R3G280-AF35-74

EC centrifugal fan

backward-curved, single-intake

R3G280-AF35-74 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G280-AF35-74**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2600
Power consumption	W	455
Current draw	A	2.8
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

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 η_{es}	%	49.2	48.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		63	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.48
09 Air flow q_v	m^3/h	1610
09 Pressure increase p_{fs}	Pa	484
10 Speed (rpm) n	min^{-1}	2595
11 Specific ratio*		1.01

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-144378

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Technical description

Weight	5 kg
Fan size	280 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet steel, galvanized
Number of blades	11
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F3-1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Cooling hole/opening	On rotor side
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 the mains - 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 61000-6-3 (household 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	CSA C22.2 No. 77; UL 2111

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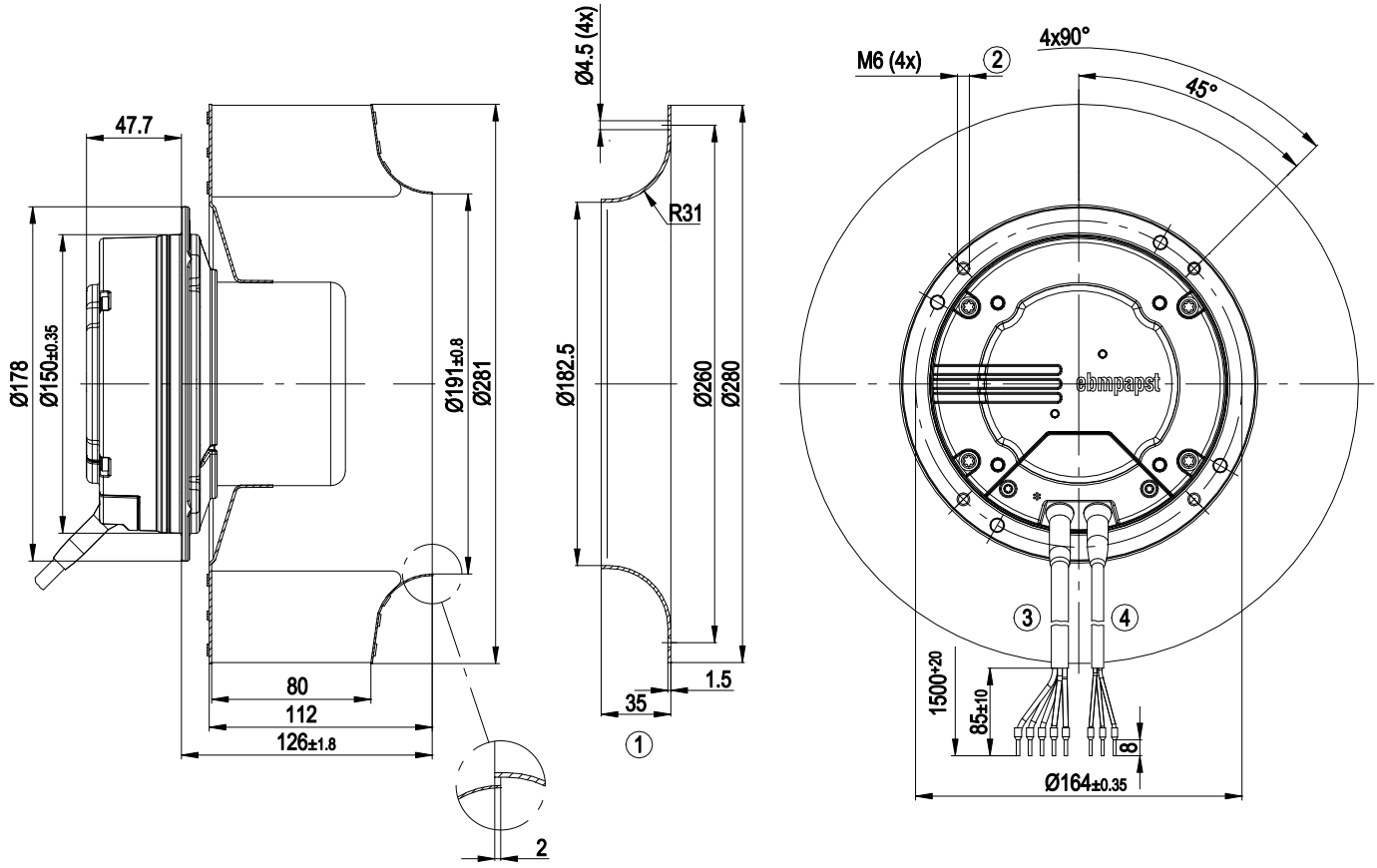
Product drawing



1	Accessory part: inlet ring 96360-2-4013 not included in scope of delivery
2	Max. clearance for screw 10 mm
3	Cable PVC AWG18, 5x crimped ferrules
4	Cable PVC AWG22, 3x crimped ferrules

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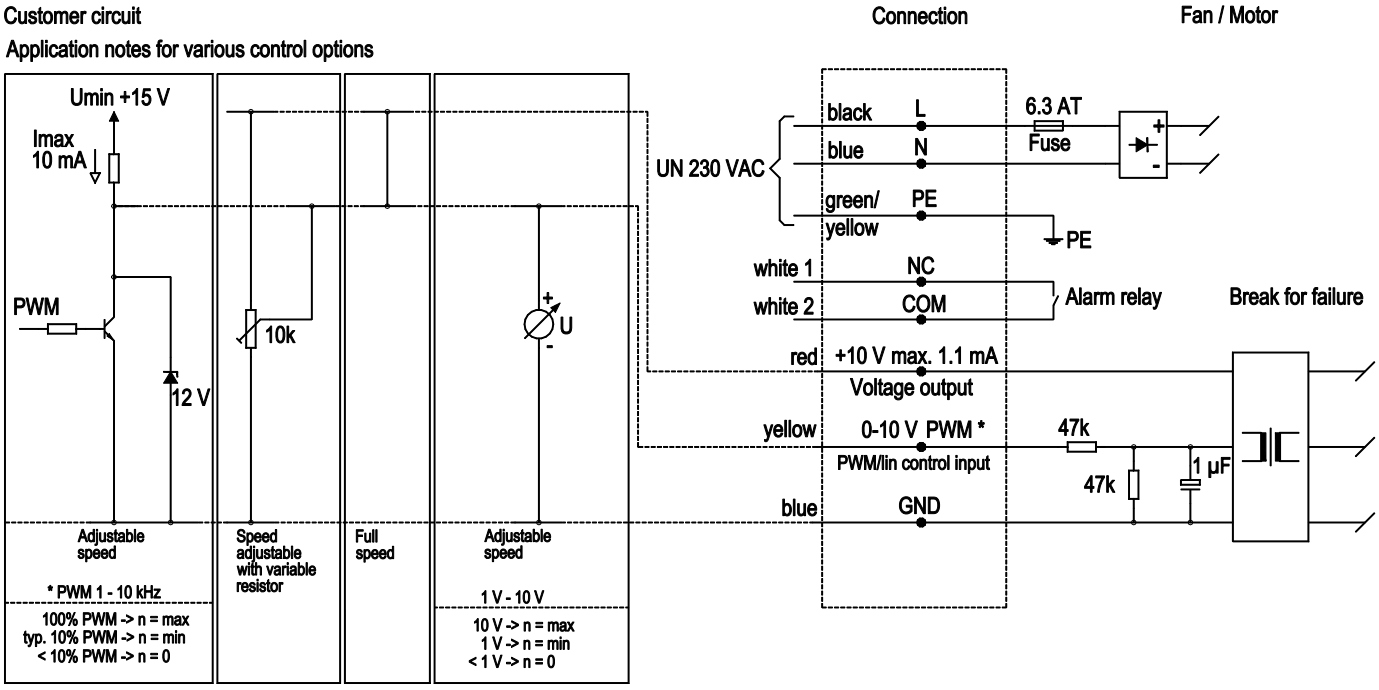
Connection diagram



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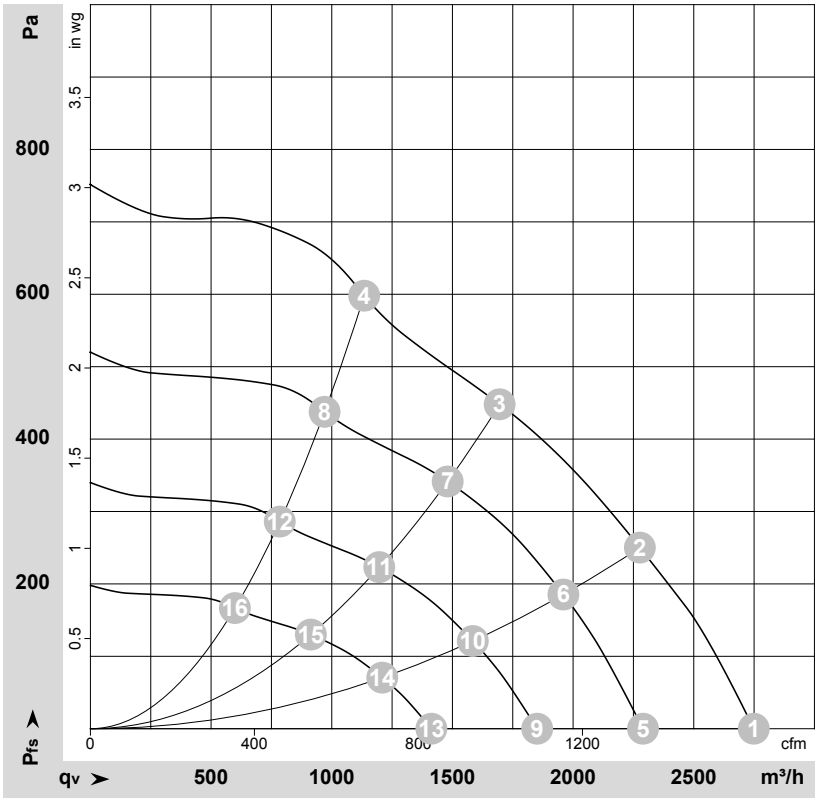
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-143864-1

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	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	230	50	2800	364	2.39	2750	0	1620	0.00
2	230	50	2730	450	2.80	2275	250	1340	1.00
3	230	50	2600	455	2.80	1695	450	1000	1.81
4	230	50	2745	450	2.80	1135	600	665	2.41
5	230	50	2350	211	1.38	2290	0	1350	0.00
6	230	50	2350	292	1.94	1960	185	1155	0.74
7	230	50	2350	329	2.18	1480	341	870	1.37
8	230	50	2350	286	1.90	970	437	570	1.75
9	230	50	1900	111	0.73	1850	0	1090	0.00
10	230	50	1900	154	1.02	1585	121	930	0.49
11	230	50	1900	174	1.15	1195	223	705	0.90
12	230	50	1900	151	1.00	785	286	460	1.15
13	230	50	1450	49	0.32	1415	0	830	0.00
14	230	50	1450	69	0.46	1210	71	710	0.29
15	230	50	1450	77	0.51	915	130	535	0.52
16	230	50	1450	67	0.45	600	167	355	0.67

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