D4D250-BA02-05

AC centrifugal fan

forward-curved, dual-intake

with housing (flange), for rail applications

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Nominal data

Type	**D4D250-BA02-05**
Motor	**M4D094-LA**

Phase		3~	3~
Nominal voltage	VAC	400	400
Wiring		Y	Y
Frequency	Hz	50	60
Method of obtaining data		fa	ml
Valid for approval/standard		CE	CE
Speed (rpm)	min^{-1}	1240	1410
Power consumption	W	1140	1210
Current draw	A	2.1	2.2
Min. back pressure	Pa	0	250
Min. back pressure	in. wg	0	1
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	60	45
Starting current	A	4.6	4

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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	40.4	35.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		48.5	44
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.52
09 Air flow q_v	m^3/h	2005
09 Pressure increase p_{fs}	Pa	381
10 Speed (rpm) n	min^{-1}	1405
11 Specific ratio*		1.00

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-73522

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Technical description

Weight	17.5 kg
Size	250 mm
Motor size	94
Rotor surface	Cast in aluminum
Impeller material	Sheet steel, galvanized
Housing material	Sheet steel, galvanized
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H0 - dry environment
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
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	Axial
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60034-1 (2010); CE
Approval	EAC

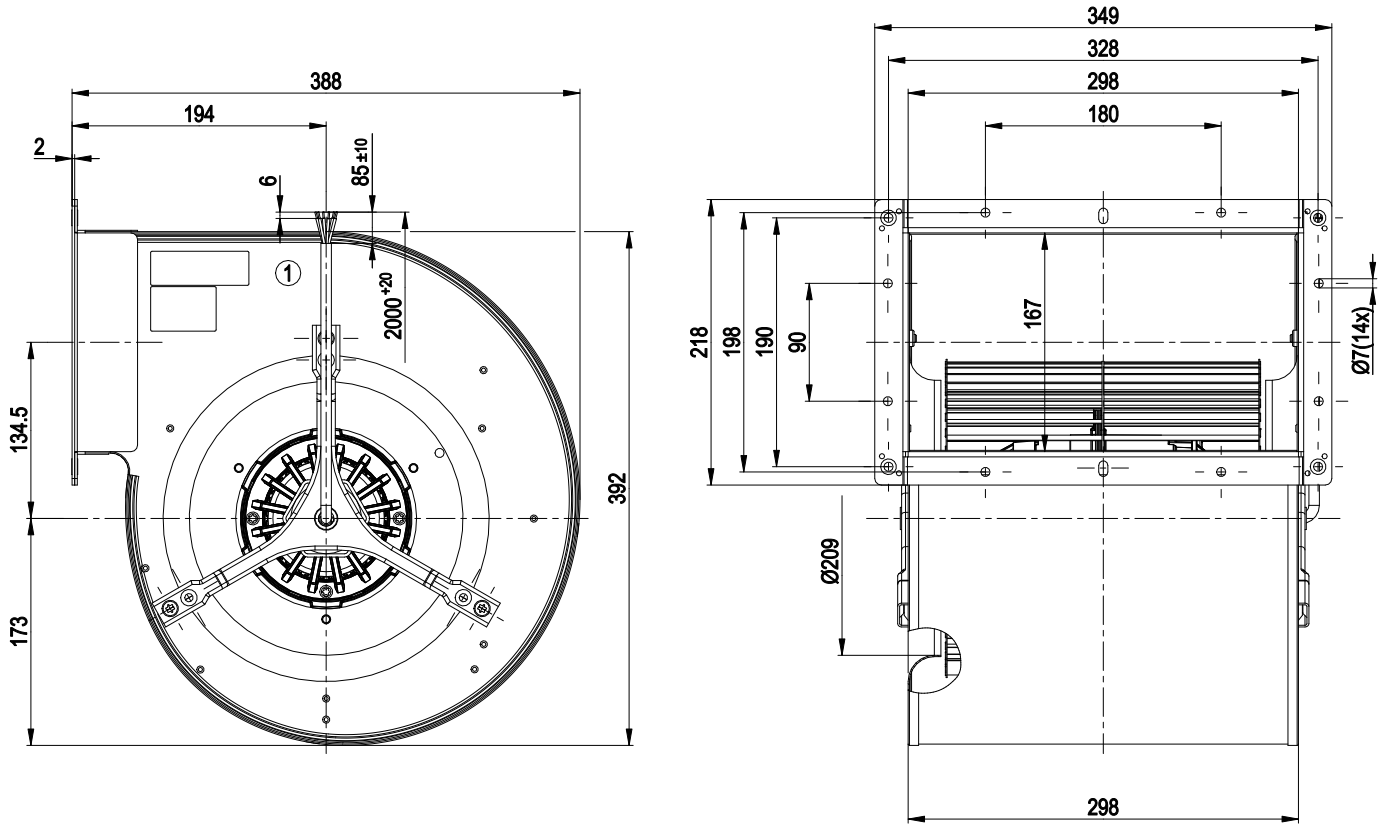
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Product drawing



1	Cable, halogen-free, railway application EN 45545, 6G 0.75 mm²
	6x splice

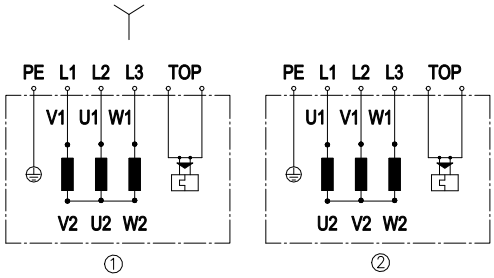
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Connection diagram



Change of rotation direction by reversing two phases

	Three-phase motor
Y	Star connection
1	Counterclockwise operation
L1	= V1 = blue
L2	= U1 = black
L3	= W1 = brown
2	Clockwise operation
L1	= U1 = black
L2	= V1 = blue
L3	= W1 = brown
PE	Green/yellow
TOP	2x gray

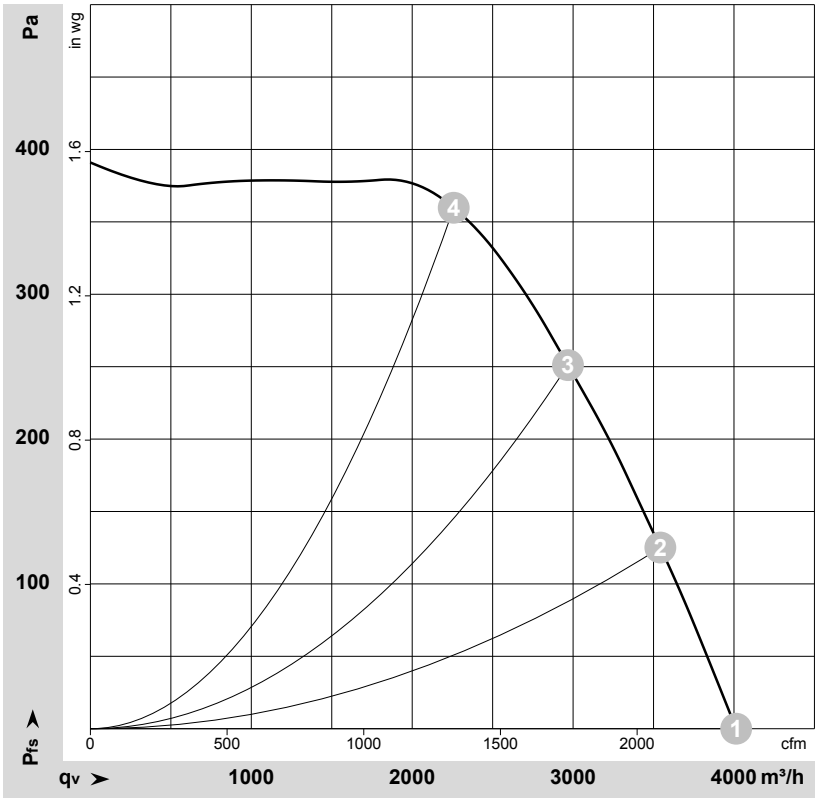
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-73522-1

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	1240	1140	2.10	70	85	4015	0	2365	0.00
2	Y	400	50	1290	958	1.84	68	82	3540	125	2085	0.50
3	Y	400	50	1340	775	1.56	65	79	2970	250	1745	1.00
4	Y	400	50	1390	589	1.31	62	76	2260	360	1330	1.45

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

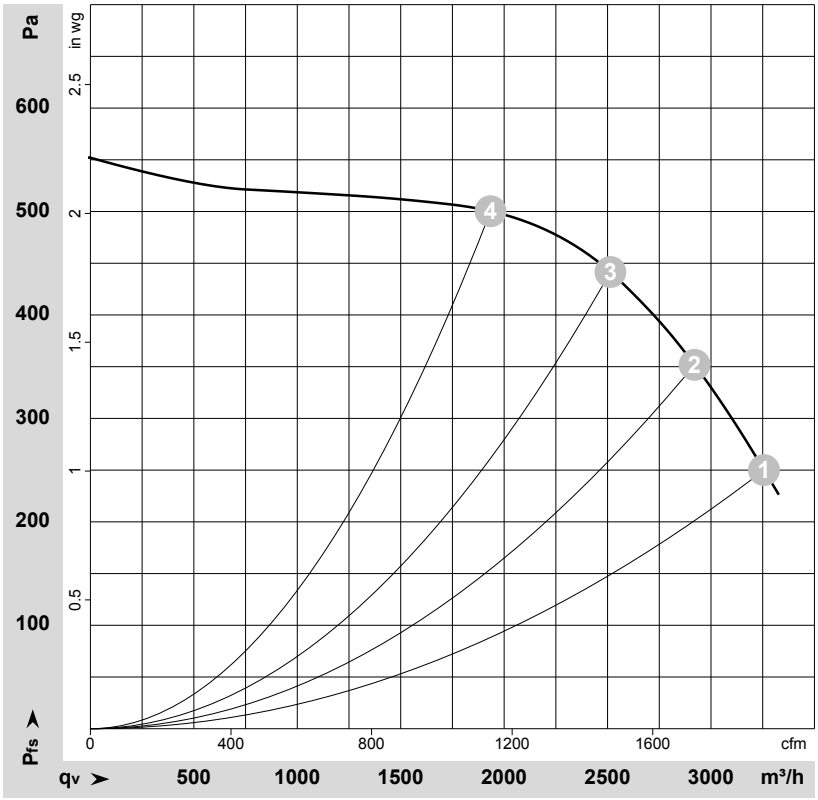
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Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-133126-1

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	60	1410	1210	2.20	67	82	3255	250	1915	1.00
2	Y	400	60	1480	1029	1.82	66	80	2920	350	1720	1.41
3	Y	400	60	1545	875	1.57	65	79	2515	440	1480	1.77
4	Y	400	60	1620	676	1.28	64	78	1935	500	1140	2.01

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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