EC centrifugal fan - RadiCal

backward-curved, single-intake

R3G280-RU65-84 ebmpapst Datasheet FansCo

sales@fansco.com

www.fansco.com

Nominal data

Type	**R3G280-RU65-84**
Motor	**M3G084-CF**

Nominal voltage	VDC	26
Nominal voltage range	VDC	16 .. 32
Method of obtaining data		fa
Speed (rpm)	min^{-1}	2830
Power consumption	W	460
Current draw	A	18.0
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	70

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}	%	60.3	49.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		72.8	62
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.65
09 Air flow q_v	m^3/h	2005
09 Pressure increase p_{fs}	Pa	643
10 Speed (rpm) n	min^{-1}	2810
11 Specific ratio*		1.01

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 Pa

LU-175089

ebmpapst

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Technical description

Weight	3.14 kg
Size	280 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PA plastic, sheet-metal plate painted black
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	Motor IP24 KM, electronics IP6K9K (mating connector installed)
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H3
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
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Fault output (open collector) - Run monitoring - Load dump (58 V) - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Temperature derating - Overvoltage detection - Thermal overload protection for electronics - Line undervoltage detection - Reverse polarity protection
Electrical hookup	Standby current less than 500 µA
With cable	Lateral
Protection class	III
Conformity with standards	EN 15085-1+A1:2013, CPC3; EN 45545-2:2020, HL3; EN 50155:2017; EN 61373:2010, Cat.1B; CE
Approval	EAC

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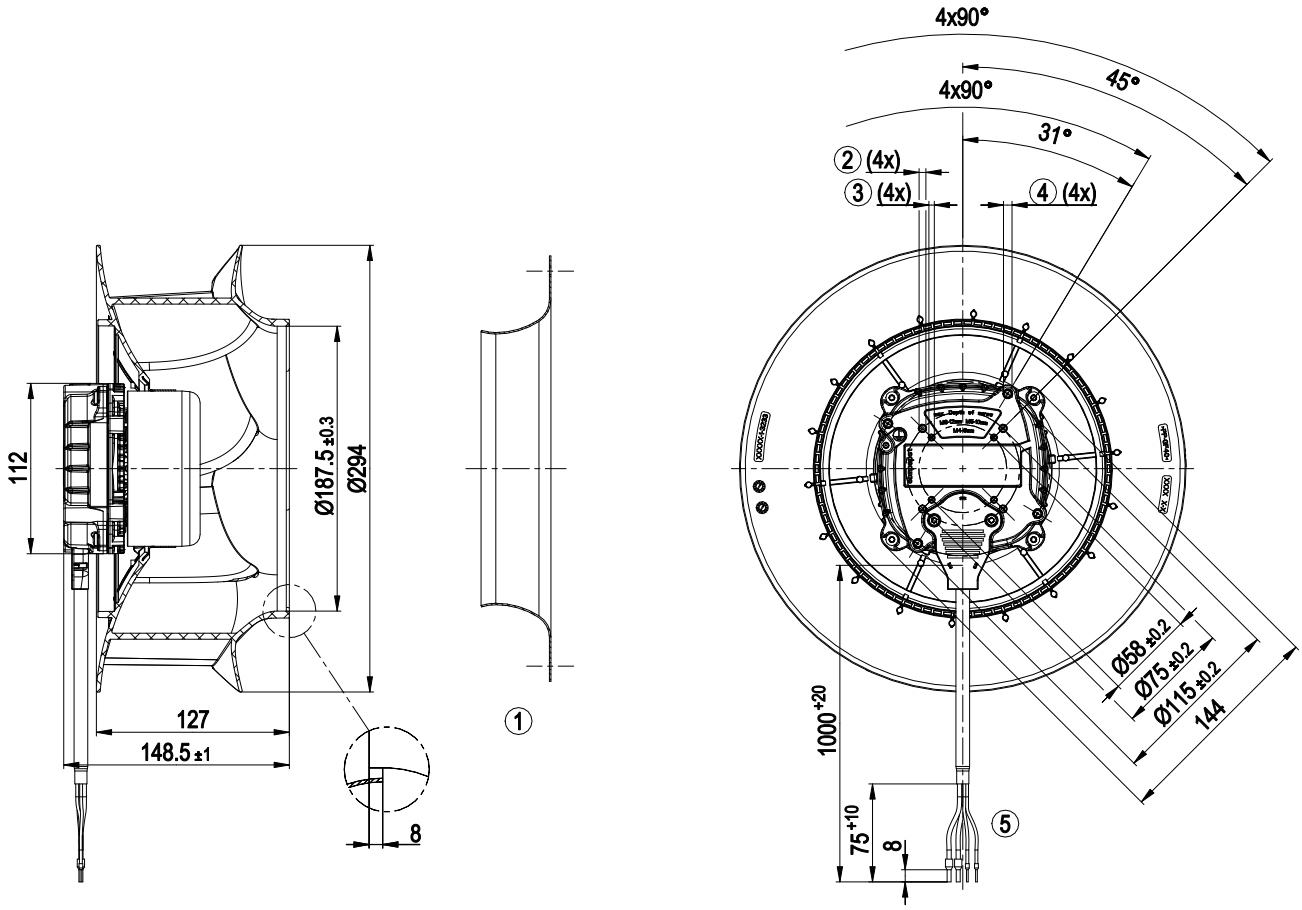
Product drawing



1	Accessory part: inlet ring 28000-2-4013 not included in scope of delivery
2	Tapping hole prepared for self-tapping M5 screw, max. screw-in depth 10 mm
3	Tapping hole prepared for self-tapping M4 screw, max. screw-in depth 8 mm
4	Tapping hole prepared for self-tapping M6 screw, max. screw-in depth 12 mm
5	Cable, halogen-free, railway application EN 45545, 2x 6.0 mm², 2x 1.0 mm²
	4x wire-end ferrule

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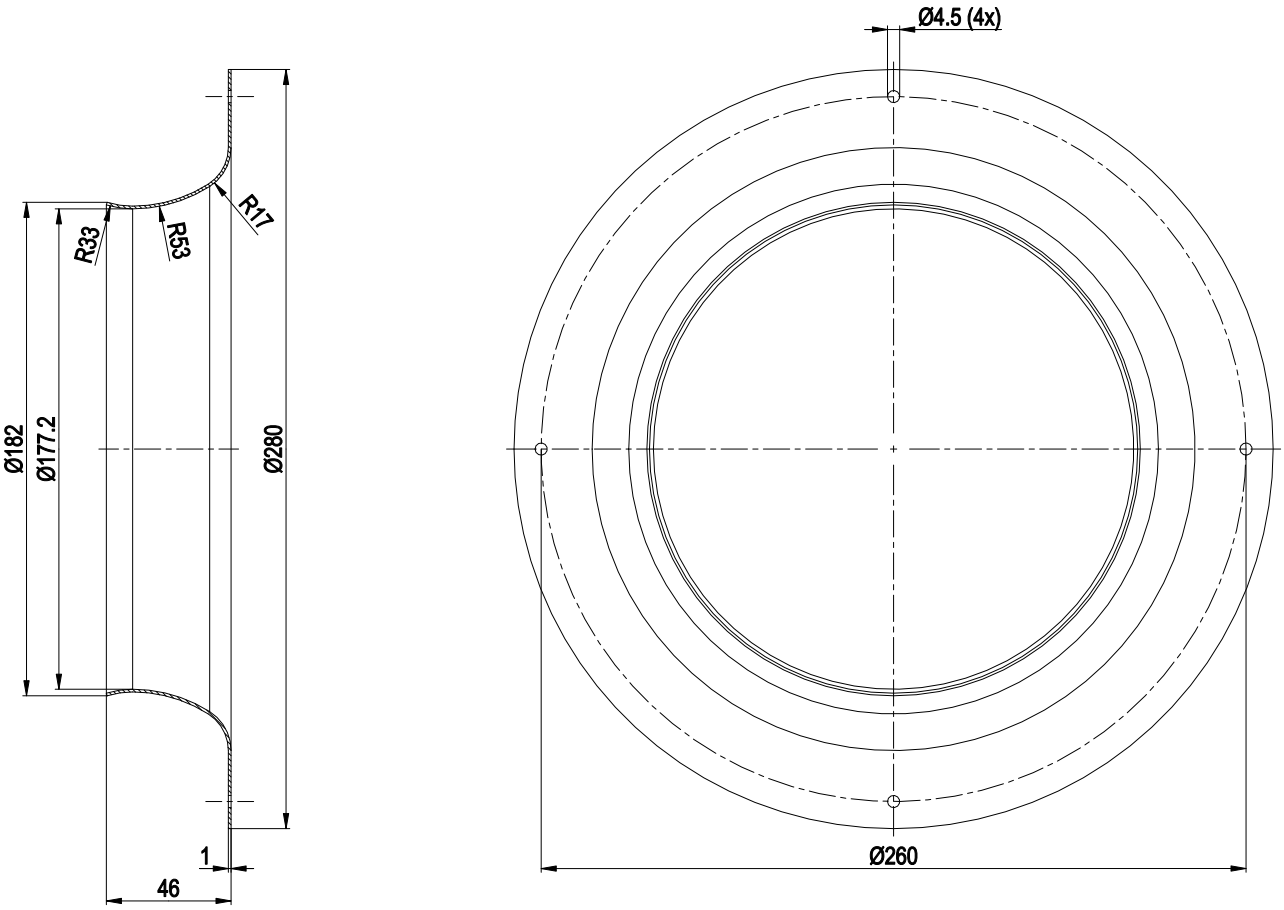
Accessory part



Inlet ring 28000-2-4013

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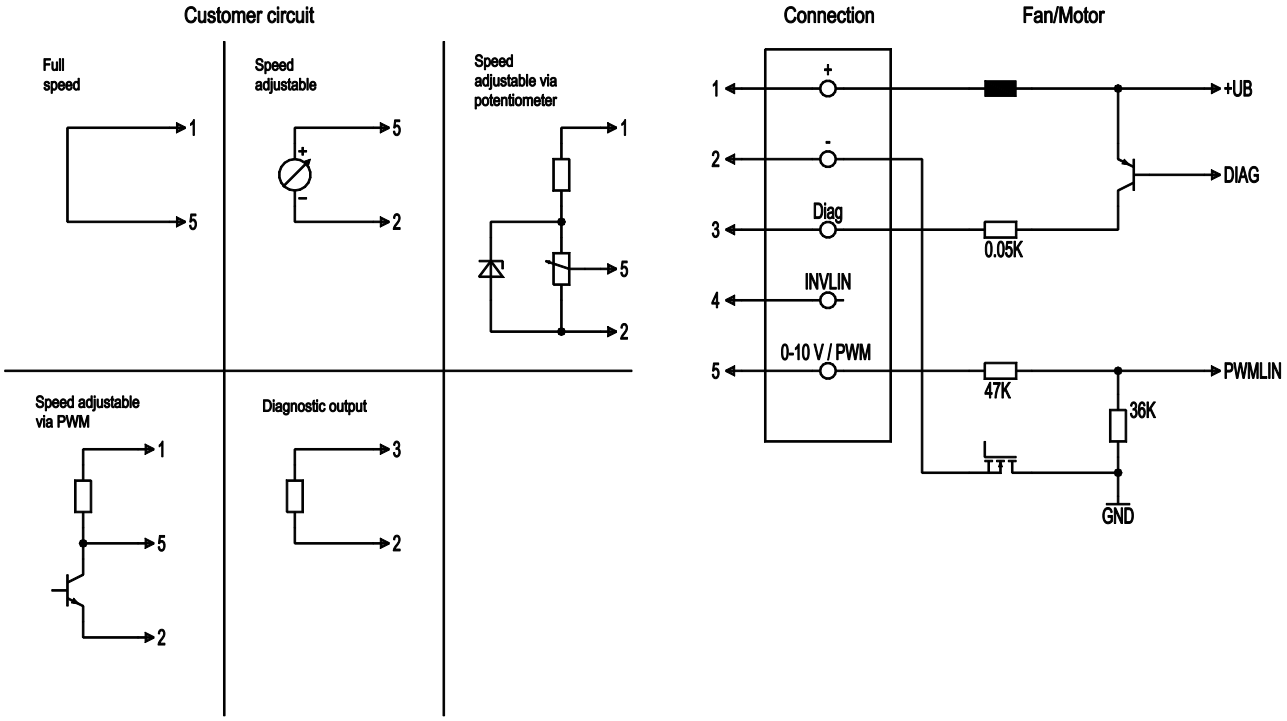
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	1	+	black	Power supply, see nameplate for voltage range
	2	-	brown	Power supply, see nameplate for voltage range
	3	DIAG	white	Diagnostic output: Open collector, Isink max = 10 mA, Ri > 50 Ω Fan OK -> High; Fan Error -> Low
	4	INVLIN		not used
	5	0-10 V / PWM	yellow	Control input: Ri > 47 kΩ 0-10 V (typ. < 1 V -> n=0; 1.5 V -> n=min; > 10 V -> n=max) PWM (amplitude 10 V; 1-50 kHz; typ. < 5 % -> n=0; 15% -> n=min; > 100% -> n=max)

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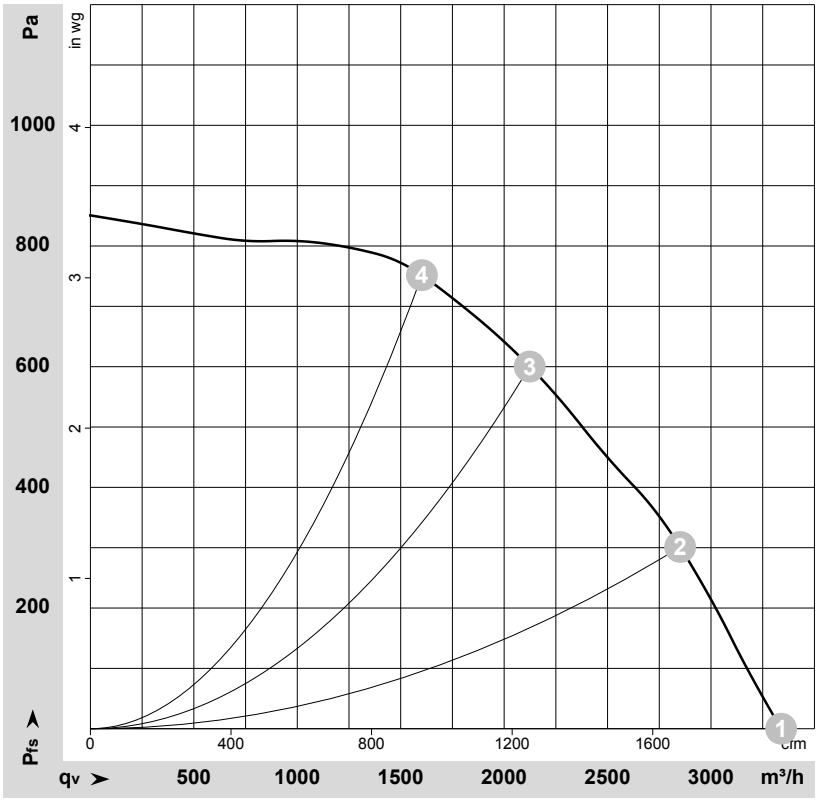
Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-175089-1

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	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	26	2830	460	18.00	78	85	3340	0	1965	0.00
2	26	2810	584	22.41	74	81	2850	300	1680	1.20
3	26	2810	645	24.77	70	77	2125	600	1250	2.41
4	26	2835	623	23.89	70	77	1605	750	945	3.01

U = Voltage · 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