S4E420-BU03-31

AC axial fan

sickle-shaped blades (S series)

with guard grille for full nozzle

ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

ErP2015 EXCEEDS THE NORM

Nominal data

Type	**S4E420-BU03-31**
Motor	**M4E094-EA**

Phase		1~	1~
Nominal voltage	VAC	230	230
Frequency	Hz	50	60
Method of obtaining data		ml	ml
Valid for approval/standard		CE	CE
Speed (rpm)	min^{-1}	1360	1520
Power consumption	W	280	385
Current draw	A	1.25	1.68
Capacitor	µF	7	7
Capacitor voltage	VDB	450	450
Max. back pressure	Pa	95	100
Max. back pressure	inH2O	0.38	0.4
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	55	55

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	31.8	30.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		41.7	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.27
09 Air flow q_v	m^3/h	3205
09 Pressure increase p_{fs}	Pa	100
10 Speed (rpm) n	min^{-1}	1360
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-71823

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Technical description

Weight	6.3 kg
Fan size	420 mm
Rotor surface	Painted black
Impeller material	PP plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	"A"
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F4-1
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Via terminal box, capacitor integrated and connected
Motor protection	Thermal overload protector (TOP) internally connected
Protection class	I (with customer connection of protective earth)
Motor capacitor according to EN 60252-1 in safety protection class	P0/S0
Conformity with standards	EN 60034-1 (2010); CE
Approval	EAC

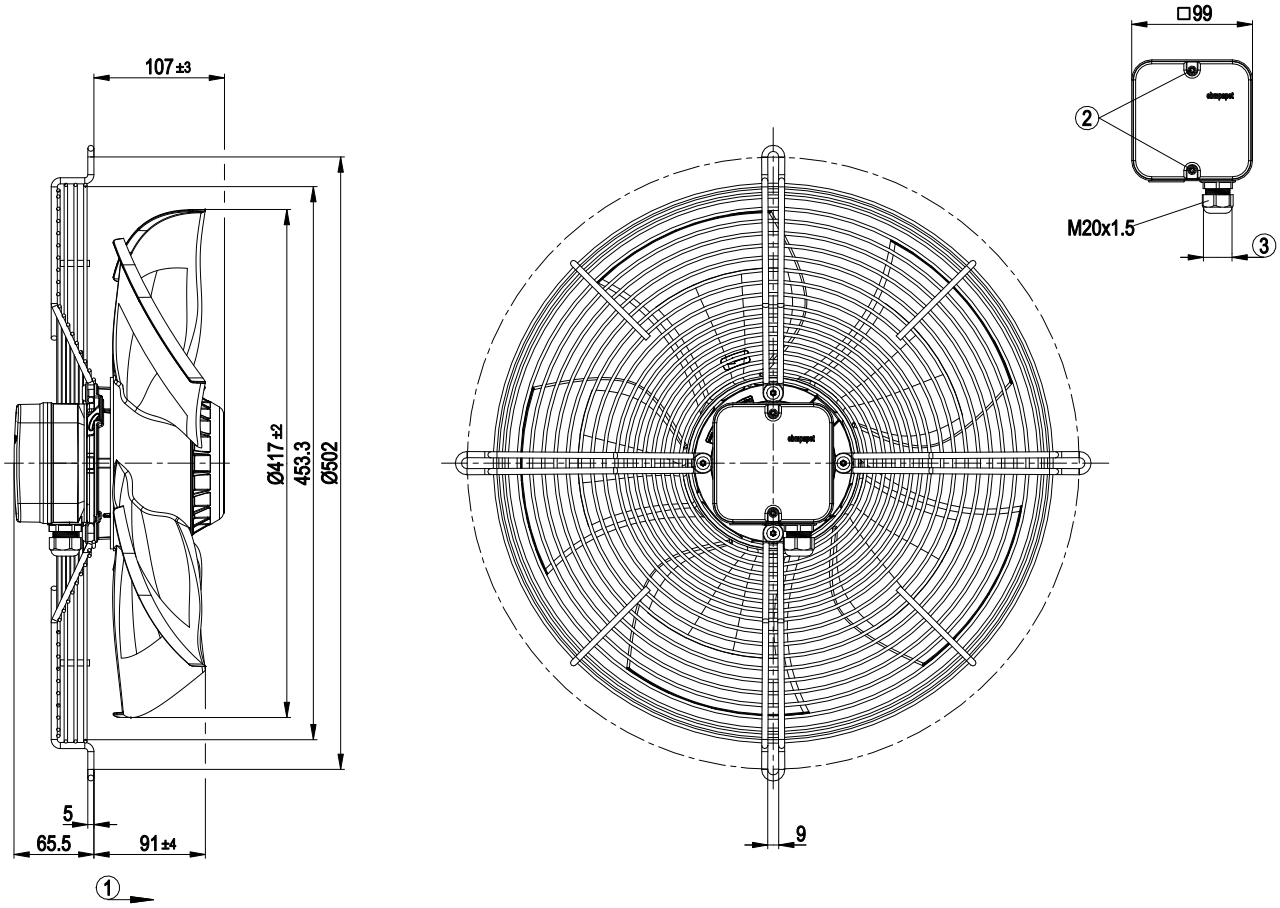
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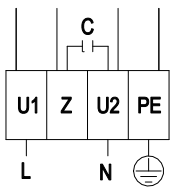
with guard grille for full nozzle

Product drawing



1	Direction of air flow "A"
2	Tightening torque 0.8 ± 0.15 Nm
3	Cable diameter min. 6 mm, max. 12 mm, tightening torque 2.0±0.3 Nm

Connection diagram



L	= U1 = blue	Z	brown	N	= U2 = black
PE	green/yellow				

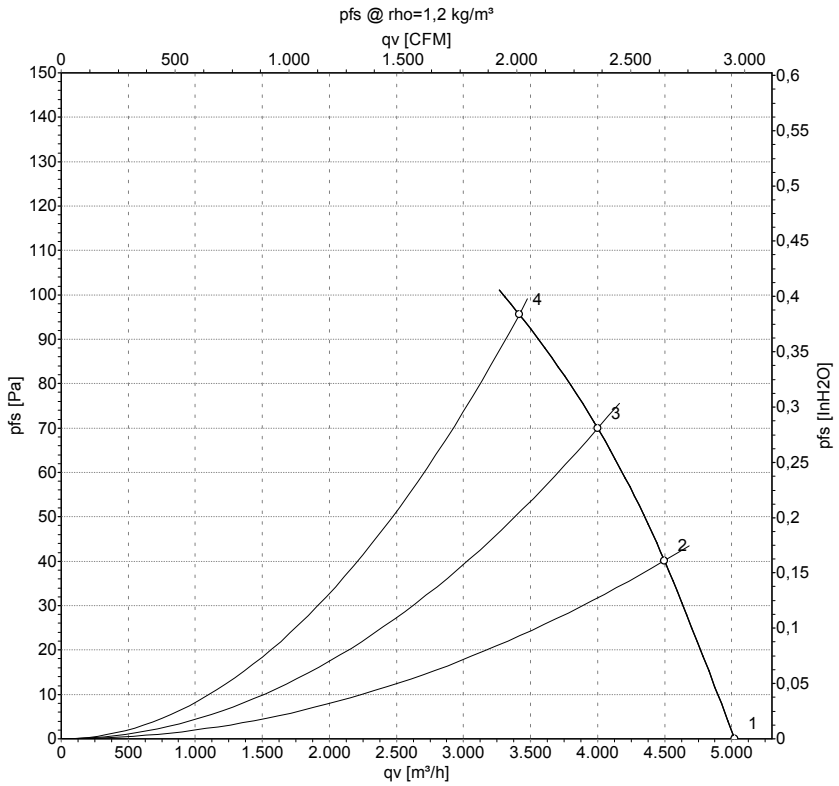
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Curves: Air performance 50 Hz



Measurement: LU-71823-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	U	f	n	P_e	I	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	230	50	1400	230	1.06	5025	0	2955	0.00
2	230	50	1385	248	1.12	4500	40	2645	0.16
3	230	50	1380	259	1.17	4000	70	2355	0.28
4	230	50	1360	280	1.25	3415	95	2010	0.38

U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

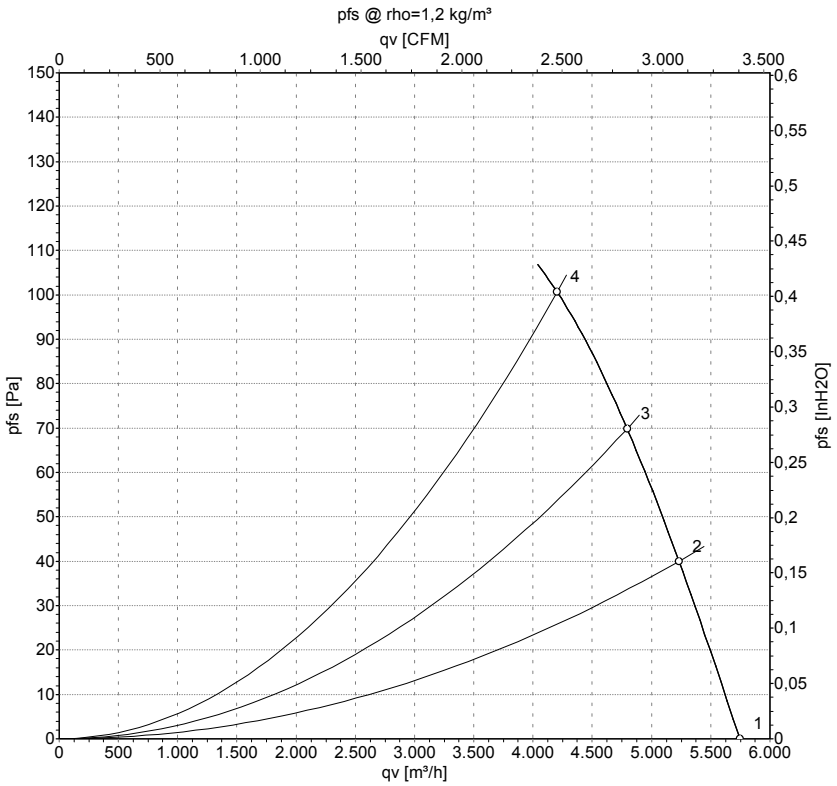
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Curves: Air performance 60 Hz



Measurement: LU-71831-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	U	f	n	P_e	I	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	230	60	1595	325	1.42	5745	0	3380	0.00
2	230	60	1570	348	1.51	5235	40	3080	0.16
3	230	60	1545	362	1.57	4795	70	2820	0.28
4	230	60	1520	385	1.68	4205	100	2475	0.40

U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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