W4D560-GR03-03

AC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

W4D560-GR03-03 ebmpapst Datasheet

sales@fansco.com

www.fansco.com

Nominal data

Type	**W4D560-GR03-03**
Motor	**M4D110-IA**

Phase		3~	3~	3~	3~	3~	3~
Nominal voltage	VAC	230	230	277	400	400	480
Wiring		Δ	Δ	Δ	Y	Y	Y
Frequency	Hz	50	60	60	50	60	60
Method of obtaining data		ml	ml	ml	ml	ml	ml
Valid for approval/standard		CE	CE	CE	CE	CE	CE
Speed (rpm)	min^{-1}	1390	1575	1640	1390	1575	1640
Power consumption	W	880	1320	1420	880	1320	1420
Current draw	A	3.72	4.26	4.39	2.15	2.46	2.54
Max. back pressure	Pa	170	215	230	170	215	230
Max. back pressure	inH2O	0.68	0.86	0.92	0.68	0.86	0.92
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	65	65	65	65	65	65
Starting current	A	17	15	19	10	8.9	11.2

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 η_{es}	%	36.1	33.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		42.8	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.87
09 Air flow q_v	m^3/h	6755
09 Pressure increase p_{fs}	Pa	169
10 Speed (rpm) n	min^{-1}	1390
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_{fs} / 100 000 Pa

LU-110536

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Technical description

Weight	23.5 kg
Fan size	560 mm
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 black plastic (RAL 9005)
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Blade pitch	-10°
Airflow direction	"V"
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F3-1
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 bottom; rotor on top on request
Condensation drainage holes	On rotor 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 (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	EAC; UL 1004-1; VDE; CSA C22.2 No. 100

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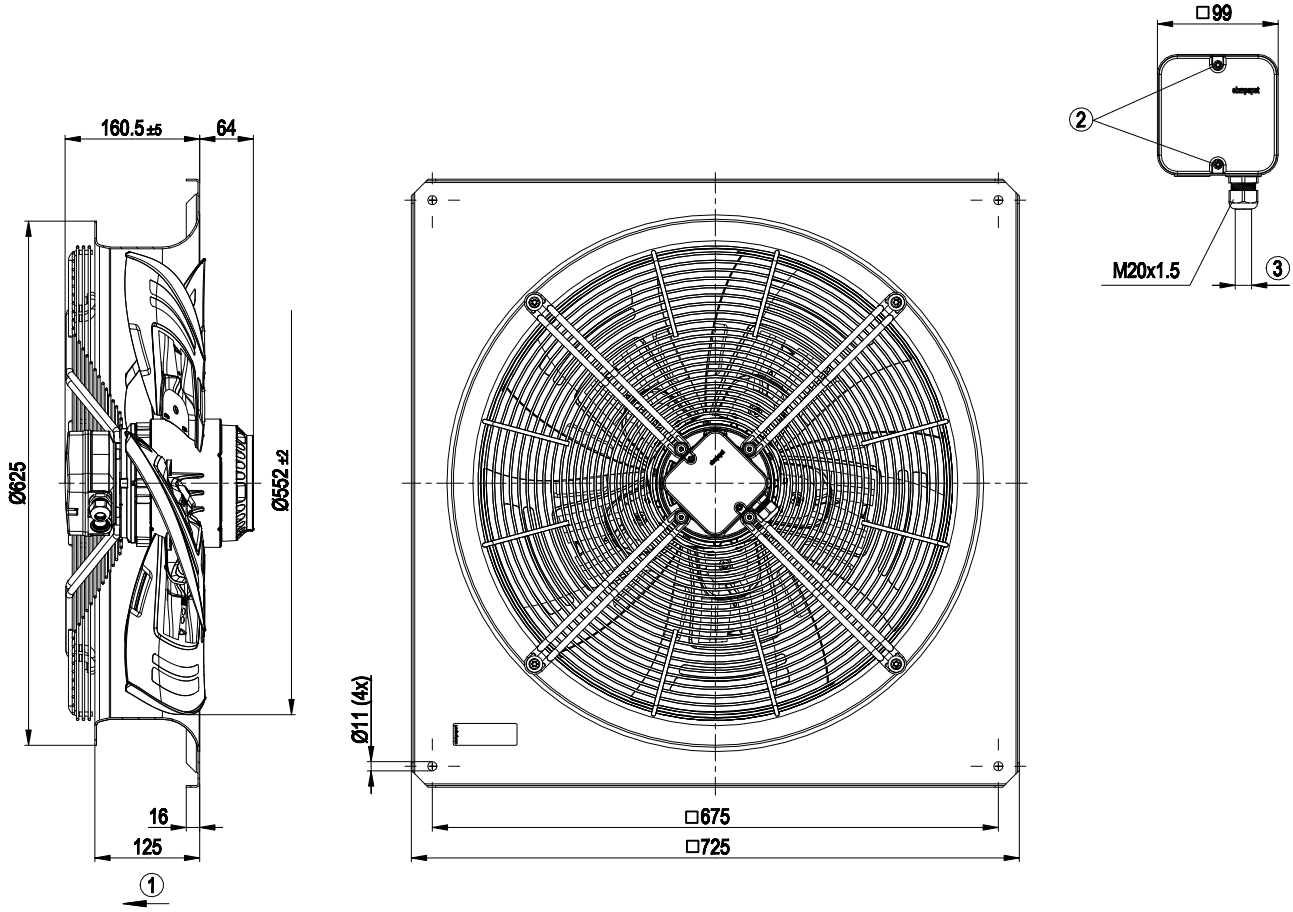
Product drawing



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±0.3 Nm

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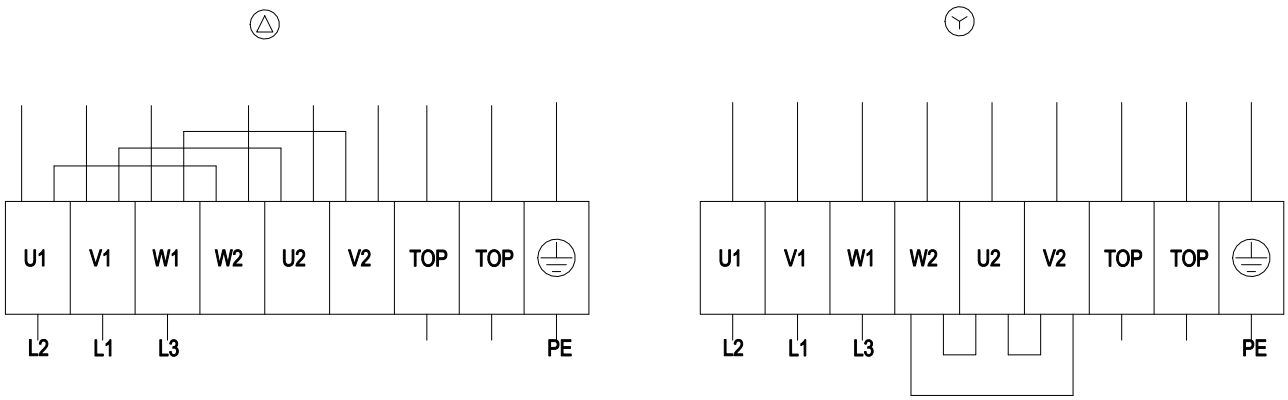
Connection diagram



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

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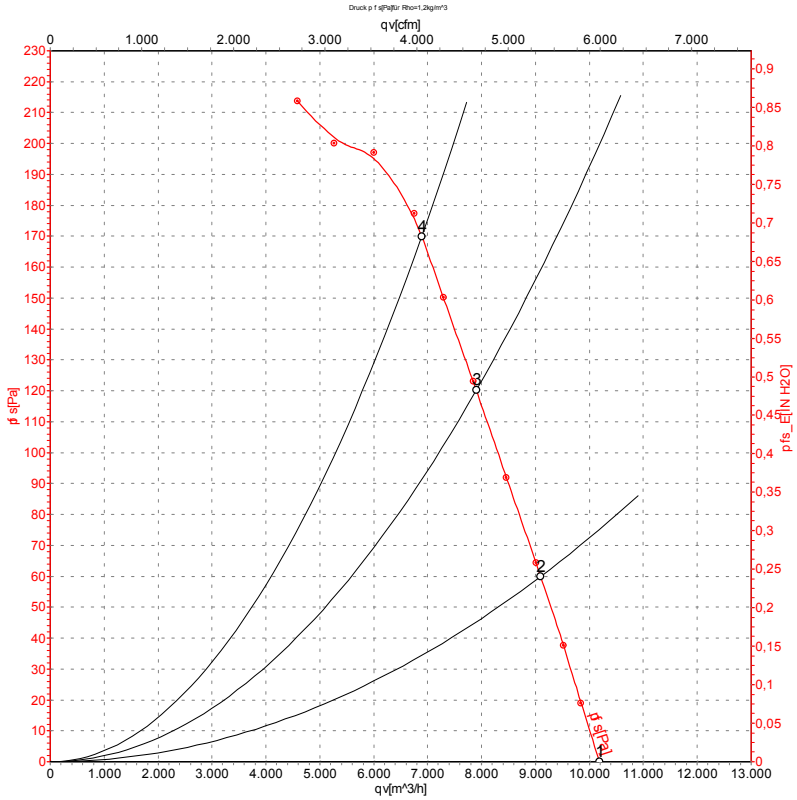
Curves: Air performance 50 Hz



Measurement: LU-110536-1

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}	qv	p_{fs}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	Y	400	50	1435	604	1.88	72	78	78	10190	0	6000	0.00
2	Y	400	50	1420	711	1.95	68	74	74	9095	60	5355	0.24
3	Y	400	50	1400	810	2.04	70	76	75	7900	120	4650	0.48
4	Y	400	50	1390	880	2.15	70	77	76	6890	170	4055	0.68

Wired = Wiring · U = Power supply · 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 · qv = Air flow · p_{fs} = Pressure increase

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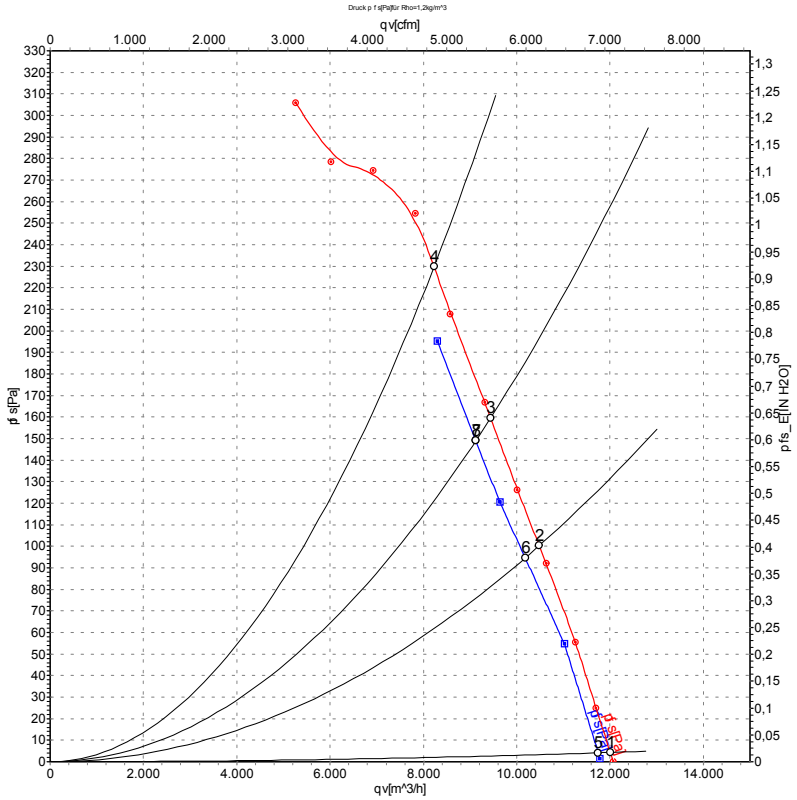
Curves: Air performance 60 Hz



Measurement: LU-110544-1
Measurement: LU-111437-1

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}	η_{es}	qv	p_{fs}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	%	m^3/h	Pa	CFM	inH2O
1	Y	480	60	1705	968	2.02	75	81	81	44	12010	0	7070	0.00
2	Y	480	60	1675	1175	2.18	72	79	78	47	10480	100	6170	0.40
3	Y	480	60	1660	1296	2.30	74	79	79	46	9440	160	5555	0.64
4	Y	480	60	1640	1420	2.54	75	81	80	45	8140	230	4790	0.92
5	Y	400	60	1665	898	1.79	75	81	81	45	11750	0	6915	0.00
6	Y	400	60	1625	1085	2.02	72	78	77	47	10180	95	5990	0.38
7	Y	400	60	1605	1188	2.16	72	78	78	45	9125	149	5370	0.60
8	Y	400	60	1575	1320	2.46	75	80		45	7600	215	4475	0.86

Wired = Wiring · U = Power supply · 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 · η_{es} = Total efficiency of fan · qv = Air flow · p_{fs} = Pressure increase