W3G800-HV05-71

EC axial fan - HyBlade®

sickled blades (S series)

with full square nozzle with AxiTop diffuser

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ErP2015 EXCEEDS THE NORM

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
Type of data definition		ml
State		prelim.
Speed	min^{-1}	1090
Power input	W	2760
Current draw	A	4.3
Max. back pressure	Pa	270
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	65

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	48.2	32.3	36.3
Efficiency grade N		51.9	36	40
Power input P_{ed}	kW	2.63		
Air flow q_v	m^3/h	19065		
Pressure increase p_{fs}	Pa	227		
Speed n	min^{-1}	1090		

Data definition with optimum efficiency. LU-148283
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

Mass	58.5 kg
Size	800 mm
Surface of rotor	Coated in black
Material of terminal box	PC plastic
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Aluminium sheet insert, sprayed with PP plastic
Material of mounting ring	Steel, coated in black plastic (RAL 9005)
Material of wall ring	Sheet steel, galvanised and coated in black plastic (RAL 9005)
Material of guard grille	Steel, coated in black plastic (RAL9005)
Material of outer diffuser	PP plastic
Material of inner diffuser including lid	PP plastic
Number of blades	5
Blade angle	0°
Direction of air flow	"V"
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity class	F4-1
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
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (programming) - External release input - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 55022 (Class B, household environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (if protective earth is connected by customer)

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Product conforming to standard	EN 61800-5-1; CE
Approval	EAC

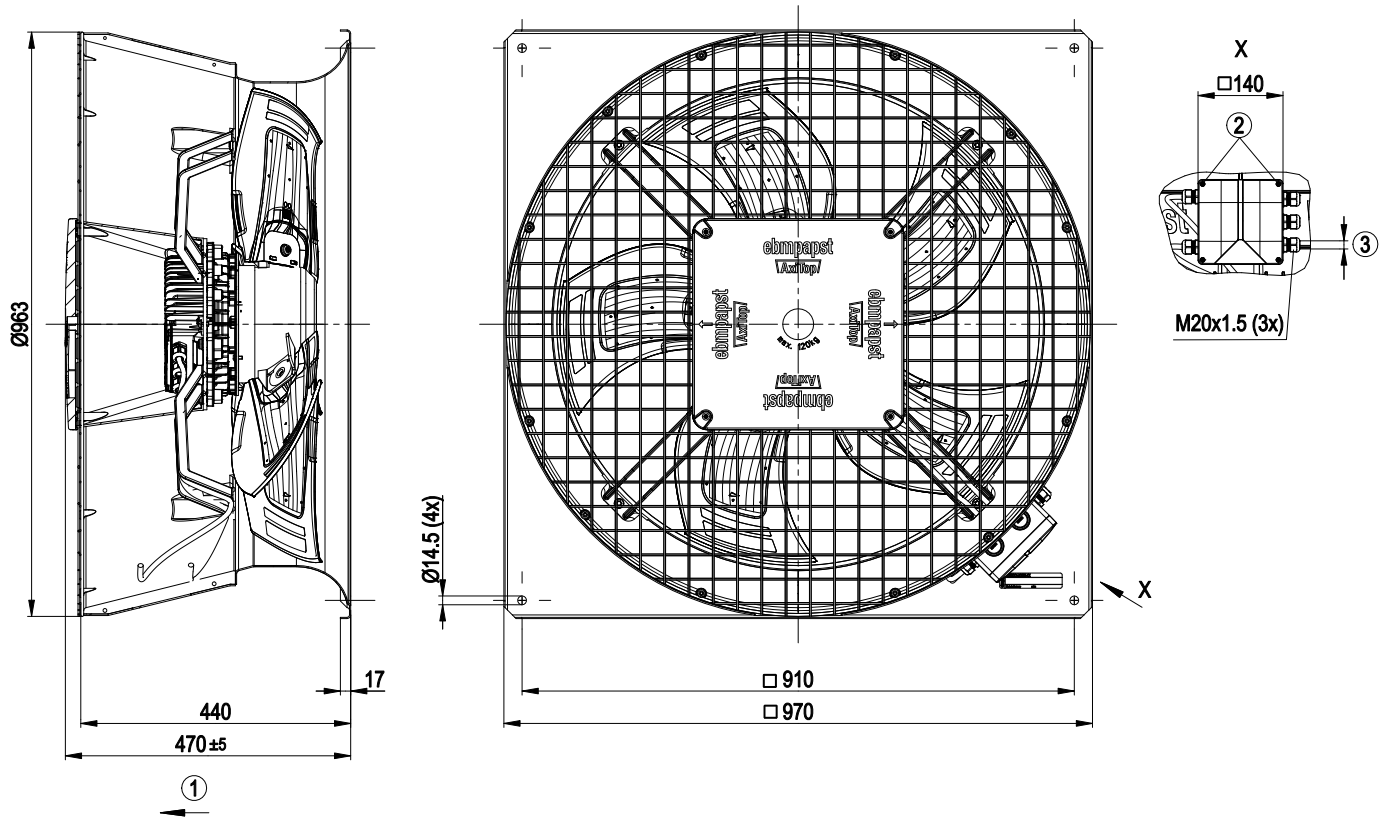
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Product drawing



1	Direction of air flow "V"
2	Tightening torque 1.7±0.2 Nm
3	Cable diameter: min. 6 mm, max. 12 mm, tightening torque: 4±0.6 Nm

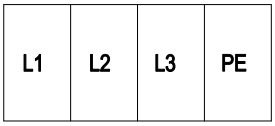
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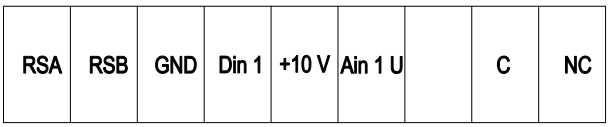
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Connection screen



KL 1



KL 2

No.	Conn.	Designation	Function / assignment
KL 1		L1	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
KL 1		L2	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
KL 1		L3	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
KL 1		PE	Earth connection, PE connection
KL 2		RSA	Bus connection RS-485, RSA, MODBUS RTU; SELV
KL 2		RSB	Bus connection RS-485, RSB, MODBUS RTU; SELV
KL 2		GND	Signal ground for control interface; SELV
KL 2		Din1	Digital input 1 enabling of electronics, enabling: open pin or applied voltage 5-50 VDC disabling: 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
KL 2		Ain1 U	Analogue input 1 (set value) 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain1 I SELV
KL2		C	Status relay; floating status contact; changeover contact; common connection; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL2		NC	Status relay, floating status contact; break for failure

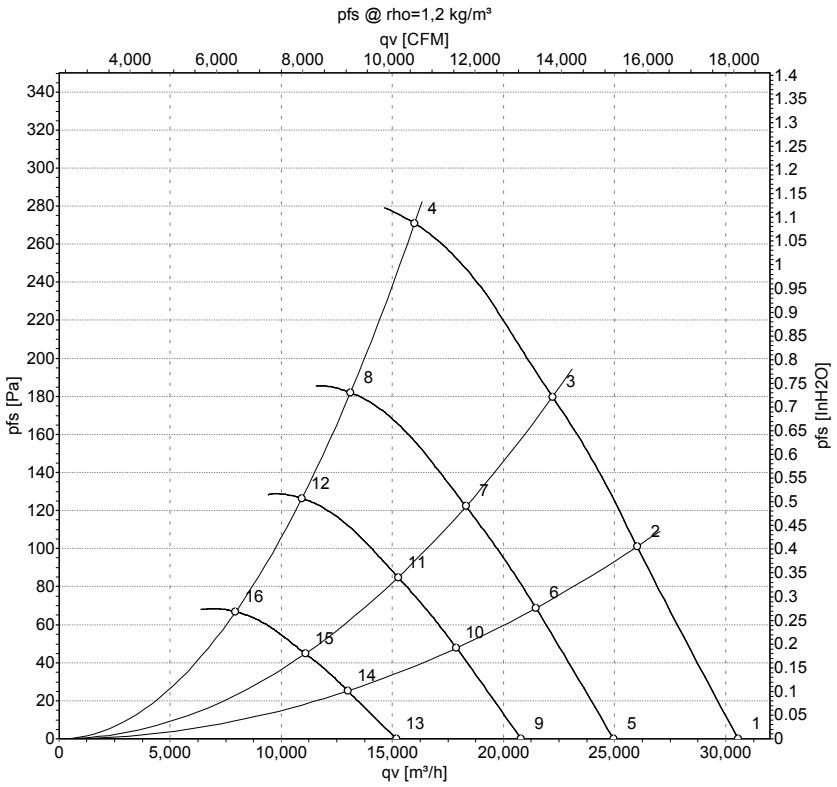
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Charts: Air flow 50 Hz



Measurement: LU-148283
Measurement: LU-148289
Measurement: LU-148295

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. 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_{ed}	I	LpA_{in}	LwA_{in}	LwA_{out}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa
1	400	50	1095	1727	2.72	72	80	81	30560	0
2	400	50	1090	2133	3.32	70	77	78	26020	100
3	400	50	1090	2441	3.78	71	78	78	22210	180
4	400	50	1090	2760	4.30	76	84	84	16000	270
5	400	50	900	1007	1.75	67	74	75	24955	0
6	400	50	900	1234	2.07	65	72	72	21465	69
7	400	50	900	1397	2.30	66	73	73	18315	122
8	400	50	900	1531	2.49	71	78	79	13110	182
9	400	50	750	583	1.01	63	70	70	20795	0
10	400	50	750	714	1.20	61	68	68	17890	48
11	400	50	750	809	1.33	61	68	68	15260	85
12	400	50	750	886	1.44	66	74	74	10925	127
13	400	50	550	258	0.66	57	63	64	15185	0
14	400	50	550	312	0.74	55	61	61	12990	25
15	400	50	550	349	0.80	55	62	62	11085	45
16	400	50	550	382	0.85	58	65	65	7940	67

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · LwA_{out} = Sound power level outlet side
qv = Air flow · p_{fs} = Pressure increase

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