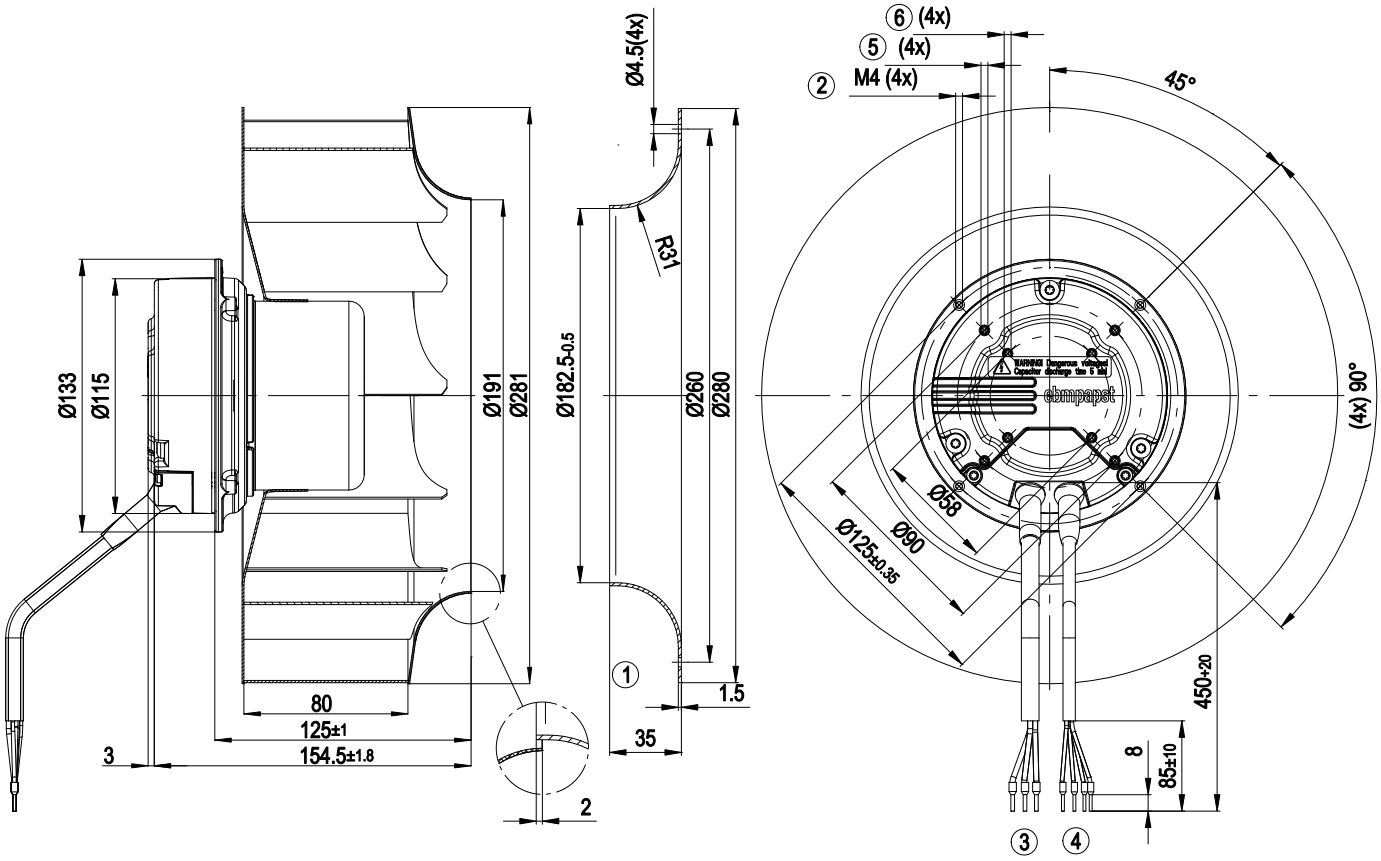
Mass	3.35 kg
Size	280 mm
Surface of rotor	Galvanised
Material of electronics housing	Die-cast aluminium
Material of impeller	Sheet steel, galvanised
Number of blades	11
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 44
Insulation class	"B"
Humidity class	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Any
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Tach output - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Over-temperature protected electronics / motor
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC harmonics	Acc. to EN 61000-3-2/3
EMC interference emission	Acc. to EN 61000-6-3 (household environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1; EN 61800-5-1; EN 60950-1
Approval	CCC; CSA C22.2 Nr.77; UL 2111

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Product drawing



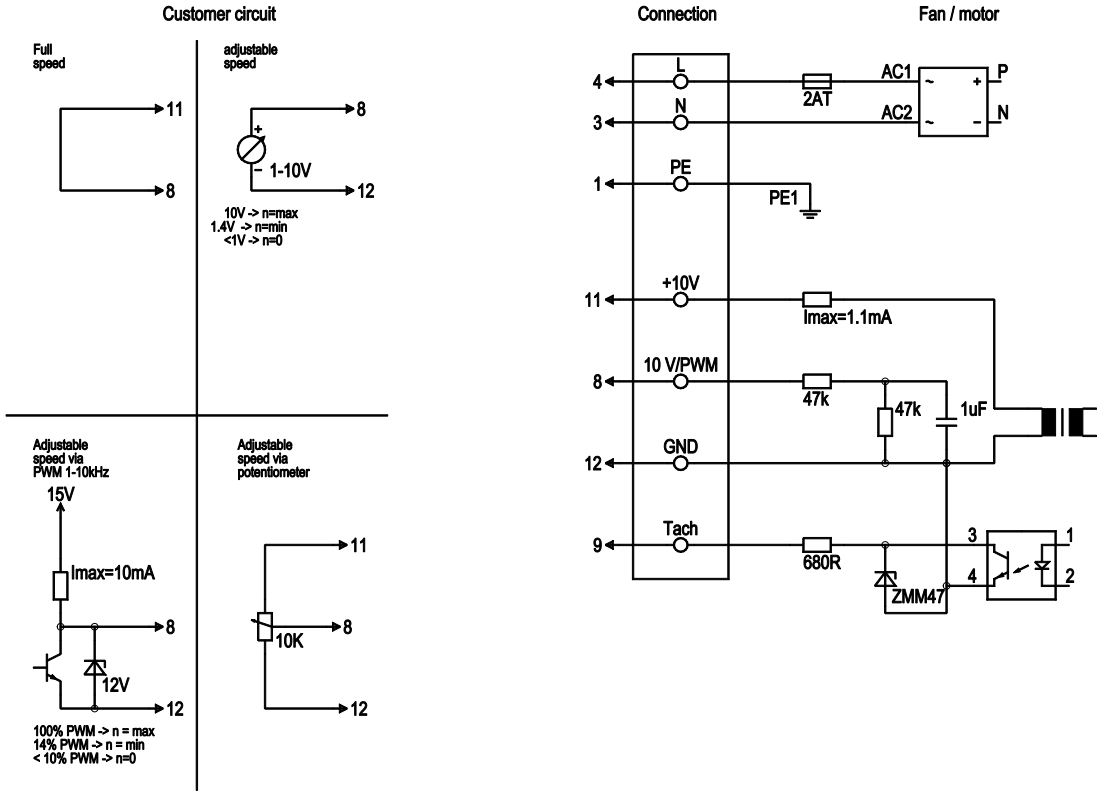
1	Accessory part: inlet nozzle 96360-2-4013 not included in the standard scope of delivery; other inlet nozzles on request
2	Depth of screw 8-10 mm
3	Connection line AWG18, 3 x crimped core-end sleeves
4	Connection line AWG22, 4 x crimped core-end sleeves
5	Pilot hole prepared for self-tapping screw M4, depth of screw max. 6 mm
6	Pilot hole prepared for self-tapping screw M4, depth of screw max. 6 mm

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Connection screen



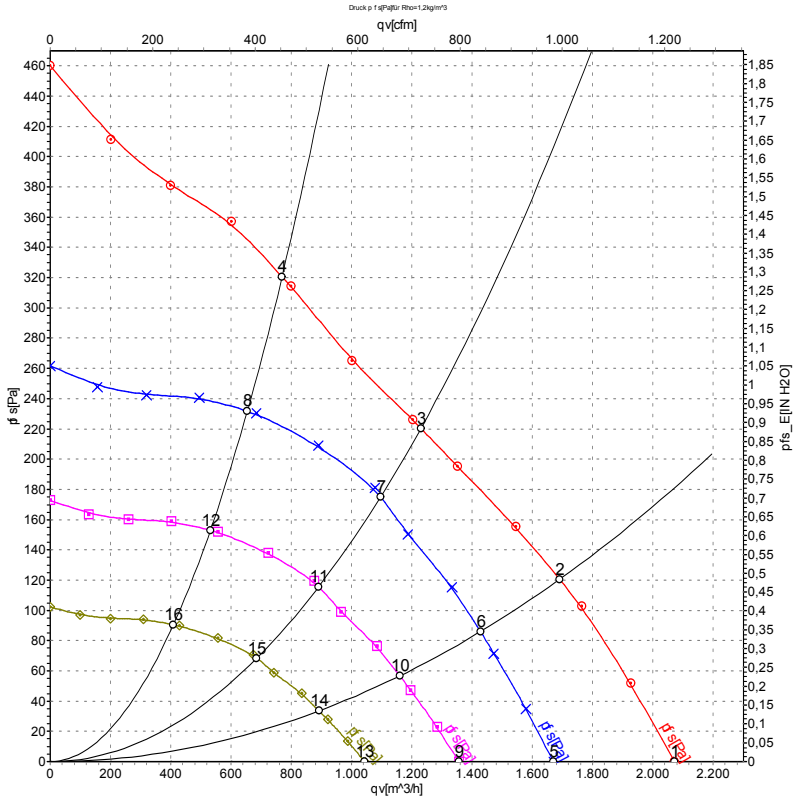
No.	Conn.	Designation	Colour	Function / assignment
	4	L	black	Power supply 230 VAC, 50-60 Hz, see type plate for voltage range
	3	N	blue	Neutral conductor
	1	PE	green/yellow	Protective earth
	8	0-10 V PWM	yellow	Control input 0 - 10 V or PWM, electrically isolated
	9	Tach	white	Tach output: open collector, 1 pulse per revolution, electrically isolated
	11	10V / max 1.1 mA	red	Voltage output 10 V / max. 1.1 mA, electrically isolated
	12	GND	blue	GND - Connection for control interface

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Charts: Air flow 50 Hz



Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	U	f	n	P_{ed}	I	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa
1	230	50	2000	145	1.10	2070	0
2	230	50	1895	168	1.22	1690	120
3	230	50	1795	170	1.25	1230	220
4	230	50	1880	165	1.21	770	320
5	230	50	1600	75	0.55	1670	0
6	230	50	1600	101	0.74	1425	86
7	230	50	1600	121	0.89	1095	176
8	230	50	1600	101	0.74	655	232
9	230	50	1300	40	0.30	1355	0
10	230	50	1300	54	0.40	1160	57
11	230	50	1300	65	0.48	890	116
12	230	50	1300	54	0.40	530	153
13	230	50	1000	18	0.13	1045	0
14	230	50	1000	25	0.18	890	34
15	230	50	1000	30	0.22	685	69
16	230	50	1000	25	0.18	410	91

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Power input · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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