

AC axial fan - HyBlade

sickle-shaped blades (S series)

with round full nozzle

W8D800-CD05-84 ebmpapst Datasheet

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Limited partnership · Headquarters Muldingen

Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Muldingen GmbH · Headquarters Muldingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	W8D800-CD05-84				
Motor	M8D138-LA				
Phase		3~	3~	3~	3~
Nominal voltage	VAC	230	277	400	480
Wiring		Δ	Δ	Y	Y
Frequency	Hz	50	60	50	60
Method of obtaining data		fa	fa	fa	fa
Valid for approval/standard		-	-	-	-
Speed	min ⁻¹	685	810	685	810
Power consumption	W	705	1090	705	1090
Current draw	A	3.6	4.2	2.1	2.4
Max. back pressure	Pa	80	65	80	65
Min. ambient temperature	°C	-40	-40	-40	-40
Max. ambient temperature	°C	70	70	70	70
Starting current	A	11	12	6.5	7

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

Subject to change



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Technical description

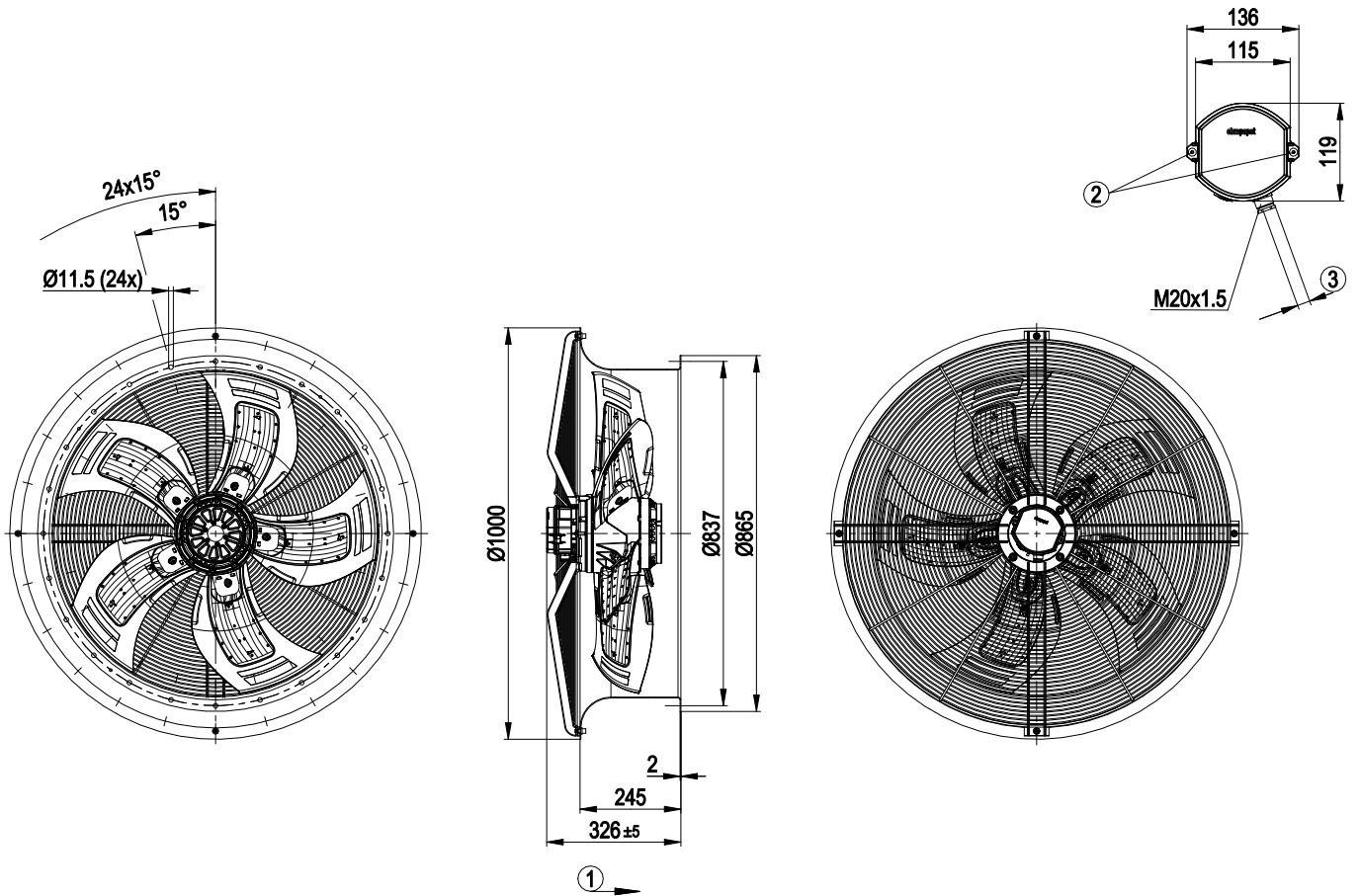
Weight	45 kg
Fan size	800 mm
Rotor surface	Painted black
Terminal box material	Die-cast aluminum, painted black
Blade material	Sheet aluminum insert (painted black), sprayed with PP plastic
Fan housing material	Sheet steel, galvanized and coated with white aluminum plastic (RAL 9006)
Guard grille material	Steel, galvanized and coated with white-aluminum plastic (RAL 9006)
Number of blades	5
Blade pitch	0°
Airflow direction	"A"
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F4-2
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	Via terminal box
Motor protection	Thermal overload protector (TOP) with basic insulation
With cable	Axial
Protection class	I (if protective earth is connected by customer to the housing's connection point)
Conformity with standards	EN 60034-1 (2010); EN 61800-5-1
Approval	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 min. 10 mm, max. 12 mm; tightening torque 4 ± 0.4 Nm

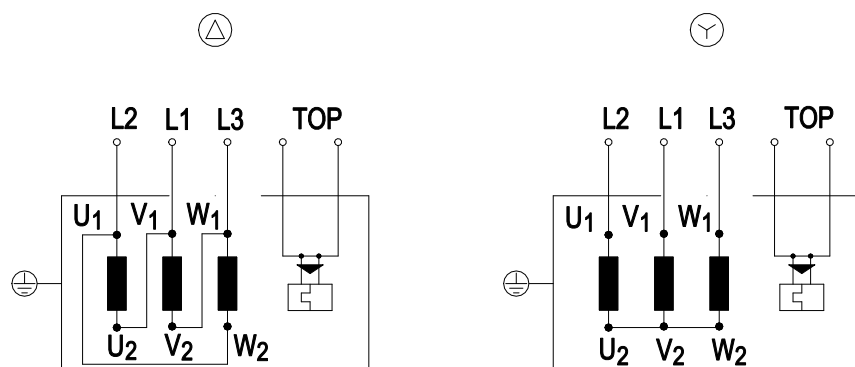


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Connection diagram



Change of rotation direction by reversing two phases

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

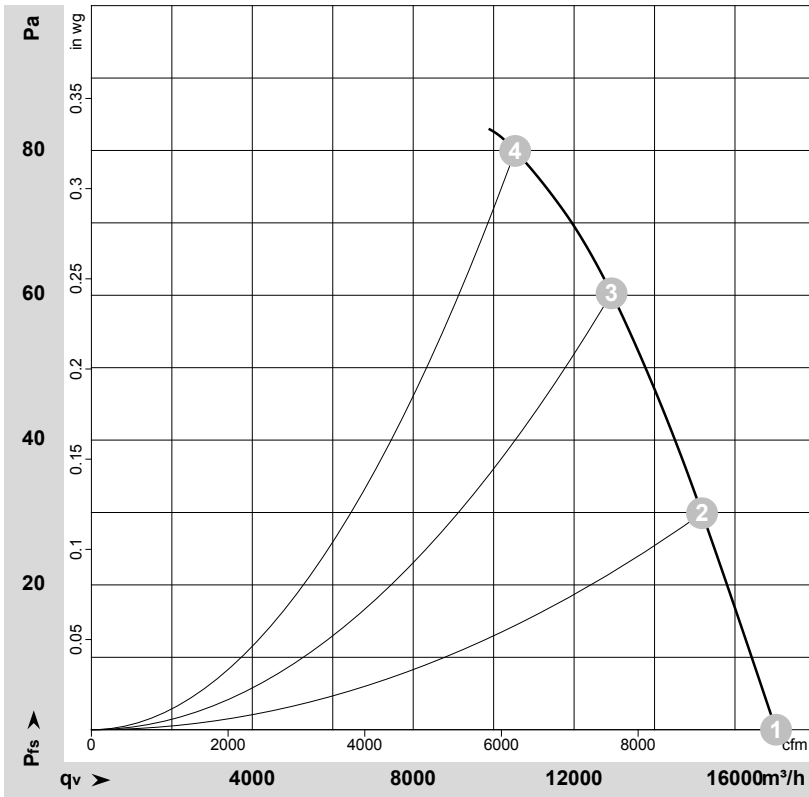


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Curves: Air performance 50 Hz



$\rho = 1.176 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-159547-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m ³ /h	Pa
1	Y	400	50	685	705	2.10	65	72	71	17020	0
2	Y	400	50	680	751	2.06	64	71	70	15180	30
3	Y	400	50	675	804	2.11	64	70	70	12930	60
4	Y	400	50	670	842	2.15	65	71	70	10535	80

Wired = Wiring · U = Power supply · f = Frequency · n = Speed · 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

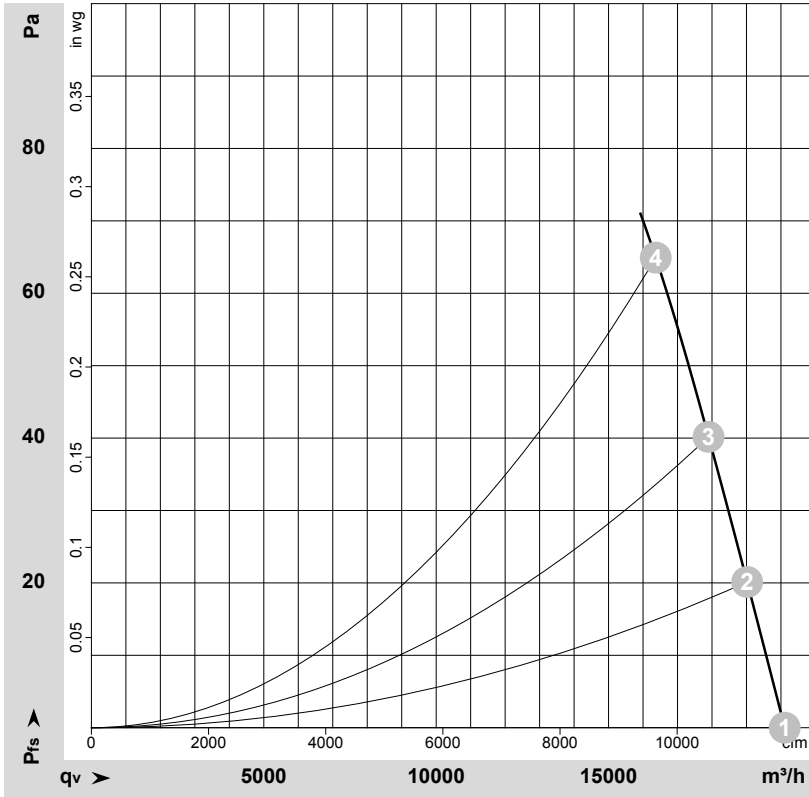


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Curves: Air performance 60 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-170001-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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}	qv	p _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m ³ /h	Pa
1	Y	480	60	810	1090	2.40	69	75	75	20110	0
2	Y	480	60	805	1133	2.44	68	75	74	19020	20
3	Y	480	60	800	1175	2.49	68	74	73	17900	40
4	Y	480	60	795	1230	2.55	67	74	73	16370	65

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