

sickled blades (S series)

with full square nozzle

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## Nominal data

Type	W3G910-KS35-03	
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 <sup>-1</sup>	850
Power input	W	1770
Current draw	A	2.8
Max. back pressure	Pa	185
Min. ambient temperature	°C	-40
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

Occasional start-up between -40 °C and -25 °C is permissible. For continuous operation at ambient temperatures below -25 °C (such as refrigeration applications), a fan design with special low-temperature bearings must be used.

## Data in accordance with ecodesign regulation EU 327/2011 (prEN 17166)

		Actual	Request 2015		
01 Overall efficiency $\eta_{es}$	%	52.3	34.9	09 Power input $P_{ed}$	kW 1.55
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h 21000
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa 130
04 Efficiency grade N		57.4	40	10 Speed (rpm) n	min <sup>-1</sup> 850
05 Variable speed drive		Yes		11 Specific ratio*	1.00

Data definition with optimum efficiency.

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

LU-184390

The indicated efficiency values for obtaining conformity with the Ecodesign Directive EU 327/2011 were achieved with defined air conduction components (e.g. inlet nozzles).  
The dimensions are to be requested from ebm-papst. If other air guide geometries are used on the installation side, the ebm-papst evaluation loses its validity/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).



## Technical features

Mass	45 kg
Size	910 mm
Motor size	150
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, painted grey
Material of impeller	PP plastic
Material of wall ring	Sheet steel, galvanised and coated in black plastic (RAL 9005)
Material of guard grille	Steel, coated in black plastic (RAL9005)
Number of blades	5
Blade angle	0°
Direction of air flow	V
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP55
Insulation class	"F"
Humidity (F) / environmental protection class (H)	H2
Note ambient temperature	Occasional start-up between -40 °C and -25 °C is permissible. For continuous operation at ambient temperatures below -25 °C (e.g. refrigeration applications), a fan version with special low-temperature bearings must be used.
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; rotor on top on request
Condensation drainage holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	<ul style="list-style-type: none"> <li>- Operation and alarm display via LED</li> <li>- External 15-50 VDC input (parametrisation)</li> <li>- Alarm relay</li> <li>- Integrated PI controller</li> <li>- Configurable inputs/outputs (I/O)</li> <li>- MODBUS V6.3</li> <li>- Motor current limit</li> <li>- RS485 MODBUS RTU</li> <li>- Soft start</li> <li>- Voltage output 3.3-24 VDC, Pmax = 800 mW</li> <li>- Control interface with SELV potential safely disconnected from the mains</li> <li>- Over-temperature protected electronics / motor</li> <li>- Line undervoltage / phase failure detection</li> </ul>
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 connection	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (if protective earth is connected by customer)

W3G910-KS35-03

## EC axial fan - AxiBlade

sickled blades (S series)

with full square nozzle

<b>Product conforming to standard</b>	EN 61800-5-1; CE
<b>Approval</b>	UL 1004-7 + 60730-1; CSA C22.2 no. 77 + CAN/CSA-E60730-1; EAC



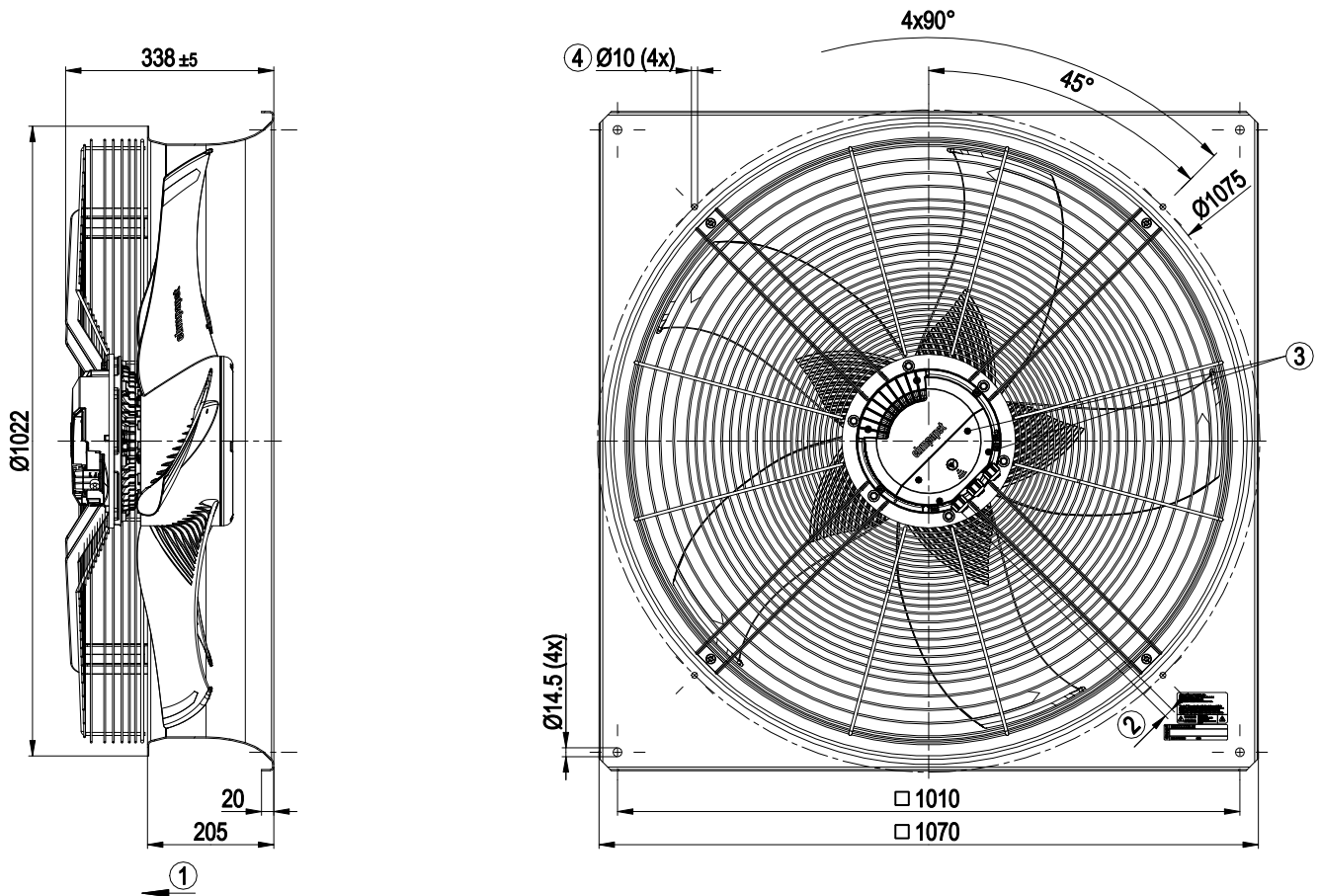
W3G910-KS35-03

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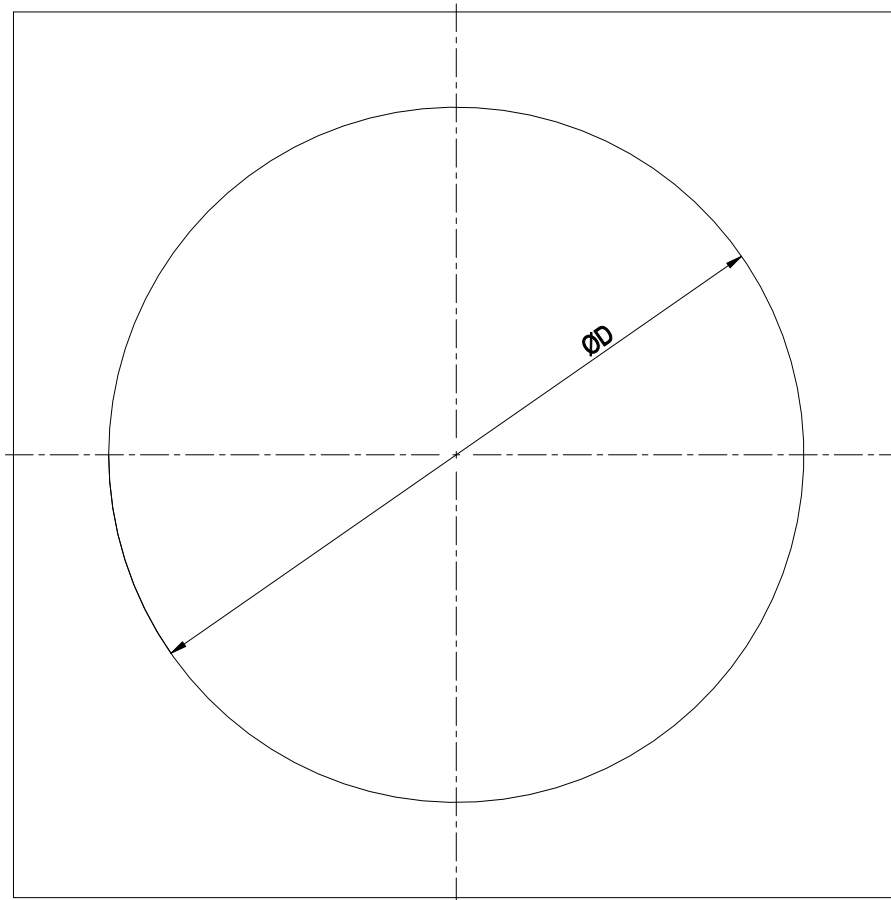
## Product drawing



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



## Mounting dimensions



Diameter of the necessary recess for mounting the wall ring in the end device

BG630: D = Ø785 mm

BG710: D = Ø830 mm

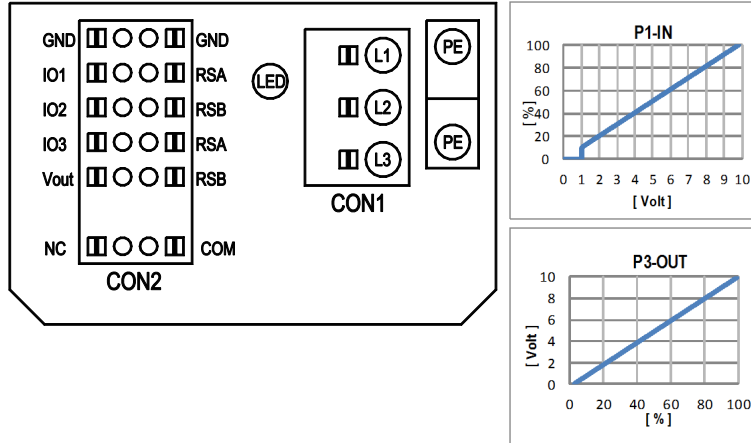
BG800: D = Ø950 mm

BG910: D = Ø1050 mm

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## Connection screen



No.	Conn.	Designation	Function / assignment
	CON1	L1, L2, L3	Power supply, phase, see type plate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS-485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS-485 interface for MODBUS, RSB; SELV
	CON2	GND	Signal ground for control interface, SELV
	CON2	IO1	Function parametrisable (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: fault reset triggered by status change from enabled to disabled
	CON2	IO2	Function parametrisable (see "Optional interface functions" table) Factory setting: Analogue input 0-10 V / PWM, Ri=100 kΩ, function: Set value Curve parametrisable (see input curve P1-IN), SELV
	CON2	IO3	Function parametrisable (see "Optional interface functions" table) Factory setting: Analogue output 0-10 V, max. 5 mA, function: Fan modulation level Curve parametrizable (see output curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC +/-5%, Pmax=800 mW, voltage parametrisable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parametrisation via MODBUS without mains power
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC/max. 2 A (AC1) min. 10 mA, reinforced insulation with respect to mains and control interface
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green = OK status, ready for operation orange = Warning status red = Error status
		P1-IN	Input curve
		P3-OUT	Output curve

## Terminal/pin assignment

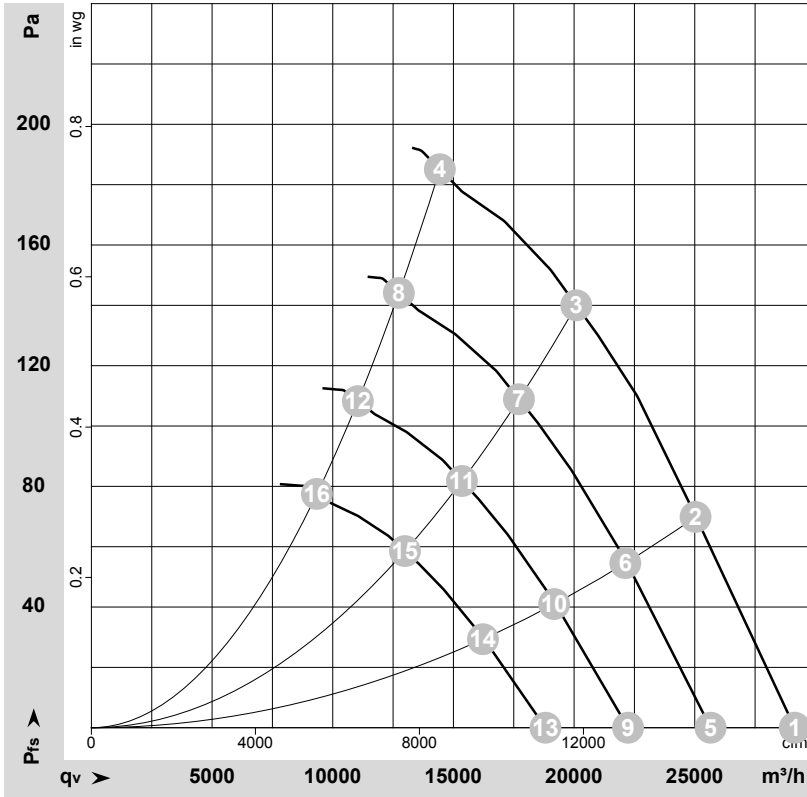
CON2	configurable IO mode	electrical specification	configurable IO functions: normal / inverse	MODBUS Register for IO mode configuration	source: set value	source: sensor value	switch: parameter set: #1 / #2	switch: control function: heating (pos.) / cooling (neg.)	switch: direction of rotation: cw / ccw	switch: set value source	switch: fan enable / disable	signal: tach out	signal: diagnostics out (selected directly via IO mode)	signal: fan modulation level %	signal: actual speed	signal: system modulation level %	signal: remote control output 0-10V	pulse input for auto-addressing	pulse output for auto-addressing	
IO1	○	not active: pin open or applied voltage < 1.5VDC R <sub>i</sub> = 100k, characteristic curve parameterizable, f = 1k..10kHz, SELV																		
IO2	○	not active: pin open or applied voltage < 1.5VDC																		
IO3	○	not active: pin open or applied voltage < 1.5VDC not active: pin open or applied voltage 3.5-50VDC active: pin open or applied voltage 3.5-50VDC																		
	○	active: pin open or applied voltage 3.5-50VDC																		
	○	40Hz- 10kHz, characteristics parameterizable active: applied voltage 3.5-50VDC not active: pin open or applied voltage < 1.5VDC, SELV		D15A[8]																
RSA	RS485 bus connection,	MODBUS RTU, specification V6.3, SELV																		
Vout	alternatively: Input auxiliary power supply for parameterization via RS485/MODBUS RTU without line voltage	supply for external devices, SELV		D16E[...]																

○ configurable option

For further information and additional functions see EC Control Software, Fan-Set-App, or MODBUS Parameter Specification V6.3



## Charts: Air flow 50 Hz



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

Measurement: LU-184390-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebmpapst. 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 <sub>ed</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	LwA <sub>out</sub>	q <sub>v</sub>	P <sub>fs</sub>	q <sub>v</sub>	P <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	dB(A)	m <sup>3</sup> /h	Pa	cfm	in. wg
1	400	50	850	1019	1.72	68	75	75	29145	0	17155	0.00
2	400	50	850	1307	2.13	65	72	73	25035	70	14735	0.28
3	400	50	850	1600	2.55	69	75	75	20090	140	11825	0.56
4	400	50	850	1770	2.80	79	86	87	14440	185	8500	0.74
5	400	50	750	695	1.18	65	72	72	25655	0	15100	0.00
6	400	50	750	909	1.48	62	69	70	22125	56	13020	0.22
7	400	50	750	1097	1.75	65	72	72	17715	109	10425	0.44
8	400	50	750	1223	1.93	76	83	84	12740	144	7500	0.58
9	400	50	650	453	0.77	61	68	68	22235	0	13090	0.00
10	400	50	650	592	0.96	58	65	66	19175	42	11285	0.17
11	400	50	650	714	1.14	62	68	68	15355	82	9035	0.33
12	400	50	650	796	1.26	72	79	80	11040	108	6500	0.43
13	400	50	550	274	0.46	57	64	64	18815	0	11075	0.00
14	400	50	550	359	0.58	54	61	62	16225	30	9550	0.12
15	400	50	550	433	0.69	58	64	64	12990	59	7645	0.24
16	400	50	550	482	0.76	68	75	76	9345	78	5500	0.31

U = Supply voltage · f = Frequency · n = Speed (rpm) · P<sub>ed</sub> = Power input · I = Current draw · LpA<sub>in</sub> = Sound pressure level inlet side · LwA<sub>in</sub> = Sound power level inlet side · LwA<sub>out</sub> = Sound power level outlet side  
 q<sub>v</sub> = Air flow · P<sub>fs</sub> = Pressure increase

