R3G595-AB23-05

Stulz

EC centrifugal fan

backward curved, single inlet

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Nominal data

Type	**R3G595-AB23-05**
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 (rpm)	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 in accordance with ecodesign regulation EU 327/2011

		Actual	Request 2015
01 Overall efficiency η_{es}	%	65.9	56.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		71.6	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	2.85
09 Air flow q_v	m^3/h	9830
09 Pressure increase p_{fs}	Pa	653
10 Speed (rpm) n	min^{-1}	1405
11 Specific ratio*		1.01

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

* Specific ratio = 1 + p_{fs} / 100 000 Pa

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Technical features

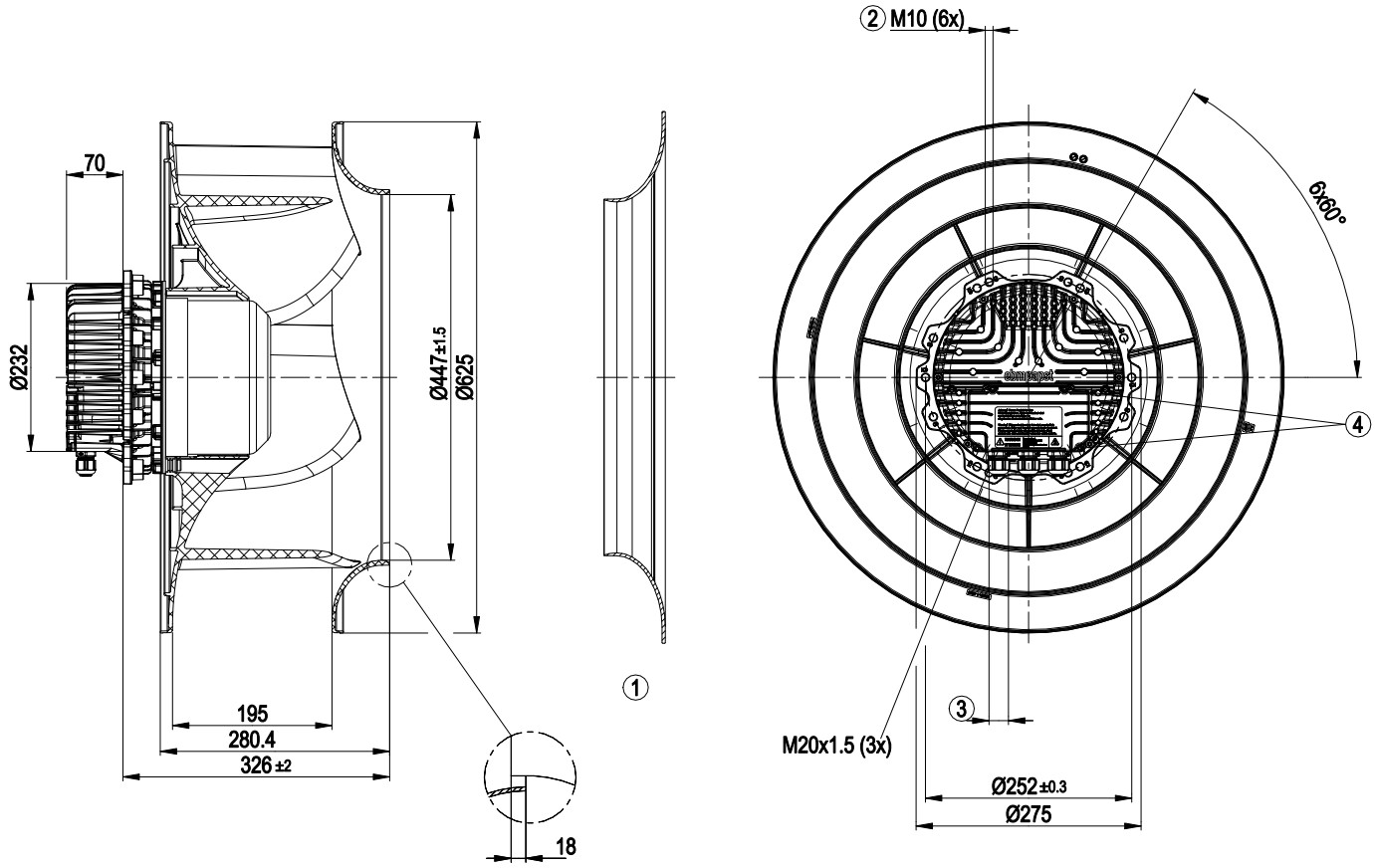
Mass	30.5 kg
Size	595 mm
Motor size	150
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	PP plastic
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP55
Insulation class	"F"
Humidity (F) / environmental protection class (H)	H1
Note ambient temperature	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at ambient temperatures below -25°C (e.g. refrigeration applications) we recommend our fan version with special low-temperature bearings.
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
Condensation drainage 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 - PFC, active - 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
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical connection	Terminal box
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	CSA C22.2 no. 77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730

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Product drawing



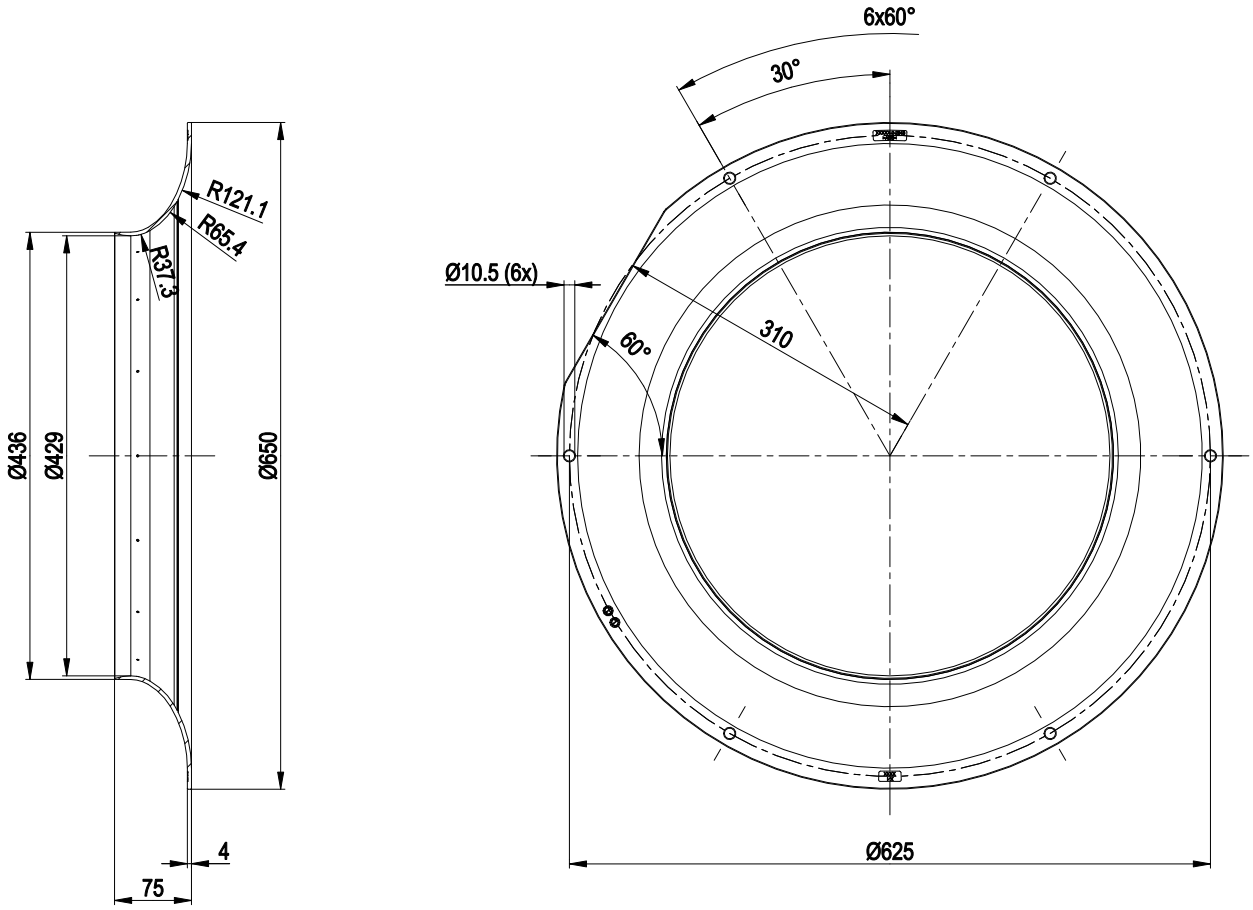
1	Accessory part: Inlet nozzle 59520-2-2943 not included in scope of delivery
2	Thread reach max. 25 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4±0.6 Nm
4	Tightening torque 3.5±0.5 Nm

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Accessory part



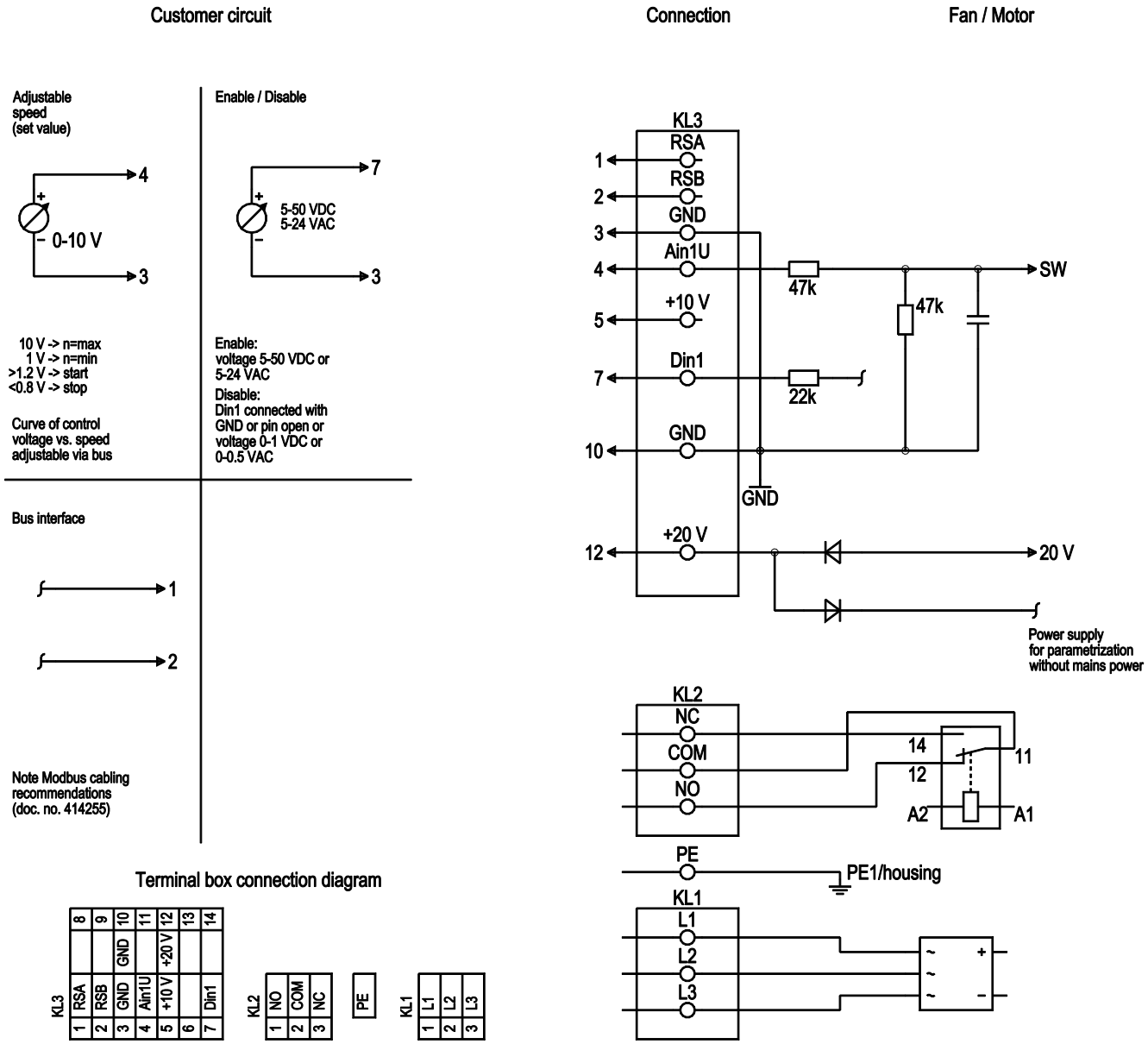
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Connection screen



No.	Conn.	Designation	Function / assignment
KL1	1	L1	Mains connection, power supply; see technical data for nominal voltage range
KL1	2	L2	Mains connection, power supply; see technical data for nominal voltage range
KL1	3	L3	Mains connection, power supply; see technical data for nominal voltage range
PE	PE	PE	Earth connection, PE connection
KL2	1	NO	Status relay, floating status contact, make for failure
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 for failure
KL3	1	RSA	Bus connection RS-485, RSA, MODBUS RTU; SELV
KL3	2	RSB	Bus connection RS-485, RSB, MODBUS RTU; SELV
KL3	3	GND	Signal ground for control interface; SELV
KL3	4	Ain1 U	Analogue input 1, set value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain1; SELV

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No.	Conn.	Designation	Function / assignment
KL3	5	+10 V	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometer); SELV
KL3	7	Din1	Digital input 1: enabling of electronics, enabling: 5-50 VDC / 5-24 VAC disabling: 0-1 VDC / 0-0.5 VAC or bridge to GND or open pin; SELV
KL3	10	GND	Signal ground for control interface; SELV
KL3	12	+24 V	Fixed voltage output 20 VDC; +20 V +25/-10%, max. 50 mA, short-circuit-proof; supply voltage for external devices (e.g. sensors); SELV Alternatively: +24 VDC input for parametrization without mains power

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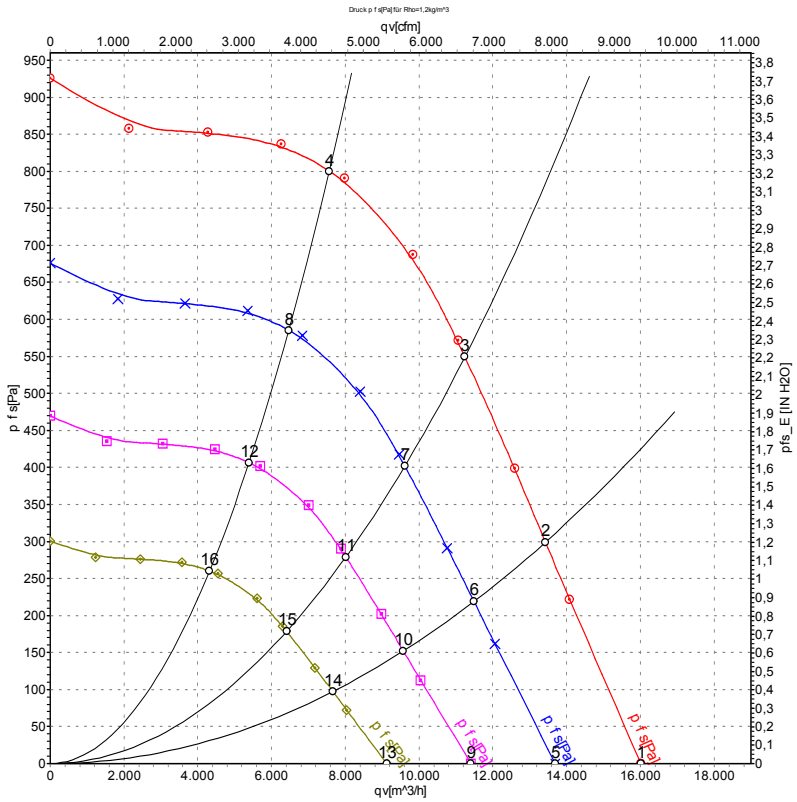
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Charts: Air flow 50 Hz



Measurement: LU-127965-1

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}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	Y	400	50	1400	2129	3.26	88	96	97	16020	0	9430	0.00
2	Y	400	50	1400	2673	4.08	90	94	95	13430	300	7905	1.20
3	Y	400	50	1400	2930	4.50	81	88	90	11240	550	6615	2.21
4	Y	400	50	1400	2647	4.03	72	80	85	7570	800	4455	3.21
5	Y	400	50	1200	1330	2.03	85	92	93	13690	0	8060	0.00
6	Y	400	50	1200	1675	2.56	86	91	92	11490	219	6765	0.88
7	Y	400	50	1200	1823	2.79	78	85	87	9615	403	5660	1.62
8	Y	400	50	1200	1655	2.52	69	77	82	6475	586	3810	2.35
9	Y	400	50	1000	769	1.18	81	88	89	11410	0	6715	0.00
10	Y	400	50	1000	969	1.48	82	87	88	9575	152	5635	0.61
11	Y	400	50	1000	1055	1.61	74	81	83	8015	280	4715	1.12
12	Y	400	50	1000	958	1.46	65	73	78	5395	407	3175	1.63
13	Y	400	50	800	394	0.60	76	84	85	9125	0	5370	0.00
14	Y	400	50	800	496	0.76	77	82	83	7660	97	4510	0.39
15	Y	400	50	800	540	0.83	69	76	78	6410	179	3775	0.72
16	Y	400	50	800	490	0.75	60	68	73	4315	261	2540	1.05

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · 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 · q_V = Air flow · p_{fs} = Pressure increase

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