R3G280-AF35-77

EC centrifugal fan

backward curved, single inlet

R3G280-AF35-77 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G280-AF35-77**	
Motor	**M3G084-DF**	
Phase		1~
Nominal voltage	VAC	230
Frequency	Hz	50/60
Type of data definition		ml
Speed	min^{-1}	2600
Power input	W	455
Current draw	A	2.8
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

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 Pa

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		49.2	44.2	48.2
Efficiency grade N		63	58	62
Power input P_{ed}	kW	0.48		
Air flow q_v	m^3/h	1610		
Pressure increase p_{fs}	Pa	484		
Speed n	min^{-1}	2595		

Data definition with optimum efficiency.

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Technical features

Mass	4.9 kg
Size	280 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of impeller	Sheet steel, galvanised
Number of blades	11
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity class	F4-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Any
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing; (sealed)
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

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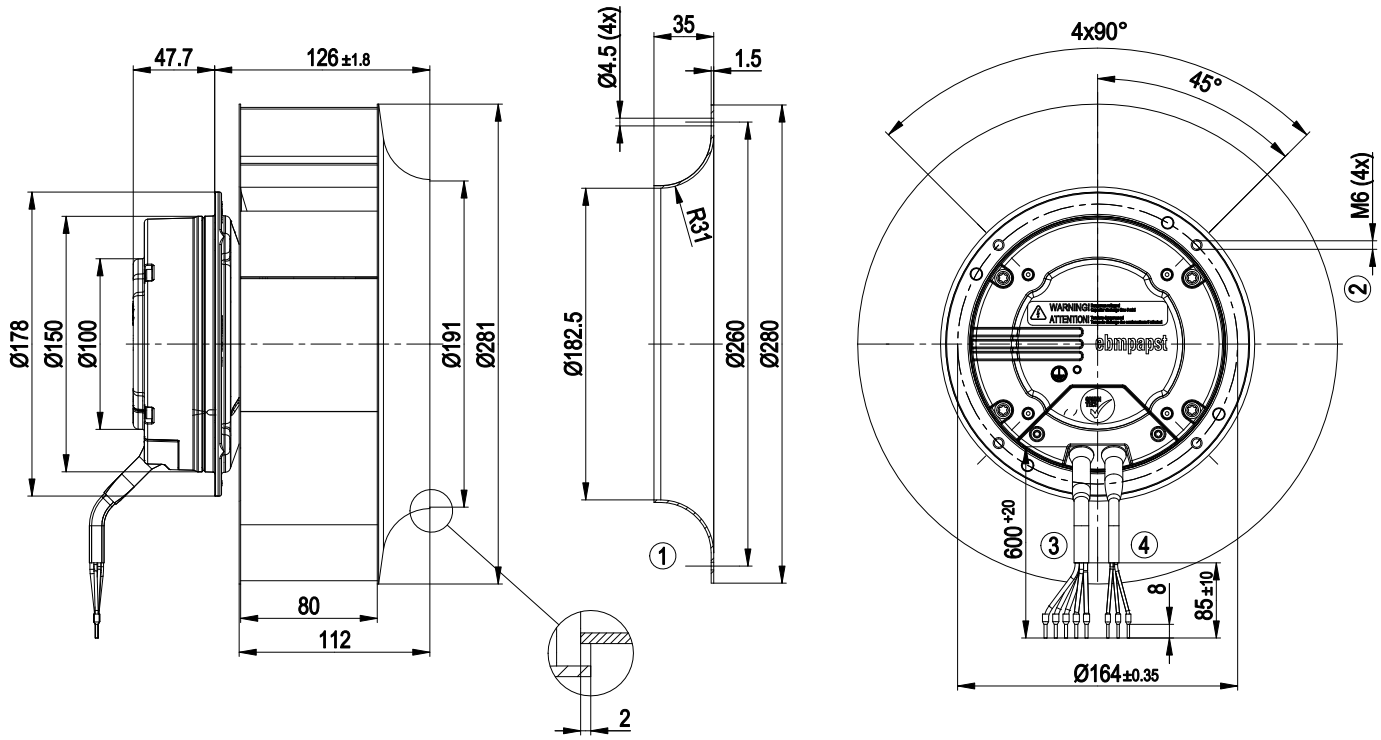
Product drawing



1	Accessory part: inlet nozzle 96360-2-4013 not included in the standard scope of delivery; other inlet nozzles on request
2	Depth of screw 8-10 mm
3	Connection line PVC AWG18, 5x crimped core-end sleeves
4	Connection line PVC AWG22, 3x crimped core-end sleeves

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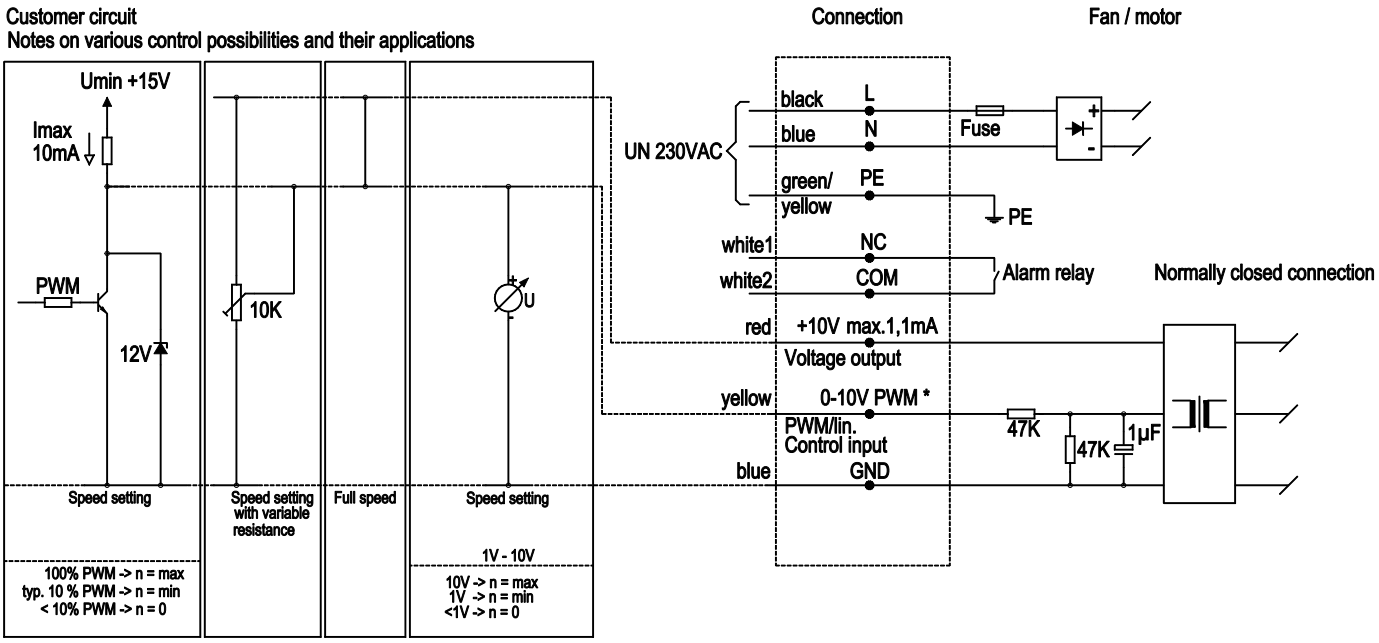
Connection screen



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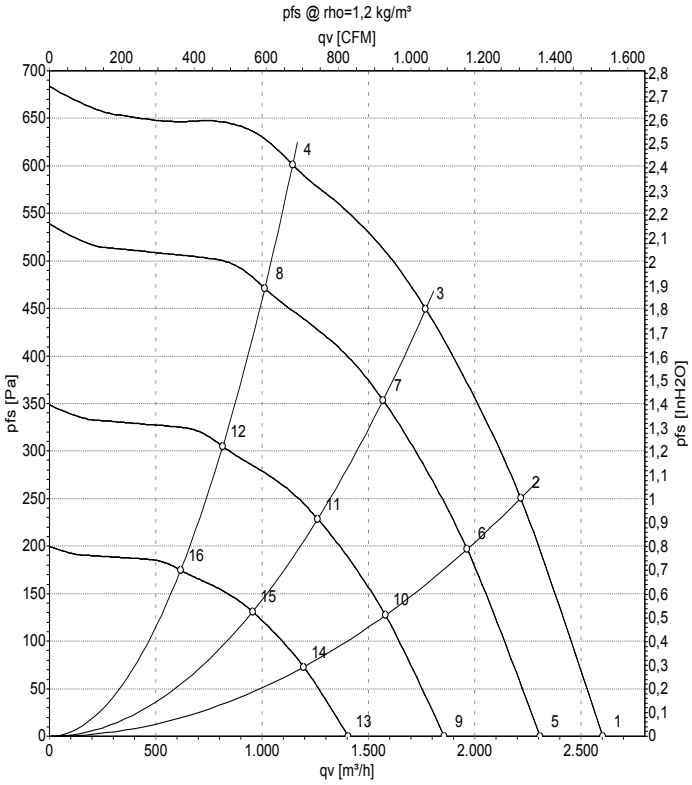
Charts: Air flow 50 Hz



Measurement: LU-144378

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	2600	330	2.16	77	84	2605	0
2	230	50	2600	430	2.78	74	82	2215	250
3	230	50	2600	455	2.80	72	80	1770	450
4	230	50	2600	422	2.78	73	81	1145	600
5	230	50	2300	230	1.51	74	81	2310	0
6	230	50	2300	300	1.97	71	79	1965	199
7	230	50	2300	338	2.24	69	77	1570	354
8	230	50	2300	293	1.94	70	78	1015	471
9	230	50	1850	120	0.78	68	76	1855	0
10	230	50	1850	156	1.03	66	73	1580	129
11	230	50	1850	176	1.17	64	71	1260	229
12	230	50	1850	152	1.01	64	72	815	305
13	230	50	1400	52	0.34	61	69	1405	0
14	230	50	1400	68	0.44	58	66	1195	74
15	230	50	1400	76	0.51	57	64	955	131
16	230	50	1400	66	0.44	57	65	615	174

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