W3GZ50-EC04-01

EC axial fan - HyBlade

sickled blades (S series)

Round full nozzle with diffuser

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Nominal data

Type	**W3GZ50-EC04-01**
Motor	**M3G200-QA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
State		prelim.
Speed (rpm)	min^{-1}	690
Power input	W	4900
Current draw	A	7.5
Max. back pressure	Pa	210
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

		Actual	Request 2015
01 Overall efficiency η_{es}	%	51.1	37.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		53.2	40
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	4.61
09 Air flow q_v	m^3/h	45235
09 Pressure increase p_{fs}	Pa	180
10 Speed (rpm) n	min^{-1}	700
11 Specific ratio*		1.00

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

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

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Technical features

Mass	193 kg
Size	1250 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	Die-cast aluminium
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	Sheet steel, galvanised and coated in black plastic (RAL 9005)
Material of inner diffuser including lid	Sheet steel, galvanised and coated in black plastic (RAL 9005)
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 (F)/environmental protection class (H)	H2
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 - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - External 24 V input (programming) - External release input - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start -Maximum EEPROM write cycles 100,000 - 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
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box

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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
Approval	UL 1004-7 + 60730; C22.2 Nr.77 + CAN/CSA-E60730-1; EAC

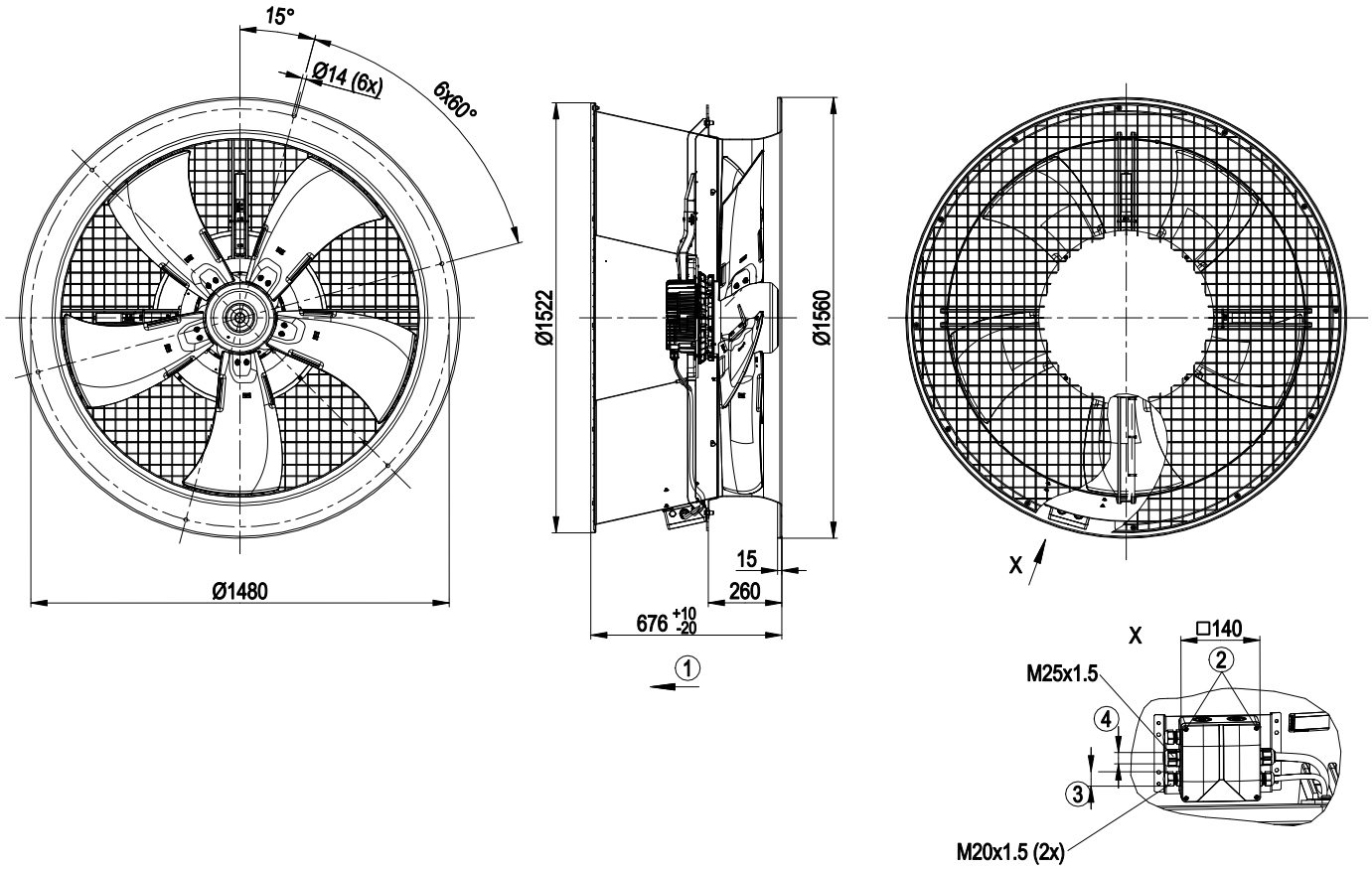
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Product drawing



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
4	Cable diameter min. 9 mm, max. 16 mm, tightening torque 4±0.6 Nm

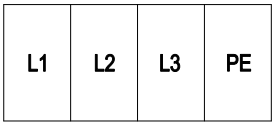
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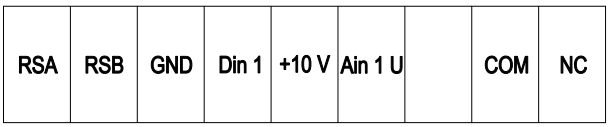
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Connection screen



KL 1



KL 2

No.	Conn.	Designation	Function / assignment
KL 1		L1	Mains connection, power supply 3-phase 380-480 VAC; 50/60 Hz
KL 1		L2	Mains connection, power supply 3-phase 380-480 VAC; 50/60 Hz
KL 1		L3	Mains connection, power supply 3-phase 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	Reference earth for control interface; SELV
KL 2		Din1	Digital input 1 enabling of electronics, Enabling: Pin open or applied voltage 5-50 VDC Disabling: Bridge to GND or applied voltage <1 VDC Reset function: Triggering of software reset after 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. potentiometers); SELV
KL 2		Ain1 U	Analogue input 1, set value: 0-10 V, Ri = 100 kΩ, parametrizable curve; SELV
KL2		COM	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; NC contact for faults

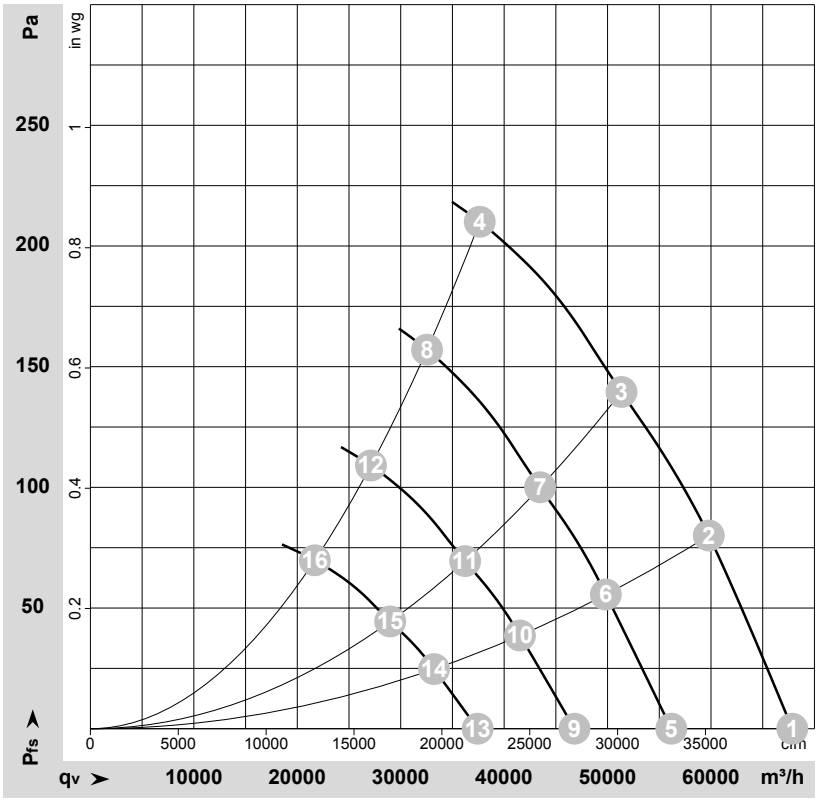
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Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-152869-1

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}	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	inH2O
1	400	50	720	3325	5.31	75	83	85	67860	0	39940	0.00
2	400	50	720	4083	6.38	72	81	83	59785	80	35190	0.32
3	400	50	710	4406	6.84	72	80	82	51345	140	30220	0.56
4	400	50	690	4900	7.50	78	86	88	37640	210	22155	0.84
5	400	50	600	1885	3.01	70	79	81	56160	0	33055	0.00
6	400	50	600	2360	3.69	68	76	78	49835	56	29330	0.22
7	400	50	600	2673	4.15	68	76	78	43475	100	25590	0.40
8	400	50	600	3149	4.87	74	82	84	32545	157	19155	0.63
9	400	50	500	1091	1.74	66	74	76	46800	0	27545	0.00
10	400	50	500	1366	2.13	63	71	73	41530	39	24440	0.16
11	400	50	500	1547	2.40	63	71	74	36230	69	21325	0.28
12	400	50	500	1822	2.82	70	78	79	27120	109	15965	0.44
13	400	50	400	558	0.89	60	68	70	37440	0	22035	0.00
14	400	50	400	699	1.09	57	66	68	33220	25	19555	0.10
15	400	50	400	792	1.23	58	66	68	28985	44	17060	0.18
16	400	50	400	933	1.44	64	72	74	21700	70	12770	0.28

U = Supply voltage · f = Frequency · n = Speed (rpm) · 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
q_V = Air flow · p_{fs} = Pressure increase

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