S4D450-BO14-72

AC axial fan

sickled blades (S series)

with guard grille for full nozzle

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County court Stuttgart · HRB 590142

Nominal data

Type	**S4D450-BO14-72**
Motor	**M4D094-HA**

Phase		3~	3~	3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400	460	460
Connection		Δ	Y	Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60	60	60
Type of data definition		ml	ml	ml	ml	ml	ml
Valid for approval / standard		CE	CE	CE	CE	CE	CE
Speed (rpm)	min^{-1}	1360	1110	1510	1060	1580	1190
Power input	W	480	340	690	400	740	490
Current draw	A	0.98	0.58	1.2	0.72	1.17	0.74
Max. back pressure	Pa	140	90	145	70	155	90
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	65	65	50	50	50	50
Starting current	A	3.9	1.3	3.5	1.2	3.8	1.2

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

Data in accordance with ecodesign regulation EU 327/2011

		Actual	Request 2015
01 Overall efficiency η_{es}	%	33.5	31.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		41.9	40
05 Variable speed drive		No	

09 Power input P_e	kW	0.46
09 Air flow q_v	m^3/h	4530
09 Pressure increase p_{fs}	Pa	133
10 Speed (rpm) n	min^{-1}	1365
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

LU-107893

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Technical features

Mass	9.6 kg
Size	450 mm
Motor size	94
Surface of rotor	Coated in black
Material of terminal box	PP plastic
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Material of guard grille	Steel, coated in black plastic (RAL9005)
Number of blades	5
Direction of air flow	V
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP54
Insulation class	"F"
Humidity (F) / environmental protection class (H)	H2
Note ambient temperature	Occasional start-up between -40 °C and -25 °C is permissible. For continuous operation at ambient temperatures below -25 °C (e.g. refrigeration applications), a fan version with special low-temperature bearings must be used.
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical connection	Terminal box
Motor protection	Thermal overload protector (TOP) brought out, basic insulation
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60034-1 (2010); CE
Approval	UL 1004-1; EAC; CSA C22.2 no. 100

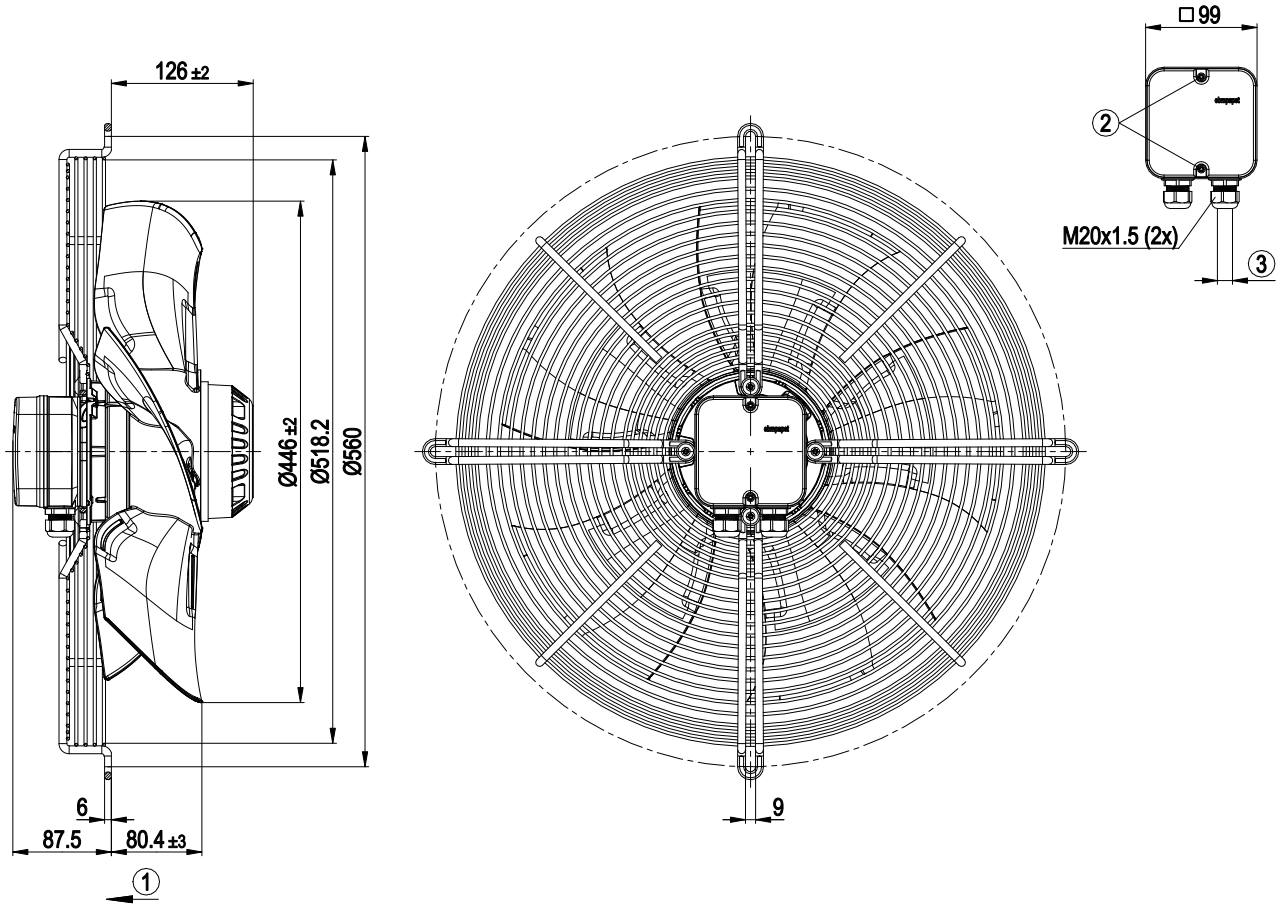
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Product drawing



1	Direction of air flow "V"
2	Tightening torque 1.5±0.2 Nm
3	Cable diameter min. 6 mm, max. 12 mm, tightening torque 2±0.3 Nm

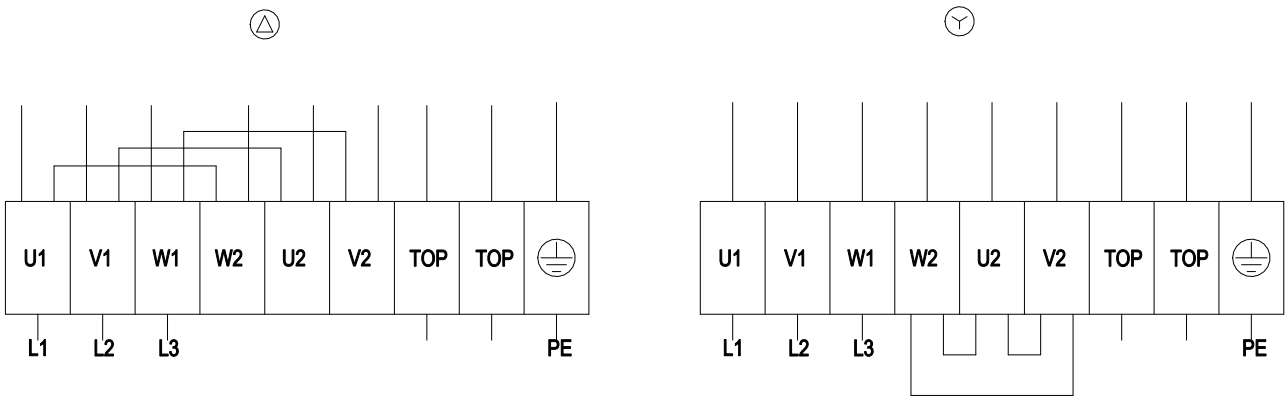
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Connection screen



Δ	Delta-connection	Y	Star connection	L1	= U1 = black
L2	= V1 = blue	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2 x grey
PE	green / yellow				

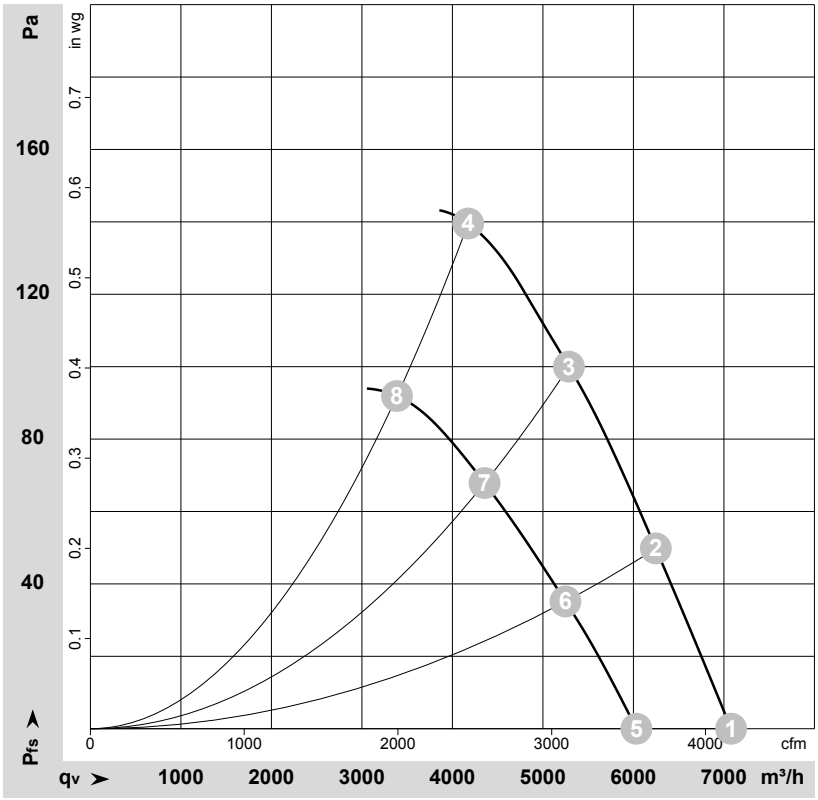
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Charts: Air flow 50 Hz



ρ = 1.19 kg/m³ ± 2 %

Measurement: LU-107893-1
Measurement: LU-107309-1

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	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	Δ	400	50	1400	386	0.88	65	71	72	7080	0	4165	0.00
2	Δ	400	50	1385	423	0.91	62	68	69	6250	50	3675	0.20
3	Δ	400	50	1370	456	0.95	61	68	68	5290	100	3110	0.40
4	Δ	400	50	1360	480	0.98	63	69	70	4175	140	2455	0.56
5	Y	400	50	1195	285	0.49				6035	0	3550	0.00
6	Y	400	50	1155	309	0.52				5250	35	3090	0.14
7	Y	400	50	1130	328	0.55				4355	68	2565	0.27
8	Y	400	50	1110	340	0.58				3385	92	1995	0.37

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

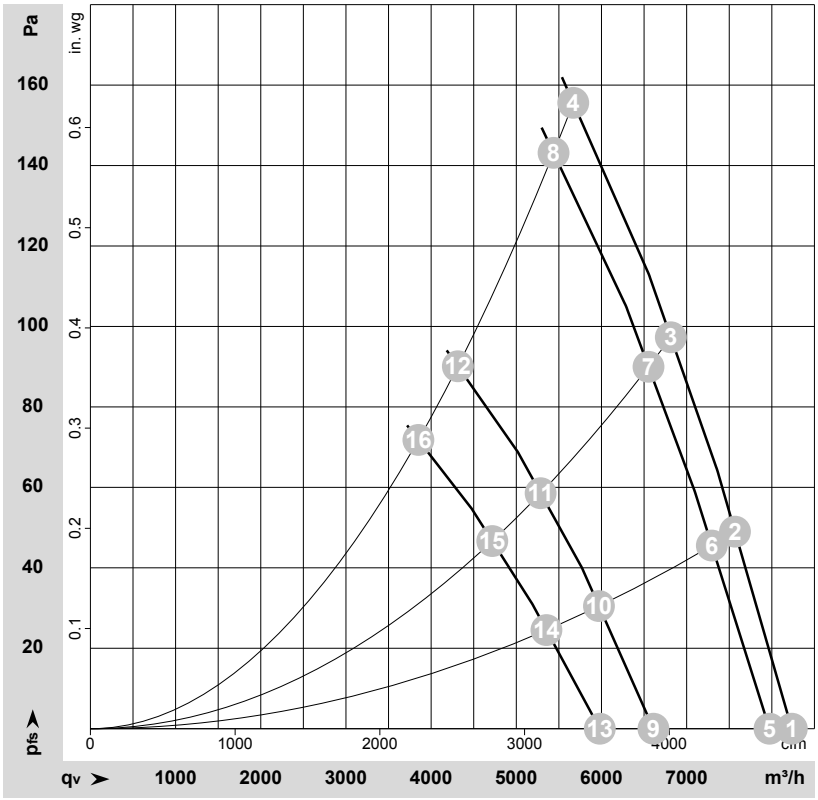
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Charts: Air flow 60 Hz



ρ = 1.189 kg/m³ ± 2 %

Measurement: LU-108238-1
Measurement: LU-108207-1
Measurement: LU-151948-1
Measurement: LU-108206-1

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	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	Δ	460	60	1630	617	1.01	68	74	75	8235	0	4845	0.00
2	Δ	460	60	1610	660	1.06	66	72	73	7565	49	4455	0.20
3	Δ	460	60	1595	699	1.12	65	71	72	6815	97	4010	0.39
4	Δ	460	60	1580	740	1.17	65	71	72	5670	155	3335	0.62
5	Δ	400	60	1570	580	1.03	67	73	74	7975	0	4695	0.00
6	Δ	400	60	1550	621	1.09	65	71	73	7295	45	4295	0.18
7	Δ	400	60	1530	657	1.15	64	70	71	6550	90	3855	0.36
8	Δ	400	60	1510	690	1.20	64	70	71	5435	145	3200	0.58
9	Y	460	60	1300	441	0.66	63	69	70	6610	0	3890	0.00
10	Y	460	60	1265	459	0.69	61	67	68	5970	30	3515	0.12
11	Y	460	60	1230	475	0.71	59	65	66	5285	59	3110	0.24
12	Y	460	60	1190	490	0.74	58	64	65	4315	90	2540	0.36
13	Y	400	60	1175	375	0.65	62	67	68	5980	0	3520	0.00
14	Y	400	60	1130	388	0.68	59	64	65	5355	25	3150	0.10
15	Y	400	60	1095	398	0.70	57	63	63	4720	47	2775	0.19
16	Y	400	60	1060	400	0.72	56	62	62	3850	70	2265	0.28

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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