W3G910-CH04-05

GEA Searle Ltd

EC axial fan

sickled blades (S series)

with full square nozzle

W3G910-CH04-05 ebmpapst Datasheet
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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	**W3G910-CH04-05**
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	min^{-1}	870
Power input	W	1900
Current draw	A	2.9
Max. back pressure	Pa	140
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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 integrated	Integrated
Specific ratio*	1,00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		45,8	31,5	35,5
Efficiency grade N		50,3	36	40
Power input P_{ed}	kW	1,94		
Air flow q_v	m^3/h	20060		
Pressure increase p_{fs}	Pa	151		
Speed n	min^{-1}	875		

Data established at point of optimum efficiency

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Technical features

Mass	57 kg
Size	910 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Die-cast aluminium
Material of wall ring	Sheet steel, pre-galvanised and plastic-coated in platinum grey (RAL 7036)
Material of guard grille	Steel, phosphated and coated in black plastic
Number of blades	5
Blade angle	0°
Direction of air flow	"V"
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 top; rotor on bottom on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- PFC, passive - Control input 0-10 VDC / PWM - Over-temperature protected electronics / motor - Alarm relay - Integrated PID controller - Input for sensor 0-10 V or 4-20 mA - Output for slave 0-10 V - RS485 ebmBUS - Motor current limit - Soft start - Line undervoltage / phase failure detection - Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 61000-6-3 (household environment)
Leakage current	<= 3.5 mA
Electrical leads	Via 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	VDE; CSA C22.2 Nr.77; UL 1004-1

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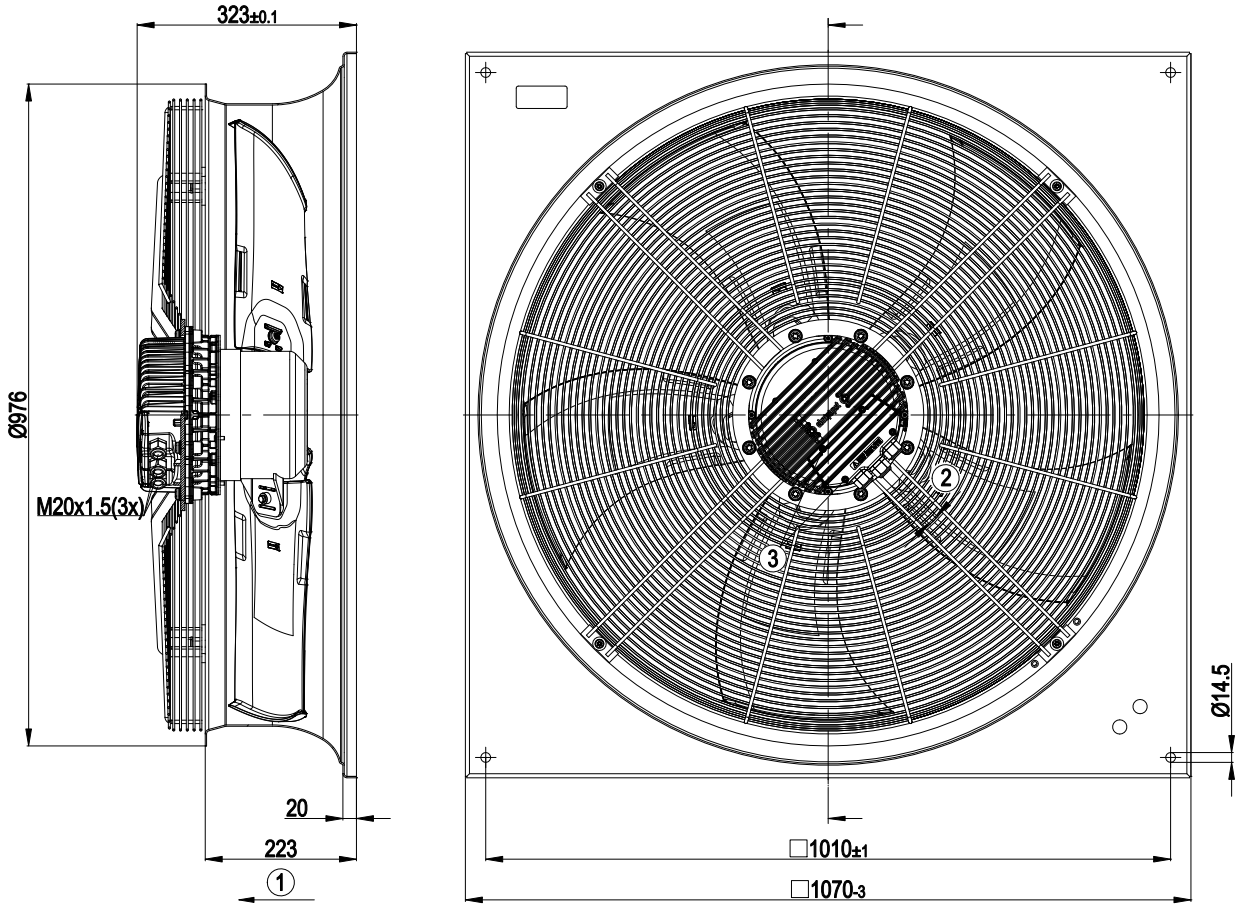
Product drawing



1	Direction of air flow "V"
2	Cable diameter: min. 4 mm, max. 10 mm; tightening torque: 4±0.6 Nm
3	Tightening torque 3.5±0.5 Nm

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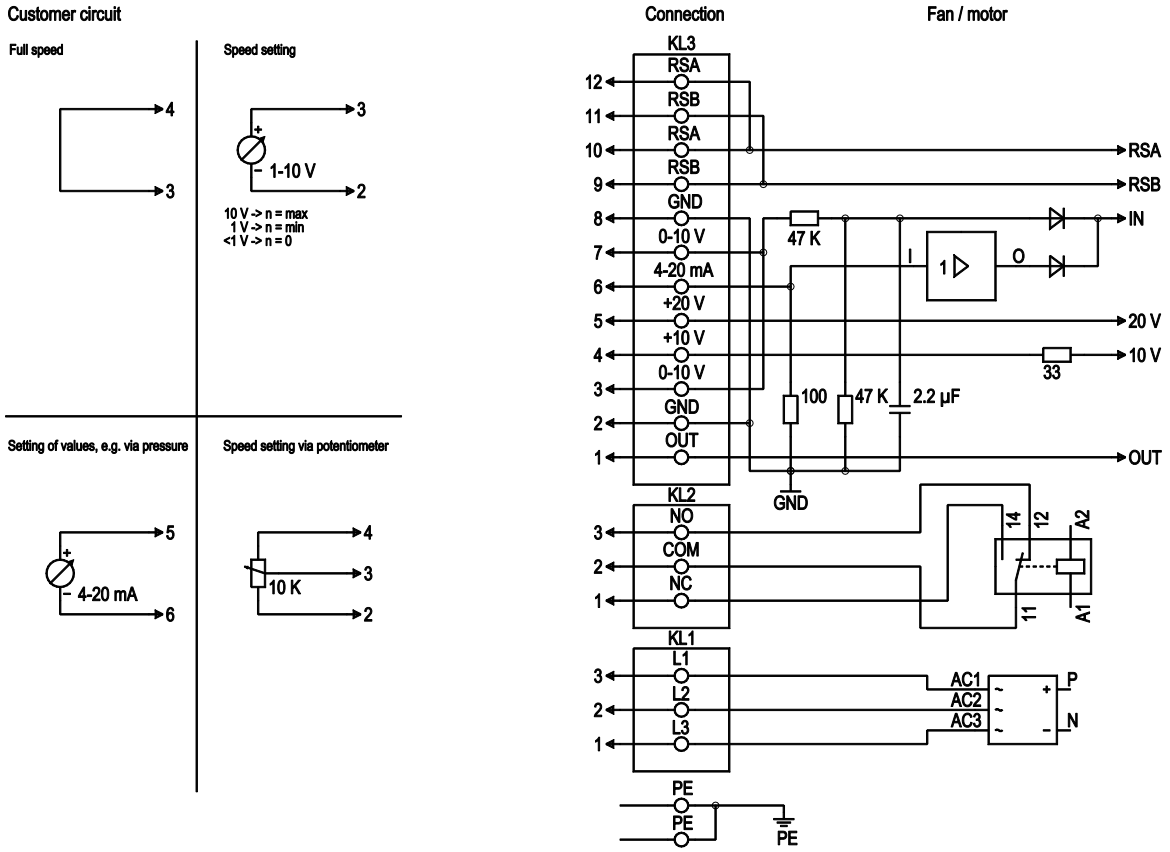
Connection screen



No.	Pin	Signal	Function / assignment
PE		PE	Protective earth connection
KL1	1, 2, 3	L1, L2, L3	Supply voltage, 50/60 Hz
KL2	1	NC	Floating status message contact, normally closed connection
KL2	2	COM	Floating status message contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status message contact, normally open connection
KL3	1	OUT	Analog output, 0-10 VDC, max. 3 mA, SELV, output of the current level control coefficient: 1 V equates to 10 % level control coefficient. 10 V equate to 100 % level control coefficient.
KL3	2, 8	GND	Reference mass for control interface, SELV
KL3	3, 7	0-10 V	Use control / actual 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, supply voltage for ext. devices (e.g. potentiometers), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25 %/-10 %), max. 50 mA, supply voltage for ext. devices (e.g. sensors), SELV
KL3	6	4-20 mA	Use control / actual 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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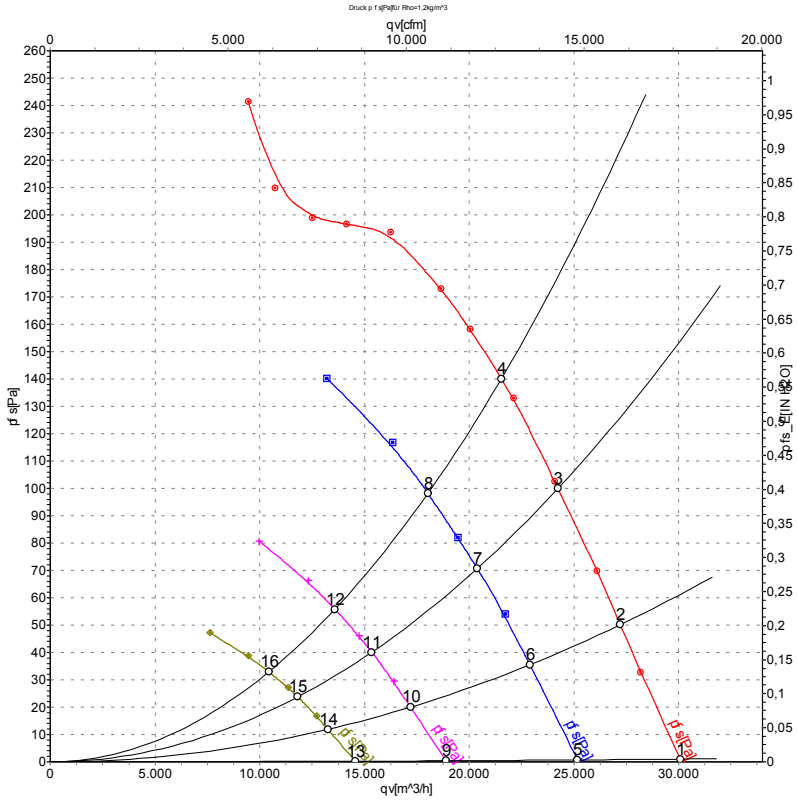
Charts: Air flow 50 Hz



Measurement: LU-109583
Measurement: LU-112568
Measurement: LU-112569
Measurement: LU-112570

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

	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	400	50	870	1305	1.99	70	76	75	30140	0
2	400	50	870	1535	2.34	69	75	73	27210	50
3	400	50	870	1710	2.61	69	75	73	24240	100
4	400	50	870	1900	2.90	70	76	75	21530	140
5	400	50	730	730	1.17	66	72	70	25170	0
6	400	50	730	858	1.35	65	71	69	22890	36
7	400	50	730	978	1.52	65	71	69	20380	71
8	400	50	730	1058	1.64	66	72	70	18020	98
9	400	50	550	327	0.63	60	66	64	18890	0
10	400	50	550	382	0.70	60	65	63	17200	20
11	400	50	550	432	0.76	59	65	62	15350	40
12	400	50	550	468	0.81	59	65	64	13590	55
13	400	50	420	152	0.33	54	59	58	14560	0
14	400	50	420	181	0.38	54	59	57	13250	12
15	400	50	420	204	0.42	53	58	57	11810	24
16	400	50	420	218	0.44	53	59	57	10430	33