R3G310-AI01-81

EC centrifugal fan

backward-curved, single-intake

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Nominal data

Type	**R3G310-AI01-81**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	115
Nominal voltage range	VAC	100 .. 130
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	1965
Power consumption	W	350
Current draw	A	4.0
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

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	59.6	46.7
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		74.9	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.34
09 Air flow q_v	m^3/h	1755
09 Pressure increase p_{fs}	Pa	382
10 Speed (rpm) n	min^{-1}	1965
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-77257

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.

The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

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Technical description

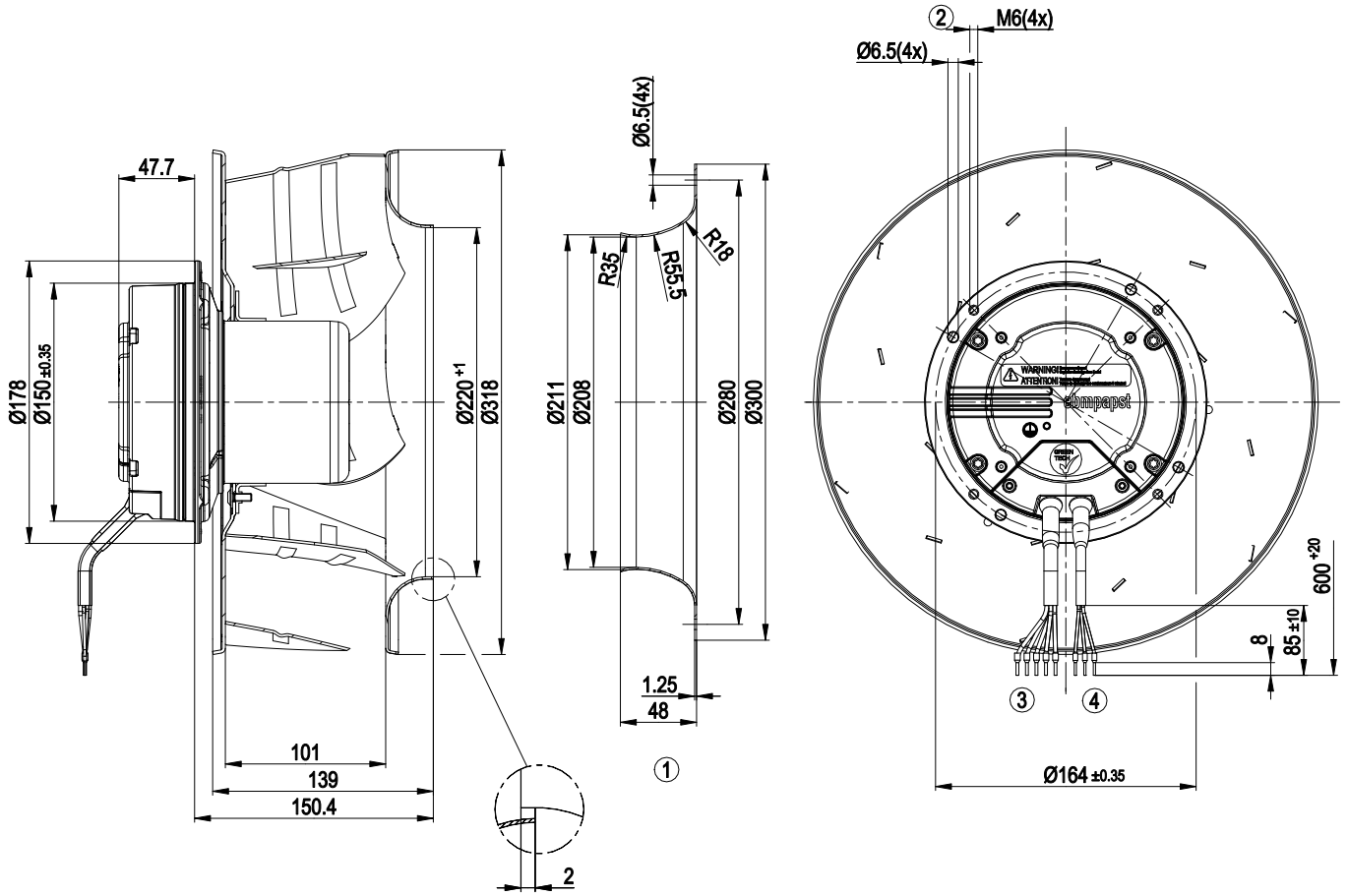
Weight	4.8 kg
Size	310 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Alarm relay - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from supply - Thermal overload protection for electronics/motor - Line undervoltage detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	UL 1004-3 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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Product drawing



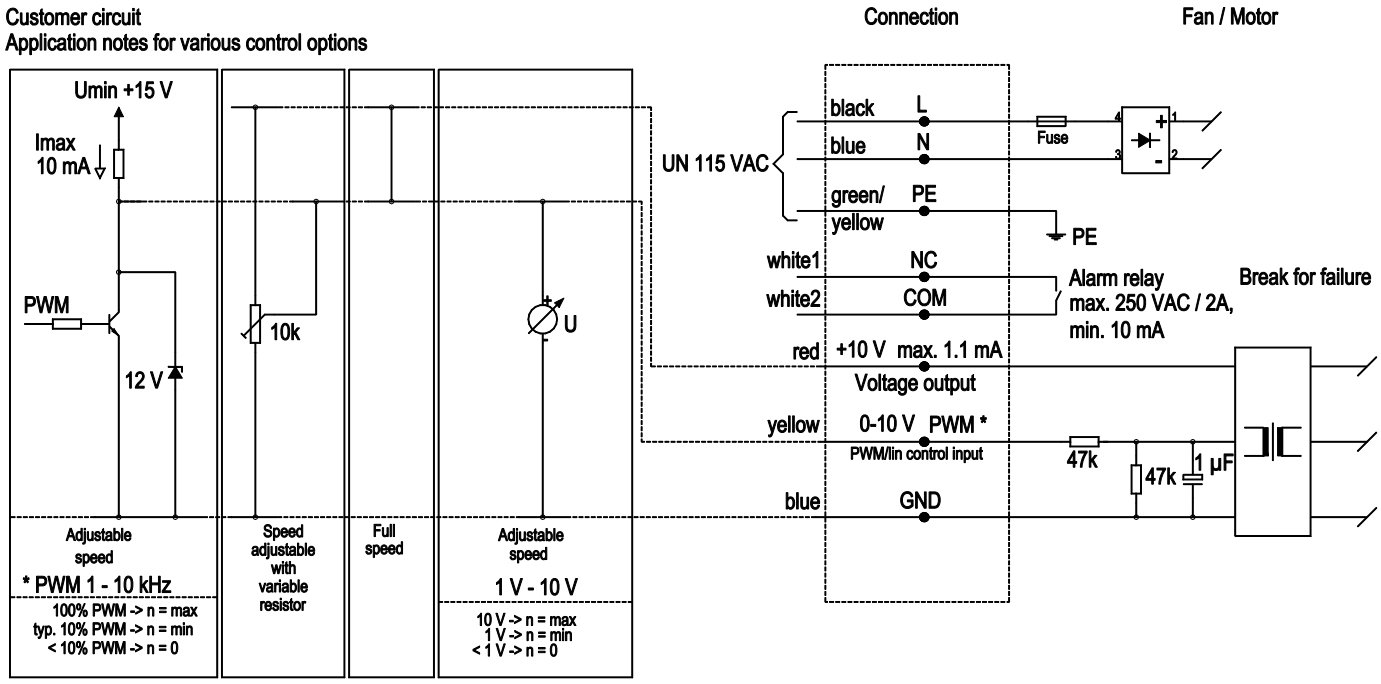
1	Accessory part: inlet ring 31050-2-4013 not included in scope of delivery
2	Clearance for screw 8-10 mm
3	Cable AWG18, 5x crimped ferrules
4	Cable AWG22, 3x crimped ferrules

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Connection diagram

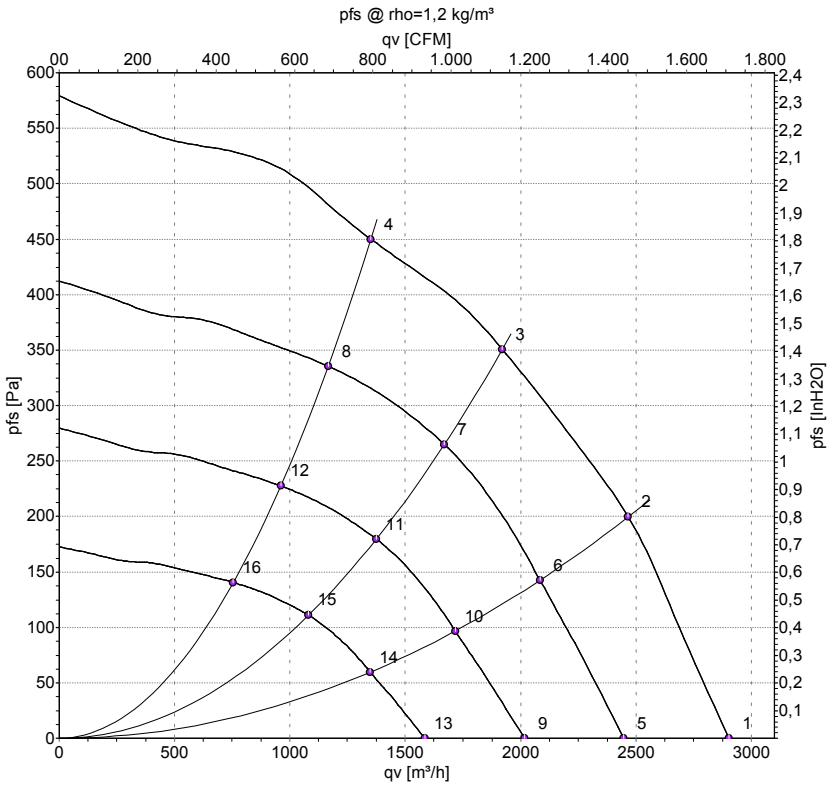


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Curves: Air performance 50 Hz



Measurement: LU-77257-1

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_{ed}	I	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	115	50	2000	231	2.75	2905	0	1710	0.00
2	115	50	2000	322	3.73	2465	200	1450	0.80
3	115	50	1965	350	4.00	1920	350	1130	1.41
4	115	50	1970	327	3.79	1350	450	795	1.81
5	115	50	1700	139	1.65	2450	0	1440	0.00
6	115	50	1700	192	2.23	2085	142	1225	0.57
7	115	50	1700	224	2.59	1670	265	980	1.06
8	115	50	1700	211	2.44	1165	335	685	1.34
9	115	50	1400	77	0.92	2015	0	1185	0.00
10	115	50	1400	108	1.24	1715	97	1010	0.39
11	115	50	1400	125	1.44	1375	180	810	0.72
12	115	50	1400	118	1.36	960	227	565	0.91
13	115	50	1100	38	0.45	1585	0	930	0.00
14	115	50	1100	52	0.60	1350	60	795	0.24
15	115	50	1100	61	0.70	1080	111	635	0.45
16	115	50	1100	57	0.66	755	140	445	0.56

U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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