R3G146-AK07-01

EC centrifugal fan

forward curved, single inlet

R3G146-AK07-01 ebmpapst Datasheet
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Nominal data

Type	**R3G146-AK07-01**
Motor	**M3G055-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	2320
Power input	W	166
Current draw	A	1.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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

		Actual	Request 2015
01 Overall efficiency η_{es}	%	47.2	32.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		59.1	44
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.13
09 Air flow q_v	m^3/h	350
09 Pressure increase p_{fs}	Pa	569
10 Speed (rpm) n	min^{-1}	3065
11 Specific ratio*		1.01

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

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

LU-138752

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Technical features

Size	146 mm
Material of impeller	Sheet steel, galvanised
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
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, open rotor
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Tach output - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Over-temperature protected electronics / motor - Line undervoltage detection
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Locked-rotor protection
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1; CE
Approval	CCC; UL 2111; CSA C22.2 No.77

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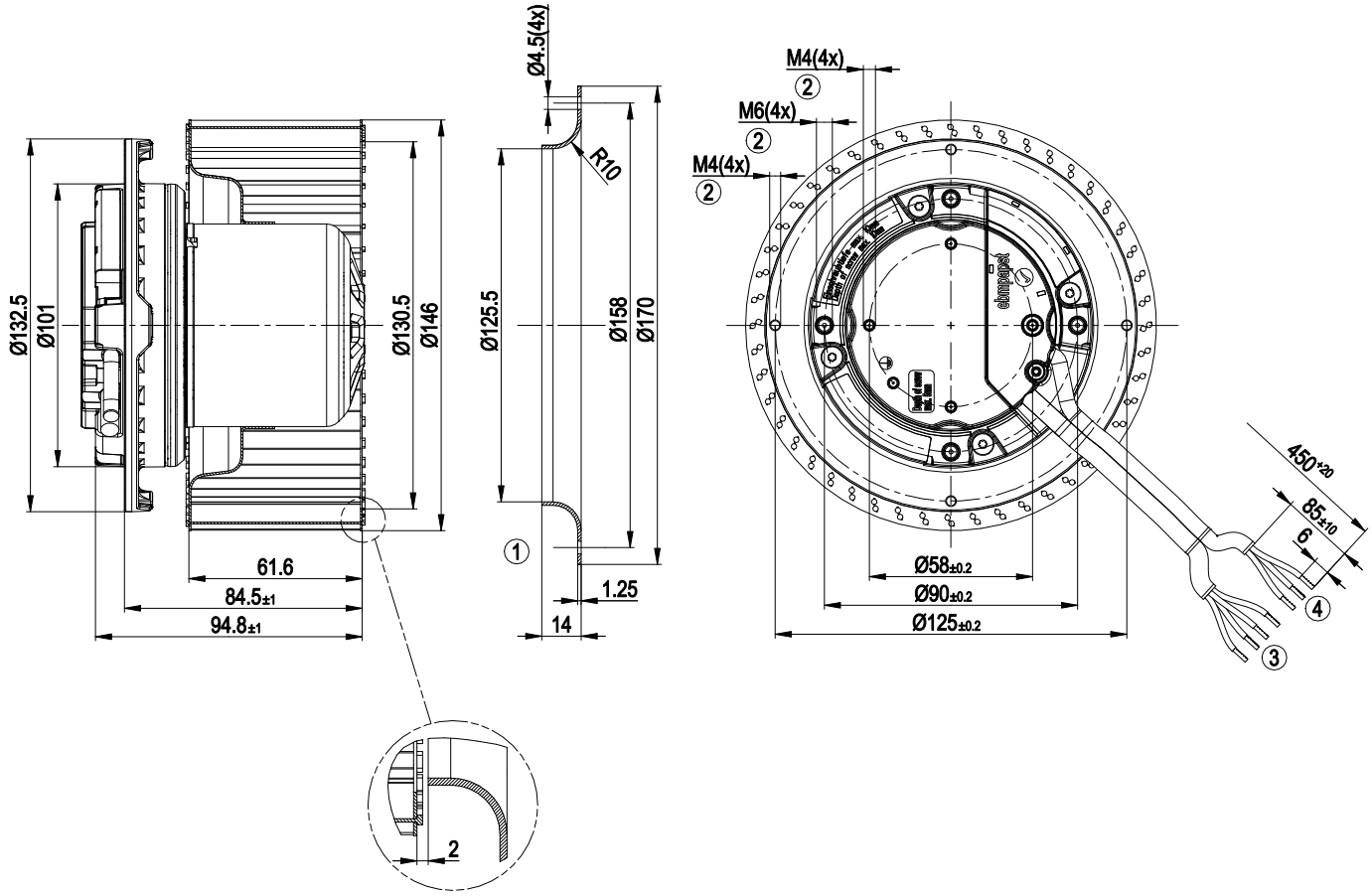
Product drawing



1	Accessory part: Inlet nozzle 09576-2-4013, not included in the standard scope of delivery
2	Depth of screw max. 10 mm
3	Connection line PVC 4X AWG22, 4x brass lead tips crimped
4	Connection line PVC 3X AWG20, 3x brass lead tips crimped

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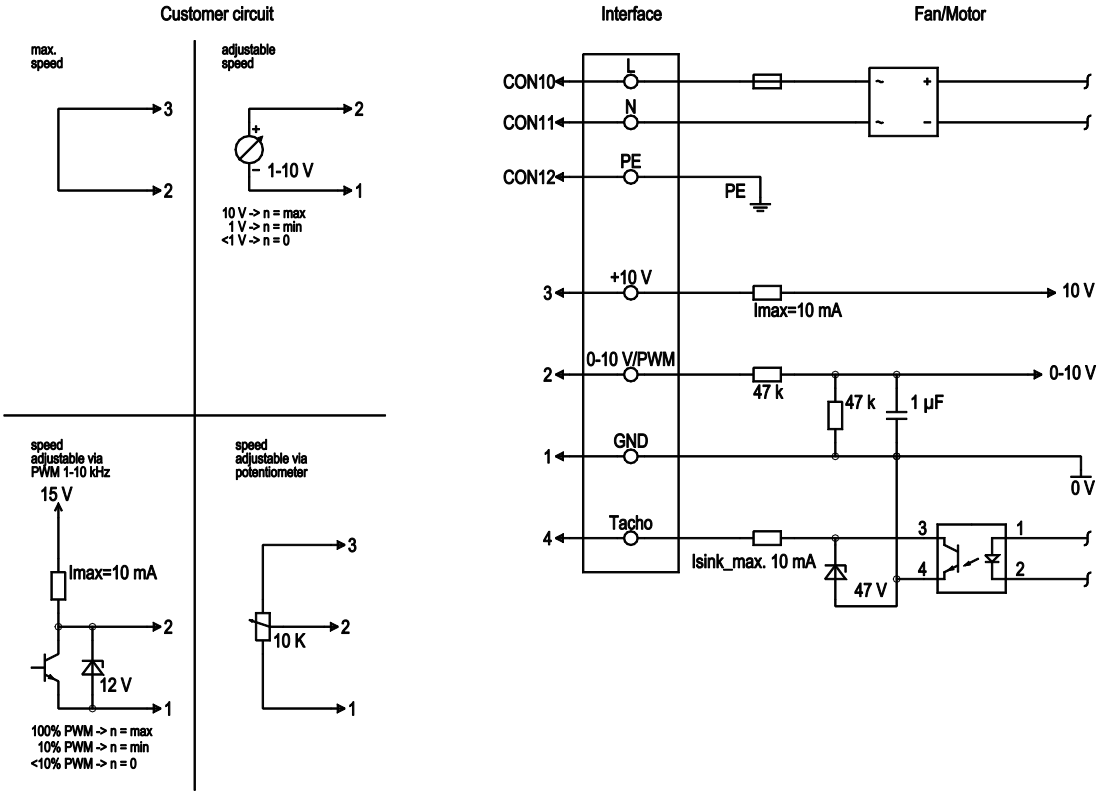
Connection screen



No.	Conn.	Designation	Colour	Function / assignment
	CON10	L	black	Mains connection, power supply, phase, see type plate for voltage range
	CON11	N	blue	Mains connection, power supply, neutral conductor, see type plate for voltage range
	CON12	PE	green/yellow	Earth connection
	2	0- 10V PWM	yellow	0-10 V/PWM control input, Ri=100 kΩ, SELV
	4	Tach	white	Speed monitoring output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV
	3	+10 V	red	Fixed voltage output 10 VDC +/-3 %, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. potentiometer), SELV
	1	GND	blue	Signal ground for control interface, SELV

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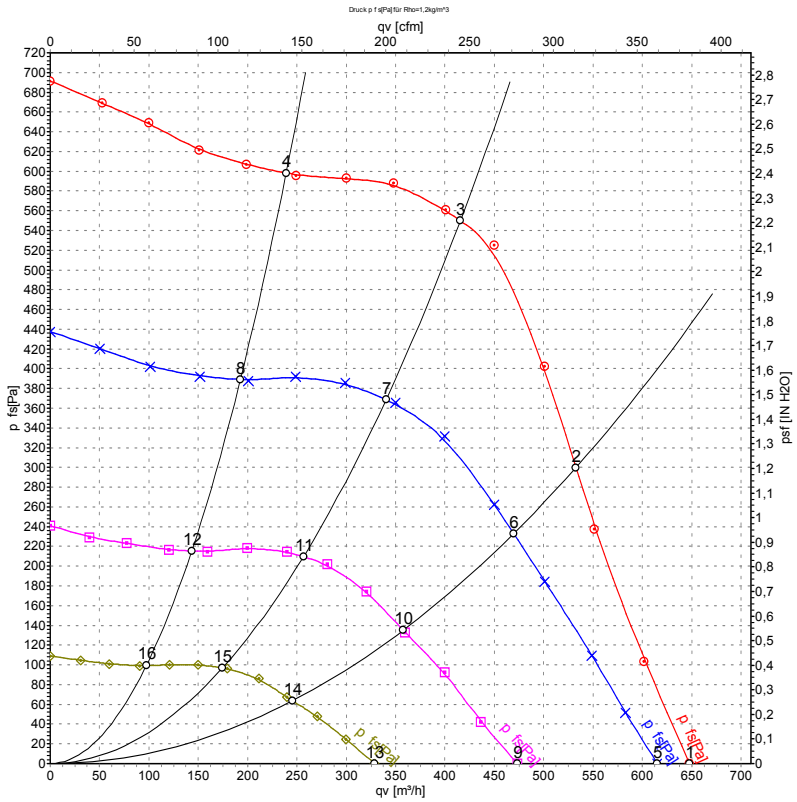
Charts: Air flow 50 Hz



Measurement: LU-138752-1
Measurement: LU-138757-1
Measurement: LU-138758-1
Measurement: LU-138759-1

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}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	230	50	2320	166	1.30	70	76	650	0	380	0.00
2	230	50	2645	166	1.30	69	75	535	300	315	1.20
3	230	50	2990	157	1.20	68	75	415	550	245	2.21
4	230	50	3170	109	0.90	68	75	240	600	140	2.41
5	230	50	2215	147	1.03			615	0	360	0.00
6	230	50	2355	115	0.82			470	233	275	0.94
7	230	50	2475	87	0.63			340	369	200	1.48
8	230	50	2575	63	0.45			195	389	115	1.56
9	230	50	1725	70	0.49			475	0	280	0.00
10	230	50	1810	54	0.39			360	135	210	0.54
11	230	50	1880	42	0.31			255	210	150	0.84
12	230	50	1945	29	0.22			145	215	85	0.86
13	230	50	1210	26	0.20			330	0	195	0.00
14	230	50	1255	21	0.17			245	64	145	0.26
15	230	50	1295	16	0.13			175	97	100	0.39
16	230	50	1335	13	0.11			95	99	55	0.40

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