R4D400-RO22-06

AC centrifugal fan - RadiCal

backward-curved, single-intake

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Nominal data

Type	**R4D400-RO22-06**
Motor	**M4D094-HA**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400
Wiring		Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60
Method of obtaining data		ml	ml	ml	ml
Valid for approval/standard		CE	CE	CE	CE
Speed (rpm)	min^{-1}	1400	1210	1580	1180
Power consumption	W	515	390	770	500
Current draw	A	1.19	0.65	1.35	0.87
Min. back pressure	Pa	0	0	0	0
Min. back pressure	in. wg	0	0	0	0
Min. ambient temperature	°C	-40	-40	-40	-40
Max. ambient temperature	°C	60	60	40	40
Starting current	A	4.95	1.62	4.35	1.48

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}	%	49	48.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		62.7	62
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.49
09 Air flow q_v	m^3/h	2710
09 Pressure increase p_{fs}	Pa	324
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-177981

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Technical description

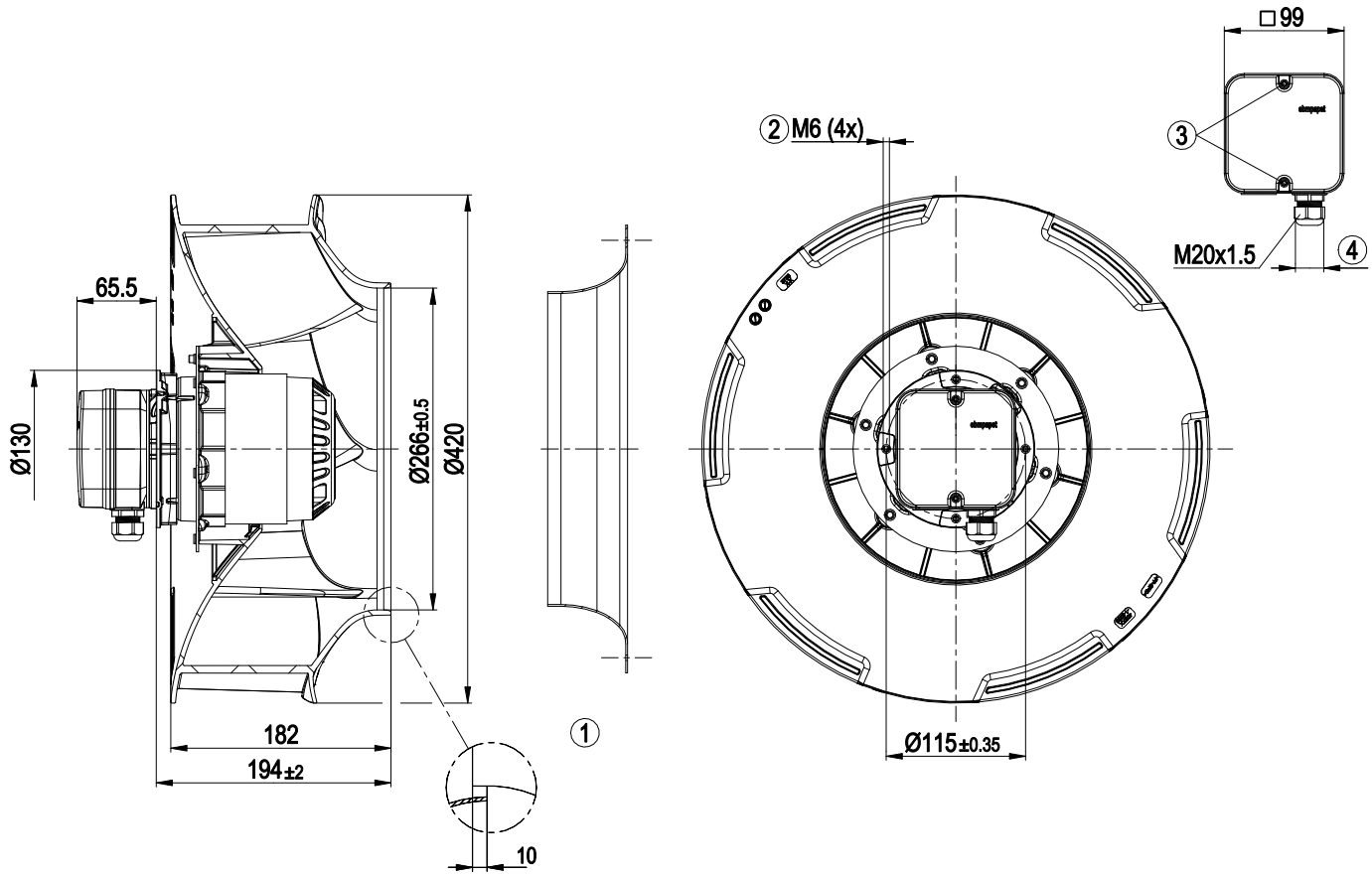
Weight	9.5 kg
Size	400 mm
Motor size	94
Rotor surface	Painted black
Terminal box material	PP plastic
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
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
Mode	S1
Motor bearing	Ball bearing
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Thermal overload protector (TOP) with basic insulation
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60034-1 (2004); CE
Approval	EAC

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Product drawing



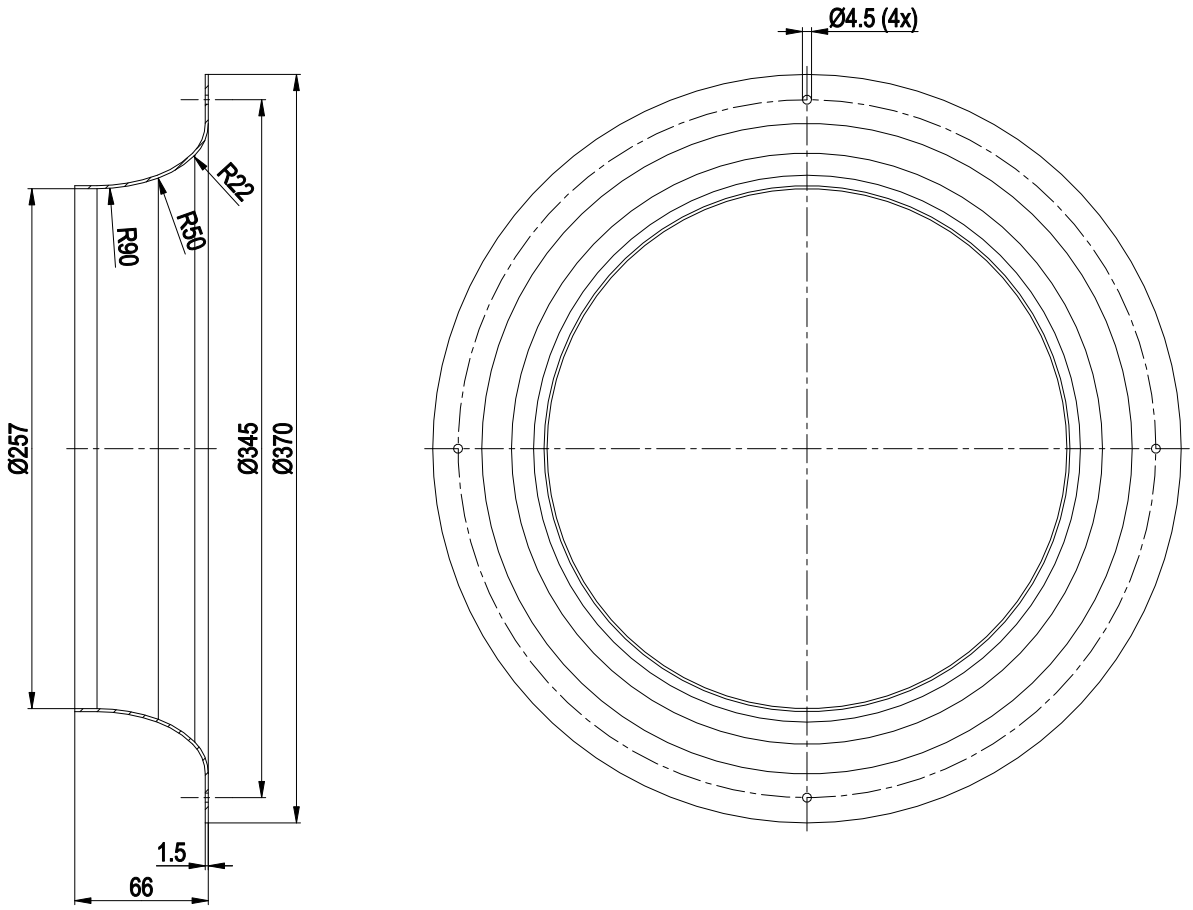
1	Accessory part: Inlet ring 54476-2-4013, not included in scope of delivery
2	Max. clearance for screw 12 mm
3	Tightening torque 1.5 ± 0.2 Nm
4	Cable diameter min. 6 mm, max. 12 mm; tightening torque 2±0.3 Nm

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Accessory part



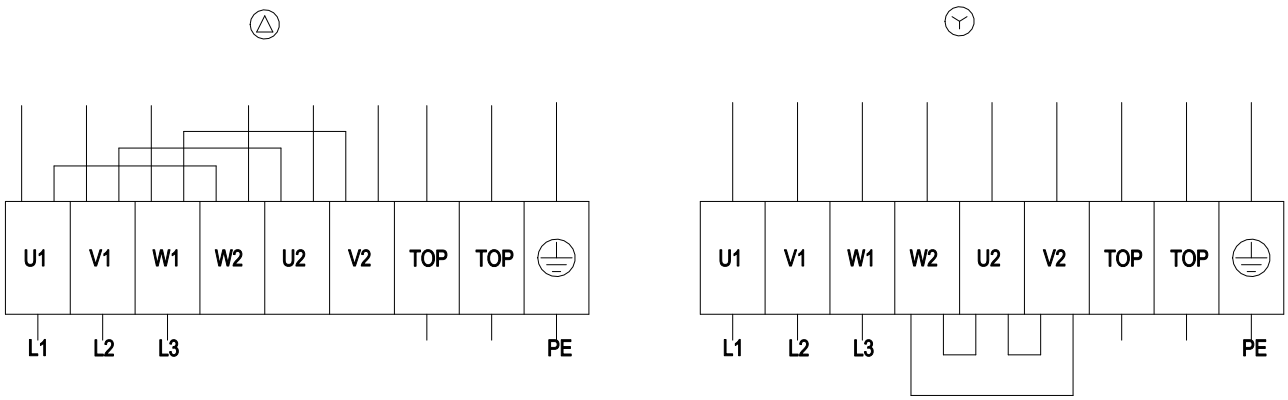
Inlet ring 54476-2-4013 not included in scope of delivery

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Connection diagram



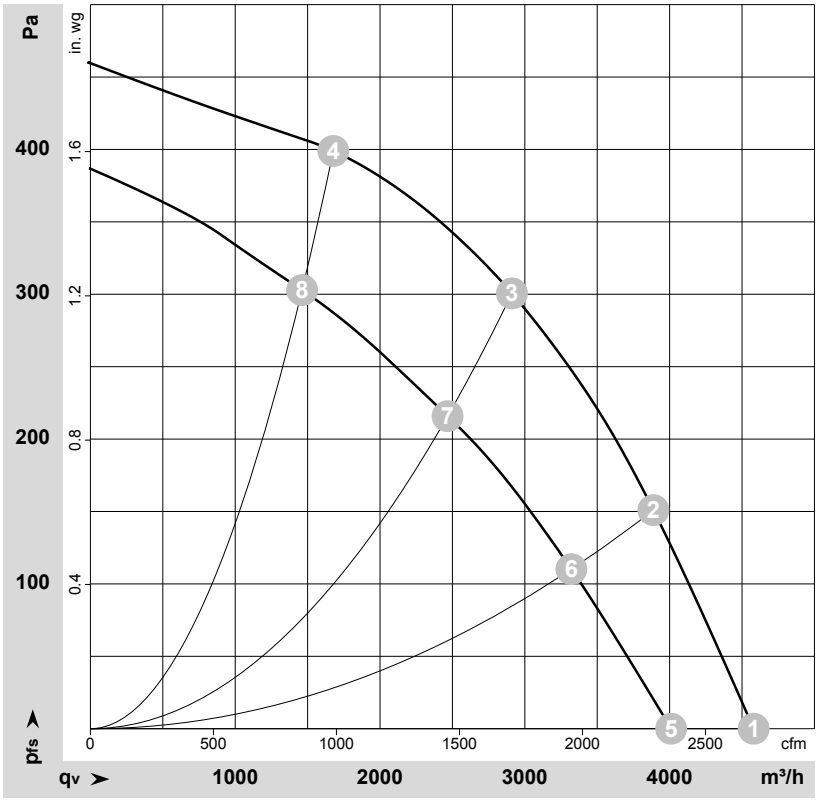
Δ	Delta connection	Y	Star connection	L1	= U1 = black
L2	= V1 = blue	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2x gray
PE	green/yellow				

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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-139924-1
Measurement: LU-134952-1

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}	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	Δ	400	50	1430	406	1.11	75	81	83	4580	0	2695	0.00
2	Δ	400	50	1410	481	1.15	68	75	79	3890	150	2290	0.60
3	Δ	400	50	1400	515	1.19	60	67	71	2910	300	1715	1.20
4	Δ	400	50	1410	464	1.13	60	68	72	1680	400	990	1.61
5	Y	400	50	1285	326	0.58	70	77	79	4010	0	2360	0.00
6	Y	400	50	1235	375	0.65	64	71	75	3320	111	1955	0.45
7	Y	400	50	1210	390	0.65	56	64	69	2465	216	1450	0.87
8	Y	400	50	1260	351	0.61	58	65	70	1460	303	860	1.22

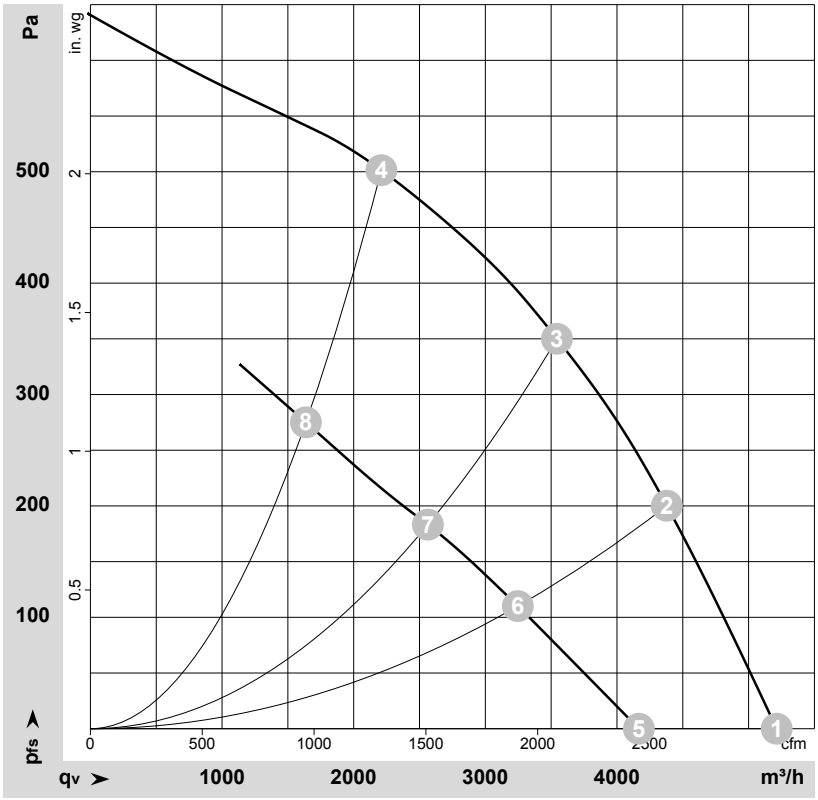
Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-139931-1
Measurement: LU-134953-1

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}	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	Δ	400	60	1645	599	1.11	79	85	87	5215	0	3070	0.00
2	Δ	400	60	1605	719	1.27	73	79	82	4380	200	2575	0.80
3	Δ	400	60	1580	770	1.35	64	73	76	3545	350	2085	1.41
4	Δ	400	60	1600	714	1.26	63	72	75	2210	500	1300	2.01
5	Y	400	60	1320	466	0.83	71	78	80	4165	0	2450	0.00
6	Y	400	60	1215	504	0.90	64	71	75	3245	110	1910	0.44
7	Y	400	60	1180	500	0.87	57	64	69	2565	183	1510	0.73
8	Y	400	60	1205	497	0.88	54	62	68	1635	275	965	1.10

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
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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