W3G910-GW39-10

EC axial fan

sickled blades (S series)

with full square nozzle

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Nominal data

Type	**W3G910-GW39-10**
Motor	**M3G150-FF**

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}	940
Power input	W	2000
Current draw	A	3
Max. back pressure	Pa	180
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}	%	50.3	35.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		54.8	40
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	1.92
09 Air flow q_v	m^3/h	19750
09 Pressure increase p_{fs}	Pa	166
10 Speed (rpm) n	min^{-1}	945
11 Specific ratio*		1.00

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	49 kg
Size	910 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Aluminium sheet insert, sprayed with PP plastic
Material of wall ring	Sheet steel, galvanised and coated in pebble grey plastic (RAL 7032)
Material of guard grille	Steel, coated in black plastic (RAL9005)
Number of blades	5
Blade angle	-5°
Direction of air flow	"V"
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	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 - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - External 24 V input (programming) - External release input - Alarm relay - Integrated PID controller - 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), except EN 61000-3-2 for professionally used devices with a total rated power greater than 1 kW
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 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

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Approval	EAC

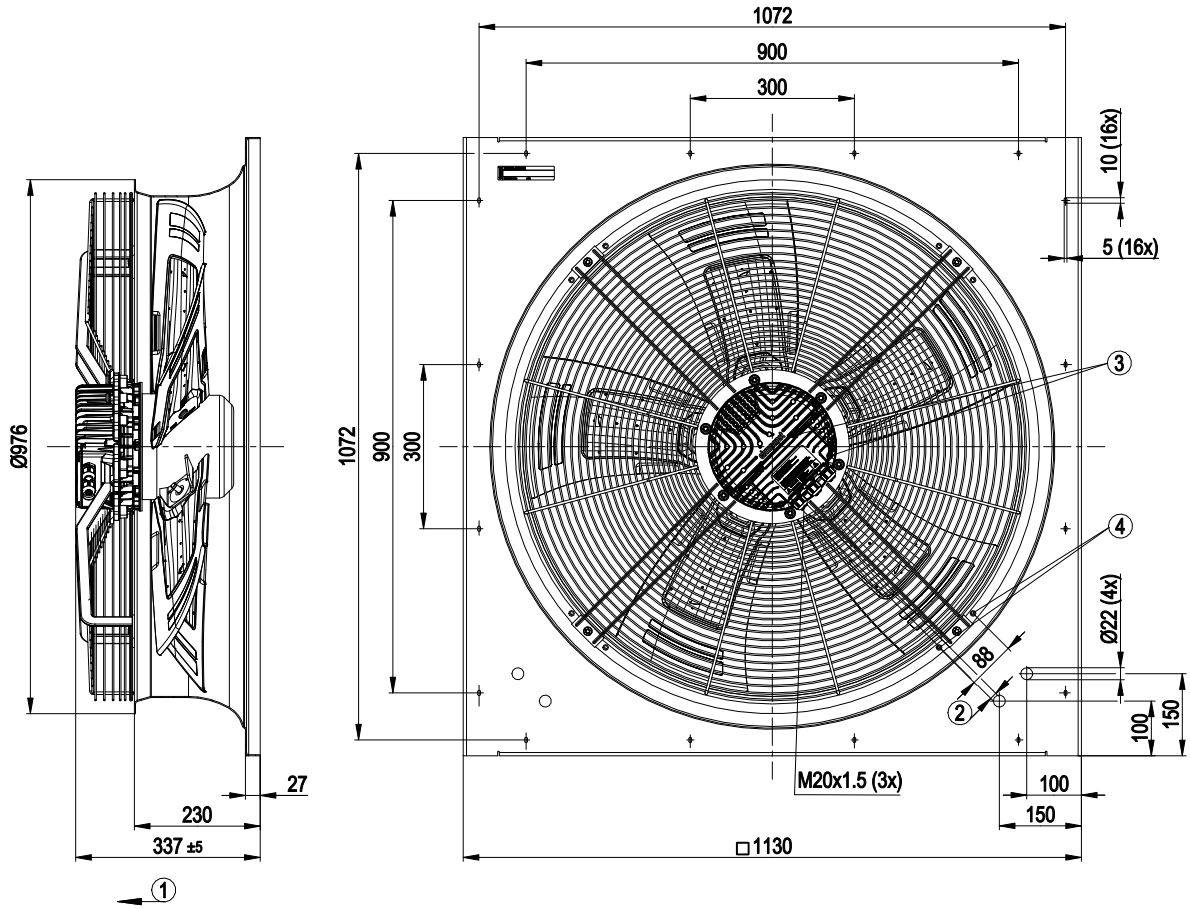
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Product drawing



1	Direction of air flow "V"
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4±0.6 Nm
3	Tightening torque 3.5±0.5 Nm
4	M8 piercing nut

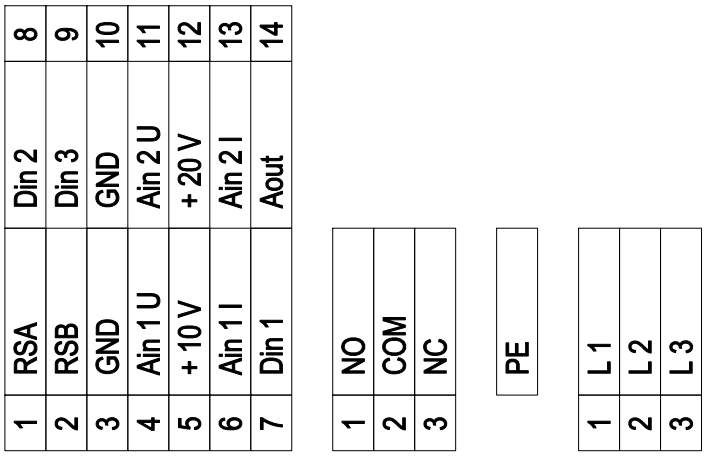
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Connection screen



No.	Conn.	Designation	Function / assignment
KL 1	1	L1	Mains connection, power supply 3-phase 380-480 VAC; 50/60 Hz
KL 1	2	L2	Mains connection, power supply 3-phase 380-480 VAC; 50/60 Hz
KL 1	3	L3	Mains connection, power supply 3-phase 380-480 VAC; 50/60 Hz
PE		PE	Earth connection, PE connection
KL 2	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
KL 3	1	RSA	Bus connection RS-485, RSA, MODBUS RTU; SELV
KL 3	2	RSB	Bus connection RS-485, RSB, MODBUS RTU; SELV
KL 3	3 / 10	GND	Reference earth for control interface; SELV
KL 3	4	Ain1 U	Analogue input 1, set value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only for use as alternative to input Ain1; SELV
KL 3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V +/-3%, max. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. potentiometer); SELV
KL 3	6	Ain1 I	Analogue input 1, set value: 4-20 mA; Ri = 100 Ω, parametrisable curve, only for use as alternative to input Ain1 U; SELV
KL 3	7	Din1	Digital input 1: Enabling of electronics, Enable: Pin open or applied voltage 5-50 VDC Disable: Bridge to GND or applied voltage <1 VDC Reset function: Triggering of software reset after level change to <1 VDC; SELV
KL 3	8	Din2	Digital input 2: Switching of fan direction of rotation, direction of rotation clockwise (standard, preferred running direction): Pin open or applied voltage 5-50 VDC direction of rotation anti-clockwise (inverse, opposite direction of rotation): Bridge to GND or applied voltage <1 VDC; SELV
KL 3	9	Din3	Digital input 3: Controller function of integrated controller; depending on EEPROM setting, normal/inverse can be selected for the controller function of the integrated controller via the BUS or the digital input Normal: Pin open or applied voltage 5-50 VDC Inverse: Bridge to GND or applied voltage <1 VDC; SELV
KL 3	11	Ain2 U	Analogue input 2, actual value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain2; SELV
KL 3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V +25/-10%, max. 50 mA, short-circuit-proof, power supply for ext. devices (e.g. sensors); SELV
KL 3	13	Ain2 I	Analogue input 2, actual value: 4-20 mA, Ri = 100 Ω, parametrisable curve, only for use as alternative to input Ain2 U; SELV

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No.	Conn.	Designation	Function / assignment
KL 3	14	Aout	Analogue output 0-10 VDC, max. 5 mA, output of the current motor level control coefficient / motor speed parametrisable curve; SELV

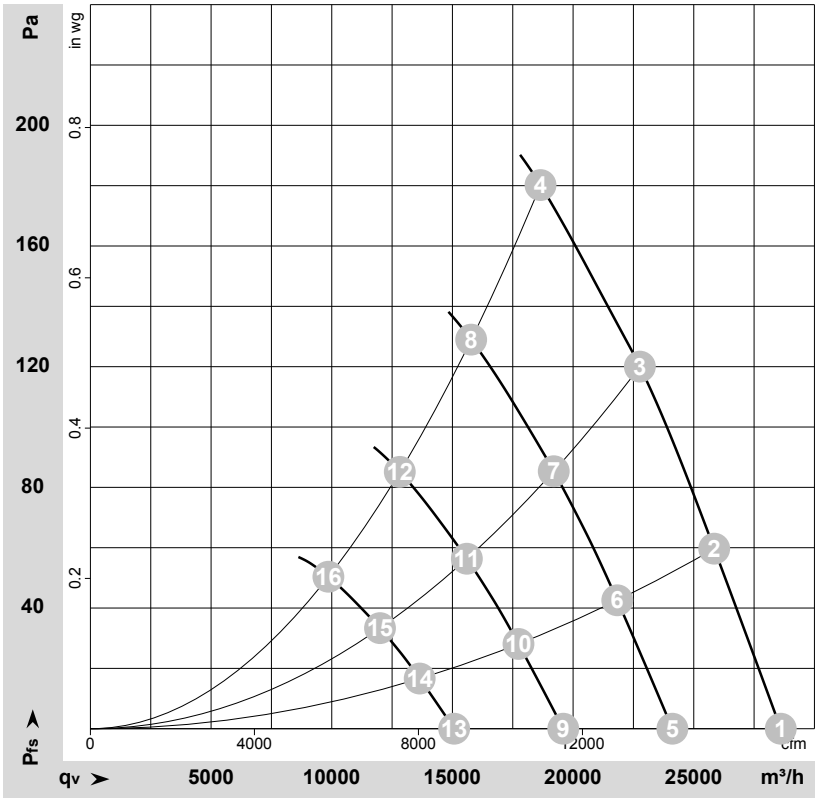
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Charts: Air flow 50 Hz



ρ = 1.186 kg/m³ ± 2 %

Measurement: LU-170311-1

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

	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	inH2O
1	400	50	940	1166	1.80	71	79	78	28605	0	16835	0.00
2	400	50	940	1447	2.21	69	76	76	25845	60	15215	0.24
3	400	50	940	1736	2.64	68	76	75	22765	120	13400	0.48
4	400	50	940	2000	3.00	71	79	78	18650	180	10975	0.72
5	400	50	800	698	1.08	67	74	74	24115	0	14195	0.00
6	400	50	800	876	1.34	65	72	72	21830	43	12850	0.17
7	400	50	800	1040	1.58	64	71	71	19200	85	11300	0.34
8	400	50	800	1210	1.84	67	74	74	15780	129	9285	0.52
9	400	50	650	375	0.58	61	69	68	19595	0	11530	0.00
10	400	50	650	470	0.72	60	67	67	17735	29	10440	0.12
11	400	50	650	558	0.85	59	66	66	15600	56	9180	0.22
12	400	50	650	649	0.99	62	69	69	12820	85	7545	0.34
13	400	50	500	171	0.26	55	62	62	15070	0	8870	0.00
14	400	50	500	214	0.33	53	60	60	13645	17	8030	0.07
15	400	50	500	254	0.39	52	59	59	12000	33	7060	0.13
16	400	50	500	295	0.45	55	63	62	9860	50	5805	0.20

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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