R3G450-AL25-71

EC centrifugal fan

backward-curved, single-intake

R3G450-AL25-71 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G450-AL25-71**	
Motor	**M3G084-FA**	
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}	980
Power consumption	W	255
Current draw	A	1.6
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}	%	60.8	45
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		77.8	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.24
09 Air flow q_v	m^3/h	2595
09 Pressure increase p_{fs}	Pa	185
10 Speed (rpm) n	min^{-1}	975
11 Specific ratio*		1.00

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-114658

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Technical description

Weight	6.7 kg
Fan size	450 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
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 top; rotor on bottom on request
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 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	CCC; UL 2111; CSA C22.2 No. 77

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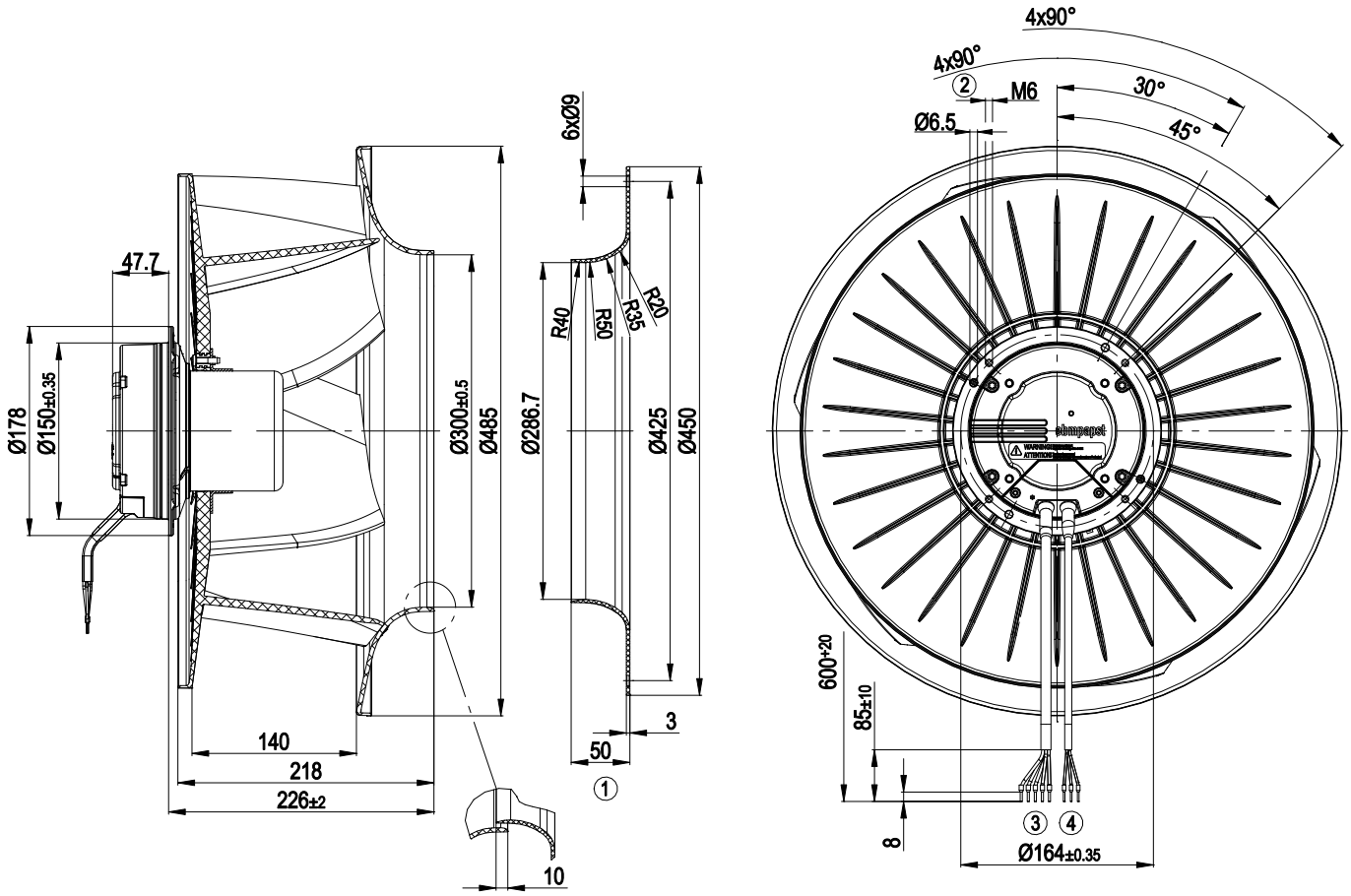
Product drawing



1	Accessory part: inlet ring 45901-2-2943 not included in scope of delivery
2	Max. clearance for screw 10 mm
3	Cable AWG18, 5x crimped ferrules
4	Cable AWG22, 3x crimped ferrules

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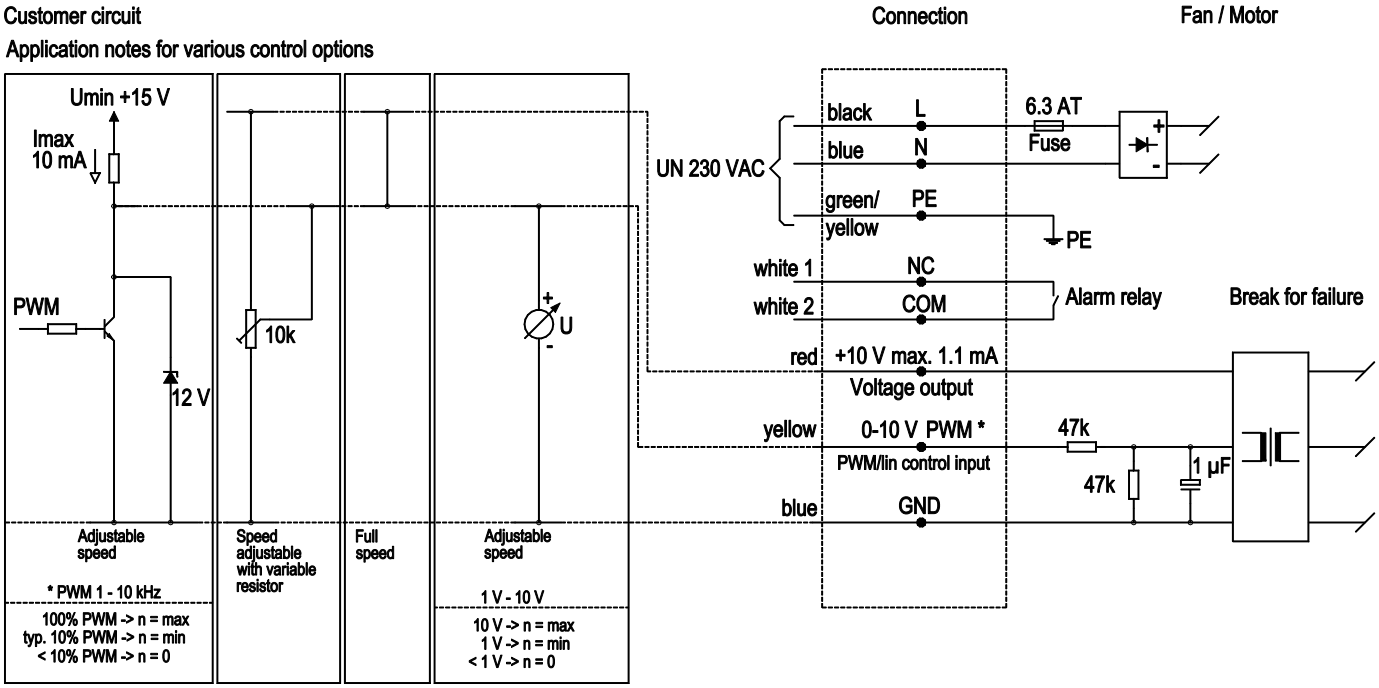
Connection diagram



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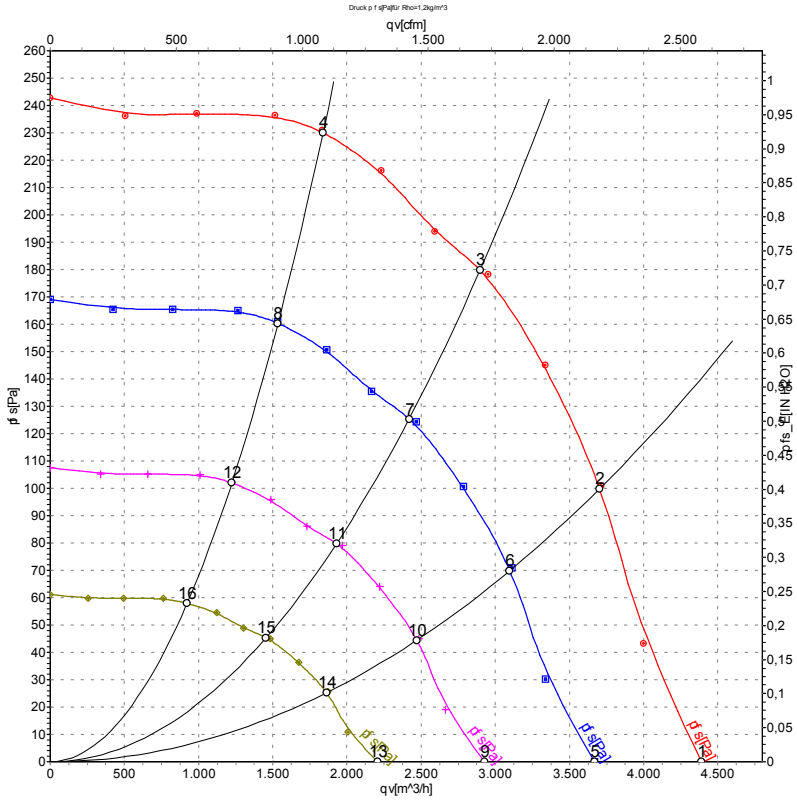
Curves: Air performance 50 Hz



Measurement: LU-114658-1

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	LpA_{in}	LwA_{in}	LwA_{out}	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	230	50	980	157	1.02	62	69	76	4390	0	2585	0.00
2	230	50	980	207	1.31	58	65	72	3700	100	2180	0.40
3	230	50	980	255	1.60	53	61	67	2895	180	1705	0.72
4	230	50	980	231	1.45	55	63	69	1840	230	1080	0.92
5	230	50	815	92	0.60	58	66	72	3670	0	2160	0.00
6	230	50	815	122	0.77	54	61	68	3095	72	1825	0.29
7	230	50	815	149	0.92	49	57	63	2420	126	1425	0.51
8	230	50	815	135	0.84	51	59	65	1535	161	905	0.65
9	230	50	650	47	0.30	53	61	67	2925	0	1720	0.00
10	230	50	650	62	0.39	49	56	64	2470	46	1455	0.18
11	230	50	650	76	0.47	44	52	59	1930	80	1135	0.32
12	230	50	650	68	0.43	46	54	60	1225	102	720	0.41
13	230	50	490	20	0.13	47	55	61	2205	0	1300	0.00
14	230	50	490	26	0.17	43	50	57	1860	26	1095	0.10
15	230	50	490	32	0.20	38	46	52	1455	46	855	0.18
16	230	50	490	29	0.18	40	48	54	925	58	545	0.23

U = Power supply · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · qv = Air flow · p_{fs} = Pressure increase