S4D450-AL10-77

AC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**S4D450-AL10-77**
Motor	**M4D094-FA**

Phase		3~	3~	3~
Nominal voltage	VAC	400	400	480
Wiring		Y	Y	Y
Frequency	Hz	50	60	60
Method of obtaining data		ml	ml	ml
Valid for approval/standard		CE	CE	CE
Speed (rpm)	min^{-1}	1350	1500	1590
Power consumption	W	370	510	560
Current draw	A	0.77	0.88	0.87
Max. back pressure	Pa	140	135	150
Max. back pressure	inH2O	0.56	0.54	0.6
Min. ambient temperature	°C	-40	-40	-40
Max. ambient temperature	°C	65	65	65
Starting current	A	2.8		3.0

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}	%	35.5	30.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		45	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.32
09 Air flow q_v	m^3/h	4175
09 Pressure increase p_{fs}	Pa	100
10 Speed (rpm) n	min^{-1}	1370
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-118050

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Technical description

Weight	8.2 kg
Fan size	450 mm
Rotor surface	Painted black
Terminal box material	ABS plastic, black
Impeller material	PP-GF40 plastic
Guard grille material	Steel, phosphated and coated with black plastic
Number of blades	5
Airflow direction	"V"
Direction of rotation	Counterclockwise, 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
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
Motor protection	Thermal overload protector (TOP) with basic insulation
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60034-1 (2004); CE
Approval	CCC; CSA C22.2 No. 100; UL 1004-1

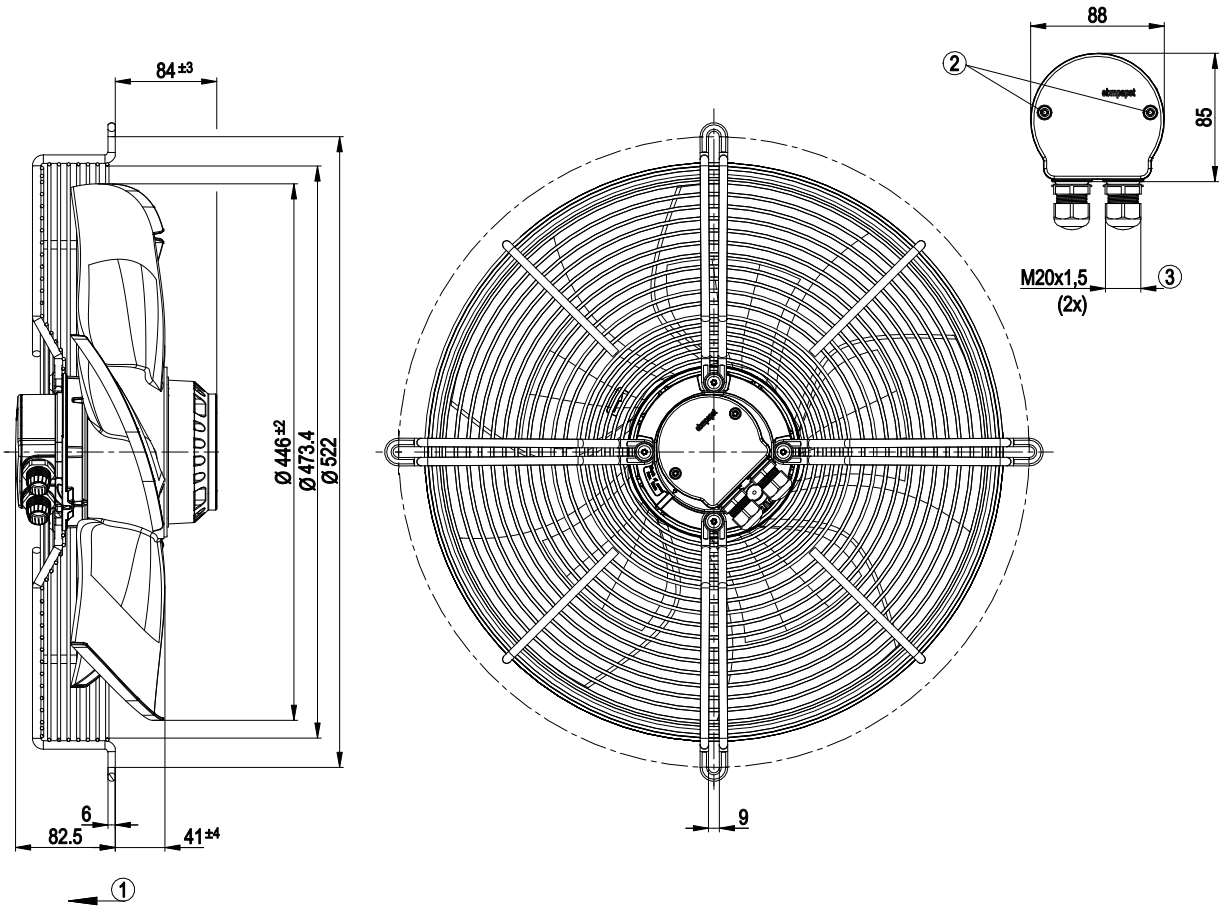
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Product drawing



1	Direction of air flow "V"
2	Tightening torque 1.0±0.15 Nm
3	Cable diameter min. 6 mm, max. 12 mm; tightening torque 2±0.2 Nm

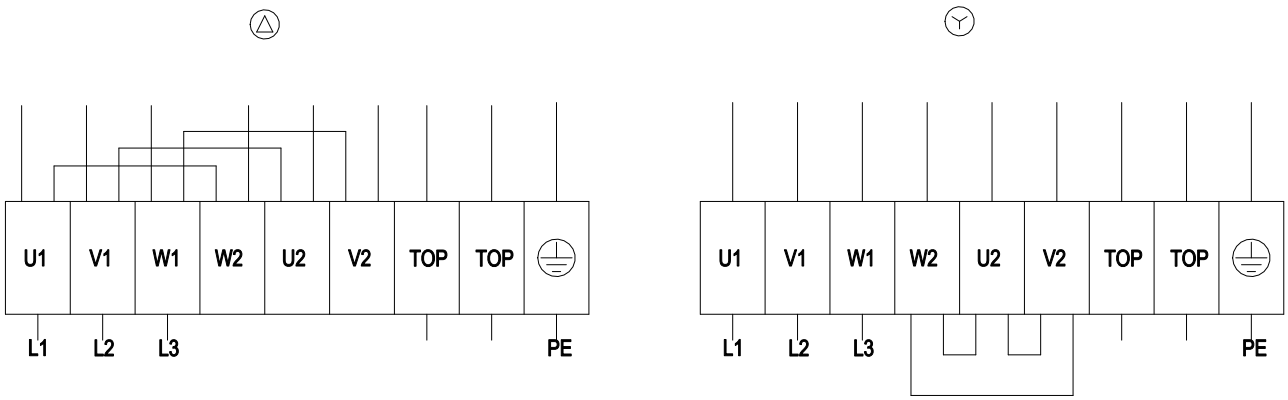
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Connection diagram



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

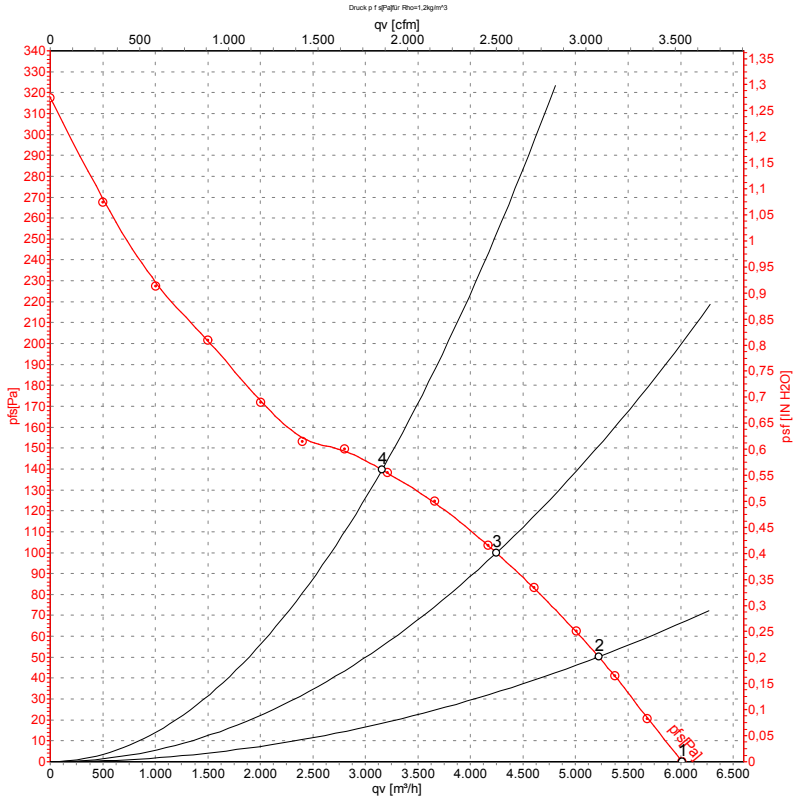
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Curves: Air performance 50 Hz Y



Measurement: LU-118050-1

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

	Wired	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	Y	400	50	1410	246	0.63	6015	0	3540	0.00
2	Y	400	50	1390	292	0.68	5220	50	3070	0.20
3	Y	400	50	1375	323	0.71	4245	100	2500	0.40
4	Y	400	50	1350	370	0.77	3160	140	1860	0.56

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

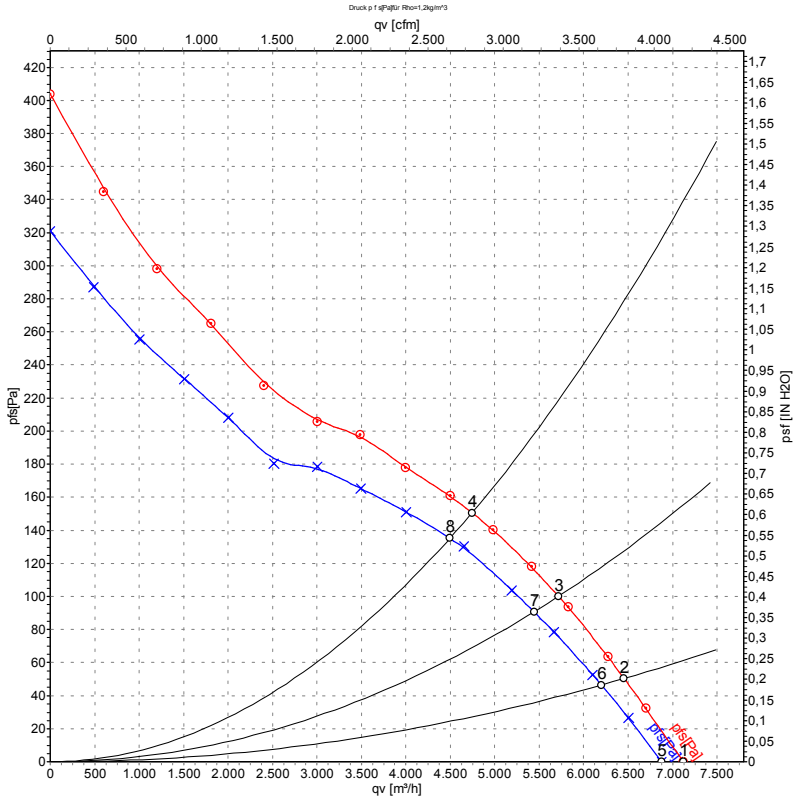
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Curves: Air performance 60 Hz Y



Measurement: LU-118054-1
Measurement: LU-118052-1

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

	Wired	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	Y	480	60	1655	406	0.71	7120	0	4190	0.00
2	Y	480	60	1630	460	0.76	6455	50	3800	0.20
3	Y	480	60	1610	504	0.80	5720	100	3365	0.40
4	Y	480	60	1590	560	0.87	4745	150	2790	0.60
5	Y	400	60	1600	378	0.69	6875	0	4045	0.00
6	Y	400	60	1570	423	0.75	6200	46	3650	0.18
7	Y	400	60	1540	462	0.81	5440	91	3200	0.37
8	Y	400	60	1500	510	0.88	4495	135	2645	0.54

Wired = Wiring · 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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