R1G190-RD06-02

EC centrifugal fan - RadiCal

backward curved, single inlet



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

Nominal data

Type	**R1G190-RD06-02**	
Motor	**M1G074-BF**	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Type of data definition		fa
State		prelim.
Speed (rpm)	min^{-1}	4450
Power input	W	155
Current draw	A	4.5
Min. ambient temperature	°C	-40
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 in accordance with ecodesign regulation EU 327/2011

		Actual	Request 2015
01 Overall efficiency η_{es}	%	49.1	43.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		68	62
05 Variable speed drive		Yes	

09 Power input P_e	kW	0.16
09 Air flow q_v	m^3/h	465
09 Pressure increase p_{fs}	Pa	540
10 Speed (rpm) n	min^{-1}	4175
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-165793

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Technical features

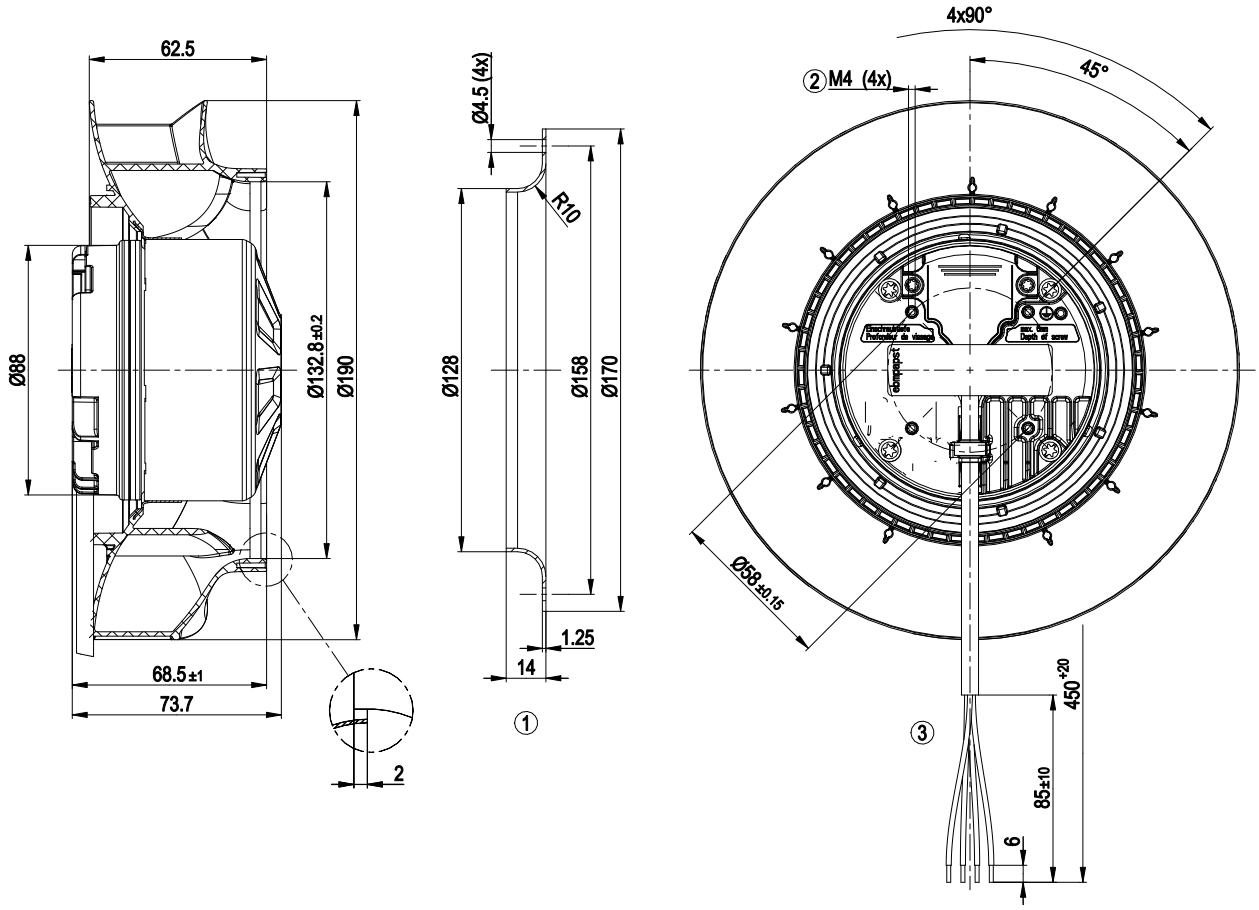
Mass	1.4 kg
Size	190 mm
Motor size	74
Surface of rotor	Galvanised
Material of electronics housing	Die-cast aluminium, coated in black
Material of impeller	PA plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Protection rating	IP 24 KM
Type of protection	(motor); electronics IP 66 / 69 K
Insulation class	"B"
Humidity (F) / environmental protection class (H)	H2+
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)	+70 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Tach output - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Overvoltage detection - Over-temperature protected electronics
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Axial
Approval	EAC; UL 507

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Product drawing



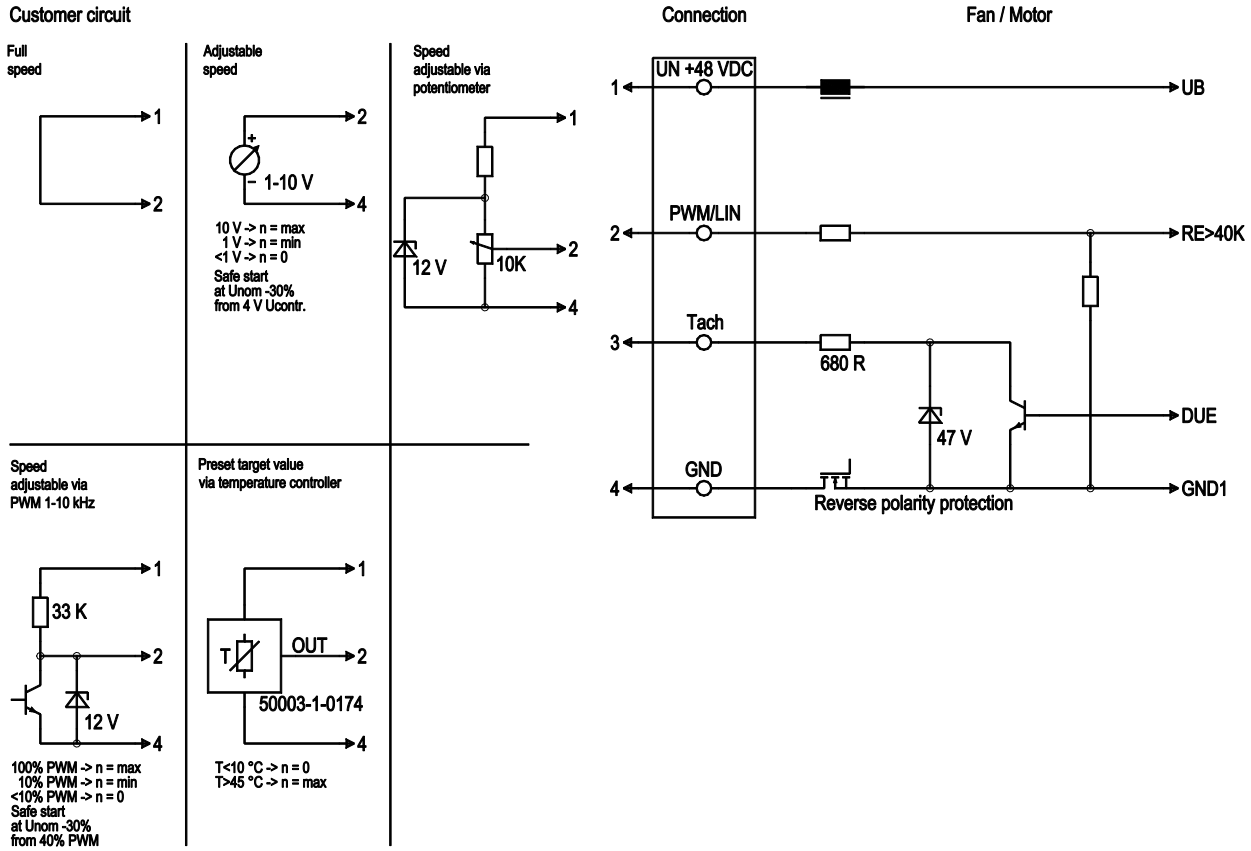
1	Accessory part: Inlet nozzle 09576-2-4013 not included in scope of delivery
2	Thread reach max. 6 mm
3	Connection line PVC 4x AWG18, insulating sleeve, 4x lead tips crimped

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Connection screen



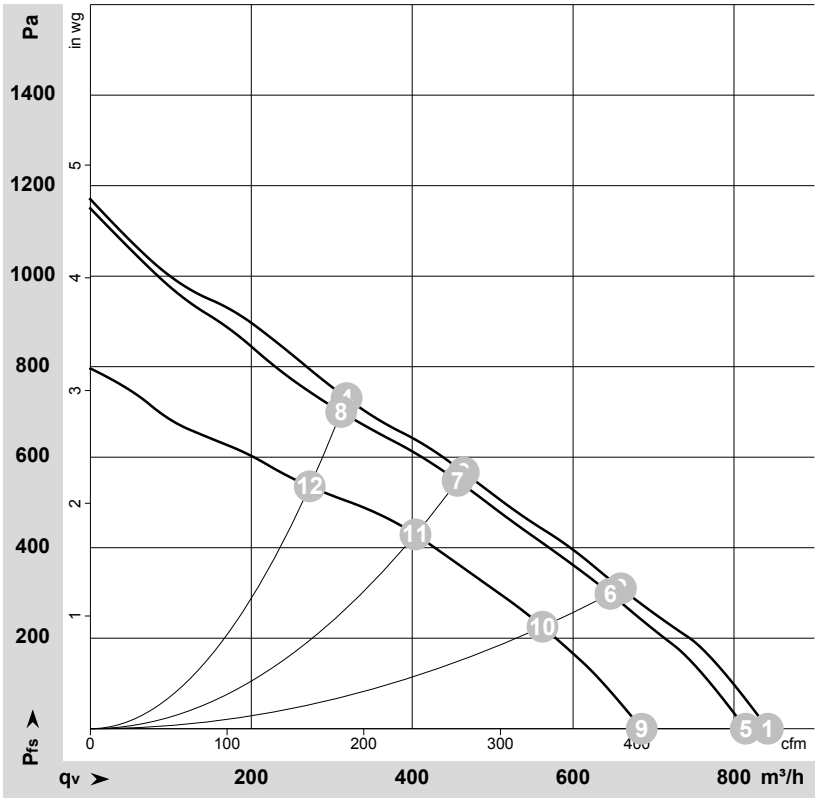
No.	Conn.	Designation	Colour	Function / assignment
1	1	UN +48 VDC	red	Power supply 48 VDC, maximum ripple 3.5 %
1	2	PWM/LIN	yellow	Control input Re > 100 K
1	3	Tach	white	Speed monitoring output, 3 pulses per revolution, Isink max = 10 mA
1	4	GND	blue	Reference earth

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Charts: Air flow



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-166597-1
Measurement: LU-165793-1
Measurement: LU-166596-1

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	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	57	4590	173	4.85			840	0	495	0.00
2	57	4380	169	4.75			660	309	390	1.24
3	57	4265	174	4.71			465	566	275	2.27
4	57	4410	172	4.80			320	730	185	2.93
5	48	4450	155	4.50	76	84	815	0	480	0.00
6	48	4315	158	4.70	70	78	645	300	380	1.20
7	48	4175	162	4.90	68	76	455	550	270	2.21
8	48	4300	159	4.73	71	79	310	700	185	2.81
9	36	3860	99	3.56			685	0	405	0.00
10	36	3780	104	3.75			560	225	330	0.90
11	36	3705	109	3.93			405	430	240	1.73
12	36	3790	104	3.72			275	536	160	2.15

U = Supply voltage · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · q_V = Air flow · p_{fs} = Pressure increase

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