

AC centrifugal fan - RadiCal

backward-curved, single-intake

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Nominal data

Type	R4E450-RH03-06	
Motor	M4E110-GF	
Phase		1~
Nominal voltage	VAC	230
Frequency	Hz	50
Method of obtaining data		ml
Valid for approval/standard		CE
Speed (rpm)	min ⁻¹	1330
Power consumption	W	730
Current draw	A	3.21
Capacitor	µF	14
Capacitor voltage	VDB	450
Capacitor standard		S0 (CE)
Min. back pressure	Pa	0
Min. back pressure	in. wg	0
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	60
Starting current	A	6.27

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

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	49.9	49.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		62	62
05 Variable speed drive		No	

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

09 Power consumption P_e	kW	0.71
09 Air flow q_v	m ³ /h	3185
09 Pressure increase p_{fs}	Pa	393
10 Speed (rpm) n	min ⁻¹	1335
11 Specific ratio*		1.00

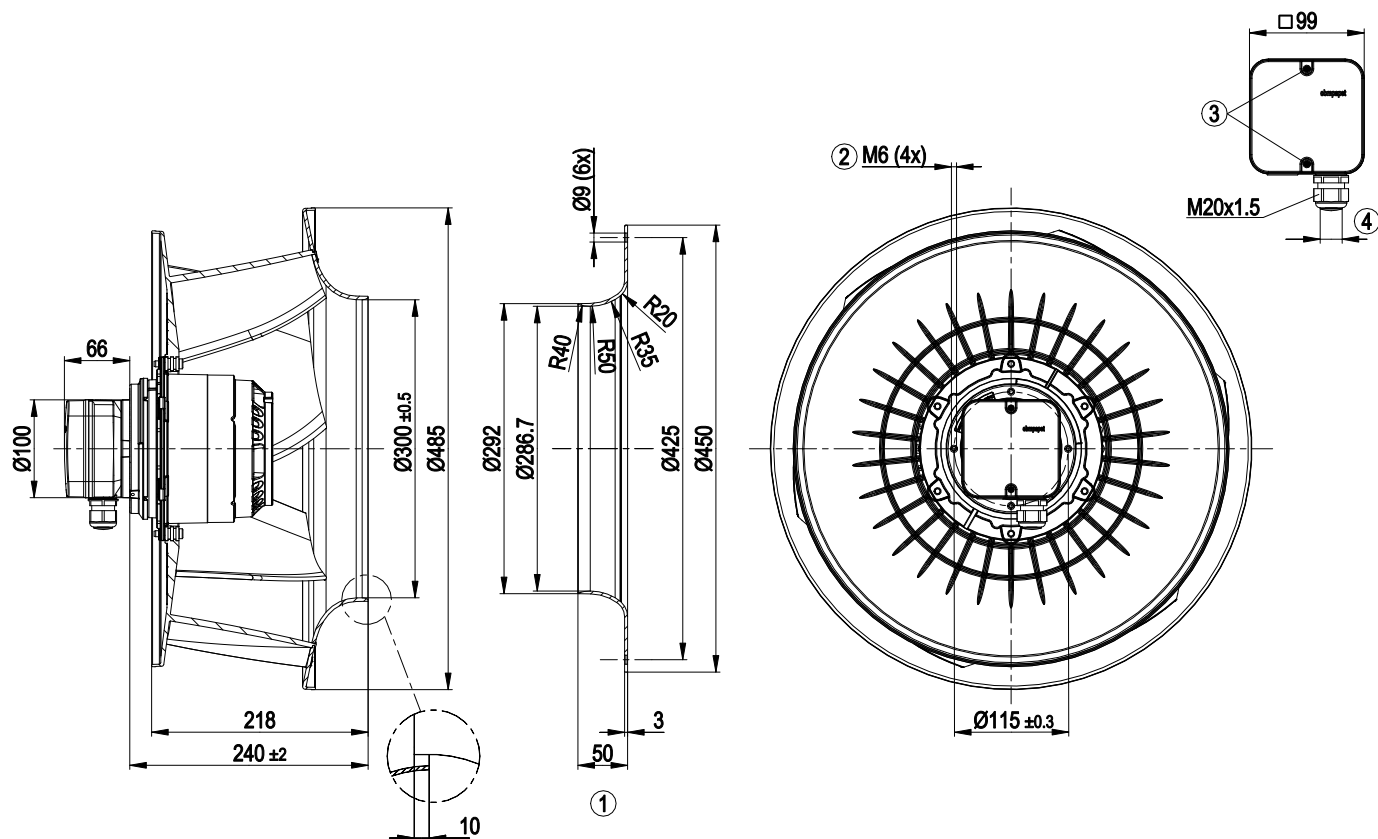
* Specific ratio = $1 + p_g / 100\,000\text{ Pa}$

LU-168808

Technical description

Weight	12 kg
Size	450 mm
Motor size	110
Rotor surface	Cast in aluminum
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
Max. permitted ambient temp. for motor (transport/storage)	+80 °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
Electrical hookup	Terminal box; Via terminal box, capacitor integrated and connected
Motor protection	Thermal overload protector (TOP) with basic insulation
Protection class	I (with customer connection of protective earth)
Motor capacitor according to EN 60252-1 in safety protection class	S0
Conformity with standards	EN 61800-5-1; CE
Approval	EAC; UL 1004-1; CSA C22.2 No. 100; VDE

Product drawing



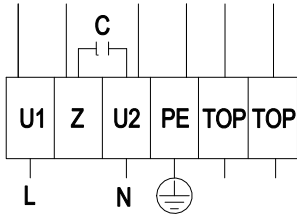
1	Accessory part: inlet ring 45901-2-2943 not included in scope of delivery
2	Max. clearance for screw 12 mm
3	Tightening torque 1.5 ± 0.2 Nm
4	Cable diameter: min. 6 mm, max. 12 mm, tightening torque 2 ± 0.3 Nm

R4E450-RH03-06

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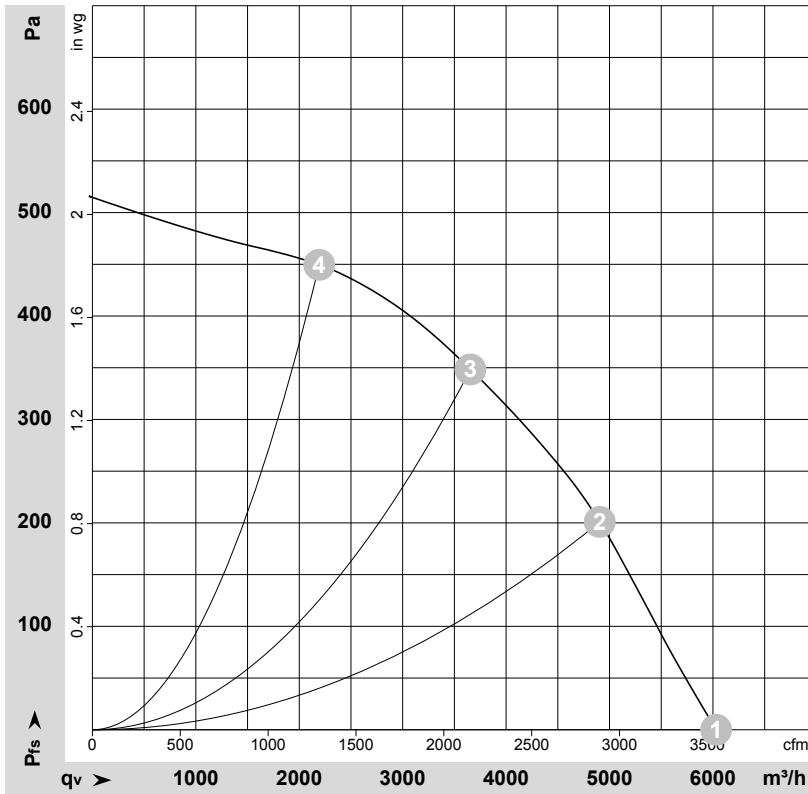
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Connection diagram



L	= U1 = blue	Z	brown	N	= U2 = black
PE	green/yellow	TOP	gray		

Curves: Air performance 50 Hz


$$\rho = 1.177 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-168808-1

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

	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	230	50	1395	573	2.51	83	89	90	6030	0	3550	0.00
2	230	50	1345	692	3.02	67	76	82	4905	200	2885	0.80
3	230	50	1330	730	3.21	62	71	77	3655	350	2150	1.41
4	230	50	1350	677	2.95	66	75	81	2195	450	1290	1.81

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_{is} = Pressure increase