AC centrifugal fan - RadiCal

backward-curved

R4D355-RM04-01 ebmpapst Datasheet
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Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R4D355-RM04-01**
Motor	**M4D094-EA**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	230	230	400	400
Wiring		Δ	Δ	Y	Y
Frequency	Hz	50	60	50	60
Method of obtaining data		ml	ml	ml	ml
Valid for approval/standard		CE	CE	CE	CE
Speed (rpm)	min^{-1}	1370	1530	1370	1530
Power consumption	W	270	400	270	400
Current draw	A	1.06	1.22	0.61	0.70
Min. back pressure	Pa	0	0	0	0
Min. back pressure	inH2O	0	0	0	0
Min. ambient temperature	°C	-40	-40	-40	-40
Max. ambient temperature	°C	60	60	60	60
Starting current	A	3.65	3.25	2.1	1.86

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	47.7	45.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		64.2	62
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.27
09 Air flow q_v	m^3/h	2005
09 Pressure increase p_{fs}	Pa	233
10 Speed (rpm) n	min^{-1}	1375
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-140345

ebmpapst

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Technical description

Weight	5.6 kg
Fan size	355 mm
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54; installation- and position-dependent as per EN 60034-1
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F4-1
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)	<= 3.5 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 60034-1 (2004); CE

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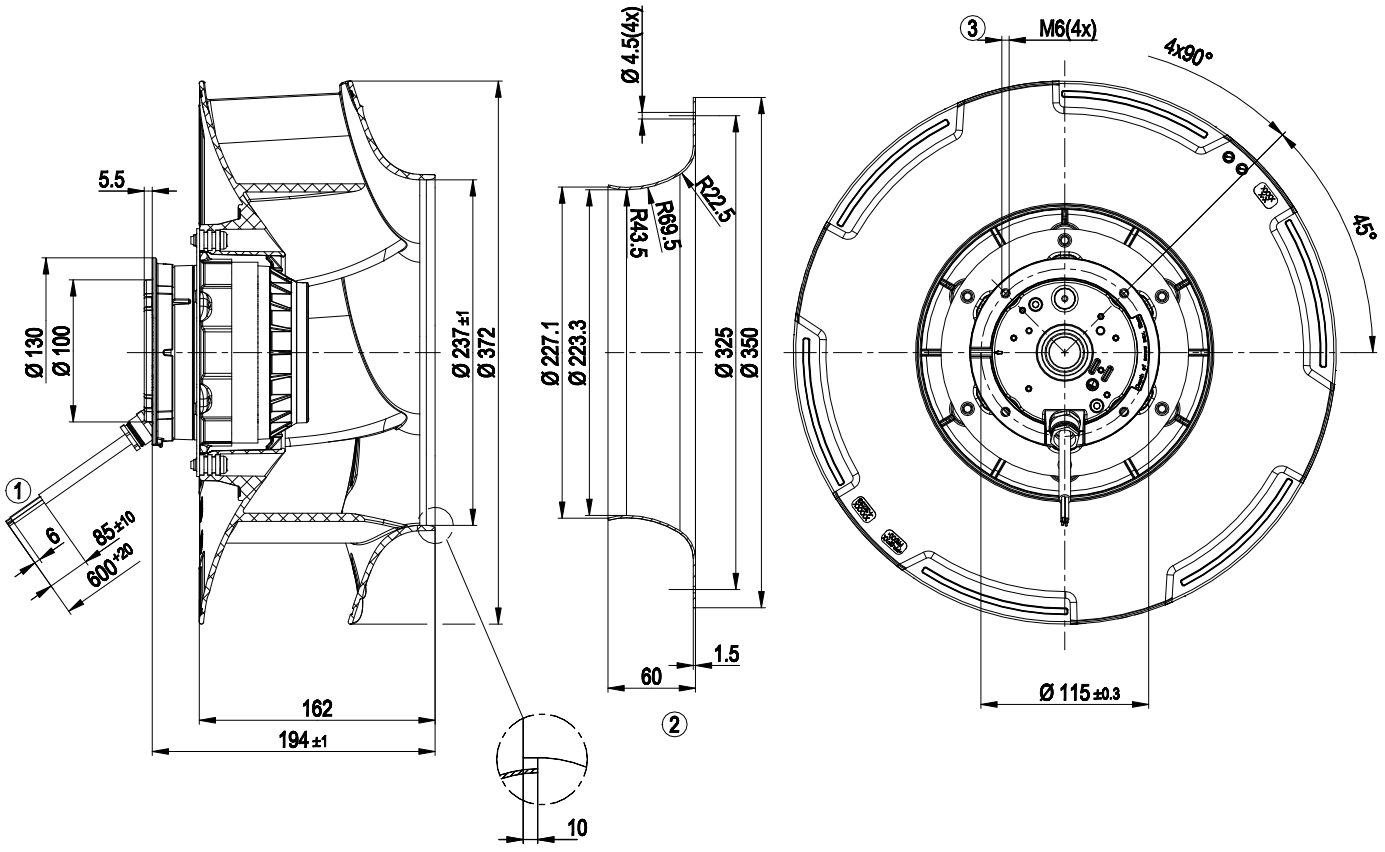
Product drawing



1	Cable silicone 9G 0.5 mm², 9x crimped splices
2	Accessory part: inlet ring 35500-2-4013 not included in scope of delivery
3	Max. clearance for screw 10 mm

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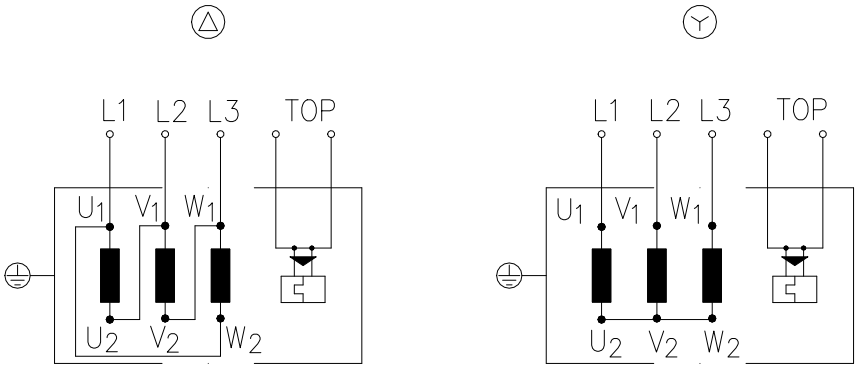
Connection diagram



Change of rotation direction by reversing two phases

Δ	Delta connection	Y	Star connection	L1	= U1 = black
L2	= V1 = blue	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2x gray
PE	green/yellow				

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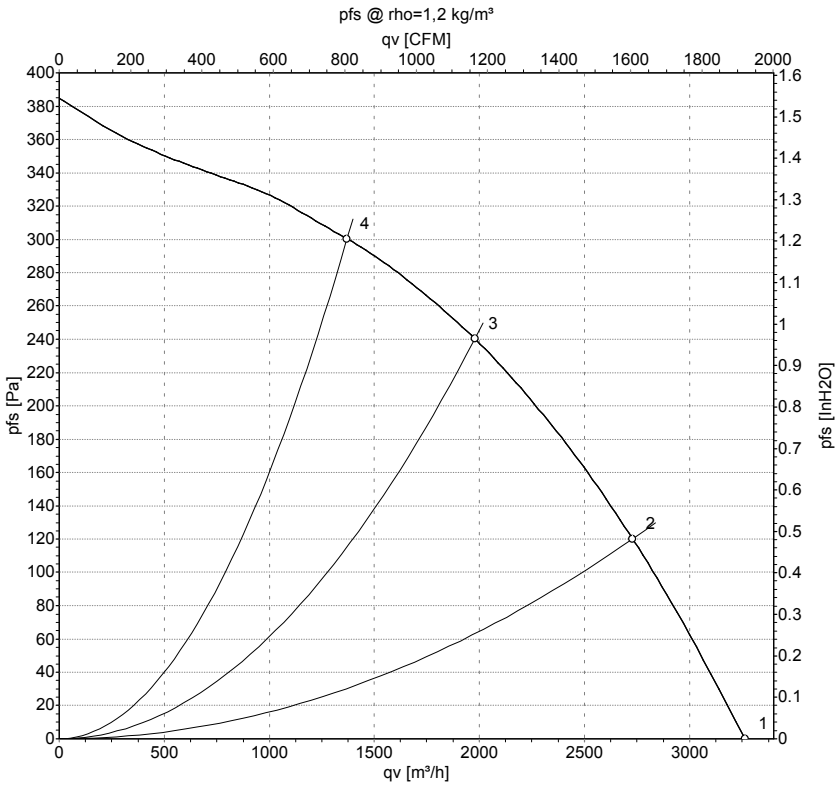
Curves: Air performance 50 Hz



Measurement: LU-140345-1

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}	qv	p_{fs}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	Y	400	50	1415	203	0.56	63	71	3265	0	1920	0.00
2	Y	400	50	1390	245	0.59	58	65	2730	120	1605	0.48
3	Y	400	50	1370	270	0.61	54	61	1980	240	1165	0.96
4	Y	400	50	1385	257	0.59	55	63	1370	300	805	1.20

Wired = Wiring · U = Power supply · 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
qv = Air flow · p_{fs} = Pressure increase

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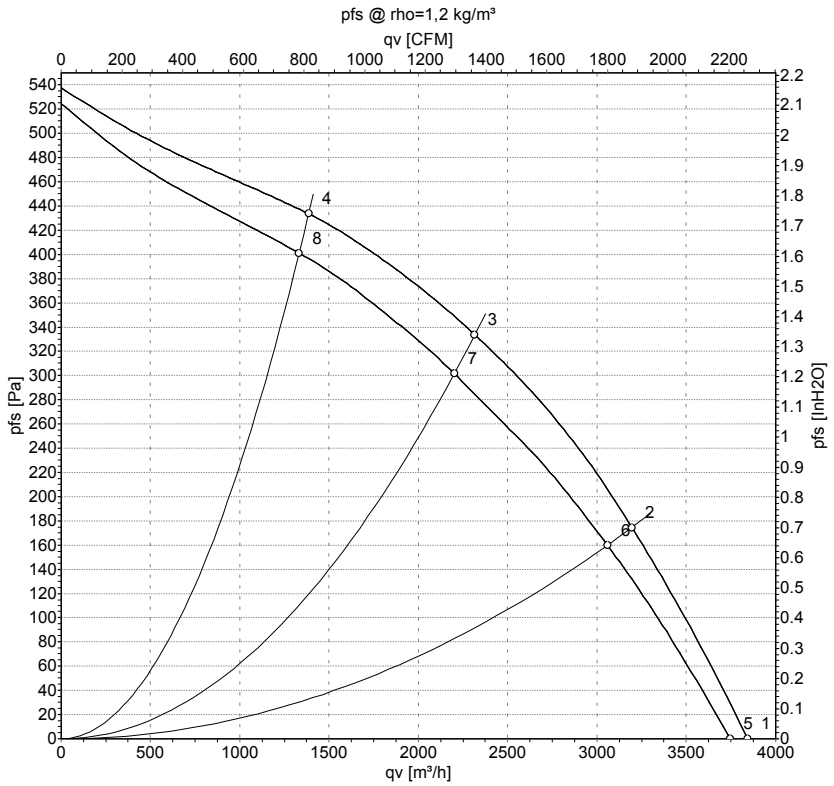
Curves: Air performance 60 Hz



Measurement: LU-149967-1
Measurement: LU-140352-1

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}	qv	p_{fs}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	Y	480	60	1680	312	0.61	68	75	3845	0	2260	0.00
2	Y	480	60	1640	389	0.67	62	69	3195	175	1880	0.70
3	Y	480	60	1620	430	0.72	59	66	2315	334	1365	1.34
4	Y	480	60	1635	384	0.67	61	69	1385	434	815	1.74
5	Y	400	60	1620	292	0.56	67	74	3745	0	2205	0.00
6	Y	400	60	1565	358	0.65	61	68	3060	160	1800	0.64
7	Y	400	60	1530	400	0.70	58	65	2200	300	1295	1.20
8	Y	400	60	1565	359	0.64	60	68	1330	400	785	1.61

Wired = Wiring · U = Power supply · 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
qv = Air flow · p_{fs} = Pressure increase

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