W2D250-GA04-09

AC axial fan

sickle-shaped blades (S series)

with square full nozzle

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**W2D250-GA04-09**
Motor	**M2D068-DF**

Phase		3~	3~
Nominal voltage	VAC	400	400
Nominal voltage range	VAC	380 .. 415	380 .. 415
Wiring		Y	Y
Frequency	Hz	50	60
Method of obtaining data		fa	fa
Valid for approval/standard		CE	CE
Speed (rpm)	min^{-1}	2750	3050
Power consumption	W	120	190
Current draw	A	0.27	0.33
Max. back pressure	Pa	115	140
Max. back pressure	inH2O	0.46	0.56
Min. ambient temperature	°C	-25	-25
Max. ambient temperature	°C	60	75

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}	%	29.5	28.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		41.2	40
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.14
09 Air flow q_v	m^3/h	1225
09 Pressure increase p_{fs}	Pa	126
10 Speed (rpm) n	min^{-1}	2615
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-163036

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Technical description

Weight	3 kg
Fan size	250 mm
Rotor surface	Painted black
Impeller material	Sheet steel, hot-dip galvanized
Fan housing material	Sheet steel, pre-galvanized and coated with black plastic
Guard grille material	Steel, phosphated and coated with black plastic
Number of blades	5
Airflow direction	"V"
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP00
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F5
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	None
Mode	S1
Motor bearing	Ball bearing
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	< 0.75 mA
With cable	Lateral
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1
Approval	CCC; EAC

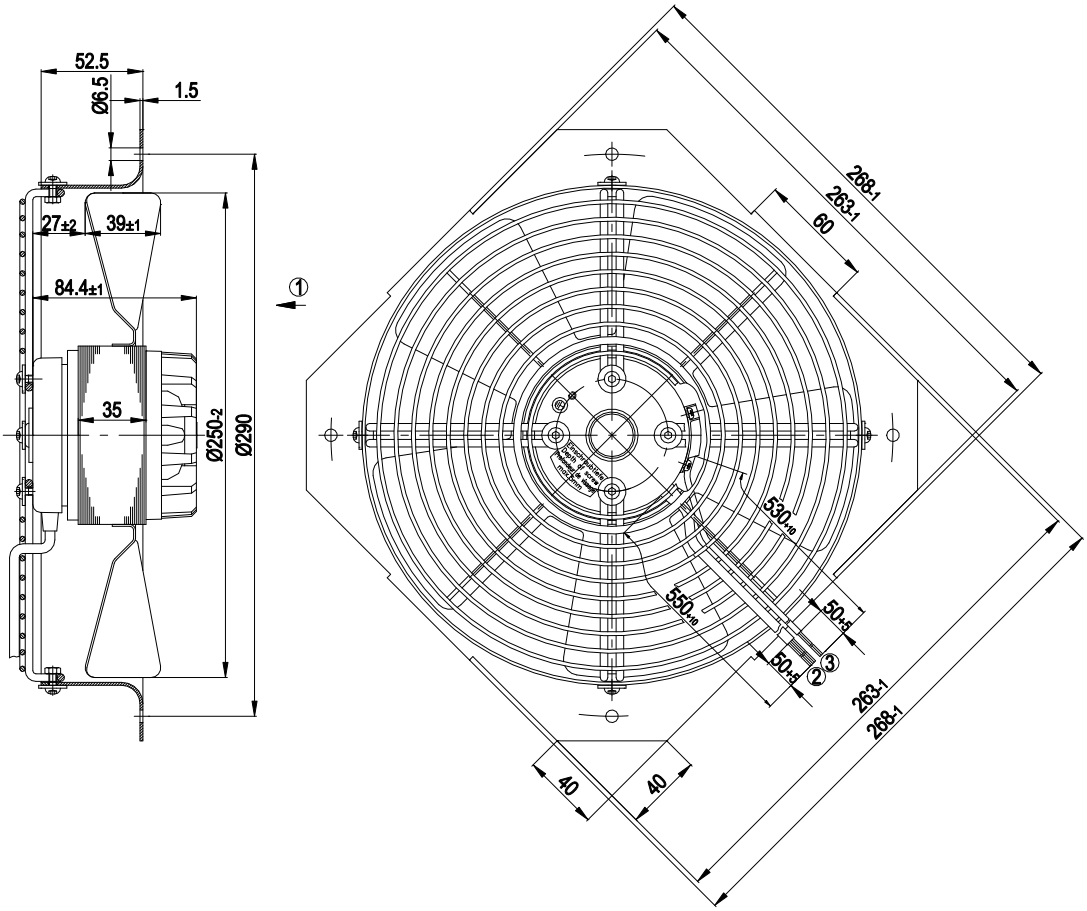
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Product drawing



1	Direction of air flow "V"
2	Cable PVC, 4x crimped splices
3	Connection for speed monitoring brought out, AWG24-300V Hall generator, motor and Hall sensor wires not stripped

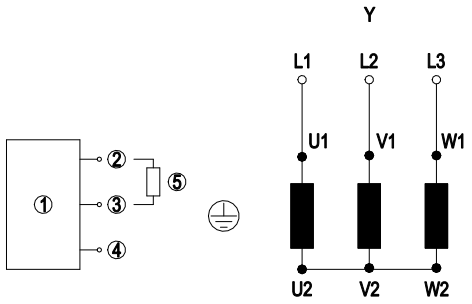
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Connection diagram



Change of rotation direction by reversing two phases

1	Fan	Y	Star connection	2	red (+5 V)
L1	black	3	white (output)	L2	blue
4	black (0 V)	L3	brown	5	4 K7
TOP	2x gray	PE	green/yellow	Y	Star connection
L1	black	L2	blue	L3	brown

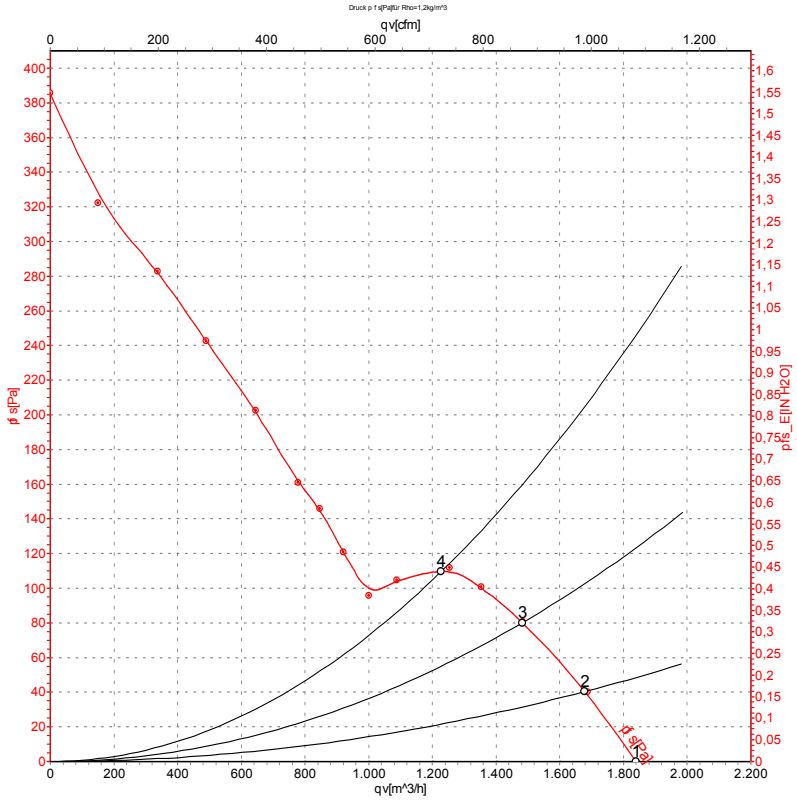
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Curves: Air performance 50 Hz



Measurement: LU-14961-1

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

	U	f	n	P_e	I	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	400	50	2750	120	0.27	1840	0	1085	0.00
2	400	50	2695	141	0.29	1680	42	990	0.17
3	400	50	2670	149	0.30	1480	81	870	0.33
4	400	50	2660	151	0.30	1230	111	725	0.45

U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

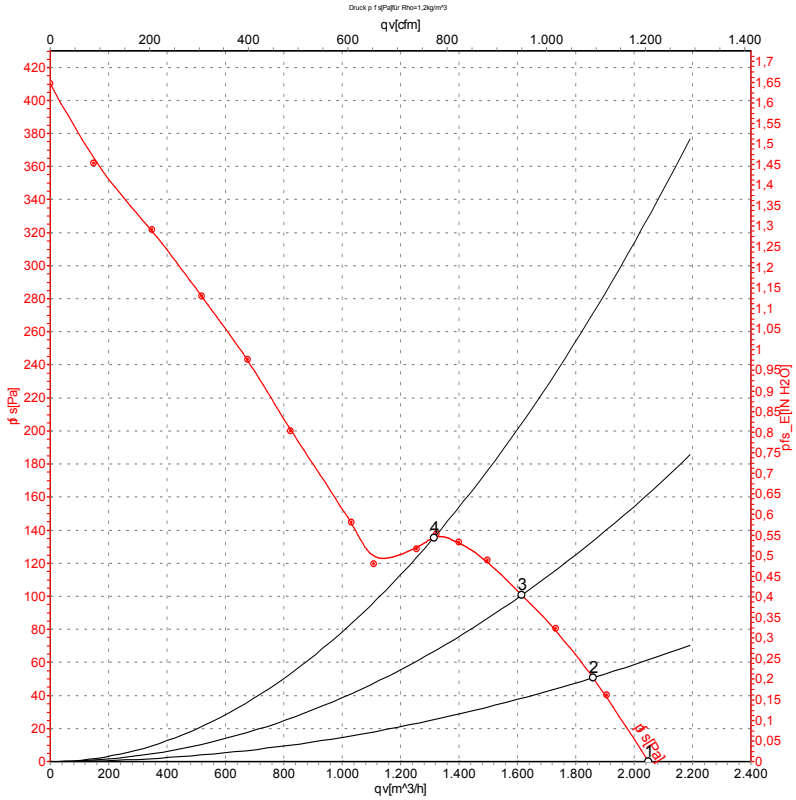
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Curves: Air performance 60 Hz



Measurement: LU-14960-1

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

	U	f	n	P_e	I	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	400	60	3050	190	0.33	2045	0	1205	0.00
2	400	60	2985	201	0.34	1860	50	1095	0.20
3	400	60	2935	212	0.36	1615	100	950	0.40
4	400	60	2930	209	0.36	1315	136	775	0.55

U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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