

EC axial panel fan - HyBlade

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

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Nominal data

Type	W3G800-HU23-71	
Motor	M3G150-IF	
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	1020
Power consumption	W	2325
Current draw	A	3.5
Max. back pressure	Pa	225
Max. back pressure	in. wg	0.9
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	70

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}	%	47.4	35.9	09 Power consumption P_{ed}	kW	2.25
02 Measurement category		A		09 Air flow q_v	m³/h	17940
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	202
04 Efficiency grade N		51.5	40	10 Speed (rpm) n	min ⁻¹	1020
05 Variable speed drive		Yes		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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).

* Specific ratio = $1 + p_{fs} / 100\,000\text{ Pa}$ LU-148033

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Technical description

Weight	51 kg
Size	800 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 55022 (Class B, household environment)

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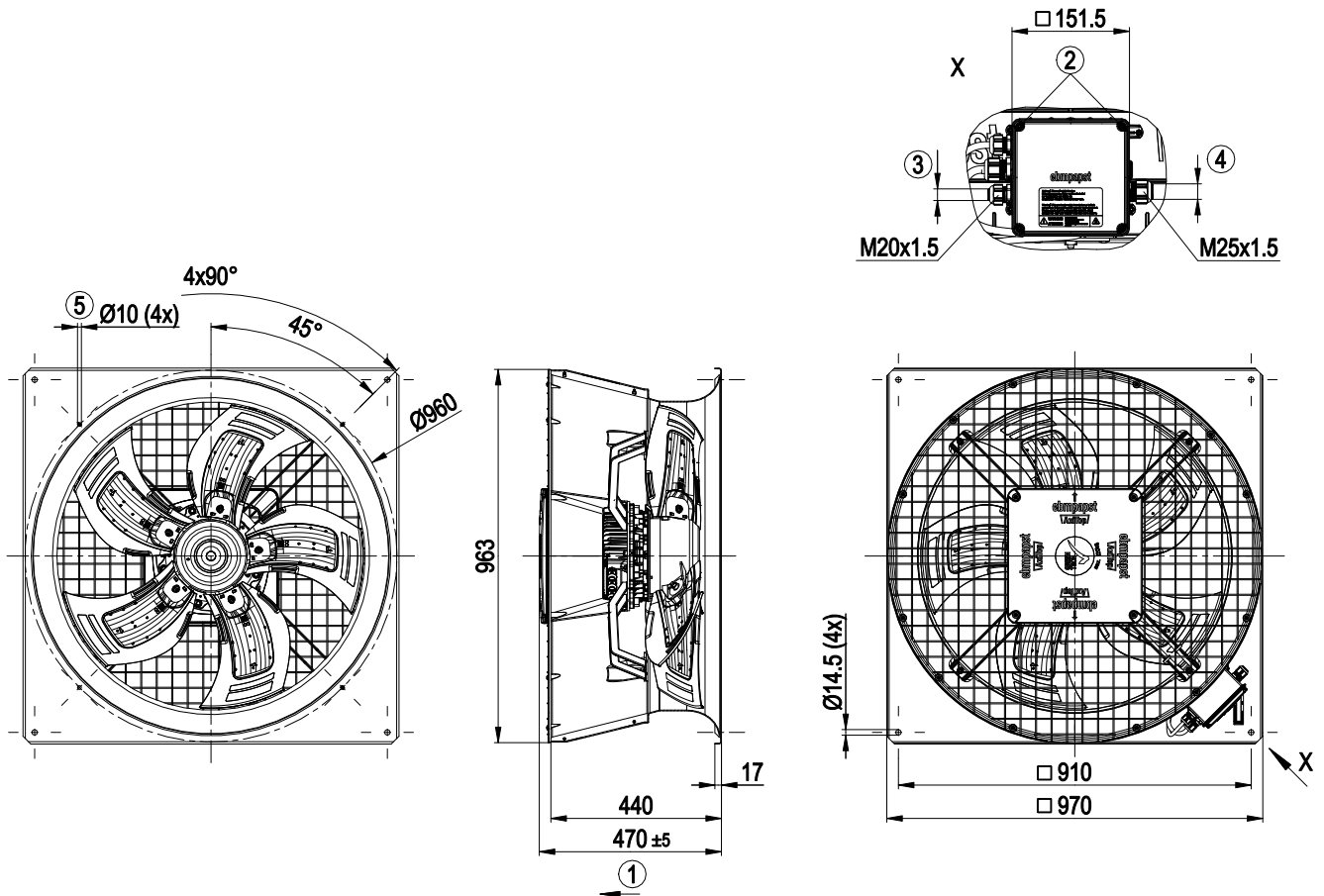
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class assignment	I; If a protective earth is connected. The built-in component has several local protection class 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



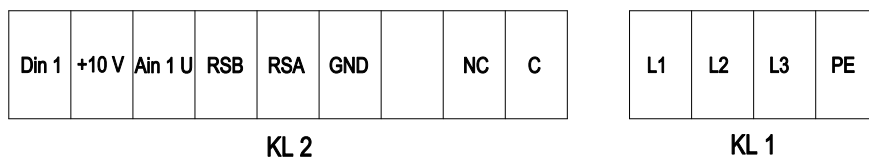
1	Direction of air flow "V"
2	Tightening torque 1.8 ± 0.3 Nm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 2.5 ± 0.4 Nm
4	Cable diameter min. 9 mm, max. 16 mm, tightening torque 2.5 ± 0.4 Nm
5	Mounting holes for FlowGrid

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Connection diagram



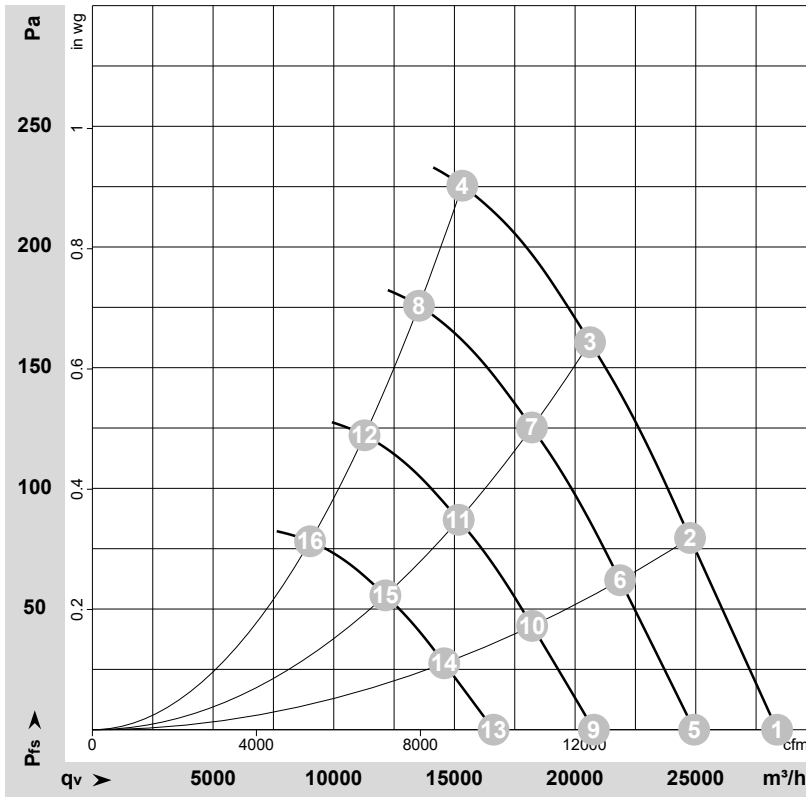
No.	Conn.	Designation	Function/assignment
KL 1		L1	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1		L2	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1		L3	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1		PE	Ground connection, PE connection
KL 2		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-148033-1
Date: 2012-09-03
Housing: 38802-2-4037

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	1020	1446	2.31	70	77	78	28370	0	16700	0.00
2	400	50	1020	1786	2.81	68	75	75	24765	80	14575	0.32
3	400	50	1020	2092	3.26	68	76	76	20620	160	12135	0.64
4	400	50	1020	2325	3.50	74	81	81	15325	225	9020	0.90
5	400	50	900	982	1.57	66	74	75	24935	0	14675	0.00
6	400	50	900	1231	1.93	65	72	72	21865	62	12870	0.25
7	400	50	900	1441	2.25	65	73	73	18210	125	10720	0.50
8	400	50	900	1603	2.49	71	78	78	13530	176	7965	0.71
9	400	50	750	568	0.91	62	69	70	20780	0	12230	0.00
10	400	50	750	712	1.12	60	67	68	18220	43	10725	0.17
11	400	50	750	834	1.30	61	68	68	15175	87	8930	0.35
12	400	50	750	927	1.44	66	74	74	11275	122	6635	0.49
13	400	50	600	291	0.46	56	64	64	16625	0	9785	0.00
14	400	50	600	365	0.57	54	62	62	14575	28	8580	0.11
15	400	50	600	427	0.67	55	62	62	12140	56	7145	0.22
16	400	50	600	475	0.74	60	68	68	9020	78	5310	0.31

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