G4D250-DC14-02

AC centrifugal fan

forward-curved, single-intake

with housing (flange), for rail applications

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**G4D250-DC14-02**
Motor	**M4D094-HA**

Phase		3~	3~	3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400	480	480
Wiring		Δ	Y	Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60	60	60
Method of obtaining data		fa	fa	ml	ml	ml	ml
Valid for approval/standard		CE	CE	CE	CE	CE	CE
Speed (rpm)	min^{-1}	1340	1050	1540	1050	1620	1230
Power consumption	W	575	410	710	415	770	535
Current draw	A	1.1	0.7	1.2	0.75	1.2	0.8
Min. back pressure	Pa	0	0	180	80	200	115
Min. back pressure	in. wg	0	0	0.72	0.32	0.8	0.46
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	70	70	50	50	50	50
Starting current	A	3.9	1.3	3.5	1.2	4.2	1.4

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

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	36.6	33.7
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		46.9	44
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.23
09 Air flow q_v	m^3/h	900
09 Pressure increase p_{fs}	Pa	347
10 Speed (rpm) n	min^{-1}	1450
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-178479

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Technical description

Weight	13.2 kg
Size	250 mm
Motor size	94
Rotor surface	Painted black
Impeller material	Sheet steel, galvanized
Housing material	Sheet steel, galvanized
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1+
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 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 50155: 2008; EN 45545-2 + A1:2015; EN 61373, Cat. 1B: 2010; CE
Approval	EAC

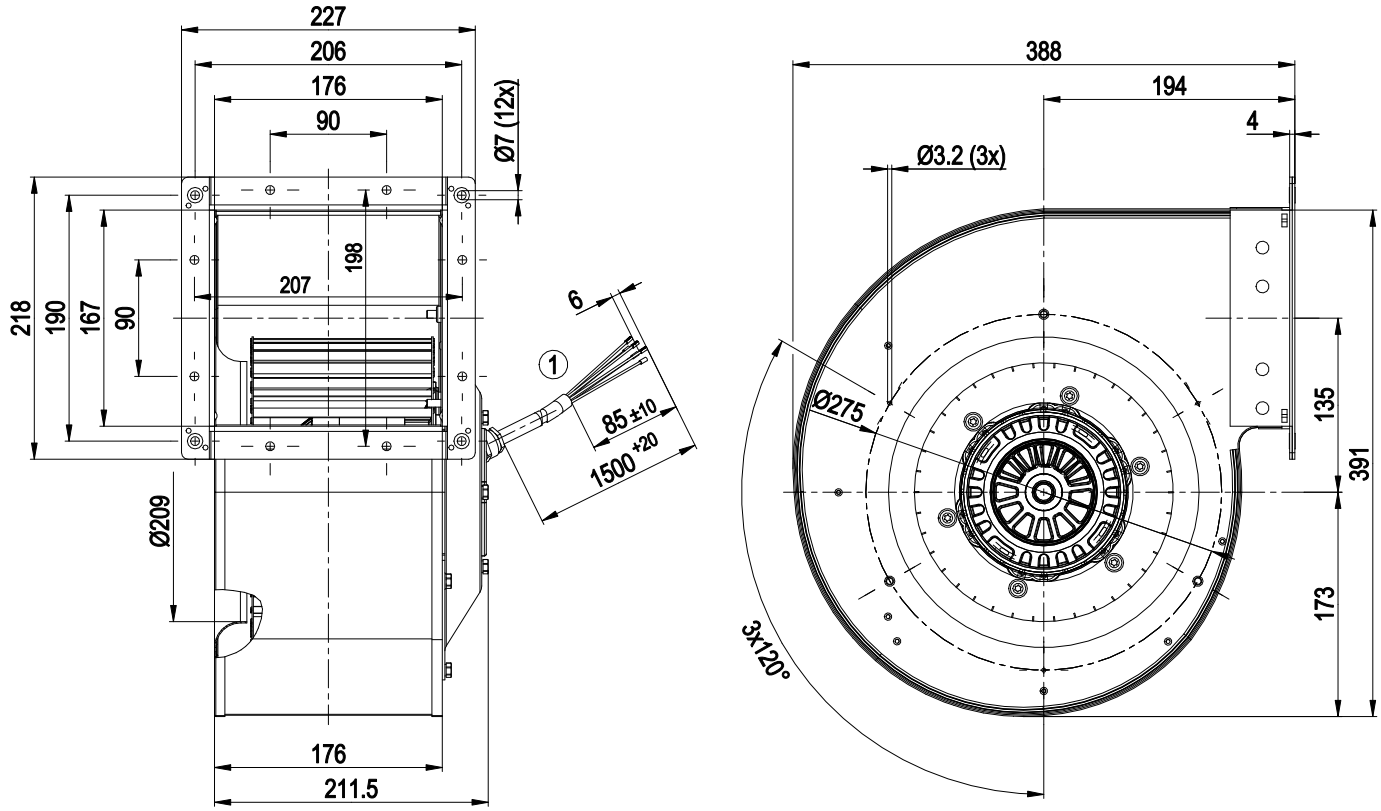
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Product drawing



1	Cable, halogen-free, railway application EN 45545, 9G 0.75 mm²
	9x splice

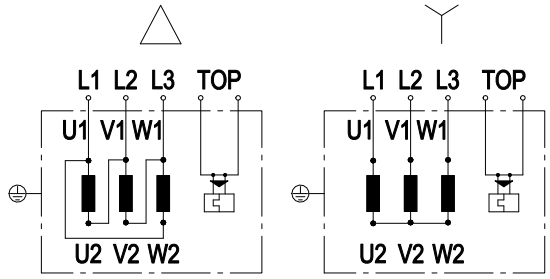
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Connection diagram



	Three-phase motor
Y	Star connection
Δ	Delta connection
L1	= U1 = blue
L2	= V1 = black
L3	= W1 = brown
V2	= green
U2	= white
W2	= yellow
TOP	(thermal overload protector) 2x gray

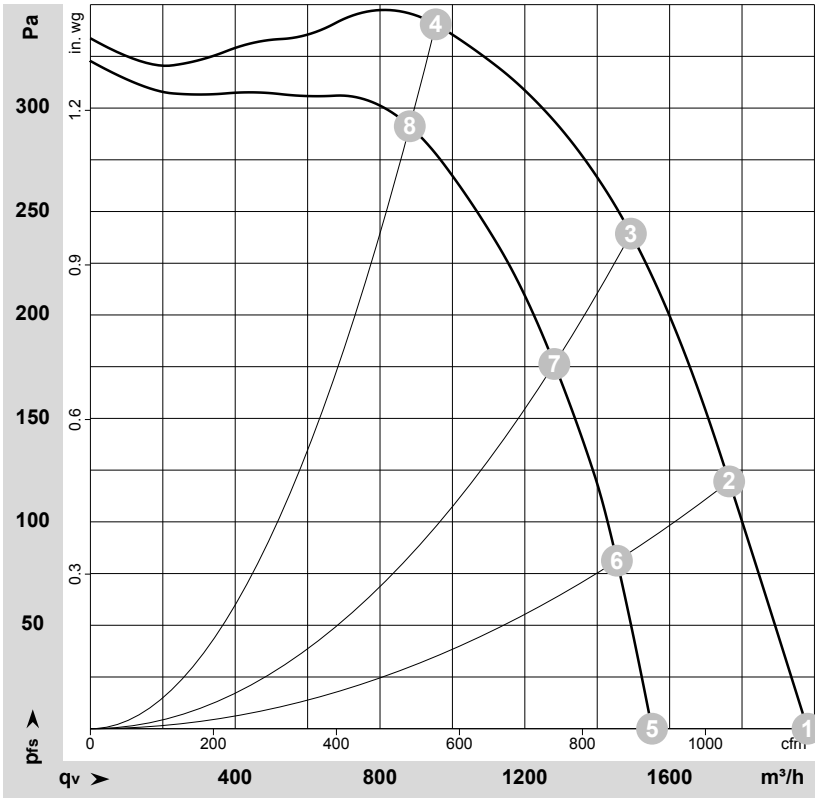
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-178479-1
Measurement: LU-178389-1

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}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	Δ	400	50	1340	575	1.10	76	82	1980	0	1165	0.00
2	Δ	400	50	1375	482	0.98	74	80	1765	120	1040	0.48
3	Δ	400	50	1405	386	0.87	71	76	1495	240	880	0.96
4	Δ	400	50	1445	248	0.75	66	72	955	340	560	1.36
5	Y	400	50	1050	410	0.70	70	76	1550	0	915	0.00
6	Y	400	50	1135	359	0.63	69	75	1455	87	855	0.35
7	Y	400	50	1215	306	0.54	67	73	1280	176	755	0.71
8	Y	400	50	1340	200	0.37	64	70	880	293	520	1.18

Wired = Wiring · U = Voltage · 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
q_V = Air flow · p_{fs} = Pressure increase

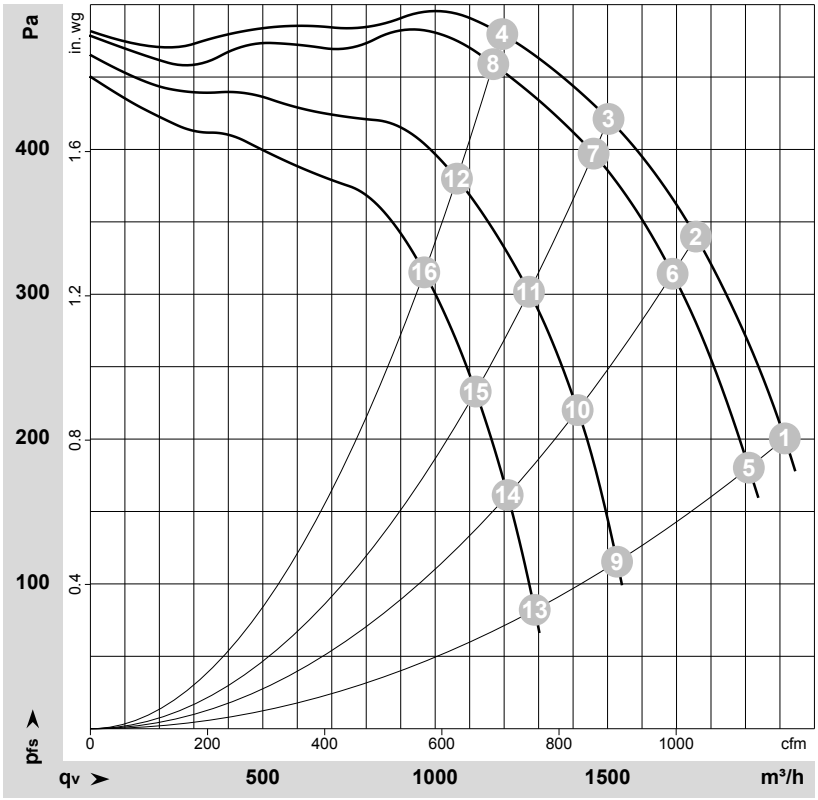
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Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-178483-1
Measurement: LU-178481-1
Measurement: LU-178482-1
Measurement: LU-178480-1

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}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	Δ	480	60	1620	770	1.20	77	83	2015	200	1185	0.80
2	Δ	480	60	1660	628	1.03	75	80	1755	340	1035	1.36
3	Δ	480	60	1685	523	0.93	72	78	1505	420	885	1.69
4	Δ	480	60	1715	411	0.82	70	76	1195	480	705	1.93
5	Δ	400	60	1540	710	1.20			1910	180	1125	0.72
6	Δ	400	60	1595	587	1.04			1690	315	995	1.26
7	Δ	400	60	1640	490	0.91			1460	398	860	1.60
8	Δ	400	60	1680	385	0.77			1170	459	690	1.84
9	Y	480	60	1230	535	0.80	70	76	1530	115	900	0.46
10	Y	480	60	1350	474	0.70	69	75	1415	220	830	0.88
11	Y	480	60	1440	415	0.61	69	74	1270	302	750	1.21
12	Y	480	60	1535	338	0.50	68	73	1065	382	625	1.53
13	Y	400	60	1050	415	0.75			1290	80	760	0.32
14	Y	400	60	1160	389	0.71			1210	164	710	0.66
15	Y	400	60	1270	355	0.63			1115	234	655	0.94
16	Y	400	60	1400	304	0.54			970	315	570	1.26

Wired = Wiring · U = Voltage · 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
q_V = Air flow · p_{fs} = Pressure increase

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