S4D420-AP02-38

AC axial fan

sickled blades (S series)

with guard grille for full nozzle

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Nominal data

Type	**S4D420-AP02-38**
Motor	**M4D074-GA**

Phase		3~	3~
Nominal voltage	VAC	400	460
Connection		Y	Y
Frequency	Hz	50	60
Type of data definition		fa	fa
Valid for approval / standard		CE	CE
Speed (rpm)	min^{-1}	1430	1680
Power input	W	160	265
Current draw	A	0.44	0.52
Max. back pressure	Pa	160	120
Min. ambient temperature	°C	-25	-25
Max. ambient temperature	°C	85	60

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

		Actual	Request 2015
01 Overall efficiency η_{es}	%	34.5	29.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		45	40
05 Variable speed drive		No	

09 Power input P_e	kW	0.22
09 Air flow q_v	m^3/h	3540
09 Pressure increase p_{fs}	Pa	81
10 Speed (rpm) n	min^{-1}	1395
11 Specific ratio*		1.00

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

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Technical features

Mass	6.4 kg
Size	420 mm
Surface of rotor	Coated in black
Material of terminal box	ABS plastic, black
Material of blades	Sheet steel, coated in black
Material of guard grille	Steel, phosphated and coated with black plastic
Number of blades	5
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 44; Depending on installation and position as per EN 60034-5
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F2-2
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Any
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	< 0.75 mA
Electrical leads	Via terminal box
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1; CE
Approval	CSA C22.2 No.100; UL 1004-1

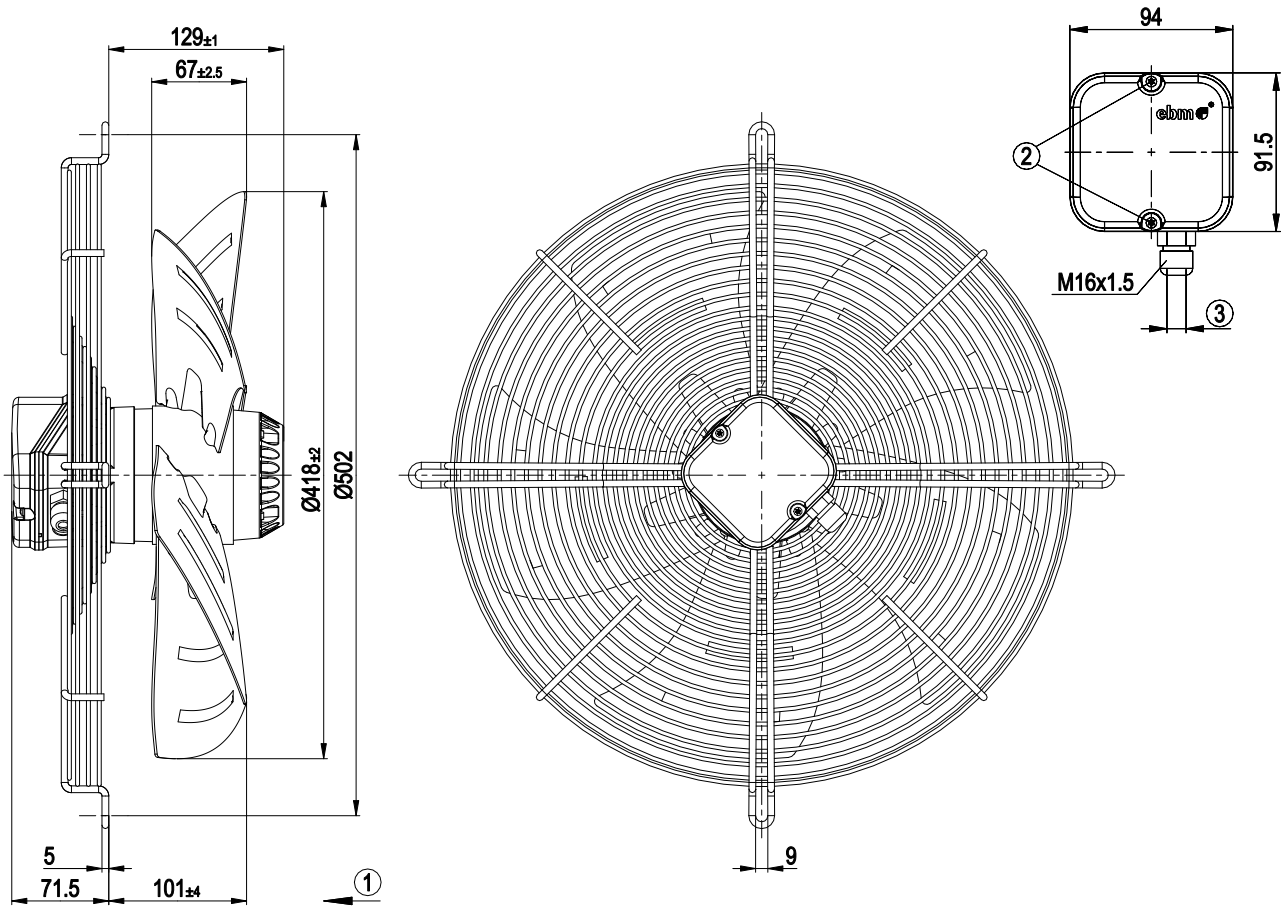
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Product drawing



1	Direction of air flow "V"
2	Tightening torque 0.8±0.15 Nm
3	Cable diameter max. 10 mm, tightening torque 3±0.4 Nm

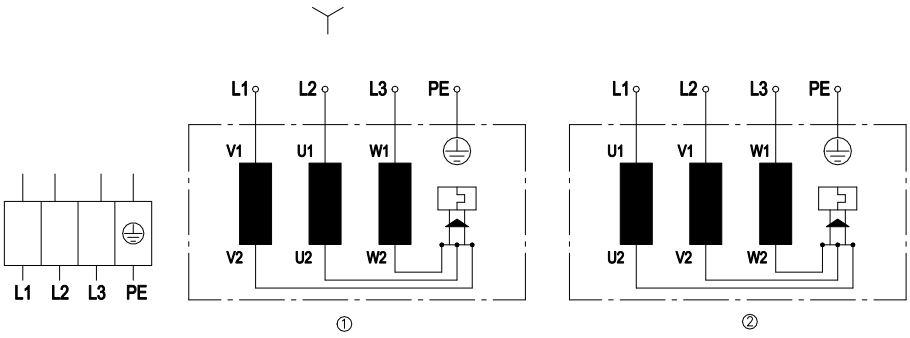
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Connection screen



Change in direction of rotation by reversing two phases

	Three-phase motor
Y	Star connection
1	Anti-clockwise operation
L1	= V1 = blue
L2	= U1 = black
L3	= W1 = brown
2	Clockwise operation
L1	=U1=black
L2	=V1=blue
L3	=W1=brown
PE	green/yellow

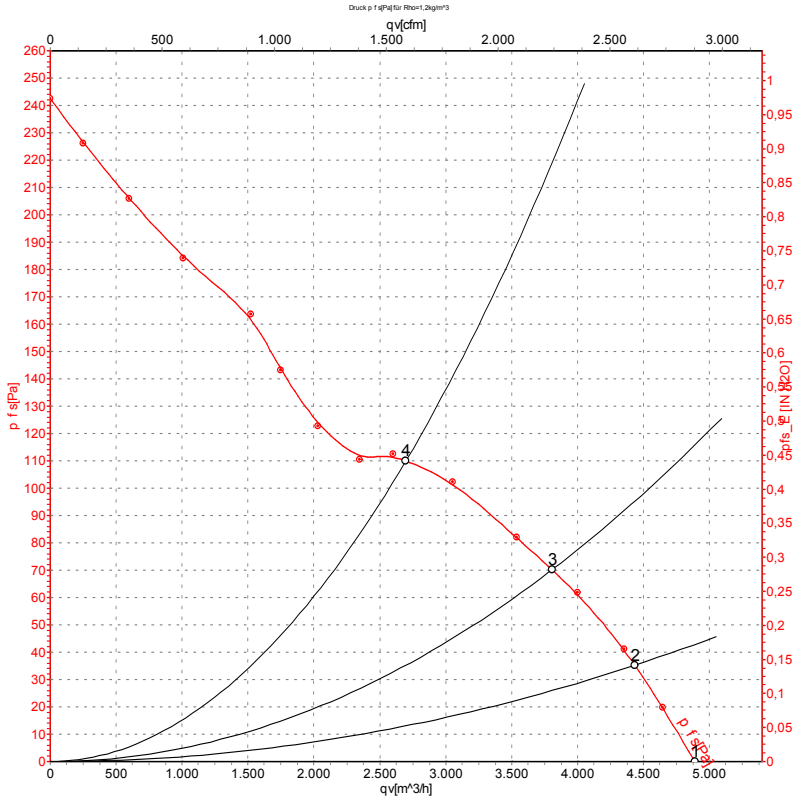
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Charts: Air flow 50 Hz



Measurement: LU-29817-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	U	f	n	P_e	I	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	400	50	1430	160	0.44	4890	0	2880	0.00
2	400	50	1420	188	0.48	4435	35	2610	0.14
3	400	50	1400	218	0.51	3805	70	2240	0.28
4	400	50	1375	256	0.55	2700	110	1590	0.44

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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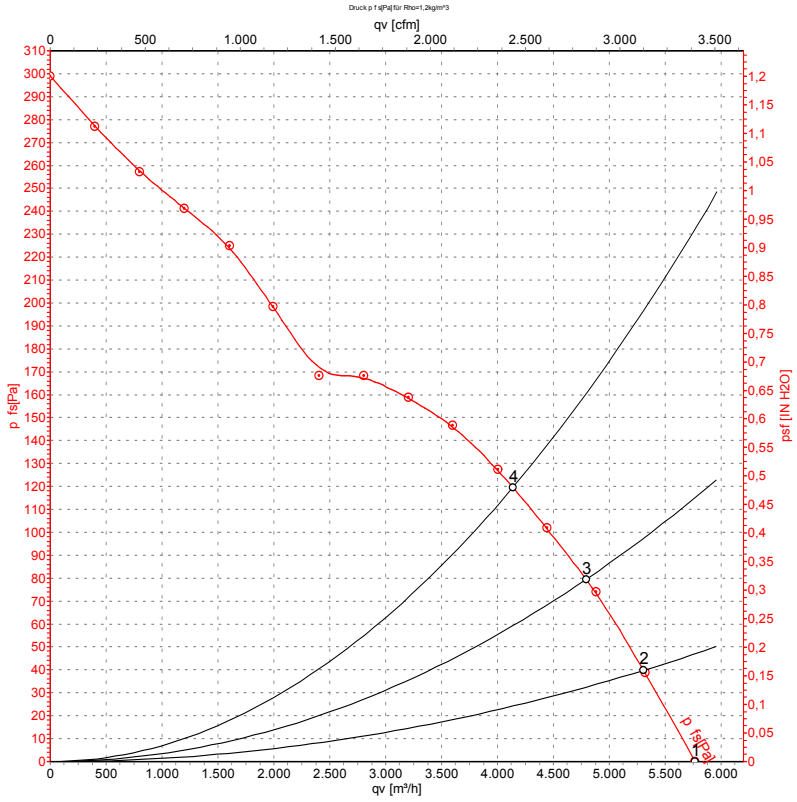
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Charts: Air flow 60 Hz



Measurement: LU-141005-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	Conn.	U	f	n	P_e	I	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	Y. AUS	460	60	1680	265	0.52	5770	0	3395	0.00
2	Y. AUS	460	60	1640	302	0.53	5305	40	3125	0.16
3	Y. AUS	460	60	1600	340	0.61	4790	80	2820	0.32
4	Y. AUS	460	60	1590	371	0.62	4135	120	2435	0.48

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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