AC centrifugal fan - RadiCal

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Nominal data

Type	**R4D500-RA01-06**
Motor	**M4D138-HF**

Phase		3~	3~
Nominal voltage	VAC	400	400
Connection		Δ	Y
Frequency	Hz	50	50
Type of data definition		ml	ml
Valid for approval / standard		CE	CE
Speed (rpm)	min^{-1}	1370	1140
Power input	W	1500	1120
Current draw	A	2.8	1.84
Min. ambient temperature	°C	-40	-40
Max. ambient temperature	°C	55	55
Starting current	A	11.5	4.0

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

		Actual	Request 2015
01 Overall efficiency η_{es}	%	54.7	53.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		63.4	62
05 Variable speed drive		No	

09 Power input P_e	kW	1.5
09 Air flow q_v	m^3/h	6215
09 Pressure increase p_{fs}	Pa	475
10 Speed (rpm) n	min^{-1}	1370
11 Specific ratio*		1.01

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

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

LU-167200

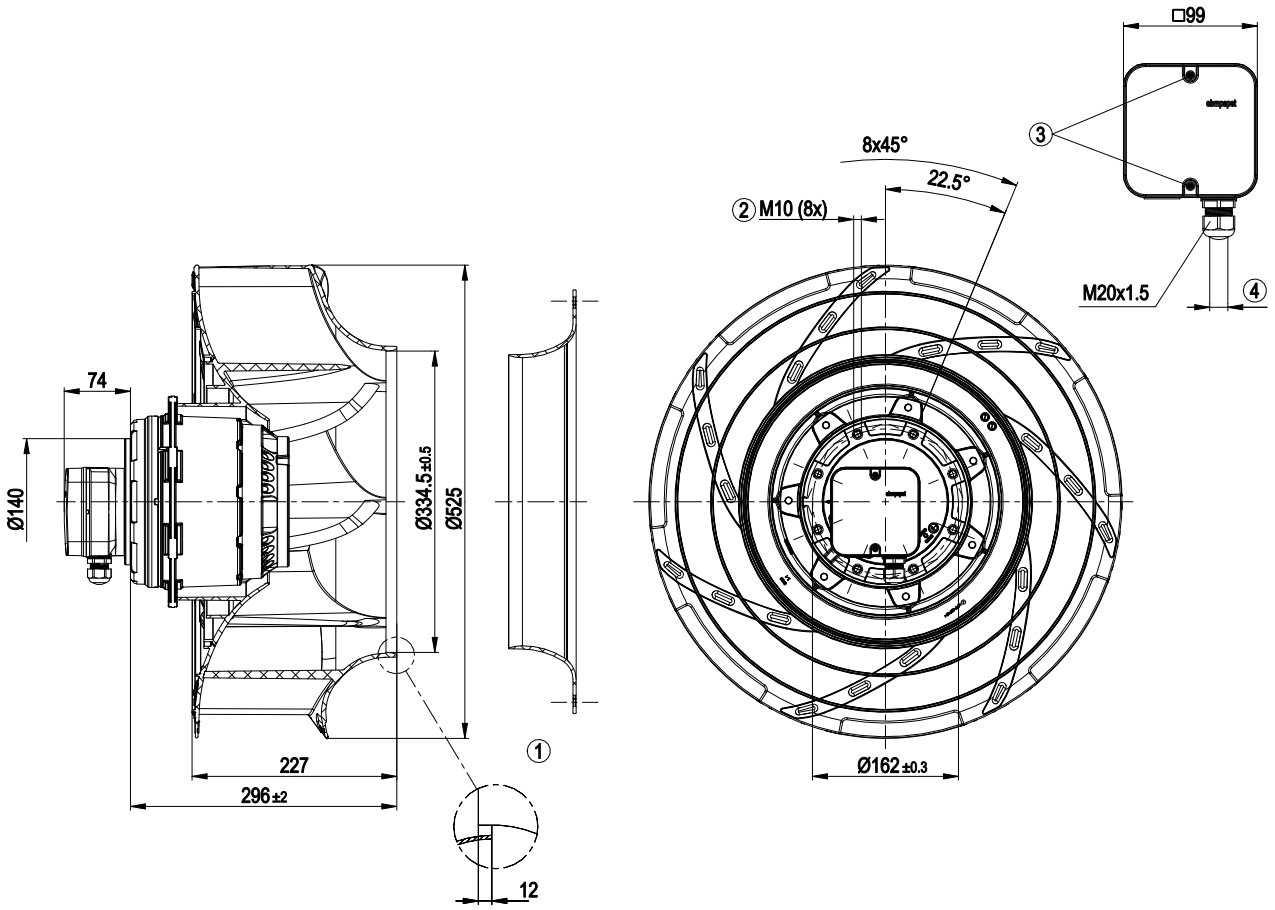
Technical features

Mass	21 kg
Size	500 mm
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	IP 54
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F3-1
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) we recommend our fan version with special low-temperature bearings.
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Any
Condensate discharge 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
Motor protection	Thermal overload protector (TOP) brought out, basic insulation
Cable exit	Axial
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; EN 60034-1 (2010); CE
Approval	VDE; EAC

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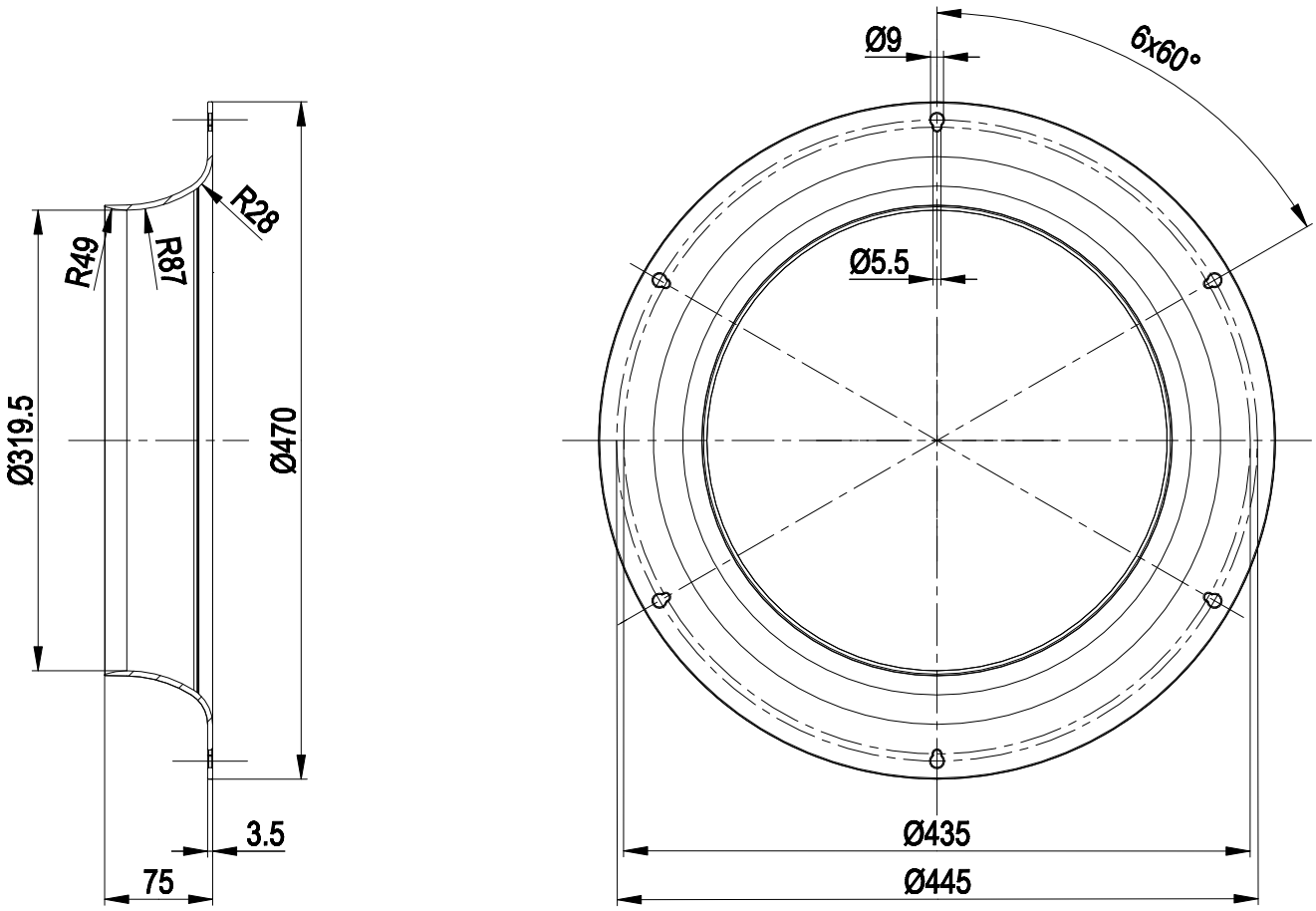
Product drawing



1	Accessory part: Inlet nozzle 50901-2-2943 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

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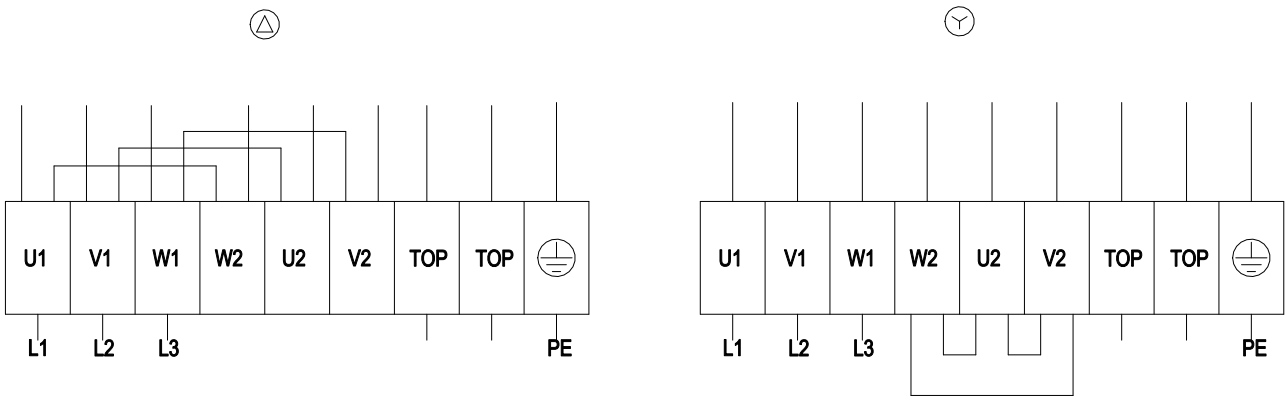
Accessory part



1	Accessory part: inlet nozzle 50901-2-2943

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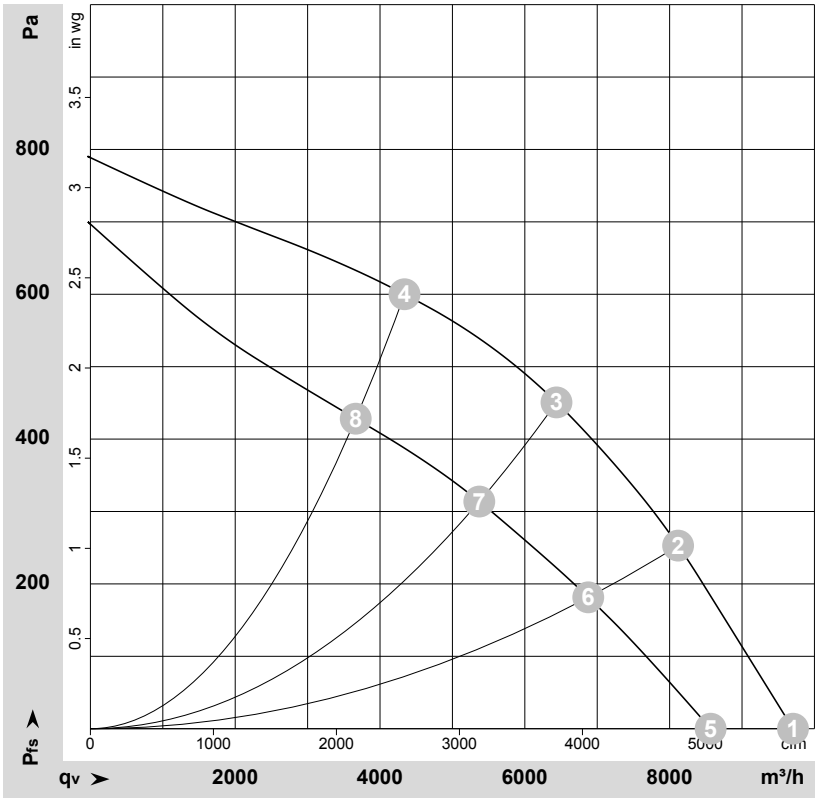
Connection screen



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				

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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-167200-1
Measurement: LU-167220-1

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	1410	1131	2.27	73	80	87	9705	0	5710	0.00
2	Δ	400	50	1380	1407	2.60	69	77	83	8115	250	4775	1.00
3	Δ	400	50	1370	1500	2.80	65	72	78	6440	450	3790	1.81
4	Δ	400	50	1380	1412	2.59	64	72	77	4340	600	2555	2.41
5	Y	400	50	1245	901	1.50	70	77	84	8565	0	5040	0.00
6	Y	400	50	1170	1068	1.77	65	73	79	6875	182	4045	0.73
7	Y	400	50	1140	1120	1.84	61	68	74	5370	314	3160	1.26
8	Y	400	50	1160	1061	1.76	60	67	72	3665	428	2155	1.72

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

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