R3G310-AL47-71

EC centrifugal fan

backward curved, single inlet



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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G310-AL47-71**	
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^{-1}	2160
Power input	W	450
Current draw	A	2.9
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*	1.00

* Specific ratio = 1 + p_{fs} / 100 000 Pa

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	58.9	43.9	47.9
Efficiency grade N		73	58	62
Power input P_{ed}	kW	0.45		
Air flow q_v	m^3/h	2105		
Pressure increase p_{fs}	Pa	409		
Speed n	min^{-1}	2160		

Data definition with optimum efficiency. LU-135169
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

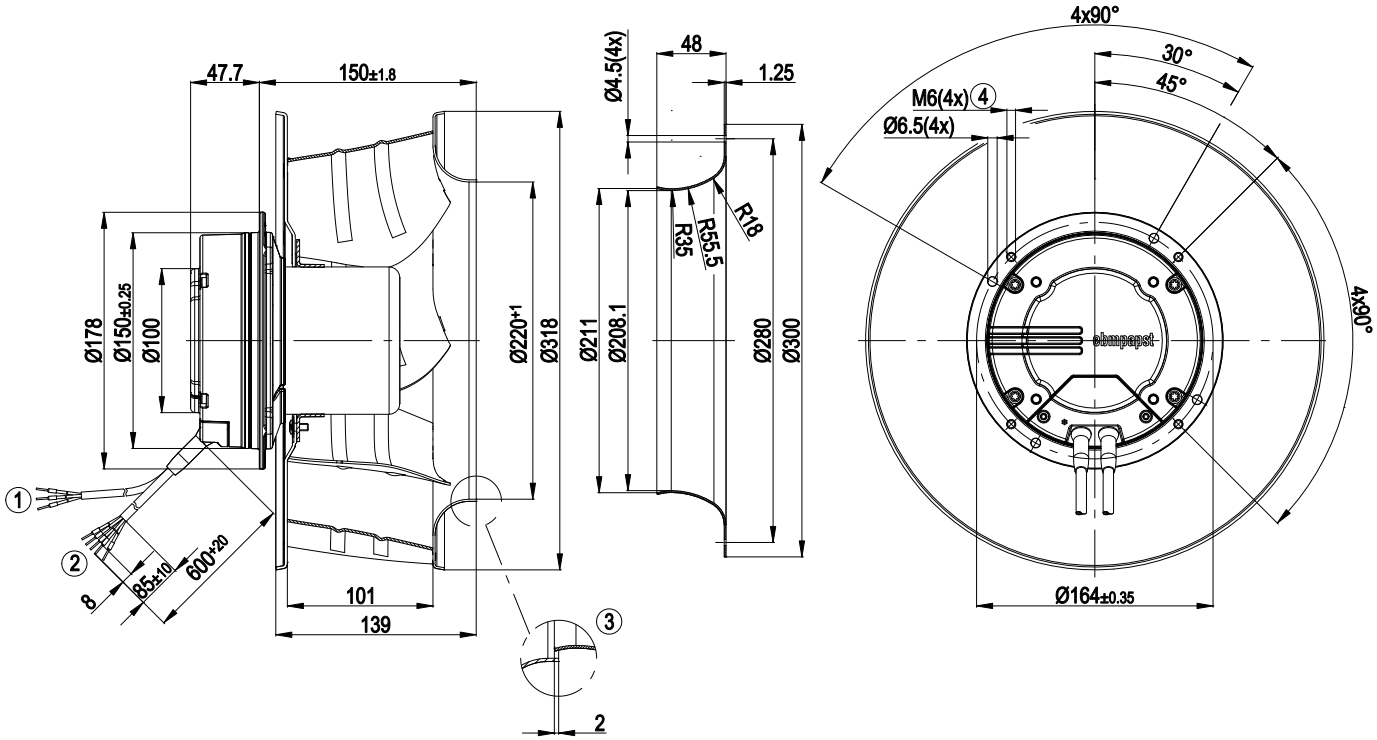
Mass	5.32 kg
Size	310 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity class	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on top; rotor on bottom on request
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Alarm relay - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC harmonics	Acc. to EN 61000-3-2/3
EMC interference emission	Acc. to EN 61000-6-3 (household environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	CCC; CSA C22.2 Nr.77; EAC; UL 2111

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Product drawing



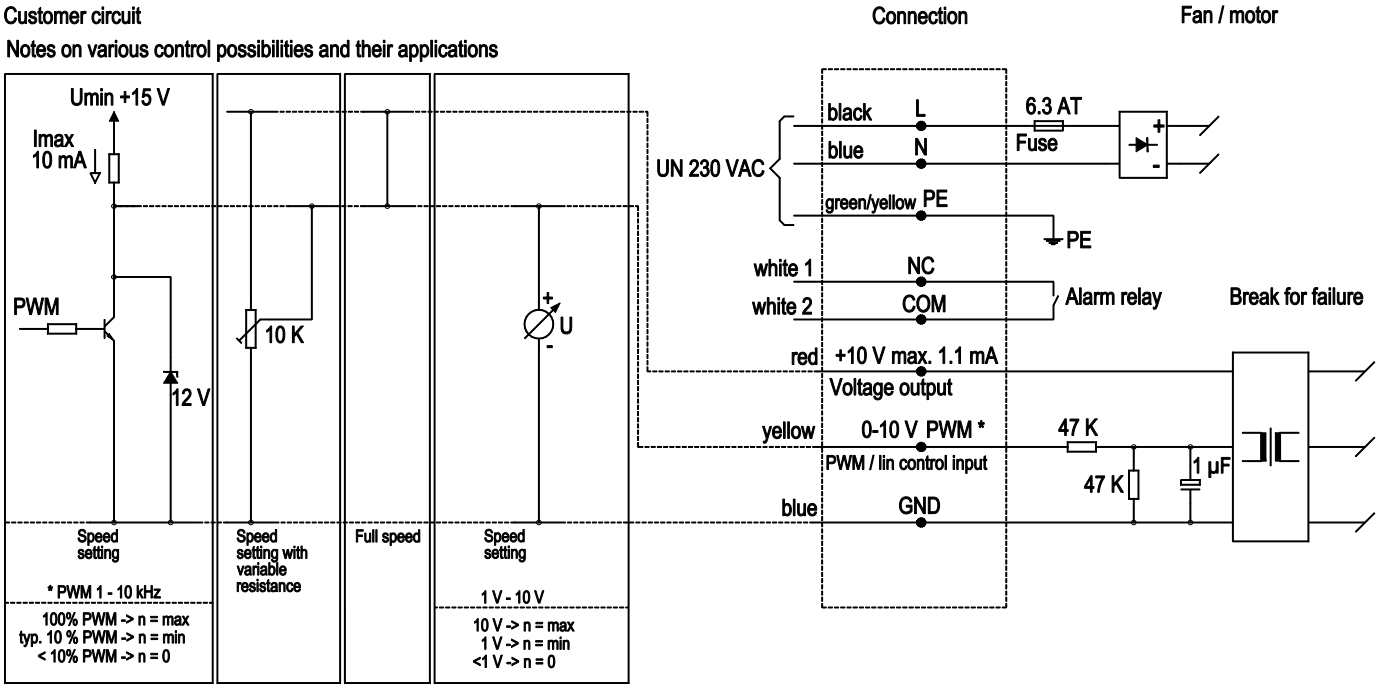
1	Connection line PVC AWG22, 3x crimped core-end sleeves
2	Connection line PVC AWG18, 5x crimped core-end sleeves
3	Accessory part: Inlet nozzle 31050-2-4013, not included in the standard scope of delivery
4	Depth of screw 8 - 10 mm

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Connection screen

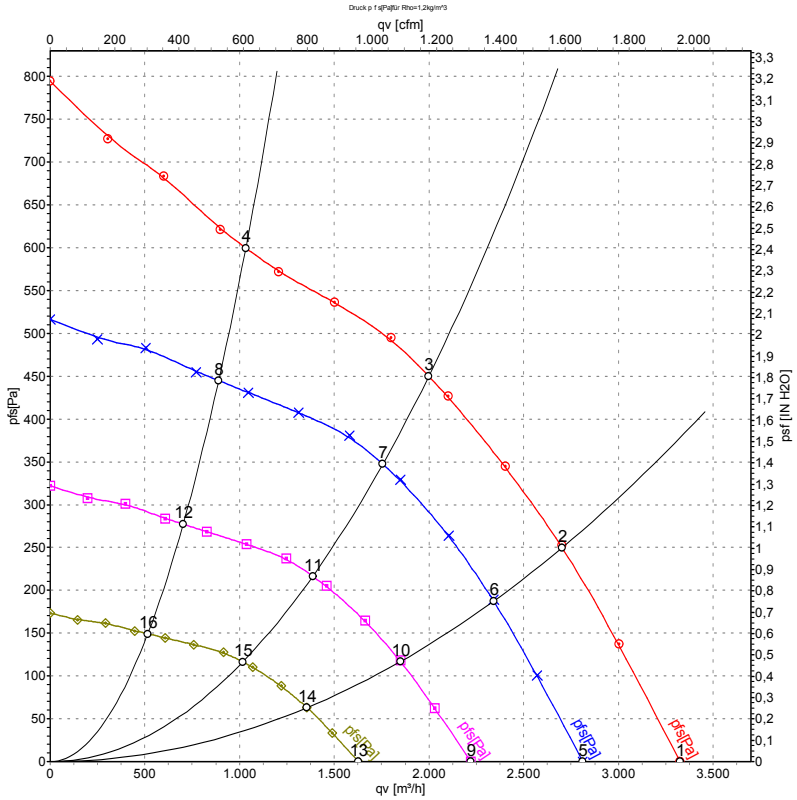


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Charts: Air flow 50 Hz



Measurement: LU-135169

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_{ed}	I	LpA_{in}	LwA_{in}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	230	50	2245	338	2.21	74	82	3325	0
2	230	50	2195	408	2.67	68	76	2705	250
3	230	50	2160	450	2.90	65	74	2000	450
4	230	50	2205	400	2.64	70	78	1030	600
5	230	50	1900	204	1.33	70	78	2810	0
6	230	50	1900	265	1.73	64	73	2340	189
7	230	50	1900	305	2.00	62	70	1755	348
8	230	50	1900	256	1.69	66	75	890	445
9	230	50	1500	101	0.66	64	72	2220	0
10	230	50	1500	130	0.85	58	67	1850	118
11	230	50	1500	150	0.98	56	65	1385	217
12	230	50	1500	126	0.83	60	69	700	277
13	230	50	1100	40	0.26	56	64	1630	0
14	230	50	1100	51	0.34	51	59	1355	64
15	230	50	1100	59	0.39	48	57	1015	116
16	230	50	1100	50	0.33	52	61	515	149

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

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