AC centrifugal fan

forward-curved, single-intake

with housing (flange), for rail applications

G4D180-FF24-02 ebmpapst Datasheet
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www.fansco.com

Nominal data

Type	**G4D180-FF24-02**
Motor	**M4D074-DF**

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}	1300	970	1400	875	1500	1050
Power consumption	W	190	120	255	125	300	165
Current draw	A	0.4	0.21	0.45	0.23	0.47	0.25
Min. back pressure	Pa	0	0	0	0	0	0
Min. back pressure	in. wg	0	0	0	0	0	0
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	65	85	60	60	50	60
Starting current	A	1.1	0.35	1.0	0.3	1.2	0.36

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 kg
Size	180 mm
Motor size	74
Rotor surface	Painted black
Impeller material	Sheet steel, galvanized
Housing material	Sheet steel, galvanized
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44
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)	< 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 50155: 2008; EN 61373, Cat. 1B: 2010; EN 45545-2, HL3: 2013 + A1:2015; CE
Approval	EAC

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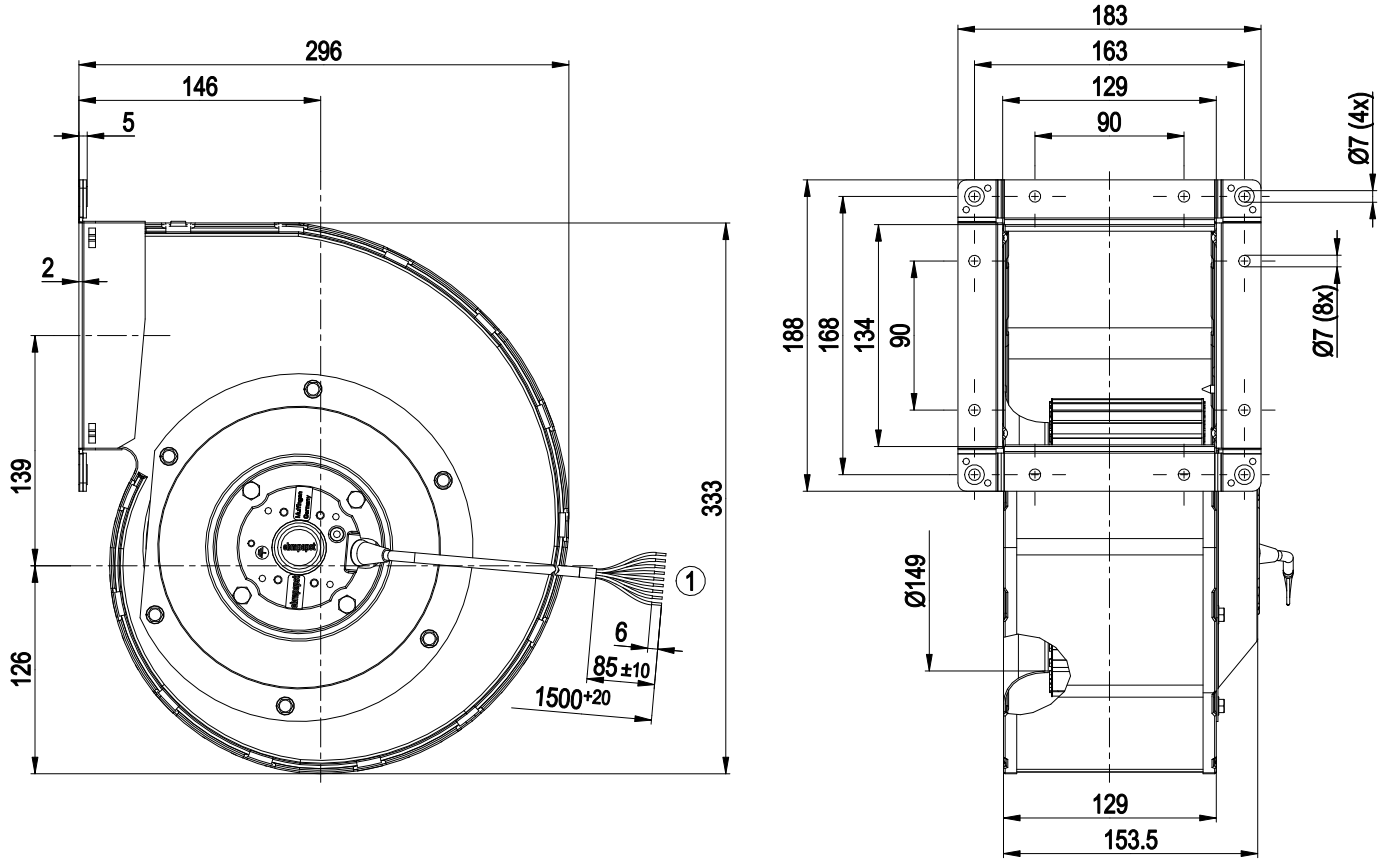
Product drawing



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

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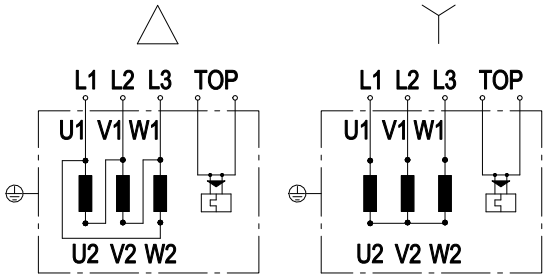
Connection diagram



	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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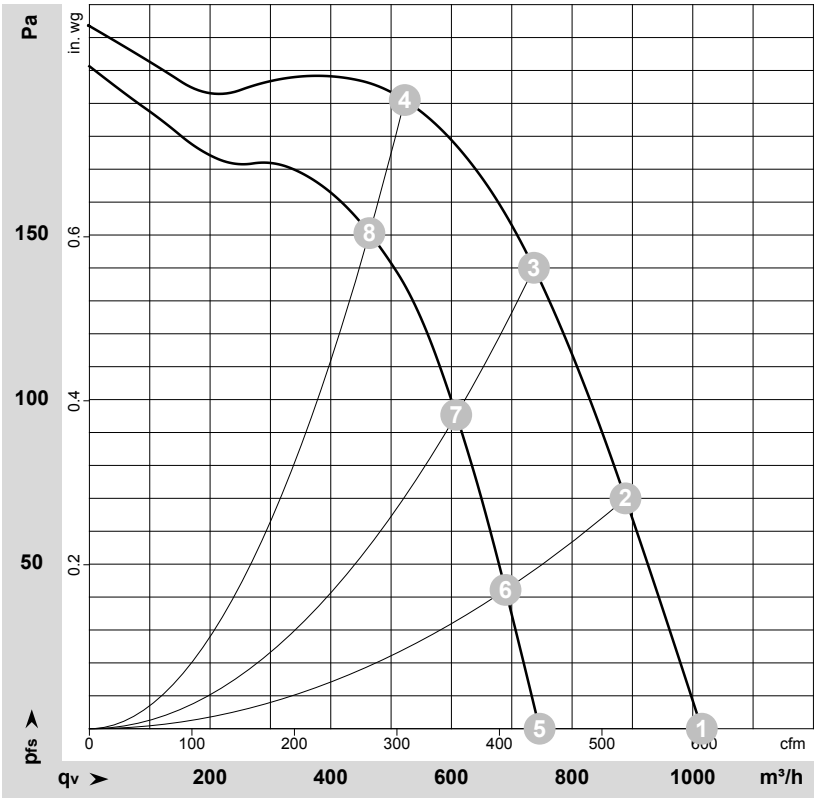
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-192125-1
Measurement: LU-191998-1

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	1300	190	0.40	67	72	1015	0	595	0.00
2	Δ	400	50	1350	162	0.34	64	70	890	70	525	0.28
3	Δ	400	50	1385	136	0.32	61	67	735	140	435	0.56
4	Δ	400	50	1425	106	0.31	58	64	525	190	310	0.76
5	Y	400	50	970	120	0.21			745	0	440	0.00
6	Y	400	50	1050	107	0.19			690	43	405	0.17
7	Y	400	50	1145	93	0.16			610	96	360	0.39
8	Y	400	50	1265	71	0.13			465	151	275	0.61

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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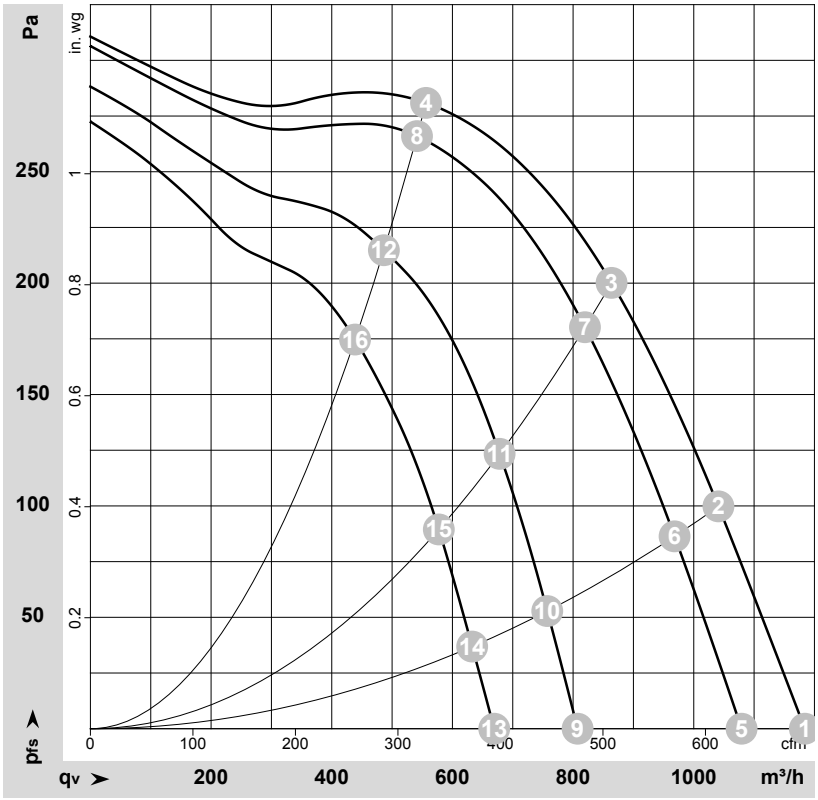
Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-192129-1
Measurement: LU-192127-1
Measurement: LU-192128-1
Measurement: LU-192126-1

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	1500	300	0.47	1185	0	695	0.00
2	Δ	480	60	1580	253	0.40	1040	100	615	0.40
3	Δ	480	60	1635	207	0.36	865	200	510	0.80
4	Δ	480	60	1705	145	0.32	555	280	325	1.12
5	Δ	400	60	1400	255	0.45	1080	0	635	0.00
6	Δ	400	60	1480	220	0.38	970	87	570	0.35
7	Δ	400	60	1560	181	0.32	820	181	485	0.73
8	Δ	400	60	1660	121	0.26	540	266	320	1.07
9	Y	480	60	1050	165	0.25	810	0	475	0.00
10	Y	480	60	1160	155	0.23	755	54	445	0.22
11	Y	480	60	1290	137	0.20	680	124	400	0.50
12	Y	480	60	1495	101	0.15	485	215	285	0.86
13	Y	400	60	875	125	0.23	670	0	395	0.00
14	Y	400	60	970	119	0.21	635	37	375	0.15
15	Y	400	60	1105	111	0.20	575	90	340	0.36
16	Y	400	60	1350	89	0.16	440	175	260	0.70

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