R3G190-RD45-03

EC centrifugal fan - RadiCal®

backward curved



ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G190-RD45-03**
Motor	**M3G055-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Type of data definition		ml
Speed	min^{-1}	4120
Power input	W	169
Current draw	A	1.35
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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 Pa

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	56	39.1	43.1
Efficiency grade N		74.9	58	62
Power input P_{ed}	kW	0.16		
Air flow q_v	m^3/h	565		
Pressure increase p_{fs}	Pa	524		
Speed n	min^{-1}	4055		

Data definition with optimum efficiency. LU-132500
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

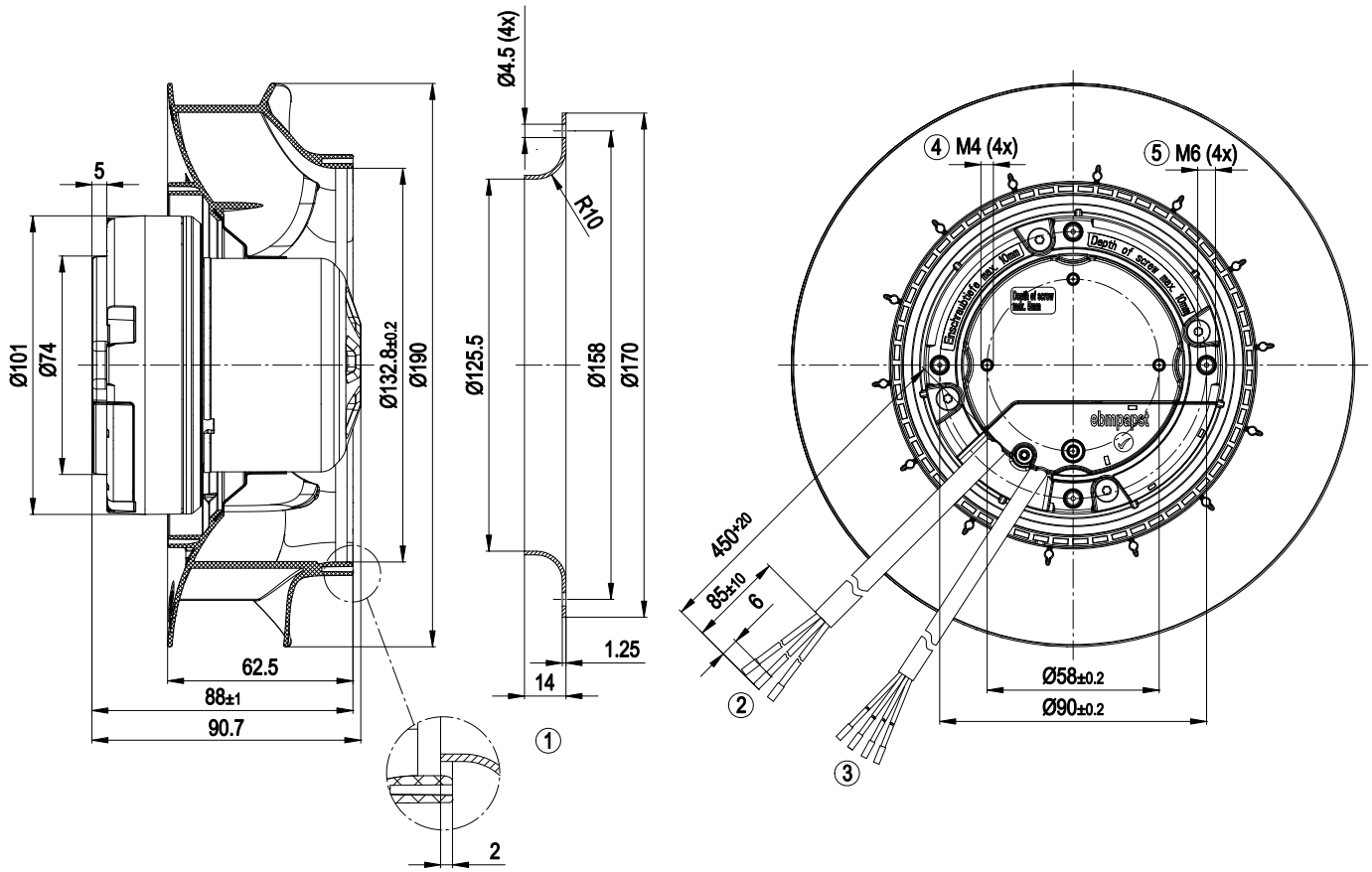
Mass	1.38 kg
Size	190 mm
Surface of rotor	Thick layer passivated
Material of electronics housing	Die-cast aluminium
Material of impeller	Plastic PA6, fibreglass-reinforced
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Max. permissible 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	None, open rotor
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Tach output - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Over-temperature protected electronics / motor - Line undervoltage detection
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Locked-rotor protection
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1; CE
Approval	CCC; CSA C22.2 Nr.77; EAC; UL 2111

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Product drawing



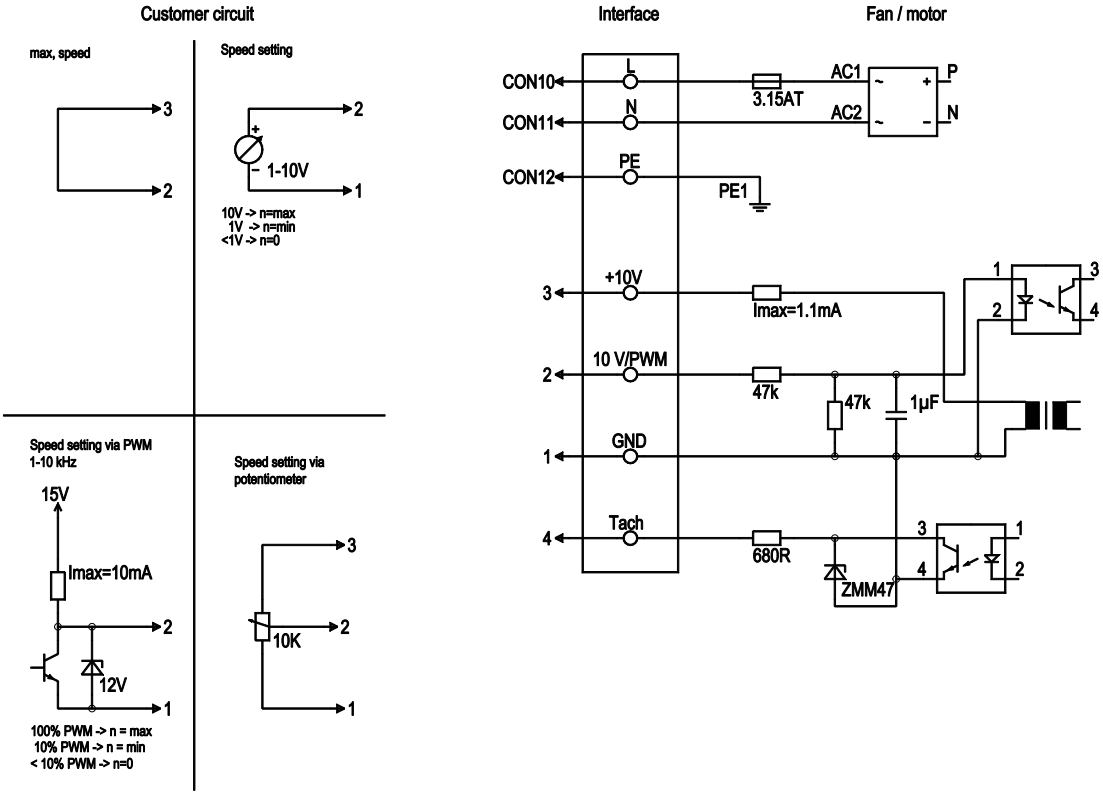
1	Accessory part: Inlet nozzle 09576-2-4013, not included in the standard scope of delivery
2	Connection line PVC 3G AWG20; 3 x brass lead tips crimped
3	Control line PVC 4X AWG22; 4 x brass lead tips crimped
4	Depth of screw max. 5 mm
5	Depth of screw max. 10 mm

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Connection screen



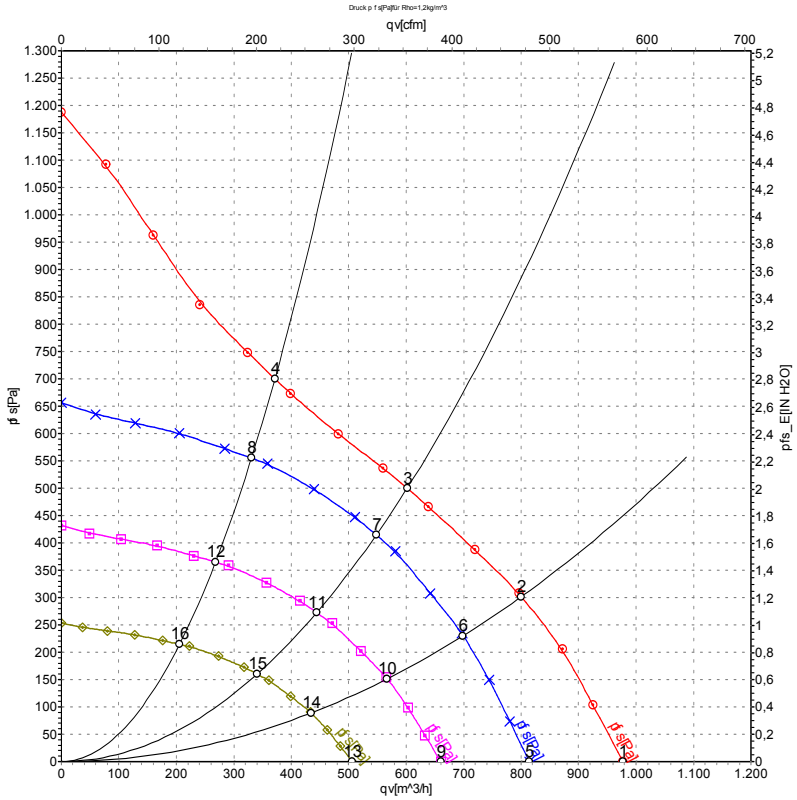
No.	Conn.	Designation	Colour	Function / assignment
	CON10	L	black	Power supply 230 VAC, 50-60 Hz, for voltage range refer to rating plate
	CON11	N	blue	Neutral conductor
	CON12	PE	green/yellow	Protective earth
	1	GND	blue	GND - Connection for control interface
	2	0- 10V PWM	yellow	Control input 0 - 10 V or PWM, electrically isolated
	3	10V/ max 1.1mA	red	Voltage output 10V/ 1.1mA, electrically isolated, not short-circuit-proof.
	4	Tach	white	Tach output: open collector, 1 pulse per revolution, electrically isolated

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Charts: Air flow 50 Hz



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}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	230	50	4440	161	1.35	72	81	975	0
2	230	50	4235	165	1.35	67	75	800	300
3	230	50	4120	169	1.35	63	72	600	500
4	230	50	4150	160	1.35	66	74	370	700
5	230	50	3700	93	0.81	69	77	815	0
6	230	50	3700	110	0.93	64	72	700	233
7	230	50	3700	125	1.06	61	70	550	415
8	230	50	3700	114	0.97	64	72	330	556
9	230	50	3000	50	0.43	64	73	660	0
10	230	50	3000	59	0.50	59	68	565	153
11	230	50	3000	67	0.57	56	65	445	273
12	230	50	3000	61	0.52	59	67	270	365
13	230	50	2300	22	0.19	58	67	505	0
14	230	50	2300	26	0.22	53	62	435	90
15	230	50	2300	30	0.26	51	59	340	160
16	230	50	2300	27	0.23	54	61	205	215

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 · qv = Air flow
p_{fs} = Pressure increase

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