

# EC centrifugal fan

backward-curved, single-intake

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## Nominal data

Type	R1G175-AB63-02	
Motor	M1G055-BD	
Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Method of obtaining data		fa
Speed (rpm)	min <sup>-1</sup>	3100
Power consumption	W	34
Current draw	A	1.6
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

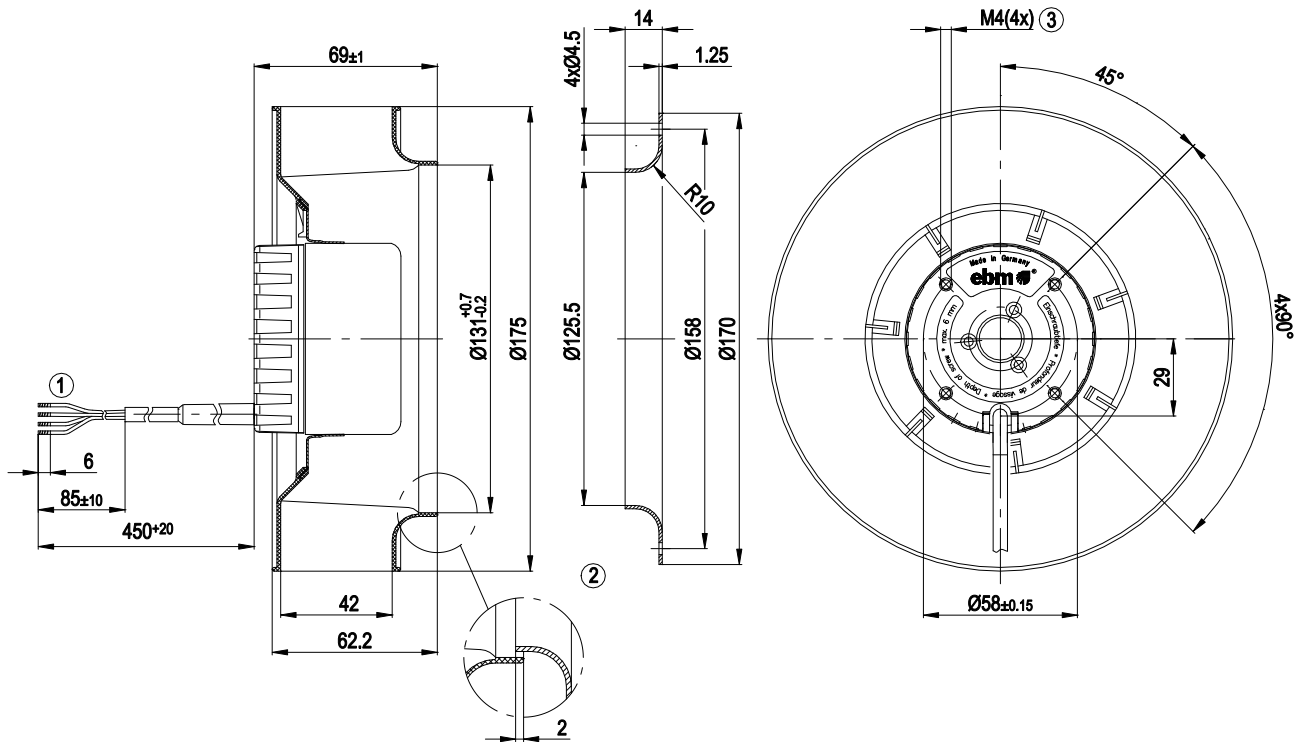
ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment  
Subject to change



### Technical description

<b>Weight</b>	0.74 kg
<b>Fan size</b>	175 mm
<b>Rotor surface</b>	Thick-film passivated
<b>Impeller material</b>	PA 6.6 plastic, glass-fiber reinforced
<b>Number of blades</b>	7
<b>Direction of rotation</b>	Clockwise, viewed toward rotor
<b>Degree of protection</b>	IP20
<b>Insulation class</b>	"B"
<b>Moisture (F) / Environmental (H) protection class</b>	F0
<b>Max. permitted ambient temp. for motor (transport/storage)</b>	+80 °C
<b>Min. permitted ambient temp. for motor (transport/storage)</b>	-40 °C
<b>Installation position</b>	Any
<b>Condensation drainage holes</b>	None
<b>Mode</b>	S1
<b>Motor bearing</b>	Ball bearing
<b>Technical features</b>	<ul style="list-style-type: none"> <li>- Tach output</li> <li>- Motor current limitation</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> </ul>
<b>EMC immunity to interference</b>	According to EN 61000-6-2
<b>EMC interference emission</b>	According to EN 61000-6-3
<b>Motor protection</b>	Reverse polarity and locked-rotor protection
<b>With cable</b>	Variable
<b>Conformity with standards</b>	EN 60950-1
<b>Approval</b>	CSA C22.2 No. 77; EAC; UL 1004-1

## Product drawing

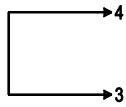


- |   |   |
|---|---|
| 1 | Cable AWG20, 4x crimped splices   |
| 2 | Accessory part: inlet ring 09576-2-4013 not included in scope of delivery |
| 3 | Max. clearance for screw 6 mm   |

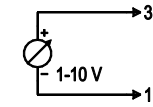
## Connection diagram

### Customer circuit

Full speed

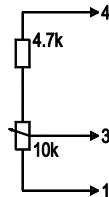


Adjustable speed

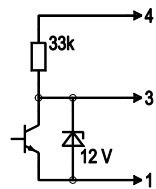


10 V → n = max  
1 V → n = min  
< 1 V → n = 0  
Safe start at Unom -30% from 4 V Ucontr.

Speed adjustable with fixed resistor

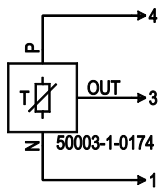


Speed adjustable via PWM 1-10 kHz



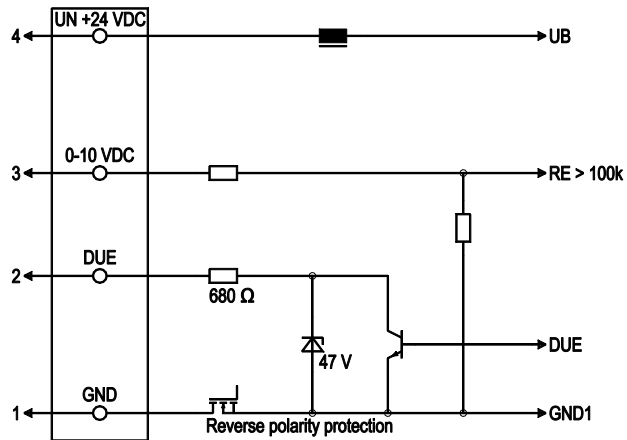
100% PWM → n = max  
10% PWM → n = min  
< 10% PWM → n = 0  
Safe start at Unom -30% from 40% PWM

Set value requirement via temperature controller



### Connection

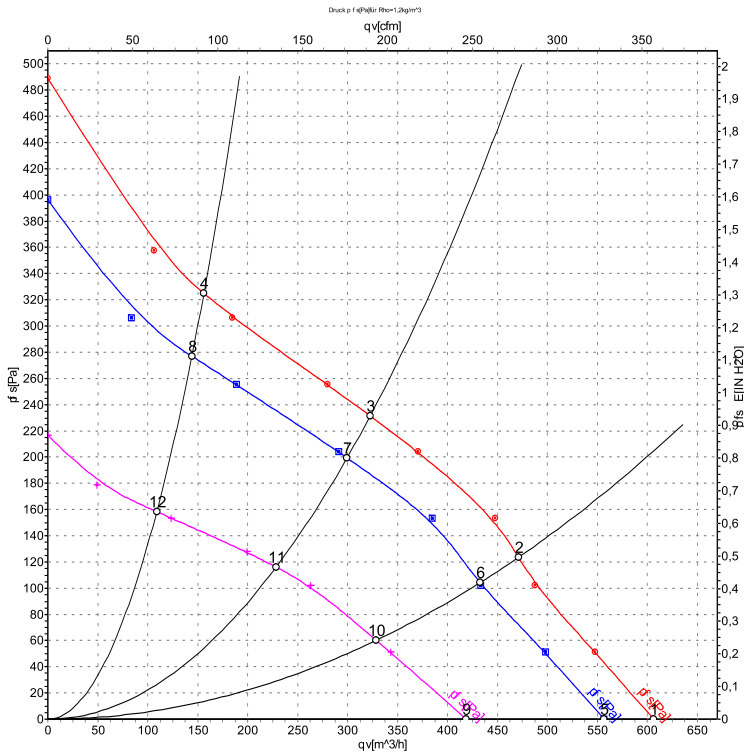
### Fan / Motor



No.	Conn.	Designation	Color	Function/assignment
1	1	GND	blue	Reference ground
1	2	Tach	white	Tach output, 2 pulses per revolution, Isink max = 10 mA
1	3	0-10 VDC	yellow	Control input Re > 100k
1	4	Un +24 VDC	red	Power supply 24 VDC, maximum ripple 3.5%



## Curves: Air performance



Measurement: LU-44776-1  
 Measurement: LU-44775-1  
 Measurement: LU-44777-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

## Measured values

	U	n	P <sub>ed</sub>	I	qv	p <sub>fs</sub>	qv	p <sub>fs</sub>
	V	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa	CFM	inH <sub>2</sub> O
1	28	3375	46	1.83	605	0	355	0.00
2	28	3170	48	1.97	470	123	275	0.49
3	28	3105	49	2.01	325	231	190	0.93
4	28	3255	47	1.91	155	325	90	1.30
5	24	3100	34	1.60	555	0	330	0.00
6	24	2915	39	1.79	435	100	255	0.40
7	24	2885	39	1.82	300	200	175	0.80
8	24	3010	37	1.69	145	275	85	1.10
9	16	2320	16	1.10	420	0	245	0.00
10	16	2225	17	1.21	330	60	195	0.24
11	16	2205	18	1.24	230	116	135	0.47
12	16	2270	16	1.15	110	158	65	0.63

U = Power supply · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · qv = Air flow · p<sub>fs</sub> = Pressure increase



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