R3G595-AB23-08

Stulz GmbH

EC centrifugal fan

backward curved, single inlet

R3G595-AB23-08 ebmpapst Datasheet
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County court Stuttgart · HRB 590142

ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G595-AB23-08**	
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}	1400
Power input	W	2930
Current draw	A	4.5
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}	%	65.9	52.3	56.3
Efficiency grade N		71.6	58	62
Power input P_{ed}	kW	2.85		
Air flow q_v	m^3/h	9830		
Pressure increase p_{fs}	Pa	653		
Speed n	min^{-1}	1405		

Data definition with optimum efficiency. LU-127965
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

Mass	30.5 kg
Size	595 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Plastic PA66, fibreglass-reinforced, round sheet-metal plate coated in black
Number of blades	7
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 - Output 20 VDC - Operation and alarm display - Input for sensor 0-10 V or 4-20 mA - External release input - Alarm relay - Integrated PID controller - Run monitoring - PFC, passive - RS485 MODBUS RTU - Soft start - Control input 0-10 VDC / PWM - 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 55022 (Class B)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	With plug
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Lateral
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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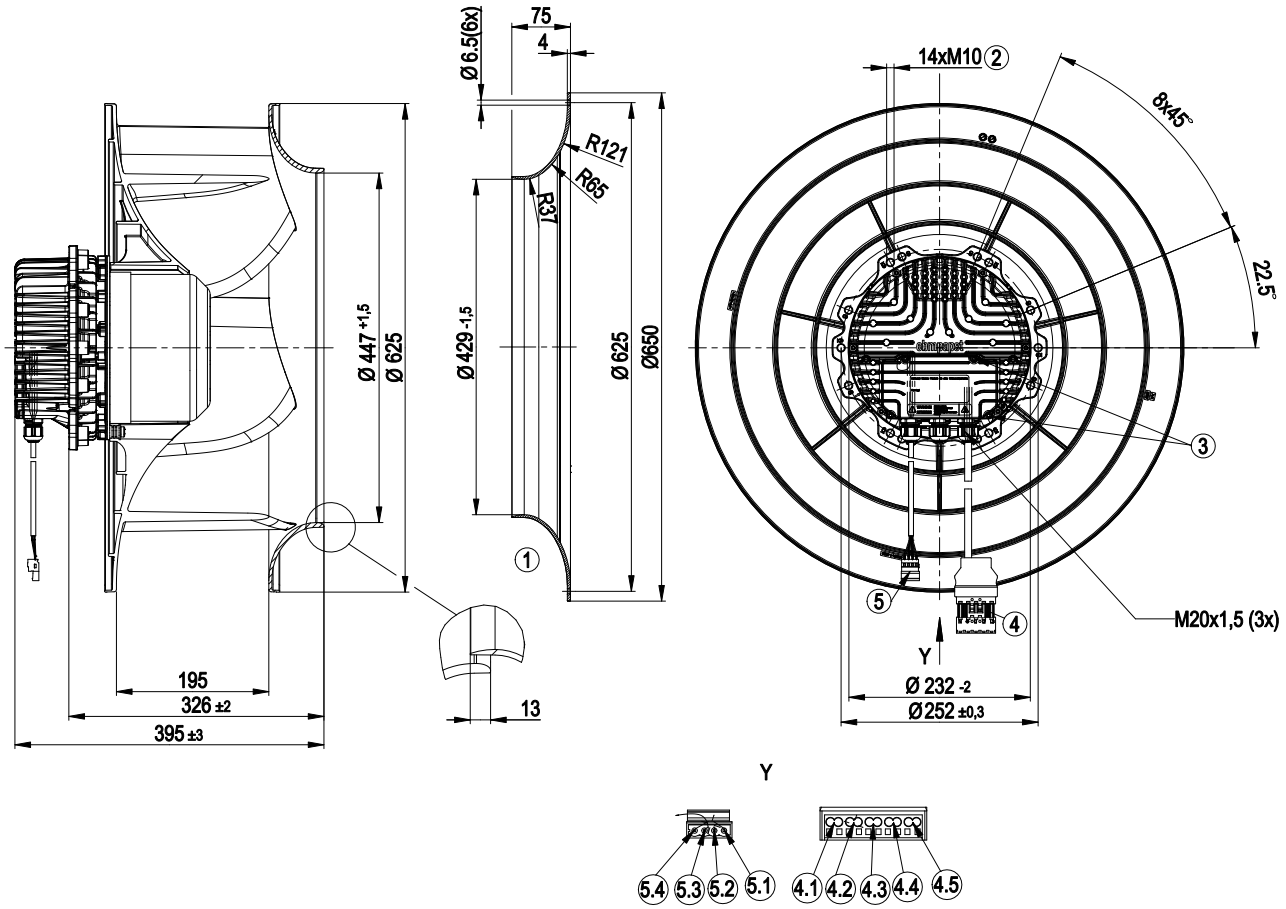
Product drawing



1	Accessory part: inlet nozzle 63070-2-4013 not included in the standard scope of delivery; other inlet nozzles on request
2	Depth of screw max. 25 mm
3	Tightening torque 3.5±0.5 Nm
Y	View Y
4	Connector WAGO No. 0770-001/K011-0174/0000-0300, mating connector (not included in standard scope of delivery), Connection line Ölflex Classic 110 grey 4G2.5 m. GNYE
4.1	Not assigned
4.2	PE
4.3	L1
4.4	L2
4.5	L3
5	4-pole strip, mating height 5 WAGO No. 231-604, mating connector (not included in standard scope of delivery), Connection line Ölflex Classic 110 grey 4 x 0.75 or GNYE
5.1	GND
5.2	0 - 10 V / PWM
5.3	COM
5.4	NC

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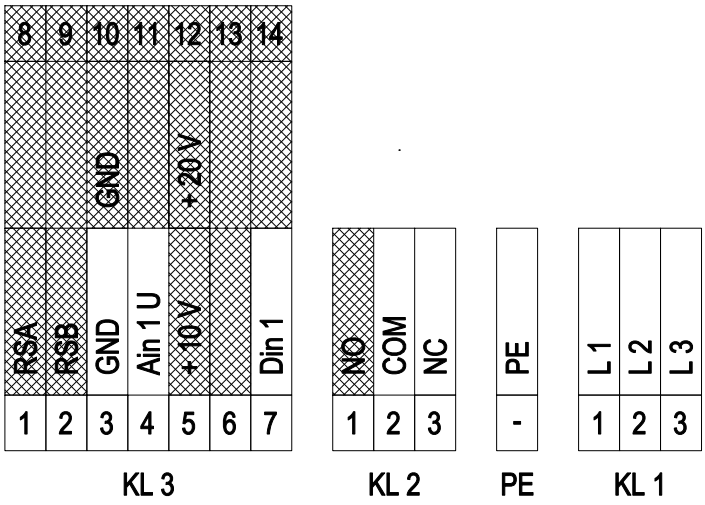
Connection screen



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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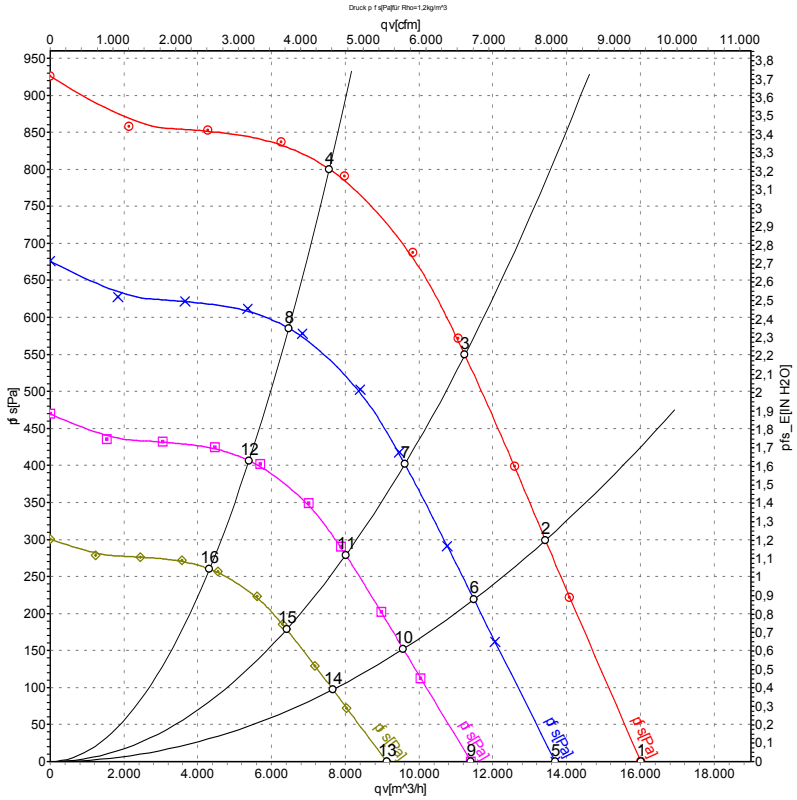
Charts: Air flow 50 Hz



Measurement: LU-127965

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	1400	2129	3.26	88	96	97	16020	0
2	Y	400	50	1400	2673	4.08	90	94	95	13430	300
3	Y	400	50	1400	2930	4.50	81	88	90	11240	550
4	Y	400	50	1400	2647	4.03	72	80	85	7570	800
5	Y	400	50	1200	1330	2.03	85	92	93	13690	0
6	Y	400	50	1200	1675	2.56	86	91	92	11490	219
7	Y	400	50	1200	1823	2.79	78	85	87	9615	403
8	Y	400	50	1200	1655	2.52	69	77	82	6475	586
9	Y	400	50	1000	769	1.18	81	88	89	11410	0
10	Y	400	50	1000	969	1.48	82	87	88	9575	152
11	Y	400	50	1000	1055	1.61	74	81	83	8015	280
12	Y	400	50	1000	958	1.46	65	73	78	5395	407
13	Y	400	50	800	394	0.60	76	84	85	9125	0
14	Y	400	50	800	496	0.76	77	82	83	7660	97
15	Y	400	50	800	540	0.83	69	76	78	6410	179
16	Y	400	50	800	490	0.75	60	68	73	4315	261

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