R4D450-RH01-01

AC centrifugal fan - RadiCal®

backward curved, single inlet

ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R4D450-RH01-01**
Motor	**M4D110-GF**

Phase		3~	3~
Nominal voltage	VAC	230	400
Connection		Δ	Y
Frequency	Hz	50	50
Type of data definition		ml	ml
Valid for approval / standard		CE	CE
Speed	min^{-1}	1350	1350
Power input	W	710	710
Current draw	A	2.51	1.45
Min. back pressure	Pa	0	0
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	60	60
Starting current	A	17.5	10

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

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	No
Specific ratio*	1.00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	52	45.7	49.7
Efficiency grade N		64.3	58	62
Power input P_e	kW	0.67		
Air flow q_v	m^3/h	3385		
Pressure increase p_{fs}	Pa	376		
Speed n	min^{-1}	1360		

Data definition with optimum efficiency. LU-143240
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

AC centrifugal fan - RadiCal®

backward curved, single inlet

Technical features

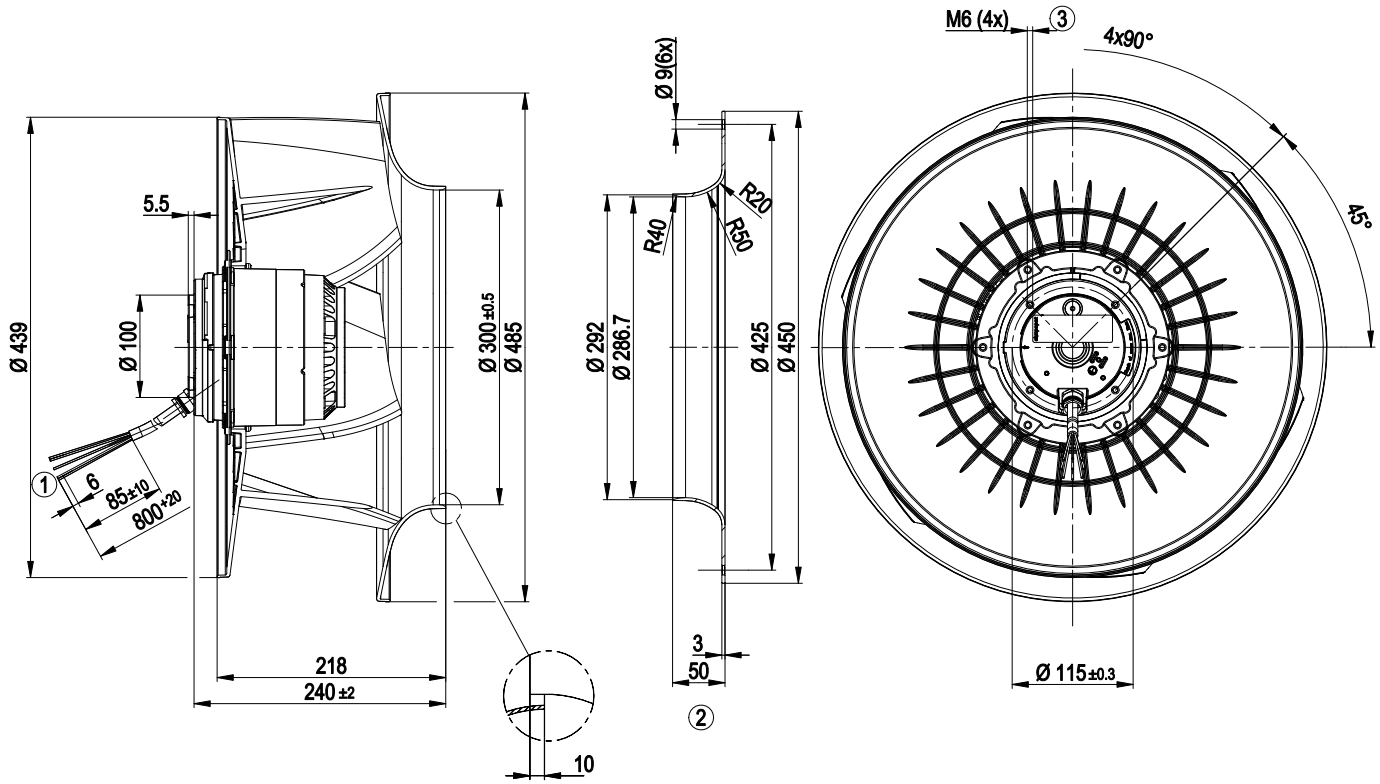
Mass	9.4 kg
Size	450 mm
Surface of rotor	Cast in aluminium
Material of impeller	PP plastic
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity class	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	Rotor-side
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) brought out
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60034-1 (2004); CE
Approval	CCC; EAC; VDE; UL 1004-1; CSA C22.2 Nr.100

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC centrifugal fan - RadiCal®

backward curved, single inlet

Product drawing



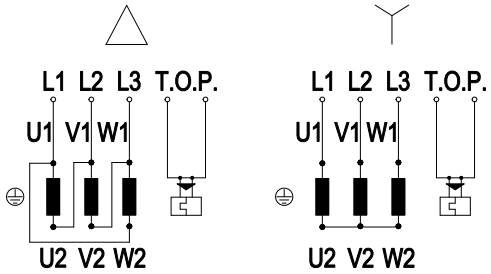
1	Connection line silicone 9G 0.75 mm², 9x brass lead tips crimped
2	Accessory part: Inlet nozzle 45901-2-2943, not included in the standard scope of delivery.
3	Depth of screw max. 12 mm

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC centrifugal fan - RadiCal®

backward curved, single inlet

Connection screen



Note: Direction of rotation changes when two phases are reversed

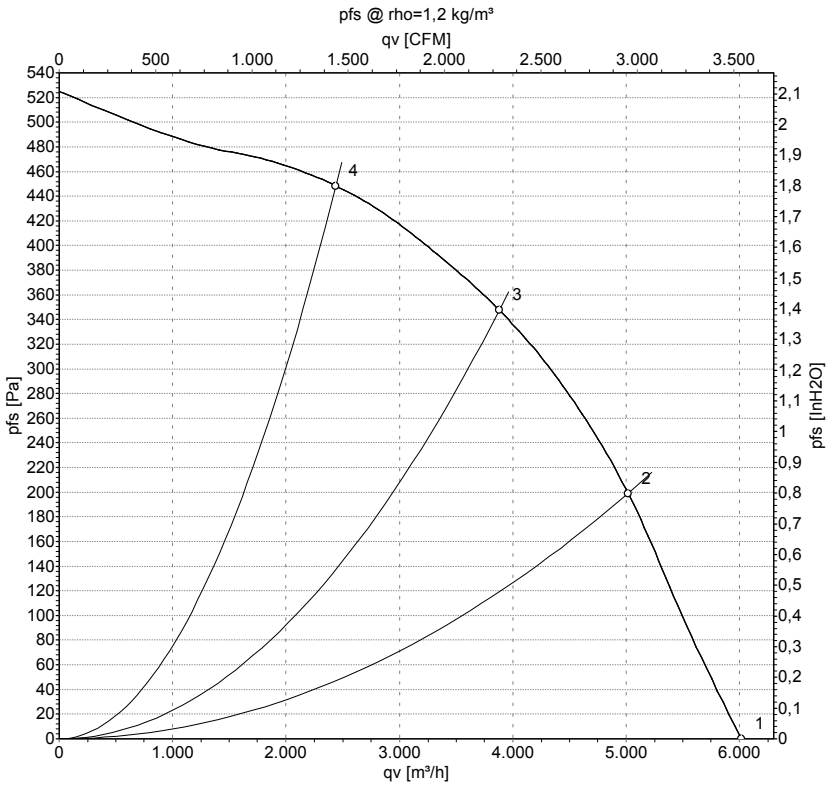
Δ	Delta-connection	Y	Star connection	L1	black
L2	blue	L3	brown	U1	black
V1	blue	W1	brown	U2	green
V2	white	W2	yellow	TOP	grey

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC centrifugal fan - RadiCal®

backward curved, single inlet

Charts: Air flow 50 Hz



Measurement: LU-143240

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}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa
1	Y	400	50	1405	496	1.17	68	77	84	6015	0
2	Y	400	50	1370	644	1.32	66	75	82	5015	200
3	Y	400	50	1350	710	1.45	62	70	77	3880	350
4	Y	400	50	1370	650	1.32	65	73	79	2440	450

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · 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 · qv = Air flow · p_{fs} = Pressure increase

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com