EC centrifugal fan - RadiCal

backward-curved, single-intake

for rail applications

R3G310-RU26-81 ebmpapst Datasheet
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Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**R3G310-RU26-81**	
Motor	**M3G084-CF**	
Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 32
Method of obtaining data		fa
Status		prelim.
Speed (rpm)	min^{-1}	2550
Power consumption	W	470
Current draw	A	19.5

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	60.1	48.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		73.2	62
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.57
09 Air flow q_v	m^3/h	2405
09 Pressure increase p_{fs}	Pa	472
10 Speed (rpm) n	min^{-1}	2380
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-179416

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Technical description

Weight	3 kg
Fan size	310 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PA plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP24 KM; (motor); electronics IP 66/69 K
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 top; rotor on bottom on request
Condensation drainage holes	None
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	-Start at 85 °C (2 min) permitted - Fault output (high-side switch max. 30 mA) - Load dump (58 V) - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Standstill on cable break - Temperature derating - Overvoltage detection - Thermal overload protection for electronics - Line undervoltage detection
Electrical hookup	Standby current less than 500 µA
Motor protection	Reverse polarity and locked-rotor protection
With cable	Lateral
Protection class	III
Conformity with standards	EN 15085-1, CPC3: 2013; EN 45545-2, HL3: 2013; EN 50155: 2008; EN 61373, Cat. 1B: 2010; EN 50121-3-2: 2006
Comment	EN 50121-3-2: 2015 in preparation

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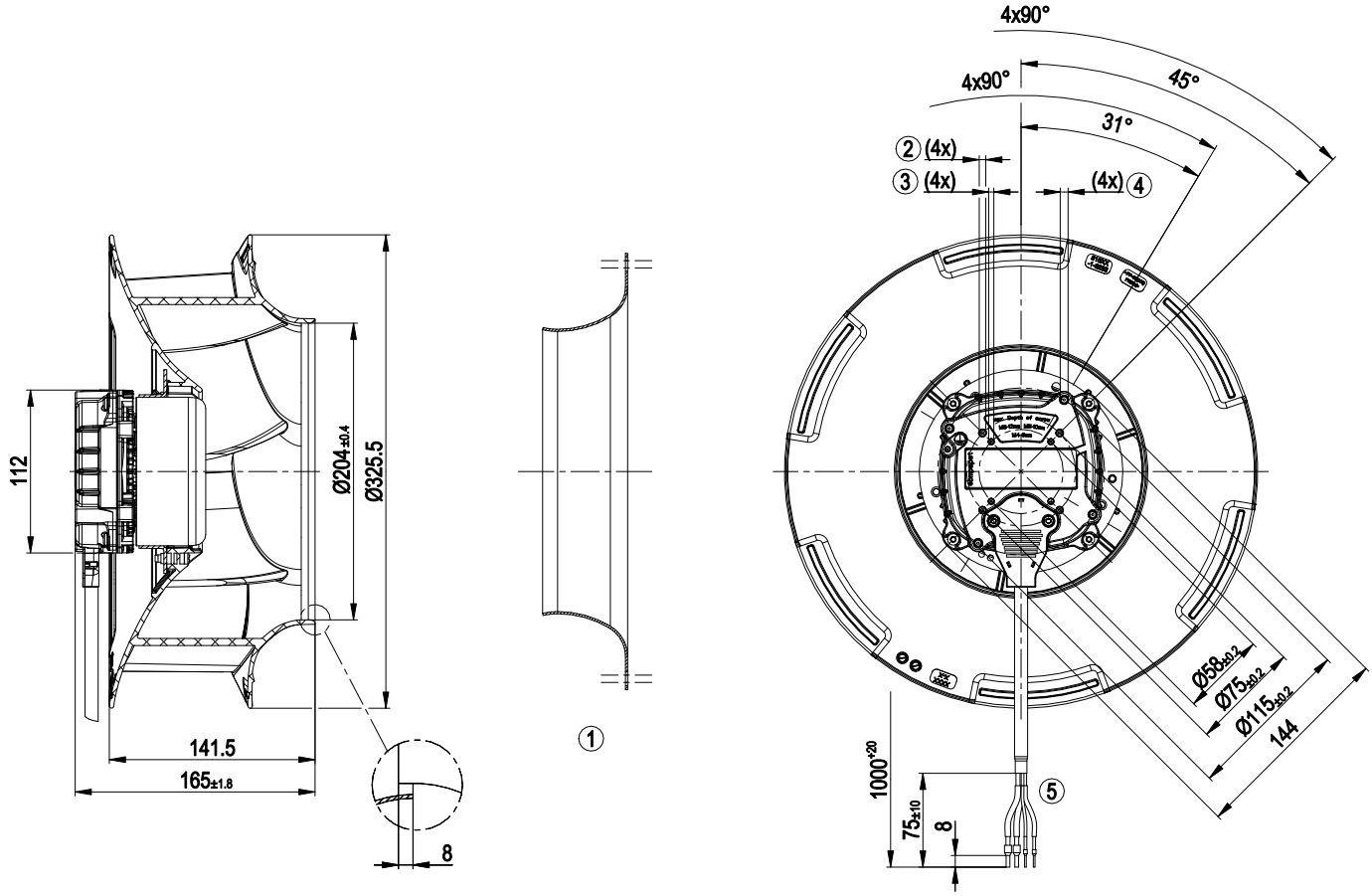
Product drawing



1	Accessory part: inlet ring 31000-2-4013 not included in scope of delivery
2	Max. clearance for screw 10 mm, tapping hole ready for self-tapping M5 screw
3	Max. clearance for screw 8 mm, tapping hole ready for self-tapping M4 screw
4	Max. clearance for screw 12 mm, tapping hole ready for self-tapping M6 screw
5	Cable halogen-free, BETAtrans® GKW R 2.5 mm², 2x crimped ferrules (brown, black), BETAtrans® GKW R 1.0 mm², 2x crimped ferrules (yellow, white)

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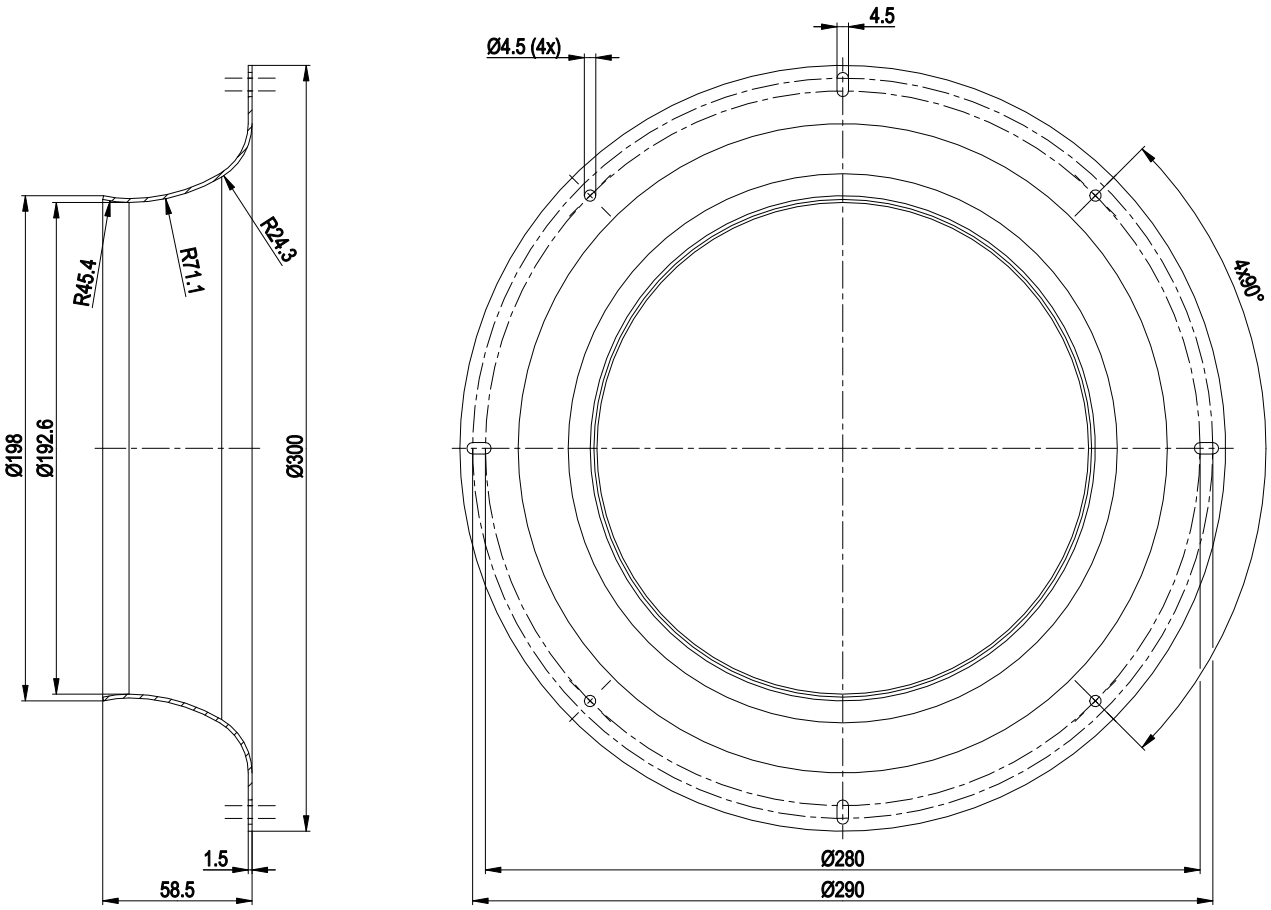
Accessory part



Accessory part: inlet ring 31000-2-4013 not included in scope of delivery

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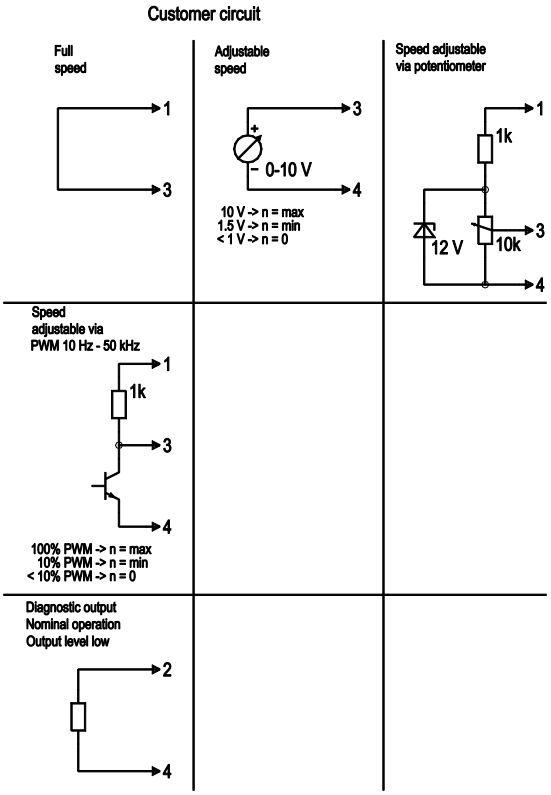
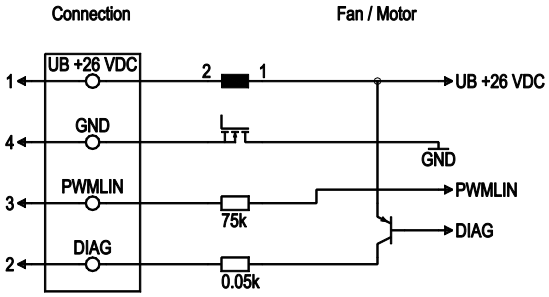
Connection diagram





No.	Conn.	Designation	Color	Function/assignment
1	1	UB +26 VDC	black	Power supply 26 VDC
1	2	DIAG	white	Diagnostic output
1	3	PWMLIN	yellow	Analog voltage control input 0-10 V or PWM
1	4	GND	brown	Power supply GND, reference ground

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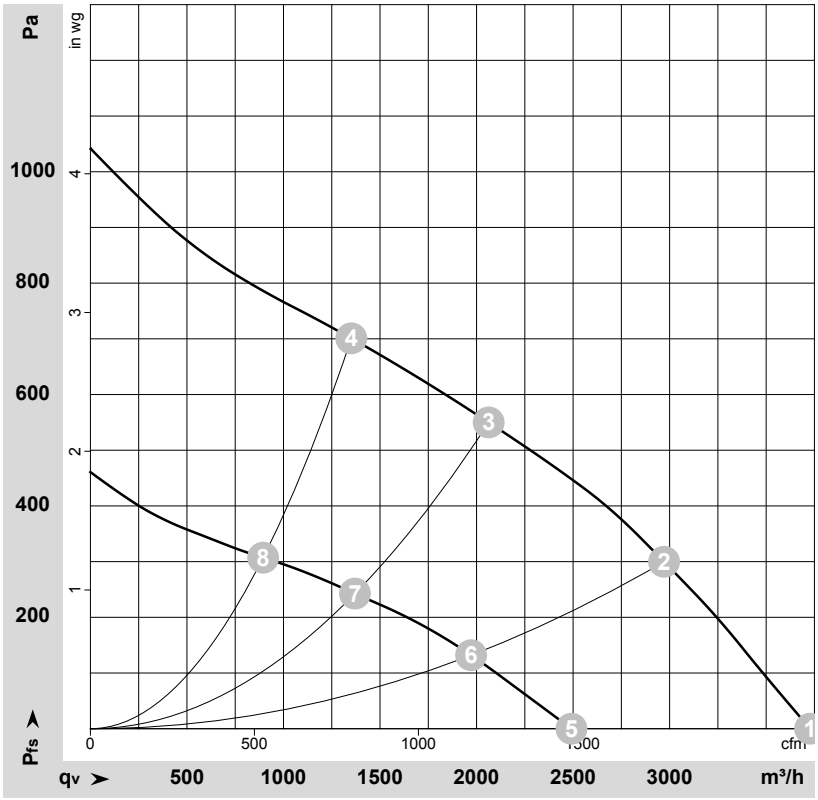
Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-179416-1
Measurement: LU-179748-1

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	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	24-32	2550	470		3730	0	2195	0.00
2	24-32	2415	542		2970	300	1750	1.20
3	24-32	2380	583		2065	550	1215	2.21
4	24-32	2440	553		1350	700	795	2.81
5	16	1710	140	8.74	2490	0	1465	0.00
6	16	1620	160	10.04	1970	132	1160	0.53
7	16	1585	167	10.45	1370	243	805	0.98
8	16	1615	157	9.86	895	307	525	1.23

U = Power supply · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase