S3G630-CP70-23

EC axial fan - HyBlade

sickle-shaped blades (S series)

with guard grille for full nozzle

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**S3G630-CP70-23**
Motor	**M3G112-EA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	820
Power consumption	W	400
Current draw	A	1.8
Max. back pressure	Pa	95
Max. back pressure	inH2O	0.38
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}	%	43	30.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		52.1	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.36
09 Air flow q_v	m^3/h	6655
09 Pressure increase p_{fs}	Pa	77
10 Speed (rpm) n	min^{-1}	815
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-121486

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Technical description

Weight	12.5 kg
Fan size	630 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	"V"
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F4-1
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 bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - Alarm relay - Integrated PID controller - Motor current limitation - PFC, active - RS-485 ebmBUS - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from supply - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Via terminal box
Motor protection	Thermal overload protector (TOP) internally connected
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	EAC

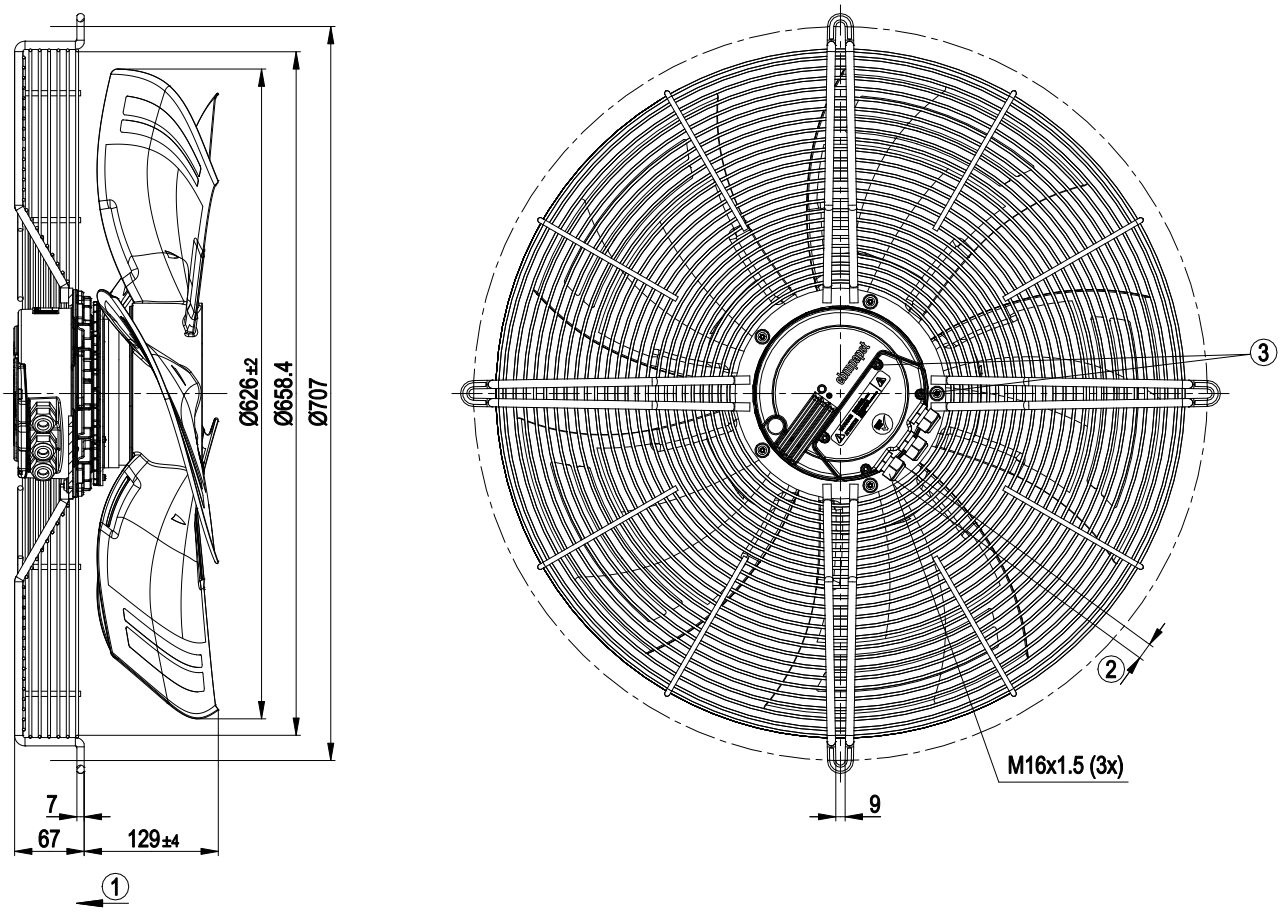
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Product drawing



1	Direction of air flow "V"
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 2.5 ± 0.4 Nm
3	Tightening torque 3.5 ± 0.5 Nm

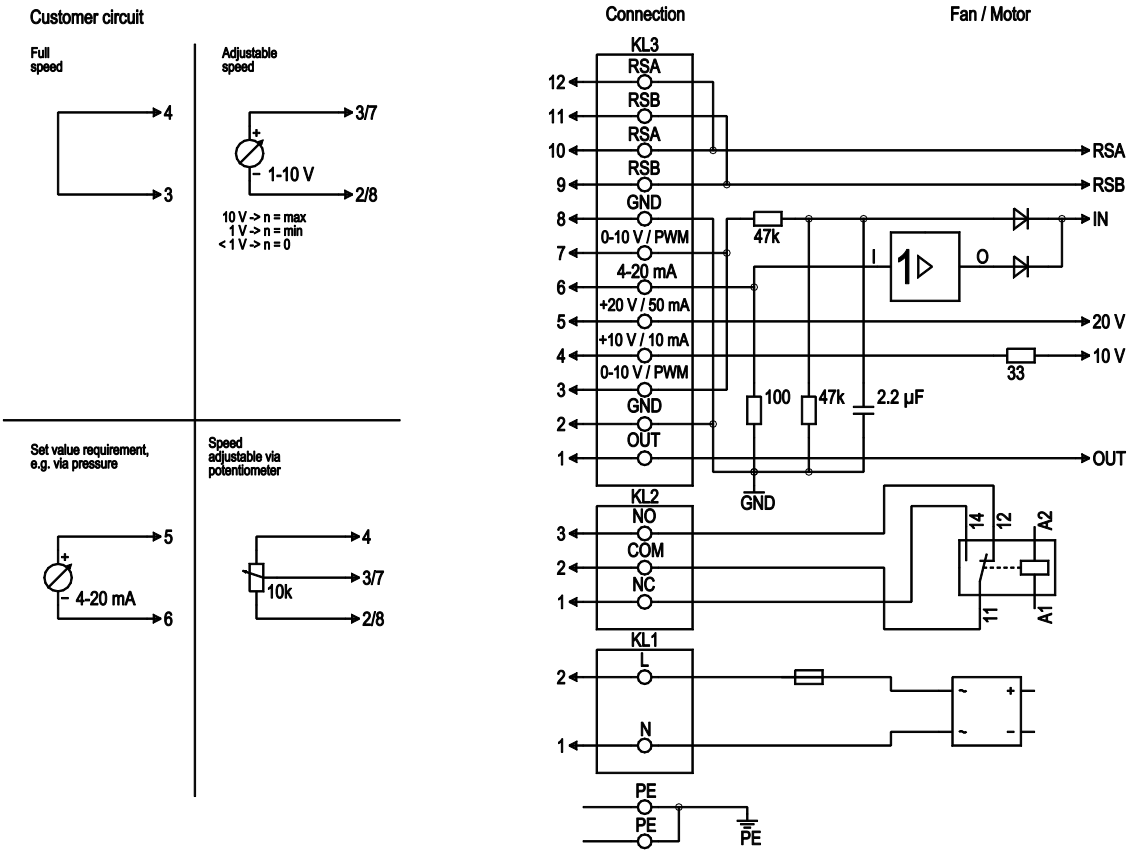
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Connection diagram



No.	Conn.	Designation	Function/assignment
PE		PE	Protective earth terminal
KL1	1, 2	N, L	Power supply 50/60 Hz
KL2	1	NC	Floating status contact, break for failure
KL2	2	COM	Floating status contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status contact, make for failure
KL3	1	OUT	Analog output, 0-10 VDC, max. 3 mA, SELV, output of current motor modulation level: 1 V corresponds to 10% modulation level. 10 V corresponds to 100% modulation level.
KL3	2, 8	GND	Reference ground for control interface, SELV
KL3	3, 7	0-10 V	Use control / current sensor value input 0-10 VDC, impedance 100 kΩ only as alternative to 4-20 mA input, SELV
KL3	4	+10 V	Voltage output 10 VDC (±3 %), max. 10 mA, power supply for external devices (e.g. potentiometer), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25% / -10%), max. 50 mA, power supply for external devices (e.g. sensors); SELV
KL3	6	4-20 mA	Use control / current sensor value input 4-20 mA, impedance 100 Ω only as alternative to 0-10 V input, SELV
KL3	9, 11	RSB	RS485 interface for ebmBUS, RSB, SELV
KL3	10, 12	RSA	RS485 interface for ebmBUS, RSA, SELV

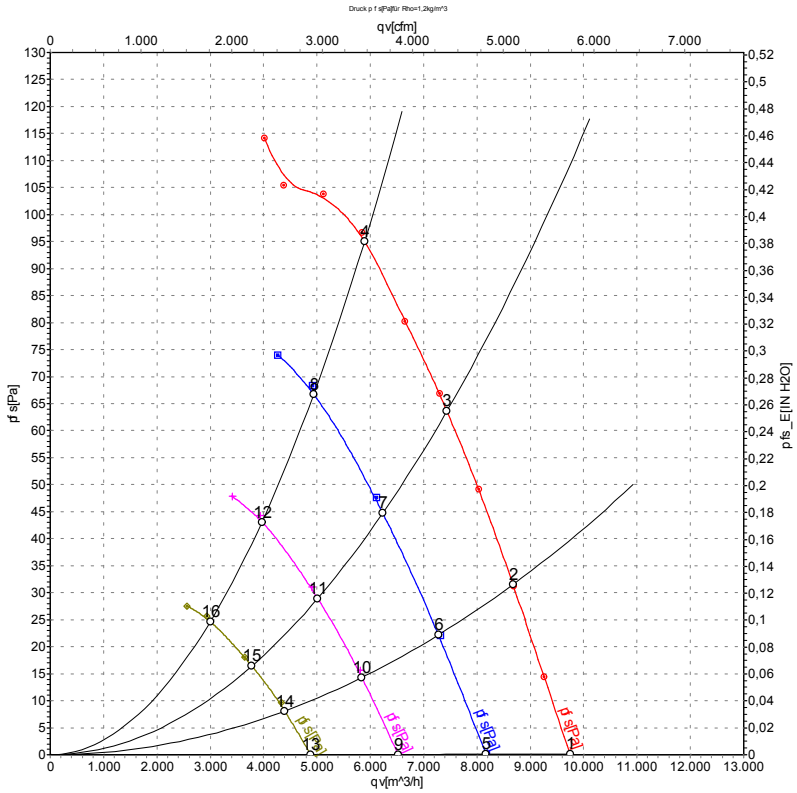
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Curves: Air performance 50 Hz



Measurement: LU-121486-1
Measurement: LU-122201-1
Measurement: LU-122202-1
Measurement: LU-122203-1

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	LpA_{in}	LwA_{in}	LwA_{out}	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	230	50	820	251	1.11	59	65	65	9745	0	5735	0.00
2	230	50	820	298	1.31	56	62	62	8675	32	5105	0.13
3	230	50	820	350	1.54	57	63	63	7435	64	4375	0.26
4	230	50	820	400	1.80	58	67	65	5890	95	3465	0.38
5	230	50	680	146	0.67	55	62	61	8165	0	4805	0.00
6	230	50	680	176	0.79	53	59	59	7275	23	4280	0.09
7	230	50	680	203	0.91	53	59	58	6235	45	3670	0.18
8	230	50	680	230	1.02	53	61	60	4940	68	2905	0.27
9	230	50	545	85	0.43	51	56	56	6525	0	3840	0.00
10	230	50	545	98	0.48	49	55	55	5840	15	3440	0.06
11	230	50	545	112	0.53	48	54	54	5015	29	2950	0.12
12	230	50	545	124	0.58	49	56	56	3970	44	2335	0.18
13	230	50	410	43	0.28	44	49	50	4880	0	2870	0.00
14	230	50	410	49	0.30	43	49	49	4395	8	2585	0.03
15	230	50	410	55	0.32	42	48	49	3780	16	2225	0.06
16	230	50	410	60	0.34	43	50	51	3000	25	1765	0.10

U = Power supply · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · qv = Air flow · p_{fs} = Pressure increase

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