R3G280-RNB1-10

EC centrifugal fan

backward curved, single inlet

R3G280-RNB1-10 ebmpapst Datasheet
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County court Stuttgart · HRA 590344

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County court Stuttgart · HRB 590142

Nominal data

Type	**R3G280-RNB1-10**	
Motor	**M3G074-CF**	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Type of data definition		fa
Speed (rpm)	min^{-1}	1910
Power input	W	140
Current draw	A	2.9
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

		Actual	Request 2015
01 Overall efficiency η_{es}	%	67.1	43.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		86	62
05 Variable speed drive		Yes	

09 Power input P_e	kW	0.16
09 Air flow q_v	m^3/h	1205
09 Pressure increase p_{fs}	Pa	287
10 Speed (rpm) n	min^{-1}	1830
11 Specific ratio*		1.00

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

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

LU-155541

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Technical features

Mass	2.4 kg
Size	280 mm
Surface of rotor	Coated in black
Material of impeller	PP plastic
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 44; Depending on installation and position
Insulation class	"B"
Humidity (F)/environmental protection class (H)	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	- Tach output - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Overvoltage detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 55022 (Class B, household environment)
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Variable
Product conforming to standard	EN 60950-1
Approval	CCC

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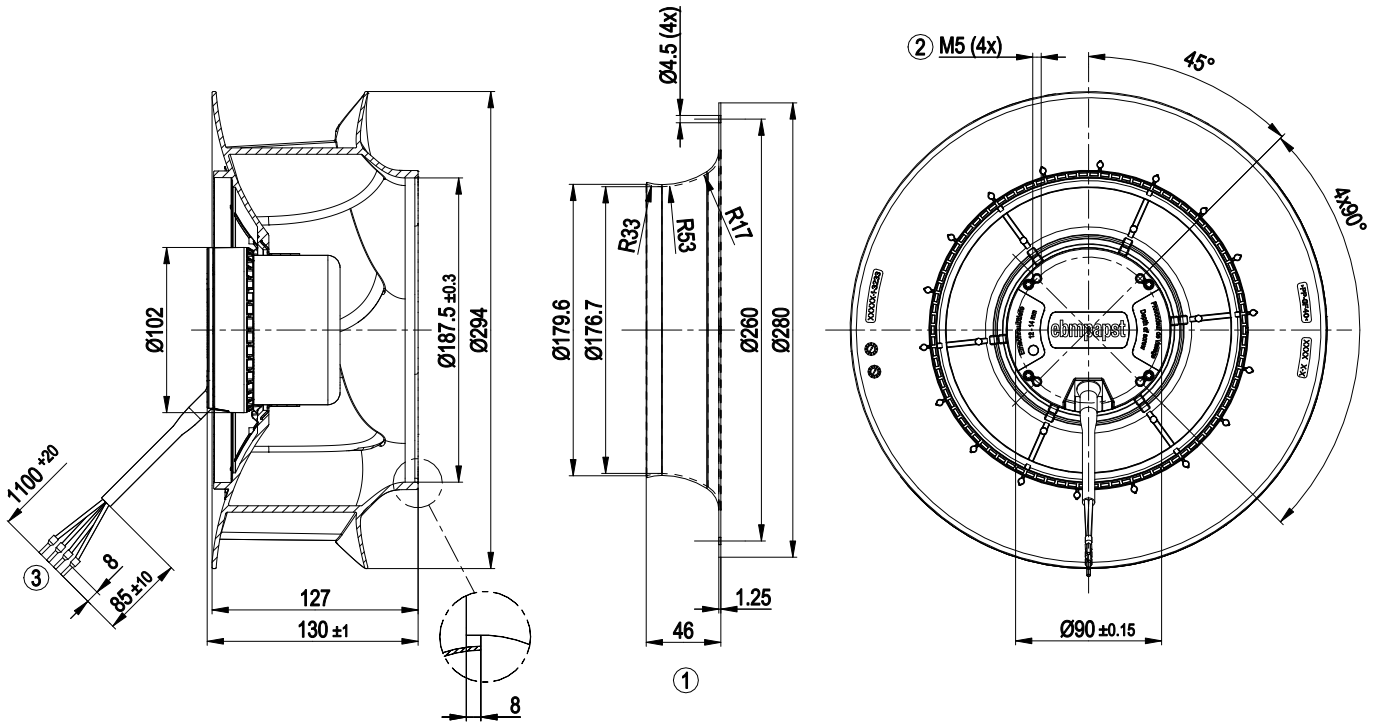
Product drawing



1	Accessory part: Inlet nozzle 28000-2-4013 not included in scope of delivery
2	Depth of screw max. 14 mm
3	Connection line PVC AWG16, 4x crimped core-end sleeves

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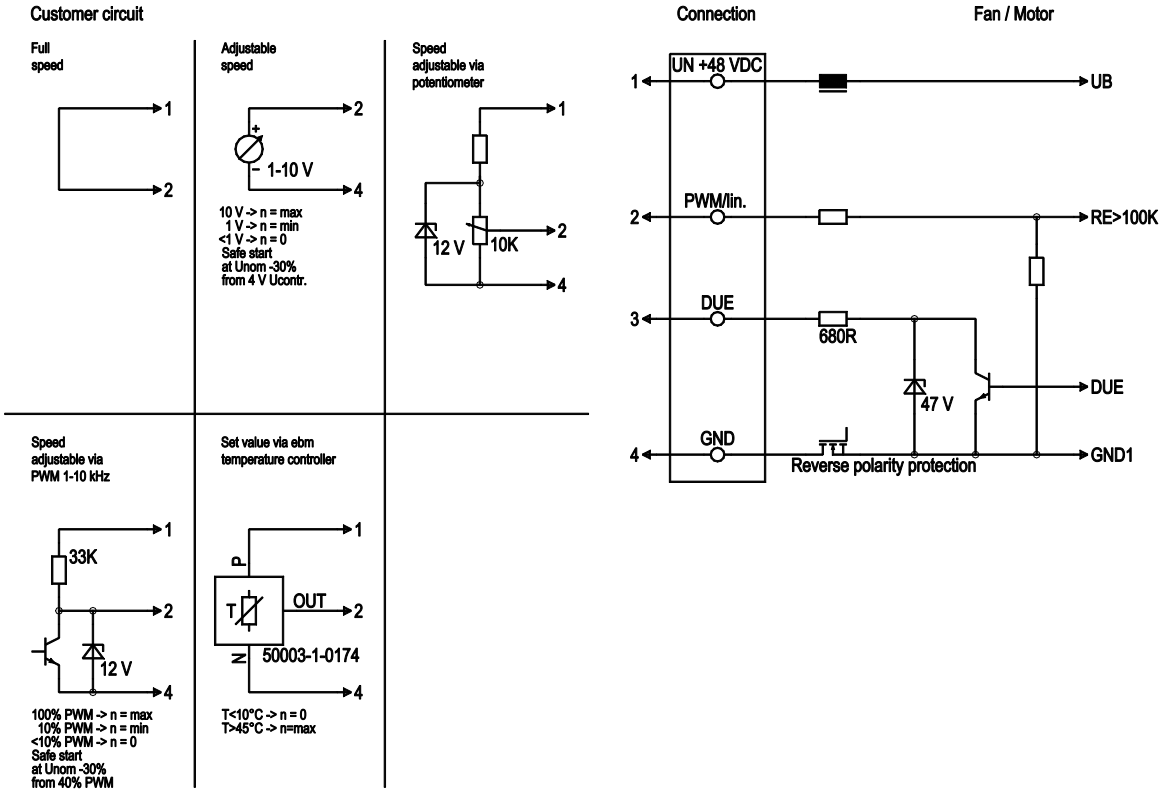
Connection screen



No.	Conn.	Designation	Colour	Function / assignment
	1	Un +48 VDC	red	Power supply 48 VDC, residual ripple 3.5 %
	2	0-10 VDC	yellow	Control input Re>100 K
	3	Tach	white	Speed monitoring output, 3 pulses per revolution, Isink max = 10 mA
	4	GND	blue	Reference mass

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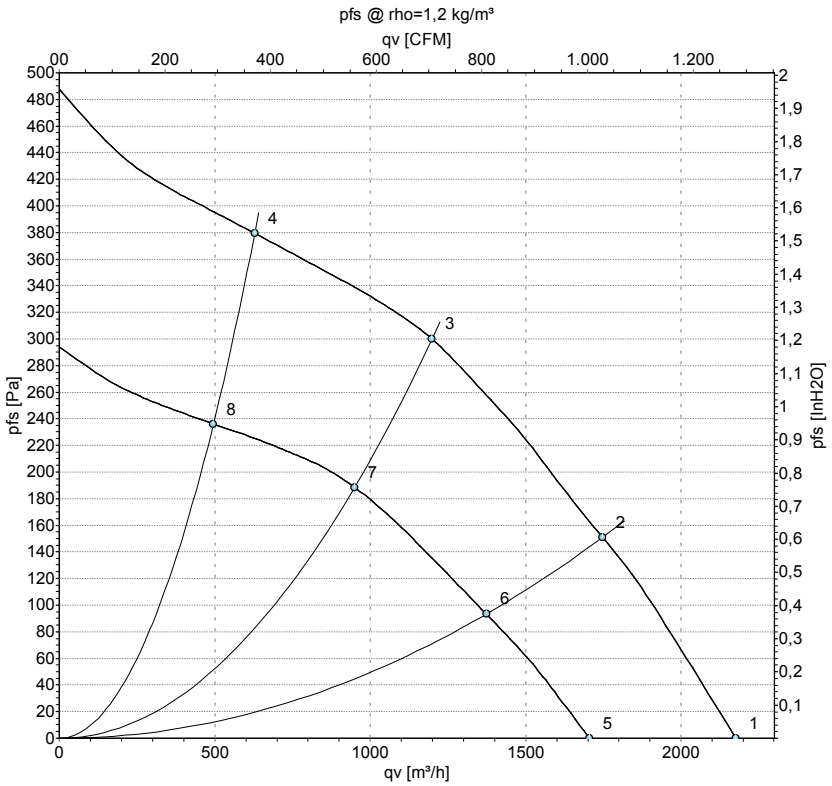
Charts: Air flow



Measurement: LU-155541-1
Measurement: LU-155543-1

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	n	P_{ed}	I	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	dB(A)	m^3/h	Pa	cfm	inH2O
1	48-57	1910	140		74	2175	0	1280	0.00
2	48-57	1845	158		67	1745	150	1030	0.60
3	48-57	1830	163		64	1200	300	705	1.20
4	48-57	1900	141		68	630	380	370	1.53
5	36	1505	69	1.92		1705	0	1005	0.00
6	36	1475	79	2.19		1375	93	810	0.37
7	36	1460	82	2.30		950	189	560	0.76
8	36	1505	70	1.94		495	236	290	0.95

U = Supply voltage · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LwA_{in} = Sound power level inlet side · q_V = Air flow · p_{fs} = Pressure increase