W4D400-DN12-06

AC axial fan

sickled blades (S series)

with full square nozzle

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Nominal data

Type	**W4D400-DN12-06**
Motor	**M4D094-FA**

Phase		3~	3~	3~
Nominal voltage	VAC	400	400	480
Connection		Y	Y	Y
Frequency	Hz	50	60	60
Type of data definition		ml	ml	ml
Valid for approval / standard		CE	CE	CE
Speed (rpm)	min^{-1}	1410	1610	1650
Power input	W	330	470	520
Current draw	A	0.82	0.84	0.97
Max. back pressure	Pa	110	135	145
Min. ambient temperature	°C	-40	-40	-40
Max. ambient temperature	°C	80	60	60
Starting current	A		3.3	3.8

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}	%	30.5	30.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		40	40
05 Variable speed drive		No	

09 Power input P_e	kW	0.31
09 Air flow q_v	m^3/h	3605
09 Pressure increase p_{fs}	Pa	92
10 Speed (rpm) n	min^{-1}	1405
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

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Technical features

Mass	10.5 kg
Size	400 mm
Surface of rotor	Coated in black
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Material of wall ring	Sheet steel, pre-galvanised and coated in black plastic (RAL 9005)
Material of guard grille	Steel, phosphated and coated in black plastic (RAL 9005)
Number of blades	5
Direction of air flow	"A"
Direction of rotation	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 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	With plug
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 60034-1 (2010); CE

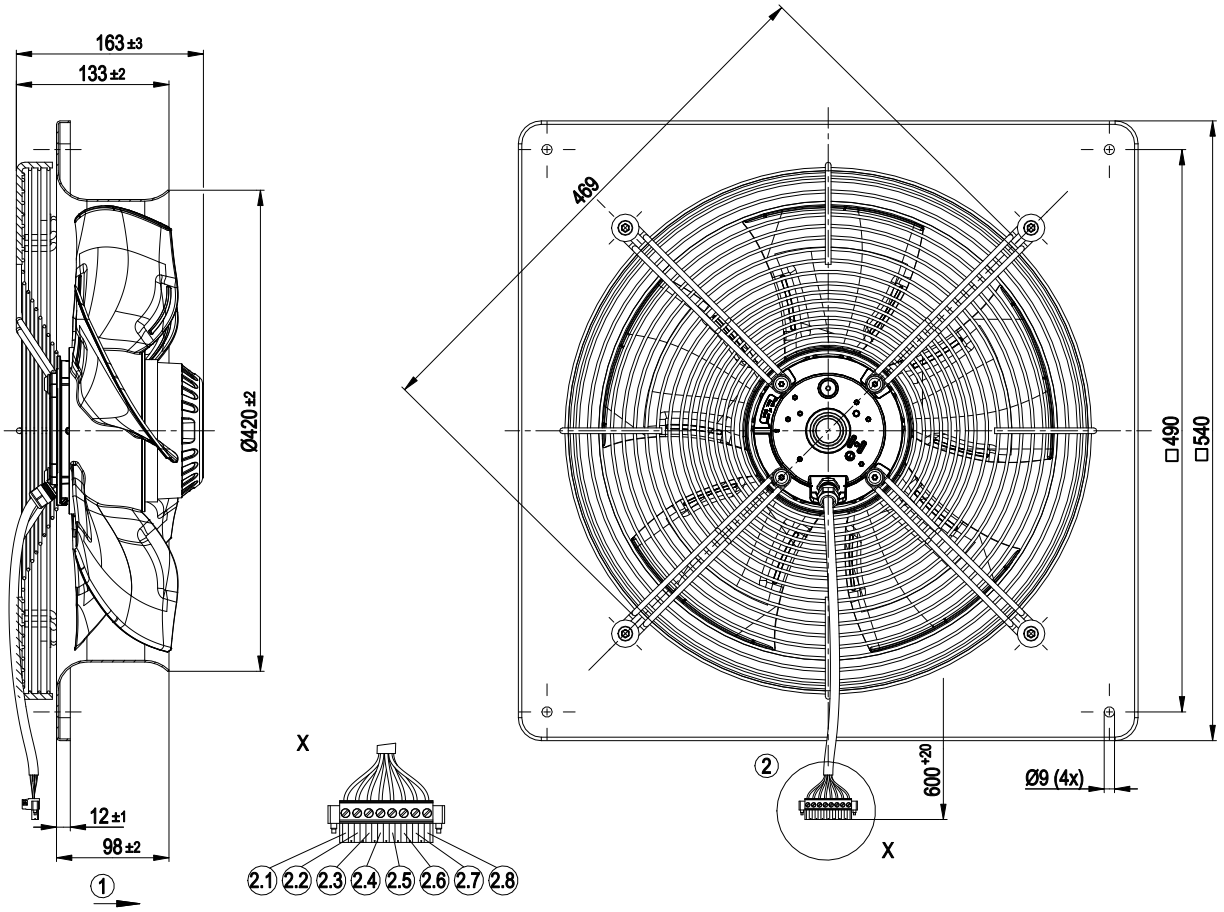
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Product drawing



1	Direction of air flow "A"
2	Connection line silicone 6G 0.5 mm² with 8-pole connector housing Phönix
2.1	L1 (U1) black
2.2	not used / no function
2.3	L2 (V1) blue
2.4	not used / no function
2.5	L3 (W1) brown
2.6	TOP (grey)
2.7	TOP (grey)
2.8	PE (green/yellow)

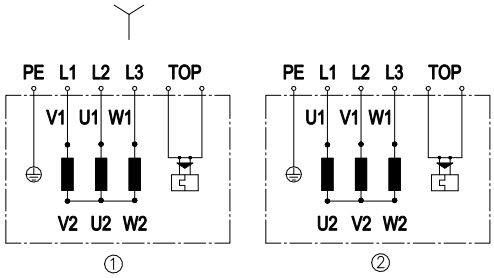
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Connection screen



Change in direction of rotation by reversing two phases

	Three-phase motor
Y	Star connection
1	Anti-clockwise operation
L1	= V1 = blue
L2	= U1 = black
L3	= W1 = brown
2	Clockwise operation
L1	= U1 = black
L2	= V1 = blue
L3	= W1 = brown
PE	green / yellow
TOP	2x grey

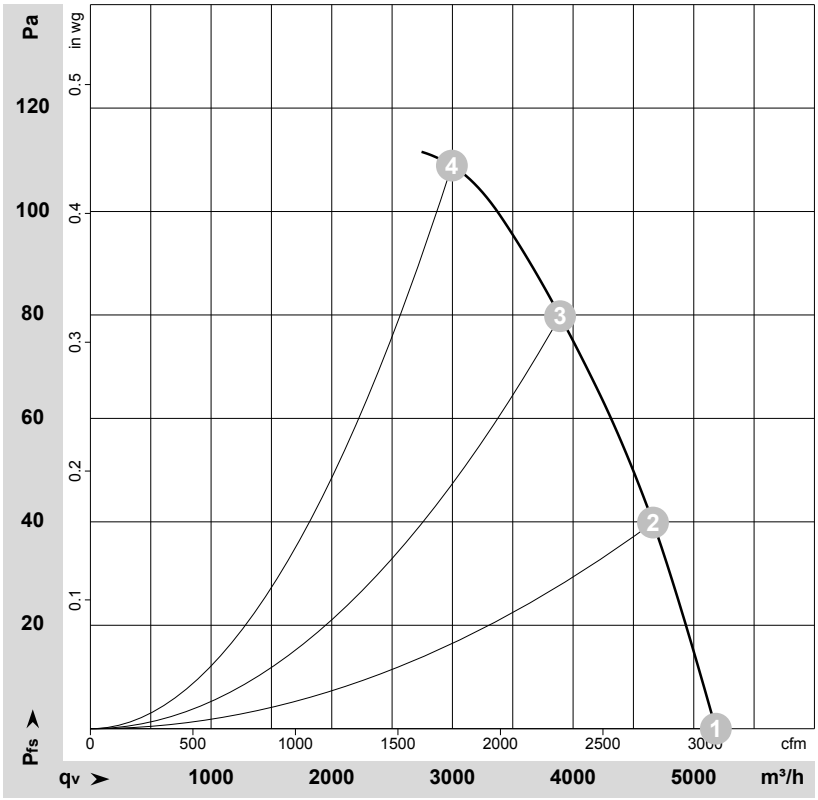
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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-109876-1

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	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	Y	400	50	1420	281	0.85	5185	0	3050	0.00
2	Y	400	50	1410	302	0.86	4660	40	2745	0.16
3	Y	400	50	1410	315	0.86	3890	80	2290	0.32
4	Y	400	50	1410	330	0.82	2995	110	1765	0.44

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

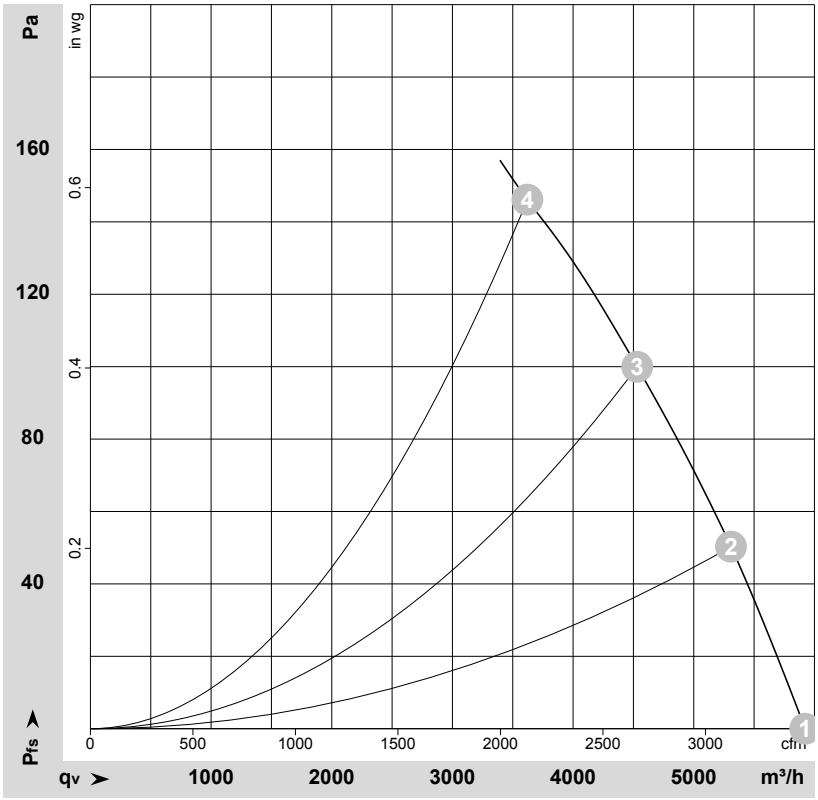
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Charts: Air flow 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-161436-1

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	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	Y. AUS	480	60	1685	441	0.88	5925	0	3485	0.00
2	Y. AUS	480	60	1680	469	0.89	5310	50	3125	0.20
3	Y. AUS	480	60	1670	493	0.90	4530	100	2665	0.40
4	Y. AUS	480	60	1650	520	0.97	3620	145	2130	0.58

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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