

Product Data Sheet **9295414279**
VWEG172XJLPZ
6224 NMU

ebm**papst**

engineering a better life



6224 NMU

INDEX

1	General	3
2	Mechanics	3
2.1	General	3
2.2	Connections	3
3	Operating Data.....	4
3.1	Electrical Operating Data	4
3.2	Electrical Features	5
3.3	Aerodynamics	6
3.4	Sound Data	7
4	Environment.....	7
4.1	General	7
4.2	Climatic Requirements.....	7
5	Safety.....	8
5.1	Electrical Safety	8
5.2	Approval Tests	8
6	Reliability.....	8
6.1	General	8

1 General

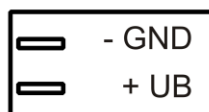
Fan type	Axial	
Rotating direction looking at rotor	Counterclockwise	
Airflow direction	Air outlet over struts	
Bearing system	Ball bearing	
Mounting position - shaft	Any	

2 Mechanics**2.1 General**

Depth	51,0 mm	
Diameter	172,0 mm	
Mass	0,840 kg	
Housing material	Metal	
Impeller material	Plastic	
Max. torque when mounted across both mounting flanges	Wire outlet corner: 600 Ncm Remaining corners: 600 Ncm	
Screw size	ISO 4762 - M4 degreased, without an additional brace and without washer	

2.2 Connections

Electrical connection	Plug	
Lead wire length	See drawing	
Tolerance		
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.

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

Note:

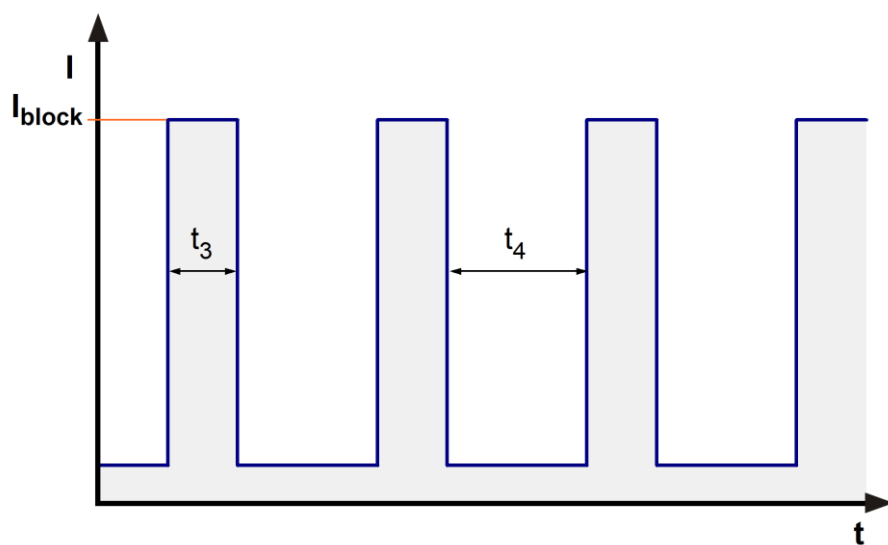
No inrush current at Unom means:

The internal electrolytic capacitor 120uF/50V has no resistor or inrush current limitation, essentially the power supply and the type and length of the connecting cable is limiting the Inrush current.

Features	Condition	Symbol	Values		
Voltage range		U	12 V		32 V
Nominal voltage		U _N		24 V	
Power consumption	$\Delta p = 0$	P	2,3 W	12 W	20,5 W
Tolerance	0010		+/- 20 %	+/- 20 %	+/- 20 %
Current consumption	$\Delta p = 0$	I	190 mA	500 mA	680 mA
Tolerance	0010		+/- 20 %	+/- 20 %	+/- 20 %
Speed	$\Delta p = 0$	n	1.440 1/min	2.950 1/min	3.800 1/min
Tolerance	0010		+/- 10 %	+/- 12,5 %	+/- 10 %
Starting current consumption				2.100 mA	

3.2 Electrical Features

Electronic function	None	
Reversed polarity protection	Rectifying diode	
Max. residual current at U_N	$I_F < 10 \text{ mA}$	
Locked rotor protection	Auto restart	
Locked rotor current at U_N	I_{block} approx. 2.100 mA	
Clock signal at locked rotor	t_3 / t_4 typical: 1,4 s / 5,3 s	



3.3 Aerodynamics

Measurement
conditions:

Measured with a double chamber intake rig acc. to DIN EN ISO 5801.

Normal air density = 1,2 kg/m³; Temperature 23°C +/- 3°C;

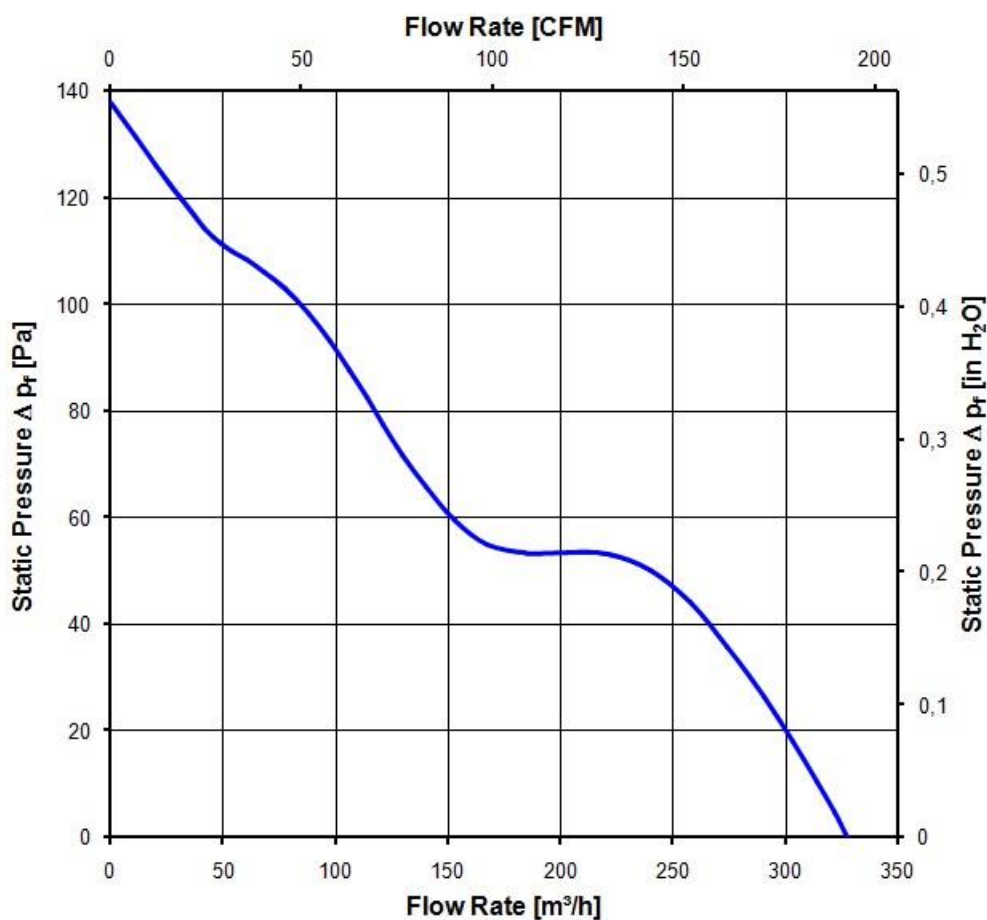
In the intake and outlet area should not be any solid obstruction within 0,5 m. Motor shaft horizontal.

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:

2.950 1/min at free air flow

Max. free-air flow ($\Delta p = 0$ / $\dot{V} = \text{max.}$)	330,0 m ³ /h	
Max. static pressure ($\Delta p = \text{max.}$ / $\dot{V} = 0$)	138 Pa	



3.4 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 semianechoic chamber with a background noise level of $L_p(A) < 5 \text{ dB(A)}$
For further measurement conditions see chapter aerodynamics.

a.) Operation condition:

2.950 1/min at free air flow

Optimal operating point	230,0 m ³ /h @ 54 Pa	
Sound power level at the optimal operating point	5,7 bel(A)	
Sound pressure level at free air flow, measured in rubber bands	50,0 dB(A)	

4 Environment

4.1 General

Min. permitted ambient temperature TU min.	-20 °C	
Max. permitted ambient temperature TU max.	60 °C	
Min. permitted storage temperature TL min.	-40 °C	
Max. permitted storage temperature TL max.	80 °C	

4.2 Climatic Requirements

Humidity requirements	humid temperature, cyclic; according to DIN EN 60068-2-38, 10 cycle and condensation water check; according to DIN EN ISO 6270-2, 14 days	
Water exposure	Splash water check IPX4; according to DIN EN 60529 VDE 0470, not certified	
Dust requirements	Dust check IP5X; according to DIN EN 60529 VDE 0470, not certified	
Salt fog requirements	None	

Permitted application area:

The product is for the use in partial sheltered rooms or open, roofed areas. Direct exposure to water is allowed provided that this does not prevent the normal operation. Saline ambient conditions must be avoided.

Pollution degree 3 (according DIN EN 60664-1)

It occurs conductive pollution or dry non-conductive pollution which becomes conductive due to condensation.

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

5 Safety**5.1 Electrical Safety**

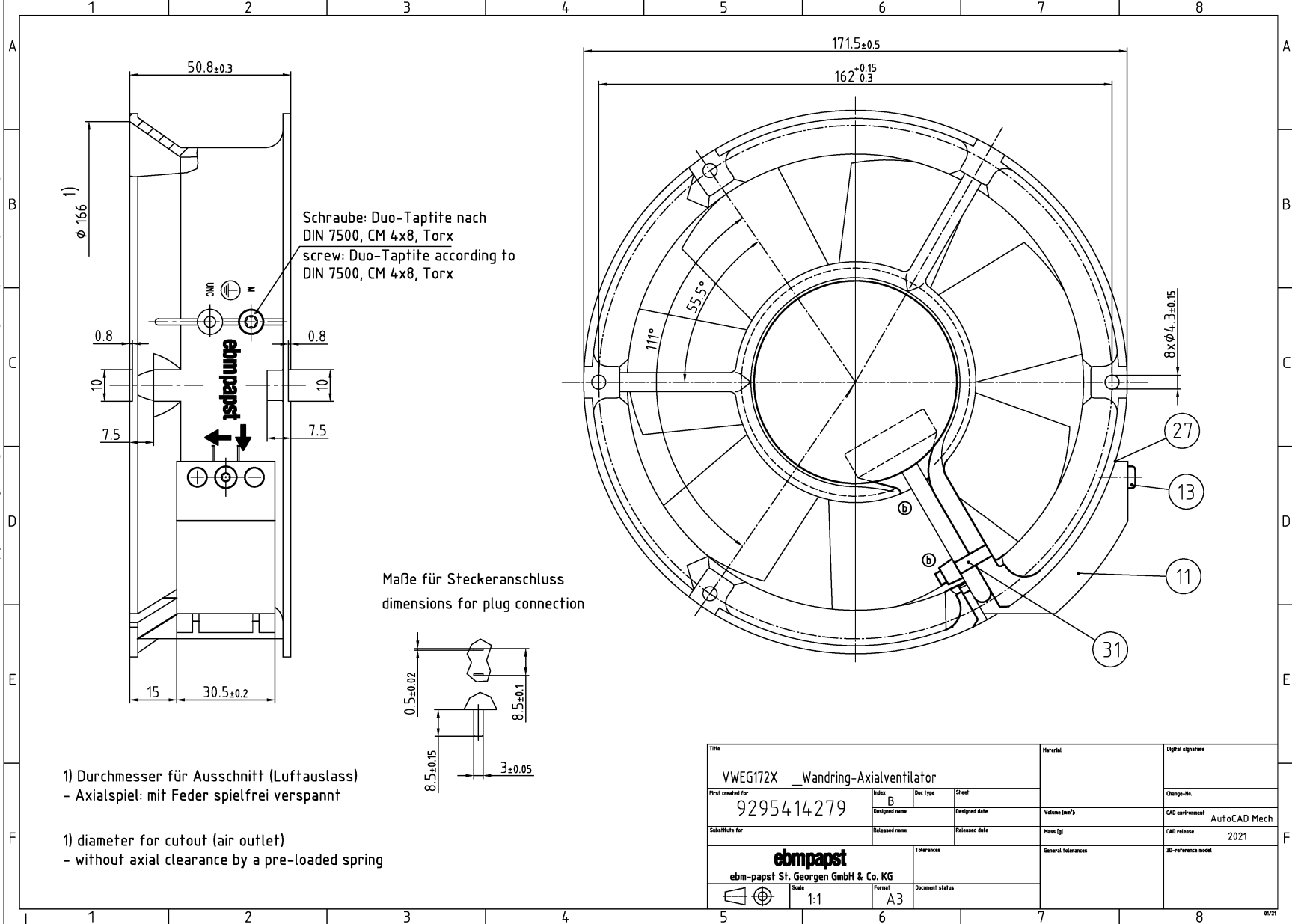
Dielectric strength DIN EN 62368 and DIN EN 60335 A.) Type test Measuring conditions: After 48h of storage at 95% R.H. and 25°C. No arcing or breakdown is allowed! All connections together to ground. B.) Routine test Measuring conditions: At indoor climate. No arcing or breakdown is allowed! All connections together to ground.	500 VAC / 1 Min. 850 VDC / 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 / UL audited by CSA according to UL507, Electric Fans
VDE	Association for Electrical, Electronic and Information Technologies	Yes / Approval acc. to EN 62368 - Audio/video, information and communication technology equipment
CSA	Canadian Standards Association	Yes / C22.2 No. 113 Fans and Ventilators
CCC	China Compulsory Certification	Not applicable

6 Reliability**6.1 General**

Life expectancy L10 at TU = 40 °C	80.000 h	
Life expectancy L10 at TU max.	50.000 h	
Life expectancy L10 acc. to IPC 9591 at TU = 40 °C	135.000 h	



- 1) Durchmesser für Ausschnitt (Luftauslass)
- Axialspiel: mit Feder spielfrei gespannt
- 1) diameter for cutout (air outlet)
- without axial clearance by a pre-loaded spring

Title				Material		Digital signature	
VWEG172X _Wandering-Axialventilator							
First created for		Index	Doc type	Sheet	Change-No.		
9295414279		B			CAD environment		
Designed name		Designed date		Volume (mm³)		AutoCAD Mech	
Released name		Released date		Mass (g)		CAD release	
Substitute for						2021	
ebmpapst				Tolerances		General tolerances	
ebm-papst St. Georgen GmbH & Co. KG						3D-reference model	
		Scale	Format	Document status			
		1:1	A3				