G2D160-AF12-03

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	**G2D160-AF12-03**
Motor	**M2D068-EC**

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		-	-	-	-	-	-
Speed (rpm)	min^{-1}	2200	1350	2600	1650	2900	1950
Power consumption	W	320	160	305	155	340	200
Current draw	A	0.48	0.24	0.46	0.24	0.45	0.26
Min. back pressure	Pa	0	0	400	155	500	230
Min. back pressure	in. wg	0	0	1.61	0.62	2.01	0.92
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	55	55	50	50	50	50
Starting current	A	0.95	0.35	0.9	0.32	1.0	0.38

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	4 kg
Size	160 mm
Motor size	68
Rotor surface	Painted black
Impeller material	Sheet steel, galvanized
Housing material	Die-cast aluminum
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H0+; F1-1
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)	< 0.75 mA
Motor protection	Thermal overload protector (TOP) with basic insulation
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

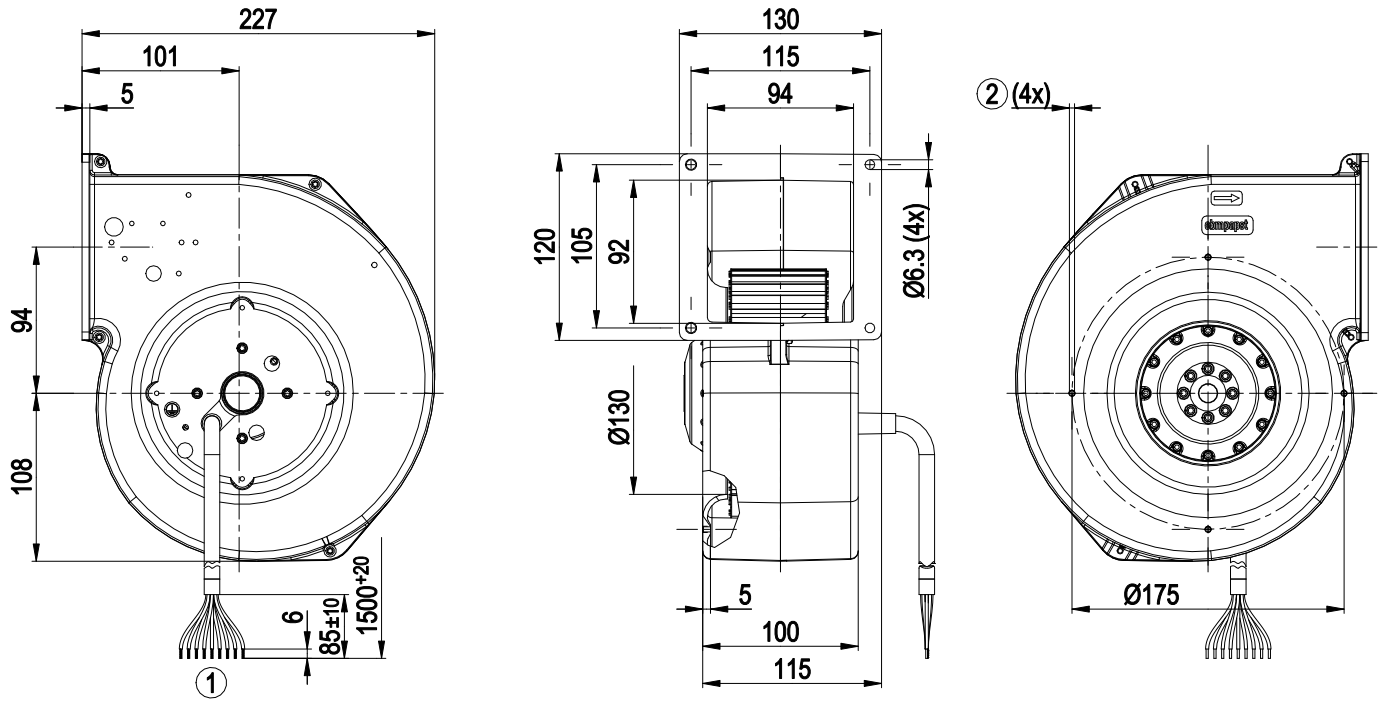
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Product drawing



1	Cable halogen-free, BETAtrans® 3 GKW flex, 9G 0.5 mm²
	9x splice
2	For self-tapping M4 screws

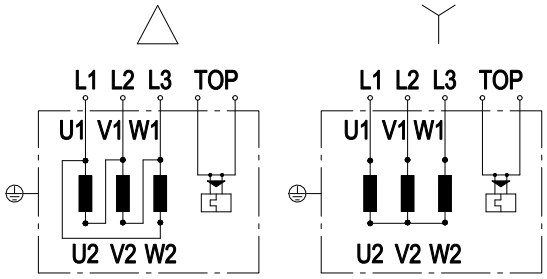
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Connection diagram



	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

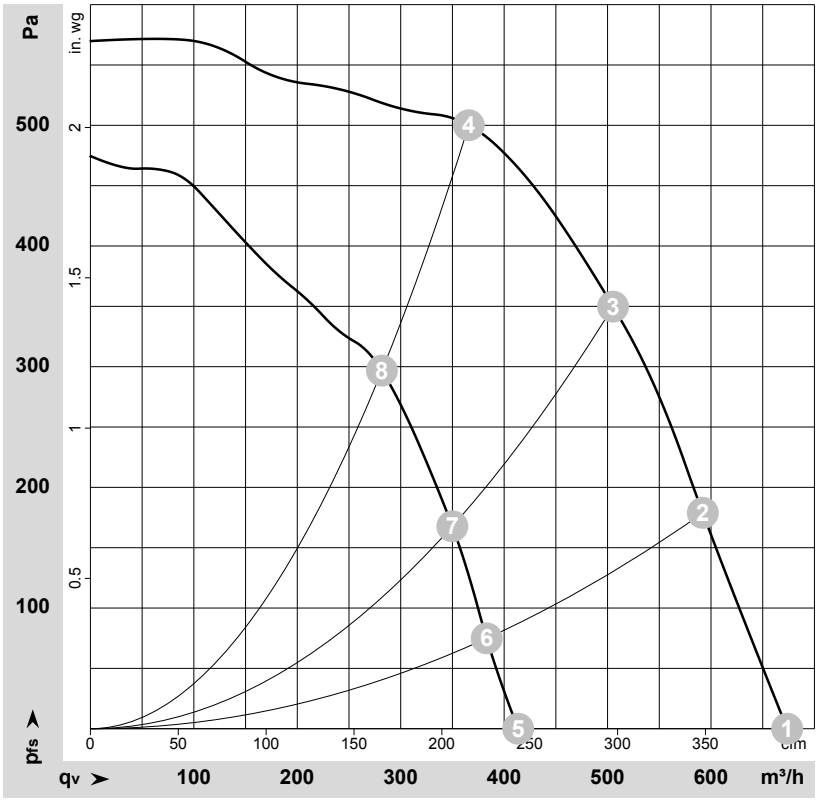
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-191995-1
Measurement: LU-192146-1

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	2200	320	0.48	73	80	675	0	395	0.00
2	Δ	400	50	2355	269	0.41	71	78	590	180	350	0.72
3	Δ	400	50	2510	221	0.34	69	76	505	350	295	1.41
4	Δ	400	50	2680	160	0.27	67	74	365	500	215	2.01
5	Y	400	50	1350	160	0.24	60	67	415	0	245	0.00
6	Y	400	50	1555	150	0.23	60	67	385	73	225	0.29
7	Y	400	50	1765	137	0.21	60	67	350	168	205	0.67
8	Y	400	50	2075	115	0.18	61	67	280	297	165	1.19

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

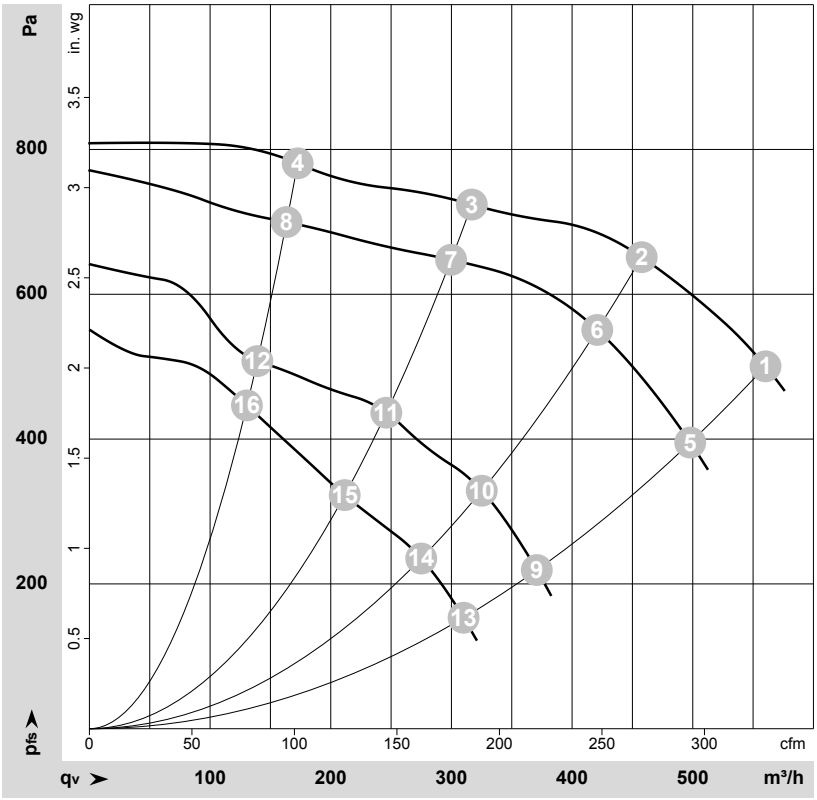
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Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-192151-1
Measurement: LU-192147-1
Measurement: LU-192152-1
Measurement: LU-192148-1

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	480	60	2900	340	0.45	560	500	330	2.01
2	Δ	480	60	3075	281	0.37	460	650	270	2.61
3	Δ	480	60	3220	222	0.30	315	724	185	2.91
4	Δ	480	60	3365	150	0.23	175	781	100	3.14
5	Δ	400	60	2600	305	0.46	500	400	295	1.61
6	Δ	400	60	2835	255	0.39	420	550	250	2.21
7	Δ	400	60	3100	188	0.29	300	650	175	2.61
8	Δ	400	60	3155	177	0.28	165	700	95	2.81
9	Y	480	60	1950	200	0.26	370	220	220	0.88
10	Y	480	60	2205	183	0.23	325	333	190	1.34
11	Y	480	60	2510	157	0.20	245	439	145	1.76
12	Y	480	60	2720	138	0.18	140	508	80	2.04
13	Y	400	60	1650	155	0.24	310	155	180	0.62
14	Y	400	60	1875	144	0.22	275	237	160	0.95
15	Y	400	60	2170	130	0.20	210	322	125	1.29
16	Y	400	60	2560	107	0.16	130	447	75	1.79

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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