R3G450-AZ30-09

EC centrifugal fan - RadiPac

backward curved, single inlet

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Nominal data

Type	**R3G450-AZ30-09**
Motor	**M3G150-IF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	2750
Power input	W	5370
Current draw	A	8.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

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

		Actual	Request 2015
01 Overall efficiency η_{es}	%	64.4	59.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		67.2	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	5.37
09 Air flow q_v	m^3/h	8040
09 Pressure increase p_{fs}	Pa	1492
10 Speed (rpm) n	min^{-1}	2750
11 Specific ratio*		1.02

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-122139

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Technical features

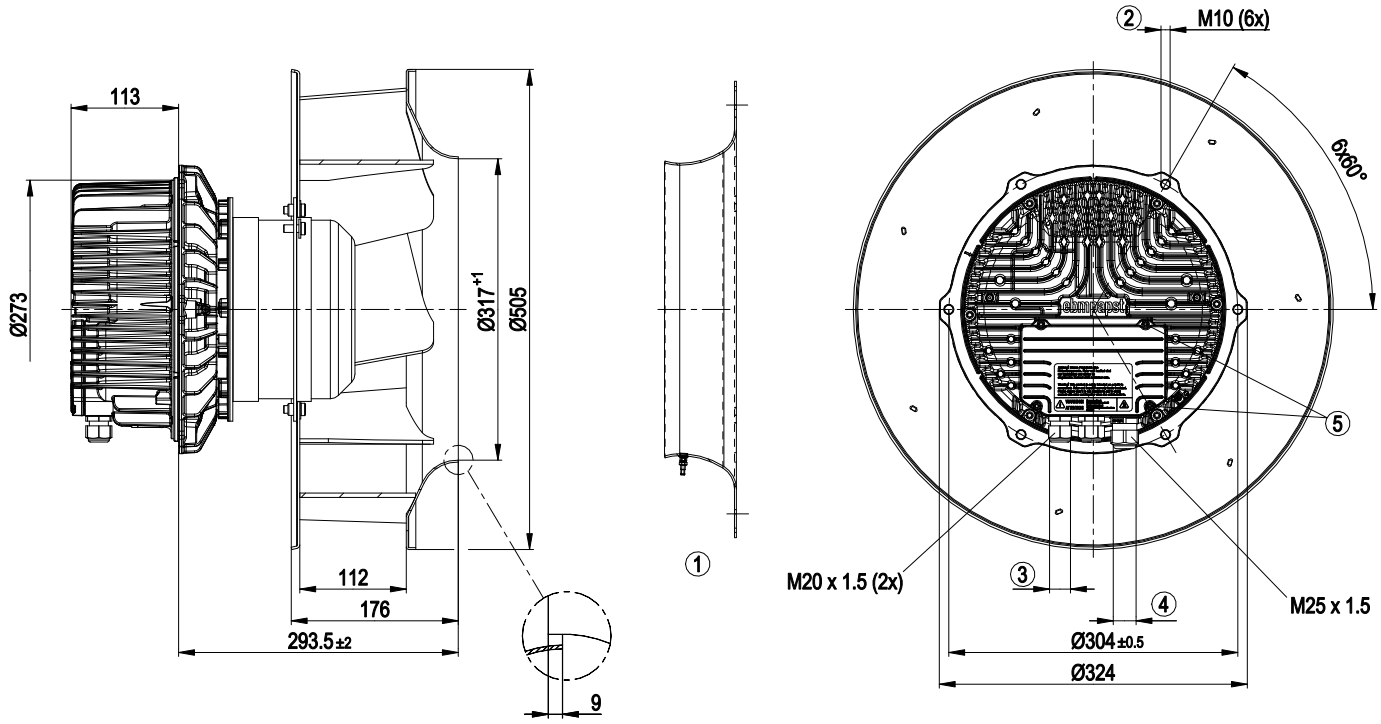
Mass	31 kg
Size	450 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F4-1
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
Technical features	- Output 10 VDC, max. 10 mA - External 24 V input (programming) - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start - Control input 0-10 VDC - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 61000-6-4 (industrial environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	C22.2 Nr.77 + CAN/CSA-E60730-1; UL 1004-7 + 60730

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Product drawing



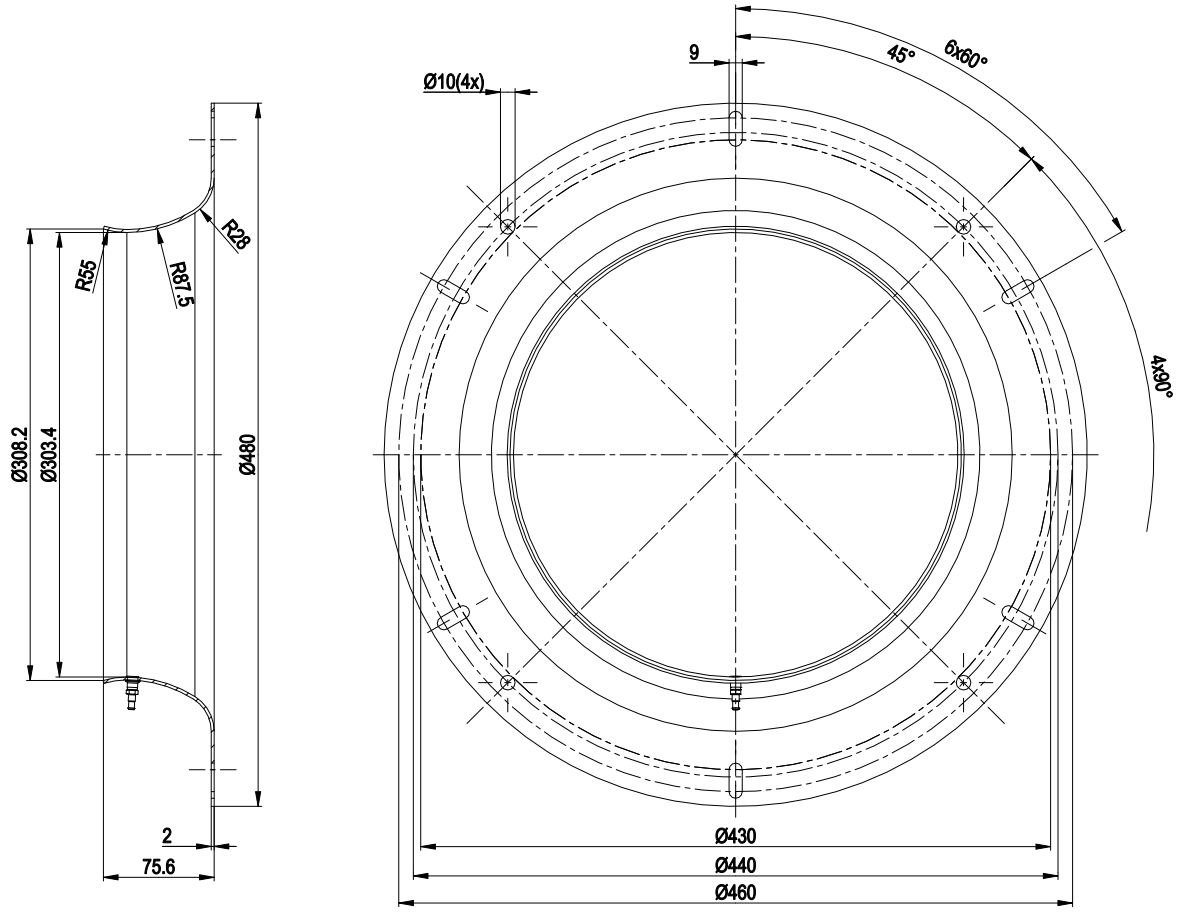
1	Accessory part: Inlet nozzle 45075-2-4013 with pressure tap (k-factor: 240) not included in scope of delivery
2	Depth of screw max. 20 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4±0.6 Nm
4	Cable diameter min. 9 mm, max. 16 mm, tightening torque 6±0.9 Nm
5	Tightening torque 3.5±0.5 Nm

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Accessory part



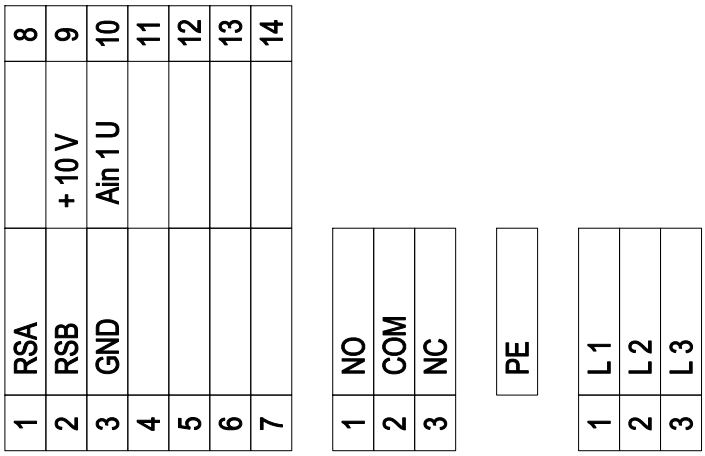
-	inlet nozzle 45075-2-4013 with a pressure tap (k-factor: 240) not included in scope of delivery

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Connection screen



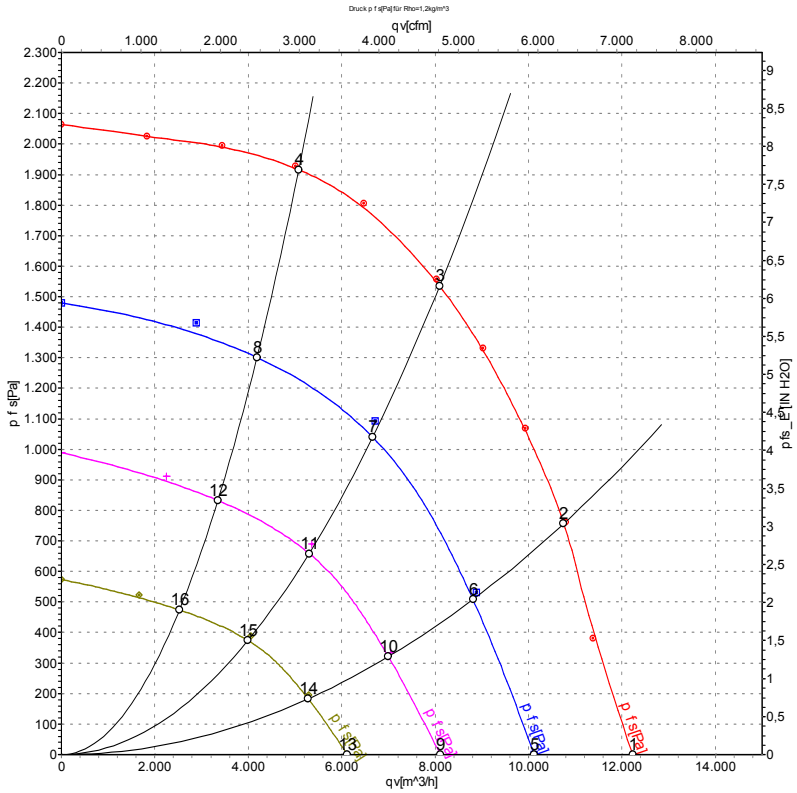
No.	Conn.	Designation	Function / assignment
1	1	L1	Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz
1	2	L2	Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz
1	3	L3	Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz
PE	-	PE	Protective earth connection
2	1	NO	Floating status contact, closes on error
2	2	COM	Floating status contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
2	3	NC	Floating status contact, break for failure
3	1	RSA	RS-485 interface for MODBUS, RSA; SELV
3	2	RSB	RS-485 interface for MODBUS, RSB; SELV
3	3	GND	Signal ground for control interface; SELV
3	4		not used
3	5		not used
3	6		not used
3	7		not used
3	8		not used
3	9	+10V	Voltage output 10 VDC (±3%), max. 10 mA, power supply for external devices (e.g. potentiometer); SELV
3	10	Ain1 U	Control input / current sensor value input 0-10 VDC, impedance 100 kΩ; SELV
3	11		not used
3	12		not used
3	13		not used
3	14		not used

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Charts: Air flow 50 Hz



Measurement: LU-122139-1
Measurement: LU-122147-1
Measurement: LU-122148-1
Measurement: LU-122149-1

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

	U	f	n	P_{ed}	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	inH2O
1	400	50	2750	3229	4.98	92	100	105	12230	0	7200	0.00
2	400	50	2750	4492	6.92	86	93	99	10750	775	6325	3.11
3	400	50	2750	5370	8.30	82	89	95	8095	1550	4765	6.22
4	400	50	2750	5098	7.82	85	94	98	5075	1925	2990	7.73
5	400	50	2280	1781	2.78	89	97	101	10120	0	5955	0.00
6	400	50	2280	2516	3.90	81	88	94	8810	551	5185	2.21
7	400	50	2280	3078	4.76	76	83	91	6665	1098	3920	4.41
8	400	50	2280	2653	4.12	81	88	94	4185	1306	2465	5.24
9	400	50	1815	987	1.60	84	91	95	8110	0	4775	0.00
10	400	50	1815	1315	2.09	74	82	87	7000	342	4120	1.37
11	400	50	1815	1587	2.45	71	77	85	5300	695	3120	2.79
12	400	50	1815	1395	2.19	74	81	87	3345	834	1970	3.35
13	400	50	1375	488	0.95	75	82	87	6120	0	3600	0.00
14	400	50	1375	607	1.07	68	74	80	5280	196	3110	0.79
15	400	50	1375	717	1.21	64	72	77	3995	393	2350	1.58
16	400	50	1375	646	1.13	67	74	79	2525	474	1485	1.90

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = 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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