

# AC axial fan

straight blades (A series), single-intake

Fan housing with guard grille

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## Nominal data

Type	W2D250-GA02-10		
Motor	M2D068-DF		
Phase		3~	3~
Nominal voltage	VAC	400	400
Wiring		Y	Y
Frequency	Hz	50	60
Method of obtaining data		fa	fa
Valid for approval/standard		CE	CE
Speed (rpm)	min <sup>-1</sup>	2700	3000
Power consumption	W	112	180
Current draw	A	0.23	0.27
Max. back pressure	Pa	280	280
Max. back pressure	inH <sub>2</sub> O	1.12	1.12
Min. ambient temperature	°C	-25	-25
Max. ambient temperature	°C	60	50
Starting current	A	0.78	0.75

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 $\eta_{es}$	%	28.1	28.1	09 Power consumption $P_e$	kW	0.13
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h	1050
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa	121
04 Efficiency grade N		40	40	10 Speed (rpm) n	min <sup>-1</sup>	2600
05 Variable speed drive		No		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 =  $1 + p_s / 100\,000\text{ Pa}$

LU-69121



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## Technical description

<b>Weight</b>	3.6 kg
<b>Fan size</b>	250 mm
<b>Rotor surface</b>	Painted black
<b>Impeller material</b>	Sheet steel, painted black
<b>Fan housing material</b>	Sheet steel, galvanized
<b>Guard grille material</b>	Steel, phosphated and coated with black plastic
<b>Number of blades</b>	5
<b>Airflow direction</b>	"A"
<b>Direction of rotation</b>	Clockwise, viewed toward rotor
<b>Degree of protection</b>	IP44; installation- and position-dependent
<b>Insulation class</b>	"B"
<b>Moisture (F) / Environmental (H) protection class</b>	F5
<b>Max. permitted ambient temp. for motor (transport/storage)</b>	+ 80 °C
<b>Min. permitted ambient temp. for motor (transport/storage)</b>	- 40 °C
<b>Installation position</b>	Any
<b>Condensation drainage holes</b>	None
<b>Mode</b>	S1
<b>Motor bearing</b>	Ball bearing
<b>Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)</b>	< 0.75 mA
<b>With cable</b>	Lateral
<b>Protection class</b>	I (if protective earth is connected by customer to the housing's connection point)
<b>Conformity with standards</b>	EN 60335-1, motor does not have factory-installed overheating protection

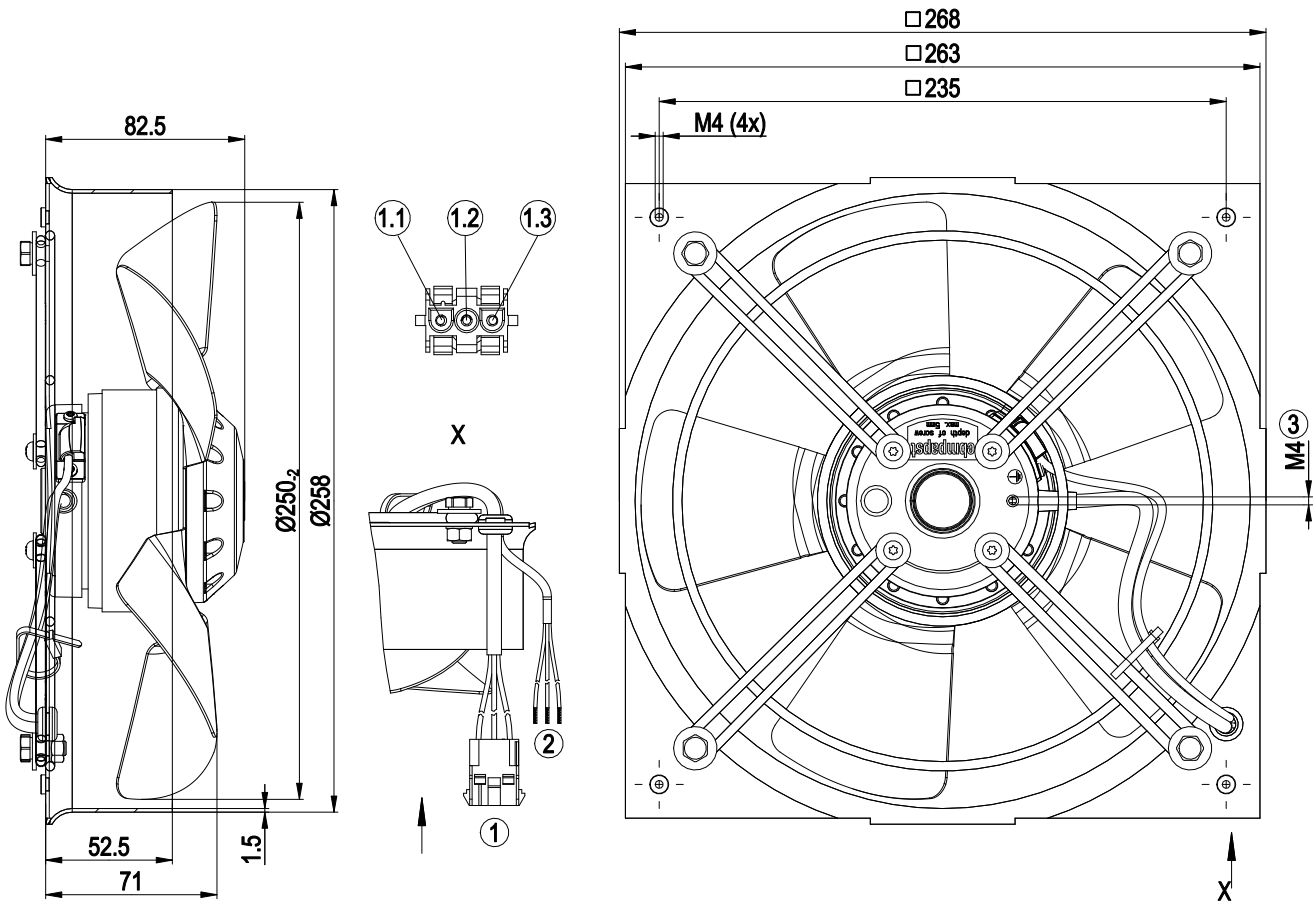


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## Product drawing



1	Cable PVC 3X 0.5 mm <sup>2</sup> , 3-pole connector housing Tyco 2178474-2, 3x plug pin Tyco 926886-1
1.1	L1 (U1) black
1.2	L2 (V1) blue
1.3	L3 (W1) brown
2	Cable Raychem Spec. 44, AWG24, 3x crimped splices
3	Max. clearance for screw 5 mm

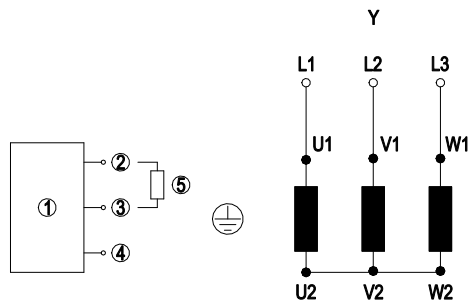


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## Connection diagram



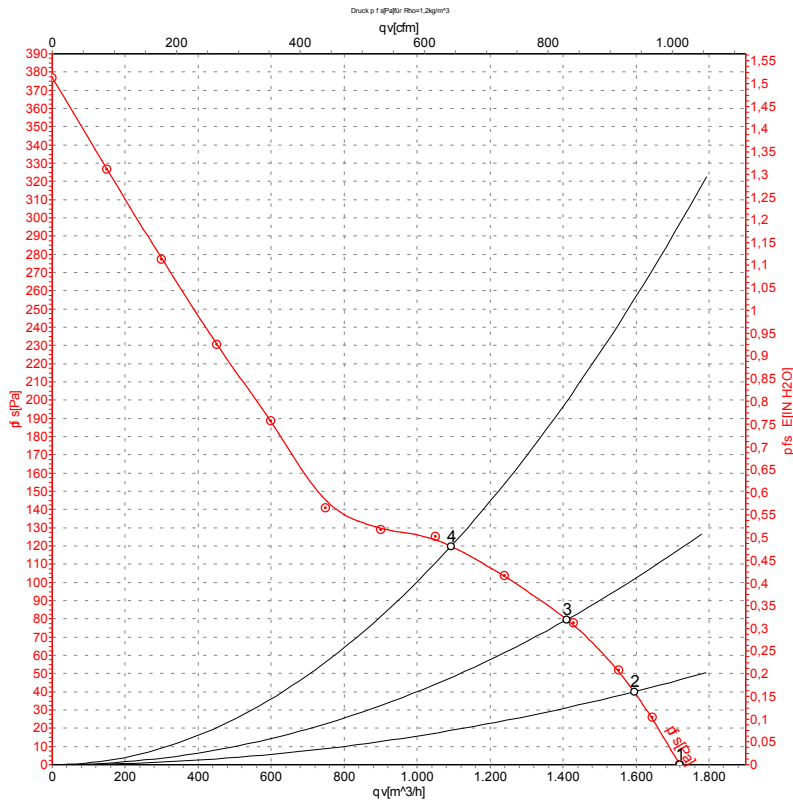
Change of rotation direction by reversing two phases

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 Y



Measurement: LU-69121-1

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 <sub>e</sub>	I	q <sub>v</sub>	p <sub>fs</sub>	q <sub>v</sub>	p <sub>fs</sub>
		V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa	cfm	inH <sub>2</sub> O
1	Y	400	50	2650	110	0.22	1720	0	1010	0.00
2	Y	400	50	2620	126	0.23	1595	40	940	0.16
3	Y	400	50	2600	131	0.24	1410	80	830	0.32
4	Y	400	50	2595	131	0.24	1090	120	645	0.48

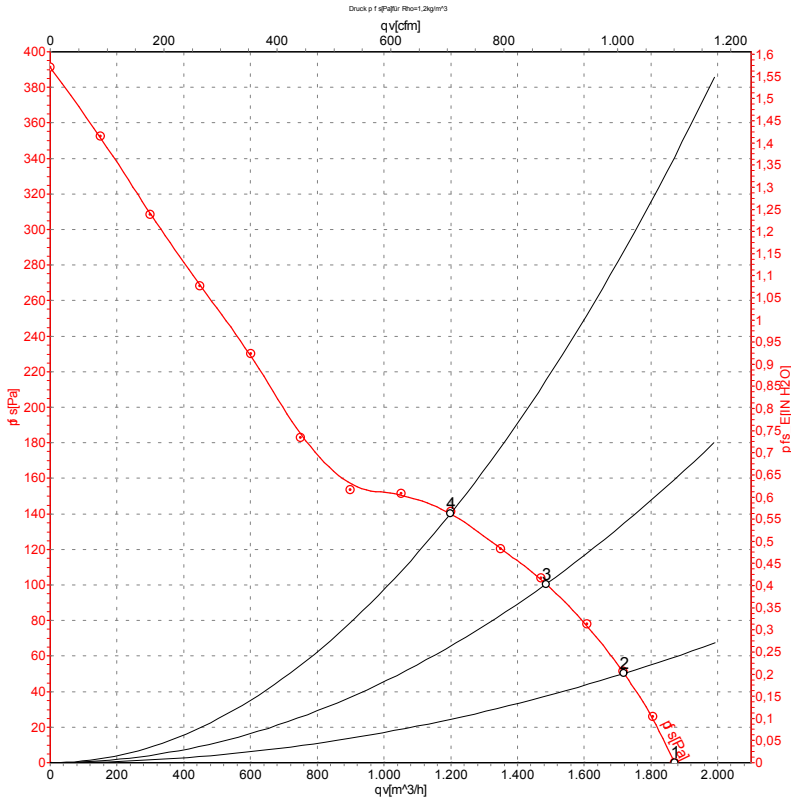
Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase



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## Curves: Air performance 60 Hz Y



Measurement: LU-69123-1

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 <sub>e</sub>	I	q <sub>v</sub>	p <sub>fs</sub>	q <sub>v</sub>	p <sub>fs</sub>
		V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa	cfm	inH <sub>2</sub> O
1	Y	400	60	2950	160	0.26	1870	0	1100	0.00
2	Y	400	60	2850	177	0.28	1720	50	1010	0.20
3	Y	400	60	2810	184	0.29	1485	100	875	0.40
4	Y	400	60	2805	184	0.29	1200	140	705	0.56

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

