G2D180-AB10-03

AC centrifugal fan

forward-curved, single-intake

with housing (flange), for rail applications

G2D180-AB10-03 ebmpapst Datasheet
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Nominal data

Type	**G2D180-AB10-03**
Motor	**M2D074-EI**

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}	2150	1400	2400	1500	2700	1750
Power consumption	W	450	240	490	230	580	300
Current draw	A	0.7	0.37	0.75	0.37	0.75	0.4
Min. back pressure	Pa	0	0	320	120	400	160
Min. back pressure	in. wg	0	0	1.28	0.48	1.61	0.64
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	70	70	45	45	45	45
Starting current	A	1.6	0.55	1.5	0.5	1.7	0.65

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

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	36	33.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		46.6	44
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.2
09 Air flow q_v	m^3/h	405
09 Pressure increase p_{fs}	Pa	673
10 Speed (rpm) n	min^{-1}	2695
11 Specific ratio*		1.01

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-192138

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Technical description

Weight	5.4 kg
Size	180 mm
Motor size	74
Rotor surface	Painted black
Impeller material	Sheet steel, painted black
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	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
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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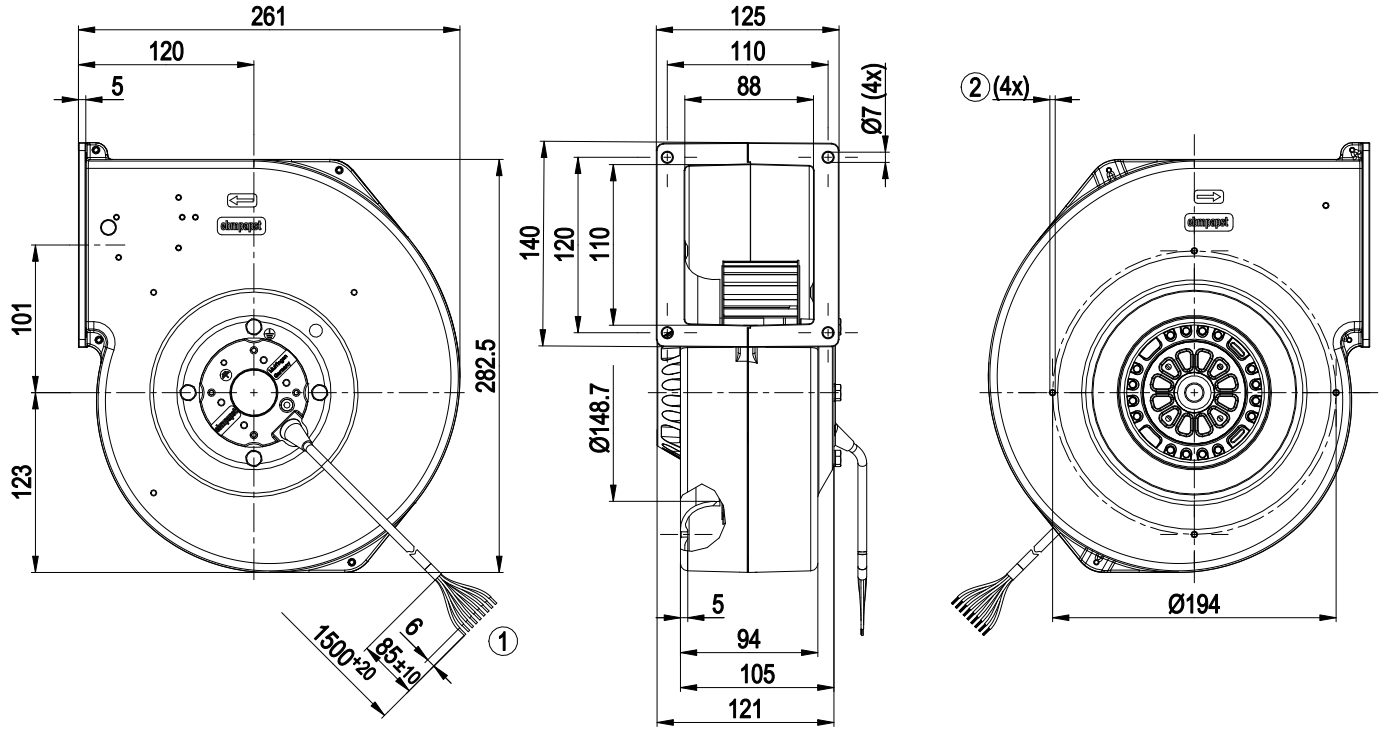
Product drawing



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

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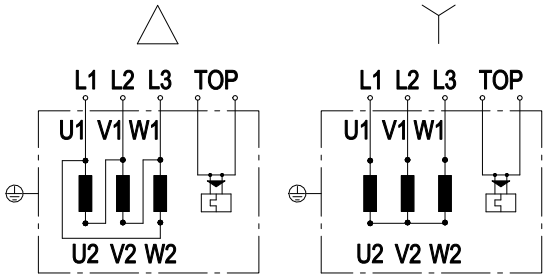
Connection diagram



	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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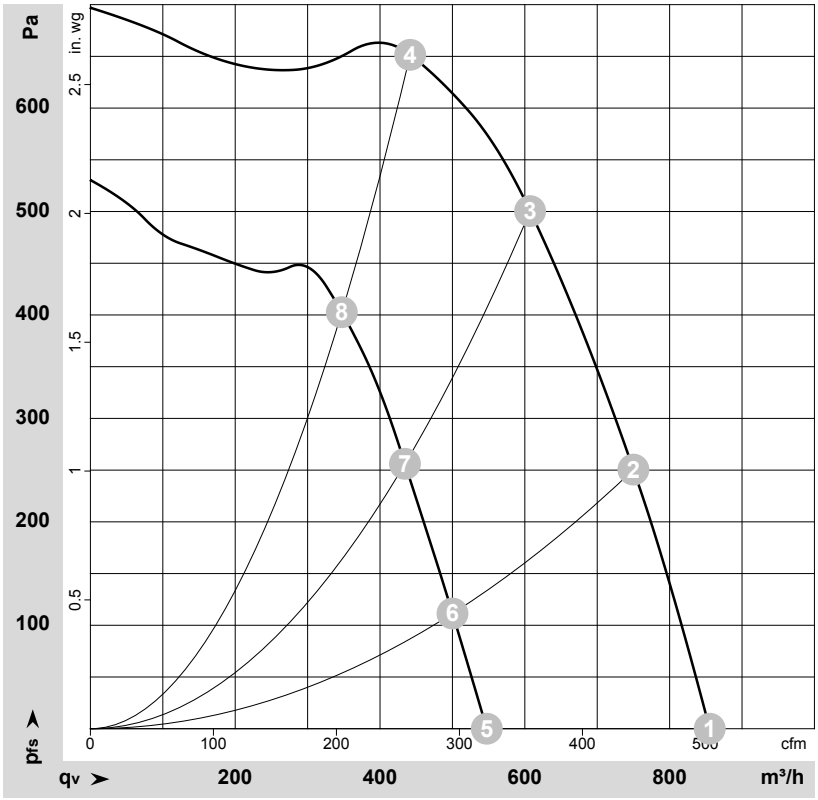
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-192138-1
Measurement: LU-191996-1

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	2150	450	0.70	76	83	855	0	505	0.00
2	Δ	400	50	2340	384	0.60	74	81	750	250	440	1.00
3	Δ	400	50	2515	301	0.48	72	78	605	500	355	2.01
4	Δ	400	50	2665	226	0.38	70	76	440	650	260	2.61
5	Y	400	50	1400	240	0.37			545	0	320	0.00
6	Y	400	50	1585	222	0.36			500	113	295	0.45
7	Y	400	50	1825	197	0.31			435	256	255	1.03
8	Y	400	50	2110	163	0.26			345	404	205	1.62

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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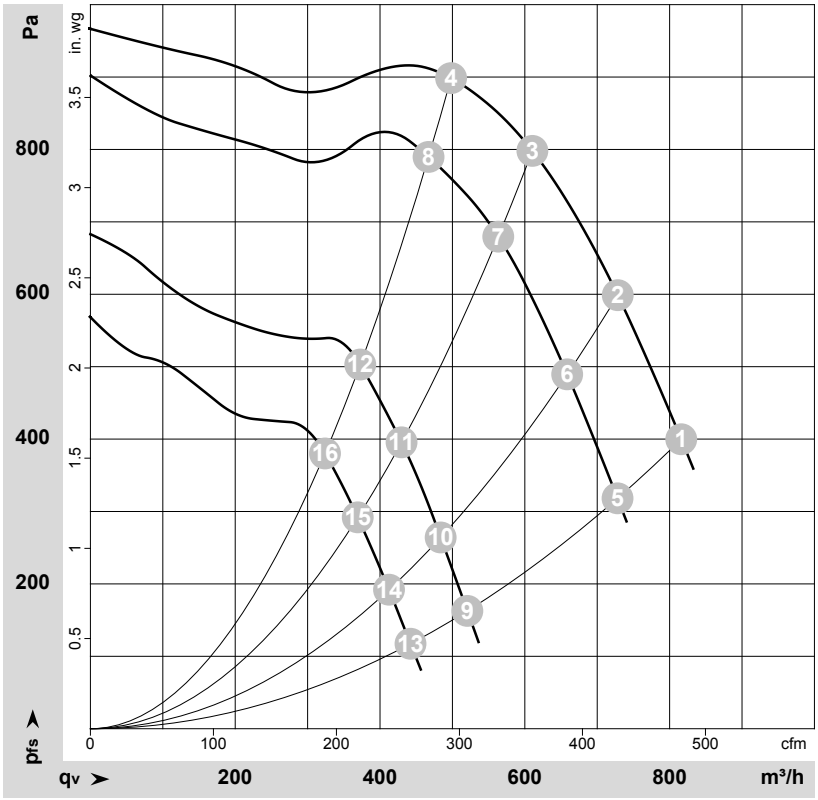
Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-192143-1
Measurement: LU-192141-1
Measurement: LU-192142-1
Measurement: LU-192139-1

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	2700	580	0.75	815	400	480	1.61
2	Δ	480	60	2850	510	0.67	730	600	430	2.41
3	Δ	480	60	3015	423	0.56	610	800	360	3.21
4	Δ	480	60	3130	357	0.48	500	900	295	3.61
5	Δ	400	60	2400	490	0.75	730	320	430	1.28
6	Δ	400	60	2580	443	0.69	660	491	390	1.97
7	Δ	400	60	2785	380	0.59	565	688	330	2.76
8	Δ	400	60	2940	324	0.51	465	791	275	3.18
9	Y	480	60	1750	300	0.40	520	160	305	0.64
10	Y	480	60	1925	285	0.38	485	264	285	1.06
11	Y	480	60	2140	263	0.35	430	396	255	1.59
12	Y	480	60	2355	239	0.32	375	503	220	2.02
13	Y	400	60	1500	230	0.37	440	120	260	0.48
14	Y	400	60	1640	221	0.36	410	193	240	0.77
15	Y	400	60	1845	208	0.34	370	292	215	1.17
16	Y	400	60	2050	194	0.31	325	380	190	1.53

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