

R1G175-AB63-41

# EC centrifugal fan

backward curved, single inlet



R1G175-AB63-41 ebmpapst Datasheet

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Limited partnership · Headquarters Muldingen  
County court Stuttgart · HRA 590344

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## Nominal data

Type	R1G175-AB63-41	
Motor	M1G055-BD	
Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Type of data definition		fa
Speed	min <sup>-1</sup>	3100
Power input	W	34
Current draw	A	1.6
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



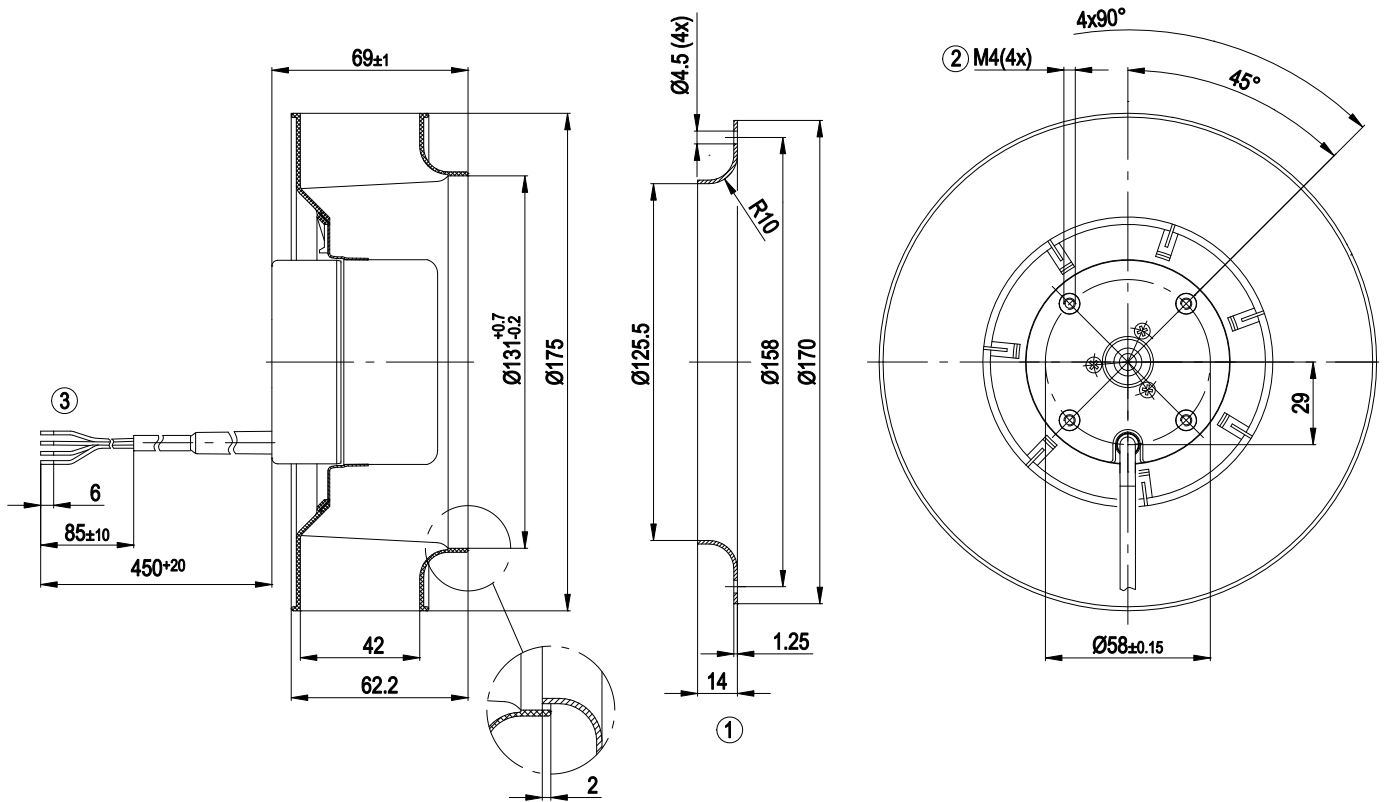
### Technical features

Mass	0.8 kg
Size	175 mm
Surface of rotor	Coated in black
Material of impeller	Plastic PA66, round sheet-metal plate coated in black
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 44
Insulation class	"B"
Humidity class	F4-2
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Any
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	<ul style="list-style-type: none"> <li>- Tach output</li> <li>- Motor current limit</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> </ul>
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Variable
Product conforming to standard	EN 60950-1
Approval	UL 1004-1; CSA C22.2 Nr.77

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## Product drawing



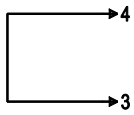
1	Accessory part: Inlet nozzle 09576-2-4013 not included in scope of delivery
2	Thread reach max. 6 mm
3	Connection line PVC AWG20, lead tips bared and tin-plated



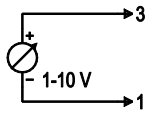
## Connection screen

### Customer circuit

#### Full speed

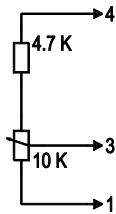


#### Speed setting

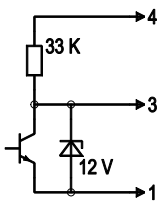


10 V → n = max  
 1 V → n = min  
 <1 V → n = 0  
 Safe start-up at Unom -30 %  
 from 4 V Ucontr.

#### Speed setting with fixed resistance

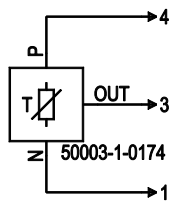


#### Speed setting via PWM 1-10 kHz



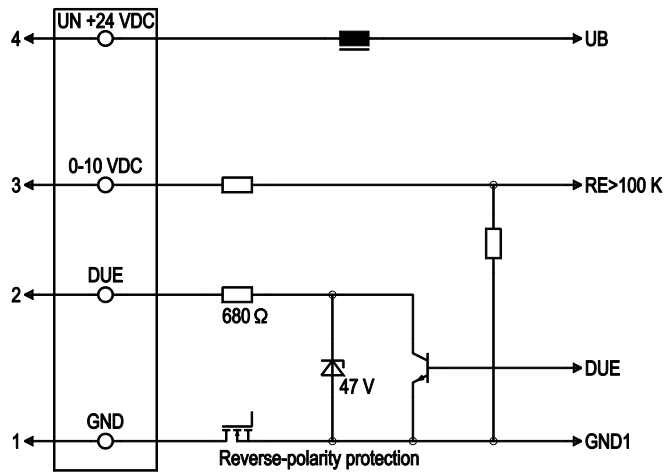
100 % PWM → n = max  
 10 % PWM → n = min  
 <10 % PWM → n = 0  
 Safe start-up at Unom -30 %  
 from 40 % PWM

#### Setting of values via temperature controller



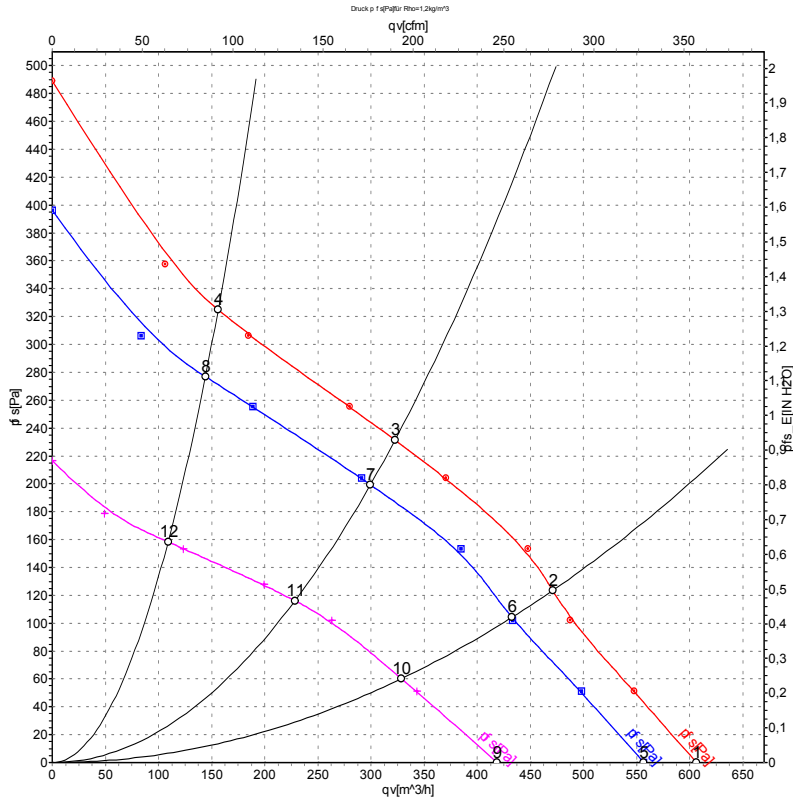
### Connection

### Fan / motor



No.	Conn.	Designation	Colour	Function / assignment
1	1	GND	blue	Reference mass
1	2	Tach	white	Speed monitoring output, 2 pulses per rotation, Isink max = 10 mA
1	3	0-10 VDC	yellow	Control input Re > 100 K
1	4	Un +24 VDC	red	Power supply 24 VDC, residual ripple 3.5 %

## Charts: Air flow



Measurement: LU-44776  
 Measurement: LU-44775  
 Measurement: LU-44777

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebmpapst. 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 <sub>ed</sub>	I	qv	p <sub>fs</sub>
	V	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa
1	28	3375	46	1.83	605	0
2	28	3170	48	1.97	470	123
3	28	3105	49	2.01	325	231
4	28	3255	47	1.91	155	325
5	24	3100	34	1.60	555	0
6	24	2915	39	1.79	435	100
7	24	2885	39	1.82	300	200
8	24	3010	37	1.69	145	275
9	16	2320	16	1.10	420	0
10	16	2225	17	1.21	330	60
11	16	2205	18	1.24	230	116
12	16	2270	16	1.15	110	158

U = Supply voltage · n = Speed · P<sub>ed</sub> = Power input · I = Current draw · qv = Air flow · p<sub>fs</sub> = Pressure increase

