

EC axial panel fan - HyBlade

sickle-shaped blades (S series)
with square full nozzle with AxiTop diffuser

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Nominal data

Type	W3G910-HV12-71	
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	1000
Power consumption	W	2880
Current draw	A	4.5
Max. back pressure	Pa	200
Max. back pressure	in. wg	0.8
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	65

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

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), a fan design with special low-temperature bearings must be used.

Data according to Commission Regulation (EU) 327/2011 (prEN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	51.2	36.5	09 Power consumption P_{ed}	kW	2.8
02 Measurement category		A		09 Air flow q_v	m³/h	24845
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	197
04 Efficiency grade N		54.7	40	10 Speed (rpm) n	min ⁻¹	1000
05 Variable speed drive		Yes		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-148105

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	60 kg
Size	910 mm
Motor size	150
Rotor surface	Painted black
Terminal box material	PP plastic
Electronics housing material	Die-cast aluminum, painted black
Blade material	Sheet aluminum insert, sprayed with PP plastic
Support ring material	Steel, coated with black plastic (RAL 9005)
Fan housing material	Sheet steel, galvanized and coated with black plastic (RAL 9005)
Guard grille material	Steel, coated with black plastic (RAL 9005)
Outer diffuser material	PP plastic
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 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 - Operation and alarm display - External 24 V input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from supply - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Power Factor Correction (PFC)	Passive (through low-capacitance DC link)
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial environment)

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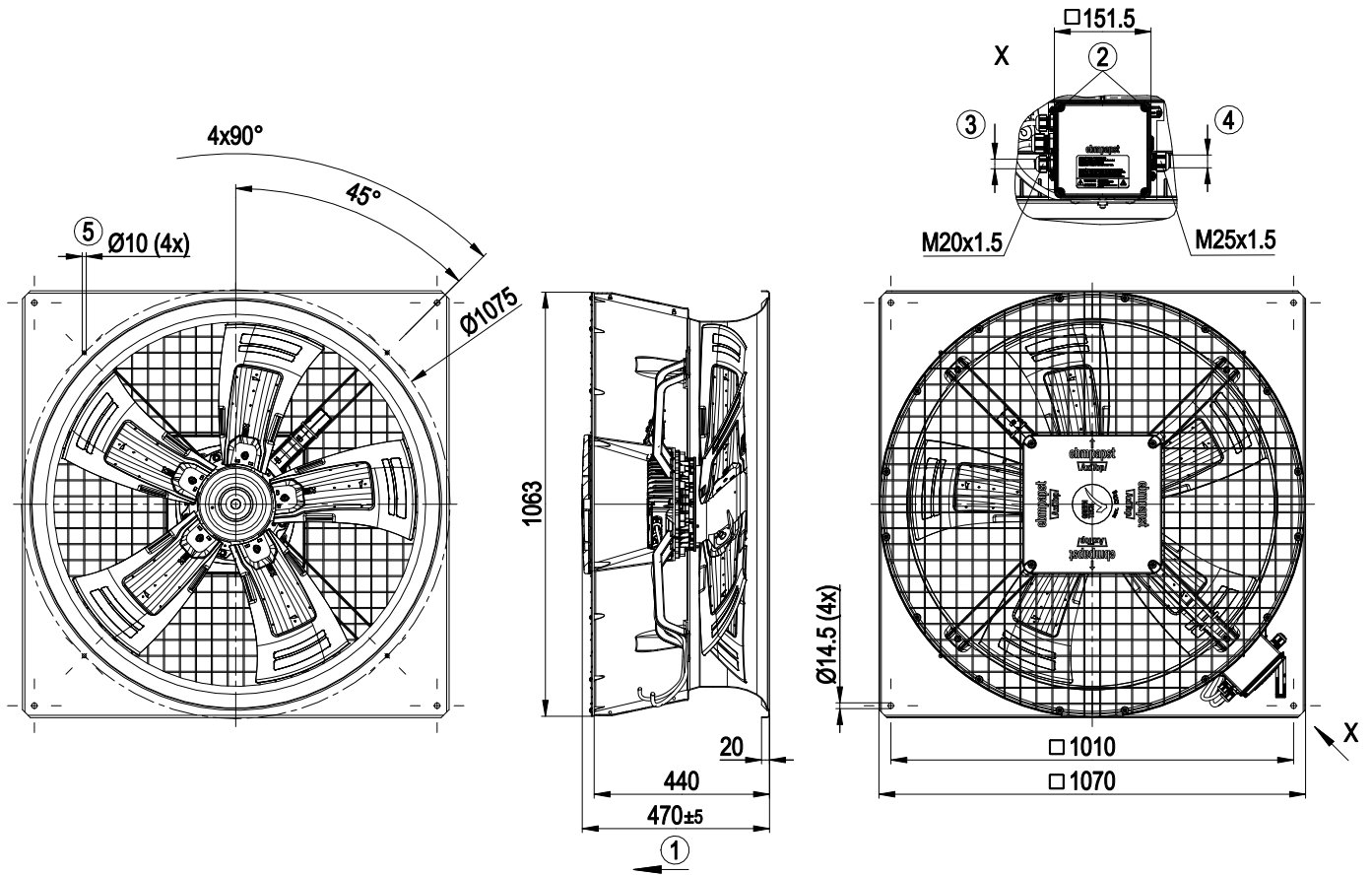
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class assignment	I; If a protective earth is connected. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.
Conformity with standards	EN 61800-5-1; CE
Approval	EAC

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Product drawing



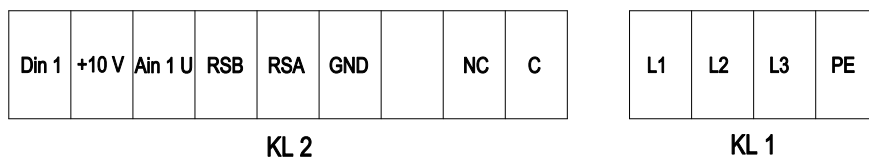
1	Direction of air flow "V"
2	Tightening torque 1.8±0.3 Nm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 2.5 ± 0.4 Nm
4	Cable diameter min. 9 mm, max. 16 mm, tightening torque 2.5±0.4 Nm
5	Mounting holes for FlowGrid

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Connection diagram



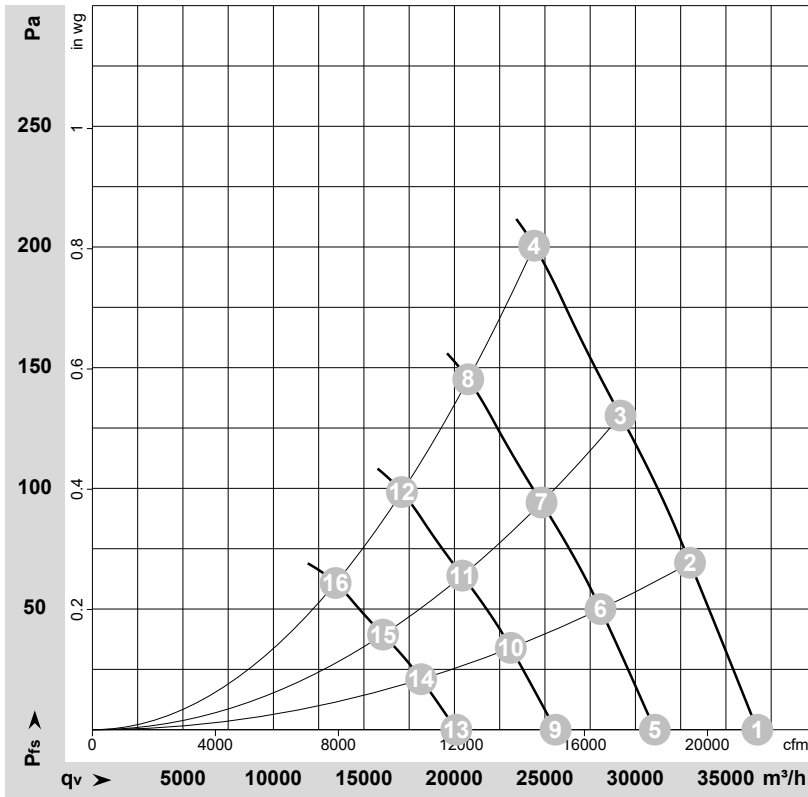
No.	Conn.	Designation	Function/assignment
KL 1		L1	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1		L2	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1		L3	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1		PE	Ground connection, PE connection
KL 2		Din1	Digital input 1 enable electronics, Enable: Pin open or applied voltage 5-50 VDC Disable: Bridge to GND or applied voltage < 1 VDC Reset function: Triggers software reset after a level change to < 1 V; SELV
KL 2		+ 10 V	Fixed voltage output 10 VDC, +10 V +/-3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometer); SELV Alternatively: +24 VDC input for parameter setting via MODBUS without line voltage
KL 2		Ain1 U	Analog input 1 (set value) 0-10 V, Ri = 100 kΩ, adjustable curve; SELV
KL 2		RSB	Bus connection RS485, RSB, MODBUS-RTU; SELV
KL 2		RSA	Bus connection RS485, RSA, MODBUS-RTU; SELV
KL 2		GND	Reference ground for control interface; SELV
KL2		NC	Status relay, floating status contact; break for failure
KL2		C	Status relay, floating status contact, break for failure; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA

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Curves: Air performance 50 Hz



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

Measurement: LU-148105-1
Date: 2012-09-04
Housing: 38913-2-4037

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

	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	400	50	1000	1730	2.73	73	81	81	36735	0	21625	0.00
2	400	50	1000	2138	3.33	71	79	80	33015	70	19435	0.28
3	400	50	1000	2477	3.83	71	79	80	29180	130	17175	0.52
4	400	50	1000	2880	4.50	73	80	81	24405	200	14365	0.80
5	400	50	850	1047	1.65	69	76	77	31070	0	18290	0.00
6	400	50	850	1318	2.05	67	75	76	28070	51	16520	0.20
7	400	50	850	1524	2.36	67	75	76	24815	94	14605	0.38
8	400	50	850	1748	2.69	69	76	77	20765	146	12220	0.59
9	400	50	700	585	0.92	64	71	72	25590	0	15060	0.00
10	400	50	700	736	1.15	62	70	71	23115	34	13605	0.14
11	400	50	700	851	1.32	62	70	71	20435	64	12030	0.26
12	400	50	700	976	1.50	64	71	72	17100	99	10065	0.40
13	400	50	550	284	0.45	58	65	66	20105	0	11835	0.00
14	400	50	550	357	0.56	56	64	65	18165	21	10690	0.08
15	400	50	550	413	0.64	56	64	65	16055	39	9450	0.16
16	400	50	550	474	0.73	58	65	66	13435	61	7910	0.24

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