

R3G310-AN43-71

# EC centrifugal fan

backward curved, single inlet



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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
Type of data definition		ml
Speed	min <sup>-1</sup>	2435
Power input	W	470
Current draw	A	3.0
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	45

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

	Actual	Request 2013	Request 2015
Overall efficiency $\eta_{es}$	60.6	44	48
Efficiency grade N	74.6	58	62
Power input $P_{ed}$	kW	0.46	
Air flow $q_v$	m <sup>3</sup> /h	1810	
Pressure increase $p_{fs}$	Pa	507	
Speed n	min <sup>-1</sup>	2455	

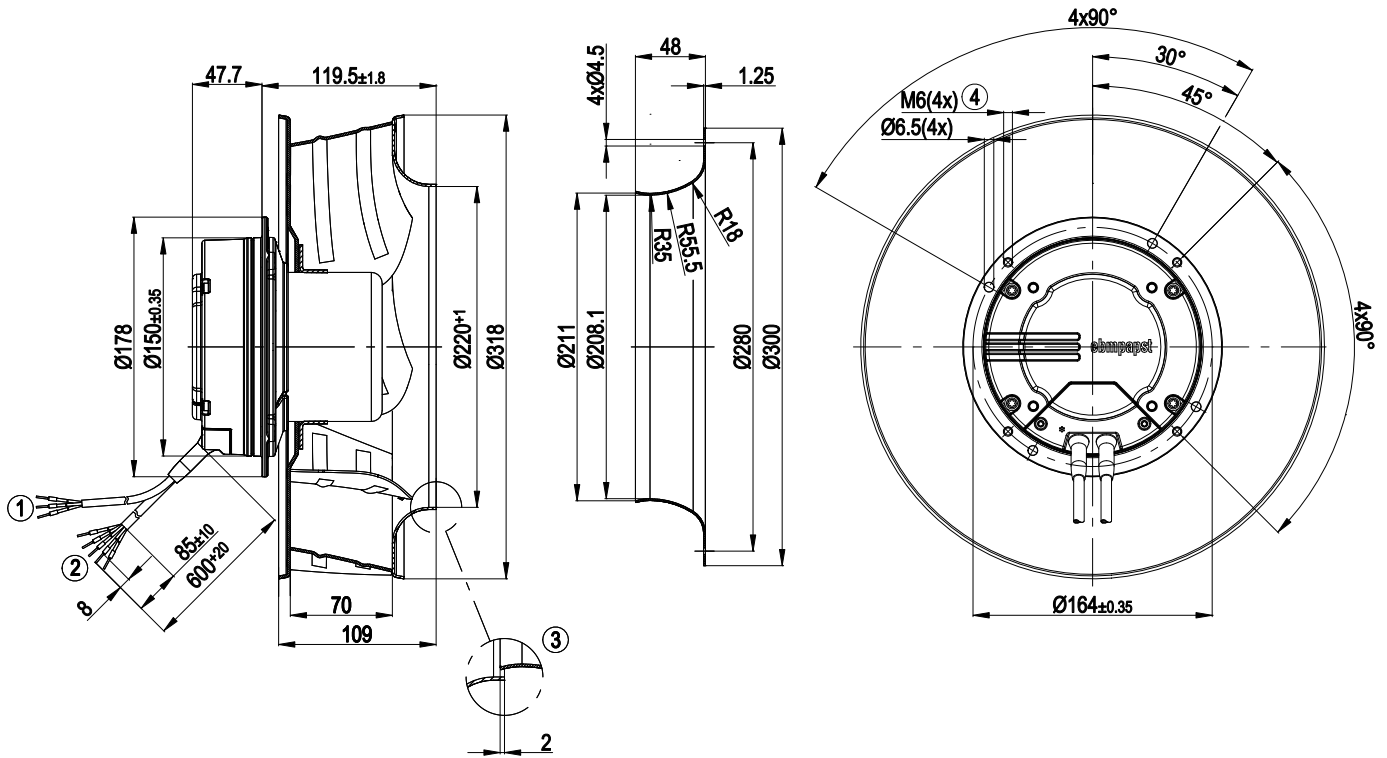
Data established at point of optimum efficiency



## Technical features

<b>Mass</b>	4.56 kg
<b>Size</b>	310 mm
<b>Surface of rotor</b>	Coated in black
<b>Material of electronics housing</b>	Die-cast aluminium
<b>Material of impeller</b>	Aluminium sheet
<b>Number of blades</b>	6
<b>Direction of rotation</b>	Clockwise, seen on rotor
<b>Type of protection</b>	IP 54
<b>Insulation class</b>	"B"
<b>Humidity class</b>	F3-1
<b>Max. permissible ambient motor temp. (transp./ storage)</b>	+80 °C
<b>Min. permissible ambient motor temp. (transp./storage)</b>	-40 °C
<b>Mounting position</b>	Shaft horizontal or rotor on top; rotor on bottom on request
<b>Condensate discharge holes</b>	None
<b>Operation 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 limit</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Control interface with SELV potential safely disconnected from the mains</li> <li>- Over-temperature protected electronics / motor</li> <li>- Line undervoltage detection</li> </ul>
<b>EMC interference immunity</b>	Acc. to EN 61000-6-2 (industrial environment)
<b>EMC harmonics</b>	Acc. to EN 61000-3-2/3
<b>EMC interference emission</b>	Acc. to EN 61000-6-3 (household environment)
<b>Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)</b>	<= 3.5 mA
<b>Motor protection</b>	Thermal overload protector (TOP) wired internally
<b>Cable exit</b>	Variable
<b>Protection class</b>	I (if protective earth is connected by customer)
<b>Product conforming to standard</b>	EN 61800-5-1; CE
<b>Approval</b>	UL 2111; CCC; CSA C22.2 Nr.77

Product drawing



1	Connection line PVC AWG22, 3x crimped core-end sleeves
2	Connection line PVC AWG18, 5x crimped core-end sleeves
3	Accessory part: Inlet nozzle 31050-2-4013, not included in the standard scope of delivery
4	Depth of screw 8 - 10 mm

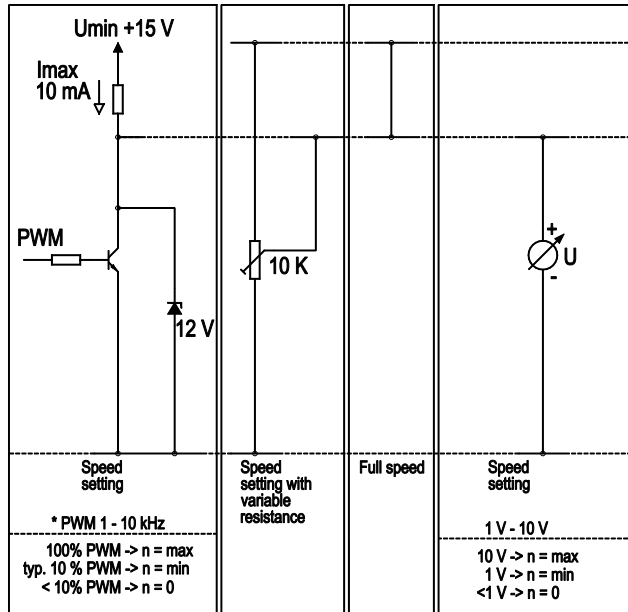
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## Connection screen

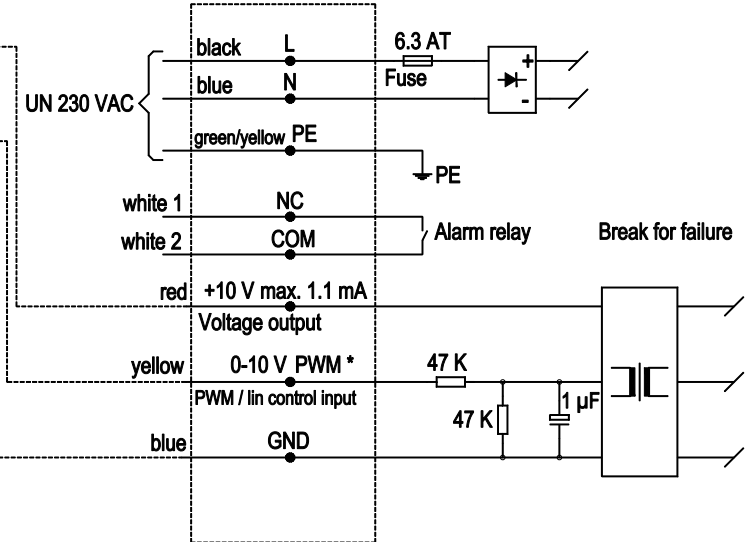
### Customer circuit

Notes on various control possibilities and their applications

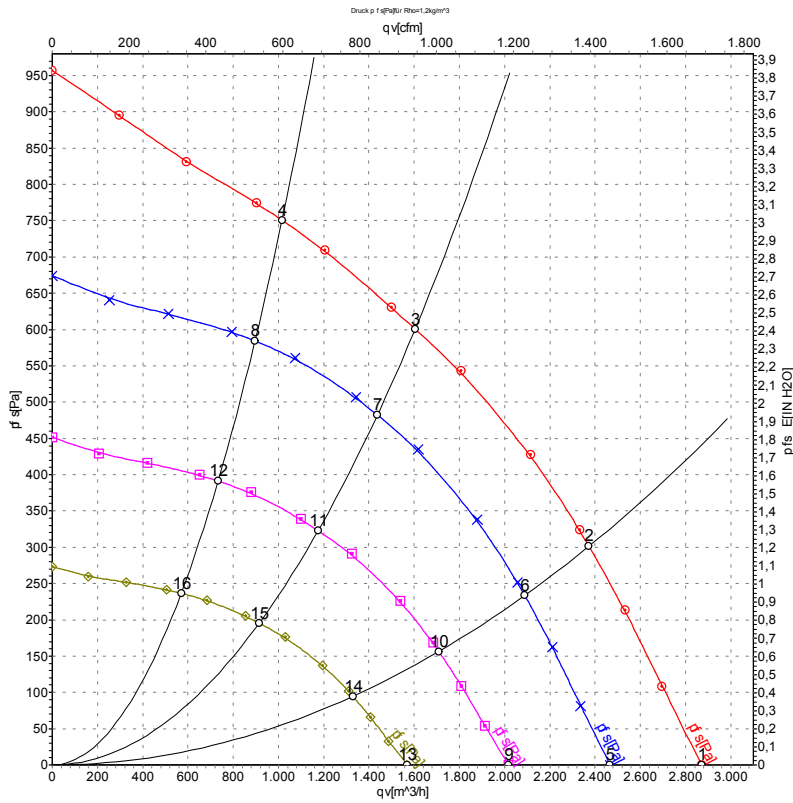


### Connection

### Fan / motor



## Charts: Air flow 50 Hz



Measurement: LU-112311

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 <sub>ed</sub>	I	qv	P <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	m <sup>3</sup> /h	Pa
1	230	50	2560	356	2.31	2870	0
2	230	50	2500	432	2.79	2375	300
3	230	50	2435	470	3.00	1605	600
4	230	50	2495	437	2.84	1015	750
5	230	50	2200	226	1.46	2465	0
6	230	50	2200	295	1.91	2090	234
7	230	50	2200	336	2.18	1440	482
8	230	50	2200	301	1.95	895	584
9	230	50	1800	124	0.80	2020	0
10	230	50	1800	162	1.04	1710	157
11	230	50	1800	184	1.19	1175	323
12	230	50	1800	165	1.07	735	391
13	230	50	1400	58	0.38	1570	0
14	230	50	1400	76	0.49	1330	95
15	230	50	1400	87	0.56	915	195
16	230	50	1400	77	0.50	570	237

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

