ebmpapst

The engineer's choice

Product Data Sheet 4394



GREEN TECH

4394

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1 General

Fan type	Fan	
Rotating direction looking at rotor	Clockwise	
Airflow direction	Air outlet over struts	
Bearing system	Ball bearing	
Lubrication	See sectional drawing of the bearing	
Mounting position - shaft	Any	

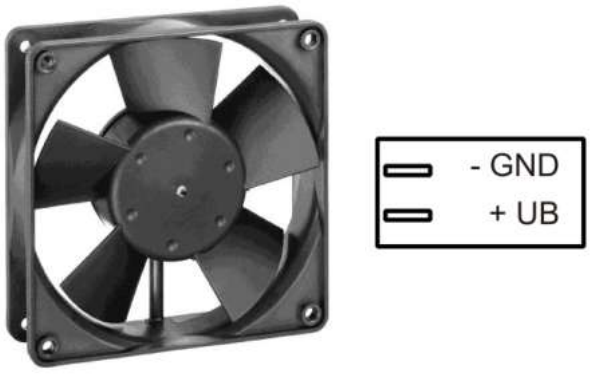
2 Mechanics

2.1 General

Width	119,0 mm	
Height	119,0 mm	
Depth	32,0 mm	
Diameter	0,0 mm	
Mass	0,220 kg	
Housing material	Plastic	
Impeller material	Plastic	
Max. torque when mounted across both mounting flanges Screw size	Wire outlet corner: 25 Ncm Remaining corners: 20 Ncm ISO 4762 - M4 degreased, without an additional brace and without washer	

2.2 Connections

Electrical connection	Plug	
Lead wire length Tolerance	See drawing	
Tube length Tolerance	See drawing	
Wire size (AWG)		
Insulation diameter		
Plug	See drawing	
Contact	See drawing	



3 Operating Data

3.1 Electrical Operating Data

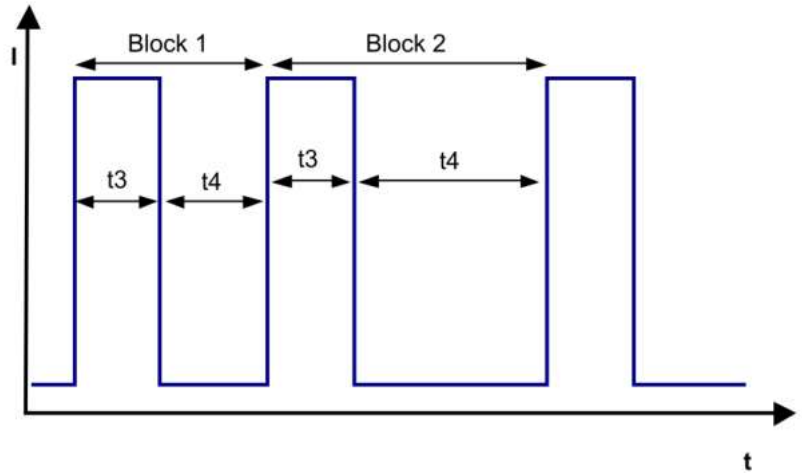
Measurement conditions: Normal air density = 1,2 kg/m3; Temperature 23°C +/- 3°C; Motor axis horizontal; warm-up time before measuring 5 minutes (unless otherwise specified). In the intake and outlet area should not be any solid obstruction within 0,5 m.

Δp = 0: corresp. to free air flow (see section 3.5)
I: corresp. to arithm. mean current value

Features	Condition	Symbol	Values		
Voltage range		U	12,0 V		28,0 V
Nominal voltage		U_N		24,0 V	
Power consumption Tolerance	Δp = 0 0001	P	1,1 W +- 17,5 %	5,0 W +- 12,5 %	7,0 W +- 15,0 %
Current consumption Tolerance	Δp = 0 0001	I	95 mA +- 17,5 %	210 mA*) +- 12,5 %	250 mA +- 15,0 %
Speed Tolerance	Δp = 0 0001	n	1.600 1/min +- 12,5 %	2.800 1/min*) +- 7,5 %	3.150 1/min +- 10,0 %
Starting current consumption				700 mA	

3.2 Electrical Features

Electronic function	None
Reversed polarity protection Max. residual current at U_N	Rectifying diode I_F <= 10 mA
Locked rotor protection	Auto restart
Locked rotor current at U_N	I_{block} approx. 700 mA
Clock signal at locked rotor	t_3/t_4 typical: 0,6 s / 10 s



Block1: special locked rotor protection: 5 cycles t3 / t4 = 0,6 s / 1 s Block2: locked rotor protection t3 / t4 = 0,6 s / 10 s

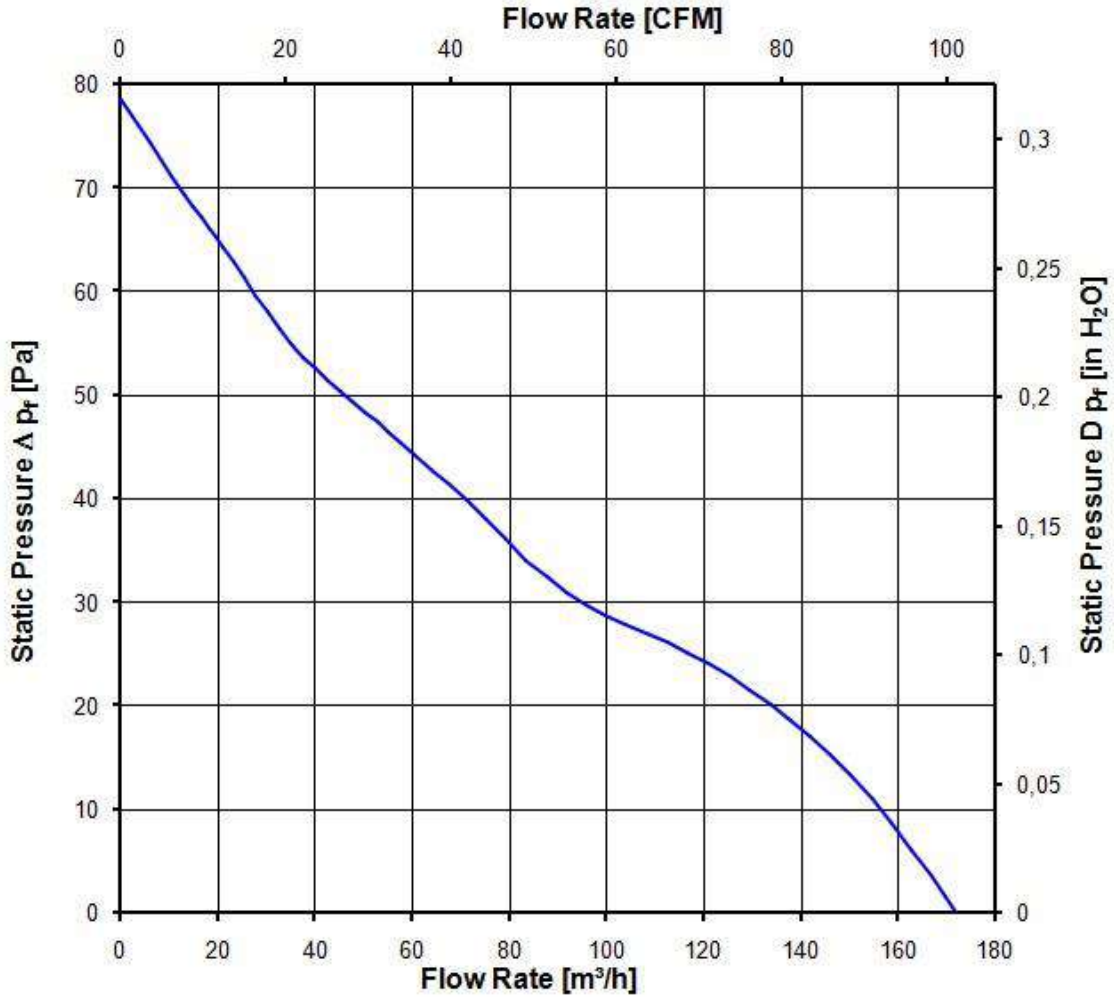
3.3 Aerodynamics

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. Motor shaft horizontal. 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:

2.800 1/min at free air flow

Max. free-air flow (Δp = 0 / $\dot{V}$ = max.)	170,0 m3/h	
Max. static pressure (Δp = max. / $\dot{V}$ =0)	78 Pa	



3.4 Sound Data

Measurement conditions: Sound pressure level: 1 meter distance between microphone and the air intake.

Measured in a semianchoic chamber with a background noise level of Lp(A) < 5 dB(A)
For further measurement conditions see chapter aerodynamics.

a.) Operation condition:

2.800 1/min at free air flow

Optimal operating point	134,0 m3/h @ 17 Pa	
Sound power level at the optimal operating point	5,8 bel(A)	
Sound pressure level at free air flow, measured in rubber bands	45,0 dB(A)	

4 Environment

4.1 General

Min. permitted ambient temperature TU min.	-20 °C	
Max. permitted ambient temperature TU max.	75 °C	
Min. permitted storage temperature TL min.	-40 °C	
Max. permitted storage temperature TL max.	80 °C	

4.2 Climatic Requirements*)

Humidity requirements	humid heat, constant; according to DIN EN 60068-2-78, 14 days
Water exposure	None
Radiation exposure	None
Dust requirements	None
Salt fog requirements	None
Harmful gas requirements	None

Permittet application area:
The product is intended for use in sheltered rooms with controlled temperature and controlled humidity. Directly exposure to water must be avoided.

Pollution degree 1 (according DIN EN 60664-1)
There is either no pollution or it occurs only dry, non-conductive pollution. The pollution has no negative impact

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
VDE	Association for Electrical, Electronic and Information Technologies	Yes
CSA	Canadian Standards Association	Yes
CCC	China Compulsory Certification	Not applicable

6 Reliability

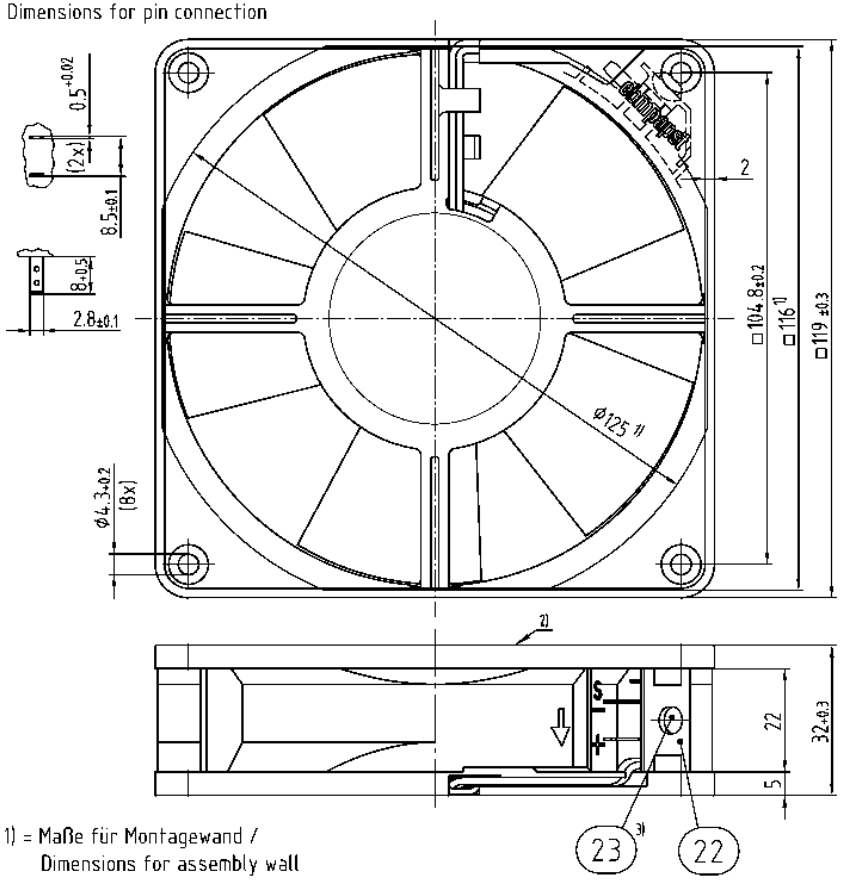
6.1 General

Life expectancy L10 at TU = 40 °C	62.500 h	
Life expectancy L10 at TU max.	27.500 h	
Life expectancy L10 acc. to IPC 9591 at TU = 40 °C	105.000 h	

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Schutzvermerk nach DIN ISO 16016 beachten/
Refer to protection notice DIN ISO 16016!

Maße für Steckeranschluss /
Dimensions for pin connection



1) = Maße für Montagewand /
Dimensions for assembly wall
2) = Rotorüberstand bis max. 0.4 mm zulässig /
Rotorexcess length max. 0.4 mm allowable
3) = Anzugsmoment / tightening torque 0.6 Nm ±0.1 Nm

Axialspiel bei: -Kugellagerung (K) : 0 (mit Federausgleich)
-Gleitlagerung (G) : 0.1-0.5

			ebmpapst	Werkstoff/Material:		Volumen/Volume [mm³]:	
SAP-Status/Statz	Aend.-Nr./Change-No.	AutoLAD-System-Version	LAD-Umgebung/ LAD-Environment			Gewicht/Mass [g]:	
		Datum/Date	Name/Name				
Toleranzen/Tolerances:		Bearb./ Drawn		Artikel/Title			
		Gepr./ Checked					
Allgemeintoleranzen/Gen. tolerances:		Freig./ Release					
		ebmpapst		Zchg.-Nr./ Drawing.-No.:		Ers.f.Zchg./ Replaces:	
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