S4D630-BI01-09

Thermofin GmbH

AC axial fan - HyBlade

sickle-shaped blades (S series)

with guard grille for short nozzle

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Amtsgericht (court of registration) Stuttgart · HRA 590344

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

Nominal data

Type	**S4D630-BI01-09**
Motor	**M4D138-HF**

Phase		3~	3~	3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400	480	480
Wiring		Δ	Y	Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60	60	60
Method of obtaining data		ml	ml	ml	ml	ml	ml
Valid for approval/standard		CE	CE	CE	CE	CE	CE
Speed (rpm)	min^{-1}	1350	1105	1520	1160	1600	1310
Power consumption	W	1630	1150	2160	1280	2380	1590
Current draw	A	2.86	1.88	3.6	2.16	3.47	2.2
Max. back pressure	Pa	220	150	160	77	180	98
Max. back pressure	in. wg	0.88	0.6	0.64	0.31	0.72	0.39
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	60	60	60	60	60	60
Starting current	A	14	4.5	13	4.0	16	5.3

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

Data according to Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	35.5	34.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		40.6	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	1.58
09 Air flow q_v	m^3/h	10345
09 Pressure increase p_{fs}	Pa	197
10 Speed (rpm) n	min^{-1}	1355
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-115601

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Technical description

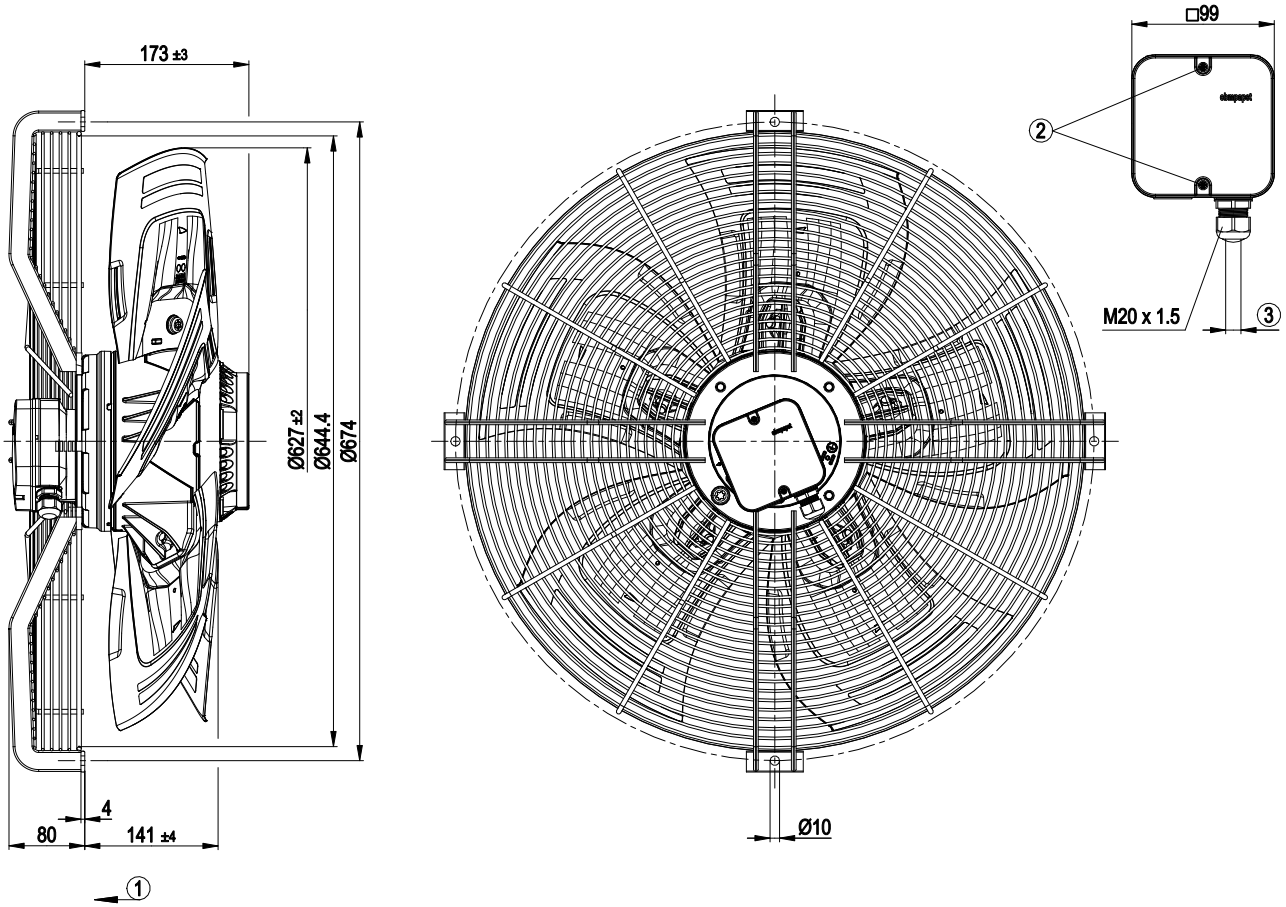
Weight	24.9 kg
Fan size	630 mm
Rotor surface	Cast in aluminum
Terminal box material	PP plastic
Blade material	Sheet aluminum insert, sprayed with PP plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Blade pitch	-10°
Airflow direction	"V"
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F3-1
Ambient temperature note	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at temperatures below -25°C (e.g. refrigeration applications) we recommend our fan design with special low-temperature bearings.
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 and stator sides
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
With cable	Axial
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; EN 60034-1 (2010); CE
Approval	VDE; EAC

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Product drawing



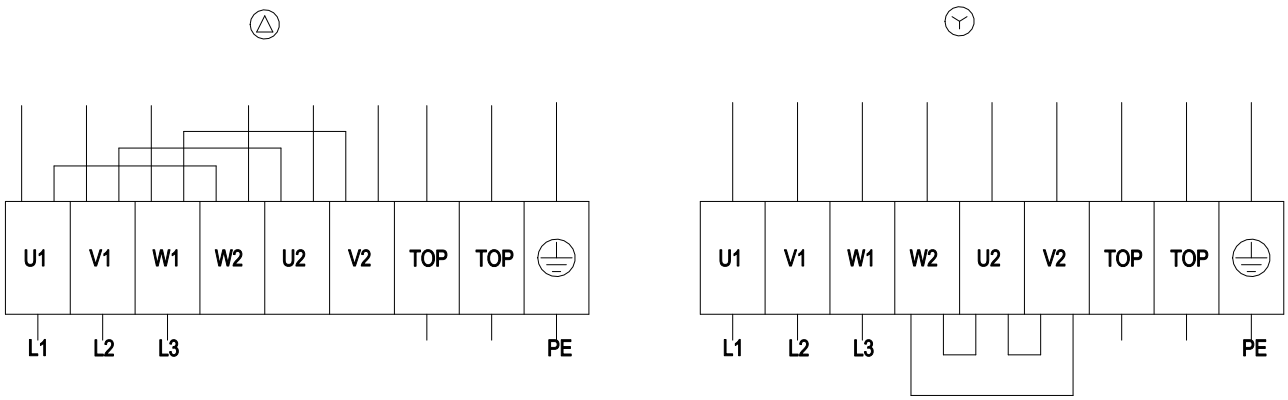
1	Direction of air flow "V"
2	Tightening torque 1.5 ± 0.2 Nm
3	Cable diameter: min. 7 mm, max. 14 mm, tightening torque 2±0.3 Nm

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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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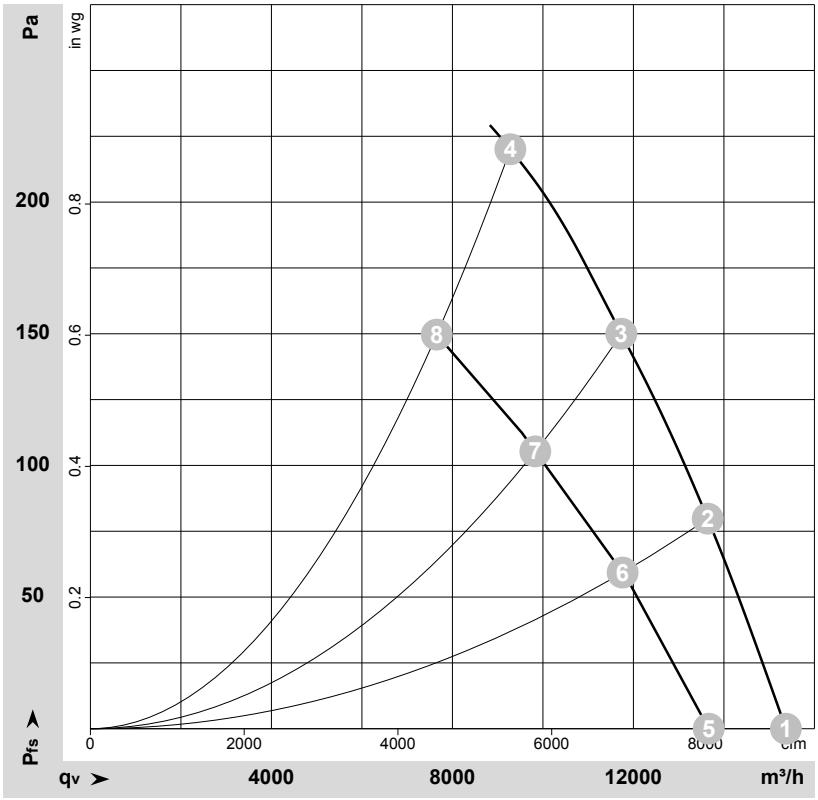
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Curves: Air performance 50 Hz



ρ = 1.175 kg/m³ ± 2 %

Measurement: LU-115601-1
Measurement: LU-120164-1

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	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	1410	1074	2.21	71	78	78	15370	0	9045	0.00
2	Δ	400	50	1385	1291	2.46	69	75	75	13640	80	8030	0.32
3	Δ	400	50	1365	1482	2.70	71	77	77	11730	150	6905	0.60
4	Δ	400	50	1350	1630	2.86	74	81	81	9280	220	5460	0.88
5	Y	400	50	1250	843	1.37	68	74	75	13665	0	8040	0.00
6	Y	400	50	1190	972	1.57	65	71	71	11760	59	6920	0.24
7	Y	400	50	1145	1075	1.74	66	72	72	9830	105	5785	0.42
8	Y	400	50	1105	1150	1.88	70	76	76	7655	150	4505	0.60

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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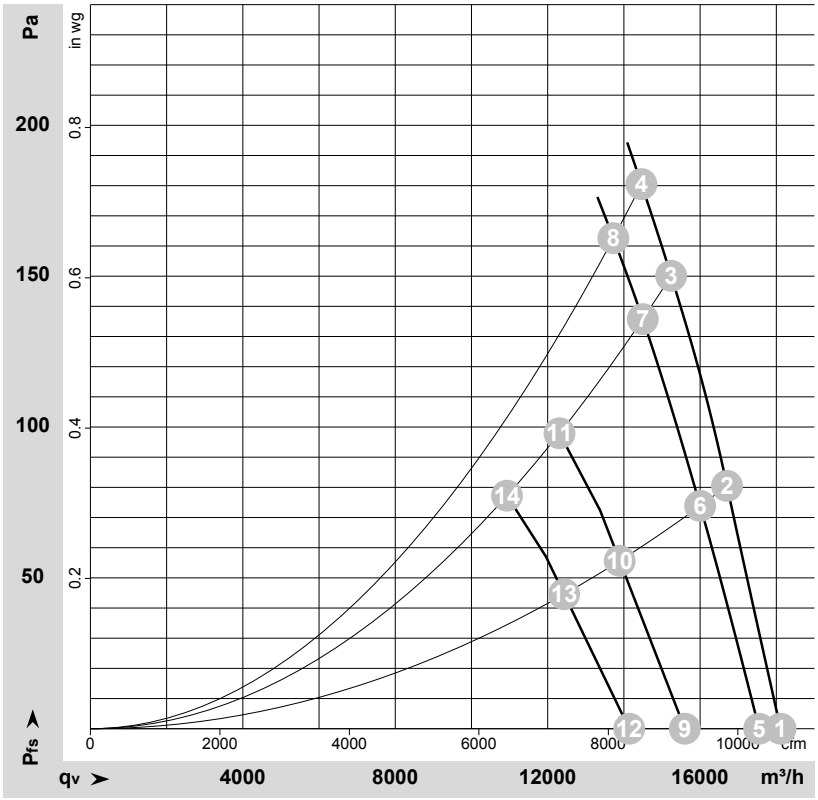
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Curves: Air performance 60 Hz



ρ = 1.177 kg/m³ ± 2 %

Measurement: LU-115609-1
Measurement: LU-115605-1
Measurement: LU-173793-1
Measurement: LU-120167-1

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	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	480	60	1665	1791	2.73	75	82	82	18115	0	10660	0.00
2	Δ	480	60	1640	2048	3.02	73	80	80	16705	80	9835	0.32
3	Δ	480	60	1615	2271	3.26	73	80	80	15240	150	8970	0.60
4	Δ	480	60	1600	2380	3.47	74	81	81	14460	180	8510	0.72
5	Δ	400	60	1610	1655	2.76	74	81	81	17550	0	10330	0.00
6	Δ	400	60	1575	1886	3.11	72	79	79	16000	74	9420	0.30
7	Δ	400	60	1540	2083	3.40	72	78	78	14495	136	8530	0.55
8	Δ	400	60	1520	2160	3.60	73	79	79	13725	160	8080	0.64
9	Y	480	60	1425	1356	1.85	71	78	78	15600	0	9180	0.00
10	Y	480	60	1365	1488	2.04	69	75	75	13890	56	8175	0.22
11	Y	480	60	1310	1590	2.20	68	75	75	12310	98	7245	0.39
12	Y	400	60	1295	1143	1.90	69	75	75	14140	0	8320	0.00
13	Y	400	60	1220	1221	2.05	66	72	72	12430	45	7315	0.18
14	Y	400	60	1160	1280	2.16	65	71	71	10935	77	6435	0.31

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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