

R3G310-AN43-71

# EC centrifugal fan

backward-curved, single-intake



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## Nominal data

Type	R3G310-AN43-71	
Motor	M3G084-FA	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min <sup>-1</sup>	2435
Power consumption	W	470
Current draw	A	3.0
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	45

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

## Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency $\eta_{es}$	%	60.6	48
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		74.6	62
05 Variable speed drive		Yes	

Data obtained at optimum efficiency level.

The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

09 Power consumption $P_{ed}$	kW	0.46
09 Air flow $q_v$	m <sup>3</sup> /h	1810
09 Pressure increase $p_{fs}$	Pa	507
10 Speed (rpm) $n$	min <sup>-1</sup>	2455
11 Specific ratio*		1.01

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

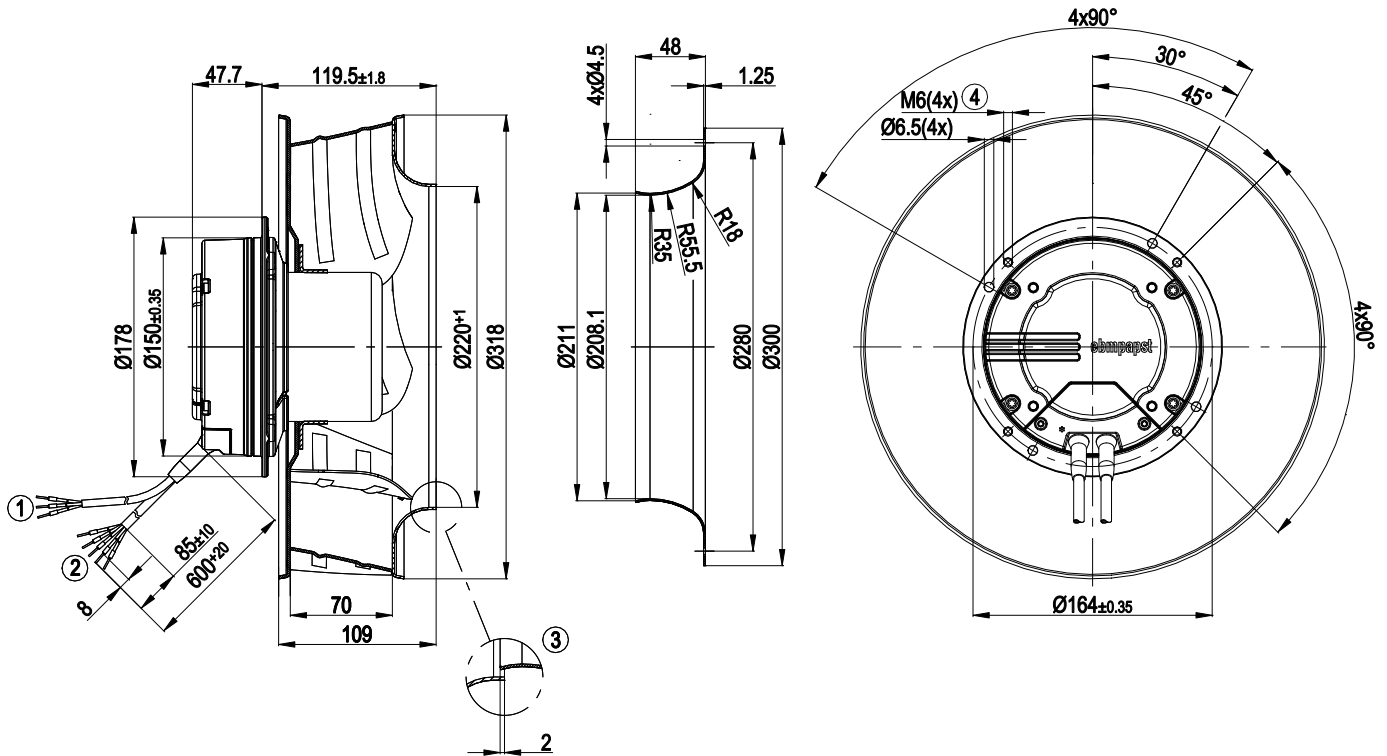
LU-112311



## Technical description

<b>Weight</b>	4.56 kg
<b>Fan size</b>	310 mm
<b>Rotor surface</b>	Painted black
<b>Electronics housing material</b>	Die-cast aluminum
<b>Impeller material</b>	Sheet aluminum
<b>Number of blades</b>	6
<b>Direction of rotation</b>	Clockwise, viewed toward rotor
<b>Degree of protection</b>	IP54
<b>Insulation class</b>	"B"
<b>Moisture (F) / Environmental (H) protection class</b>	F3-1
<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>	Shaft horizontal or rotor on top; rotor on bottom on request
<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>- Output 10 VDC, max. 1.1 mA</li> <li>- Alarm relay</li> <li>- Motor current limitation</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Control interface with SELV potential safely disconnected from supply</li> <li>- Thermal overload protection for electronics/motor</li> <li>- Line undervoltage detection</li> </ul>
<b>EMC immunity to interference</b>	According to EN 61000-6-2 (industrial environment)
<b>EMC circuit feedback</b>	According to EN 61000-3-2/3
<b>EMC interference emission</b>	According to EN 61000-6-3 (household environment)
<b>Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)</b>	<= 3.5 mA
<b>Motor protection</b>	Thermal overload protector (TOP) internally connected
<b>With cable</b>	Variable
<b>Protection class</b>	I (with customer connection of protective earth)
<b>Conformity with standards</b>	EN 61800-5-1; CE
<b>Approval</b>	CCC; EAC; UL 2111; CSA C22.2 No. 77

Product drawing

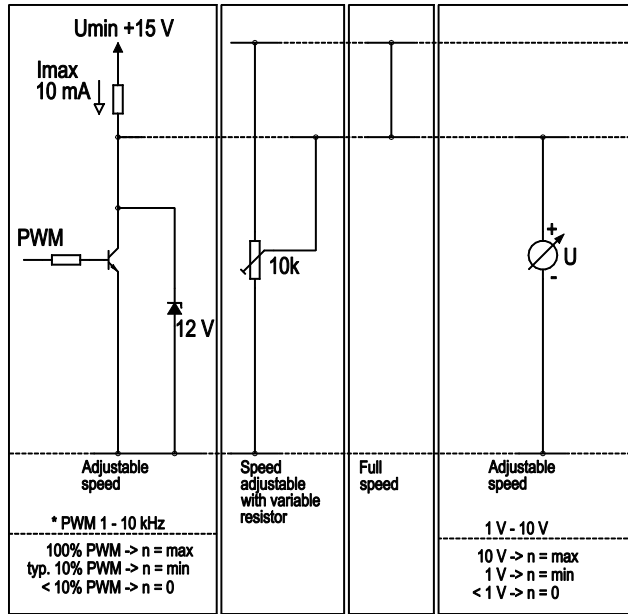


1	Cable PVC AWG22, 3x crimped ferrules
2	Cable PVC AWG18, 5x crimped ferrules
3	Accessory part: inlet ring 31050-2-4013 not included in scope of delivery
4	Clearance for screw 8-10 mm

## Connection diagram

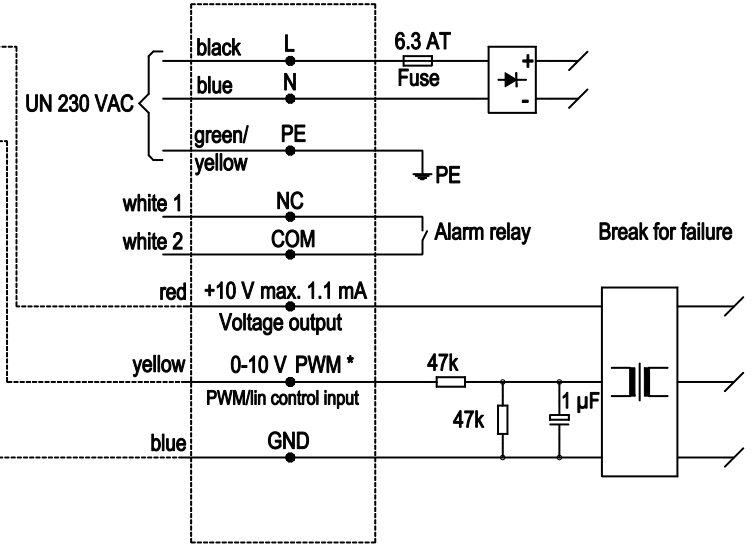
Customer circuit

Application notes for various control options

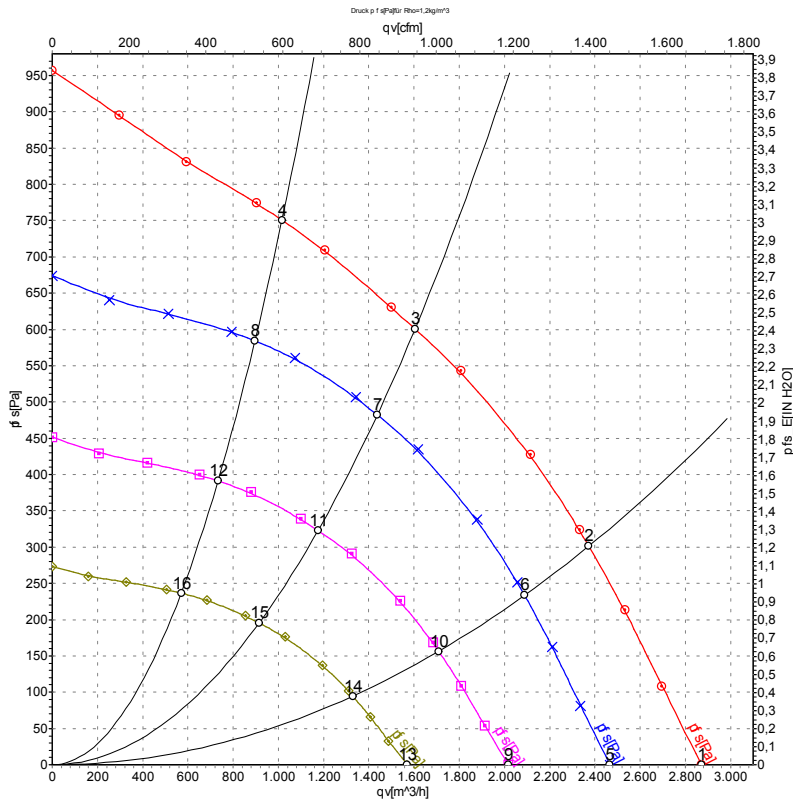


Connection

Fan / Motor



## Curves: Air performance 50 Hz



Measurement: LU-112311-1

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	f	n	P <sub>ed</sub>	I	qv	p <sub>fs</sub>	qv	p <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa	CFM	inH2O
1	230	50	2560	356	2.31	2870	0	1690	0.00
2	230	50	2500	432	2.79	2375	300	1395	1.20
3	230	50	2435	470	3.00	1605	600	945	2.41
4	230	50	2495	437	2.84	1015	750	600	3.01
5	230	50	2200	226	1.46	2465	0	1450	0.00
6	230	50	2200	295	1.91	2090	234	1230	0.94
7	230	50	2200	336	2.18	1440	482	845	1.94
8	230	50	2200	301	1.95	895	584	525	2.34
9	230	50	1800	124	0.80	2020	0	1190	0.00
10	230	50	1800	162	1.04	1710	157	1005	0.63
11	230	50	1800	184	1.19	1175	323	690	1.30
12	230	50	1800	165	1.07	735	391	430	1.57
13	230	50	1400	58	0.38	1570	0	925	0.00
14	230	50	1400	76	0.49	1330	95	780	0.38
15	230	50	1400	87	0.56	915	195	540	0.78
16	230	50	1400	77	0.50	570	237	335	0.95

U = Power supply · f = Frequency · 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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