S4D420-AU02-45

AC axial fan - HyBlade

sickle-shaped blades (S series)

with guard grille for short nozzle

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**S4D420-AU02-45**
Motor	**M4D094-EA**

Phase		3~	3~	3~	3~	3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400	460	460	480	480
Wiring		Δ	Y	Δ	Y	Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60	60	60	60	60
Method of obtaining data		ml	ml	ml	ml	ml	ml	ml	ml
Valid for approval/standard		CE	CE	CE	CE	CE	CE	CE	CE
Speed (rpm)	min^{-1}	1360	1060	1490	970	1540	1100	1570	1150
Power consumption	W	260	185	385	220	430	260	450	270
Current draw	A	0.52	0.31	0.65	0.37	0.66	0.42	0.67	0.36
Max. back pressure	Pa	95	60	110	47	120	57	125	65
Max. back pressure	inH2O	0.38	0.24	0.44	0.19	0.48	0.23	0.5	0.26
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	60	60	55	55	55	55	55	55
Starting current	A	1.7	0.55	1.57	0.51				

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}	%	32.3	30
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		42.3	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.26
09 Air flow q_v	m^3/h	3205
09 Pressure increase p_{fs}	Pa	96
10 Speed (rpm) n	min^{-1}	1350
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-72485

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Technical description

Fan size	420 mm
Rotor surface	Painted black
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Guard grille material	Steel, phosphated and coated with black plastic
Airflow direction	"V"
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP54; installation- and position-dependent as per EN 60034-5
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	Any
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
Motor protection	Thermal overload protector (TOP) with basic insulation
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60034-1 (2004); CE
Approval	CSA C22.2 No. 100; UL 1004-1

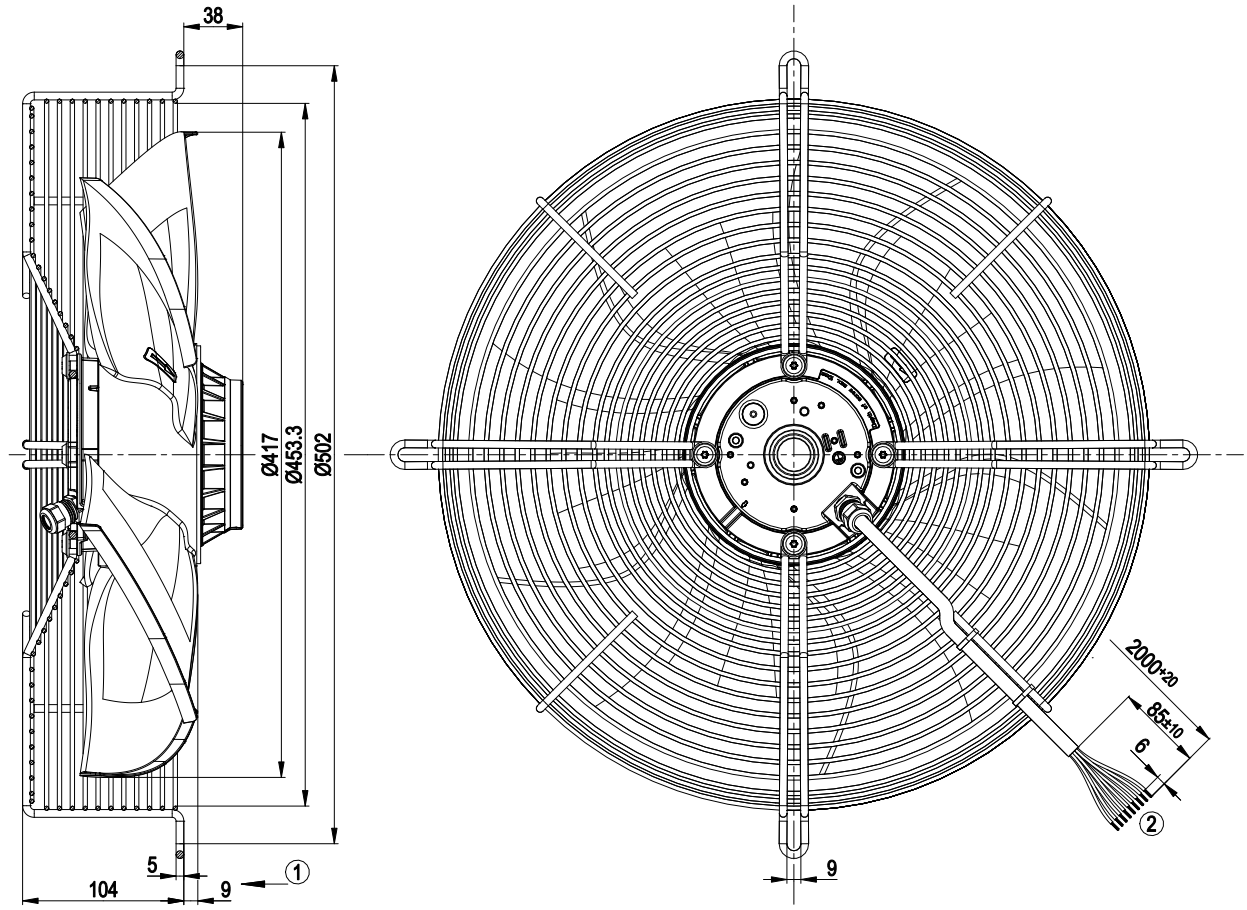
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Product drawing



1	Direction of air flow "V"
2	Cable silicone 9G 0.5 mm², 9x crimped splices

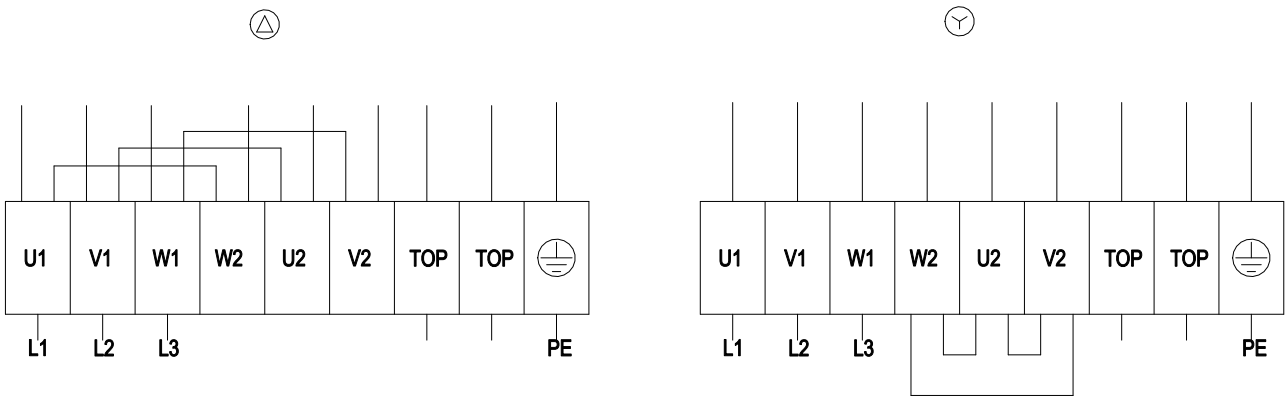
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Connection diagram



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				

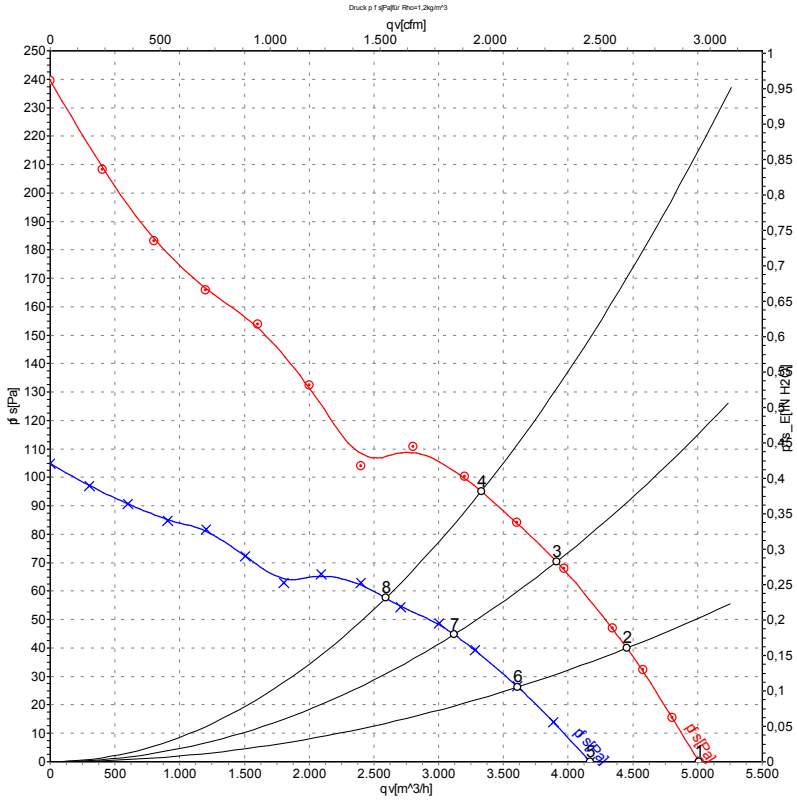
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Curves: Air performance 50 Hz Δ



Measurement: LU-72485-1
Measurement: LU-72487-1

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	Δ	400	50	1390	207	0.46	5015	0	2950	0.00
2	Δ	400	50	1375	230	0.48	4455	40	2620	0.16
3	Δ	400	50	1365	243	0.49	3910	70	2300	0.28
4	Δ	400	50	1360	260	0.52	3330	95	1960	0.38
5	Y	400	50	1160	153	0.25	4170	0	2455	0.00
6	Y	400	50	1115	165	0.28	3610	26	2125	0.10
7	Y	400	50	1090	172	0.29	3120	45	1835	0.18
8	Y	400	50	1060	185	0.31	2590	58	1525	0.23

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

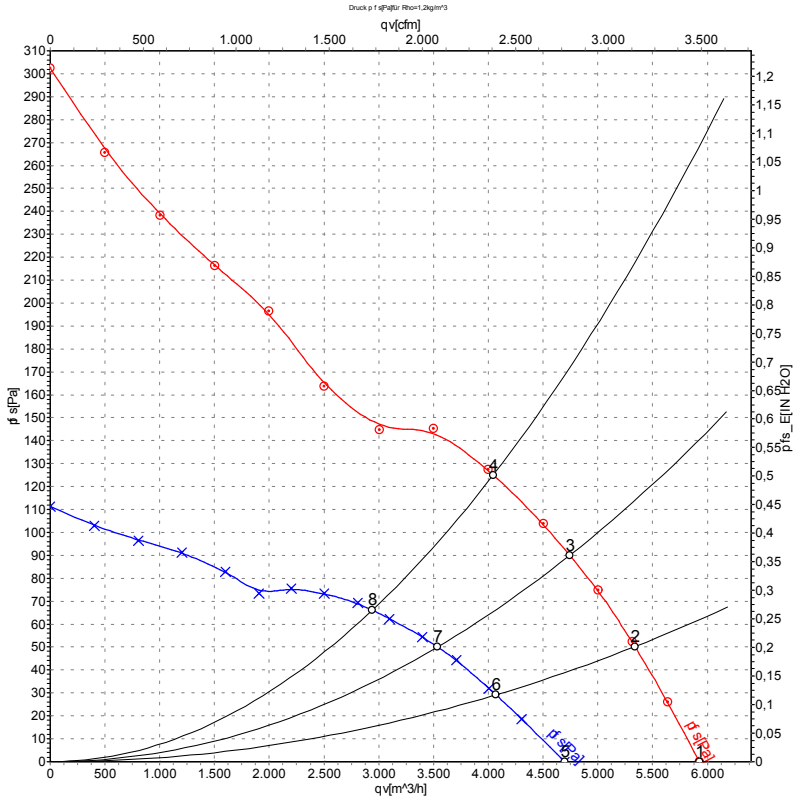
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Curves: Air performance 60 Hz Δ



Measurement: LU-72493-1
Measurement: LU-72494-1

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	Δ	480	60	1635	339	0.54	5930	0	3490	0.00
2	Δ	480	60	1615	368	0.57	5340	50	3140	0.20
3	Δ	480	60	1600	391	0.59	4745	90	2790	0.36
4	Δ	480	60	1570	450	0.67	4045	125	2380	0.50
5	Y	480	60	1300	241	0.33	4695	0	2765	0.00
6	Y	480	60	1235	257	0.36	4070	29	2395	0.12
7	Y	480	60	1200	265	0.37	3540	50	2080	0.20
8	Y	480	60	1155	275	0.39	2940	66	1730	0.26

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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