

Product Data Sheet ACi 4420 MLR

ebmpapst

Die Wahl der Ingenieure



ACi 4420 MLR

INDEX

1	General	3
2	Mechanics	3
2.1	General	3
2.2	Connections	4
3	Operating Data	5
3.1	Operating Data - Electrical Interface - Input	5
3.2	Electrical Operating Data	5
3.3	Operating Data - Electrical Interface -Output	5
3.4	Electrical Features	6
3.5	Aerodynamic	7
3.6	Sound Data	8
4	Environment	9
4.1	General	9
4.2	Climatic requirements*)	9
5	Safety	10
5.1	Electrical Safety	10
5.2	Approval Tests	10
6	Reliability	10
6.1	General	10

1 General

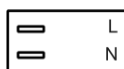
Fan type	Fan
Rotational direction looking at rotor	clockwise
Airflow direction	Air outlet over struts
Bearing system	Ball bearing
Mounting position	any

2 Mechanics**2.1 General**

Width	120 mm	
Height	120 mm	
Depth	38,0 mm	
Diameter	0,0 mm	
Weight	0,275 kg	
Housing material	Plastic	
Impeller material	Plastic	
Max. torque when mounted across both mounting flanges	wire outlet corner: 50 Ncm remaining corners: 80 Ncm	
Screw size	ISO 4762 - M4 degreased, without an additional brace and without washer	

2.2 Connections

Electrical connection	Plug	
Length of lead wire	see drawing	
Tolerance		
Length of tube	see drawing	
Tolerance		
Wire gauge (AWG)		
Insulation diameter		
Plug	see drawing	
Contact	see drawing	



3 Operating Data

3.1 Operating Data - Electrical Interface - Input

External voltage supply for input and output signals must be SELV conform.

3.2 Electrical Operating Data

Features	Condition	Symbol	Values			
Voltage range	$\Delta p = 0$	U				
Nominal voltage	$\Delta p = 0$	U_N		230 V		
Frequency	$\Delta p = 0$	f		50 Hz		
Power consumption Tolerance	$\Delta p = 0$	P		1,7 W +- 20,0 %		
Speed Tolerance	$\Delta p = 0$	n		1.850 1/min +- 10,0 %		

3.3 Operating Data - Electrical Interface -Output

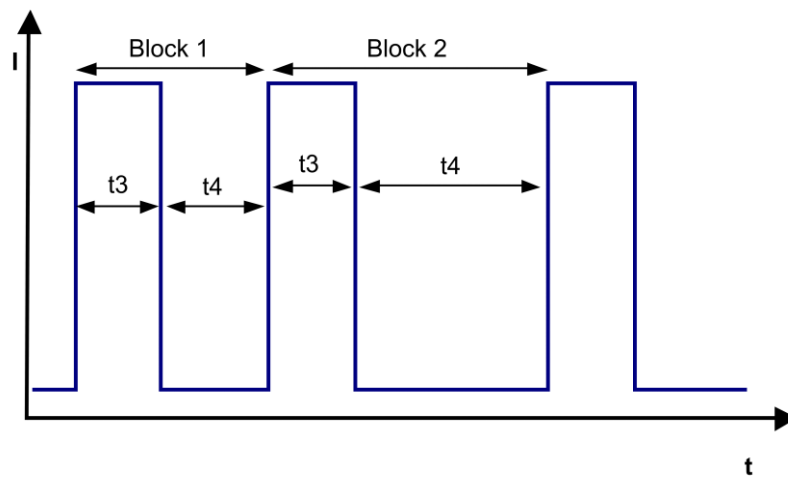
External voltage supply for input and output signals must be SELV conform.

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

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

3.4 Electrical Features

Electronic function	Speed-Controlled	
Locked rotor protection	Auto restart	
Clock signal t3/t4 at locked rotor	Typical: 0,25 s / 10,0 s	



3.5 Aerodynamic

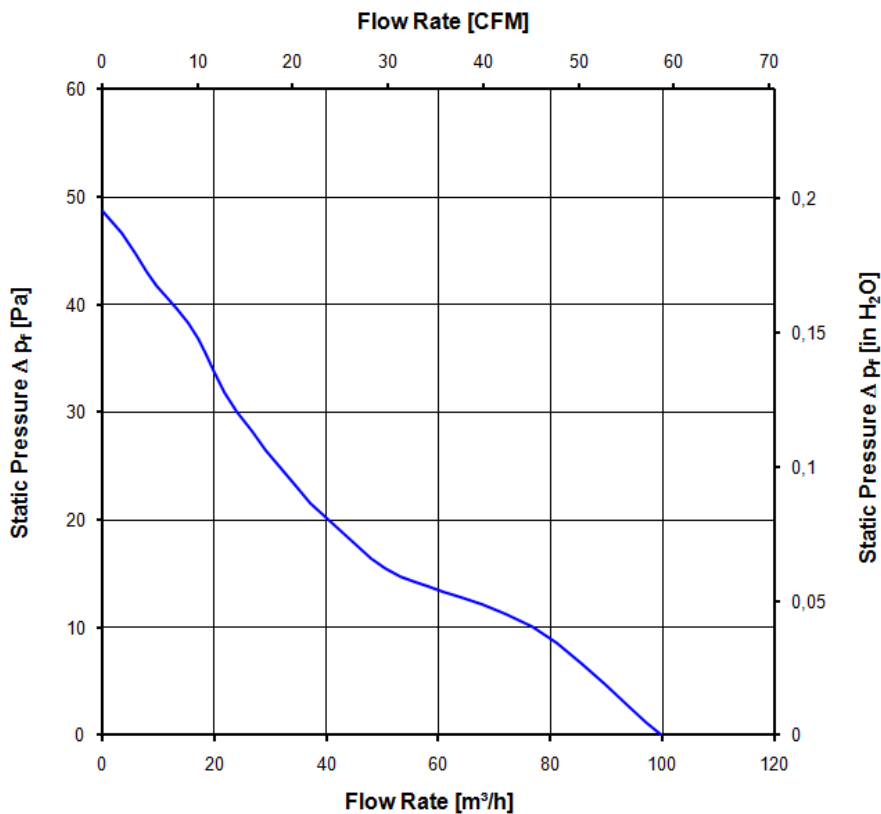
Measurement conditions: Measured with a double chamber intake rig acc. to DIN EN ISO 5801.
 Normal air density = 1,2 kg/m³; Temperature 23°C +/- 3°C;
 In the intake and outlet area should not be any solid obstruction within 0,5 m.
 The information is only valid under the specified test conditions and 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:
 1.850 1/min at free air flow Frequency: 50 Hz Nominal voltage: 230 V

Max. free-air flow ($\Delta p = 0 / \dot{V} = \text{max.}$)	100,0 m ³ /h
Max. static pressure ($\Delta p = \text{max.} / \dot{V} = 0$)	48 Pa

b) Operation condition:
 at free air flow Frequency: Nominal voltage:

Max. free-air flow ($\Delta p = 0 / \dot{V} = \text{max.}$)	
Max. static pressure ($\Delta p = \text{max.} / \dot{V} = 0$)	



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 3.4

a) Operation condition: 1.850 1/min at free air flow Frequency: 50 Hz Nominal voltage: 230 V

Optimal operating point	84,0 m3/h @ 7 Pa	
Sound power level at the optimal operating point	4,1 bel(A)	
Sound pressure level at free air flow, measured in rubber bands	25,0 dB(A)	

b) Operation condition: at free air flow Frequency: Nominal voltage:

Optimal operating point		
Sound power level at the optimal operating point		
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.	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, 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.

5 Safety

5.1 Electrical Safety

A verification of thermal conditions (normal and abnormal operation) as well as the protection against electric shock, ingress of solid foreign objects and water has to be done in conjunction with the appliance.

Test voltage HV type test	3000 V
Unit test voltage	VAC
Time type test HV	1 s
Insulation resistance	RI > 10 MOhm
Protection class	built-in fan

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	Yes

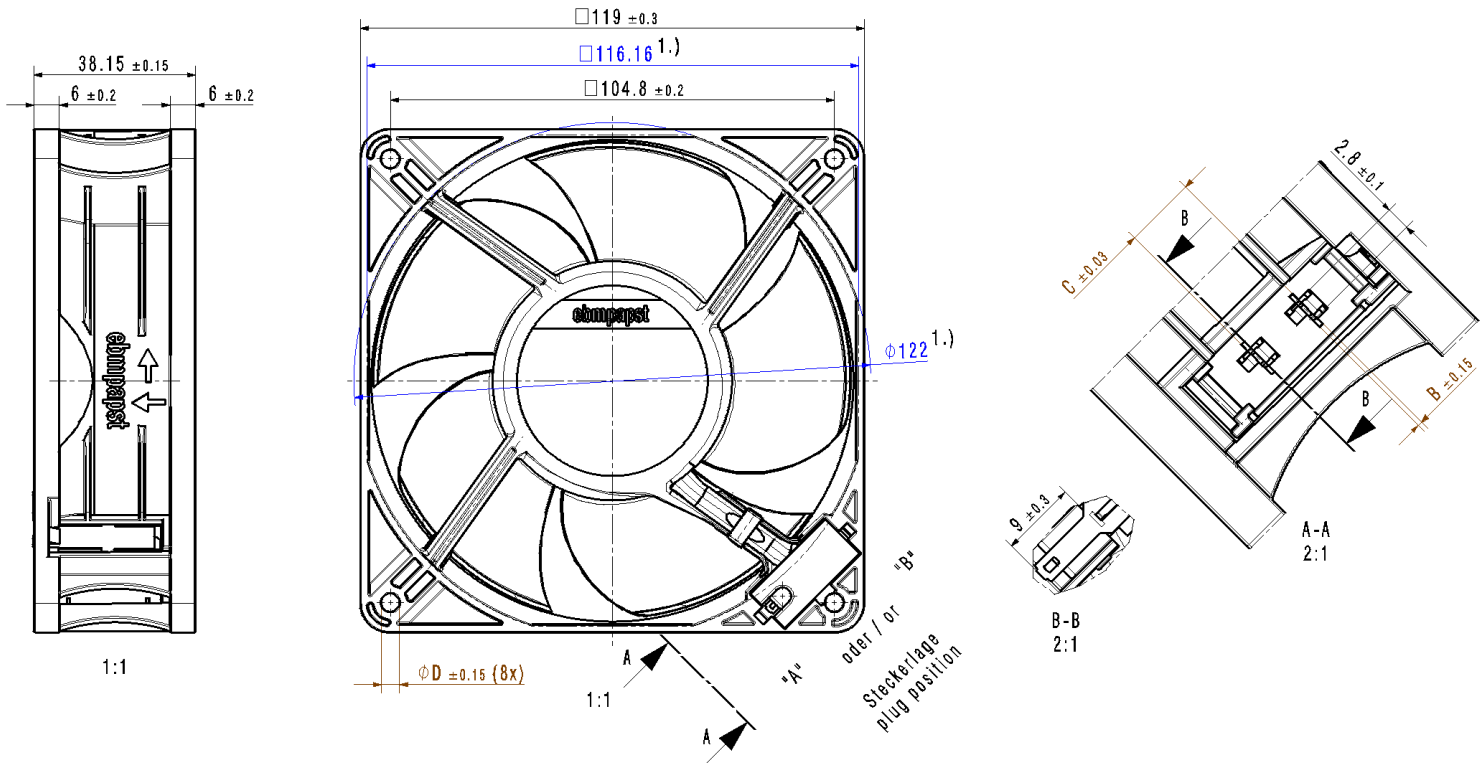
6 Reliability

6.1 General

Life expectancy L10 at TU = 40 °C	65.000 h	
Life expectancy L10 at TU max.	30.000 h	
Life expectancy L10 Delta (40 °C)	130.000 h	
Life expectancy L10 acc. to IPC 9591 at TU = 40 °C	110.000 h	

Opening of this document, and printing, is either not the use or communication of the contents thereof, nor
 forbidden without express authority. Drawings are liable to the omission of changes. All rights are reserved
 in the event of a patent or the registration of a utility model, or design.

Schutzrecht nach DIN ISO 10110 bearbeitet /
 Refer to protection notice 001 208 10016 /



1:1

1:1

Erzeugnis-Nr. product-no.	Typ model	Befestigungsbohrung ϕ mounting hole ϕ D	Steckermasse plug dimension B / C	Steckerlage plug position "A" / "B"
9203509001	ACi 4420 HH	4.3	0.5 / 8.5	"A"
Ⓐ 9203509101	ACi 4410 HH	4.3	0.5 / 8.5	" A "

1.) Maße für Montagewand
 1.) dimension for worktop mounting
 - Kein Axialspiel bei Kugellager durch Federausgleich
 no axial clearance of ball bearings conditional in a pre-load spring

SP-Status/State	Änd.-Nr./ Change-no.	DATM-System-Version/ DATM-System-Version	CAD-Umgebung/ CAD-Environment	Werkstoff / Material:	Volumen / Volume (cm ³):
			920950001 6PRO0A		Gewicht / Mass (g):
3D-Referenzmodell / 3D-Referenzmodell				Artikel / title:	
Tolerierung / Tolerances:				Zchg.-Nr./ Drawing No:	
Allgemeintoleranz / Gen. Tolerances:				Ers.-r.Zshg. / Replace:	
Bepr./ Print: Prüf./ Check: Freig./ Release:		Datum Name		Zeich.-Nr./ Drawing No:	
ebmpapst ebm-papst St.Geragen GmbH & Co KG		Dokumenttyp / Type of Document		Teilnummer / (Part/Tag):	
		Index / Index		Format / Size:	
				Maßstab/Scale	