R3G280-AH44-78

EC centrifugal fan

backward-curved, single-intake

R3G280-AH44-78 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G280-AH44-78**
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}	2750
Power consumption	W	350
Current draw	A	2.2
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

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}	%	51.6	46.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		67	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.34
09 Air flow q_v	m^3/h	1055
09 Pressure increase p_{fs}	Pa	541
10 Speed (rpm) n	min^{-1}	2755
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-117832

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Technical description

Weight	4.78 kg
Fan size	280 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet steel, hot-dip galvanized
Number of blades	11
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54; installation- and position-dependent
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
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC max. 1.1 mA - Tach output - Soft start - Control input 0-10 VDC/PWM - Motor current limitation - Thermal overload protection for electronics/motor - Undervoltage detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
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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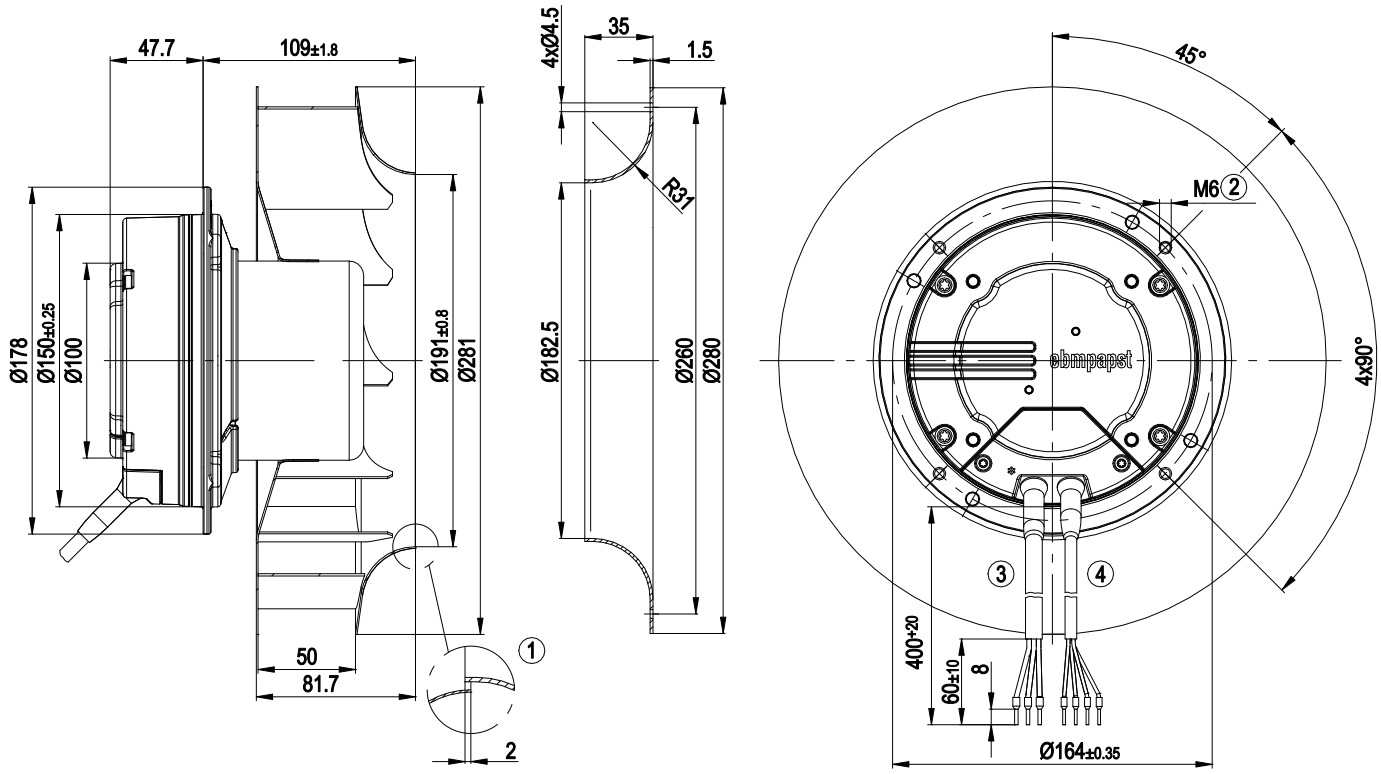
Product drawing



1	Accessory part: Inlet ring 96360-2-4013 not included in scope of delivery, other inlet rings on request
2	Clearance for screw 8-10 mm
3	Cable AWG18, 3 x crimped ferrules
4	Cable AWG22, 4 x crimped ferrules

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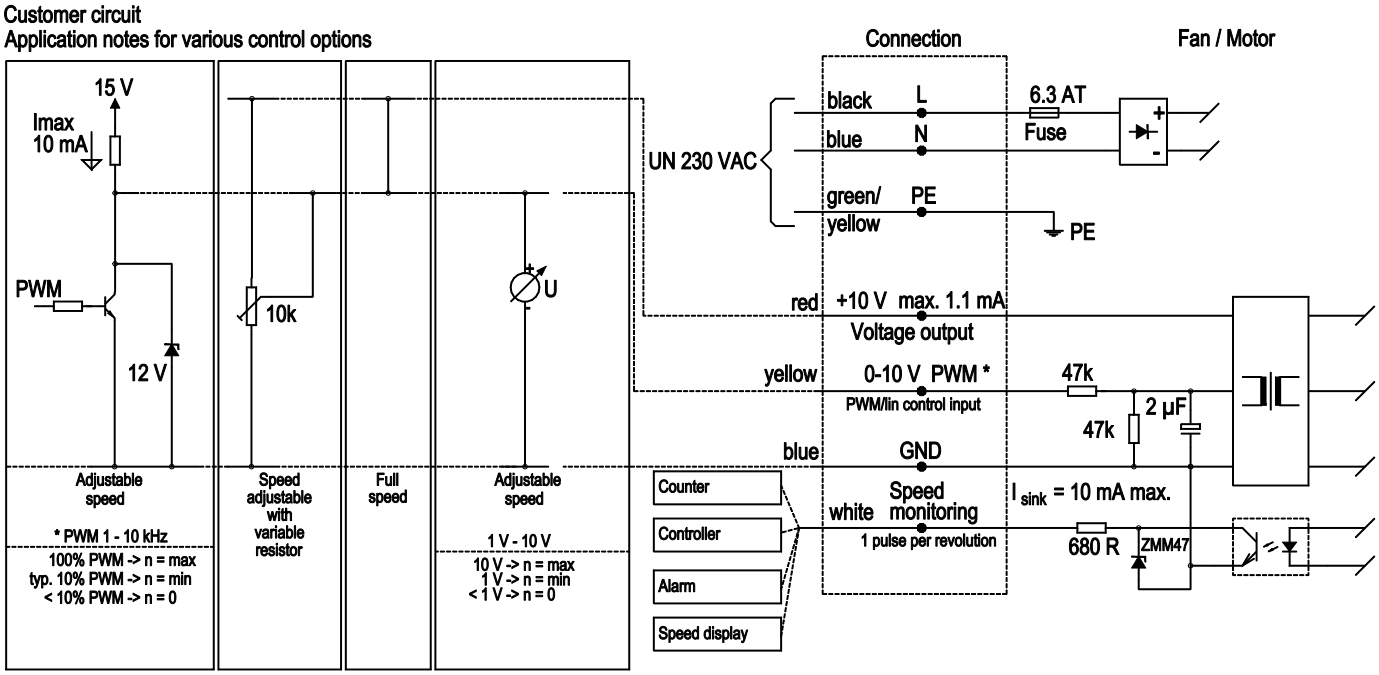
Connection diagram



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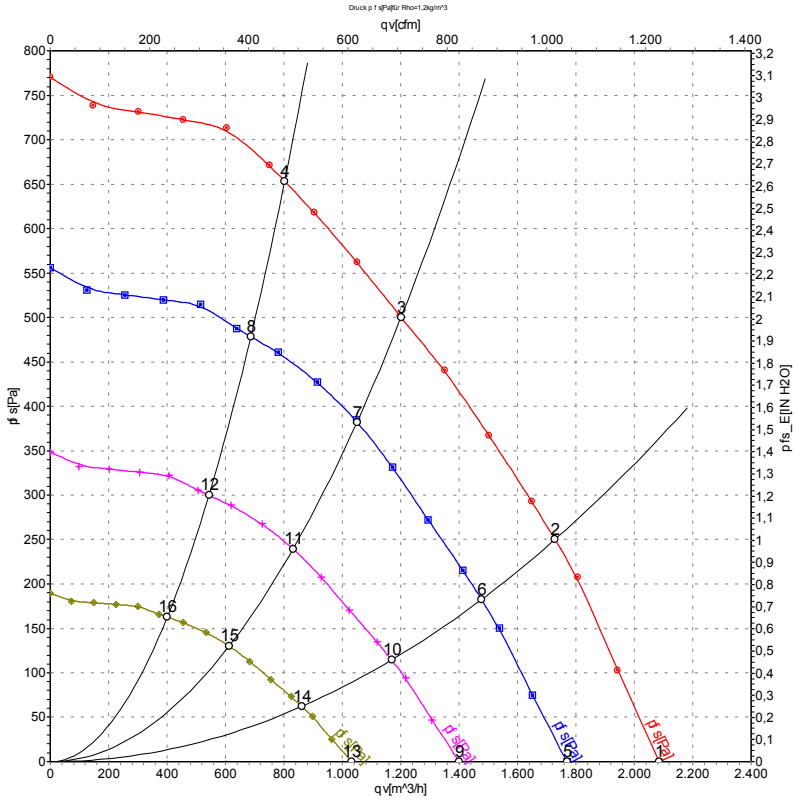
Curves: Air performance 50 Hz



Measurement: LU-117832-1

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	2830	242	1.55	2085	0	1225	0.00
2	230	50	2810	315	2.00	1730	250	1015	1.00
3	230	50	2750	350	2.20	1200	500	705	2.01
4	230	50	2805	330	2.09	805	650	475	2.61
5	230	50	2400	148	0.95	1770	0	1040	0.00
6	230	50	2400	196	1.25	1475	183	870	0.73
7	230	50	2400	234	1.48	1050	384	620	1.54
8	230	50	2400	206	1.31	685	478	405	1.92
9	230	50	1900	73	0.47	1400	0	825	0.00
10	230	50	1900	97	0.62	1170	114	690	0.46
11	230	50	1900	116	0.74	830	240	490	0.96
12	230	50	1900	102	0.65	545	300	320	1.20
13	230	50	1400	29	0.19	1030	0	605	0.00
14	230	50	1400	39	0.25	860	62	505	0.25
15	230	50	1400	47	0.30	615	131	360	0.53
16	230	50	1400	41	0.26	400	163	235	0.65

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