W2D315-CQ10-09

AC axial fan

sickle-shaped blades (S series), single-intake

Fan housing with guard grille, for rail applications

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Nominal data

Type	**W2D315-CQ10-09**
Motor	**M2D074-EI**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400
Wiring		Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60
Method of obtaining data		fa	fa	fa	fa
Valid for approval/standard		CE	CE	CE	CE
Speed (rpm)	min^{-1}	2650	2150	2850	2000
Power consumption	W	230	165	350	200
Current draw	A	0.41	0.27	0.56	0.33
Max. back pressure	Pa	150	80	150	70
Max. back pressure	in. wg	0.6	0.32	0.6	0.28
Min. ambient temperature	°C	-25	-25	-25	-25
Max. ambient temperature	°C	85	85	50	60
Starting current	A	1.47	0.53	1.5	0.5

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

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Technical description

Weight	6.3 kg
Size	315 mm
Motor size	74
Rotor surface	Painted black
Blade material	Sheet steel, painted black
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
Airflow direction	A
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
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)	< 0.75 mA
Motor protection	Thermal overload protector (TOP) with basic insulation
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 45545-2, HL3: 2013 + A1:2015; EN 61373, Cat. 1B: 2010; EN 50155: 2008; EN 50533 A1:2016; CE
Approval	EAC
Comment	Prerequisite for operation is a Class 1 vehicle electrical system architecture according to EN 50533

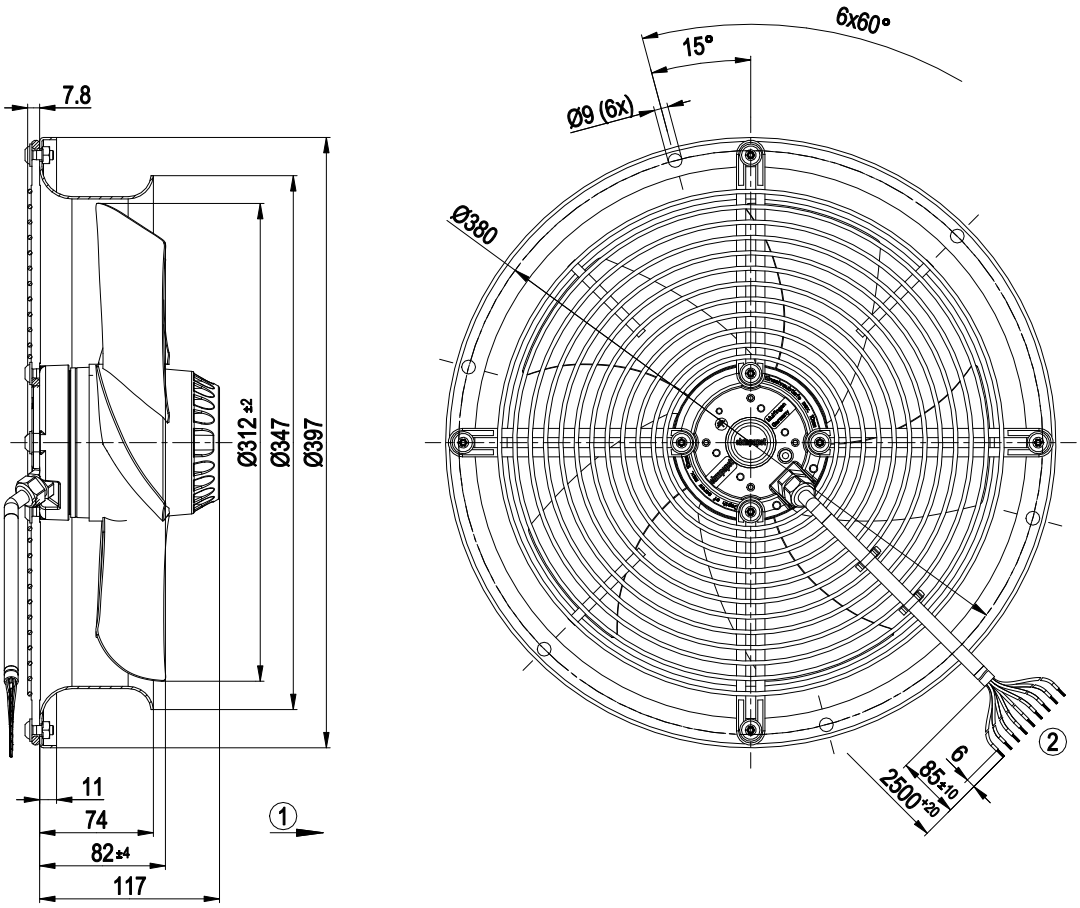
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Product drawing



1	Direction of air flow "A"
2	Cable silicone 9G 0.5 mm²
	9x splice

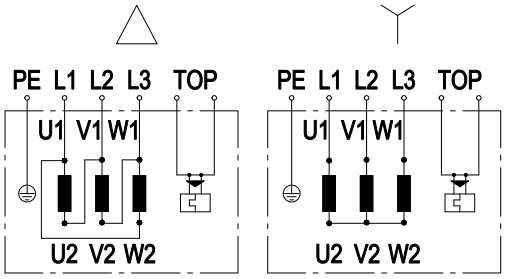
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Connection diagram



Note: Change of rotation direction by reversing two phases

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

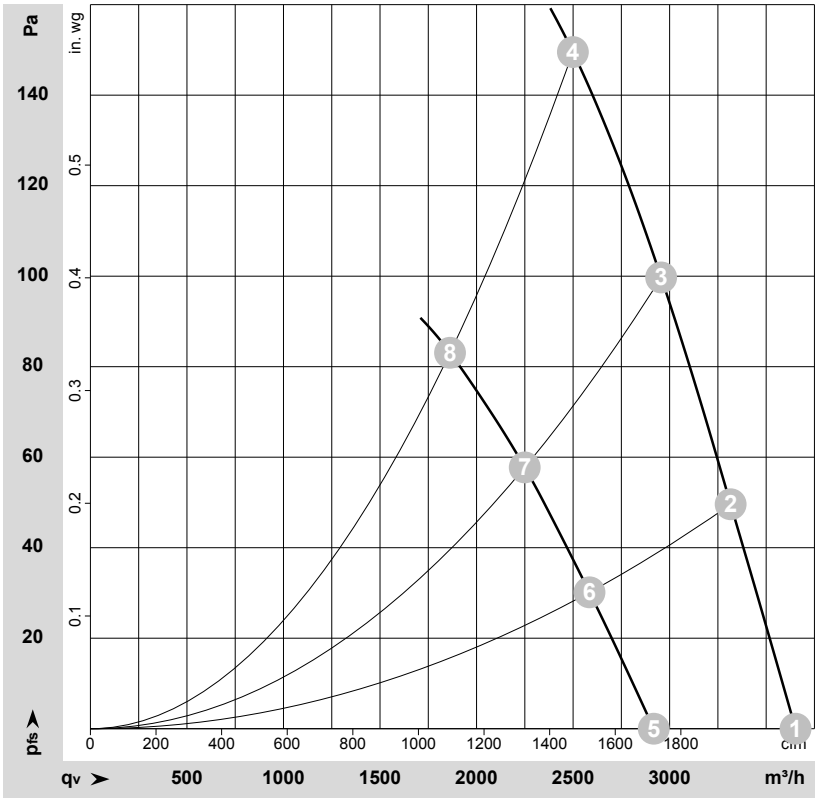
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-51086-1
Measurement: LU-51084-1

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	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	Δ	400	50	2650	230	0.41	3650	0	2150	0.00
2	Δ	400	50	2605	261	0.45	3315	50	1950	0.20
3	Δ	400	50	2570	284	0.48	2955	100	1740	0.40
4	Δ	400	50	2520	308	0.51	2500	150	1470	0.60
5	Y	400	50	2150	165	0.27	2920	0	1715	0.00
6	Y	400	50	2050	180	0.29	2585	30	1520	0.12
7	Y	400	50	1970	189	0.30	2250	58	1325	0.23
8	Y	400	50	1895	196	0.32	1865	83	1095	0.33

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

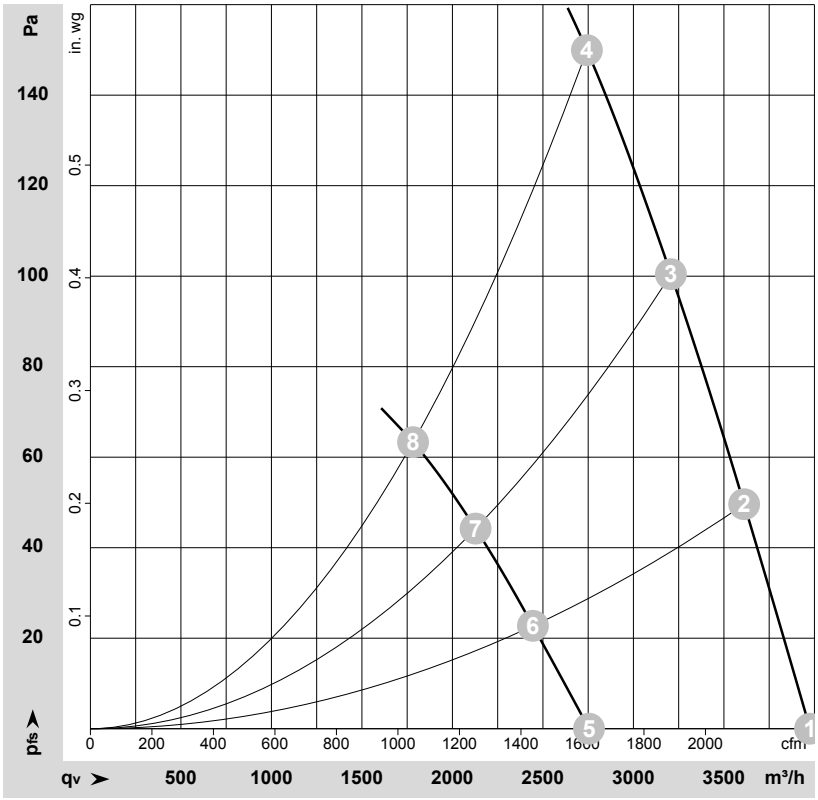
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Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-51087-1
Measurement: LU-51085-1

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	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	Δ	400	60	2850	350	0.56	3975	0	2340	0.00
2	Δ	400	60	2805	378	0.61	3610	50	2125	0.20
3	Δ	400	60	2730	404	0.65	3205	100	1890	0.40
4	Δ	400	60	2650	428	0.69	2745	150	1615	0.60
5	Y	400	60	2000	200	0.33	2755	0	1620	0.00
6	Y	400	60	1925	206	0.34	2445	23	1440	0.09
7	Y	400	60	1830	212	0.35	2130	44	1250	0.18
8	Y	400	60	1745	216	0.35	1780	63	1050	0.25

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

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