R4D400-RO22-07

AC centrifugal fan - RadiCal

backward curved, single inlet

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Nominal data

Type	**R4D400-RO22-07**
Motor	**M4D094-HA**

Phase		3~	3~
Nominal voltage	VAC	400	400
Connection		Y	Y
Frequency	Hz	50	60
Type of data definition		ml	ml
Valid for approval / standard		CE	CE
Speed (rpm)	min^{-1}	1410	1600
Power input	W	490	730
Current draw	A	1.3	1.39
Min. back pressure	Pa	0	0
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	60	50

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data in accordance with ecodesign regulation EU 327/2011 (EN 17166)

		Actual	Request 2015
01 Overall efficiency η_{es}	%	49.2	48.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		62.9	62
05 Variable speed drive		No	

09 Power input P_e	kW	0.49
09 Air flow q_v	m^3/h	2735
09 Pressure increase p_{fs}	Pa	319
10 Speed (rpm) n	min^{-1}	1405
11 Specific ratio*		1.00

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-170466

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Technical features

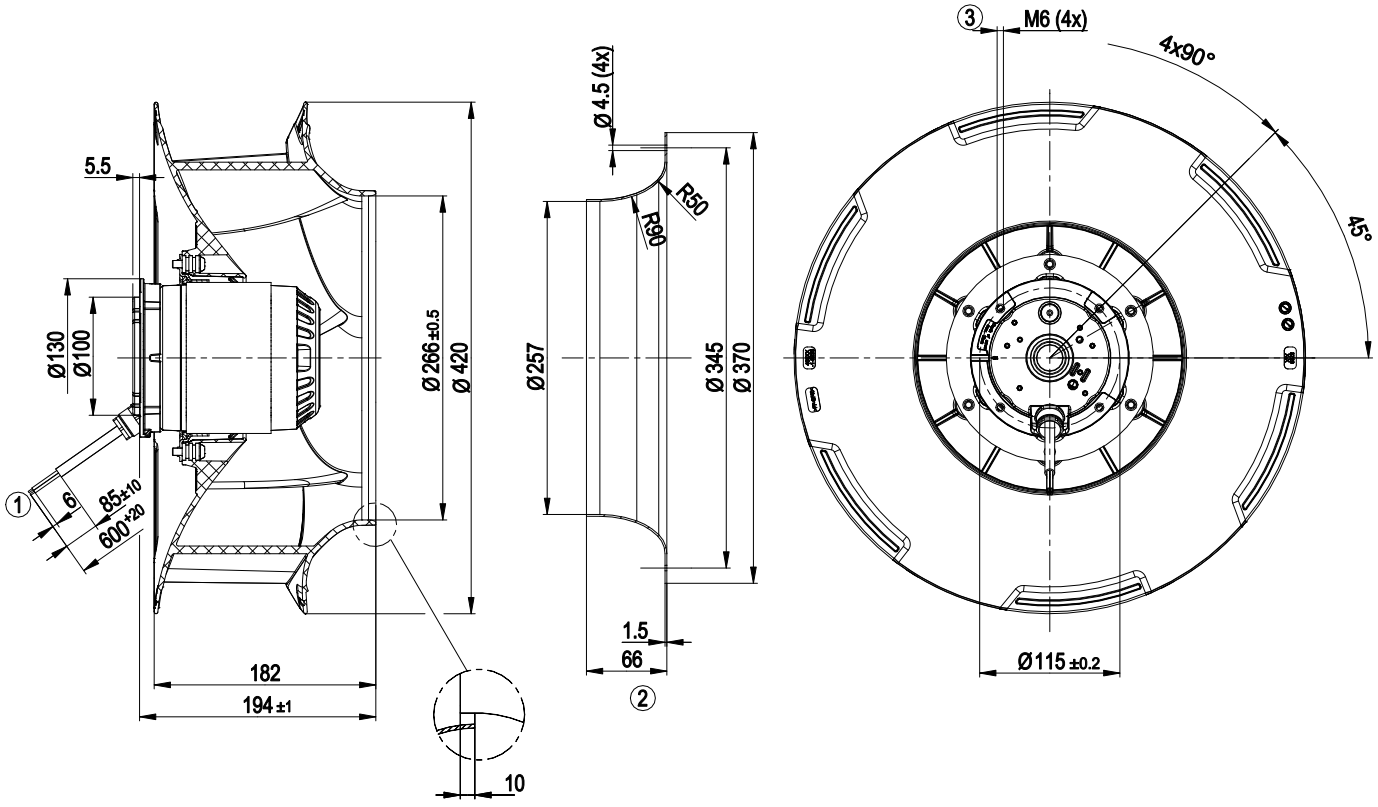
Mass	9 kg
Size	400 mm
Motor size	94
Surface of rotor	Coated in black
Material of impeller	PP plastic
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP54
Insulation class	"F"
Humidity (F) / environmental protection class (H)	H2
Note ambient temperature	Occasional start-up between -40 °C and -25 °C is permissible. For continuous operation at ambient temperatures below -25 °C (e.g. refrigeration applications), a fan version with special low-temperature bearings must be used.
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Any
Condensation drainage holes	None
Operation mode	S1
Motor bearing	Ball bearing
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60034-1 (2010); CE
Approval	UL 1004-1; EAC

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Product drawing



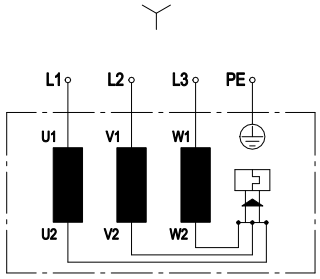
1	Connection line silicone 4G 0.5 mm², 4x lead tips crimped
2	Accessory part: Inlet nozzle 54476-2-4013, not included in scope of delivery.
3	Thread reach max. 12 mm

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Connection screen



Change direction of rotation by reversing two phases

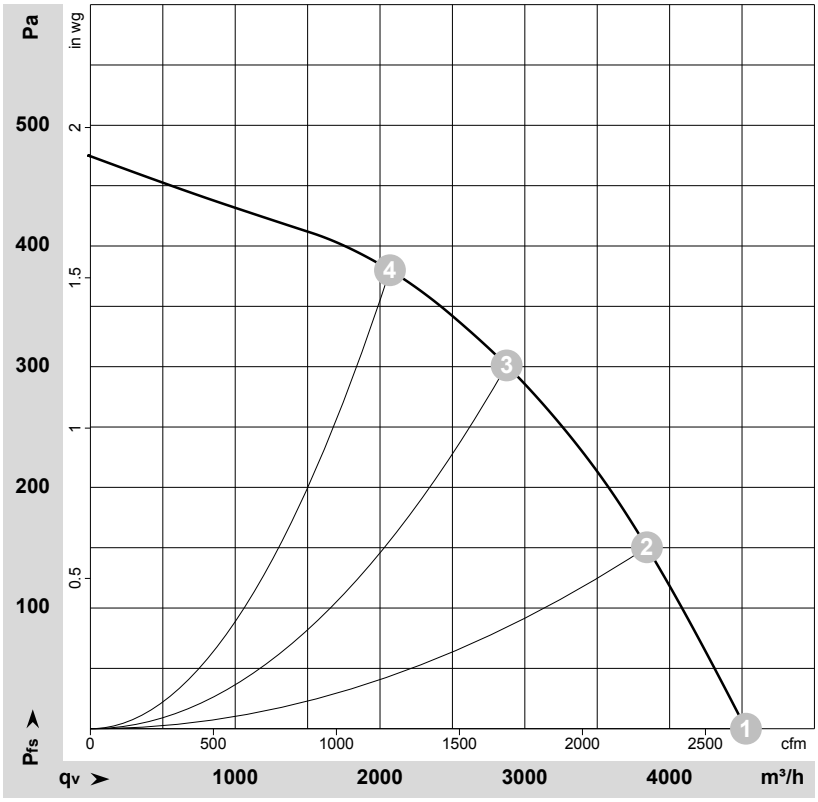
	Three-phase motor	Y	Star connection	L1	= U1 = black
L2	= V1 = blue	L3	= W1 = brown	PE	green / yellow

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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-170466-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	Conn.	U	f	n	P_e	I	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	Y	400	50	1430	388	1.22	72	79	81	4525	0	2665	0.00
2	Y	400	50	1415	467	1.26	68	75	79	3845	150	2260	0.60
3	Y	400	50	1410	490	1.30	59	67	72	2875	300	1690	1.20
4	Y	400	50	1410	476	1.26	58	66	71	2070	380	1220	1.53

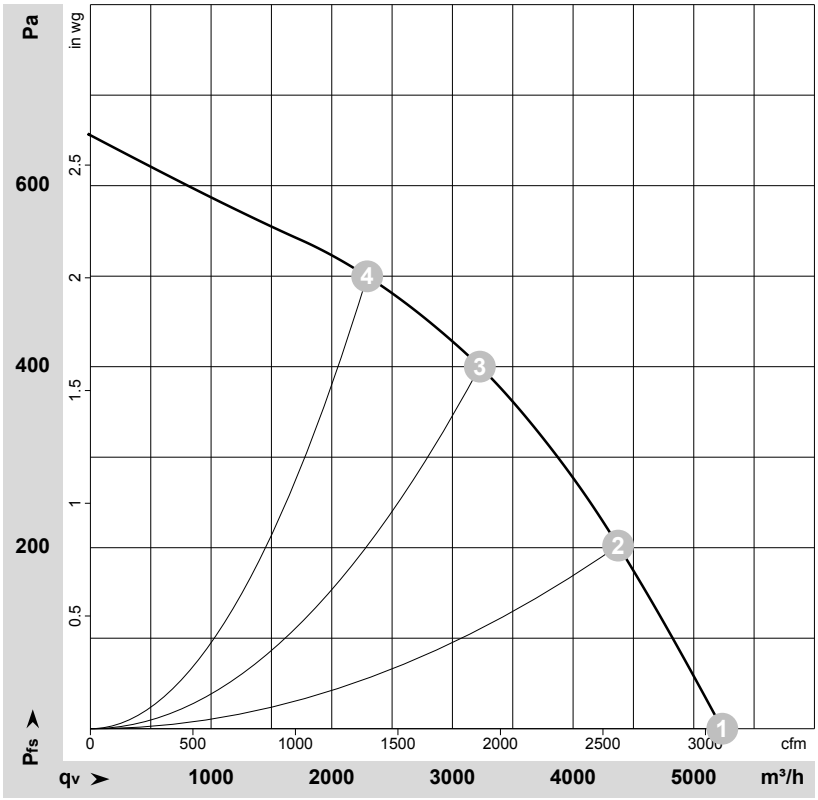
Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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Charts: Air flow 60 Hz



ρ = 1.174 kg/m³ ± 2 %

Measurement: LU-170585-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	Conn.	U	f	n	P_e	I	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	Y	400	60	1660	569	1.16	72	80	84	5235	0	3080	0.00
2	Y	400	60	1615	691	1.32	70	77	82	4375	200	2575	0.80
3	Y	400	60	1600	730	1.39	62	70	75	3225	400	1900	1.61
4	Y	400	60	1610	696	1.31	62	70	75	2295	500	1350	2.01

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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