R4D400-AL17-05

AC centrifugal fan

backward-curved, single-intake



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Nominal data

Type	**R4D400-AL17-05**
Motor	**M4D110-GF**

Phase		3~	3~
Nominal voltage	VAC	400	480
Wiring		Δ	Δ
Frequency	Hz	50	60
Method of obtaining data		ml	ml
Valid for approval/standard		CE	CE
Speed (rpm)	min^{-1}	1405	1655
Power consumption	W	450	740
Current draw	A	1.01	1.22
Min. back pressure	Pa	0	0
Min. back pressure	in. wg	0	0
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	100	80
Starting current	A	4.89	5.43

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}	%	48.7	47.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		62.8	62
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.45
09 Air flow q_v	m^3/h	2405
09 Pressure increase p_{fs}	Pa	330
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-135131

AC centrifugal fan

backward-curved, single-intake

Technical description

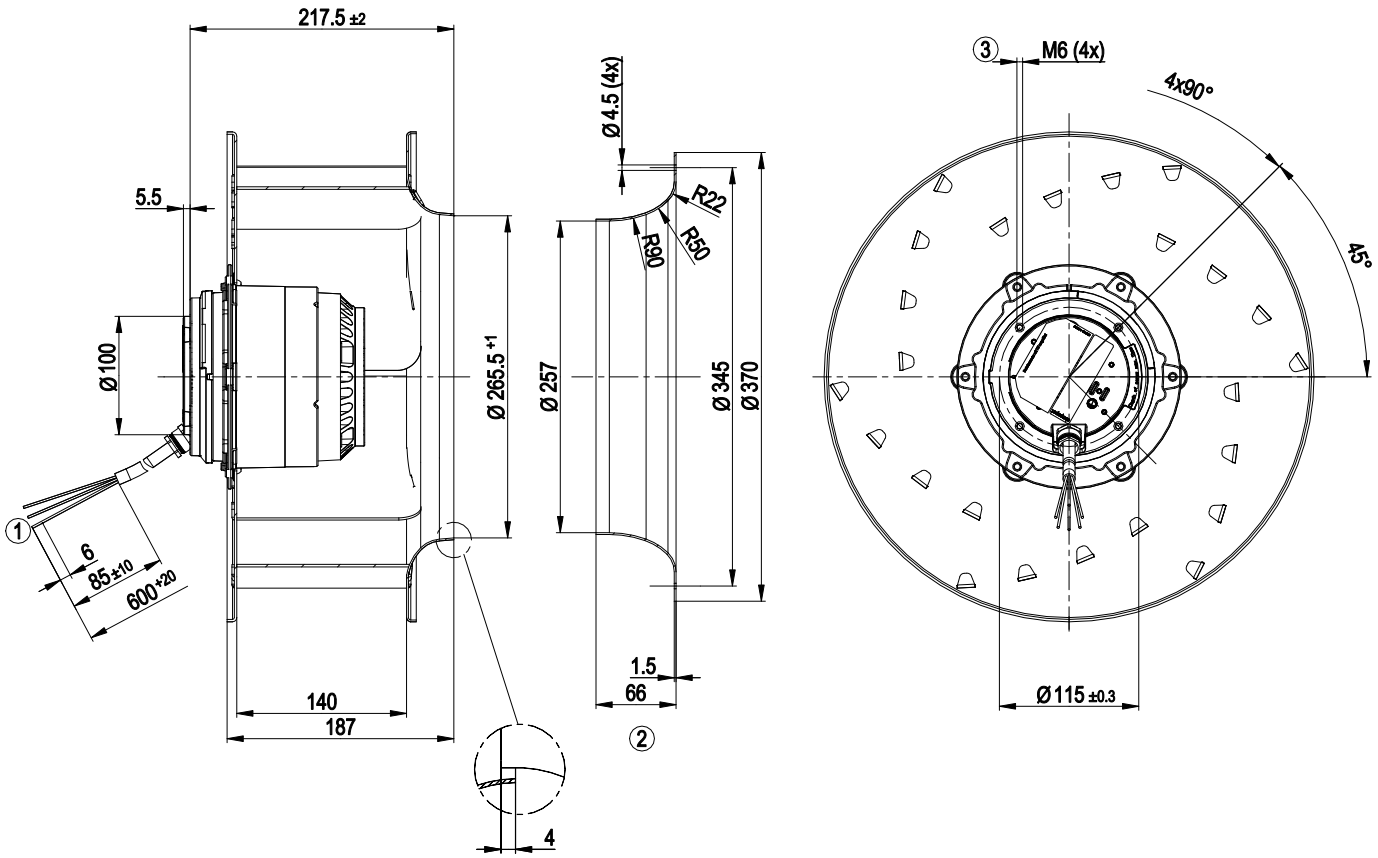
Weight	14.5 kg
Size	400 mm
Motor size	110
Rotor surface	Cast in aluminum
Impeller material	Sheet aluminum
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
Max. permitted ambient temp. for motor (transport/storage)	+100 °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)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) with basic insulation
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	VDE; CCC; EAC

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Product drawing



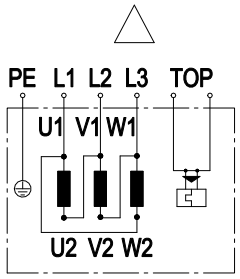
1	Cable silicone 6G 0.5 mm², 6x crimped splices
2	Accessory part: Inlet ring 54476-2-4013, not included in scope of delivery
3	Max. clearance for screw 12 mm

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Connection diagram



Note: Change of rotation direction by reversing two phases

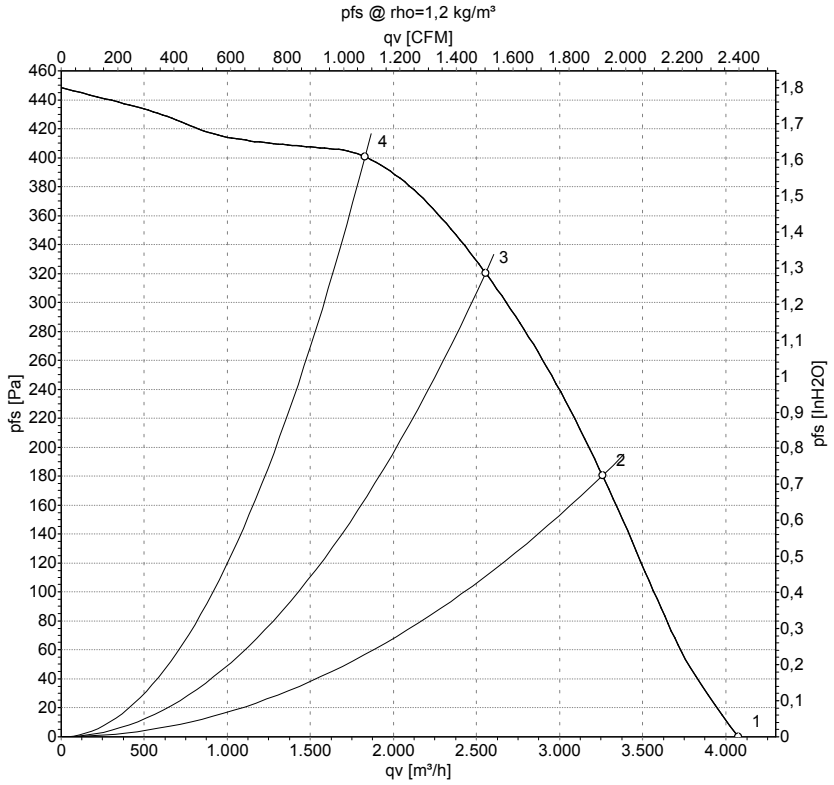
Δ	Delta connection	L1	= U1 = black	L2	= V1 = blue
L3	= W1 = brown	TOP	2x gray	PE	green/yellow

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Curves: Air performance 50 Hz Δ



Measurement: LU-135131-1

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	400	50	1430	348	0.84	4075	0	2395	0.00
2	Δ	400	50	1415	409	0.89	3260	180	1920	0.72
3	Δ	400	50	1405	450	1.01	2555	320	1505	1.28
4	Δ	400	50	1410	420	0.90	1830	400	1075	1.61

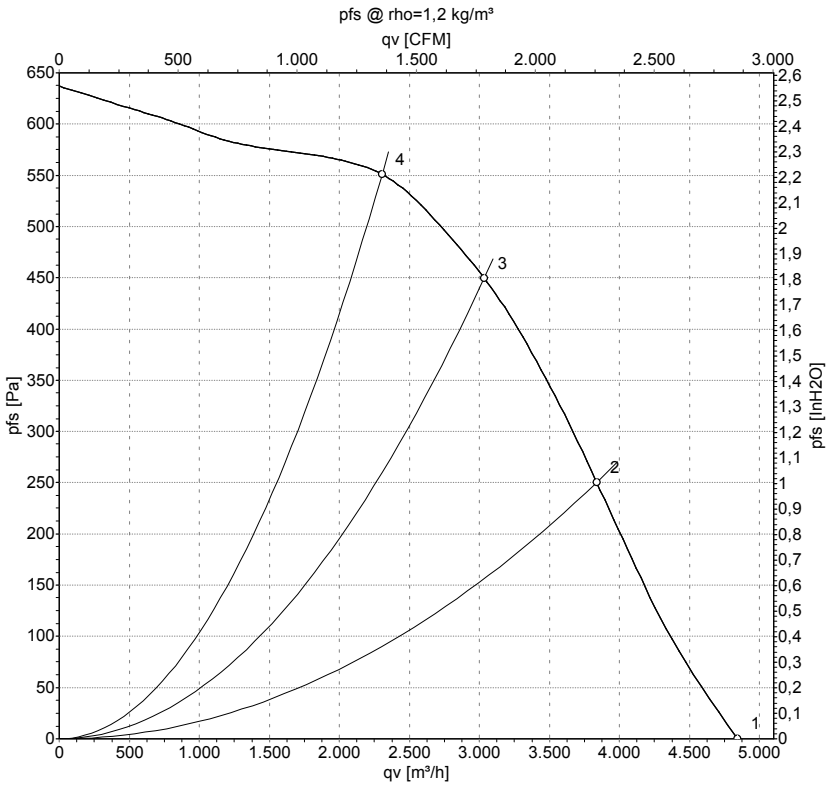
Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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Curves: Air performance 60 Hz



Measurement: LU-135148-1

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	1695	558	0.96	4840	0	2850	0.00
2	Δ	480	60	1670	675	1.08	3835	250	2260	1.00
3	Δ	480	60	1655	740	1.22	3035	450	1785	1.81
4	Δ	480	60	1665	701	1.11	2305	550	1355	2.21

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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