R4D560-RB01-06

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

Nominal data

Type	**R4D560-RB01-06**
Motor	**M4D138-LA**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400
Nominal voltage range	VAC	380 .. 415	380 .. 415	380 .. 415	380 .. 415
Connection		Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60
Type of data definition		ml	ml	ml	ml
Valid for approval / standard		CE	CE	CE	CE
Speed (rpm)	min^{-1}	1390	1160	1550	1130
Power input	W	1950	1450	2990	1800
Current draw	A	3.95	2.45	5.25	3.2
Min. ambient temperature	°C	-40	-40	-40	-40
Max. ambient temperature	°C	60	60	45	45
Starting current	A	19	6.1	16	5.7

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

Data in accordance with ecodesign regulation EU 327/2011 (EN 17166)

		Actual	Request 2015
01 Overall efficiency η_{es}	%	54.5	54.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		62	62
05 Variable speed drive		No	

09 Power input P_e	kW	1.93
09 Air flow q_v	m^3/h	7470
09 Pressure increase p_{fs}	Pa	511
10 Speed (rpm) n	min^{-1}	1380
11 Specific ratio*		1.01

Data definition with optimum efficiency.

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

LU-209000

The indicated efficiency values for obtaining conformity with the Ecodesign Directive EU 327/2011 were achieved with defined air conduction components (e.g. inlet nozzles).
The dimensions are to be requested from ebm-papst. If other air guide geometries are used on the installation side, the ebm-papst evaluation loses its validity/conformity must be confirmed again.

The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2(2a) (motors completely integrated into a product).

AC centrifugal fan - RadiCal

backward curved, single inlet

Technical features

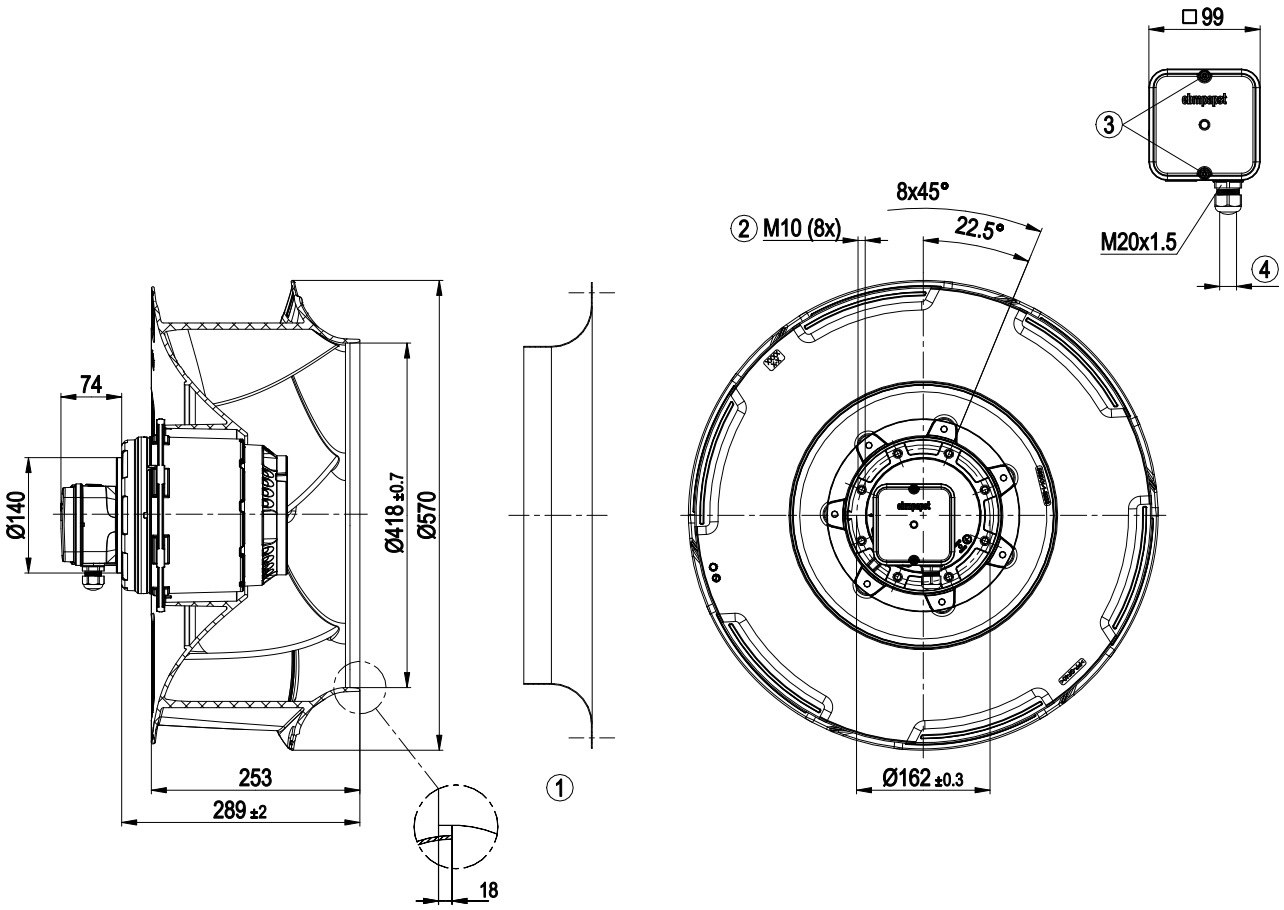
Mass	26.25 kg
Size	560 mm
Motor size	138
Surface of rotor	Cast in aluminium
Material of impeller	PP plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP54
Insulation class	"F"
Humidity (F) / environmental protection class (H)	H2
Note ambient temperature	Occasional start-up between -40 °C and -25 °C is permissible. For continuous operation at ambient temperatures below -25 °C (e.g. refrigeration applications), a fan version with special low-temperature bearings must be used.
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Any
Condensation drainage holes	On rotor and stator sides
Operation mode	S1
Motor bearing	Ball bearing
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical connection	Terminal box
Motor protection	Thermal overload protector (TOP) brought out, basic insulation
Cable exit	Axial
Safety classification	I; If a protective earth is connected by the customer This component to be built-in can have several local protection class ratings. The specification refers to the basic design of this component. The final protection class is based on the intended installation and connection of the component.
Product conforming to standard	EN 60034-1 (2010); CE
Approval	VDE; EAC

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



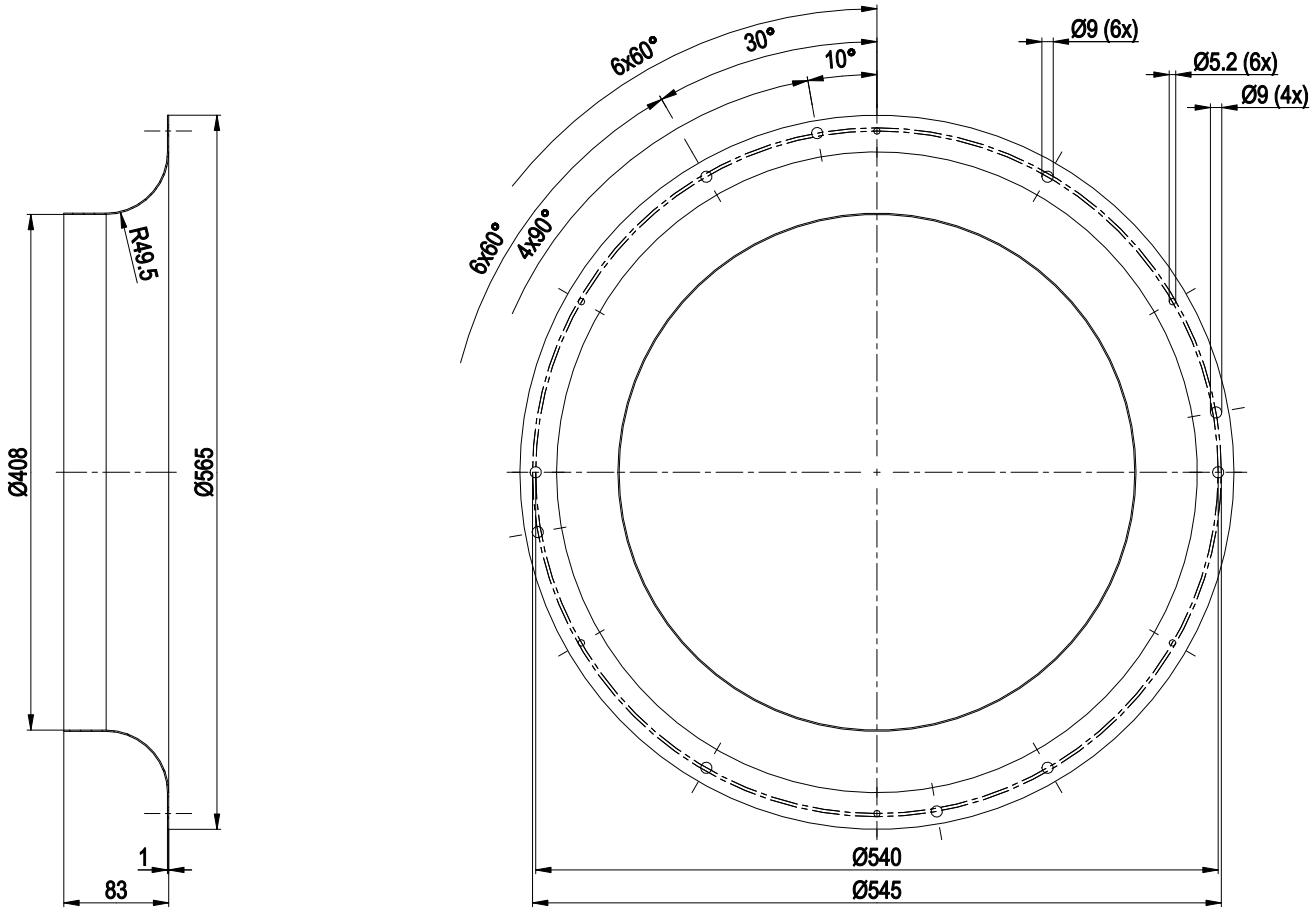
1	Accessory part: Inlet nozzle 54482-2-4013 not included in scope of delivery
2	Thread reach max. 18 mm
3	Tightening torque 1.5±0.2 Nm
4	Cable diameter min. 7 mm, max. 14 mm, tightening torque 2±0.3 Nm

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

Accessory part



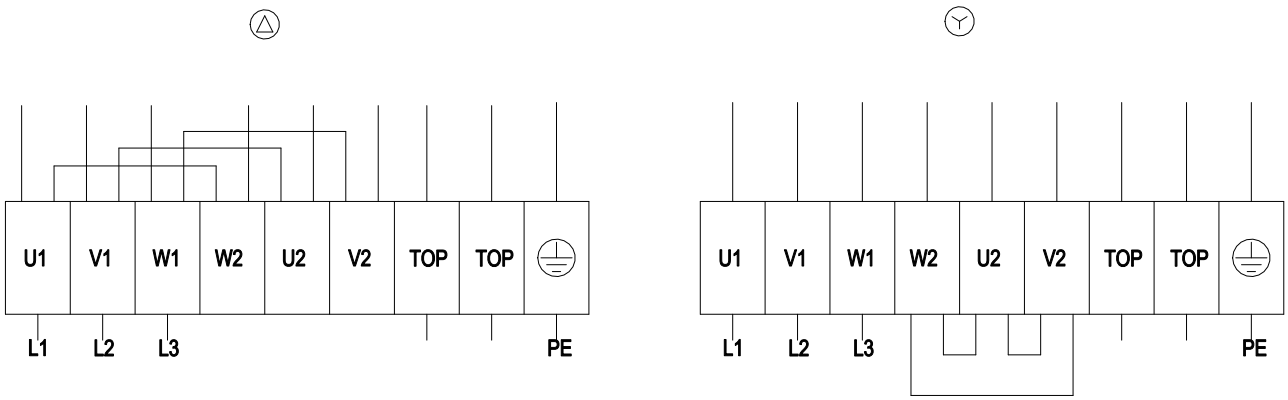
Inlet nozzle 54482-2-4013

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



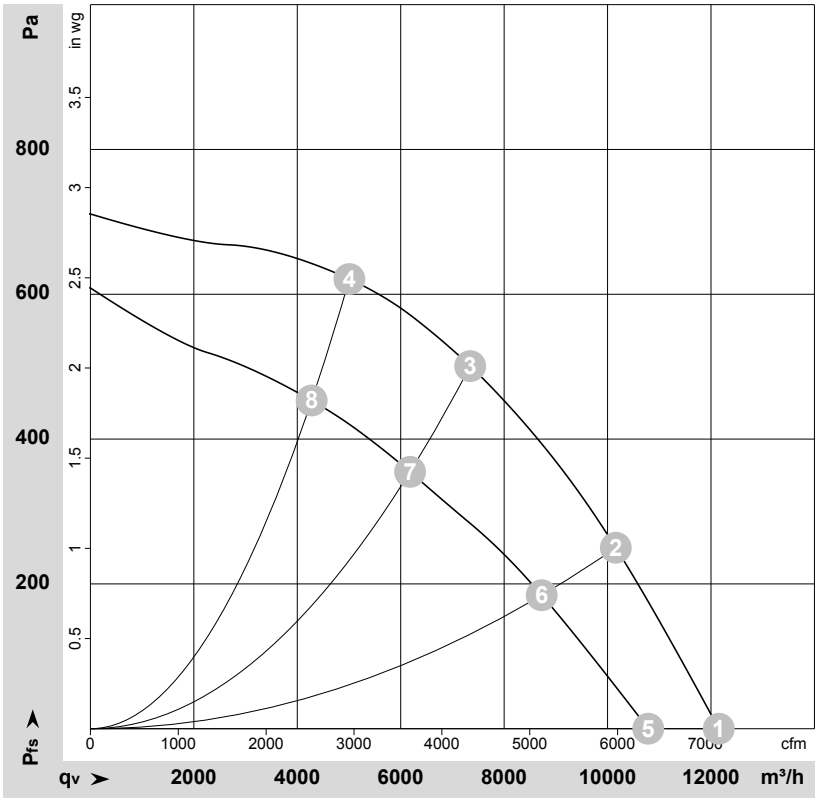
Δ	Delta-connection	Y	Star connection	L1	= U1 = black
L2	= V1 = blue	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2 x grey
PE	green / yellow				

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



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-166989-1
Measurement: LU-167146-1

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}	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	1420	1453	3.22	77	84	87	12150	0	7150	0.00
2	Δ	400	50	1395	1790	3.60	73	80	84	10160	250	5980	1.00
3	Δ	400	50	1390	1950	3.95	71	78	83	7345	500	4325	2.01
4	Δ	400	50	1390	1821	3.63	73	80	84	5005	620	2945	2.49
5	Y	400	50	1260	1151	1.96	74	82	84	10785	0	6350	0.00
6	Y	400	50	1200	1357	2.30	70	77	80	8725	186	5135	0.75
7	Y	400	50	1160	1450	2.45	67	74	79	6180	355	3640	1.43
8	Y	400	50	1190	1374	2.33	68	75	80	4280	454	2520	1.82

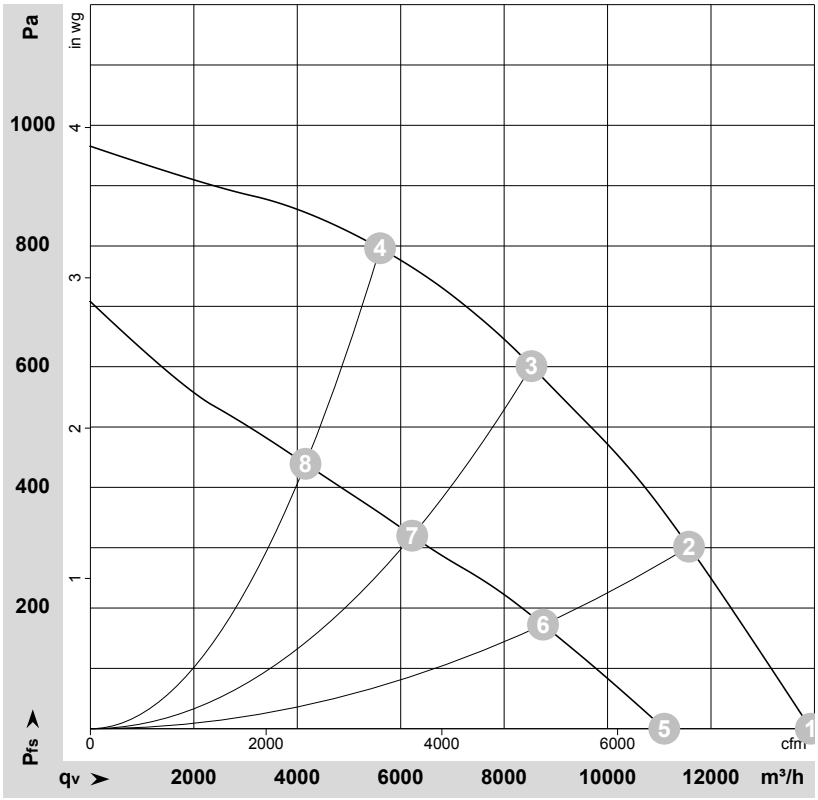
Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side
LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

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

AC centrifugal fan - RadiCal

backward curved, single inlet

Charts: Air flow 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-167578-1
Measurement: LU-167602-1

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}	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	1630	2275	4.00	80	87	91	13930	0	8200	0.00
2	Δ	400	60	1575	2751	4.73	76	84	88	11575	300	6815	1.20
3	Δ	400	60	1550	2990	5.25	74	81	86	8530	600	5020	2.41
4	Δ	400	60	1565	2795	4.77	76	83	87	5600	800	3295	3.21
5	Y	400	60	1305	1583	2.77	75	83	85	11095	0	6530	0.00
6	Y	400	60	1190	1751	3.10	71	78	81	8750	173	5150	0.69
7	Y	400	60	1130	1800	3.20	66	73	78	6225	320	3665	1.28
8	Y	400	60	1160	1735	3.06	68	75	80	4160	439	2450	1.76

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · 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 · q_V = 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