

EC centrifugal fan - RadiFit

backward curved, dual inlet
with housing (flange)



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Nominal data

Type	D3G400-GG04-01	
Motor	M3G112-IA	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed	min ⁻¹	1920
Power input	W	2380
Current draw	A	3.7
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

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.01

* Specific ratio = $1 + p_{fs} / 100\,000\text{ Pa}$

		Actual	Request 2015
Overall efficiency η_{es}	%	65.7	54.2
Efficiency grade N		72.5	61
Power input P_{ed}	kW	2.27	
Air flow q_v	m ³ /h	6870	
Pressure increase p_{fs}	Pa	736	
Speed n	min ⁻¹	1930	

Data definition with optimum efficiency. LU-167589
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.



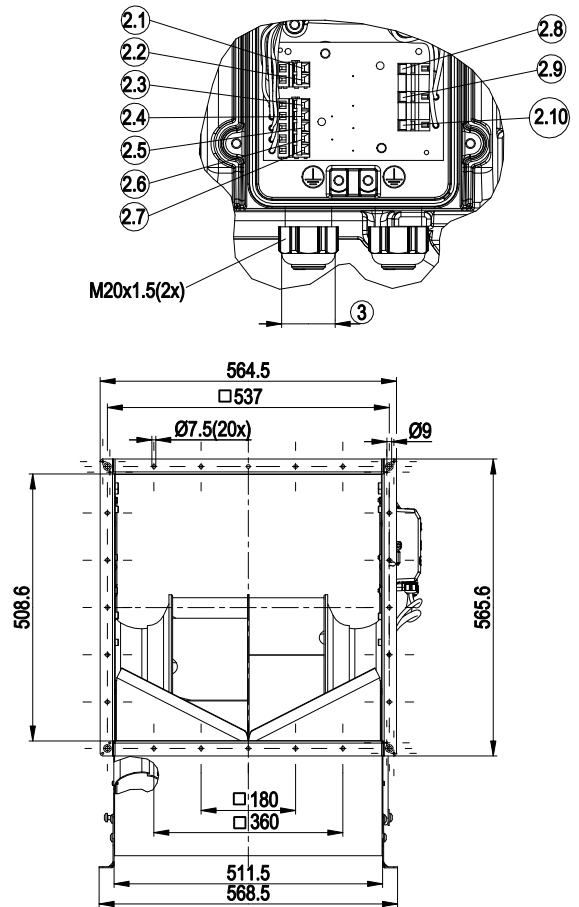
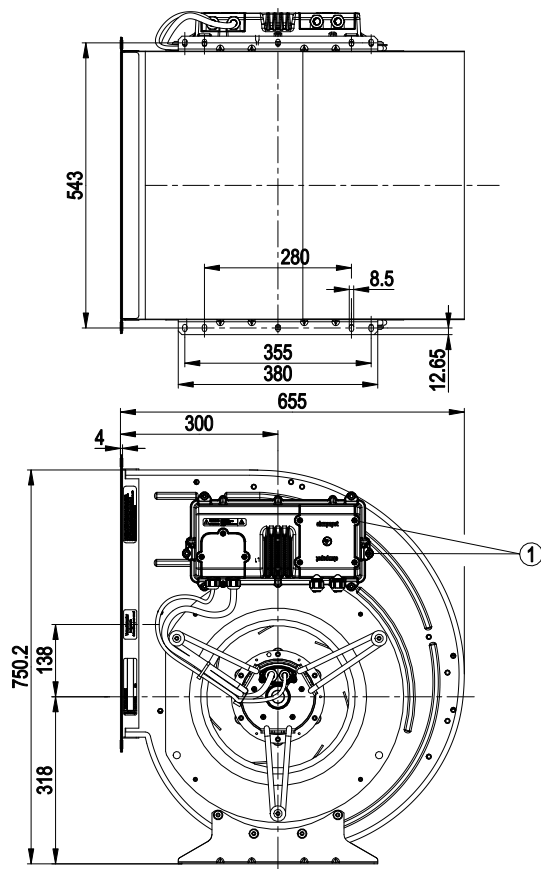
Technical features

Mass	41.6 kg
Size	400 mm
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	IP 54
Insulation class	"F"
Humidity class	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+85 °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 - 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
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Degree of soiling	2
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	CE
Remark	Standard conformity as per EN 61800-5-1 and EN 60335-1 in preparation

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Product drawing



1	Tightening torque 3 ± 0.5 Nm
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 2.5 ± 0.4 Nm

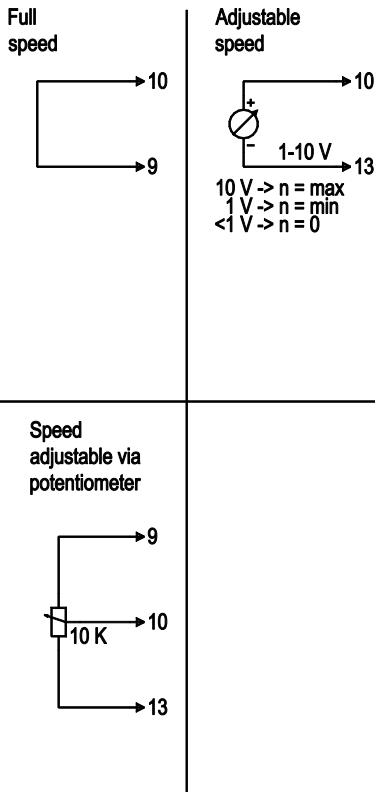
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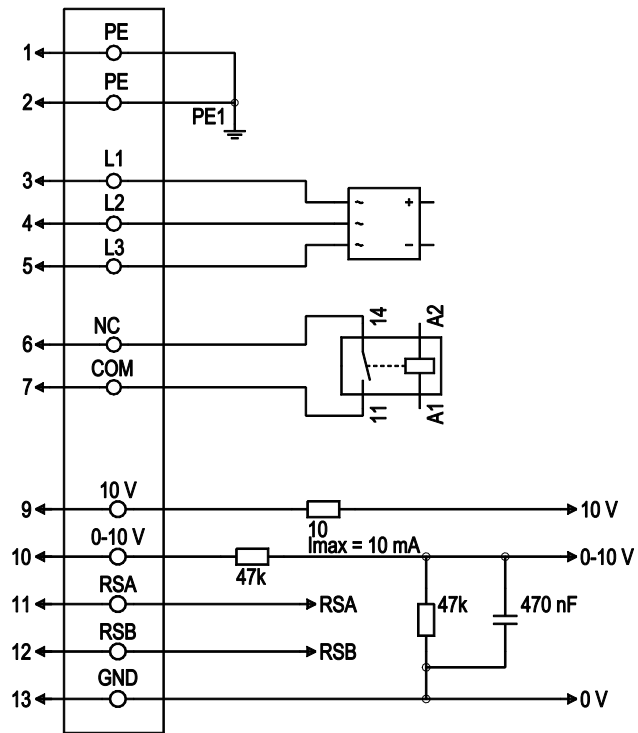
Connection screen

Customer circuit



Connection

ebm-papst circuit

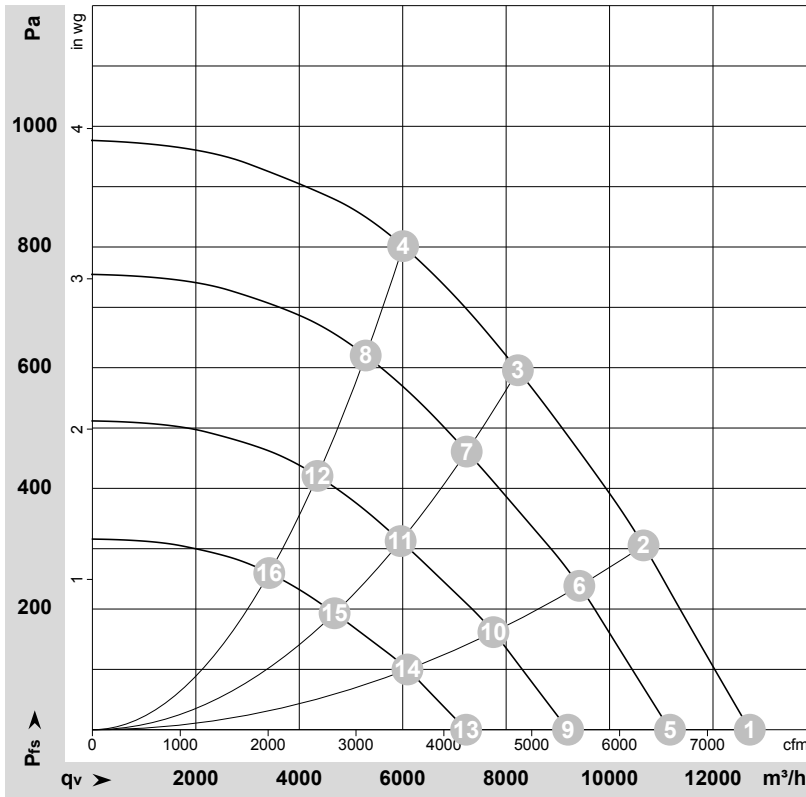


No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE		Protective earth
1	3, 4, 5	L1, L2, L3	black	Power supply 50 / 60 Hz
1	6	NC	white 1	Status relay, floating status contact, break for failure; contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on mains side and basic insulation 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		RS-485 interface for MODBUS, RSA; SELV
2	12	RSB		RS-485 interface for MODBUS, RSB; SELV
2	13	GND		Signal ground for control interface, SELV

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Charts: Air flow 50 Hz



$$\rho = 1,15 \text{ kg/m}^3 \pm 2\%$$

Measurement: LU-167589

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}	qv	p _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m ³ /h	Pa
1	Y	400	50	1920	2172	3.39	78	91	95	12710	0
2	Y	400	50	1920	2380	3.70	76	88	92	10655	300
3	Y	400	50	1920	2380	3.70	73	85	89	8230	600
4	Y	400	50	1920	2159	3.38	72	84	88	6010	800
5	Y	400	50	1700	1473	2.30	75	88	92	11170	0
6	Y	400	50	1700	1675	2.60	72	85	89	9415	241
7	Y	400	50	1700	1627	2.53	70	82	86	7235	462
8	Y	400	50	1700	1470	2.30	69	80	84	5285	620
9	Y	400	50	1400	823	1.29	70	83	87	9195	0
10	Y	400	50	1400	935	1.45	68	80	84	7755	163
11	Y	400	50	1400	909	1.41	65	77	81	5960	313
12	Y	400	50	1400	821	1.28	64	76	80	4350	421
13	Y	400	50	1100	399	0.62	64	77	81	7225	0
14	Y	400	50	1100	454	0.70	62	74	78	6090	101
15	Y	400	50	1100	441	0.69	59	71	75	4685	194
16	Y	400	50	1100	398	0.62	58	69	74	3420	260

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · 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 · qv = Air flow · p_{fs} = Pressure increase

