W8D500-CJ09-86

AC axial fan - HyBlade

sickle-shaped blades (S series)

with round full nozzle, Transformer fan

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Nominal data

Type	**W8D500-CJ09-86**
Motor	**M8D110-EF**

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		fa	fa	fa	fa	fa	fa
Valid for approval/standard		CE	CE	CE	CE	CE	CE
Speed (rpm)	min^{-1}	690	565	765	530	805	625
Power consumption	W	115	72	150	85	165	110
Current draw	A	0.3	0.14	0.3	0.16	0.32	0.17
Max. back pressure	Pa	32	20	35	16	40	23
Max. back pressure	in. wg	0.13	0.08	0.14	0.06	0.16	0.09
Min. ambient temperature	°C	-25	-25	-25	-25	-25	-25
Max. ambient temperature	°C	80	80	80	80	80	80
Starting current	A	0.75	0.25	0.7	0.25	0.83	0.28

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

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Technical description

Weight	18 kg
Size	500 mm
Motor size	110
Rotor surface	Painted black
Terminal box material	Die-cast aluminum, painted black
Blade material	Press-fitted, painted sheet steel blank, sprayed with PP plastic
Fan housing material	Sheet steel, galvanized and coated with cement-gray plastic (RAL 7033)
Guard grille material	Steel, coated with cement-gray plastic (RAL 7033)
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	H2+T
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 top; rotor on bottom on request
Condensation drainage holes	On stator side
Mode	S1
Motor bearing	Ball bearing
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	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 (2010); CE
Approval	VDE; CSA C22.2 No. 100; EAC; UL 1004-1

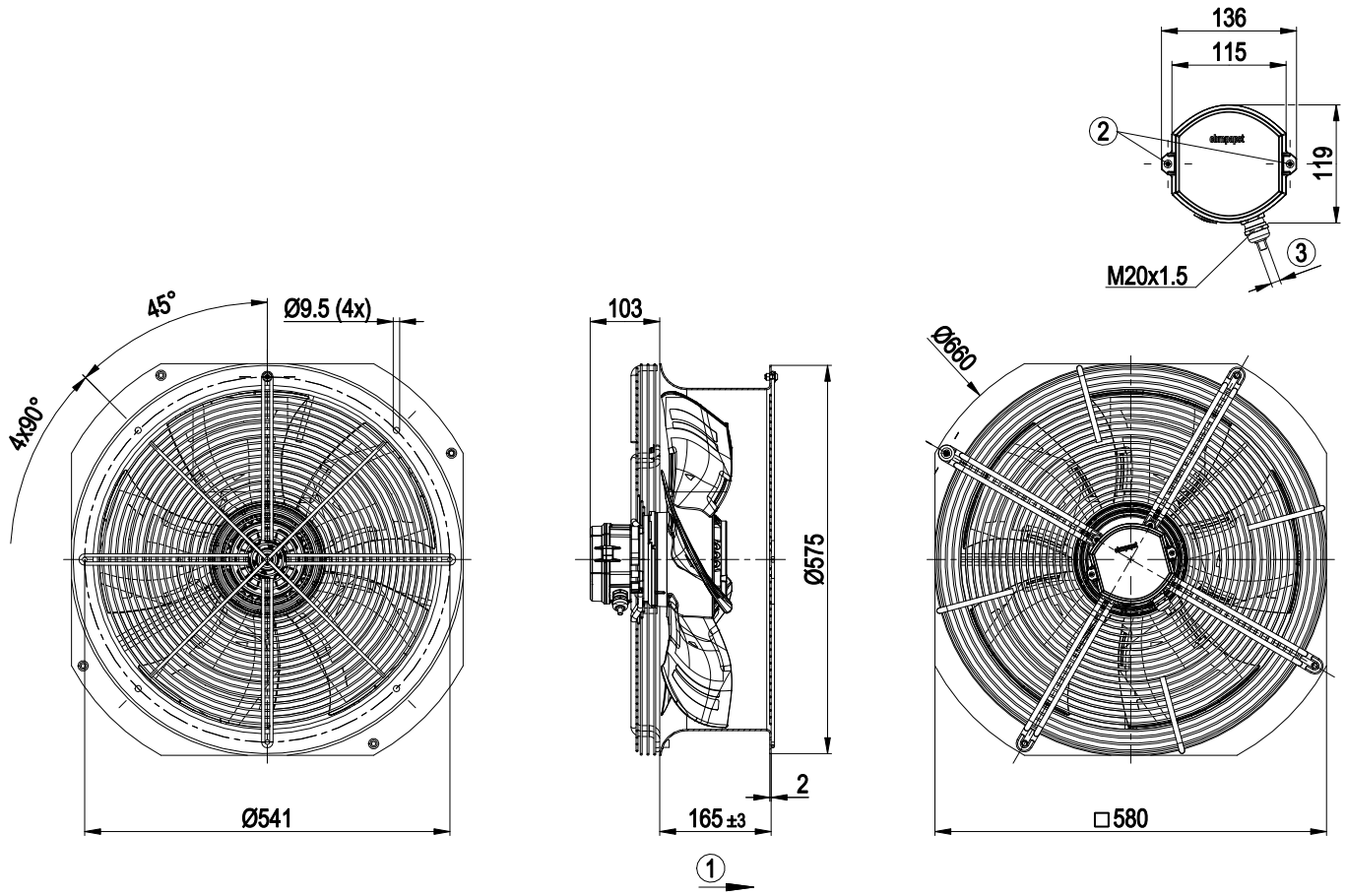
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Product drawing



1	Direction of air flow "A"
2	Tightening torque 2.5 ± 0.4 Nm
3	Cable diameter max. 12 mm, tightening torque 4 ± 0.4 Nm

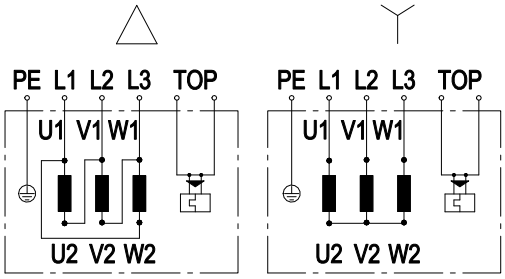
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Connection diagram



Note: Change of rotation direction by reversing two phases

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

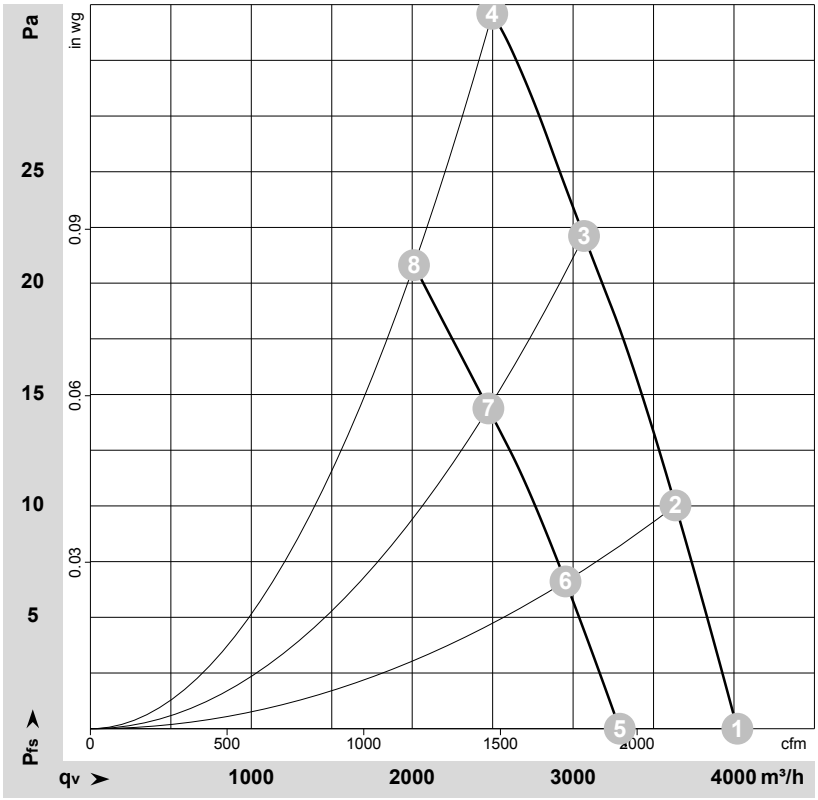
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-184380-1
Measurement: LU-184586-1

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	690	115	0.30	56	62	62	4020	0	2365	0.00
2	Δ	400	50	680	116	0.30	55	61	61	3635	10	2140	0.04
3	Δ	400	50	675	121	0.30	53	59	59	3070	22	1805	0.09
4	Δ	400	50	675	124	0.30	53	59	59	2495	32	1470	0.13
5	Y	400	50	565	72	0.14	51	57	57	3290	0	1935	0.00
6	Y	400	50	555	74	0.14	50	55	55	2955	7	1740	0.03
7	Y	400	50	540	77	0.14	48	54	53	2475	14	1455	0.06
8	Y	400	50	530	79	0.15	47	53	53	2010	21	1185	0.08

Wired = Wiring · U = Voltage · 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

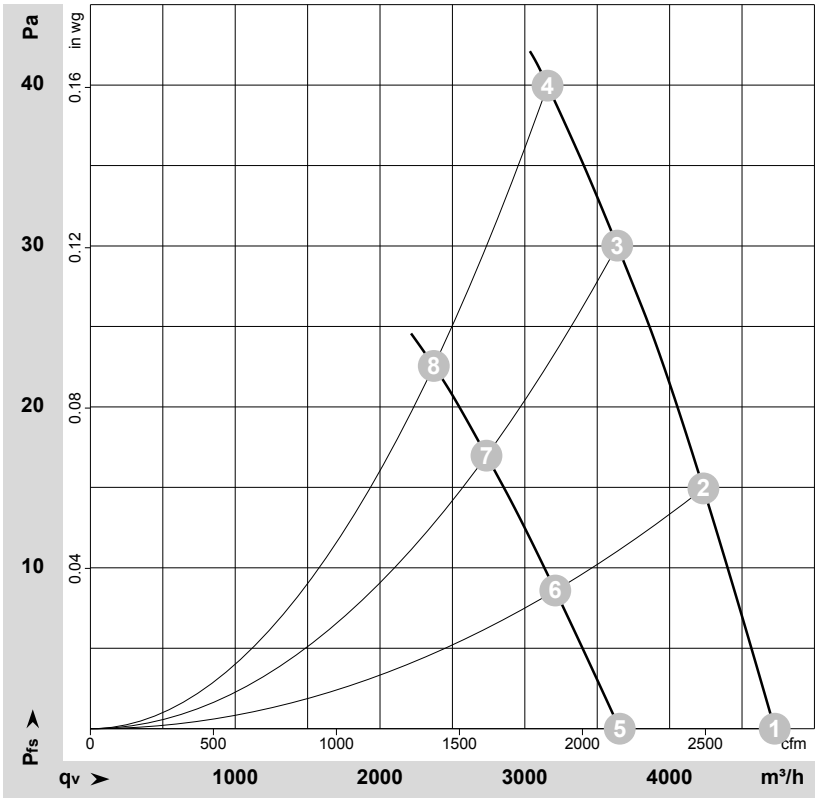
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Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-184469-1
Measurement: LU-184592-1

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	805	165	0.32	60	66	66	4725	0	2780	0.00
2	Δ	480	60	800	174	0.33	59	65	65	4235	15	2490	0.06
3	Δ	480	60	790	182	0.34	57	63	64	3640	30	2140	0.12
4	Δ	480	60	790	186	0.34	57	63	63	3155	40	1860	0.16
5	Y	480	60	625	110	0.17	54	59	59	3655	0	2150	0.00
6	Y	480	60	605	111	0.17	52	58	58	3210	9	1890	0.04
7	Y	480	60	590	114	0.18	50	56	56	2735	17	1610	0.07
8	Y	480	60	585	115	0.18	49	55	55	2370	23	1395	0.09

Wired = Wiring · U = Voltage · 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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