D4D180-BB09-03

AC centrifugal fan

forward-curved, dual-intake

with housing (flange), for rail applications

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Nominal data

Type	**D4D180-BB09-03**
Motor	**M4D068-GA**

Phase		3~	3~	3~
Nominal voltage	VAC	400	400	480
Wiring		Y	Y	Y
Frequency	Hz	50	60	60
Method of obtaining data		fa	fa	fa
Valid for approval/standard		-	-	-
Speed (rpm)	min^{-1}	1100	1240	1370
Power consumption	W	255	270	320
Current draw	A	0.5	0.48	0.5
Min. back pressure	Pa	0	80	100
Min. back pressure	in. wg	0	0.32	0.4
Min. ambient temperature	°C	-40	-40	-40
Max. ambient temperature	°C	70	70	70
Starting current	A	1.05	1.0	1.2

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	0.001 kg
Size	180 mm
Motor size	68
Rotor surface	Painted black
Impeller material	Sheet steel, galvanized
Housing material	Sheet steel, galvanized
Motor suspension	Motor vibration-damped on both sides
Direction of rotation	Counterclockwise, 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	Any
Condensation drainage holes	None, open rotor
Mode	S1
Motor bearing	Ball bearing
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	< 0.75 mA
With cable	Axial
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 45545-2, HL3: 2013 + A1:2015; EN 50155: 2008; EN 61373, Cat. 1B: 2010
Approval	EAC

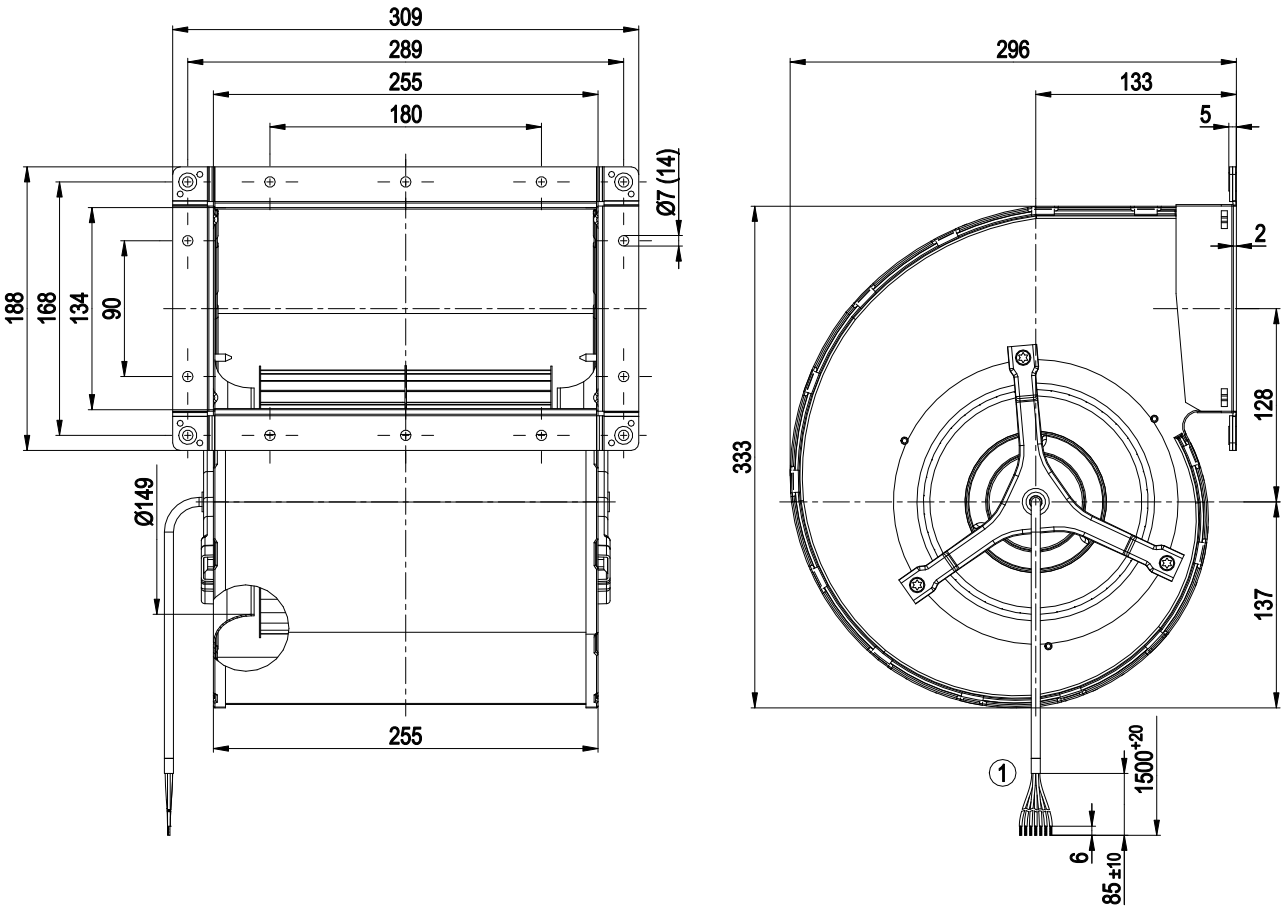
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Product drawing



1	Cable halogen-free, BETAtrans® 3 GKW flex, black 6G 0.5 mm²
	6x splice

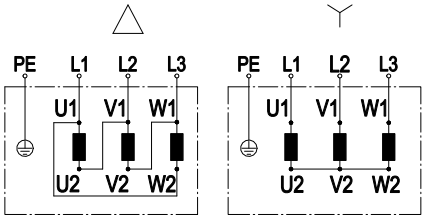
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Connection diagram



Change of rotation direction by reversing two phases

	Three-phase motor	Δ	Delta connection	Y	Star connection
L1	= U1 = black	L2	= V1 = blue	L3	= W1 = brown
U2	green	V2	white	W2	yellow
PE	green/yellow				

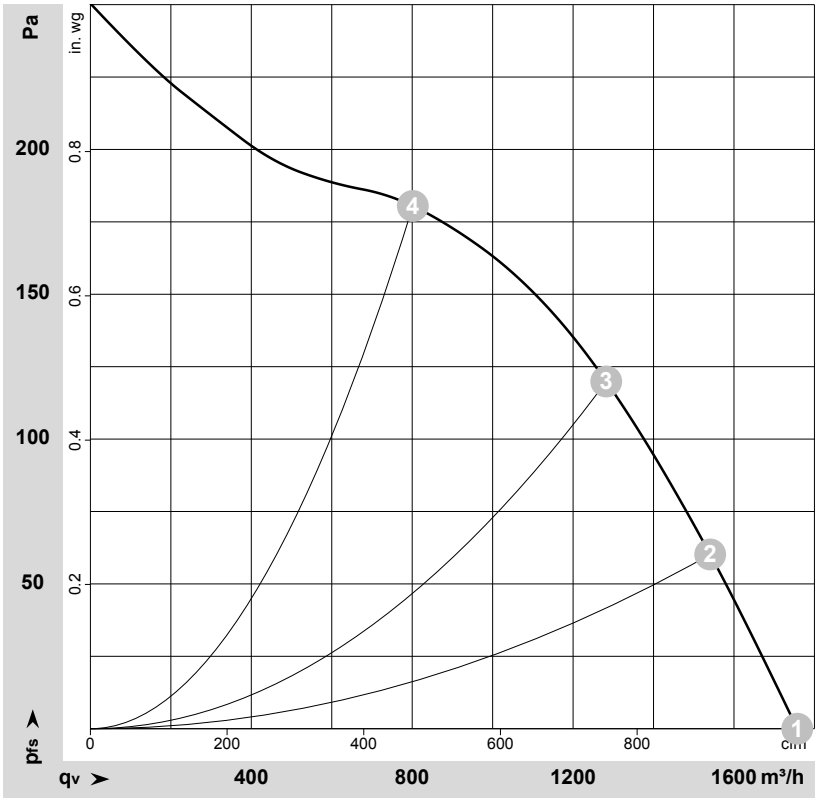
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-193324-1

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	Y	400	50	1100	255	0.50	60	73	1755	0	1035	0.00
2	Y	400	50	1175	216	0.42	58	70	1540	60	905	0.24
3	Y	400	50	1245	181	0.38	56	68	1280	120	755	0.48
4	Y	400	50	1345	125	0.33	53	64	800	180	470	0.72

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

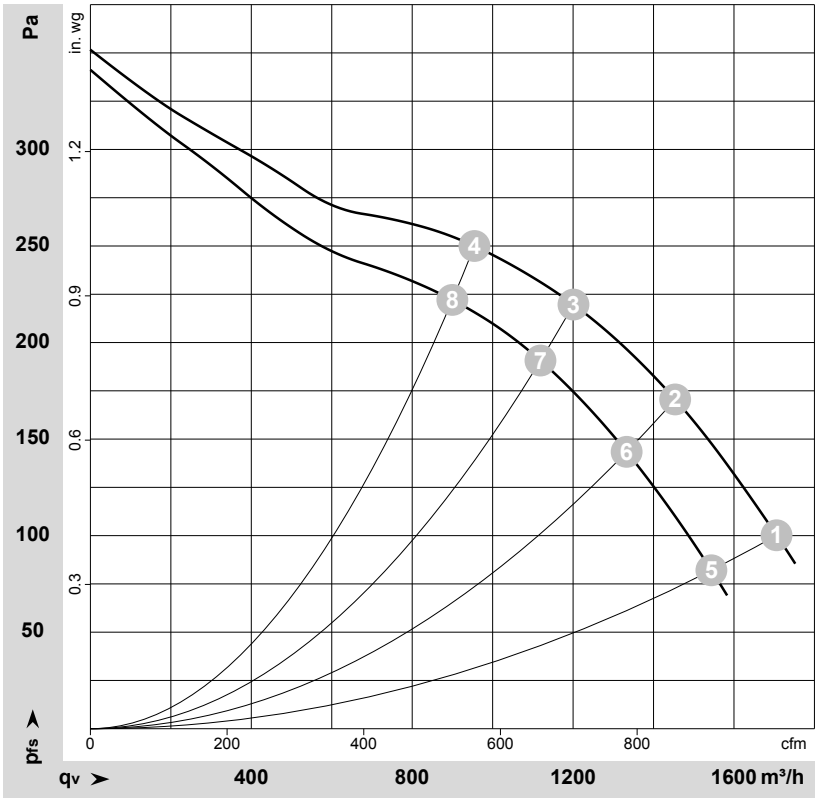
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Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-193360-1
Measurement: LU-193359-1

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	Y	480	60	1370	320	0.50	1705	100	1005	0.40
2	Y	480	60	1450	274	0.44	1455	170	855	0.68
3	Y	480	60	1515	232	0.40	1200	220	705	0.88
4	Y	480	60	1575	194	0.37	955	250	560	1.00
5	Y	400	60	1240	270	0.48	1545	80	910	0.32
6	Y	400	60	1335	235	0.42	1335	144	785	0.58
7	Y	400	60	1415	203	0.38	1120	191	660	0.77
8	Y	400	60	1490	172	0.34	900	223	530	0.90

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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