W3G800-HU23-71

EC axial fan - HyBlade®

sickled blades (S series)

with full square nozzle with diffuser

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General partner: Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

ErP2015 EXCEEDS THE NORM

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
Type of data definition		ml
State		prelim.
Speed	min^{-1}	1020
Power input	W	2350
Current draw	A	3.5
Max. back pressure	Pa	230
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	+70

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 integrated	Integrated
Specific ratio*	1,00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		48,3	31,9	35,9
Efficiency grade N		52,4	36	40
Power input P_{ed}	kW	2,25		
Air flow q_v	m^3/h	17930		
Pressure increase p_{fs}	Pa	206		
Speed n	min^{-1}	1020		

Data established at point of optimum efficiency

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Technical features

Mass	58 kg
Size	800 mm
Surface of rotor	Coated in black
Material of terminal box	PC plastic
Material of electronics housing	Die-cast aluminium
Material of blades	Aluminium sheet insert, sprayed with PP plastic
Material of mounting ring	Steel, coated in black plastic (RAL9005)
Material of wall ring	Sheet steel, pre-galvanised and coated in black plastic (RAL 9005)
Material of guard grille	Steel, coated in black plastic (RAL9005)
Material of outer diffuser	Sheet steel, pre-galvanised and coated in black plastic (RAL 9005)
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
Electrical leads	Via terminal box
Motor protection	Reverse polarity and locked-rotor protection
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE

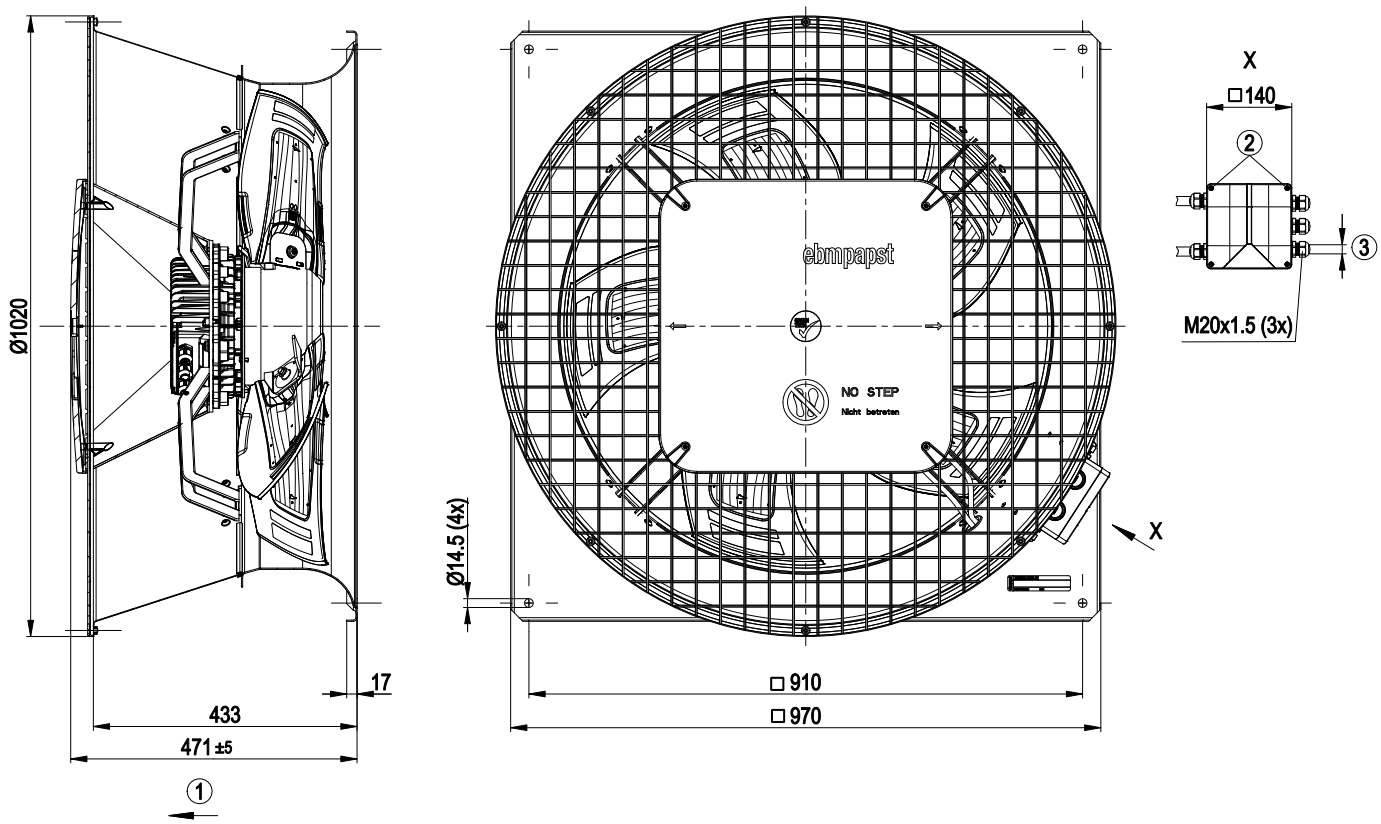
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Product drawing



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

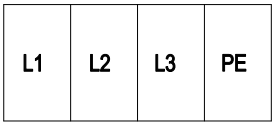
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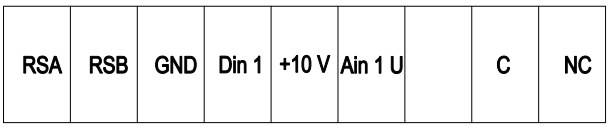
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Connection screen



KL 1



KL 2

No.	Pin	Signal	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 RS485; RSA; MODBUS RTU
KL 2		RSB	Bus connection RS485; RSB; MODBUS RTU
KL 2		GND	Reference ground for control interface
KL 2		Din1	Digital input 1: enabling of electronics; enabling: open pin or applied voltage 5 to 50 VDC; disabling: bridge to GND or applied voltage < 1 VDC; reset function: triggers software reset after a level change to <1 V
KL 2		+ 10 V	Fixed voltage output 10 VDC; + 10 V +/-3%; max. 10 mA; short circuit proof; power supply for ext. devices (e.g. potentiometer)
KL 2		Ain1 U	Analogue input 1 (set value); 0-10 V; Ri=100kΩ; parametrisable curve
KL2		C	Status relay; floating status contact; changeover contact; common connection; contact rating 250 VAC / 2 A (AC1)
KL2		NC	Status relay, floating status contact; break for failure

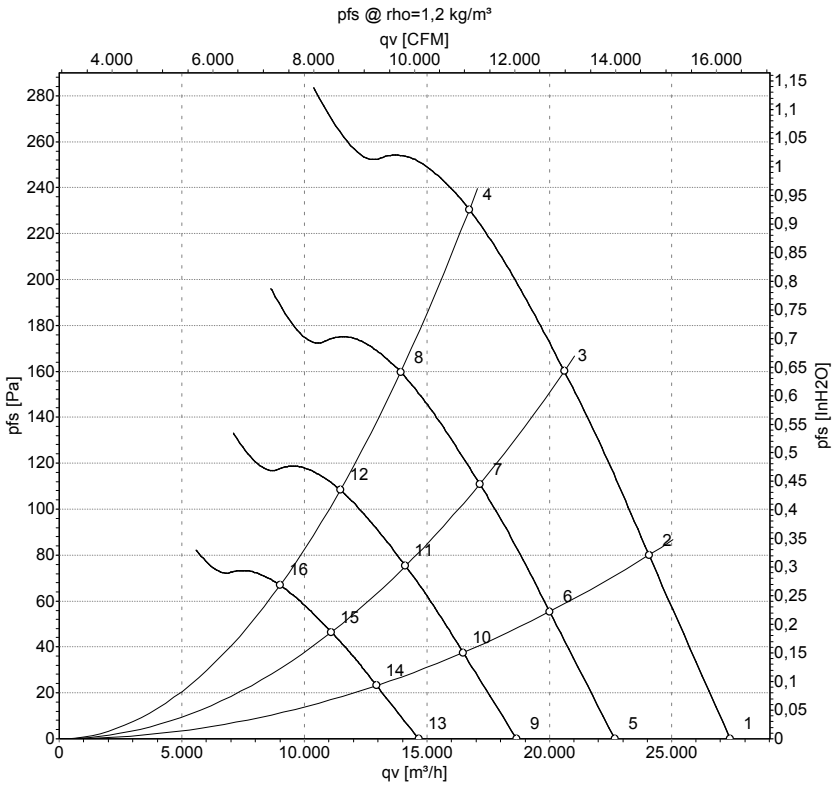
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Charts: Air flow 50 Hz



Measurement: LU-142473

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	1020	1570	2.36	70	78	79	27385	0
2	400	50	1020	1857	2.76	69	76	77	24060	80
3	400	50	1020	2097	3.12	69	77	77	20610	160
4	400	50	1020	2350	3.50	72	80	80	16735	230
5	400	50	850	890	1.34	65	73	74	22665	0
6	400	50	850	1069	1.59	64	72	73	20010	55
7	400	50	850	1210	1.80	65	72	73	17160	111
8	400	50	850	1321	1.97	68	75	75	13930	160
9	400	50	700	497	0.75	60	68	69	18665	0
10	400	50	700	597	0.89	59	67	68	16480	38
11	400	50	700	676	1.01	60	67	68	14130	75
12	400	50	700	738	1.10	63	70	71	11470	108
13	400	50	550	241	0.36	54	62	63	14665	0
14	400	50	550	290	0.43	53	61	62	12950	23
15	400	50	550	328	0.49	54	61	62	11105	46
16	400	50	550	358	0.53	57	64	65	9015	67

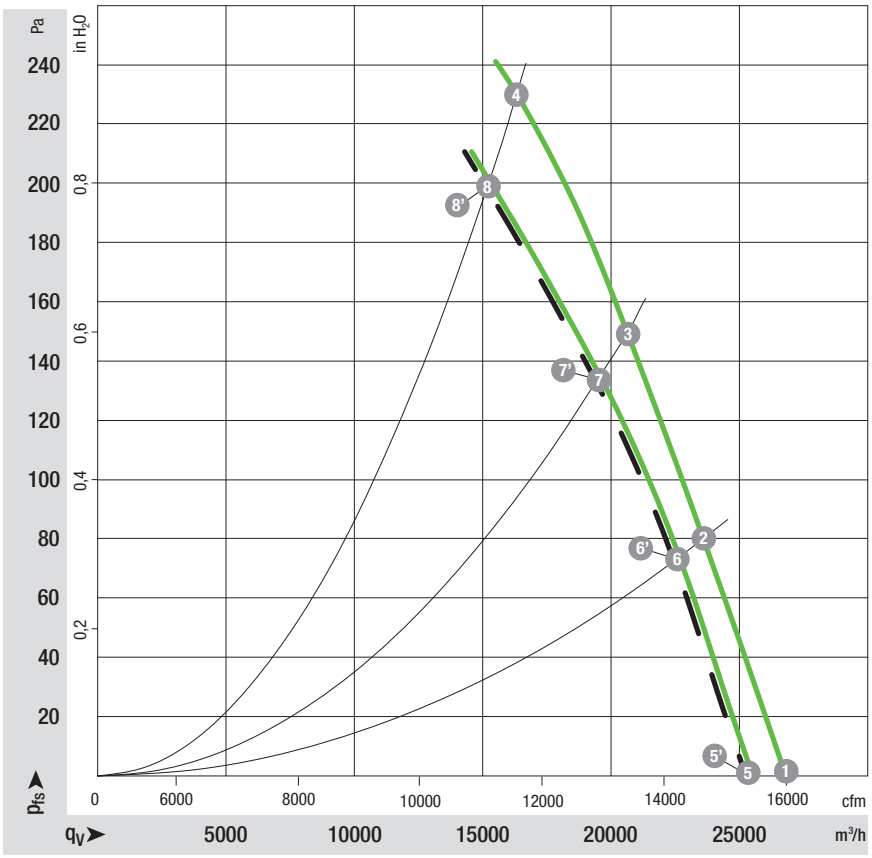
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W3G 800-HU23-71

Charts comparison:

W3G 800-HU23-71 (with diffuser 1-8) vs.
W3G 800-GU25-01 (without diffuser 5'-8')

Charts: Air flow 50 Hz



with diffuser, with protection against accidental contact
without diffuser, with protection against accidental contact

Air performance measured as per: ISO 5801, Installation category A, in ebm-papst full nozzle **and with protection against accidental contact**

Suction-side noise levels: L_WA as per ISO 13347, L_pA measured at 1 m distance to fan axis

The acoustic values given are only valid under the measurment conditions listed and may vary depending on the installation situation.

With any deviation to the standard setup, the specific values have to be checked and reviewed once installed or fitted!

Measured values

	n rpm	P_e W	I A	L_WA_{in} dB(A)	L_WA_{out} dB(A)	L_WA dB(A)
1	1020	1631	2,45	77	79	81
2	1020	1874	2,79	77	79	81
3	1020	2069	3,08	78	79	81
4	1020	2350	3,50	81	81	84
5	975	1400	2,10	76	78	80
6	975	1630	2,43	76	77	79
7	965	1750	2,61	76	78	80
8	950	1830	2,72	79	79	82
5'	1020	1693	2,86	82	86	87
6'	1020	1914	3,19	80	84	85
7'	1020	2103	3,47	80	83	84
8'	1020	2386	3,91	83	86	87

$$L_WA = 10 * \text{Log } [10^{(L_WA_{in}/10)}+10^{(L_WA_{out}/10)}]$$

1-8 with diffuser, with protection against accidental contact

5'-8' without diffuser, with protection against accidental contact