W3G710-GZ04-09

EC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

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Nominal data

Type	**W3G710-GZ04-09**
Motor	**M3G150-NA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	1630
Power consumption	W	4900
Current draw	A	7.5
Max. back pressure	Pa	406
Max. back pressure	inH2O	1.63
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 Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	44.3	38
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		46.3	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	4.82
09 Air flow q_v	m^3/h	17890
09 Pressure increase p_{fs}	Pa	414
10 Speed (rpm) n	min^{-1}	1635
11 Specific ratio*		1.01

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-131215

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Technical description

Weight	51.7 kg
Fan size	710 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Blade material	Sheet aluminum insert, sprayed with PP plastic
Fan housing material	Sheet steel, galvanized and coated with black plastic (RAL 9005)
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Blade pitch	-5°
Airflow direction	"V"
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	F4-1
Ambient temperature note	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at temperatures below -25°C (e.g. refrigeration applications) we recommend our fan design with special low-temperature bearings.
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 - External 24 V input (parameter setting) - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
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	Reverse polarity and locked-rotor protection
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	C22.2 No.77 + CAN/CSA-E60730-1; UL 1004-7 + 60730

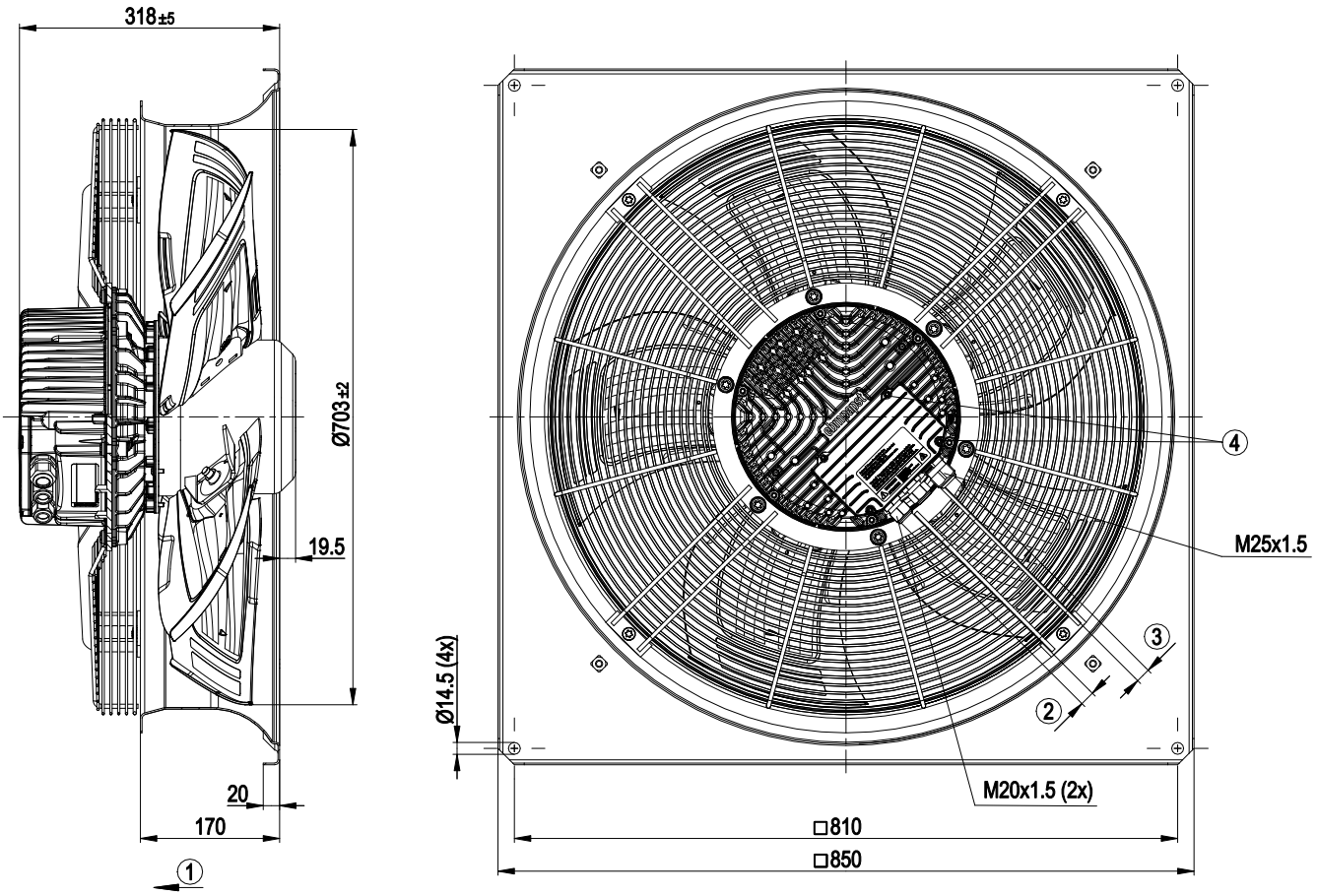
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Product drawing



1	Direction of air flow "V"
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
3	Cable diameter min. 9 mm, max. 16 mm, tightening torque 6 ± 0.9 Nm
4	Tightening torque 3.5 ± 0.5 Nm

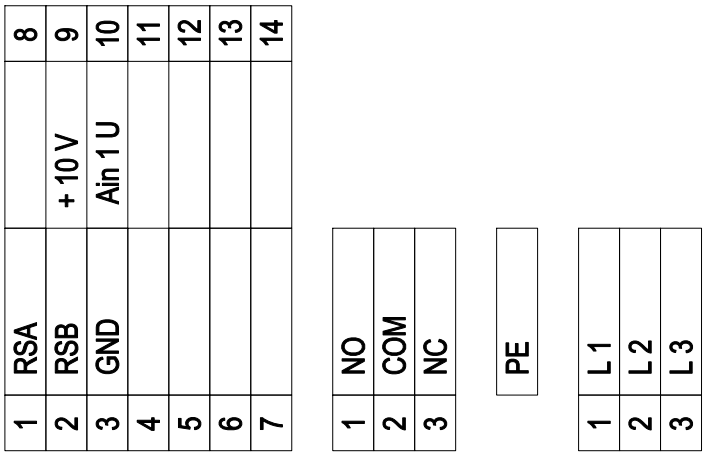
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Connection diagram



No.	Conn.	Designation	Function/assignment
1	1	L1	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
1	2	L2	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
1	3	L3	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
PE	-	PE	Protective earth terminal
2	1	NO	Floating status contact, make for failure
2	2	COM	Floating status contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
2	3	NC	Floating status contact, break for failure
3	1	RSA	RS485 interface for MODBUS, RSA; SELV
3	2	RSB	RS485 interface for MODBUS, RSB; SELV
3	3	GND	Reference ground for control interface; SELV
3	4		not used
3	5		not used
3	6		not used
3	7		not used
3	8		not used
3	9	+10V	Voltage output 10 VDC (±3%), max. 10 mA, power supply for external devices (e.g. potentiometer); SELV
3	10	Ain1 U	Control input / current sensor value input 0-10 VDC, impedance 100 kΩ; SELV
3	11		not used
3	12		not used
3	13		not used
3	14		not used

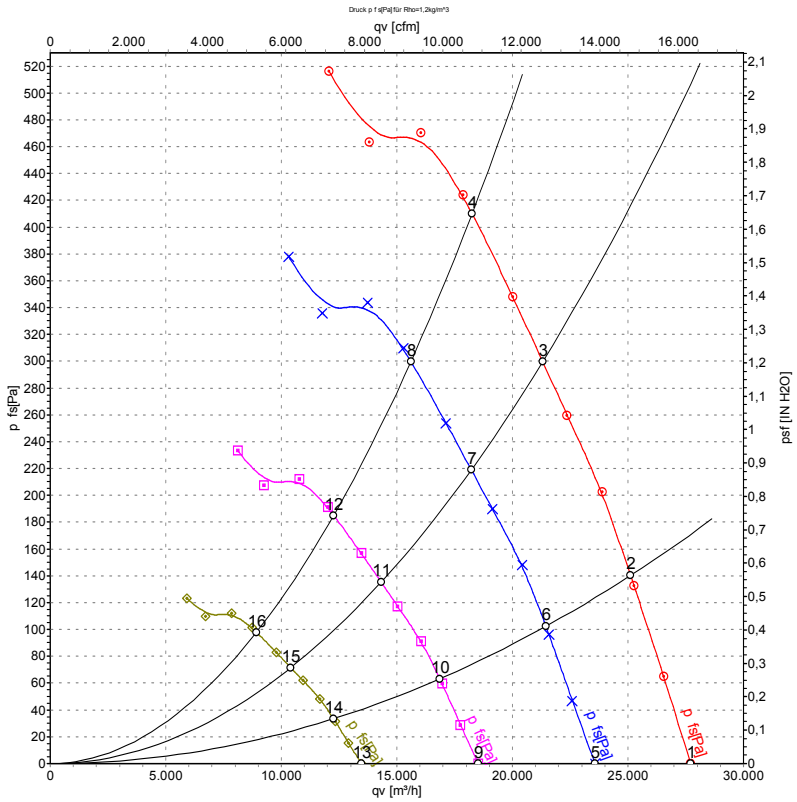
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Curves: Air performance 50 Hz



Measurement: LU-131215-1

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}	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	1630	3565	5.55	77	85	86	27710	0	16310	0.00
2	400	50	1630	4080	6.30	77	84	85	25110	140	14780	0.56
3	400	50	1630	4603	7.09	81	88	88	21310	300	12545	1.20
4	400	50	1630	4900	7.50	84	91	91	18250	406	10740	1.63
5	400	50	1400	2194	3.42	73	81	82	23570	0	13875	0.00
6	400	50	1400	2544	3.93	73	80	81	21450	103	12625	0.41
7	400	50	1400	2877	4.43	78	84	84	18220	219	10725	0.88
8	400	50	1400	3009	4.62	80	87	87	15610	301	9190	1.21
9	400	50	1100	1064	1.66	67	75	76	18520	0	10900	0.00
10	400	50	1100	1234	1.91	67	74	75	16850	63	9920	0.25
11	400	50	1100	1396	2.15	71	78	78	14320	135	8430	0.54
12	400	50	1100	1460	2.24	74	81	81	12260	186	7215	0.75
13	400	50	800	409	0.64	59	67	68	13470	0	7930	0.00
14	400	50	800	475	0.73	59	66	67	12260	34	7215	0.14
15	400	50	800	537	0.83	63	70	70	10410	72	6125	0.29
16	400	50	800	562	0.86	66	73	73	8920	98	5250	0.39

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 · q_V = Air flow · p_{fs} = Pressure increase

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