

Product Data Sheet RLF35-8/14NR

ebmpapst

The engineer's choice



RLF35-8/14NR

INDEX

1	General	3
2	Mechanics	3
2.1	General	3
2.2	Connections	3
3	Operating Data	4
3.1	Operating Data - Electrical Interface - Input	4
3.2	Electrical Operating Data	5
3.3	Operating Data - Electrical Interface - Output	5
3.4	Electrical Features	6
3.5	Aerodynamics	7
3.6	Sound Data	8
4	Environment	8
4.1	General	8
4.2	Climatic Requirements*)	8
5	Safety	9
5.1	Electrical Safety	9
5.2	Approval Tests	9
6	Reliability	9
6.1	General	9

1 General

Fan type	Blower	
Rotating direction looking at rotor	Counterclockwise	
Airflow direction	Air in axially, Air out radially	
Bearing system	Ball bearing	
Mounting position	Any	

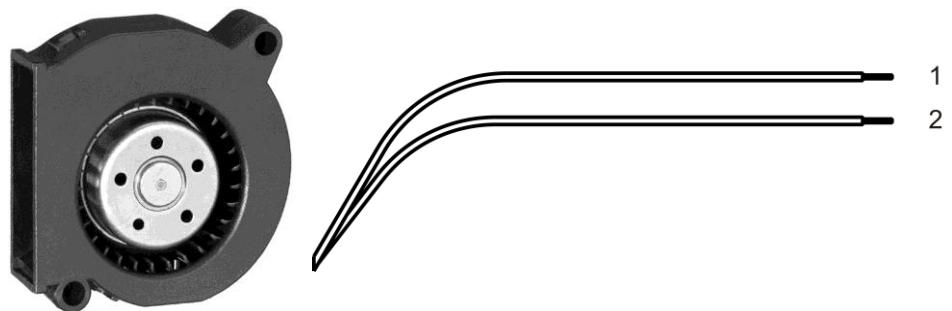
2 Mechanics

2.1 General

Width	51,0 mm	
Height	51,0 mm	
Depth	15,0 mm	
Mass	0,036 kg	
Housing material	Plastic	
Impeller material	Plastic	
Max. torque when mounted across both mounting flanges	wire outlet corner: 100 Ncm remaining corners: 100 Ncm	
Screw size	ISO 4762 - M4 degreased, without an additional brace and without washer	

2.2 Connections

Electrical connection	Wires	
Lead wire length	L = 310 mm	
Tolerance	+ - 10,0 mm	
Wire size (AWG)	26	
Insulation diameter	1,35 mm	
Contact	See drawing	



	Colour	Operation
Wire 1	red	+ UB
Wire 2	blue	- GND

3 Operating Data

3.1 Operating Data - Electrical Interface - Input

Control input	None
---------------	------

3.2 Electrical Operating Data

Measurement conditions: Normal air density = 1,2 kg/m³; Temperature 23°C +/- 3°C; Motor axis horizontal; warm-up time before measuring 5 minutes (unless otherwise specified). In the intake and outlet area should not be any solid obstruction within 0,5 m.

$\Delta p = 0$: corresp. to free air flow (see section 3.5)
 I: corresp. to arithm. mean current value

Features	Condition	Symbol	Values		
Voltage range	$\Delta p = 0$	U	14,0 V		28,0 V
Nominal voltage	$\Delta p = 0$	U_N		24,0 V	
Power consumption	$\Delta p = 0$	P	1,6 W	4,3 W	6,0 W
Tolerance	0010		+/- 17,5 %	+/- 12,5 %	+/- 17,5 %
Current consumption	$\Delta p = 0$	I	113 mA	180 mA	215 mA
Tolerance	0010		+/- 17,5 %	+/- 12,5 %	+/- 17,5 %
Speed	$\Delta p = 0$	n	4.400 1/min	6.700 1/min	7.450 1/min
Tolerance	0010		+/- 15,0 %	+/- 15,0 %	+/- 15,0 %

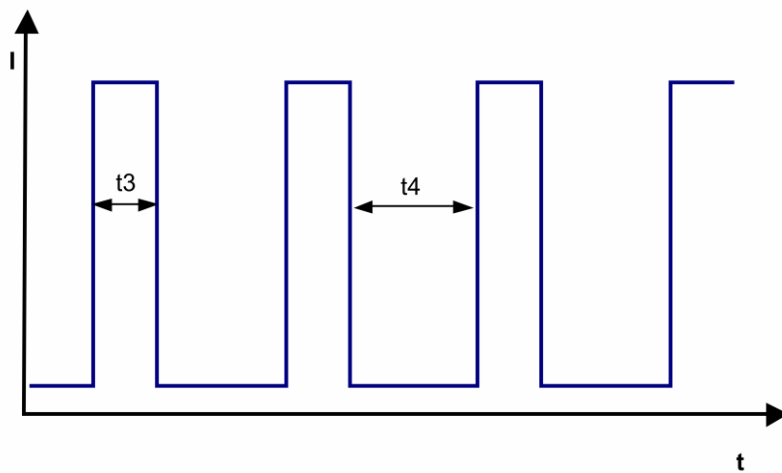
3.3 Operating Data - Electrical Interface - Output

Tacho type	None
------------	------

Alarm type	None
------------	------

3.4 Electrical Features

Electronic function	None	
Reversed polarity protection	Rectifying diode	
Max. residual current at U_n	$I_F < 50 \mu A$	
Locked rotor protection	Auto restart	
Locked rotor current at U_n	approx. 370 mA	
Clock signal t_3/t_4 at locked rotor	Typical: 0,16 s / 1 s	



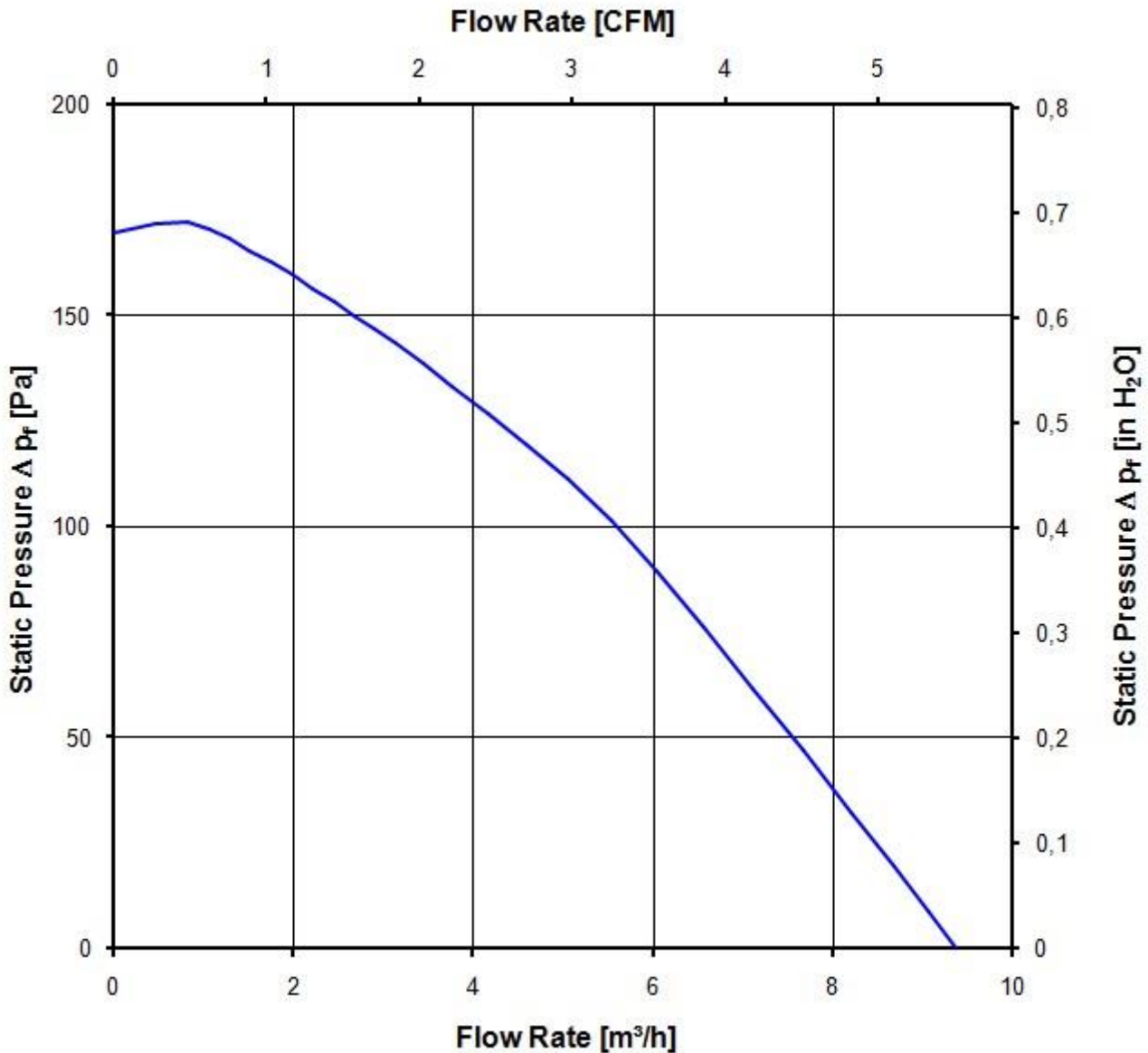
3.5 Aerodynamics

Measurement conditions: Measured with a double chamber intake rig.
 Normal air density = 1,2 kg/m³; Temperature 23°C +/- 3°C;
 In the intake and outlet area should not be any solid obstruction within 0,5 m.
 The information is only valid under the specified test conditions and may be changed by the installation conditions. If there are deviations from the standard test conditions, the characteristic values must be checked under the installed conditions.

a.) Operation condition:

6.700 1/min at free air flow

Max. free-air flow ($\Delta p = 0 / \dot{V} = \text{max.}$)	9,6 m ³ /h	
Max. static pressure ($\Delta p = \text{max.} / \dot{V} = 0$)	170 Pa	



3.6 Sound Data

Measurement conditions: Sound pressure level: 1 Meter distance between microphone and the air intake.
 Sound power level: Acc. to DIN 45635 part 38 (ISO 10302)
 Measured in a semianchoic chamber with a background noise level of $L_p(A) < 5 \text{ dB(A)}$
 For further measurement conditions see section 3.5

a.) Operation condition:

6.700 1/min at free air flow

Optimal operating point	7,0 m ³ /h @ 60 Pa	
Sound power level at the optimal operating point	5,5 bel(A)	
Sound pressure level at free air flow, measured in rubber bands		

4 Environment

4.1 General

Min. permitted ambient temperature TU min.	-20 °C	
Max. permitted ambient temperature TU max.	70 °C	
Min. permitted storage temperature TL min.	-40 °C	
Max. permitted storage temperature TL max.	85 °C	

4.2 Climatic Requirements *)

Humidity requirements	humid heat, cyclic; according to DIN EN 60068-2-30, 6 cycle	
Water exposure	None	
Dust requirements	Dust check; according to DIN EN 60068-2-68, 6g/m ² d, 1 day	
Salt fog requirements	None	

*) Permitted application area:

The product is for the use in sheltered rooms with limited controlled temperature. Occasionally condensed water is allowed. Direct exposure to water must be avoided. Saline ambient conditions must be avoided.

Pollution degree 2 (according DIN EN 60664-1)

It occurs only non-conductive pollution. Occasionally, temporary conductivity caused by condensation occurs.

Please require severity levels and specification parameters from the responsible development departments

5 Safety

5.1 Electrical Safety

Dielectric strength DIN EN 60950 (VDE 0805) and DIN EN 60335 (VDE 0700) A.) Type test Measuring conditions: After 48h of storage at 95% R.H. and 25°C. No arcing or breakdown is allowed! All connections together to ground. B.) Routine test Measuring conditions: At indoor climate. No arcing or breakdown is allowed! All connections together to ground.	500 VAC / 1 Min. 500 VAC / 1 Sec.	
Isolation resistance Measuring conditions: After 48h of storage at 95% R.H. and 25°C measured with U=500 VDC for 1 min.	RI > 10 MOhm	
clearance / creepage distance	1,0 mm / 1,2 mm	
Protection class	III	

5.2 Approval Tests

CE	EC Declaration of Conformity	Yes
EAC	Eurasian Conformity	Yes
UL	Underwriters Laboratories	Yes / UL507, Electric Fans
VDE	Association for Electrical, Electronic and Information Technologies	Yes / Approval acc. to EN 60950 (VDE 0805) - Information technology equipment
CSA	Canadian Standards Association	Yes / C22.2 No. 113 Fans and Ventilators
CCC	China Compulsory Certification	No

The approval tests are observed to:
U approval max.:28,0 V @ TU approval max.: 70,0 °C

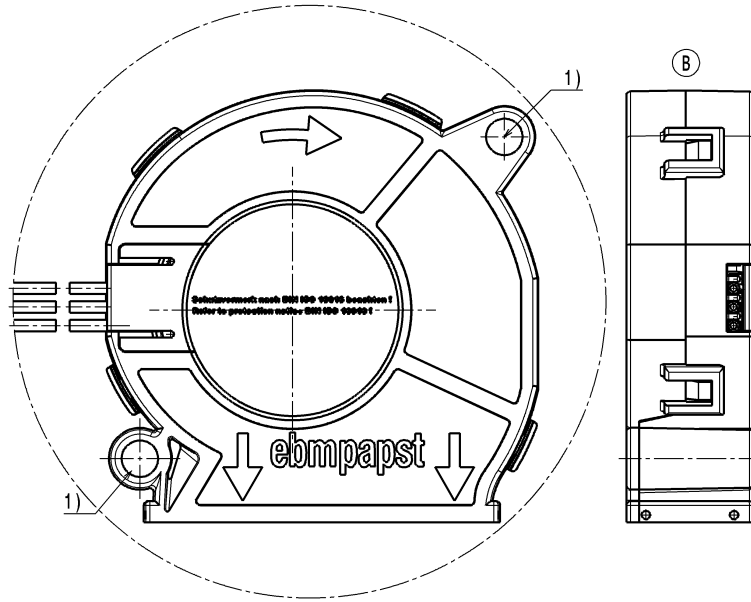
6 Reliability

6.1 General

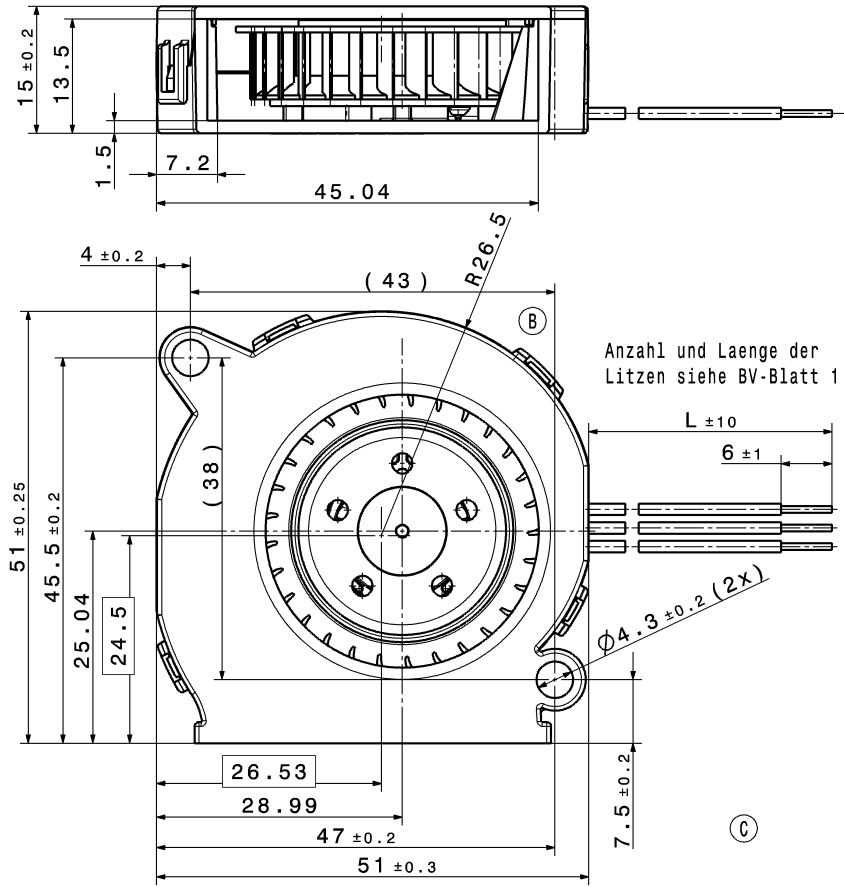
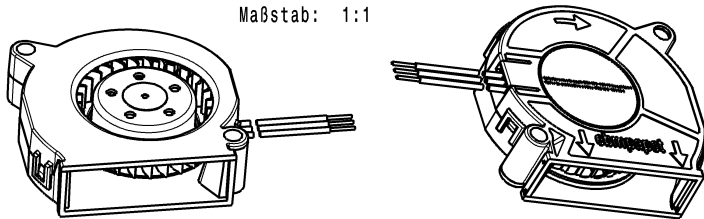
Life expectancy L10 at TU = 40 °C	60.000 h	
Life expectancy L10 at TU max.	30.000 h	
Life expectancy L10 Delta (40 °C)	120.000 h	

Copying of this document, and drawing, is allowed, if others and the use or communication of the contents thereof, are forbidden without express authorisation. Offences are liable to the payment of damages. All rights are reserved in the event of the grant of a patent or the registration of a utility model or design.

Schutzmerkmal nach DIN ISO 10165 (Anmerkung 1)
Refer to production notice DIN ISO 10165-1



Isometrische Ansicht
Maßstab: 1:1



1.) max. Anschraubdrehmoment 1,0 Nm

BSP-Status/State	Änd.-Nr./ Change-No.	CATIA-System-Version/ CATIA-System-Version	CAD-Umgebung/ CAD-Umgebung	Werkstoff / Material:		Volumen / Volume (cm ³):	
				Datum Name		Gewicht / Mass (g):	
Tolerierung / Tolerances:	Bears./ System	Gep./ Checked	Freig./ Released	Artikel / Title:			
				Zchg.-Nr. / Drawing No:		Ers.-f.Zchg. / Replaces:	
Allgemeintoleranzen / Gen. Tolerances:				ebmpapst		Format / Size:	
ebm-papst St. Georgen GmbH & Co KG				Dokumenttyp / Type of Document		Teil-/dokument (Blatt-/Page)	
				Index / Index		Maßstab/Scale 2:1	