R3G500-AQ33-09

EC centrifugal fan - RadiPac

backward curved, single inlet

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Nominal data

Type	**R3G500-AQ33-09**
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}	2200
Power input	W	5500
Current draw	A	8.4
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	45

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}	%	64.1	59.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		66.8	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	5.48
09 Air flow q_v	m^3/h	9955
09 Pressure increase p_{fs}	Pa	1223
10 Speed (rpm) n	min^{-1}	2220
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-128472

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Technical features

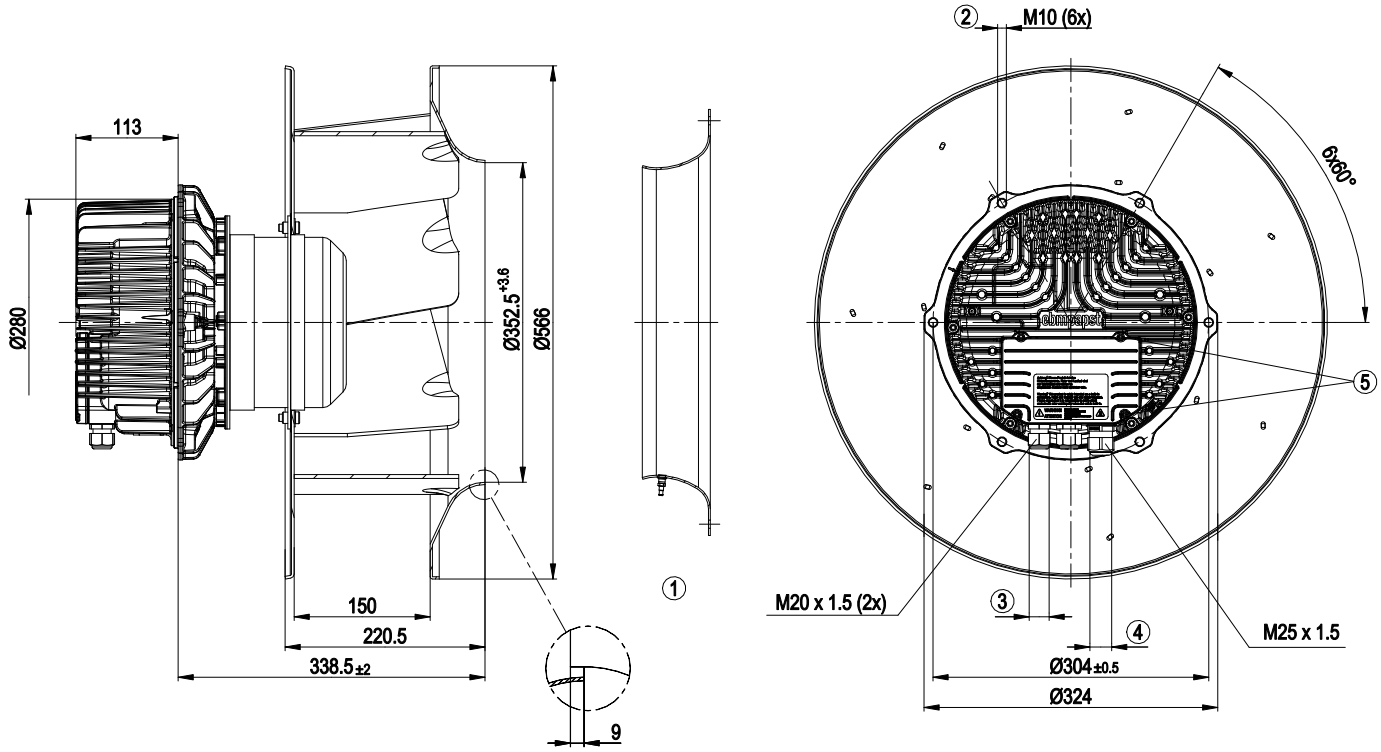
Mass	33 kg
Size	500 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	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



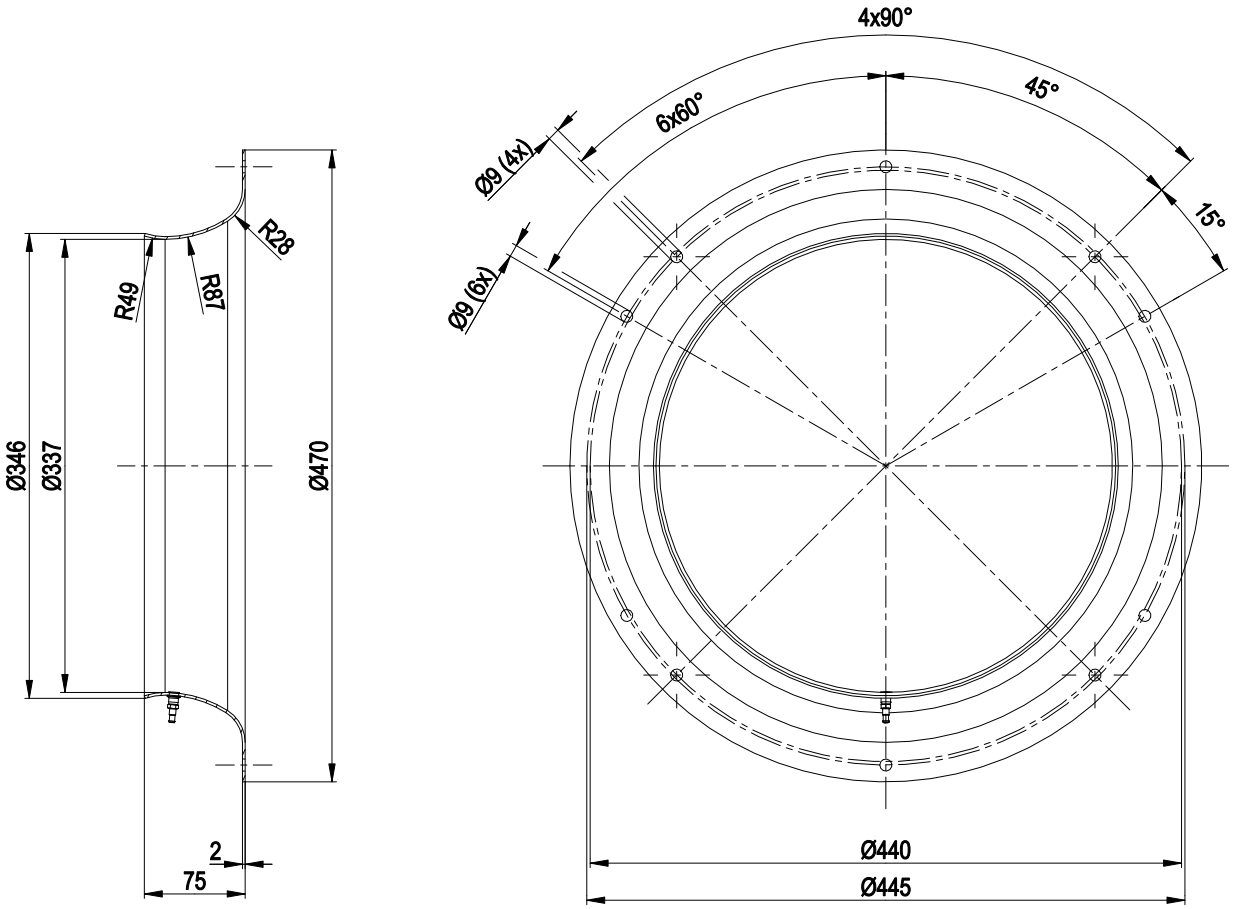
1	Accessory part: inlet nozzle 64025-2-4013 not included in the standard scope of delivery; other inlet nozzles on request
2	Depth of screw max. 20 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4±0.6 Nm
4	Cable diameter min. 9 mm, max. 16 mm, tightening torque 6±0.9 Nm
5	Tightening torque 3.5±0.5 Nm

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Accessory part



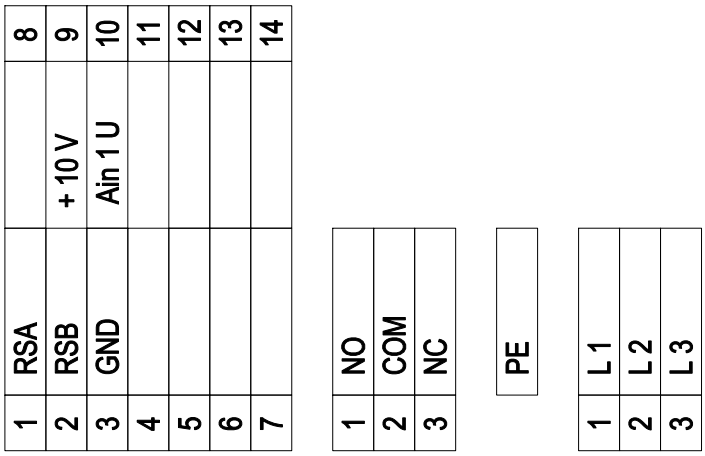
Inlet nozzle 64025-2-4013 with pressure tap not included in scope of delivery

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Connection screen



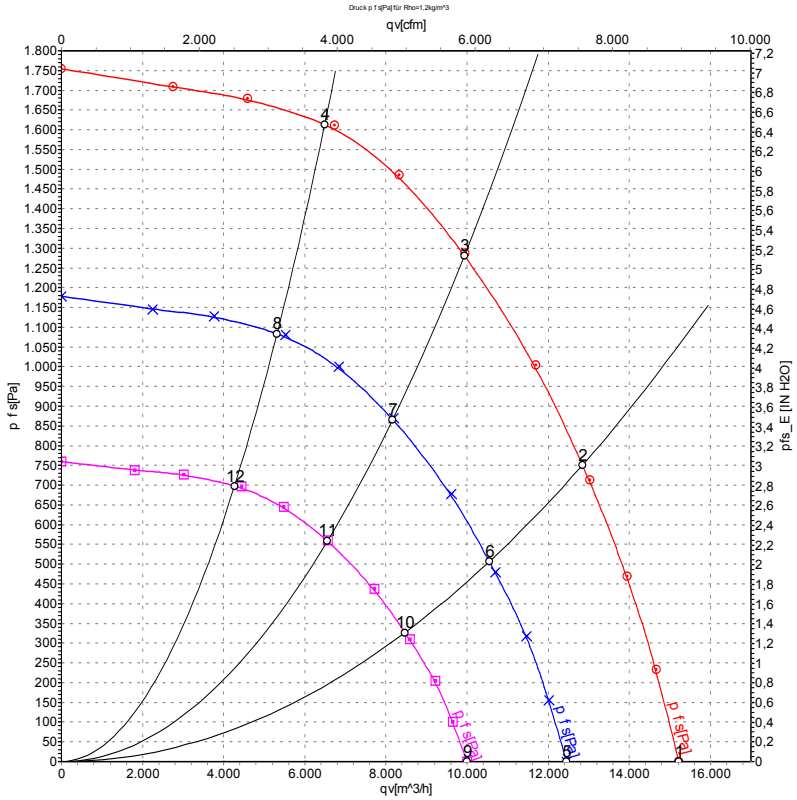
No.	Conn.	Designation	Function / assignment
1	1	L1	Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz
1	2	L2	Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz
1	3	L3	Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz
PE	-	PE	Protective earth connection
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-128472-1

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	2200	3725	5.82	92	100	105	15220	0	8960	0.00
2	400	50	2200	4944	7.64	87	94	98	12850	750	7565	3.01
3	400	50	2200	5500	8.40	82	89	94	9935	1290	5845	5.18
4	400	50	2200	5148	7.95	83	90	96	6490	1600	3820	6.42
5	400	50	1825	2039	3.19	88	95	101	12450	0	7330	0.00
6	400	50	1825	2736	4.23	82	90	94	10550	508	6210	2.04
7	400	50	1825	3052	4.70	78	84	90	8165	872	4805	3.50
8	400	50	1825	2830	4.37	78	86	92	5315	1086	3130	4.36
9	400	50	1465	1055	1.65	83	91	96	9995	0	5880	0.00
10	400	50	1465	1416	2.19	78	85	89	8470	327	4985	1.31
11	400	50	1465	1578	2.43	73	80	85	6555	562	3860	2.26
12	400	50	1465	1464	2.26	74	81	87	4270	700	2510	2.81

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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