R3G280-RU26-86

Konvekta AG

H11-003-216

EC centrifugal fan - RadiCal

backward-curved, single-intake

for rail applications



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
Amtsgericht (court of registration) Stuttgart · HRA 590344

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

Nominal data

Type	**R3G280-RU26-86**	
Motor	**M3G084-CF**	
Nominal voltage	VDC	26
Nominal voltage range	VDC	16 .. 32
Method of obtaining data		fa
Speed (rpm)	min^{-1}	2350
Power consumption	W	252
Current draw	A	10.5
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

EC centrifugal fan - RadiCal

backward-curved, single-intake
for rail applications

Technical description

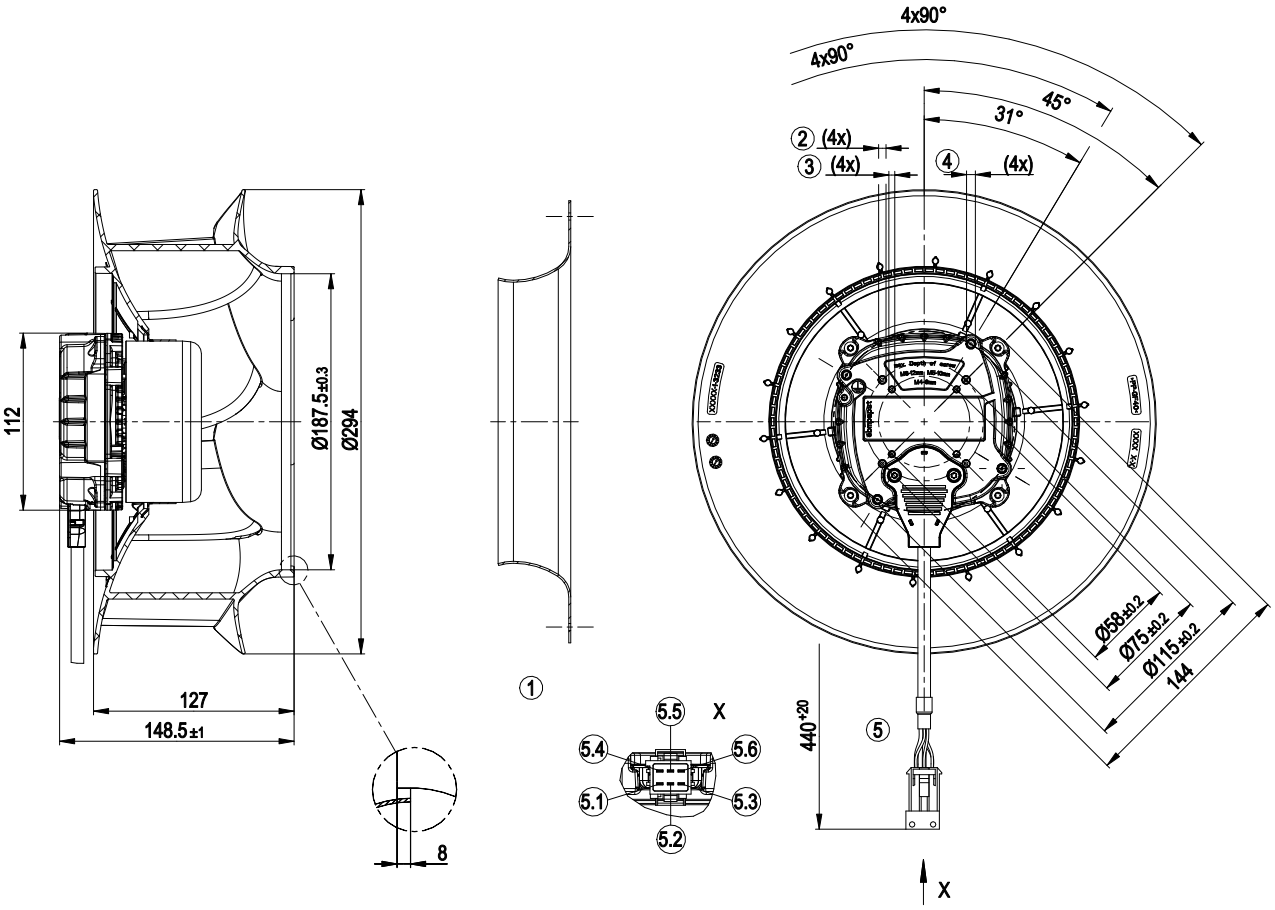
Weight	3 kg
Size	280 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PA plastic UL94 V0
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP24 KM; (motor); electronics IP66 / 69K
Insulation class	"B"
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 mounting	Ball bearing
Motor bearing	(sealed)
Life expectancy	40,000 h (typical)
Technical features	- Lowering input - Fault output (high-side switch max. 30 mA) - INVLIN (inverse linear control input) - Power limiter - Load dump (58 V) - Motor current limitation - Soft start - Set value input Lin 0-10 VDC / PWM (1.4 V corresponds to V=min, 10 V corresponds to V=max) - Temperature derating - Overvoltage detection
Electrical hookup	Plug; 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: 2007; EN 45545-2, HL3: 2013; EN 50155: 2008; EN 61373, Cat. 1B: 2010
Comment	EMC regulation: EN 50121-3-2 in preparation

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

EC centrifugal fan - RadiCal

backward-curved, single-intake
for rail applications

Product drawing



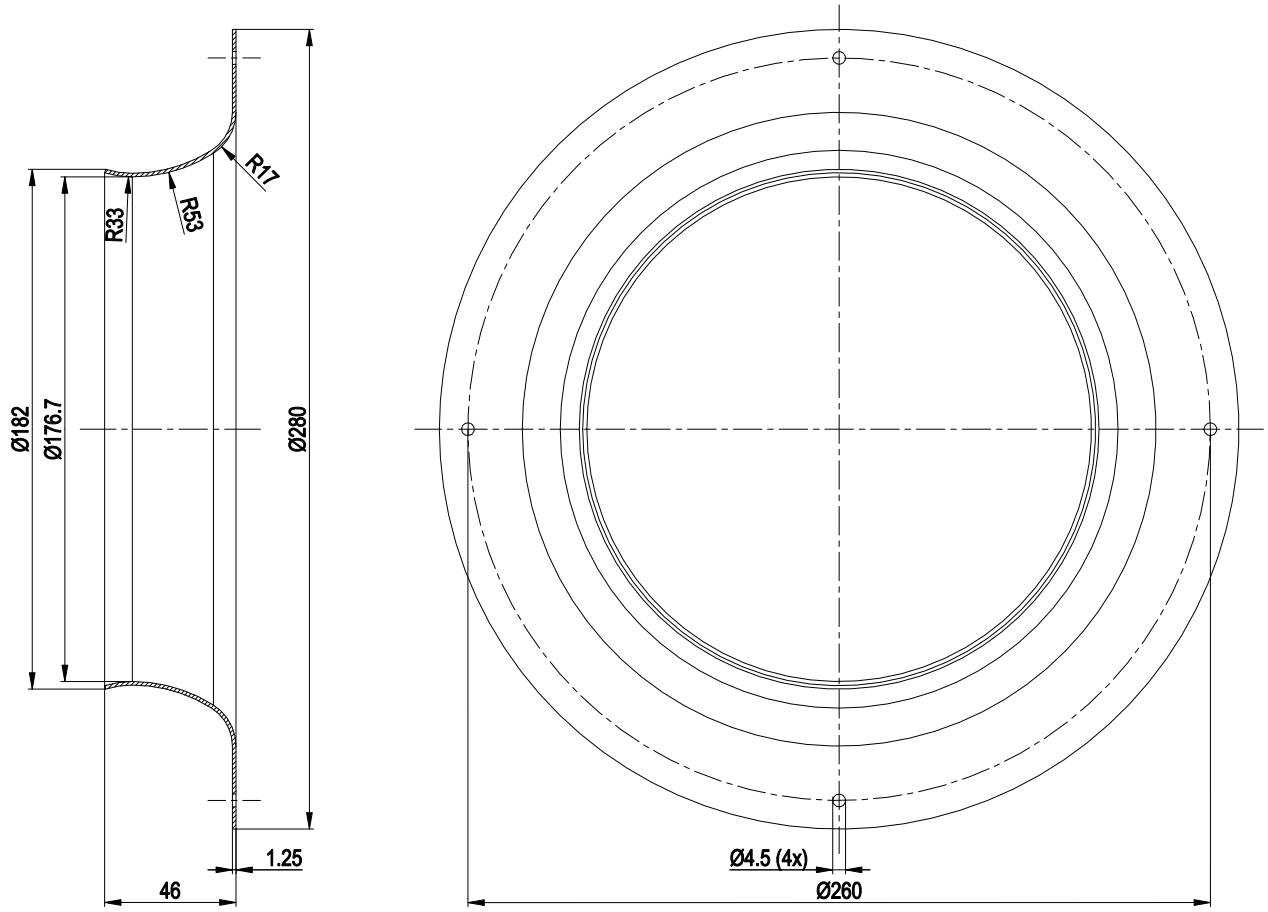
1	Accessory part: inlet ring 28000-2-4013 not included in scope of delivery
2	Max. clearance for screw 10 mm, tapping hole ready for self-tapping M5 screw
3	Max. clearance for screw 8 mm, tapping hole ready for self-tapping M4 screw
4	Max. clearance for screw 12 mm, tapping hole ready for self-tapping M6 screw
5	Cable with 6-pole connector housing tyco 1-962349-1, 2x plug pin tyco 2-962916-1 and 4x crimped flat plug tyco 1-962915-1
5.1	+ UB (black)
5.2	GND (brown)
5.3	PWM/LIN (yellow)
5.4	INVLIN (orange)
5.5	ABSENK (blue)
5.6	Diagnostic output (white)

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

EC centrifugal fan - RadiCal

backward-curved, single-intake
for rail applications

Accessory part



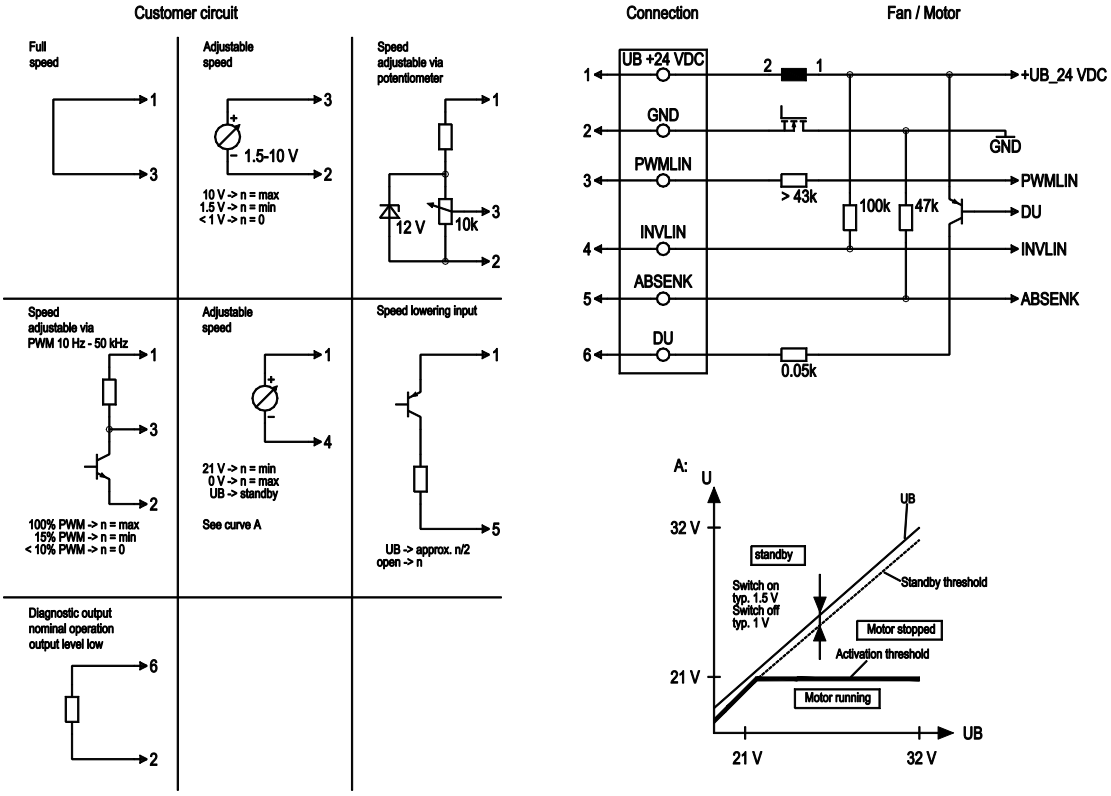
Accessory part: inlet ring 28000-2-4013 not included in scope of delivery

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

EC centrifugal fan - RadiCal

backward-curved, single-intake
for rail applications

Connection diagram



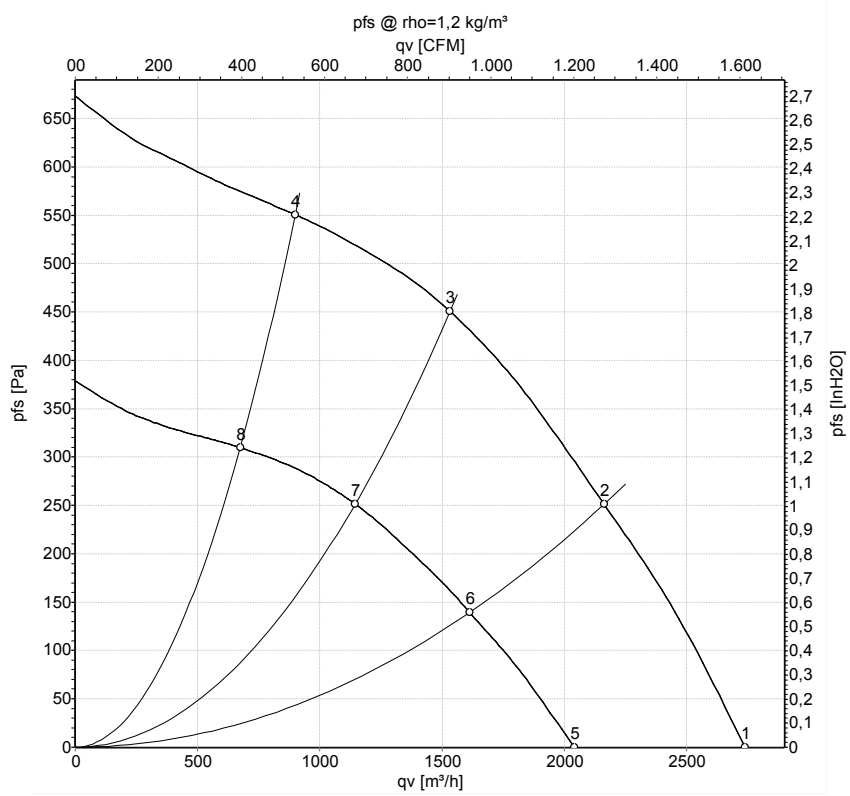
No.	Conn.	Designation	Function/assignment
	1	+ UB 24 VDC	Power supply 24 VDC
	2	- UB 0 VDC	Power supply GND, reference ground
	3	PWMLIN	Analog voltage control input 0-10 V or PWM
	4	INVLIN	Control input, inverse linear
	5	ABSENK	Lowering input
	6	DU	Diagnostic output

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

EC centrifugal fan - RadiCal

backward-curved, single-intake
for rail applications

Curves: Air performance



Measurement: LU-160664-1
Measurement: LU-160865-1

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	24-32	2350	252	10.50*	72	80	2740	0	1610	0.00
2	24-32	2280	298	12.40*	69	75	2165	250	1275	1.00
3	24-32	2265	309	12.90*	67	73	1530	450	900	1.81
4	24-32	2305	278	11.60*	68	74	900	550	530	2.21
5	16	1745	107	6.70			2040	0	1200	0.00
6	16	1715	123	7.70			1610	140	950	0.56
7	16	1700	133	8.32			1145	252	675	1.01
8	16	1730	118	7.42			675	310	395	1.24

U = Power supply · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · * = Current measured at nominal voltage · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
q_V = Air flow · p_{fs} = Pressure increase

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