G4D225-FK20-02

AC centrifugal fan

forward-curved, single-intake

with housing (flange), for rail applications

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Amtsgericht (court of registration) Stuttgart · HRA 590344

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**G4D225-FK20-02**
Motor	**M4D094-FA**

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	fa	fa	fa	fa
Valid for approval/standard		-	-	-	-	-	-
Speed (rpm)	min^{-1}	1350	1050	1520	1000	1600	1200
Power consumption	W	405	300	550	320	600	410
Current draw	A	0.8	0.5	0.95	0.55	0.9	0.6
Min. back pressure	Pa	0	0	90	40	100	55
Min. back pressure	in. wg	0	0	0.36	0.16	0.4	0.22
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	80	80	50	50	50	50
Starting current	A	2.7	0.95	2.5	0.8	3.1	1.0

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	9.5 kg
Size	225 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+
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.
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)	<= 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 61373, Cat. 1B: 2010; EN 45545-2, HL3: 2013 + A1:2015
Approval	EAC

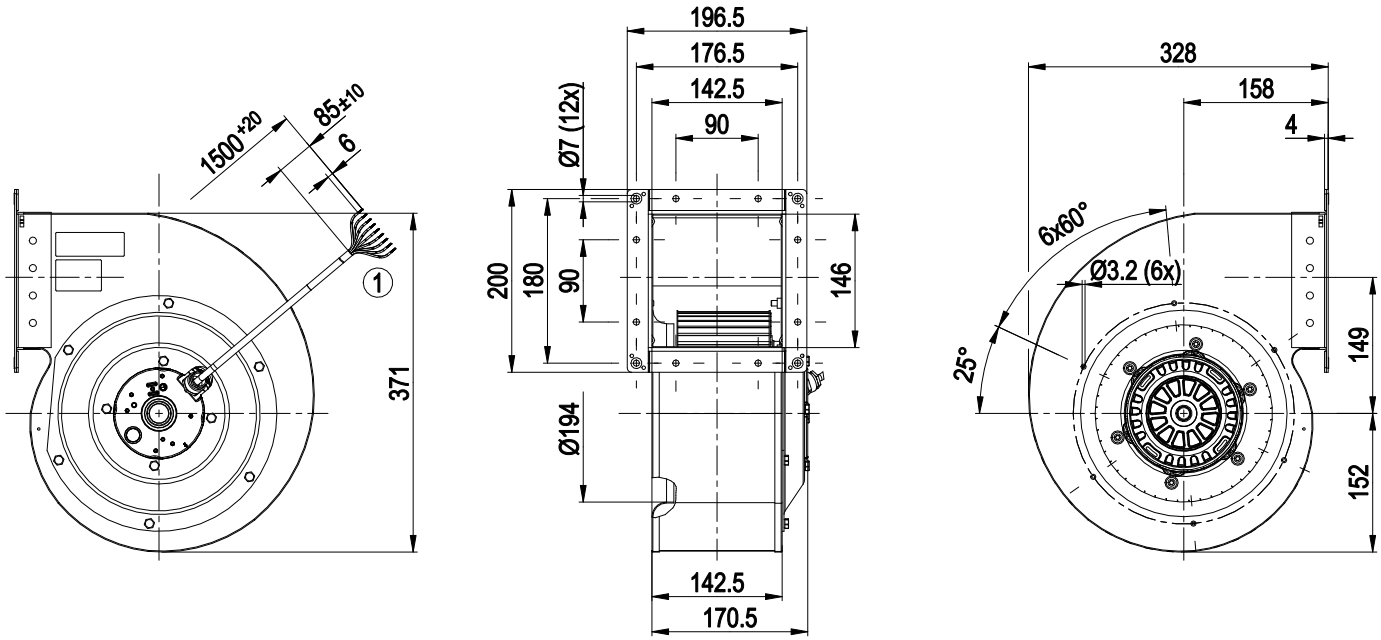
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Product drawing



1	Cable halogen-free, BETAtrans® 3 GKW flex, 9G 0.75 mm²
	9x splice

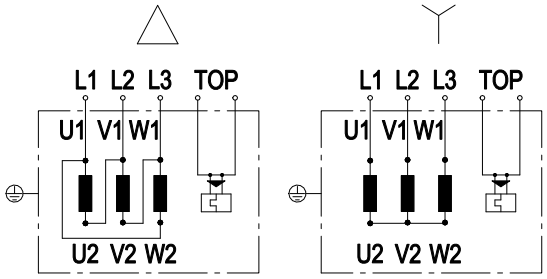
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Connection diagram



	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

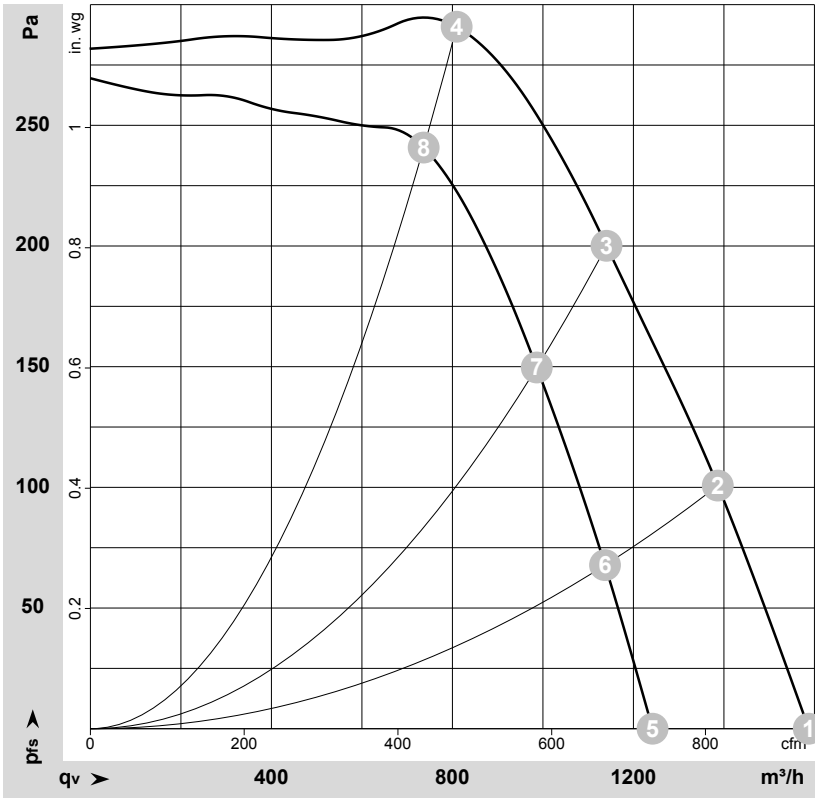
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-178489-1
Measurement: LU-178384-1

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	1350	405	0.80	73	80	1590	0	935	0.00
2	Δ	400	50	1375	347	0.70	71	77	1385	100	815	0.40
3	Δ	400	50	1405	281	0.63	68	75	1140	200	670	0.80
4	Δ	400	50	1435	207	0.57	65	71	810	290	475	1.16
5	Y	400	50	1050	300	0.50			1240	0	730	0.00
6	Y	400	50	1130	266	0.47			1135	68	670	0.27
7	Y	400	50	1215	224	0.39			985	150	580	0.60
8	Y	400	50	1310	167	0.30			735	241	435	0.97

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

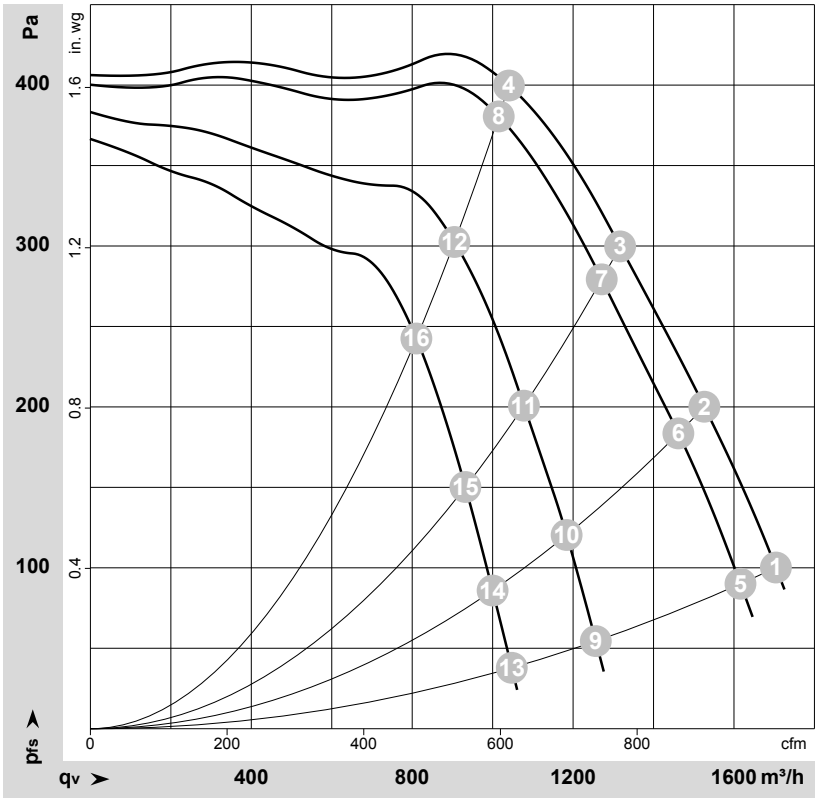
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Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-178494-1
Measurement: LU-178492-1
Measurement: LU-178493-1
Measurement: LU-178490-1

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	1600	600	0.90	76	82	1705	100	1005	0.40
2	Δ	480	60	1640	512	0.81	74	80	1525	200	900	0.80
3	Δ	480	60	1670	436	0.72	72	79	1315	300	775	1.20
4	Δ	480	60	1700	346	0.64	70	76	1040	400	610	1.61
5	Δ	400	60	1520	550	0.95			1615	90	950	0.36
6	Δ	400	60	1565	481	0.83			1460	184	860	0.74
7	Δ	400	60	1610	411	0.73			1270	279	750	1.12
8	Δ	400	60	1655	326	0.61			1015	381	595	1.53
9	Y	480	60	1200	410	0.60			1255	55	740	0.22
10	Y	480	60	1285	379	0.56			1185	122	695	0.49
11	Y	480	60	1370	341	0.50			1080	201	635	0.81
12	Y	480	60	1485	280	0.41			905	304	535	1.22
13	Y	400	60	1000	320	0.55			1050	40	615	0.16
14	Y	400	60	1090	307	0.56			1000	87	590	0.35
15	Y	400	60	1190	287	0.52			930	151	550	0.61
16	Y	400	60	1335	249	0.44			810	245	475	0.98

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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