



The engineer's choice

ebmpapst

7114 NHR-130

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1 General

Fan type	Fan
Rotational direction looking at rotor	counterclockwise
Airflow direction	Air outlet over struts
Bearing system	Ball bearing
Mounting position	any

2 Mechanics

2.1 General

Depth	38,0 mm
Diameter	150,0 mm
Weight	0,620 kg
Housing material	Metal
Impeller material	Metal
Max. torque when mounted across both mounting flanges	wire outlet corner: 460 Ncm remaining corners: 460 Ncm
Screw size	ISO 4762 - M4 degreased, without an additional brace and without washer

2.2 Connections

Electrical connection	Wires
Length of lead wire	
Tolerance	
Wire gauge (AWG)	22
Insulation diameter	1,70 mm
Contact	see drawing



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

3 Operating Data

3.1 Operating Data - Electrical Interface - Input

Control input	None
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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	12,0 V		26,5 V
Nominal voltage	$\Delta p = 0$	U_N		24,0 V	
Power consumption	$\Delta p = 0$	P	3,6 W	17,3 W	21,75 W
Tolerance	0001		+/- 17,5 %	+/- 12,5 %	+/- 15,0 %
Current consumption	$\Delta p = 0$	I	300 mA	720 mA	820 mA
Tolerance	0001		+/- 17,5 %	+/- 12,5 %	+/- 15,0 %
Speed	$\Delta p = 0$	n	1.750 1/min	3.350 1/min	3.600 1/min
Tolerance	0001		+/- 12,5 %	+/- 7,5 %	+/- 10,0 %

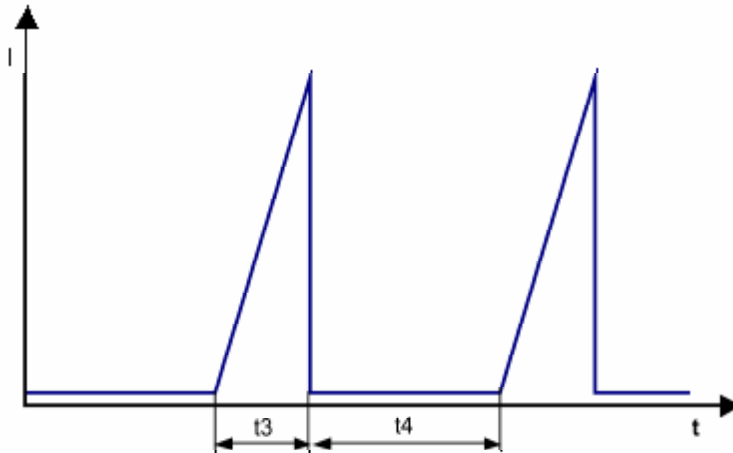
3.3 Operating Data - Electrical Interface -Output

Tacho type	None
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Alarm type	None
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3.4 Electrical Features

Electronic function	None	
Reversed polarity protection	Rectifying diode	
Max. residual current at U_N	IF <= 10 mA	
Locked rotor protection	PWM	
Locked rotor current at U_N	approx. 100 mA	



PWM interlock frequency 1.9 kHz

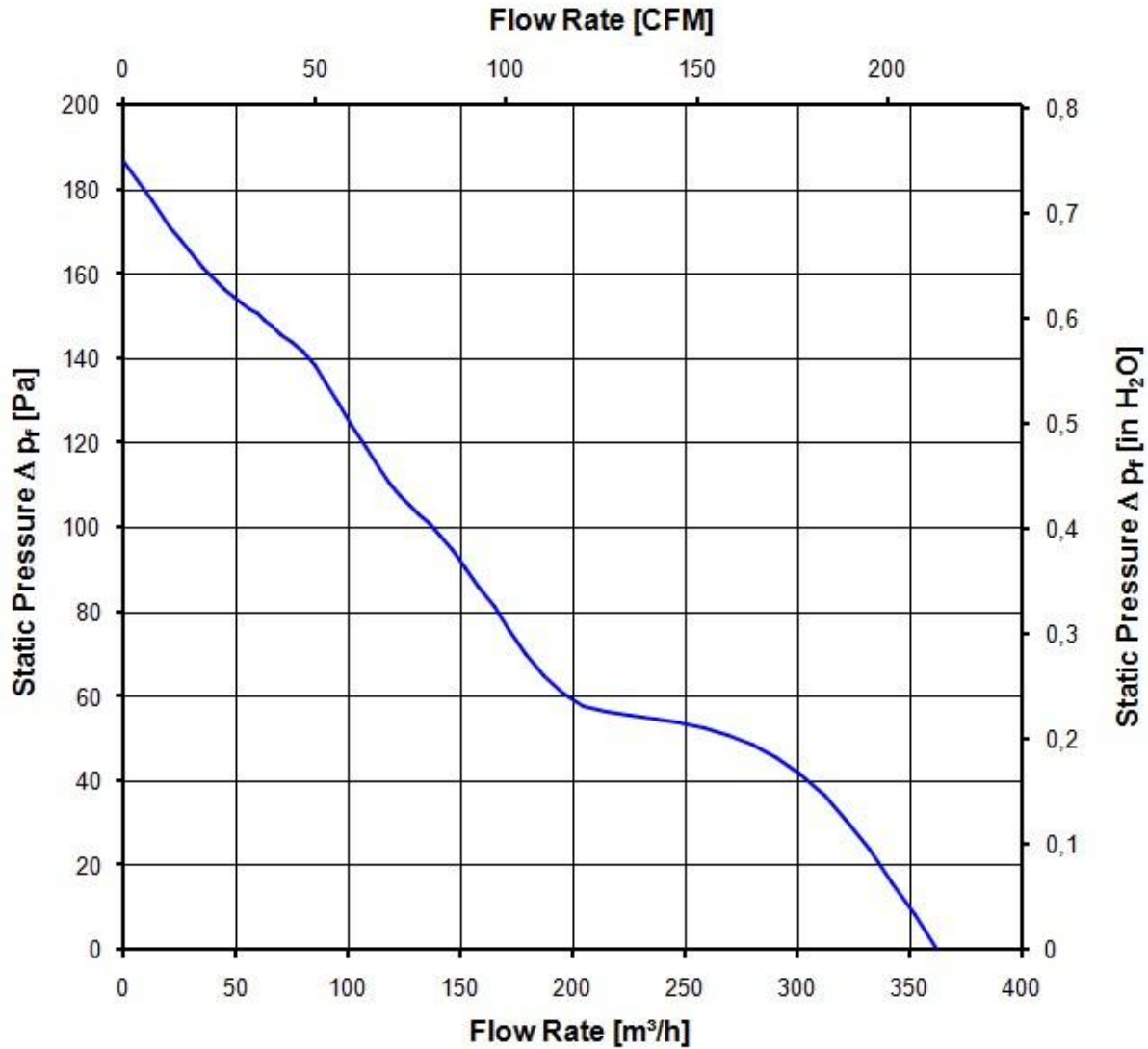
3.5 Aerodynamic

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.
 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:

3.350 1/min at free air flow		
Max. free-air flow ($\Delta p = 0 / \dot{V} = \text{max.}$)	360,0 m ³ /h	
Max. static pressure ($\Delta p = \text{max.} / \dot{V} = 0$)	185 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 Lp(A) < 5 dB(A)
 For further measurement conditions see section 3.5

a.) Operation condition:

3.350 1/min at free air flow

Optimal operating point	295,0 m3/h @ 40 Pa	
Sound power level at the optimal operating point	6,7 bel(A)	
Sound pressure level at free air flow, measured in rubber bands	58,0 dB(A)	

4 Environment

4.1 General

Min. permitted ambient temperature TU min.	-25 °C	
Max. permitted ambient temperature TU max.	72 °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, cyclic; according to DIN EN 60068-2-30, 6 cycle	
Water exposure	None	
Radiation exposure	None	
Dust requirements	Dust check; according to DIN EN 60068-2-68, 6g/m2d, 1 day	
Salt fog requirements	None	
Harmful gas 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.	500 VAC / 1 Min.	
B.) Routine test Measuring conditions: At indoor climate. No arcing or breakdown is allowed! All connections together to ground.	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	Yes
UL	Yes / UL507, Electric Fans
VDE	No
CSA	No
CCC	No

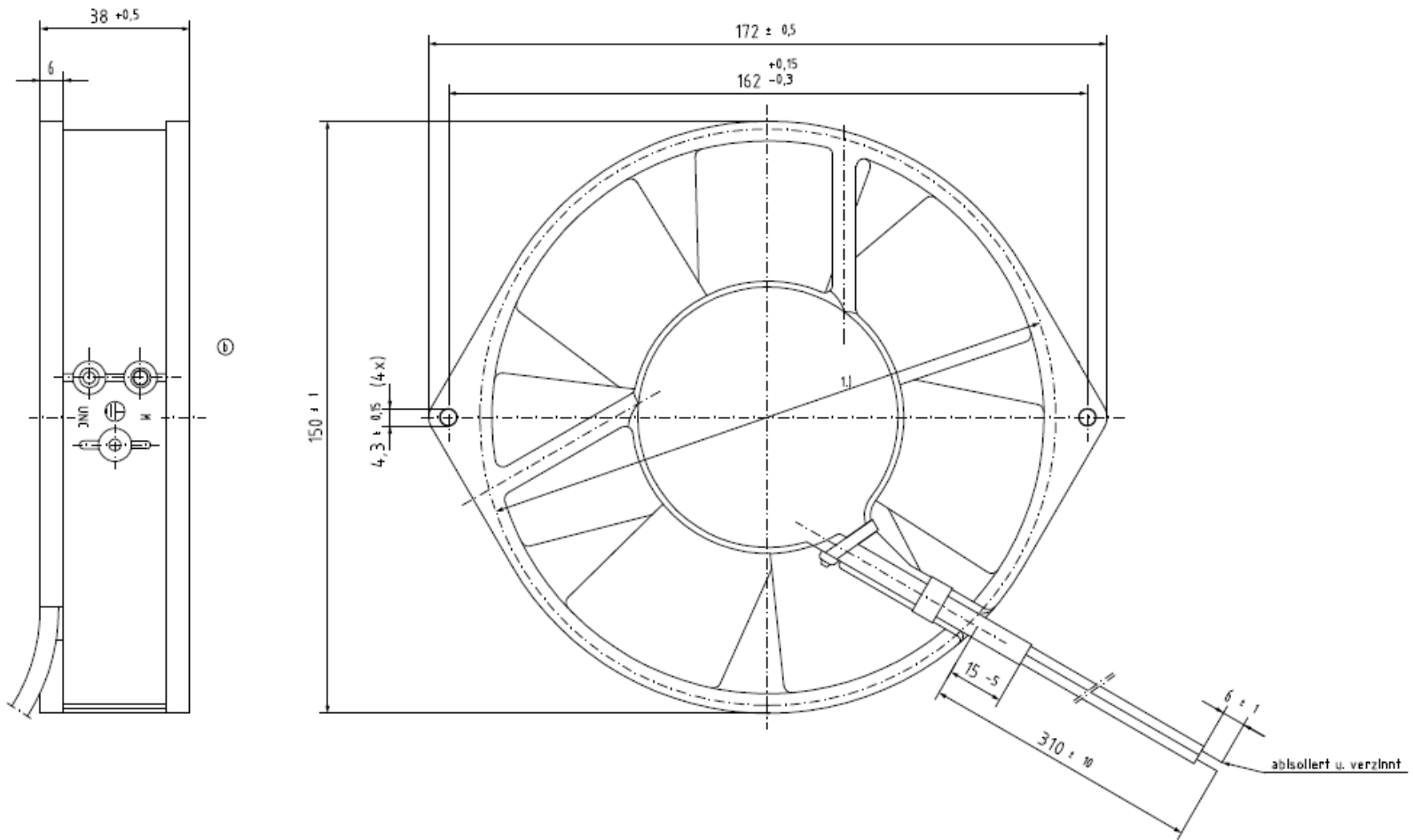
The approval tests are observed to:

Maximal permitted operating voltage (see section 3.1) and max. permitted ambient temperature TU max.

6 Reliability

6.1 General

Life expectancy L10 at TU = 40 °C	75.000 h	
Life expectancy L10 at TU max.	35.000 h	
Life expectancy L10 Delta (40 °C)	147.500 h	



Axialspiel mit Feder spielfrei verspannt
 1.) Durchmesser für Montagewand 146⁺¹

①

Allgemeintoleranzen				ISO 2768 - m		929 5410 130		704498-130	
						gültig für			
						Artikel		Axiallüfter	
				Erstellt 27.07.95 Koletzki		Zug-Nr.		929 5410 130	
				Geprüft 28.07.95 Wrobel G.		Ers.Lösg.		2	
b	9781	05.06.97	Nuber J.	PAPST		Zur Verwendung in Verteiler-Teilgeräten		Erst.Lösg.	
a	447/95	06.12.95	Engel W.	PAPST-MOTOREN GmbH & Co KG		D-7812 Schwanau		K 11 929 5410 130-2DW6	
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