D3G250-GG09-01

EC centrifugal fan - RadiFit

backward curved, dual inlet

with housing (flange)



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Nominal data

Type	**D3G250-GG09-01**
Motor	**M3G084-GF**

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}	3850
Power input	W	1810
Current draw	A	2.9
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 in accordance with ecodesign regulation EU 327/2011 (EN 17166)

		Actual	Request 2015
01 Overall efficiency η_{es}	%	60.1	53
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		68.1	61
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	1.72
09 Air flow q_v	m^3/h	2890
09 Pressure increase p_{fs}	Pa	1198
10 Speed (rpm) n	min^{-1}	3855
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

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Technical features

Mass	17.8 kg
Size	250 mm
Motor size	84
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Housing material	Sheet steel, galvanised
Motor suspension	Motor mounted via brackets on one side
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP54
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)	+85 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal
Condensation drainage holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (programming) - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start -Maximum EEPROM write cycles 100,000 - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Temperature derating - 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 61000-6-3 (household environment), except EN 61000-3-2 for professionally used devices with a total rated power greater than 1 kW
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical connection	Terminal box
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable

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Degree of soiling	3
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1; CE
Remark	Conformity with EN 61800-5-1 in preparation

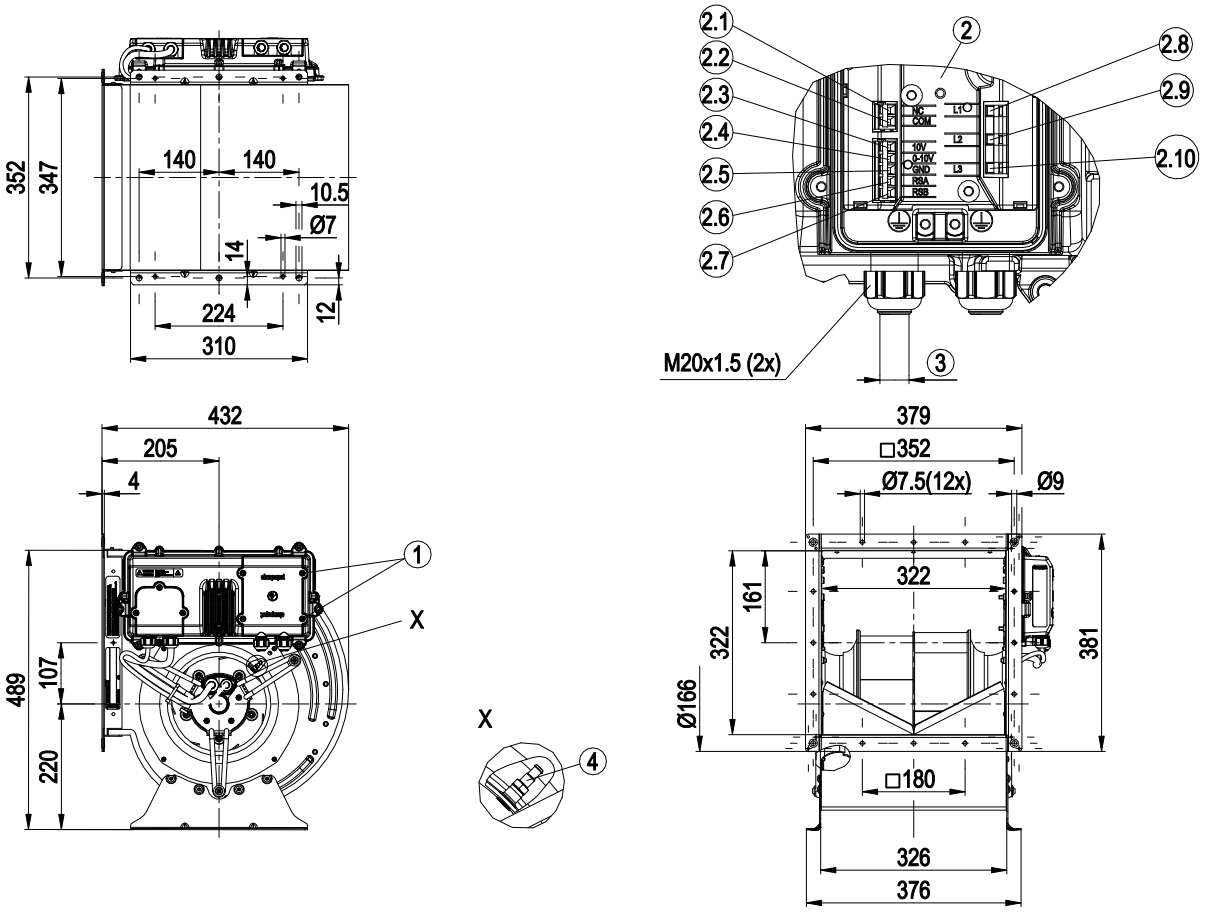
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Product drawing



1	Tightening torque 3±0.5 Nm
2	Terminal box open
2.1	NC
2.2	COM
2.3	+10 V
2.4	0-10 V
2.5	GND
2.6	RSA
2.7	RSB
2.8	L1
2.9	L2
2.10	L3
3	Cable diameter min. 8 mm, max. 12 mm, tightening torque 1.8±0.3 Nm
4	Inlet nozzle with pressure tap (k-factor: 134) on both sides

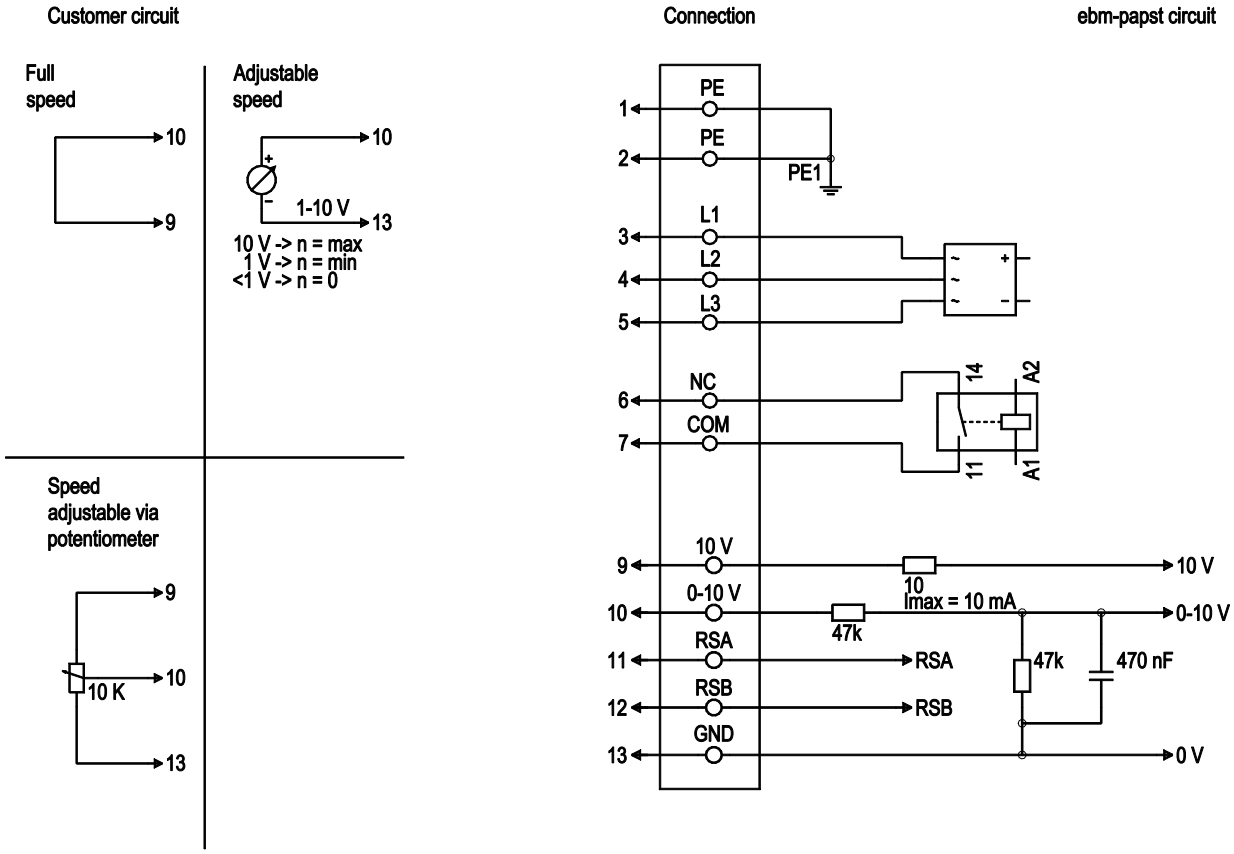
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Connection screen



No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3, 4, 5	L1, L2, L3	black	Power supply 50 / 60 Hz
1	6	NC	white 1	Status relay, floating status contact, break for failure; contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on mains side and basic insulation on control interface side (or reinforced insulation on control interface side up to 250 VAC potential difference)
1	7	COM	white 2	Status relay, floating status contact, break for failure; contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on mains side and basic insulation on control interface side (or reinforced insulation on control interface side up to 250 VAC potential difference)
2	9	+10 V	red	Fixed voltage output 10 VDC, SELV, +10 V +/-3%, max. 10 mA short-circuit-proof, power supply for ext. devices (e.g. potentiometer); Fixed voltage input 24 VDC for parameter setting via MODBUS without mains power supply
2	10	0-10 V	yellow	Analogue input (set value) SELV, 0-10 V, Ri=100kΩ, parametrisable curve
2	11	RSA	white	RS-485 interface for MODBUS, RSA; SELV
2	12	RSB	brown	RS-485 interface for MODBUS, RSB; SELV
2	13	GND	blue	Signal ground for control interface, SELV

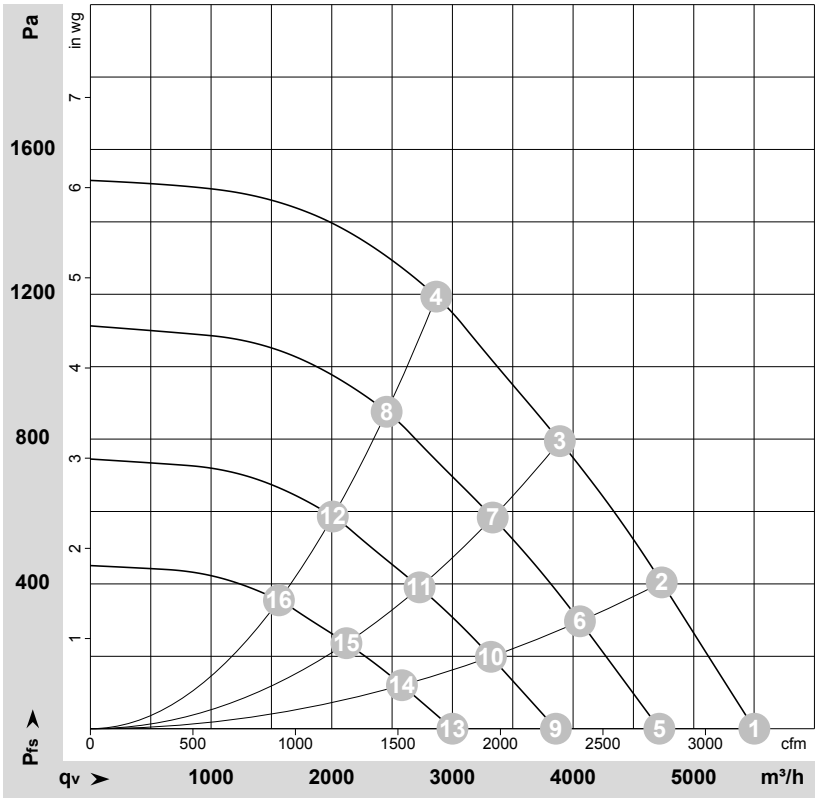
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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-165909-1

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_{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	in. wg
1	Y	400	50	3850	1609	2.57	85	96	101	5500	0	3240	0.00
2	Y	400	50	3850	1764	2.79	83	94	99	4735	400	2785	1.61
3	Y	400	50	3850	1810	2.90	81	91	97	3890	800	2290	3.21
4	Y	400	50	3850	1719	2.73	79	89	93	2865	1200	1685	4.82
5	Y	400	50	3300	1012	1.62	81	92	97	4715	0	2775	0.00
6	Y	400	50	3300	1110	1.76	79	90	95	4055	297	2390	1.19
7	Y	400	50	3300	1139	1.80	78	87	93	3335	586	1960	2.35
8	Y	400	50	3300	1080	1.71	75	85	89	2455	882	1445	3.54
9	Y	400	50	2700	554	0.89	76	87	92	3860	0	2270	0.00
10	Y	400	50	2700	608	0.96	74	85	90	3320	199	1955	0.80
11	Y	400	50	2700	624	0.98	73	82	88	2730	392	1605	1.57
12	Y	400	50	2700	591	0.94	70	80	84	2010	591	1180	2.37
13	Y	400	50	2100	261	0.42	69	80	85	3000	0	1765	0.00
14	Y	400	50	2100	286	0.45	68	78	84	2580	120	1520	0.48
15	Y	400	50	2100	294	0.46	66	76	82	2120	237	1250	0.95
16	Y	400	50	2100	278	0.44	64	74	78	1560	357	920	1.43

Conn. = Connection · 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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