W3G800-HV05-71

EC axial panel fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle with AxiTop diffuser

ebm-papst Mulfingen GmbH & Co. KGaA & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
info1@de.fansco.com
www.fansco.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**W3G800-HV05-71**
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}	1090
Power consumption	W	2760
Current draw	A	4.3
Max. back pressure	Pa	270
Max. back pressure	in. wg	1.08
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}	%	48.4	36.3
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		52.1	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	2.63
09 Air flow q_v	m^3/h	19065
09 Pressure increase p_{fs}	Pa	227
10 Speed (rpm) n	min^{-1}	1090
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-148283

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 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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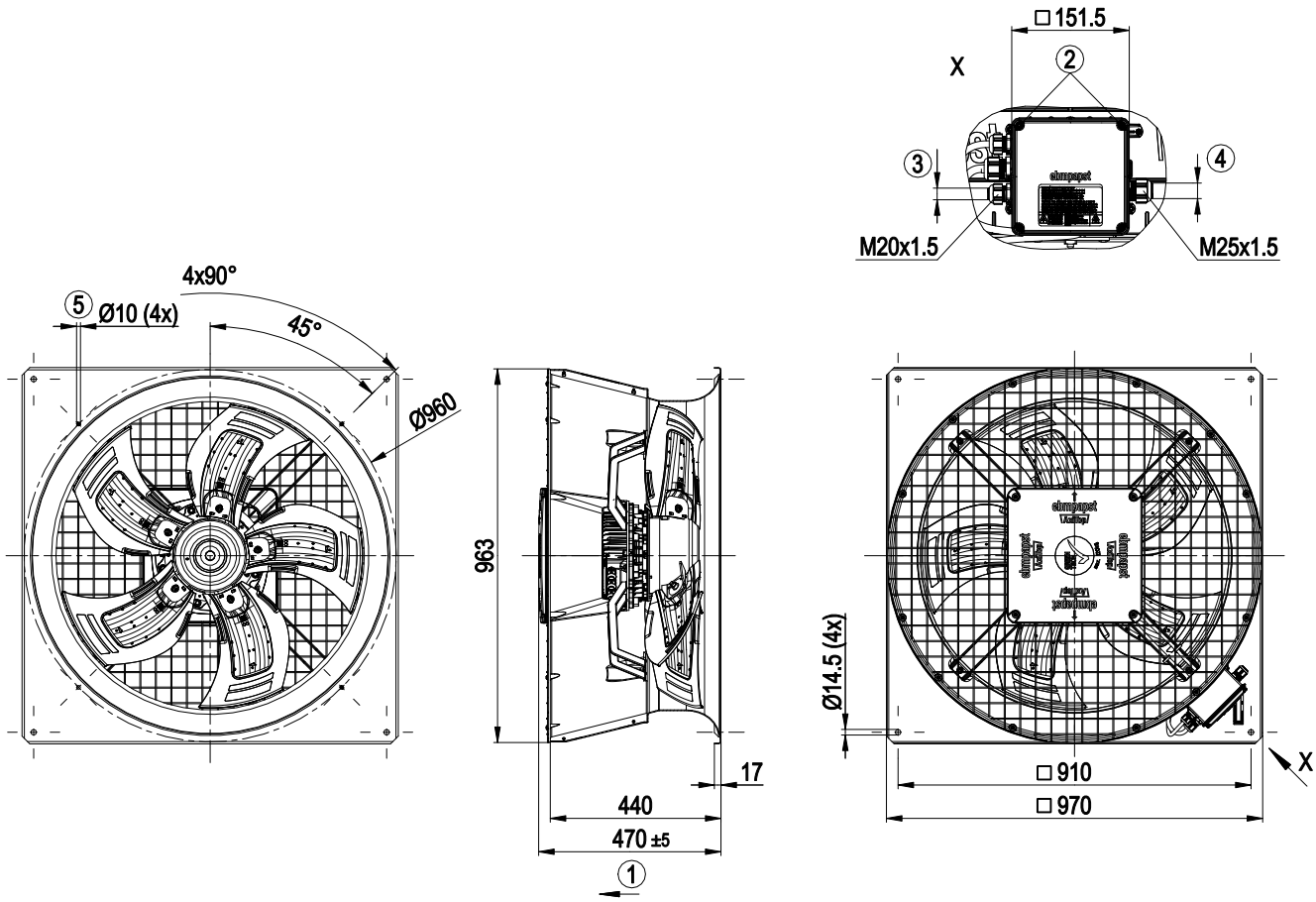
Product drawing



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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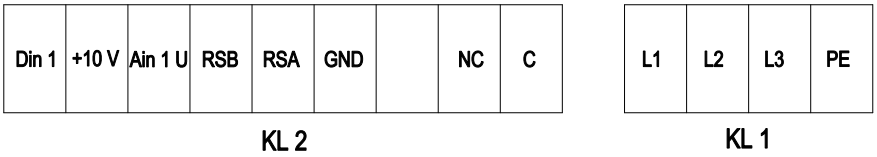
Connection diagram



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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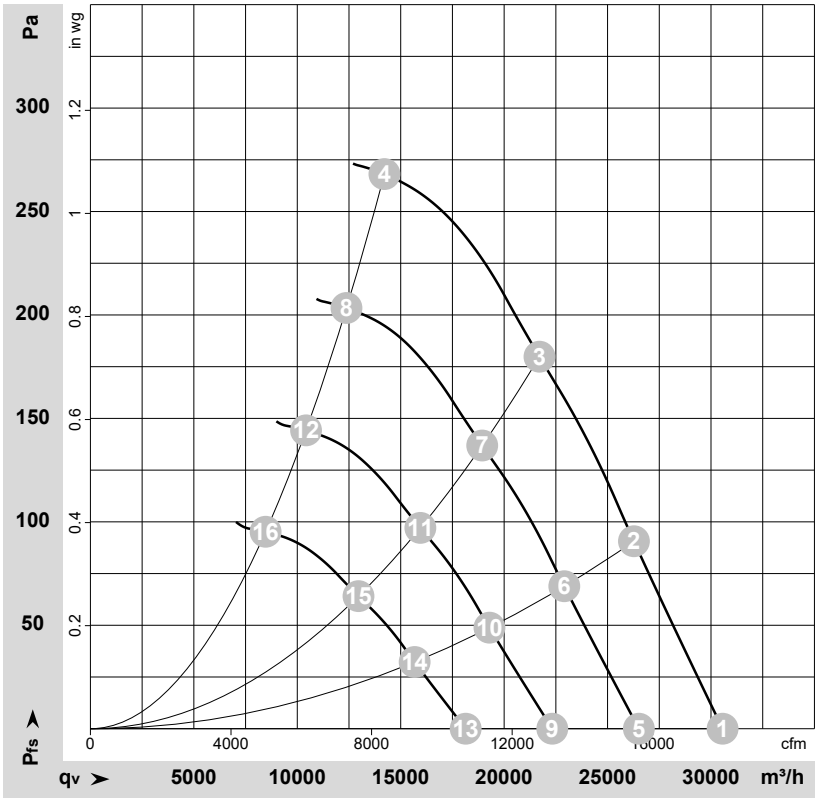
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-148283-1
Date: 2012-09-10
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	1090	1727	2.72	72	80	81	30560	0	17985	0.00
2	400	50	1090	2108	3.29	70	77	78	26275	90	15465	0.36
3	400	50	1090	2476	3.83	71	78	78	21710	180	12775	0.72
4	400	50	1090	2760	4.30	80	88	89	14210	270	8365	1.08
5	400	50	950	1128	1.78	69	76	77	26515	0	15605	0.00
6	400	50	950	1398	2.18	66	73	74	22910	69	13485	0.28
7	400	50	950	1644	2.55	67	75	75	18940	137	11150	0.55
8	400	50	950	1801	2.78	77	85	85	12380	204	7285	0.82
9	400	50	800	673	1.06	64	72	73	22325	0	13140	0.00
10	400	50	800	835	1.30	62	69	70	19290	49	11355	0.20
11	400	50	800	982	1.52	63	70	71	15950	97	9390	0.39
12	400	50	800	1075	1.66	72	80	81	10425	145	6135	0.58
13	400	50	650	361	0.57	59	67	68	18140	0	10675	0.00
14	400	50	650	448	0.70	57	64	65	15675	32	9225	0.13
15	400	50	650	527	0.82	58	65	65	12960	64	7625	0.26
16	400	50	650	577	0.89	67	75	76	8470	96	4985	0.39

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

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