R3G630-RB21-08

Stulz GmbH

EC centrifugal fan - RadiCal®

backward curved, single inlet

R3G630-RB21-08 ebmpapst Datasheet
sales@fansco.com
www.fansco.com

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G630-RB21-08**
Motor	**M3G150-IF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed	min^{-1}	1300
Power input	W	2700
Current draw	A	4.1
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

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}	%	65.7	52.1	56.1
Efficiency grade N		71.6	58	62
Power input P_{ed}	kW	2.76		
Air flow q_v	m^3/h	11165		
Pressure increase p_{fs}	Pa	553		
Speed n	min^{-1}	1305		

Data definition with optimum efficiency. LU-137530
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

Mass	30 kg
Size	630 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	PP plastic
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity class	F4-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Operation and alarm display - External 24 V input (programming) - External release input - Alarm relay - Integrated PID controller - Run monitoring - Motor current limit - PFC, passive - RS485 MODBUS RTU - 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 / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
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	Reverse polarity and locked-rotor protection
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	EAC

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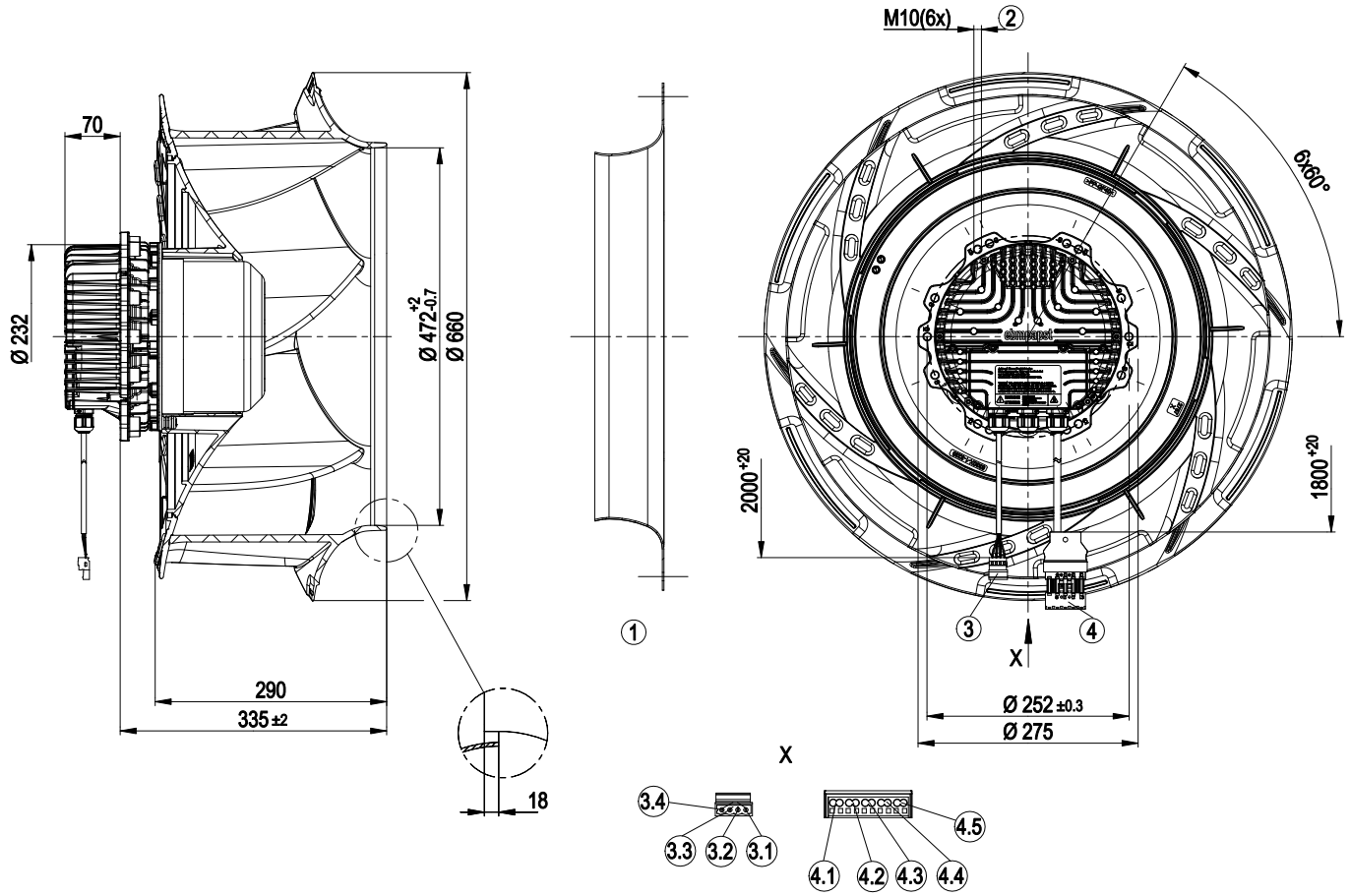
Product drawing



1	Accessory part: inlet nozzle 63300-2-4013 not included in scope of delivery
2	Depth of screw max. 25 mm
3	Plug WAGO no. 0770-001/K011-0174/0000-0300, mating connector (not included in delivery), connection line Ölflex Classic 110 grey 4G 2.5 m GNYE
3.1	GND
3.2	Ain 1 U
3.3	COM
3.4	NC/DIN1
4	Strip, 4-pole, contact spacing 5, WAGO no. 231-604, mating connector (not included in delivery), connection line Ölflex Classic 110 grey 4 x 0.75 or GNYE
4.1	not used
4.2	PE
4.3	L1
4.4	L2
4.5	L3

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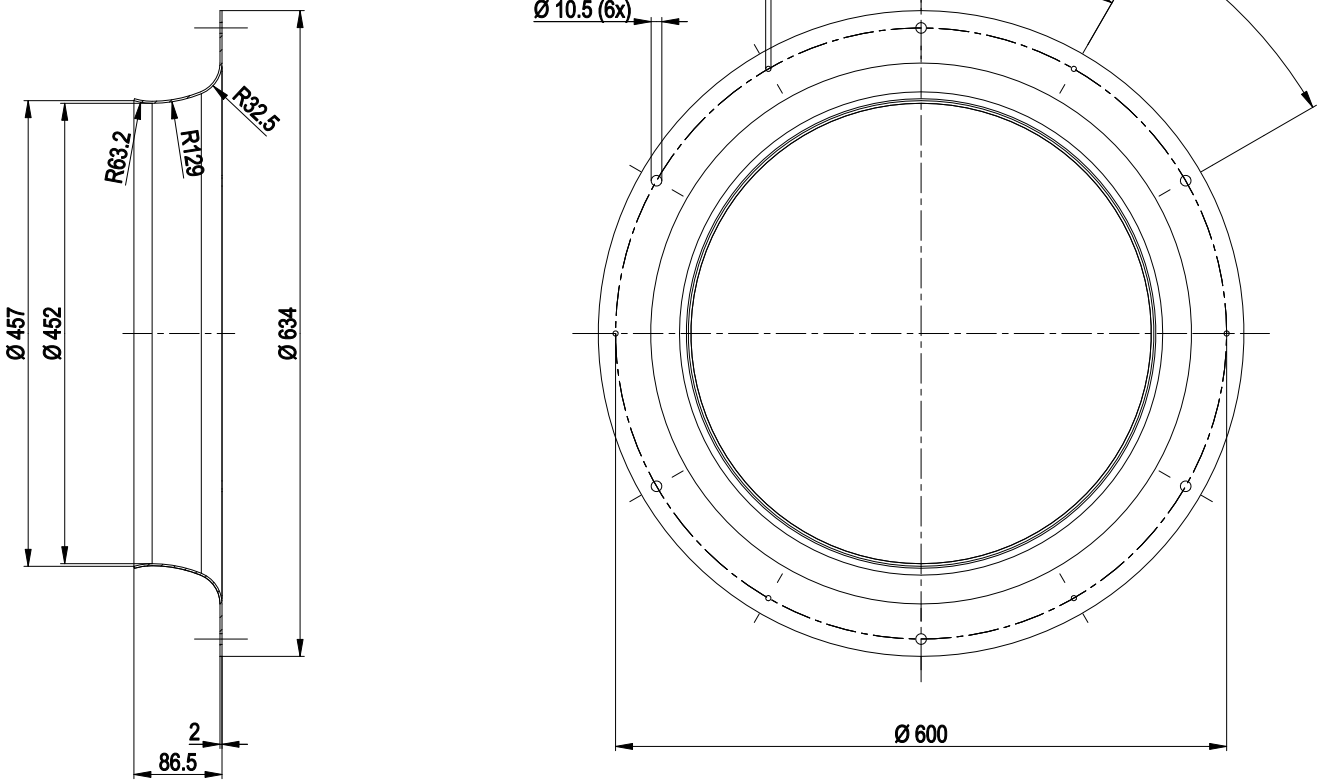
Accessory part



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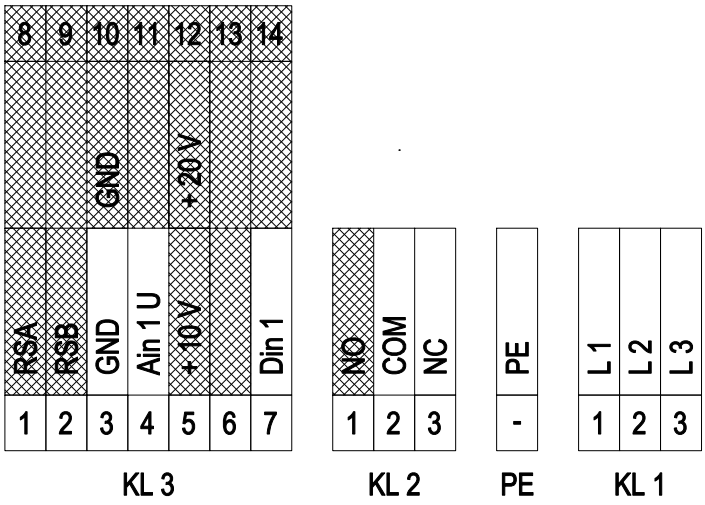
Connection screen



grey shaded => not brought out via leads

No.	Conn.	Designation	Function / assignment
KL1	1	L1	Mains supply connection, supply voltage 3-phase 380 - 480 VAC; 50/60 Hz
KL1	2	L2	Mains supply connection, supply voltage 3-phase 380 - 480 VAC; 50/60 Hz
KL1	3	L3	Mains supply connection, supply voltage 3-phase 380 - 480 VAC; 50/60 Hz
-	-	PE	Earth connection, PE connection
KL2	1	NO	Status relay, floating status contact; normally open; close with error
KL2	2	COM	Status relay; floating status contact; changeover contact; common connection; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL2	3	NC	Status relay, floating status contact; break with error
KL3	1	RSA	Bus connection RS485; RSA; MODBUS RTU
KL3	2	RSB	Bus connection RS485; RSB; MODBUS RTU
KL3	3	GND	Signal ground for control interface
KL3	4	Ain 1U	Analogue input 1 (set value); 0-10 V; Ri=100kΩ; parametrisable curve;
KL3	5	+10V	Fixed voltage output 10 VDC; +10 V +/-3 %; max. 10 mA; resistant to sustained short circuiting; supply voltage for ext. devices (e.g. potentiometer)
KL3	6	-	-
KL3	7	Din1	Digital input 1: enabling of electronics; enabling: applied voltage 5 to 50 VDC or +24 VAC (+/-10%) disabling: open input or bridge to GND or applied voltage <1 VDC; reset function: triggers software reset after a level change from >=5 V to < 1 V
KL3	8	-	-
KL3	9	-	-
KL3	10	GND	Signal ground for control interface
KL3	11	-	-
KL3	12	+ 20V	Fixed voltage output 20 VDC; +20 V +25/-10%; max. 50 mA; resistant to sustained short circuiting; supply voltage for ext. devices (e.g. sensors) +24 VDC (+/- 10%) power supply input for setting parameters WITHOUT mains supply voltage
KL3	13	-	-
KL3	14	-	-

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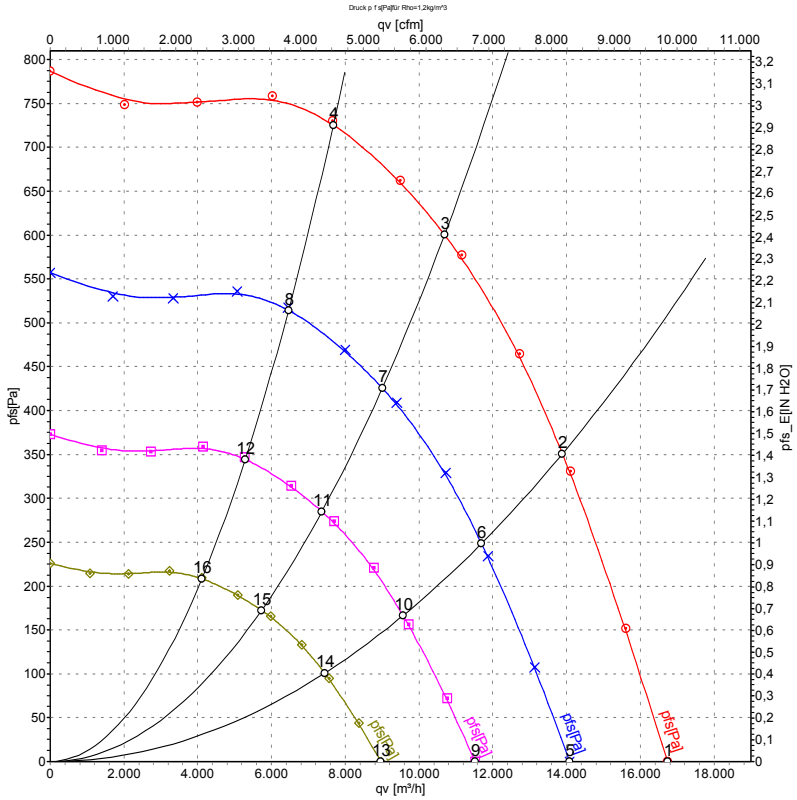
Charts: Air flow 50 Hz



Measurement: LU-137530

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

	Conn.	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	LwA_{out}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa
1	Y	400	50	1300	1779	2.93	79	86	91	16740	0
2	Y	400	50	1300	2506	4.05	73	79	85	13890	350
3	Y	400	50	1300	2700	4.10	70	77	82	10690	600
4	Y	400	50	1300	2651	4.05	73	80	84	7675	725
5	Y	400	50	1100	1060	1.75	75	82	87	14090	0
6	Y	400	50	1100	1495	2.42	69	76	81	11690	250
7	Y	400	50	1100	1648	2.65	66	73	78	9005	426
8	Y	400	50	1100	1584	2.54	69	76	80	6460	518
9	Y	400	50	900	581	0.96	71	78	83	11530	0
10	Y	400	50	900	819	1.32	65	71	77	9565	167
11	Y	400	50	900	902	1.45	62	69	73	7365	285
12	Y	400	50	900	868	1.39	65	72	76	5285	346
13	Y	400	50	700	273	0.45	66	73	77	8965	0
14	Y	400	50	700	385	0.62	59	66	71	7440	101
15	Y	400	50	700	425	0.68	56	63	68	5730	173
16	Y	400	50	700	408	0.66	59	66	70	4110	210

Conn. = Connection · 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 LwA_{out} = Sound power level outlet side · qv = Air flow · p_{fs} = Pressure increase