R4D450-AL01-05

AC centrifugal fan

backward-curved, single-intake



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Nominal data

Type	**R4D450-AL01-05**
Motor	**M4D110-GF**

Phase		3~	3~	3~	3~	3~	3~
Nominal voltage	VAC	230	230	277	400	400	480
Wiring		Δ	Δ	Δ	Y	Y	Y
Frequency	Hz	50	60	60	50	60	60
Method of obtaining data		ml	ml	ml	ml	ml	ml
Valid for approval/standard		-	-	-	-	-	-
Speed (rpm)	min^{-1}	1380	1550	1620	1380	1550	1620
Power consumption	W	590	890	960	590	890	960
Current draw	A	2.34	2.79	2.82	1.35	1.61	1.63
Min. back pressure	Pa				0	0	
Min. back pressure	inH2O				0	0	
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	90	65	65	90	65	65
Starting current	A	10.6	9.7	12.1	6.1	5.6	7.0

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

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Technical description

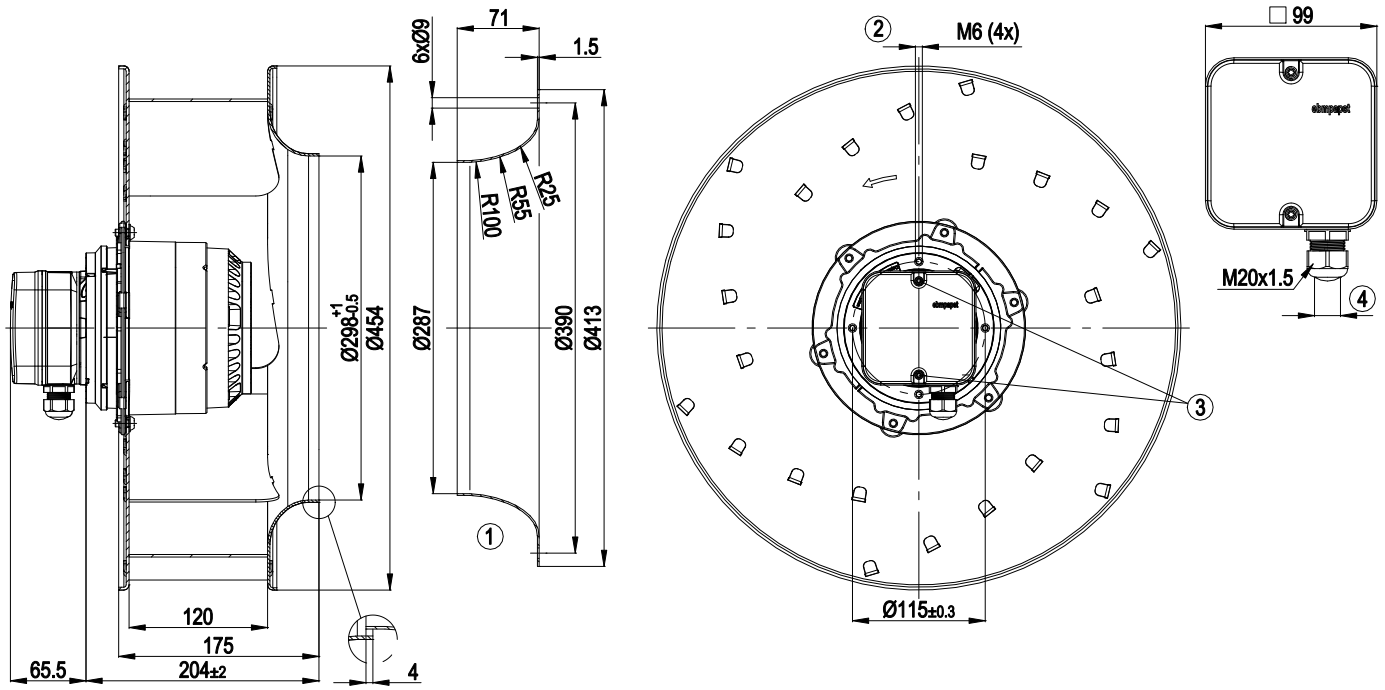
Weight	11.8 kg
Fan size	450 mm
Rotor surface	Cast in aluminum
Terminal box material	PP plastic
Impeller material	Sheet aluminum
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F3-1
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	Via terminal box
Motor protection	Thermal overload protector (TOP) with basic insulation
With cable	Axial
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1
Approval	CSA C22.2 No. 100; UL 1004-1; VDE; EAC

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Product drawing



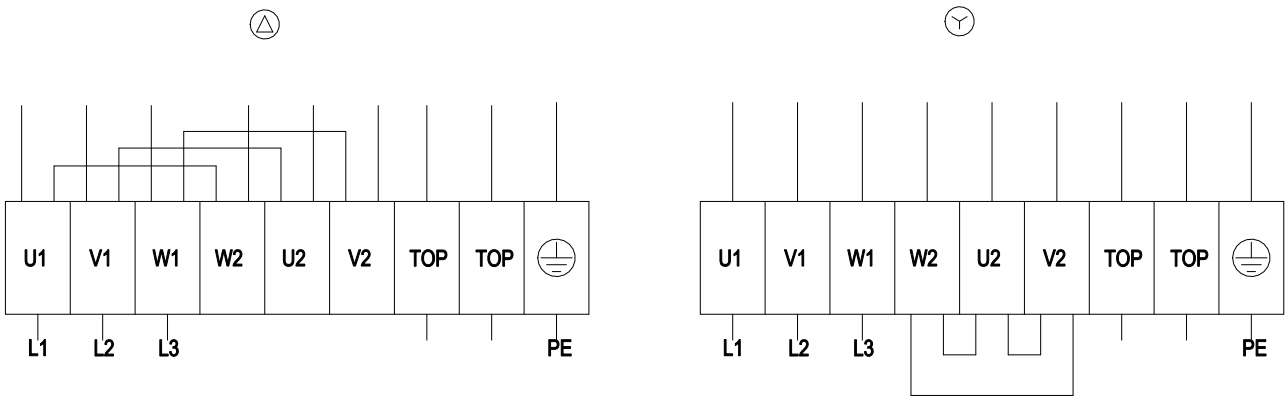
1	Accessory part: Inlet ring 54478-2-4013 not included in scope of delivery, other inlet rings on request
2	Max. clearance for screw 12 mm
3	Tightening torque 1.5±0.2 Nm
4	Cable diameter min. 6 mm, max. 12 mm; tightening torque 2±0.3 Nm

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Connection diagram



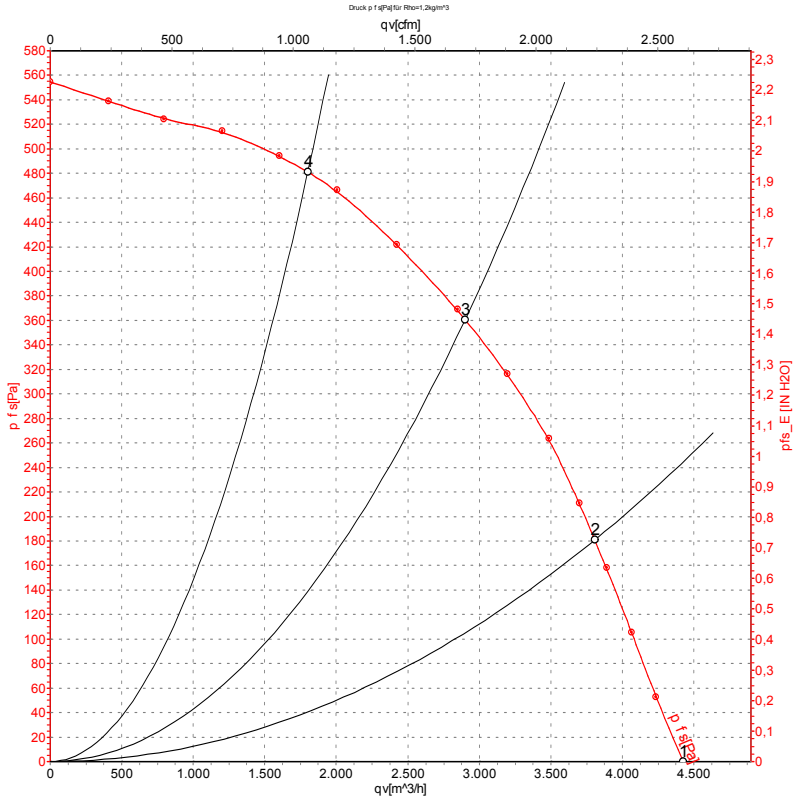
Δ	Delta connection	Y	Star connection	L1	= U1 = black
L2	= V1 = blue	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2x gray
PE	green/yellow				

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Curves: Air performance 50 Hz Y



Measurement: LU-72630-1

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	inH2O
1	Y	400	50	1425	405	1.20	4425	0	2605	0.00
2	Y	400	50	1395	541	1.33	3810	180	2240	0.72
3	Y	400	50	1380	590	1.35	2900	360	1705	1.45
4	Y	400	50	1395	537	1.32	1800	480	1060	1.93

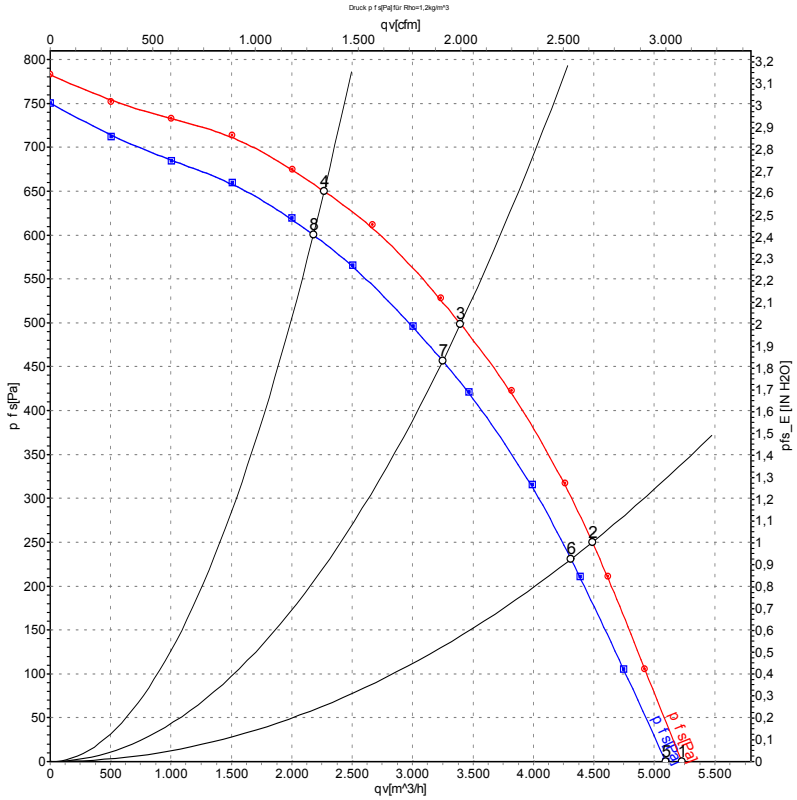
Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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Curves: Air performance 60 Hz Y



Measurement: LU-72633-1
Measurement: LU-72631-1

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	inH2O
1	Y	480	60	1685	657	1.31	5230	0	3080	0.00
2	Y	480	60	1640	877	1.52	4485	250	2640	1.00
3	Y	480	60	1620	960	1.63	3395	500	2000	2.01
4	Y	480	60	1640	890	1.53	2265	650	1335	2.61
5	Y	400	60	1640	609	1.23	5095	0	3000	0.00
6	Y	400	60	1575	811	1.51	4310	231	2535	0.93
7	Y	400	60	1550	890	1.61	3250	456	1910	1.83
8	Y	400	60	1570	818	1.52	2180	600	1280	2.41

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