W3G630-CH23-08

EC axial fan

sickled blades (S series)

with full square nozzle

W3G630-CH23-08 ebmpapst Datasheet
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Nominal data

Type	**W3G630-CH23-08**
Motor	**M3G150-IF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed	min^{-1}	1490
Power input	W	3100
Current draw	A	4.8
Min. ambient temperature	°C	-60
Max. ambient temperature	°C	80

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}	%	39.1	32.8	36.8
Efficiency grade N		42.3	36	40
Power input P_{ed}	kW	3.17		
Air flow q_v	m^3/h	13300		
Pressure increase p_{fs}	Pa	320		
Speed n	min^{-1}	1500		

Data definition with optimum efficiency. LU-118665
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

Mass	42.5 kg
Size	630 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Die-cast aluminium
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)
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
Note ambient temperature	Operation at -40 °C to -60 °C only with heating element (pre-heat for at least 2 hours); above +60 °C to +80 °C with power derating
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	Transport -40 °C / Storage -60 °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	- RS485 MODBUS RTU - PFC, passive - Control input 0-10 VDC / PWM - Over-temperature protected electronics / motor - Alarm relay - Integrated PID controller - Input for sensor 0-10 V or 4-20 mA - Output for slave 0-10 V - Motor current limit - Soft start - Line undervoltage / phase failure detection - Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - External 24 V input (programming)
Electical heating	24 V AC/DC, any polarity, heating element screwed on outside, connection line attached
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 61000-6-3 (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)
Product conforming to standard	CE
Approval	C22.2 Nr.77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730

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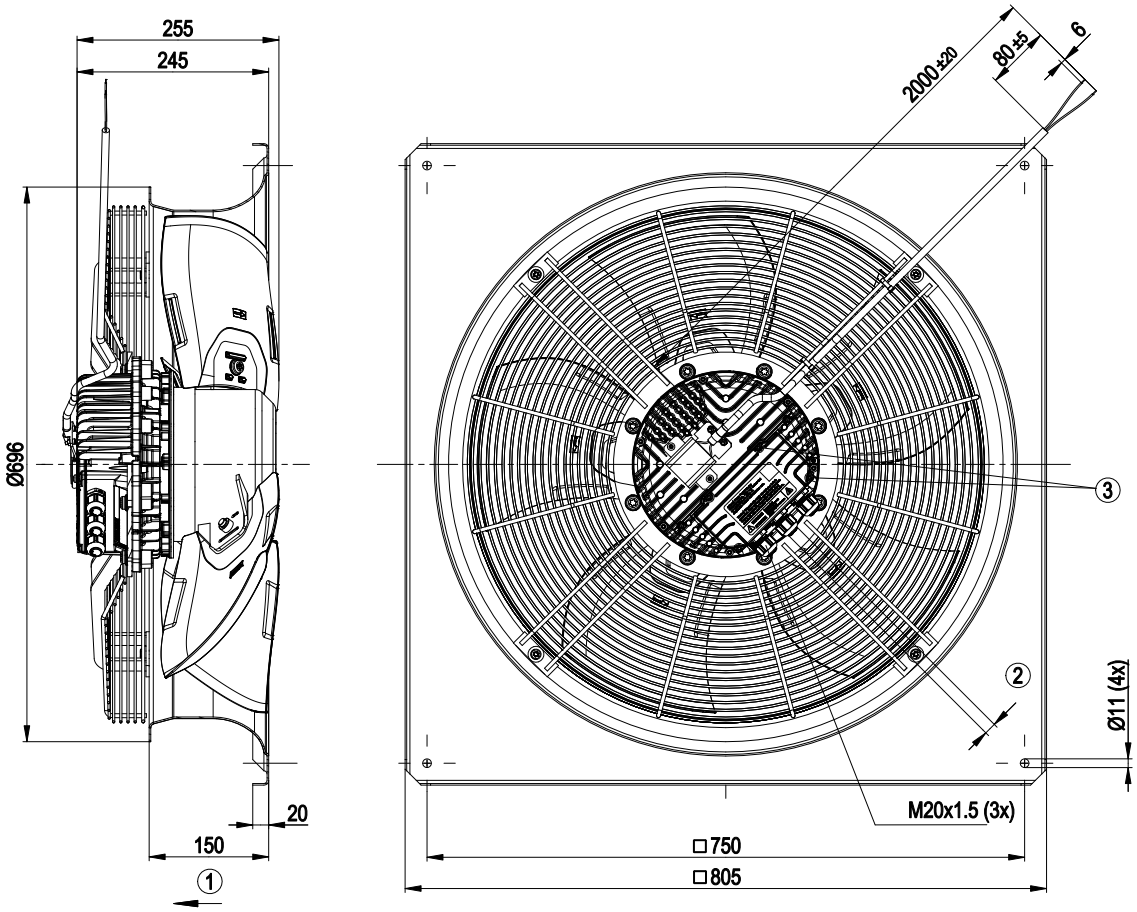
Product drawing



1	Direction of air flow "V"
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4±0.6 Nm
3	Tightening torque 3.5±0.5 Nm

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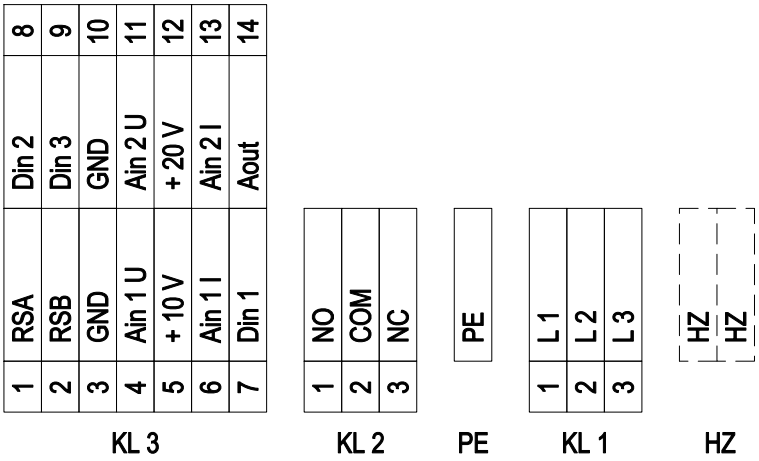
Connection screen



No.	Conn.	Designation	Function / assignment
KL 1	1	L1	Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz
KL 1	2	L2	Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz
KL 1	3	L3	Mains supply connection, supply voltage 3-phase 380-480 VAC; 50/60 Hz
PE		PE	Earth connection, PE connection
HZ		HZ	Connection of external heating element; 24 V AC/DC; any polarity; max. startup current 30 A; (connection line attached)
KL 2	1	NO	Status relay, floating status contact; make for failure
KL2	2	COM	Status relay; floating status contact; changeover contact; common connection; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL2	3	NC	Status relay, floating status contact; break for failure
KL 3	1	RSA	Bus connection RS-485; RSA; MODBUS RTU
KL 3	2	RSB	Bus connection RS-485; RSB; MODBUS RTU
KL 3	3 / 10	GND	Signal ground for control interface
KL 3	4	Ain1 U	Analogue input 1 (set value); 0-10 V; Ri = 100 kΩ; parametrisable curves; only usable as alternative to input Ain1 I
KL 3	5	+ 10 V	Fixed voltage output 10 VDC; +10 V ±3%; max. 10 mA; short-circuit-proof; power supply for external devices (e.g. potentiometer)
KL 3	6	Ain1 I	Analogue input 1 (set value); 4-20 mA; Ri = 100 Ω; parametrisable curves; only usable as alternative to input Ain1 U
KL 3	7	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 3	8	Din2	Digital input 2: parameter set switch 1/2; according to EEPROM setting, the valid/used parameter set is selectable per bus or per digital input DIN2. Parameter set 1: open pin or applied voltage 5 to 50 VDC; parameter set 2: bridge to GND or applied voltage <1 VDC
KL 3	9	Din3	Digital input 3: control characteristic of integrated controller; according to EEPROM setting, the control characteristic of the integrated controller is normally/inversely selectable per bus or per digital input; normal: open pin or applied voltage 5 to 50 VDC; inverse: bridge to GND or applied voltage <1 VDC
KL 3	11	Ain2 U	Analogue input 2; actual value 0-10 V; Ri = 100 kΩ; parametrisable curve; only usable as alternative to input Ain2 I
KL 3	12	+ 20 V	Fixed voltage output 20 VDC; +20 V +25/-10%; max. 50 mA; short-circuit-proof; power supply for external devices (e.g. sensors)
KL 3	13	Ain2 I	Analogue input 2; actual value: 4-20 mA; Ri = 100 Ω; parametrisable curve; only usable as alternative to input Ain2 U

No.	Conn.	Designation	Function / assignment
KL 3	14	Aout	Analogue output 0-10 V; max. 5 mA; output of the current motor level control coefficient / motor speed. Parametrisable curve.

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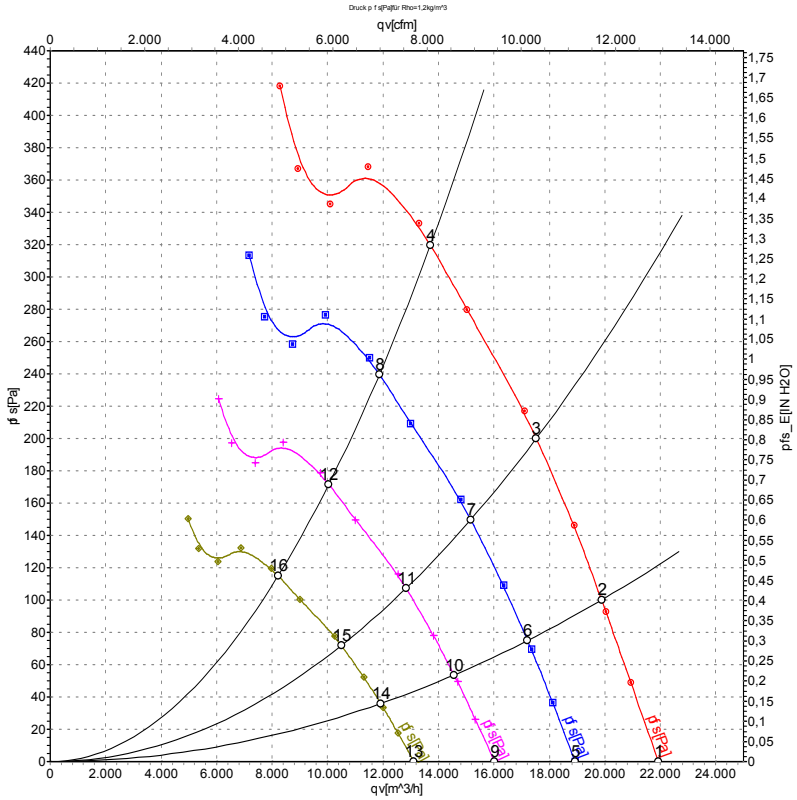
Charts: Air flow 50 Hz



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	1490	2464	3.75	75	82	83	21930	0
2	400	50	1490	2681	4.10	74	81	82	19880	100
3	400	50	1490	2895	4.43	74	81	82	17530	200
4	400	50	1490	3100	4.80	78	86	85	13710	320
5	400	50	1300	1585	2.41	72	79	79	18930	0
6	400	50	1300	1741	2.66	71	78	78	17210	75
7	400	50	1300	1875	2.87	71	78	78	15160	150
8	400	50	1300	2045	3.13	75	83	82	11870	240
9	400	50	1100	960	1.46	68	76	76	16020	0
10	400	50	1100	1054	1.61	67	74	75	14560	54
11	400	50	1100	1136	1.74	67	75	75	12830	108
12	400	50	1100	1239	1.90	72	79	78	10040	172
13	400	50	900	526	0.80	64	71	72	13110	0
14	400	50	900	578	0.88	63	70	70	11920	36
15	400	50	900	622	0.95	63	70	70	10500	72
16	400	50	900	678	1.04	67	75	74	8220	115

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