W4D500-FM01-03

AC axial fan - HyBlade

sickled blades (S series)

with full round nozzle

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Nominal data

Type	**W4D500-FM01-03**
Motor	**M4D110-GF**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	230	277	400	480
Connection		Δ	Δ	Y	Y
Frequency	Hz	50	60	50	60
Type of data definition		ml	ml	ml	ml
Valid for approval / standard		CE	CE	CE	CE
Speed (rpm)	min^{-1}	1350	1590	1350	1590
Power input	W	690	1050	690	1050
Current draw	A	2.34	2.72	1.35	1.57
Max. back pressure	Pa	155	160	155	160
Min. ambient temperature	°C	-40	-40	-40	-40
Max. ambient temperature	°C	65	60	65	60
Starting current	A	10.6	12.1	6.1	7.0

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

		Actual	Request 2015
01 Overall efficiency η_{es}	%	33.3	32.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		40.8	40
05 Variable speed drive		No	

09 Power input P_e	kW	0.66
09 Air flow q_v	m^3/h	5985
09 Pressure increase p_{fs}	Pa	134
10 Speed (rpm) n	min^{-1}	1355
11 Specific ratio*		1.00

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-110665

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Technical features

Mass	15.8 kg
Size	500 mm
Surface of rotor	Coated in black
Material of terminal box	PP plastic
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Material of wall ring	Sheet steel, galvanised and coated in black plastic (RAL 9005)
Material of guard grille	Steel, coated in black plastic (RAL9005)
Number of blades	5
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F4-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on top; rotor on bottom on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box
Motor protection	Thermal overload protector (TOP) brought out, basic insulation
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	VDE; UL 1004-1; EAC; CSA C22.2 No.100

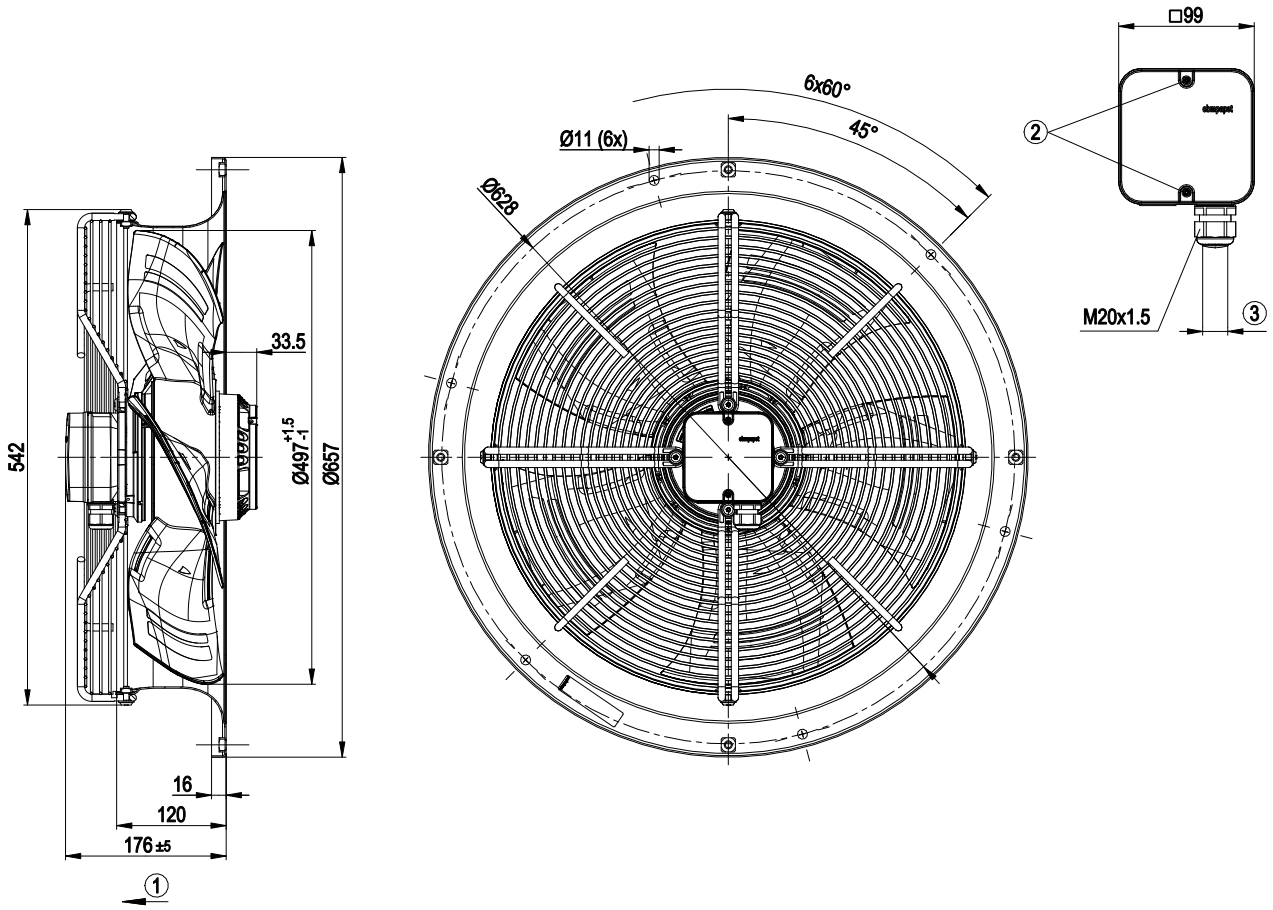
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Product drawing



1	Direction of air flow "V"
2	Tightening torque 1.5±0.2 Nm
3	Cable diameter min. 6 mm, max. 12 mm, tightening torque 2.5±0.4 Nm

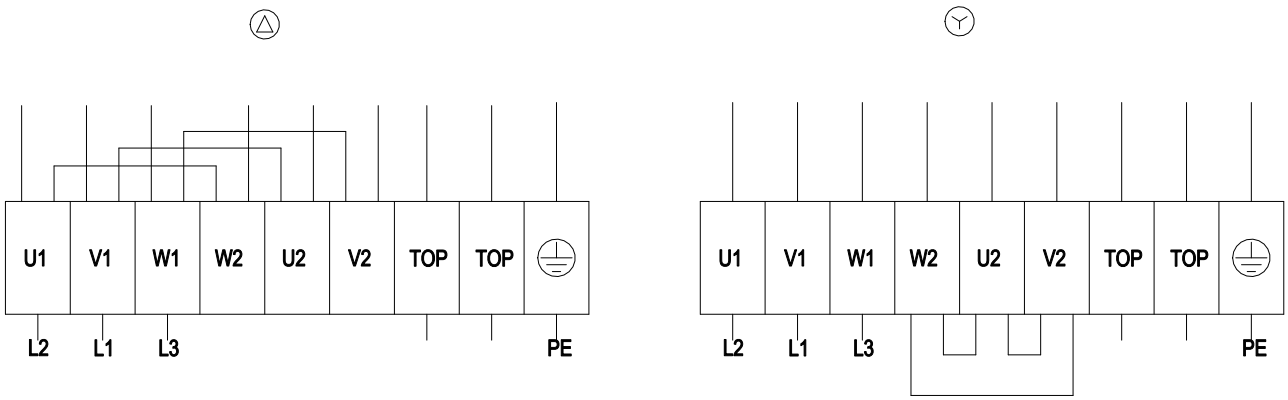
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Connection screen



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

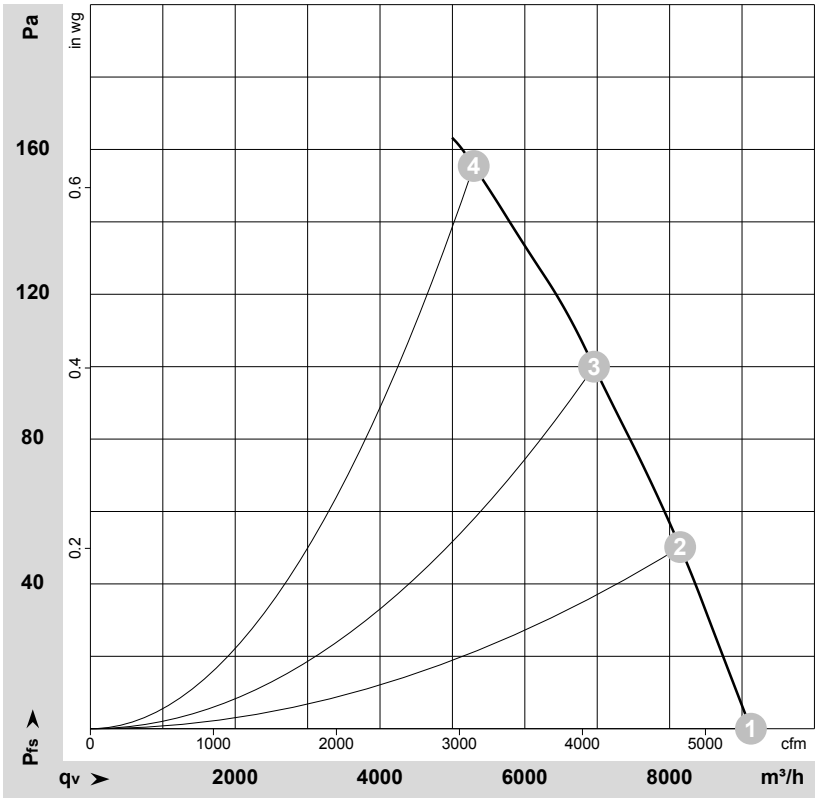
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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-110665-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	Conn.	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	inH2O
1	Y	400	50	1400	505	1.15	68	75	75	9125	0	5370	0.00
2	Y	400	50	1380	570	1.22	65	72	73	8145	50	4795	0.20
3	Y	400	50	1365	626	1.27	64	71	71	6955	100	4095	0.40
4	Y	400	50	1350	690	1.35	66	73	72	5295	155	3115	0.62

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

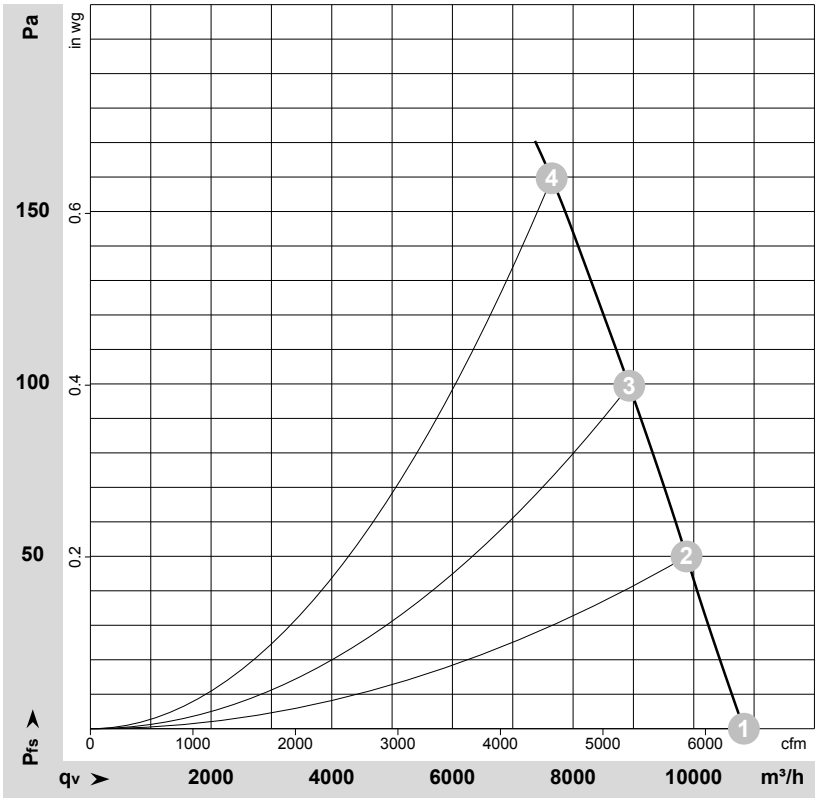
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Charts: Air flow 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-110667-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	Conn.	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	inH2O
1	Y	480	60	1650	817	1.33	71	78	79	10830	0	6375	0.00
2	Y	480	60	1630	895	1.41	69	76	77	9880	50	5815	0.20
3	Y	480	60	1615	966	1.48	68	75	75	8930	100	5255	0.40
4	Y	480	60	1590	1050	1.57	67	74	75	7645	160	4500	0.64

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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