

8317075015  
**R4D450-AK01-01/F01**

# AC centrifugal fan

backward-curved, single-intake



8317075015 ebmpapst Datasheet  
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## Nominal data

Type	R4D450-AK01-01/F01						
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 <sup>-1</sup>	1350	1490	1580	1350	1490	1580
Power consumption	W	740	1090	1200	740	1090	1200
Current draw	A	2.6	3.32	3.2	1.5	1.92	1.85
Min. back pressure	Pa	0	0	0	0	0	0
Min. back pressure	inH2O	0	0	0	0	0	0
Min. ambient temperature	°C	-40	-40	-40	-40	-40	-40
Max. ambient temperature	°C	80	50	50	80	50	50
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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# AC centrifugal fan

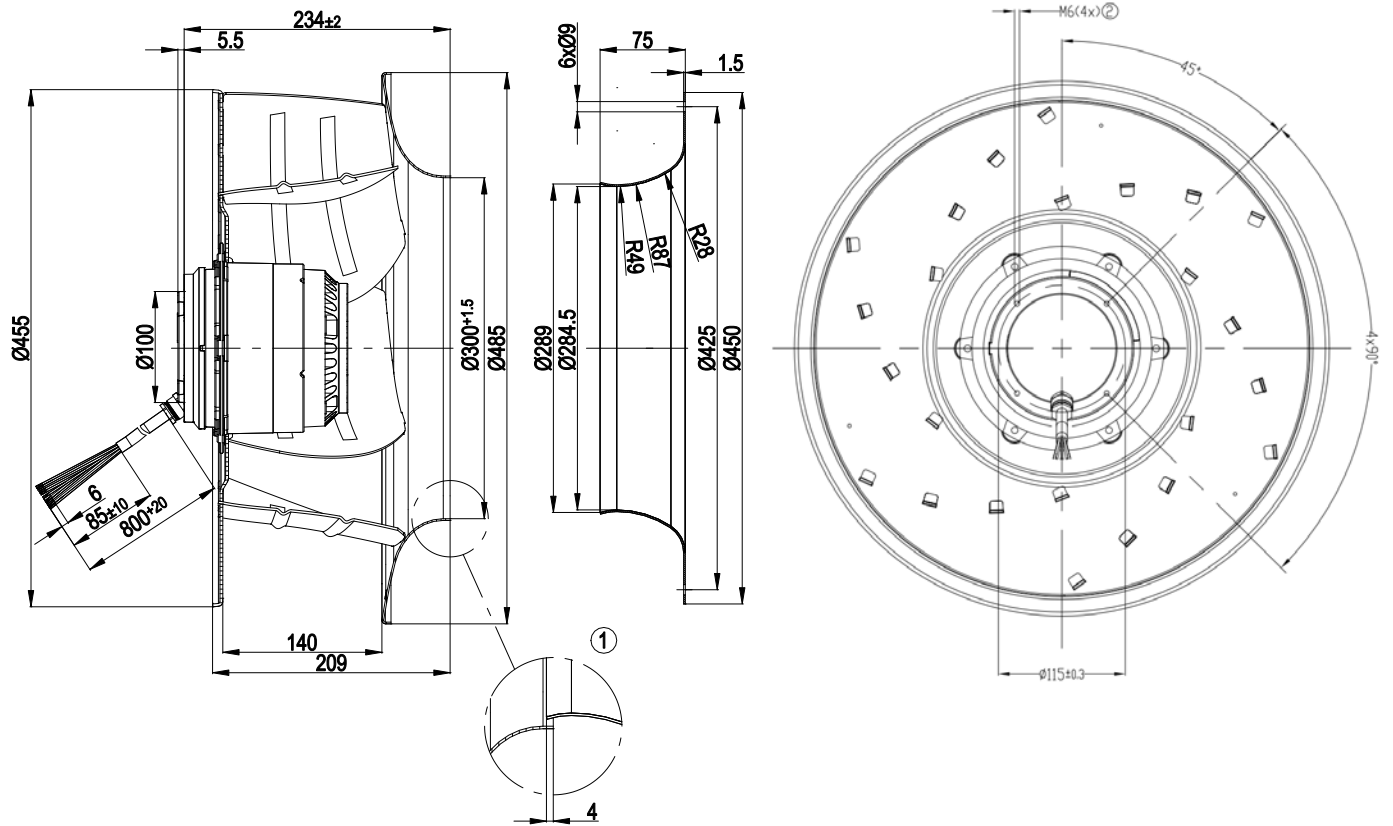
backward-curved, single-intake

## Technical description

Weight	12 kg
Fan size	450 mm
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	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
Motor protection	Thermal overload protector (TOP) with basic insulation
Protection class	I (with customer connection of protective earth)
Approval	CCC; CSA C22.2 No. 100; UL 1004-1; EAC

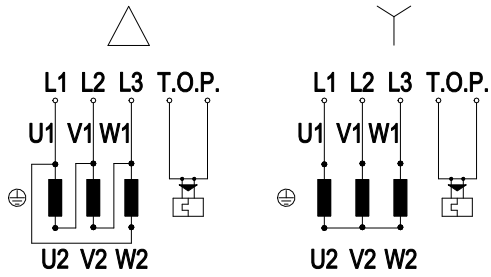


## Product drawing



1	Accessory part: Inlet ring 63045-2-4013 not included in scope of delivery, other inlet rings on request
2	Max. clearance for screw 12 mm
3	Cable silicone 9G0.75 mm <sup>2</sup> , 9 x crimped splices

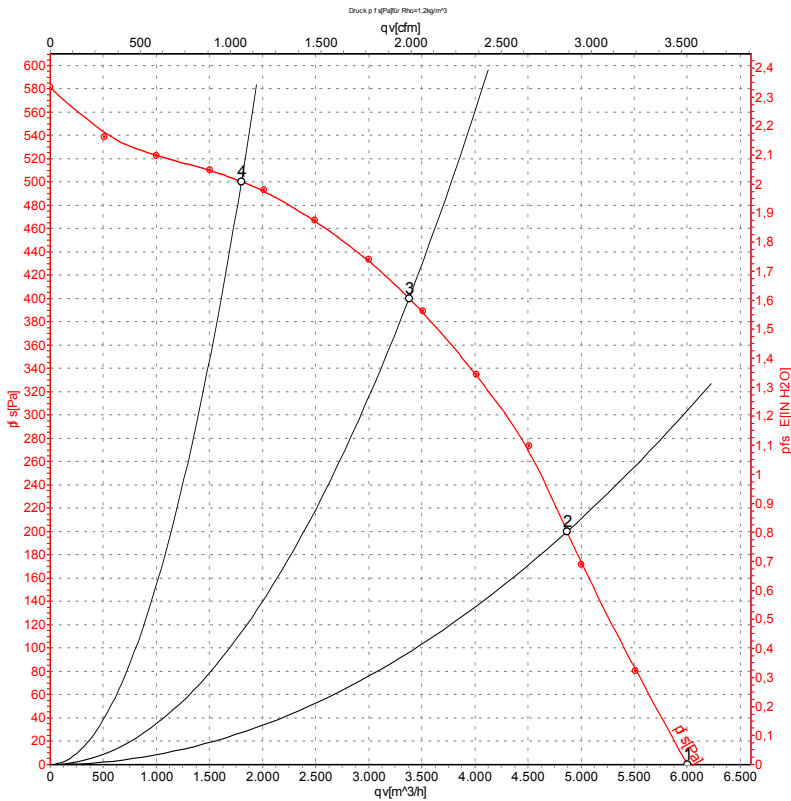
## Connection diagram



Note: Change of rotation direction by reversing two phases

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

## Curves: Air performance 50 Hz



Measurement: LU-101530-1

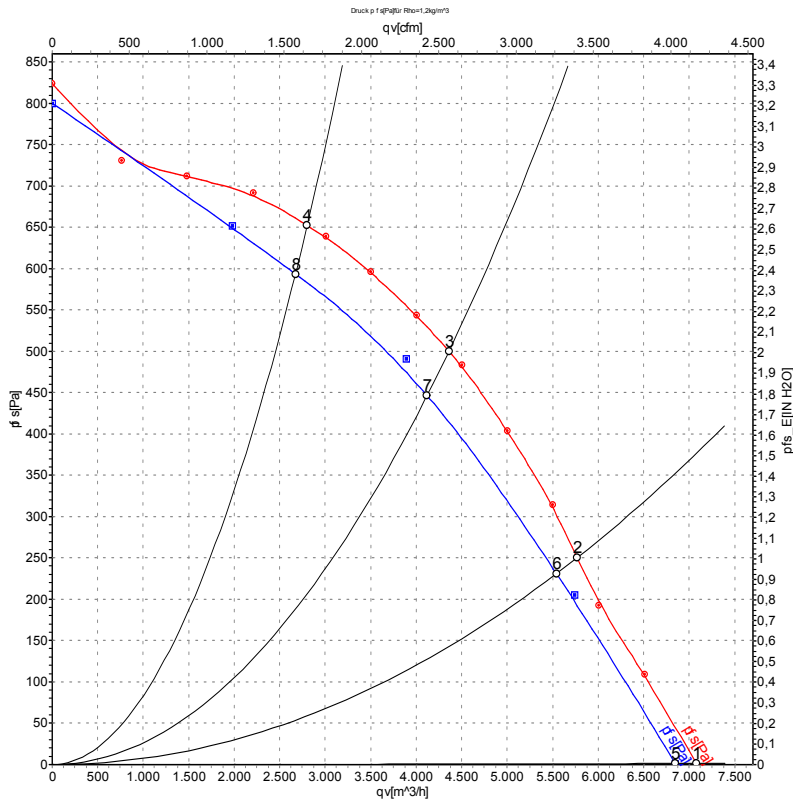
Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the 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.

## Fan performance

	Wired	U	f	n	P <sub>e</sub>	I	q <sub>v</sub>	P <sub>fs</sub>
		V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa
1	Y	400	50	1395	566	1.26	6000	0
2	Y	400	50	1365	670	1.37	4870	200
3	Y	400	50	1350	740	1.50	3380	400
4	Y	400	50	1375	617	1.31	1800	500

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

## Curves: Air performance 60 Hz



Measurement: LU-101532-1  
Measurement: LU-101546-1

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.

## Fan performance

	Wired	U	f	n	Pe	I	qv	Pfs
		V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa
1	Y	480	60	1640	918	1.49	7080	0
2	Y	480	60	1605	1084	1.67	5770	250
3	Y	480	60	1580	1200	1.85	4360	500
4	Y	480	60	1600	1100	1.68	2800	650
5	Y	400	60	1575	845	1.50	6845	0
6	Y	400	60	1530	973	1.71	5540	235
7	Y	400	60	1490	1090	1.92	4120	456
8	Y	400	60	1530	970	1.67	2675	594

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · Pe = Power consumption · I = Current draw  
qv = Air flow · Pfs = Pressure increase