AC axial fan - HyBlade®

sickled blades (S series)

with full square nozzle

W4D560-GO03-01 ebmpapst Datasheet
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www.fansco.com

Nominal data

Type	**W4D560-GO03-01**
Motor	**M4D110-GF**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	400	400	480	480
Connection		Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60
Type of data definition		ml	ml	ml	ml
Valid for approval / standard		CE	CE	CE	CE
Speed	min^{-1}	1320	1050	1540	1160
Power input	W	810	540	1300	810
Current draw	A	1.54	0.92	1.94	1.16
Max. back pressure	Pa	160	100	220	125
Min. ambient temperature	°C		-40	-40	
Max. ambient temperature	°C	65	65	45	45
Starting current	A	6.5	6.5	7.5	7.5

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

Installation category	A
Efficiency category	Static
Variable speed drive	No
Specific ratio*	1.00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	34.9	29.1	33.1
Efficiency grade N		41.8	36	40
Power input P_e	kW	0.8		
Air flow q_v	m^3/h	6370		
Pressure increase p_{fs}	Pa	160		
Speed n	min^{-1}	1325		

Data definition with optimum efficiency. LU-111257
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

Mass	22.1 kg
Size	560 mm
Surface of rotor	Cast in aluminium
Material of terminal box	PP plastic
Material of blades	Aluminium sheet insert, sprayed with PP plastic
Material of wall ring	Sheet steel, pre-galvanised and coated in black plastic (RAL 9005)
Material of guard grille	Steel, coated in black plastic (RAL9005)
Number of blades	5
Blade angle	-10°
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity class	F3-1
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 bottom; rotor on top 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
Cable exit	Axial
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	EAC; VDE

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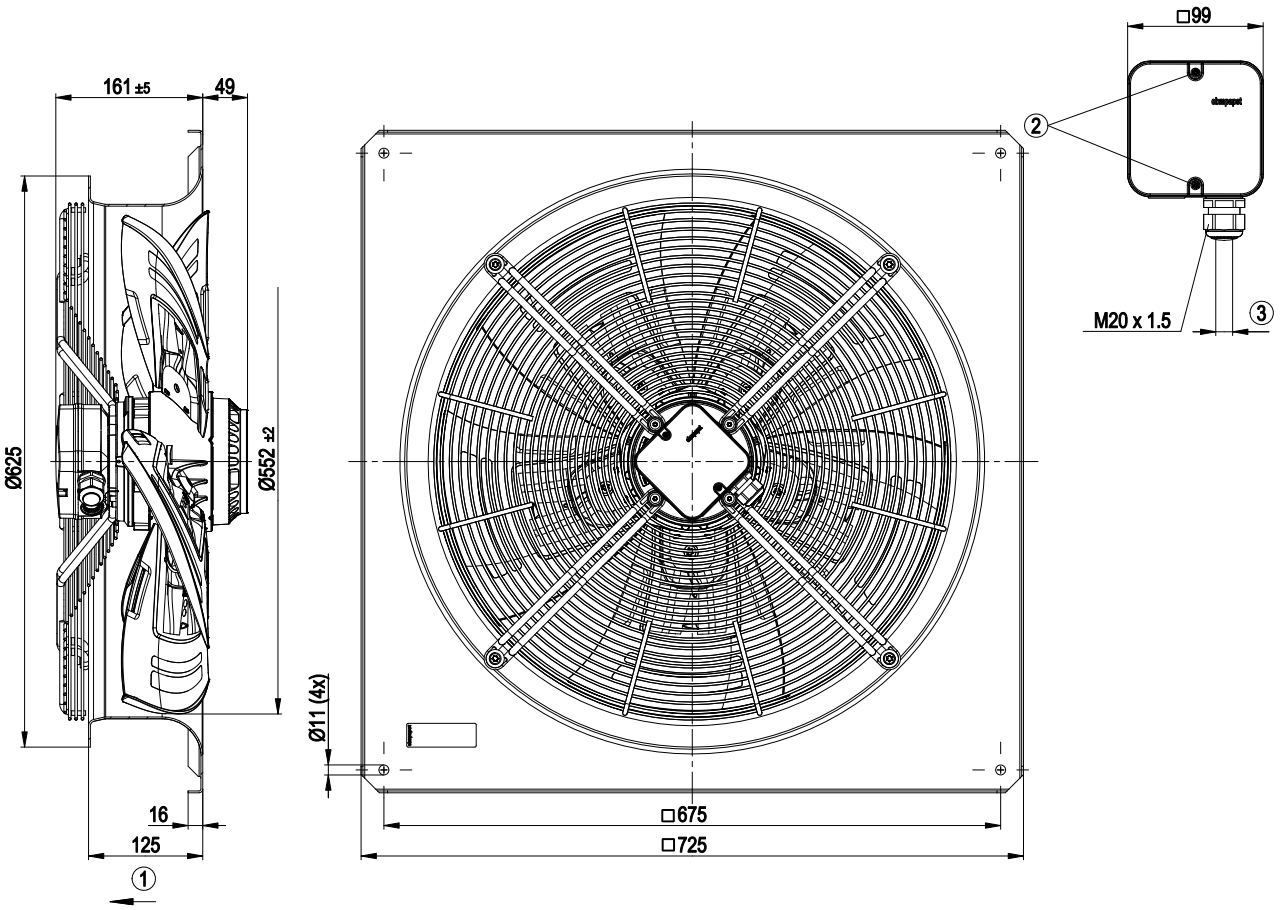
Product drawing



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±0.3 Nm

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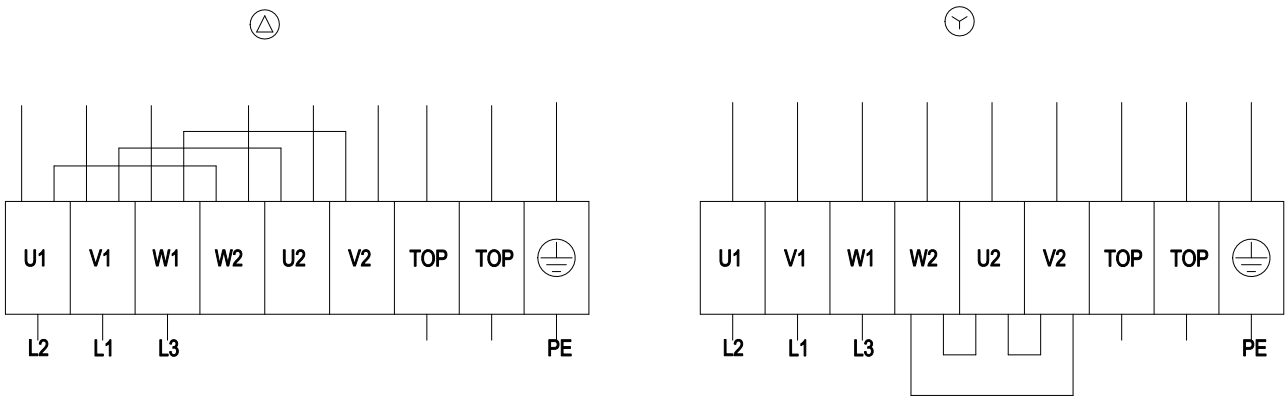
Connection screen



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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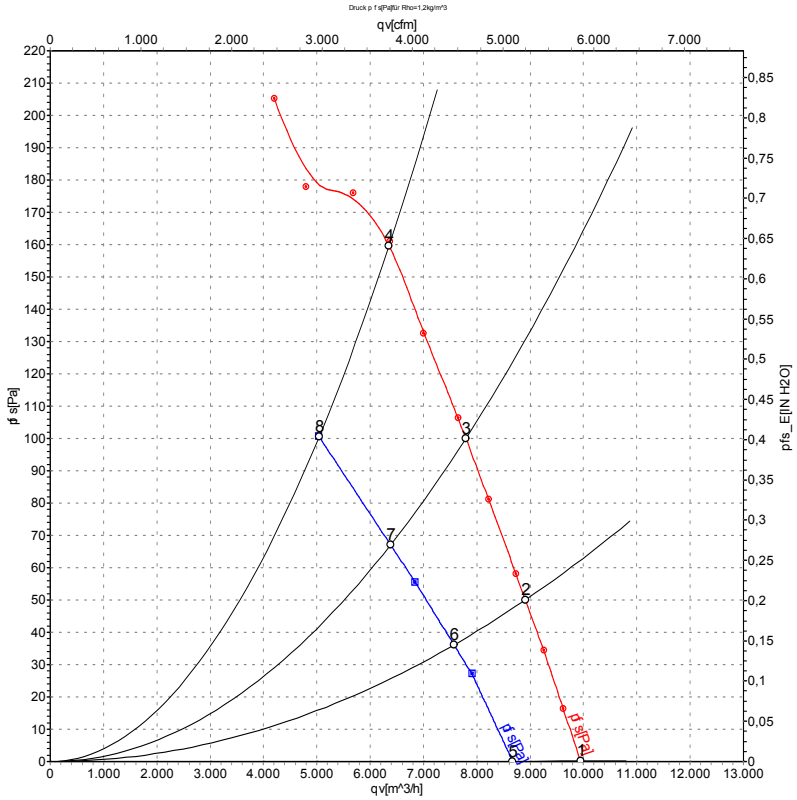
Charts: Air flow 50 Hz



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}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa
1	Δ	400	50	1385	558	1.23	71	77	76	9945	0
2	Δ	400	50	1365	644	1.32	67	73	73	8910	50
3	Δ	400	50	1345	732	1.42	68	74	73	7795	100
4	Δ	400	50	1320	810	1.54	69	75	75	6355	160
5	Y	400	50	1200	418	0.70	67	73	72	8570	0
6	Y	400	50	1145	467	0.78	63	70	69	7570	36
7	Y	400	50	1095	507	0.85	63	70	69	6385	67
8	Y	400	50	1050	540	0.92	64	70	70	5040	100

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · 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 · qv = Air flow · p_{fs} = Pressure increase

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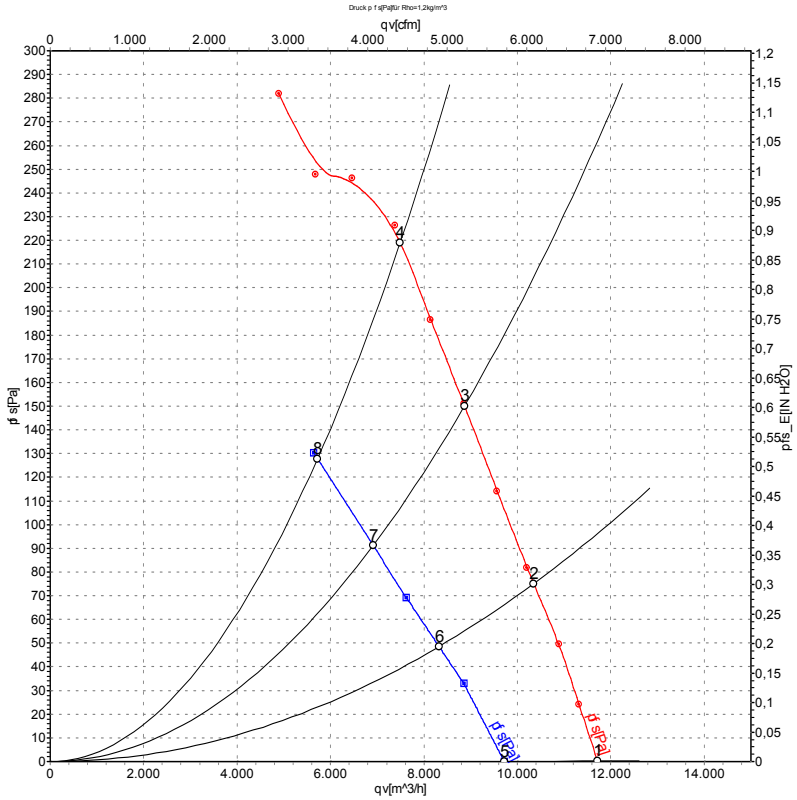
Charts: Air flow 60 Hz



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}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa
1	Δ	480	60	1640	888	1.44	75	81	81	11720	0
2	Δ	480	60	1605	1050	1.60	71	77	77	10350	75
3	Δ	480	60	1570	1196	1.77	72	78	77	8870	150
4	Δ	480	60	1540	1300	1.94	73	79	79	7490	220
5	Y	480	60	1360	652	0.91	70	76	76	9715	0
6	Y	480	60	1270	713	1.00	65	72	71	8325	48
7	Y	480	60	1205	768	1.09	65	71	71	6910	91
8	Y	480	60	1160	810	1.16	67	73	72	5725	125

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · 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 · qv = Air flow · p_{fs} = Pressure increase