

EC axial panel fan - AxiBlade

sickle-shaped blades (S series)

Fan housing with guide vanes

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	W3G910-LV10-15	
Motor	M3G150-NA	

Phase		3~
Nominal voltage	VAC	200
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60

Method of obtaining data		ml
Speed (rpm)	min ⁻¹	1030
Power consumption	W	2900
Current draw	A	8.8
Max. back pressure	Pa	280
Max. back pressure	in. wg	1.12
Min. ambient temperature	°C	-40
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 (prEN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	58	36.6	09 Power consumption P_{ed}	kW	2.86
02 Measurement category		A		09 Air flow q_v	m ³ /h	21475
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	265
04 Efficiency grade N		61.4	40	10 Speed (rpm) n	min ⁻¹	1025
05 Variable speed drive		Yes		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

* Specific ratio = $1 + p_s / 100\,000\text{ Pa}$

LU-206664

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.
The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

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Technical description

Weight	55.5 kg
Size	910 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted gray
Impeller material	PP plastic
Fan housing material	Sheet steel, galvanized and coated with black plastic (RAL 9005)
Material guide vanes	PP plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
Internal diffuser material including cover	PP plastic
Number of blades	5
Blade pitch	0°
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
Ambient temperature note	Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a 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	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6.3 - Motor current limitation - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - 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 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box

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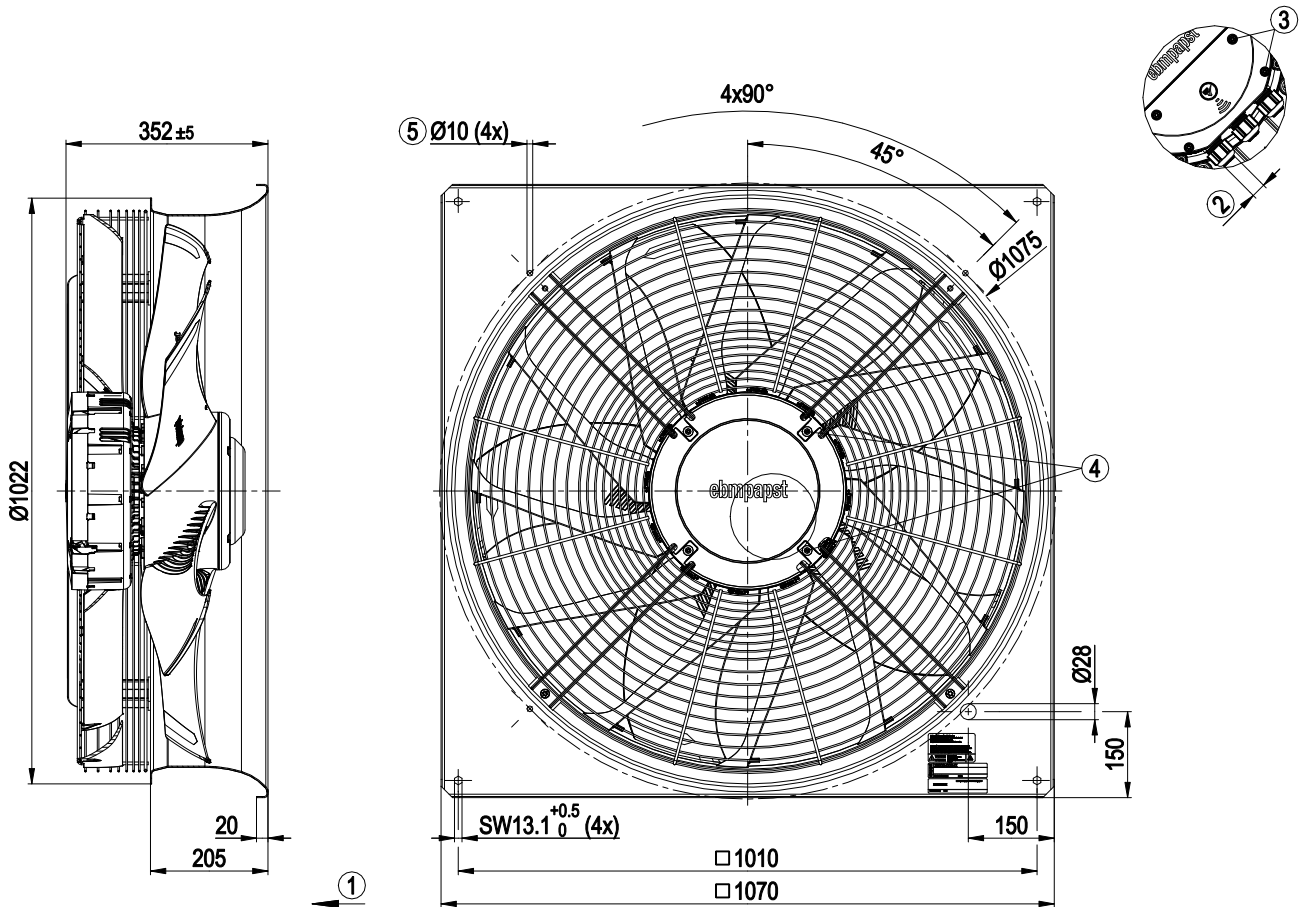
Protection class assignment	I; If a protective earth is connected. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.
Conformity with standards	EN 61800-5-1; CE
Approval	EAC; UL 1004-7 + 60730-1; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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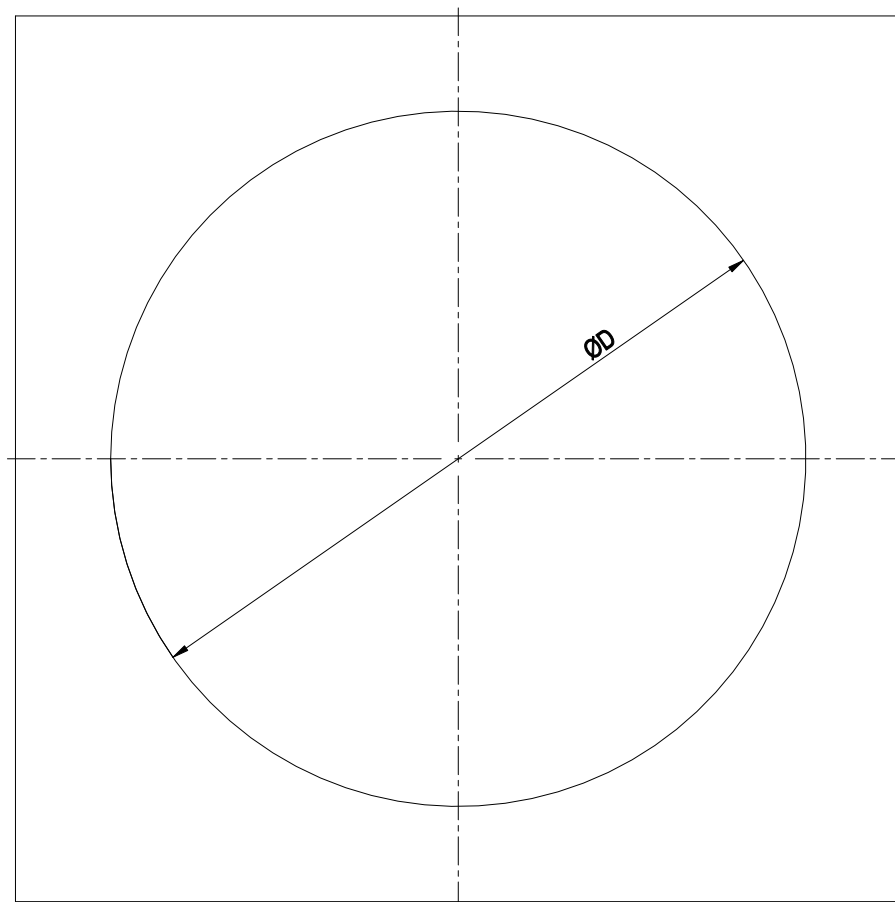
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Product drawing



1	Airflow direction "V"
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm (The tightening torque is designed for PVC cables. If the cable materials are different, the tightening torque may have to be adjusted)
3	Tightening torque 1.5 ± 0.2 Nm
4	Tightening torque 3 ± 0.3 Nm
5	Attachment holes for FlowGrid (91000-2-2957 not included in scope of delivery)

Mounting dimensions



Diameter of the necessary recess for mounting the fan housing in the end device

BG630: D = $\varnothing$ 785 mm

BG710: D = $\varnothing$ 830 mm

BG800: D = $\varnothing$ 950 mm

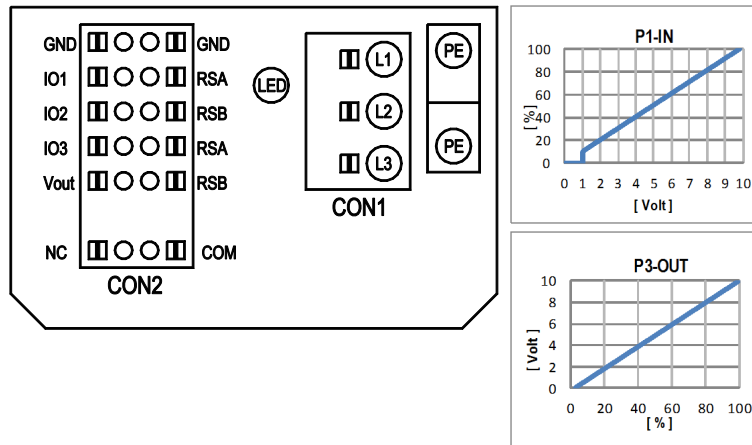
BG910: D = $\varnothing$ 1050 mm

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Connection diagram



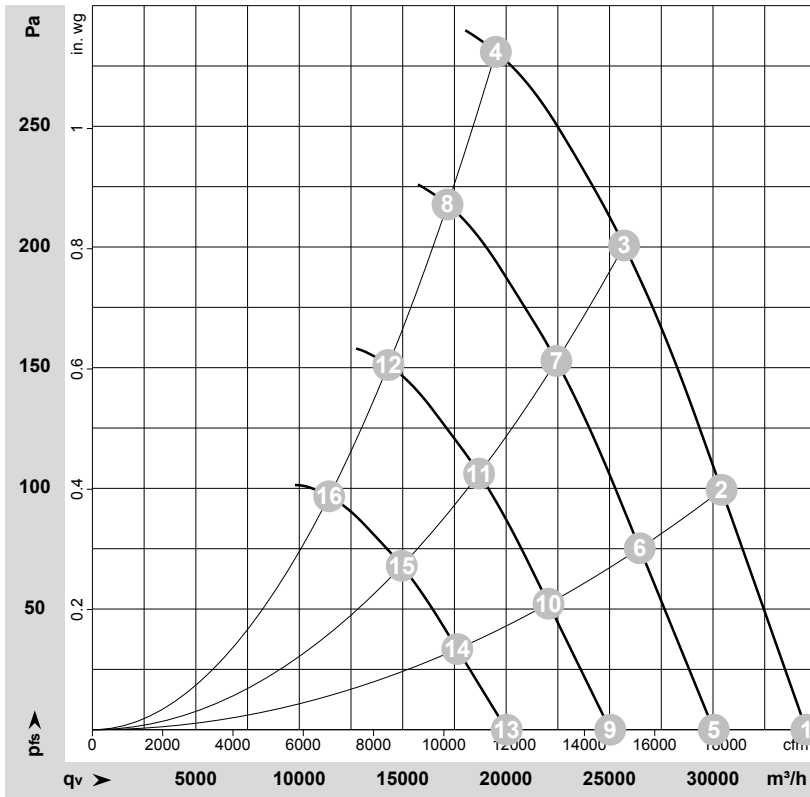
No.	Conn.	Designation	Function/assignment
	CON1	L1, L2, L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see "Optional interface functions" table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function: Triggering of error reset on change of state from "enabled" to "disabled"
	CON2	IO2	Function parameterizable (see "Optional interface functions" table) Factory setting: Analog input 0-10 V / PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see "Optional interface functions" table) Factory setting: Analog output 0-10 V, max. 5 mA, function: Fan modulation level Characteristic curve parameterizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

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Curves: Air performance 50 Hz



$$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-206664-1
Date: 2020-06-08
Housing: 15953-2-4037

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

	Wired	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	3~	200	50	1030	1954	5.98	74	81	82	34510	0	20315	0.00
2	3~	200	50	1030	2385	7.25	71	79	80	30420	100	17905	0.40
3	3~	200	50	1030	2723	8.26	74	82	81	25705	200	15130	0.80
4	3~	200	50	1030	2900	8.80	85	93	93	19505	280	11480	1.12
5	3~	200	50	900	1288	3.94	70	78	79	30040	0	17680	0.00
6	3~	200	50	900	1567	4.77	67	76	77	26460	75	15575	0.30
7	3~	200	50	900	1811	5.49	71	78	78	22430	153	13200	0.61
8	3~	200	50	900	1976	6.00	82	89	90	17165	219	10105	0.88
9	3~	200	50	750	746	2.28	65	73	74	25035	0	14735	0.00
10	3~	200	50	750	907	2.76	63	71	72	22050	52	12980	0.21
11	3~	200	50	750	1048	3.18	66	74	73	18690	107	11000	0.43
12	3~	200	50	750	1143	3.47	77	85	85	14305	152	8420	0.61
13	3~	200	50	600	382	1.17	60	67	69	20025	0	11785	0.00
14	3~	200	50	600	464	1.41	57	66	66	17640	33	10380	0.13
15	3~	200	50	600	537	1.63	60	68	68	14955	68	8800	0.27
16	3~	200	50	600	585	1.78	72	79	80	11445	97	6735	0.39

Wired = Wiring · U = Voltage · 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