R3G500-PB24-09

EC centrifugal fan - RadiPac

backward curved, single inlet

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Nominal data

Type	**R3G500-PB24-09**
Motor	**M3G150-IF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
State		prelim.
Speed (rpm)	min^{-1}	2250
Power input	W	5700
Current draw	A	9
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}	%	68.6	59.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		71.1	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	5.8
09 Air flow q_v	m^3/h	11060
09 Pressure increase p_{fs}	Pa	1252
10 Speed (rpm) n	min^{-1}	2255
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-176838

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Technical features

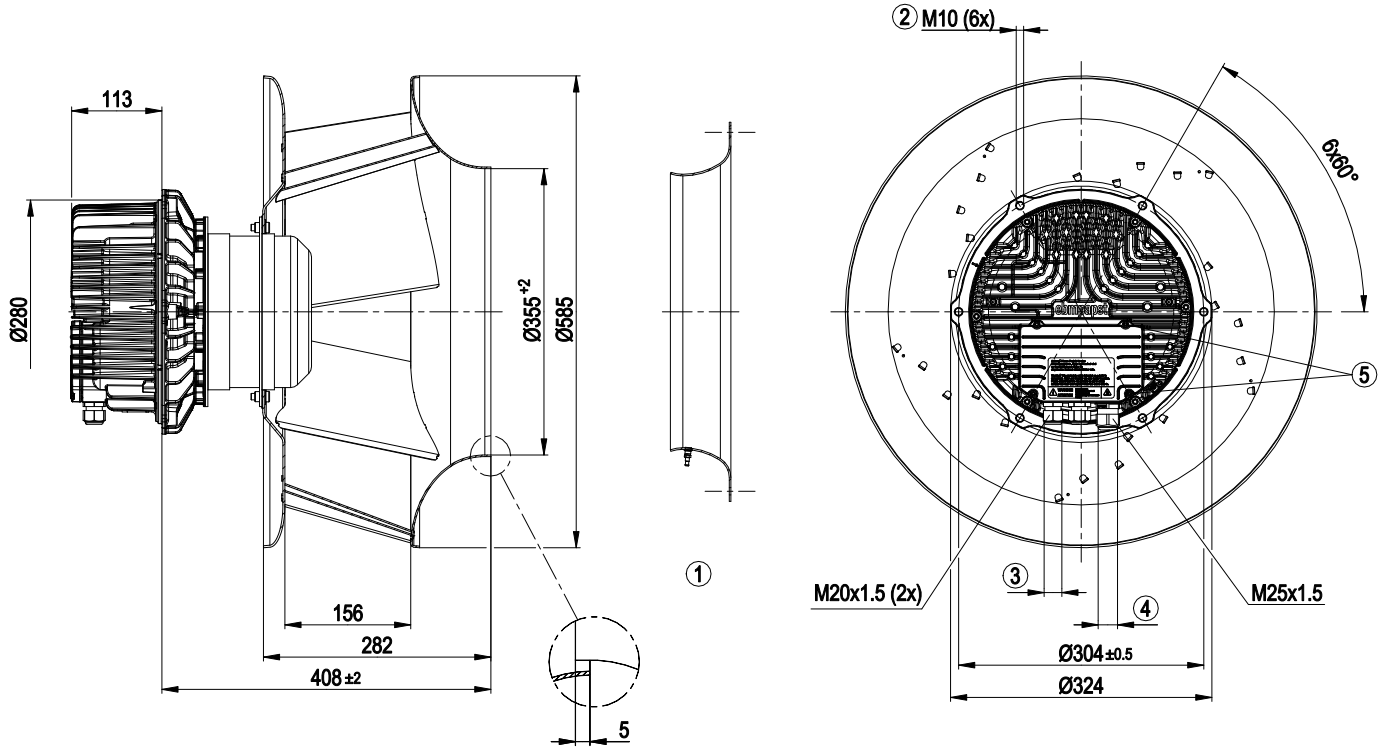
Mass	32.0 kg
Size	500 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Number of blades	5
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	H1
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	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
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; EAC; UL 1004-7 + 60730

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Product drawing



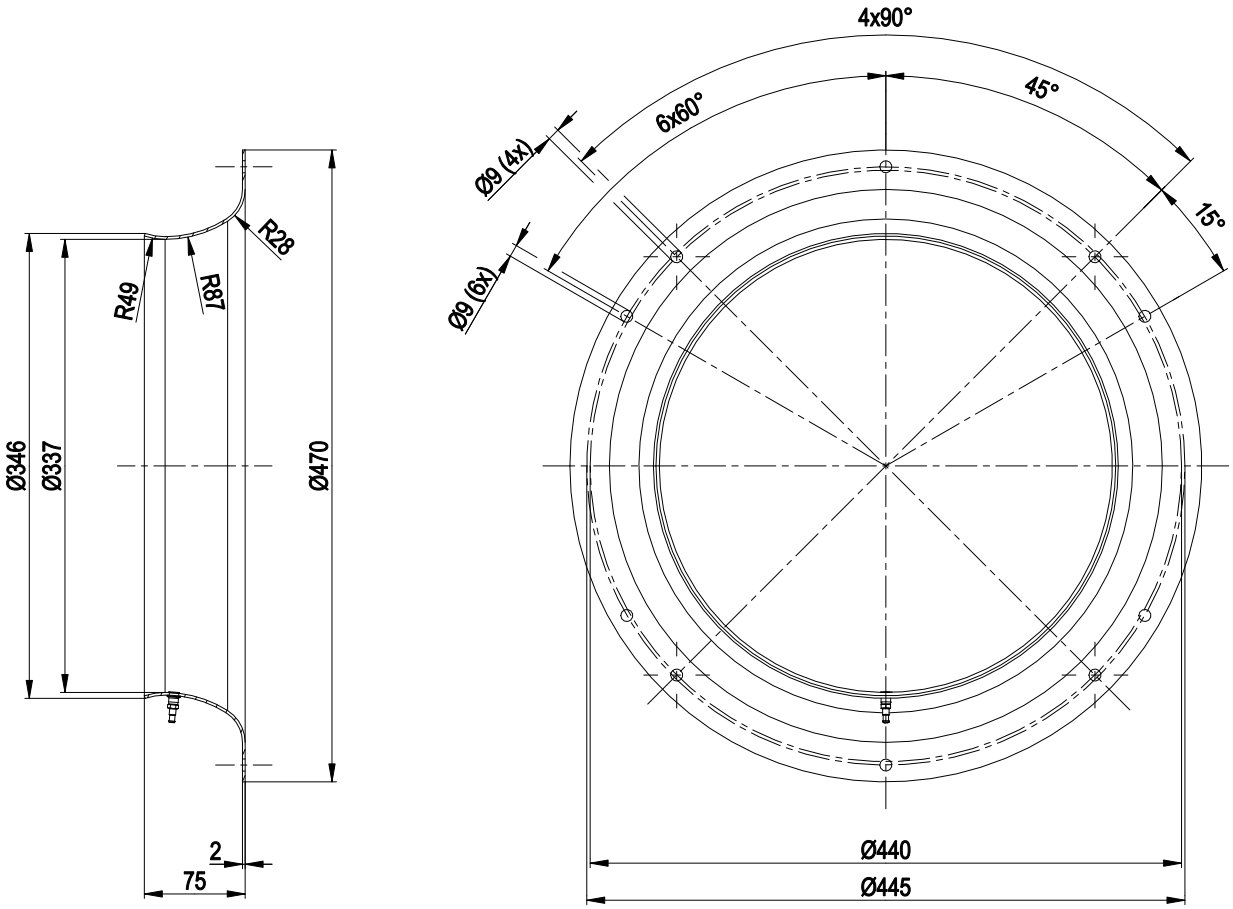
1	Accessory part: Inlet nozzle 64025-2-4013 with pressure tap (k-factor: 281) not included in scope of delivery
2	Thread reach max. 20 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4±0.6 Nm
4	Cable diameter min. 9 mm, max. 16 mm, tightening torque 6±0.9 Nm
5	Tightening torque 3.5±0.5 Nm

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Accessory part



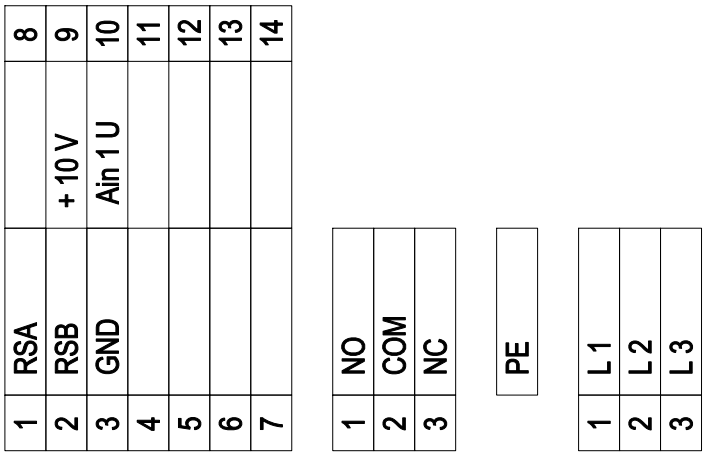
Inlet nozzle 64025-2-4013 with pressure tap not included in scope of delivery

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Connection screen



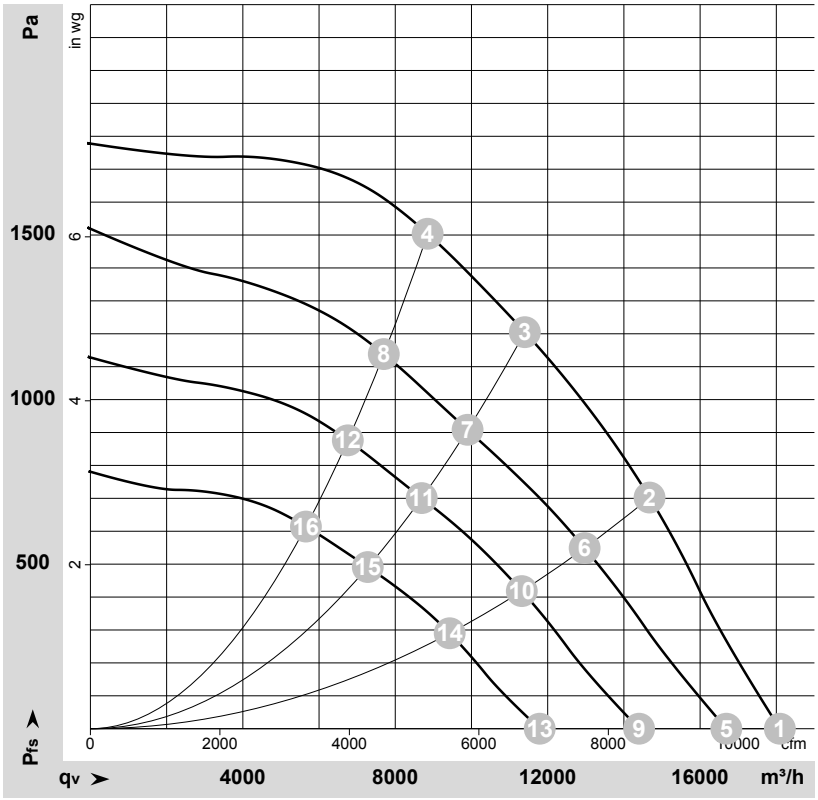
No.	Conn.	Designation	Function / assignment
1	1	L1	Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz
1	2	L2	Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz
1	3	L3	Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz
PE	-	PE	Protective earth connection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



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-176838-1

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	2250	3195	4.95	100	106	105	18095	0	10650	0.00
2	400	50	2250	4887	7.47	90	97	98	14675	700	8635	2.81
3	400	50	2250	5700	9.00	82	89	94	11400	1200	6710	4.82
4	400	50	2250	5668	8.65	81	88	94	8850	1500	5210	6.02
5	400	50	2075	2480	3.94	98	104	104	16690	0	9820	0.00
6	400	50	2000	3407	5.31	87	94	96	12970	549	7635	2.20
7	400	50	1965	3768	5.85	79	86	91	9900	908	5825	3.65
8	400	50	1965	3722	5.78	78	84	91	7700	1144	4530	4.59
9	400	50	1795	1631	2.72	93	101	101	14400	0	8475	0.00
10	400	50	1750	2288	3.66	84	91	94	11320	418	6665	1.68
11	400	50	1725	2568	4.06	76	82	89	8695	701	5115	2.81
12	400	50	1730	2533	4.01	74	81	89	6755	880	3975	3.53
13	400	50	1490	993	1.84	89	95	96	11790	0	6940	0.00
14	400	50	1460	1385	2.39	78	86	88	9430	290	5550	1.16
15	400	50	1445	1569	2.64	70	78	83	7280	491	4285	1.97
16	400	50	1445	1542	2.60	70	76	82	5655	617	3330	2.48

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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