EC centrifugal fan

backward-curved, single-intake

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G310-AR52-11**
Motor	**M3G074-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		fa
Speed (rpm)	min^{-1}	1900
Power consumption	W	168
Current draw	A	1.25
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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}	%	57.7	43.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		76.3	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.17
09 Air flow q_v	m^3/h	1405
09 Pressure increase p_{fs}	Pa	226
10 Speed (rpm) n	min^{-1}	1640
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-69695

ebmpapst

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Technical description

Weight	3.1 kg
Fan size	310 mm
Rotor surface	Painted black
Impeller material	PA66 plastic, glass-fiber reinforced
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44; 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	Any
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 - Thermal overload protection for motor
EMC immunity to interference	According to EN 61000-6-2
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 55022 (Class B)
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 60335-1
Approval	CSA; UL

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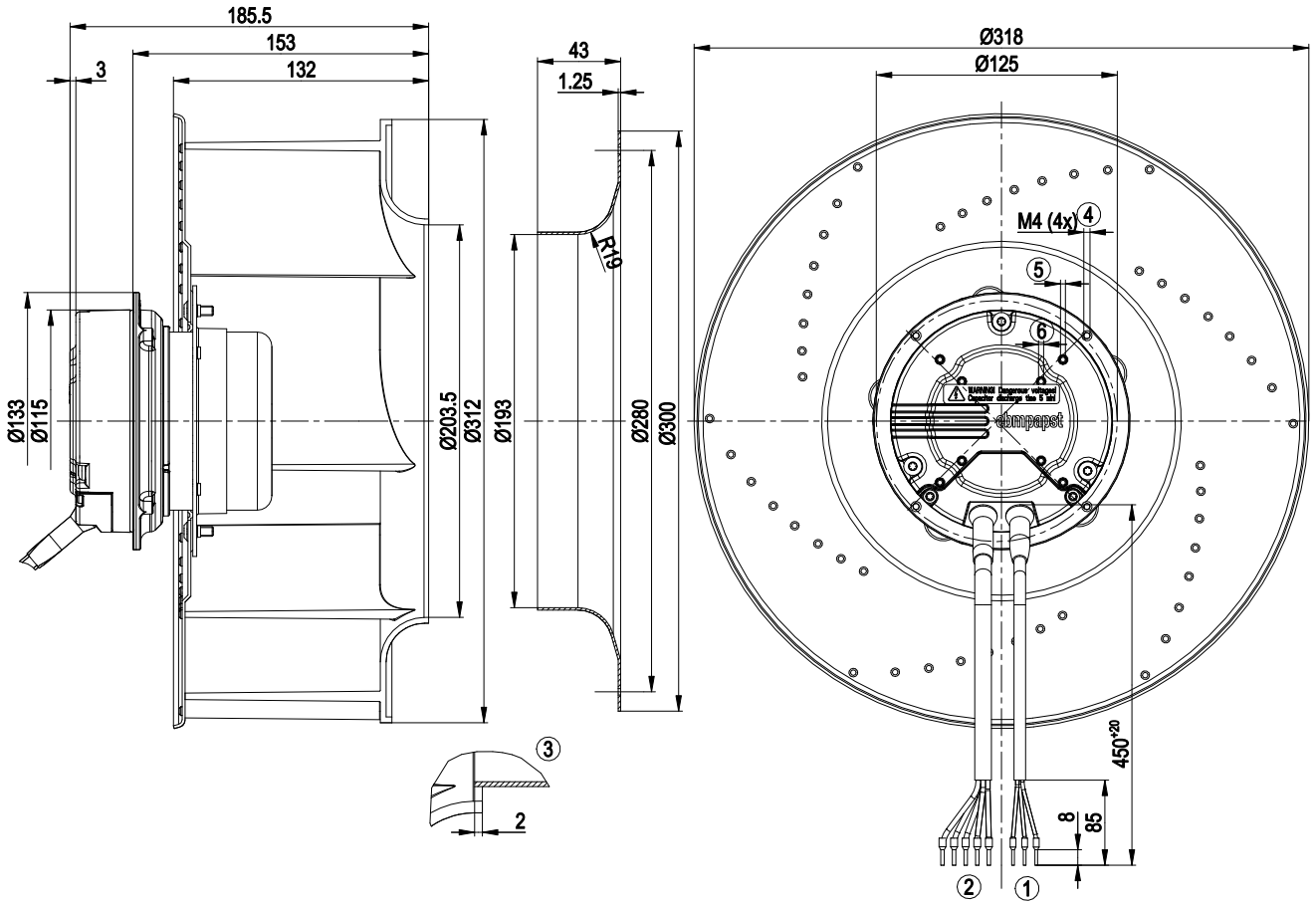
Product drawing



1	Control cable PVC AWG22, 3 x crimped ferrules
2	Cable PVC AWG18, 5 x crimped ferrules
3	Accessory part: Inlet ring 09621-2-4013, not included in scope of delivery
4	Clearance for screw 8-10 mm; tightening torque 2.5±0.2 Nm; gluing the screws is recommended
5	Tapping hole ready for self-tapping M4 screw, max. clearance for screw 6 mm
6	Tapping hole ready for self-tapping M4 screw, max. clearance for screw 8 mm

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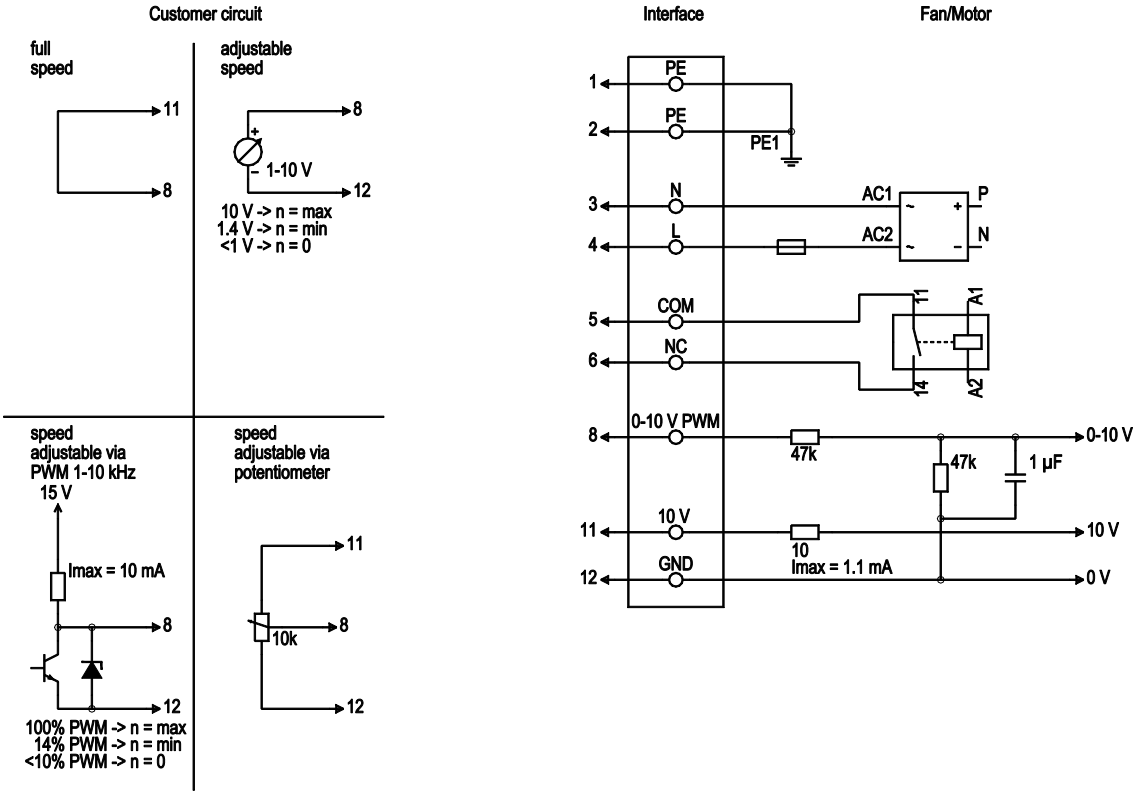
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	1,2	PE	green/yellow	Protective earth
	3	N	blue	Neutral conductor
	4	L	black	Power supply 230 VAC, 50-60 Hz, see nameplate for voltage range
	5	COM	white 1	Floating status contact, break for failure (2A, max. 250 VAC, min.10 mA)
	6	NC	white 2	Floating status contact, break for failure
	8	0-10V PWM	yellow	Control input 0-10 V or PWM, electrically isolated
	11	10V/max1.1mA	red	Voltage output 10 V/1.1 mA, electrically isolated
	12	GND	blue	GND connection for control interface

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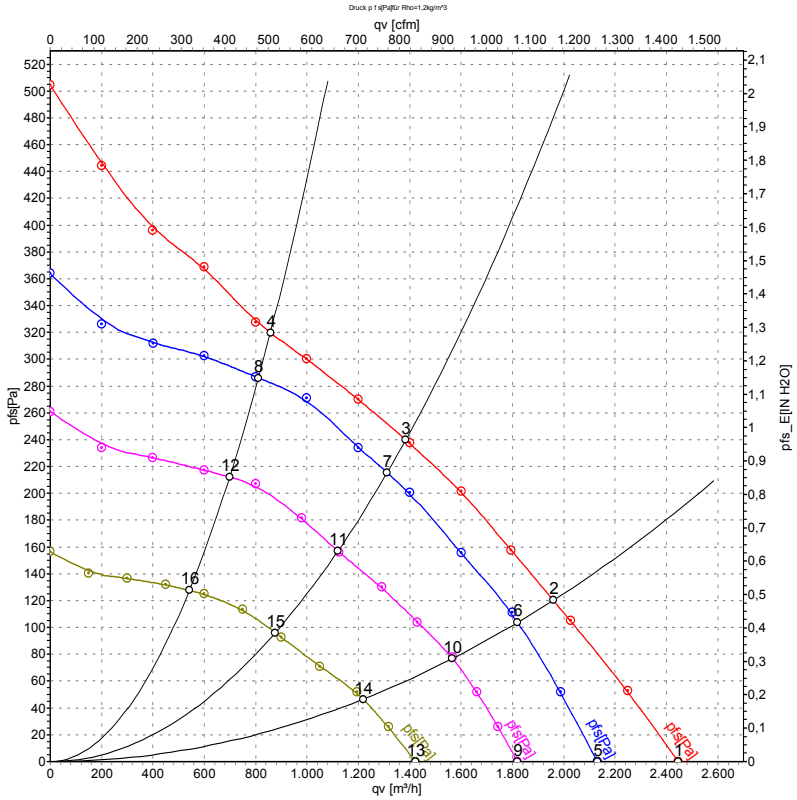
Curves: Air performance 50 Hz



Measurement: LU-69695-1
Measurement: LU-67690-1
Measurement: LU-67692-1
Measurement: LU-67693-1

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	1900	168	1.25	2445	0	1440	0.00
2	230	50	1730	174	1.30	1960	120	1155	0.48
3	230	50	1640	174	1.31	1385	240	815	0.96
4	230	50	1670	175	1.31	860	320	505	1.28
5	230	50	1635	114	0.84	2130	0	1255	0.00
6	230	50	1600	132	0.97	1820	105	1070	0.42
7	230	50	1570	147	1.08	1310	215	770	0.86
8	230	50	1575	142	1.04	810	286	475	1.15
9	230	50	1385	73	0.56	1820	0	1070	0.00
10	230	50	1370	89	0.68	1565	78	920	0.31
11	230	50	1345	97	0.74	1120	157	660	0.63
12	230	50	1355	94	0.71	700	212	410	0.85
13	230	50	1075	38	0.30	1425	0	840	0.00
14	230	50	1060	44	0.34	1220	47	715	0.19
15	230	50	1055	50	0.38	875	96	515	0.39
16	230	50	1055	48	0.37	540	128	320	0.51

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