AC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

W8D800-GD01-08 ebmpapst Datasheet
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Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

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

Nominal data

Type	**W8D800-GD01-08**
Motor	**M8D138-LA**

Phase		3~	3~
Nominal voltage	VAC	400	400
Wiring		Δ	Y
Frequency	Hz	50	50
Method of obtaining data		cs	cs
Valid for approval/standard		-	-
Speed (rpm)	min^{-1}	670	550
Power consumption	W	780	520
Current draw	A	2.5	1.3
Max. back pressure	Pa	105	54
Max. back pressure	in. wg	0.42	0.22
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	70	70
Starting current	A	6	2

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	47.7 kg
Size	800 mm
Motor size	138
Rotor surface	Cast in aluminum
Terminal box material	PP plastic
Blade material	Sheet aluminum insert, sprayed with PP plastic
Fan housing material	Sheet steel, galvanized and coated with platinum gray plastic (RAL 7036)
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Blade pitch	0°
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a 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	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 60034-1 (2010)
Approval	VDE; EAC

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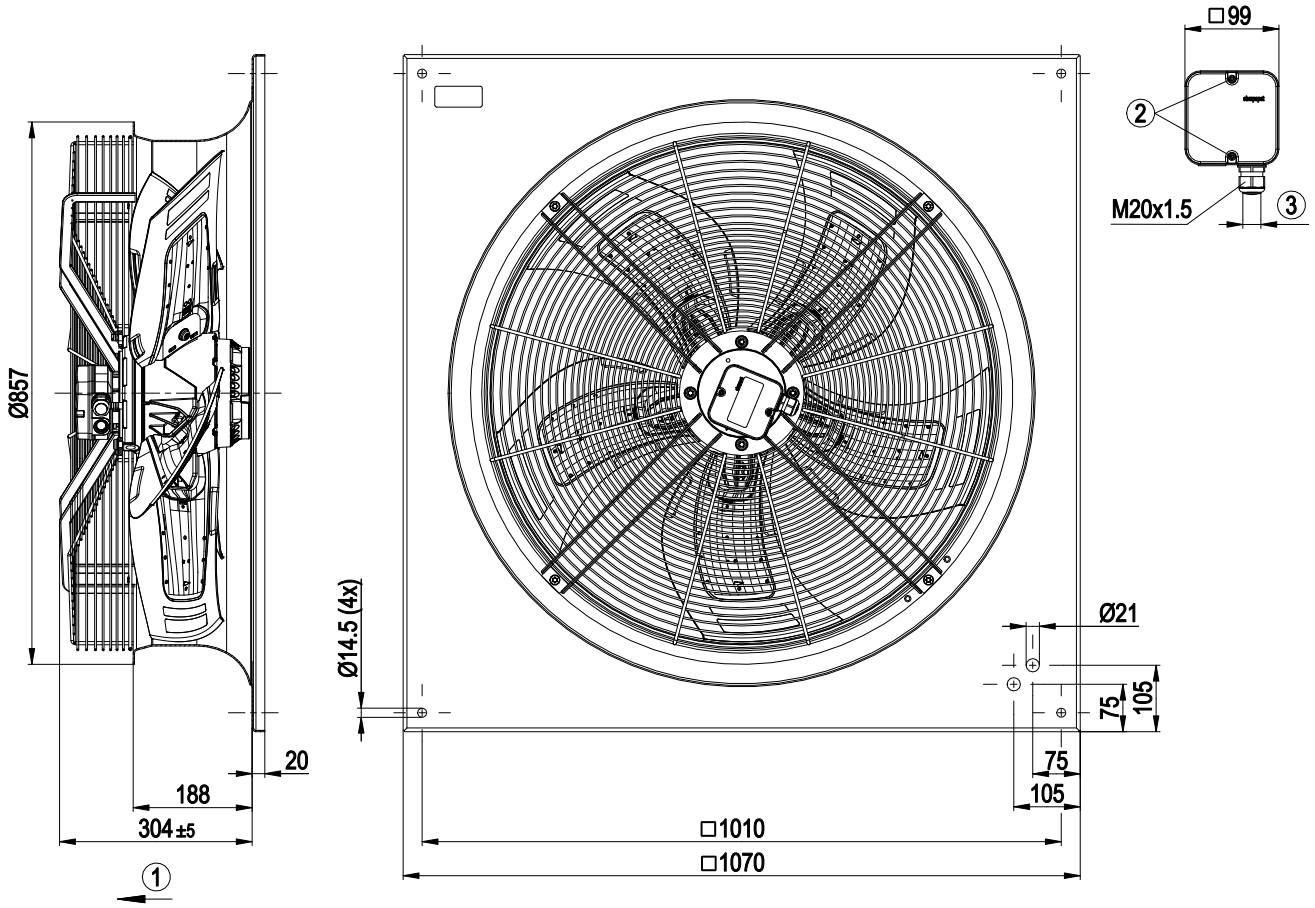
Product drawing



1	Airflow direction "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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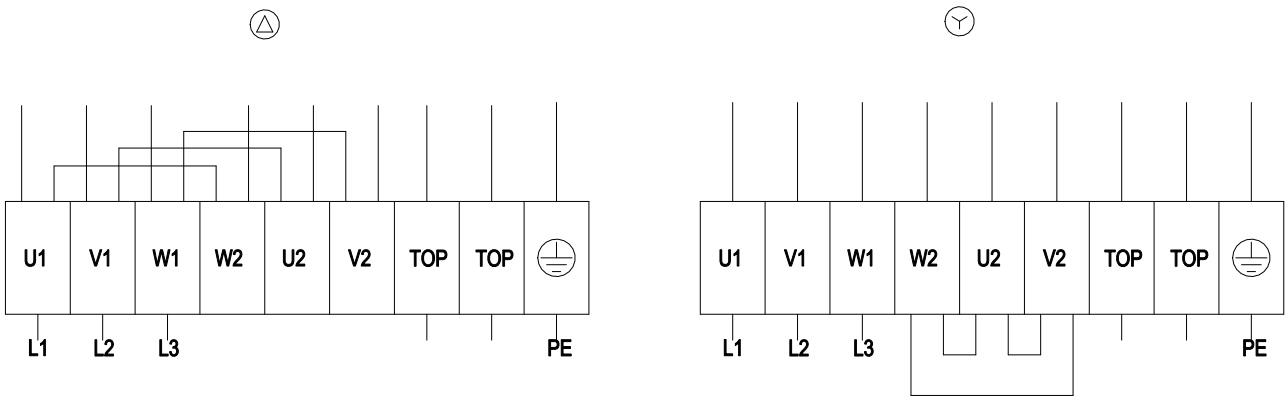
Connection diagram



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

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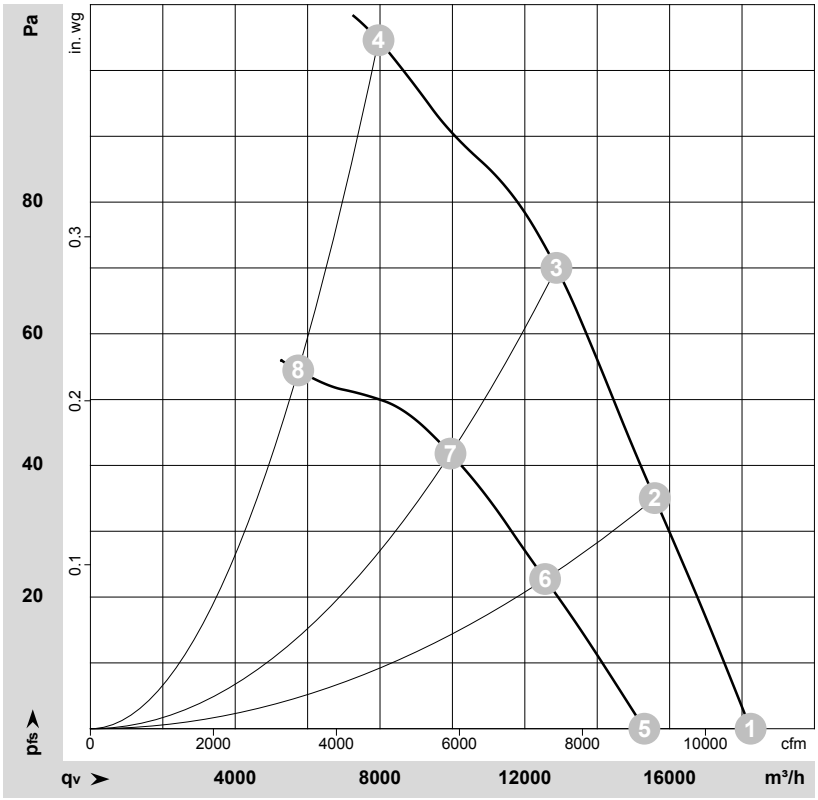
Curves: Air performance 50 Hz



ρ = 1.176 kg/m³ ± 2 %

Measurement: LU-115898-1
Measurement: LU-115925-1

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	700	684	2.05	59	65	65	18240	0	10735	0.00
2	Δ	400	50	685	773	2.10	59	65	64	15590	35	9175	0.14
3	Δ	400	50	680	849	2.20	60	66	65	12875	70	7575	0.28
4	Δ	400	50	660	990	2.37	67	75	75	7960	105	4685	0.42
5	Y	400	50	585	466	0.98	55	61	61	15300	0	9005	0.00
6	Y	400	50	555	512	1.07	54	60	59	12560	23	7395	0.09
7	Y	400	50	530	536	1.12	53	60	59	9945	42	5855	0.17
8	Y	400	50	485	580	1.21	59	67	67	5740	54	3380	0.22

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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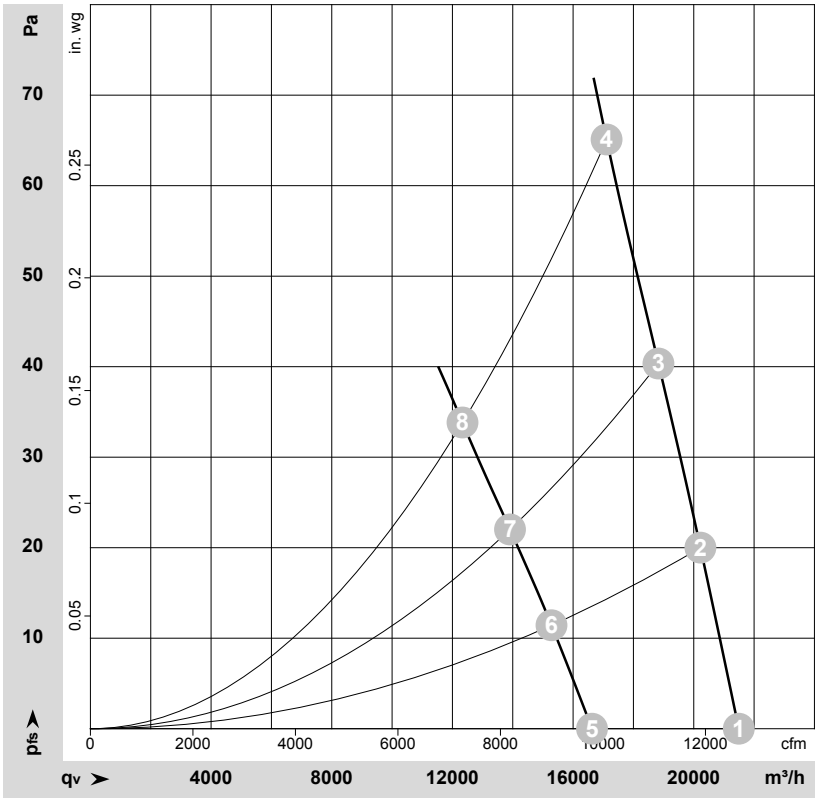
Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-115907-1
Measurement: LU-115926-1

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	820	1067	2.29	62	69	69	21495	0	12650	0.00
2	Δ	480	60	815	1141	2.36	62	68	68	20220	20	11900	0.08
3	Δ	480	60	805	1199	2.43	62	69	68	18830	40	11080	0.16
4	Δ	480	60	800	1270	2.52	63	69	68	17110	65	10070	0.26
5	Y	480	60	640	688	1.22	57	63	62	16625	0	9785	0.00
6	Y	480	60	615	710	1.26	56	62	61	15285	12	8995	0.05
7	Y	480	60	595	729	1.30	55	62	61	13910	22	8185	0.09
8	Y	480	60	575	740	1.33	55	62	61	12335	33	7260	0.13

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