R3G250-AK44-69

EC centrifugal fan

backward-curved, single-intake

R3G250-AK44-69 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G250-AK44-69**	
Motor	**M3G084-DF**	
Phase		1~
Nominal voltage	VAC	230
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	3150
Power consumption	W	380
Current draw	A	1.65
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}	%	53.9	46.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		69.1	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.36
09 Air flow q_v	m^3/h	1055
09 Pressure increase p_{fs}	Pa	606
10 Speed (rpm) n	min^{-1}	3165
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-78471

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Technical description

Weight	4.9 kg
Fan size	250 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	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	- Power limiter - Motor current limitation - Emergency operation, standstill on cable break - PFC, active - RS-485 MODBUS-RTU, 38,400 baud, no parity - Soft start - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	With plug
Motor protection	Thermal overload protector (TOP) internally connected
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1

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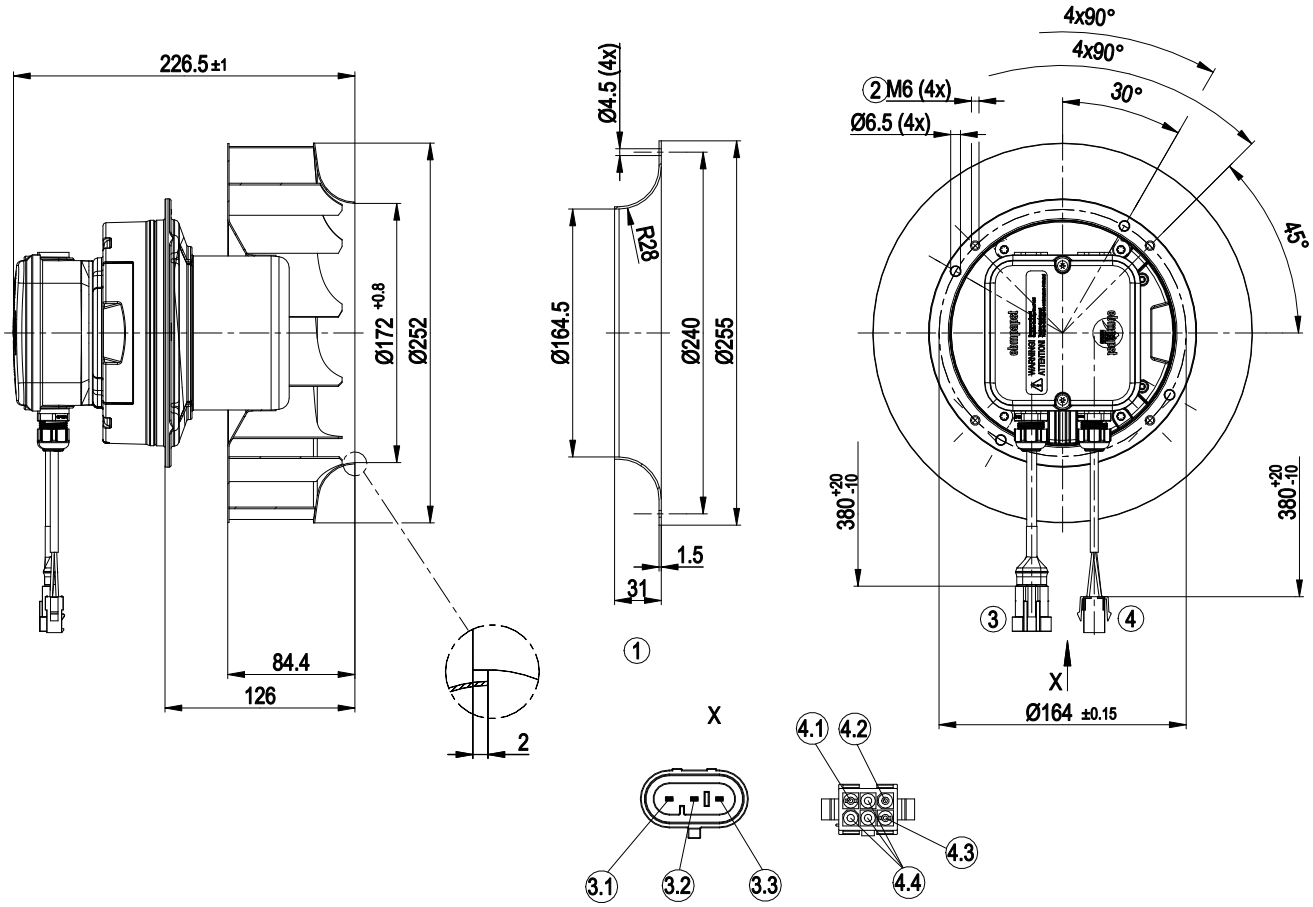
Product drawing



No.	Conn.	Designation	Function/assignment
		1	Accessory part: Inlet ring 96359-2-4013, not included in scope of delivery
		2	Max. clearance for screw 10 mm
		3	Cable PVC AWG18, connector housing AMP 282105-1 and 3x flat plug 282109-1 with seal 281934-2 crimped.
		3.1	L
		3.2	N (blue)
		3.3	PE (green/yellow)
		4	Cable PVC AWG22, connector housing AMP 794940-1, 3x plug pin 170360-3 with seal 794758-1 and 3x dummy plug 794995-1 crimped.
		4.1	RSA (yellow)
		4.2	GND (blue)
		4.3	RSB (red)
		4.4	Dummy plug

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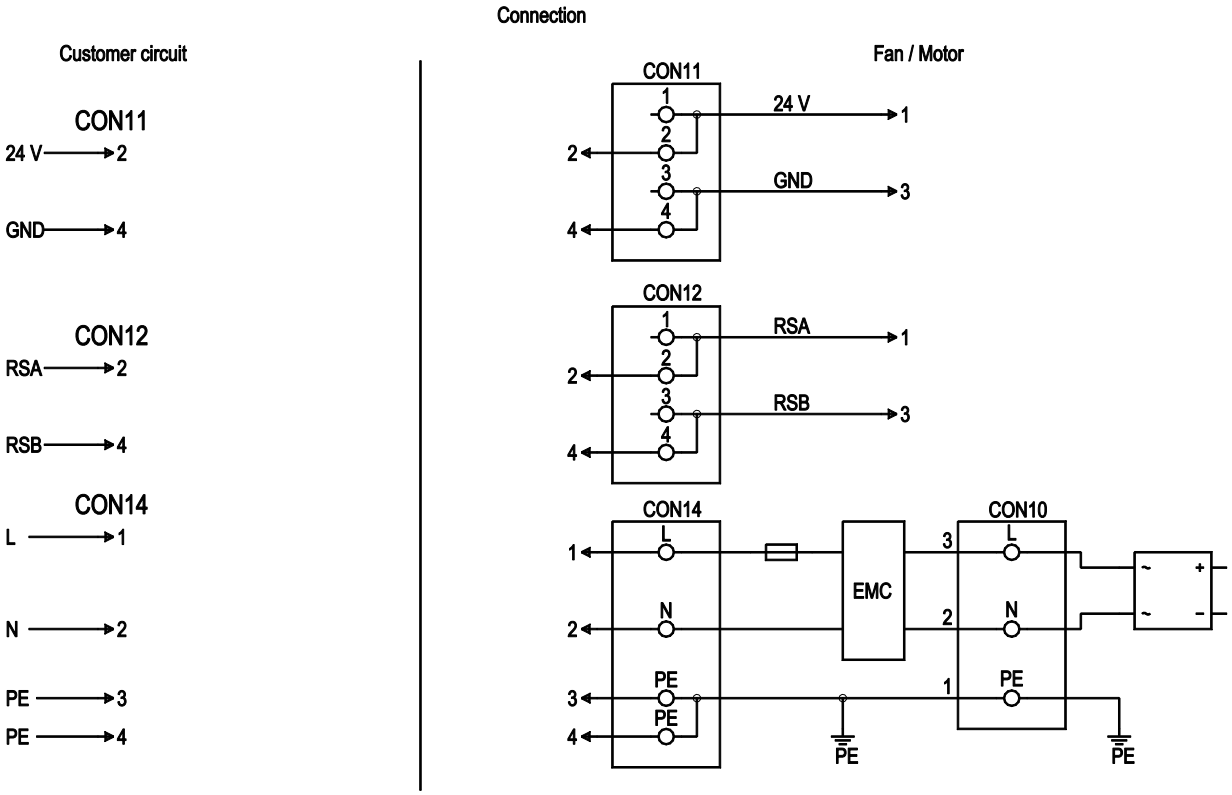
Connection diagram



No.	Conn.	Designation	Function/assignment
CON 14	1, 2	L, N	Power supply 50/60 Hz
CON 14	3, 4	PE	Protective earth terminal
CON 12	2	RSA	RS485 interface for MODBUS, RSA
CON 12	4	RSB	RS485 interface for MODBUS, RSB
CON 11	2	+24 V	Parameter-setting input 24 VDC ±15%, Isink max. 40 mA, external feed
CON 11	4	GND	Reference ground for interface, SELV

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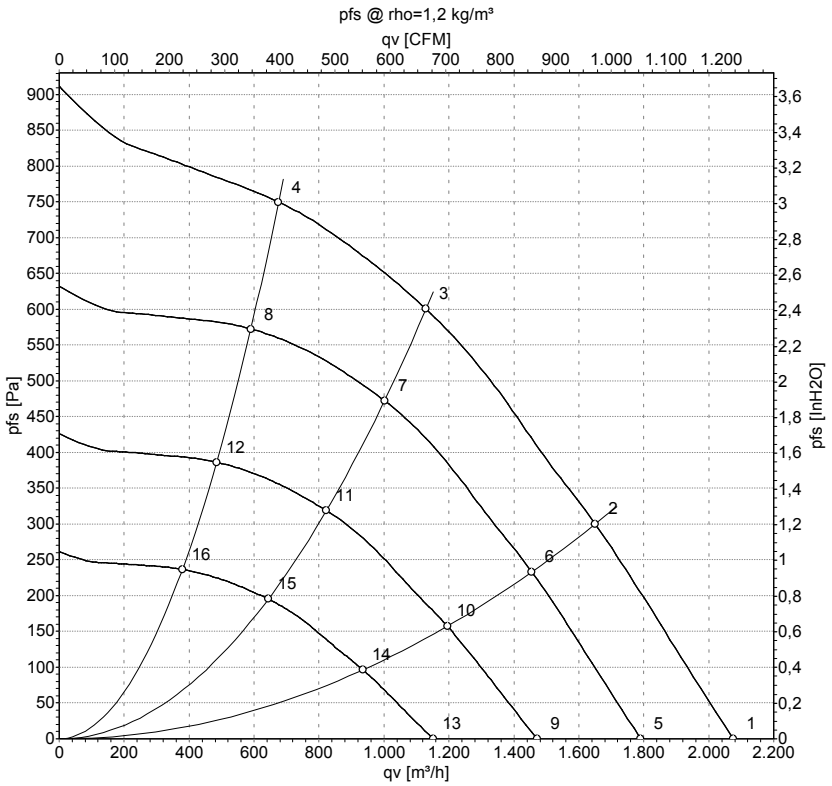
Curves: Air performance 50 Hz



Measurement: LU-78471-1

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	3245	259	1.13	2075	0	1220	0.00
2	230	50	3175	335	1.46	1650	300	970	1.20
3	230	50	3150	380	1.65	1130	600	665	2.41
4	230	50	3205	330	1.44	675	750	395	3.01
5	230	50	2800	166	0.73	1790	0	1055	0.00
6	230	50	2800	230	1.00	1455	234	855	0.94
7	230	50	2800	260	1.13	1000	472	590	1.89
8	230	50	2800	220	0.96	590	572	345	2.30
9	230	50	2300	92	0.40	1470	0	865	0.00
10	230	50	2300	127	0.56	1195	158	705	0.63
11	230	50	2300	144	0.63	825	319	485	1.28
12	230	50	2300	122	0.53	485	386	285	1.55
13	230	50	1800	44	0.19	1150	0	675	0.00
14	230	50	1800	61	0.27	935	97	550	0.39
15	230	50	1800	69	0.30	645	195	380	0.78
16	230	50	1800	59	0.25	380	237	225	0.95

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