

# AC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

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### Nominal data

Type	W6D710-GH01-01				
Motor	M6D138-HF				
Phase		3~	3~	3~	3~
Nominal voltage	VAC	400	400	480	480
Wiring		Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60
Method of obtaining data		ml	ml	ml	ml
Valid for approval/standard		CE	CE	CE	CE
Speed	min <sup>-1</sup>	905	730	1060	780
Power consumption	W	1030	690	1700	1030
Current draw	A	2.35	1.34	2.87	1.72
Max. back pressure	Pa	125	80	170	92
Min. ambient temperature	°C	-40	-40	-40	-40
Max. ambient temperature	°C	80	80	60	60
Starting current	A	9	3	10	3.5

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 $\eta_{es}$	%	33.6	33.6	09 Power consumption $P_e$	kW	0.97
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h	10730
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa	111
04 Efficiency grade N		40	40	10 Speed n	min <sup>-1</sup>	910
05 Variable speed drive		No		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 =  $1 + p_g / 100\,000\text{ Pa}$ 

LU-113715



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## Technical description

<b>Weight</b>	37.2 kg
<b>Fan size</b>	710 mm
<b>Rotor surface</b>	Cast in aluminum
<b>Terminal box material</b>	Plastic, reinforced with glass fiber
<b>Blade material</b>	Sheet aluminum insert, sprayed with PP plastic
<b>Fan housing material</b>	Sheet steel, pre-galvanized and coated with black plastic
<b>Guard grille material</b>	Steel, phosphated and coated with black plastic
<b>Number of blades</b>	5
<b>Blade pitch</b>	-5°
<b>Airflow direction</b>	"V"
<b>Direction of rotation</b>	Clockwise, viewed toward rotor
<b>Degree of protection</b>	IP54
<b>Insulation class</b>	"F"
<b>Moisture (F) / Environmental (H) protection class</b>	F3-1
<b>Max. permitted ambient temp. for motor (transport/storage)</b>	+ 80 °C
<b>Min. permitted ambient temp. for motor (transport/storage)</b>	- 40 °C
<b>Installation position</b>	Any
<b>Condensation drainage holes</b>	On rotor and stator sides
<b>Mode</b>	S1
<b>Motor bearing</b>	Ball bearing
<b>Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)</b>	<= 3.5 mA
<b>Electrical hookup</b>	Via terminal box
<b>Motor protection</b>	Thermal overload protector (TOP) with basic insulation
<b>With cable</b>	Axial
<b>Protection class</b>	I (with customer connection of protective earth)
<b>Conformity with standards</b>	EN 61800-5-1; EN 60034; CE
<b>Approval</b>	EAC; VDE

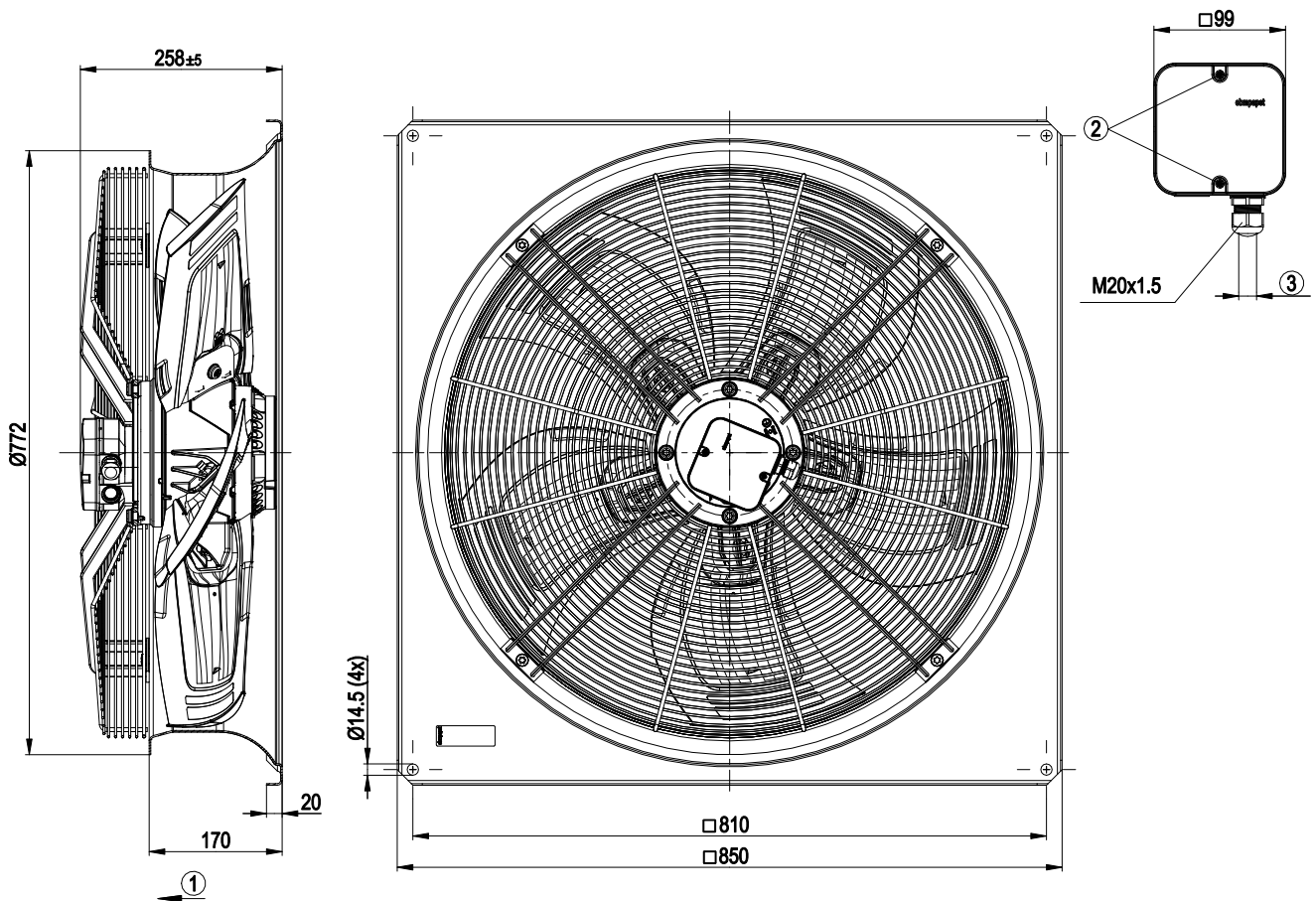


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## Product drawing



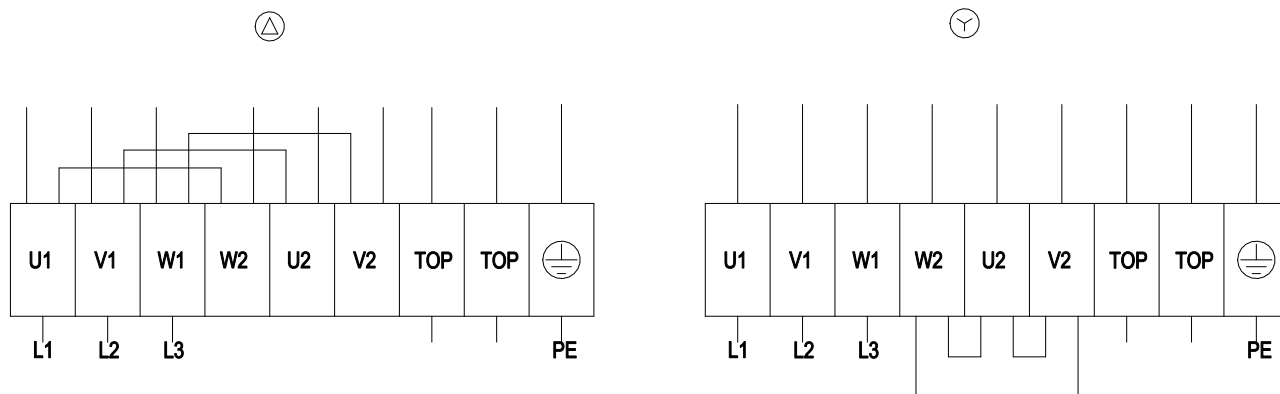
1	Direction of air flow "V"
2	Tightening torque $1.5 \pm 0.2$ Nm
4	Cable diameter: min. 7 mm, max. 14 mm; tightening torque $2.0 \pm 0.3$ Nm

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## Connection diagram



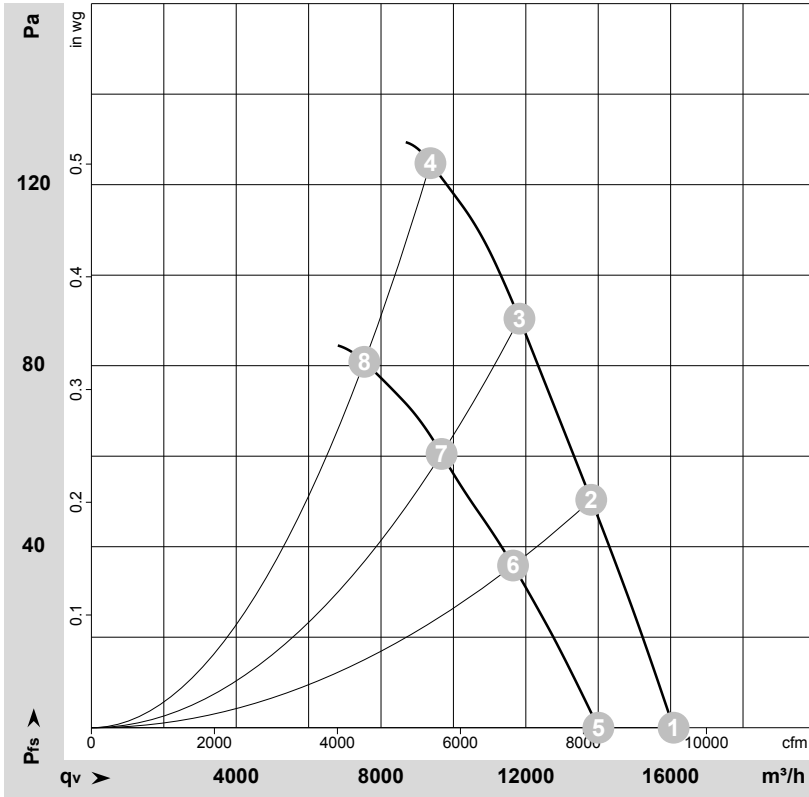
Δ	Delta connection	Y	Star connection	L1	= U1 = black
L2	= V1 = blue	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2x gray
PE	green/yellow				

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## Curves: Air performance 50 Hz



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

Measurement: LU-113715-1  
Measurement: LU-113738-1

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 <sub>e</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	LwA <sub>out</sub>	qv	p <sub>fs</sub>
		V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	dB(A)	m <sup>3</sup> /h	Pa
1	Δ	400	50	940	725	2.07	64	71	70	16080	0
2	Δ	400	50	925	866	2.19	62	69	69	13805	50
3	Δ	400	50	915	947	2.27	64	70	69	11825	90
4	Δ	400	50	905	1030	2.35	68	75	74	9365	125
5	Y	400	50	820	542	1.05	61	67	67	14005	0
6	Y	400	50	780	620	1.19	58	65	64	11650	36
7	Y	400	50	755	661	1.27	59	65	64	9675	60
8	Y	400	50	730	690	1.34	62	69	68	7540	81

Wired = Wiring · U = Power supply · f = Frequency · n = Speed · P<sub>e</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
LwA<sub>out</sub> = Sound power level outlet side · qv = Air flow · p<sub>fs</sub> = Pressure increase

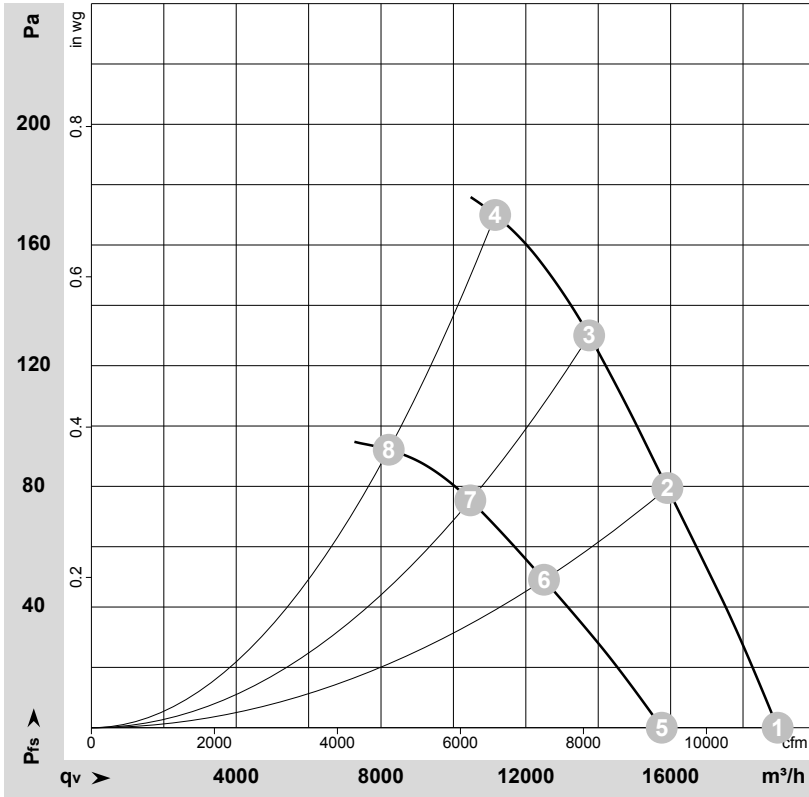


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## Curves: Air performance 60 Hz



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

Measurement: LU-121540-1  
Measurement: LU-121544-1

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 <sub>e</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	LwA <sub>out</sub>	qv	p <sub>fs</sub>
		V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	dB(A)	m <sup>3</sup> /h	Pa
1	Δ	480	60	1115	1191	2.37	67	74	74	18955	0
2	Δ	480	60	1085	1444	2.60	66	73	73	15910	80
3	Δ	480	60	1075	1563	2.71	68	75	74	13750	130
4	Δ	480	60	1060	1700	2.87	72	79	78	11155	170
5	Y	480	60	930	853	1.37	63	70	69	15755	0
6	Y	480	60	855	959	1.57	60	67	66	12505	49
7	Y	480	60	820	996	1.65	61	67	66	10465	75
8	Y	480	60	780	1030	1.72	64	70	70	8215	93

Wired = Wiring · U = Power supply · f = Frequency · n = Speed · P<sub>e</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
LwA<sub>out</sub> = Sound power level outlet side · qv = Air flow · p<sub>fs</sub> = Pressure increase

