

W3G990-DW30-55

EC axial fan - HyBlade®

sickled blades (S series)

with full square nozzle, for agricultural ventilation

ebm-papst Mulfingen GmbH & Co. KG

Bachmühle 2 · D-74673 Mulfingen

Phone +49 7938 81-0

Fax +49 7938 81-110

info1@de.ebmpapst.com

www.ebmpapst.com

Limited partnership · Headquarters Mulfingen

County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

County court Stuttgart · HRB 590142



Nominal data

Type	W3G990-DW30-55	
Motor	M3G150-FF	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
State		prelim.
Speed	min ⁻¹	820
Power input	W	1390
Current draw	A	6.1
Max. back pressure	Pa	70
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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 = $1 + p_b / 100\,000\text{ Pa}$

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	47.1	31	35
Efficiency grade N		52.1	36	40
Power input P_{ed}	kW	1.63		
Air flow q_v	m ³ /h	19880		
Pressure increase p_{fs}	Pa	130		
Speed n	min ⁻¹	805		

Data definition with optimum efficiency. LU-139747
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.



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Technical features

Mass	52.7 kg
Size	990 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Aluminium sheet insert (coated in black), sprayed with PP plastic
Material of mounting ring	Steel, galvanised, primed and coated in black plastic
Material of wall ring	Sheet steel, pre-galvanised and coated in black plastic
Number of blades	5
Blade angle	-5°
Direction of air flow	"A"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity class	F5
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 top
Condensate discharge holes	On the stator 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 - Tach output - Input for sensor 0-10 V or 4-20 mA - External 24 V input (programming) - External release input - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, active - 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
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	EN 61800-5-1; CE
Approval	EAC

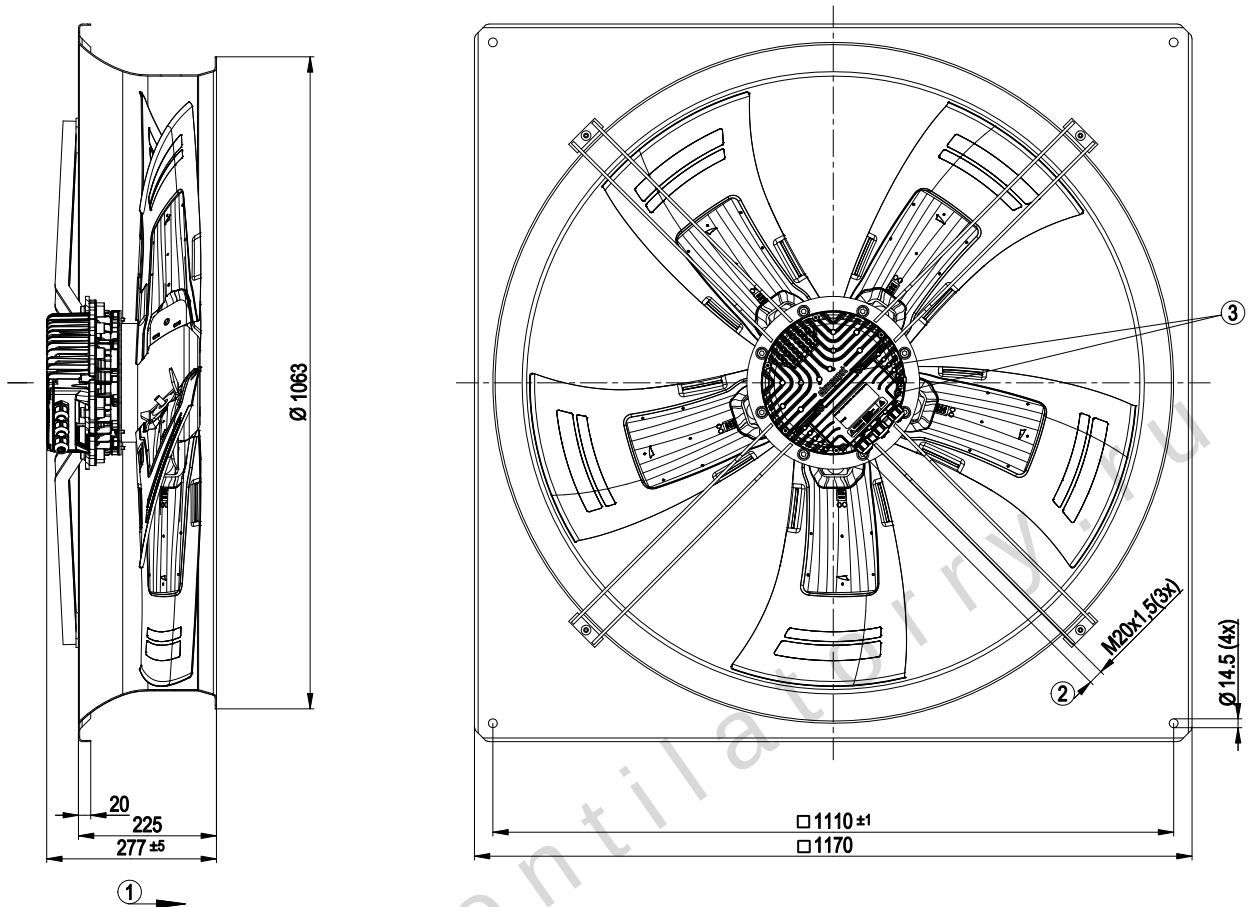
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Product drawing



1	Direction of air flow "A"
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

1	2	3	4	5	6	7	8	9	10	11	12	13	14
RSA	RSB	GND	Ain 1 U	+ 10 V	Ain 1 I	Din 1	Din 2	Din 3	GND	Ain 2 U	+ 20 V	Ain 2 I	Aout
KL 3	KL 2	PE	KL 1										

No.	Conn.	Designation	Function / assignment
KL1	1	L1	Mains supply connection, supply voltage 1~200-277 V AC; 50/60 Hz
KL1	2	N	Mains supply connection, supply voltage 1~200-277 V AC; 50/60 Hz
PE		PE	Earth connection, PE connection
KL2	1	NO	Status relay, floating status contact; option 1: close with error; option 2: close with run monitor error message
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; option 1: break with error; option 2: break with error for run monitor error message
KL3	1	RSA	Bus connection RS485; RSA; MODBUS RTU
KL3	2	RSB	Bus connection RS485; RSB; MODBUS RTU
KL3	3	GND	Signal ground for control interface
KL3	4	Ain1 U	Analog input 1 (set value); 0-10 V; Ri= 100kOhm; parametrisable curve; only usable as alternative to input Ain1 I
KL3	5	+10 V	Fixed voltage output 10 VDC; + 10 V +/-3%; max. 10 mA; short circuit proof; power supply for ext. devices (e.g. potentiometer)
KL3	6	Ain1 I	Analog input 1 (set value); 4-20 mA; Ri= 100 Ohm; parametrisable curve; only usable as alternative to input Ain1 U
KL3	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 < 0.8 VDC; reset function: triggers software reset after a level change to <0.8 V
KL3	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 < 0.8 VDC
KL3	9	Din3	Digital input 3: control characteristic of the 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 < 0.8 VDC
KL3	10	GND	Signal ground for control interface
KL3	11	Ain2 U	Analog input 2; actual sensor value 0-10 V; Ri= 100kOhm; parametrisable curve; only usable as alternative to input Ain2 I
KL3	12	+20 V	Fixed voltage output 20 VDC; + 20V +/-25/-10%; max. 50 mA; short circuit proof; power supply for ext. devices (e.g. sensors)
KL3	13	Ain2 I	Analog input 2; actual sensor value 4-20 mA; Ri= 100 Ohm; parametrisable curve; only alternative to input Ain2 U
KL3	14	Aout	Analogue output 0-10 V; max. 5 mA; output of the actual motor control factor (output voltage of electronics)/ of the actual motor speed. Parametrisable curve.

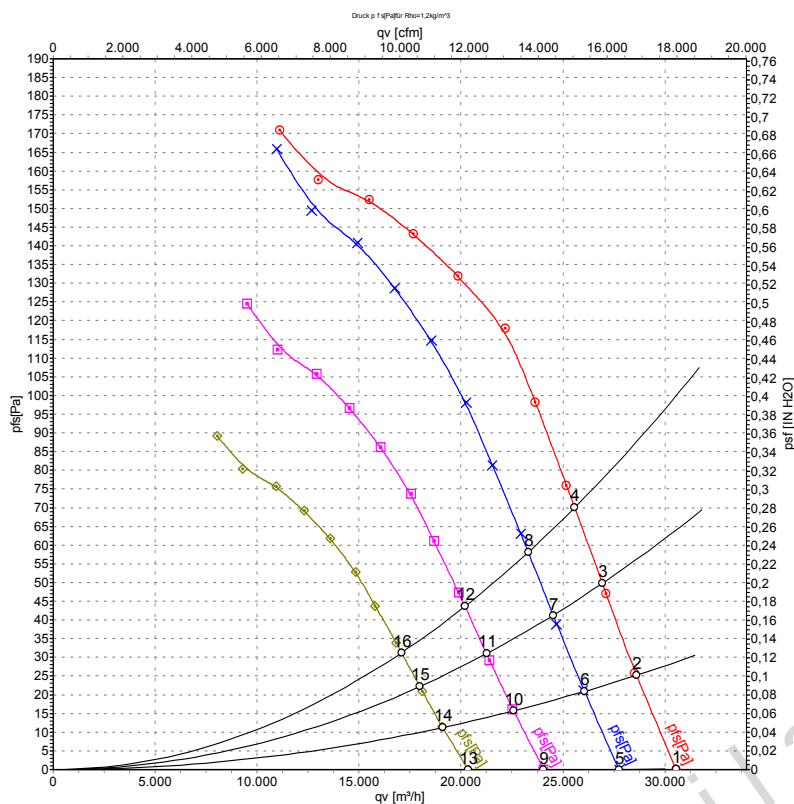
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Charts: Air flow 50 Hz



Measurement: LU-139747

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	230	50	820	985	4.34	73	81	80	30560	0
2	230	50	820	1146	5.01	72	80	80	28610	25
3	230	50	820	1292	5.69	71	79	79	26930	50
4	230	50	820	1390	6.10	71	79	79	25570	70
5	230	50	750	737	3.25	71	78	78	27740	0
6	230	50	750	868	3.80	70	78	77	26060	21
7	230	50	750	974	4.29	69	77	77	24520	41
8	230	50	750	1062	4.68	69	77	77	23300	58
9	230	50	650	480	2.12	68	75	75	24050	0
10	230	50	650	565	2.47	67	75	74	22580	16
11	230	50	650	634	2.80	66	74	74	21250	31
12	230	50	650	692	3.05	66	74	74	20190	44
13	230	50	550	291	1.28	64	72	72	20350	0
14	230	50	550	342	1.50	63	71	71	19110	11
15	230	50	550	384	1.69	63	70	70	17980	22
16	230	50	550	419	1.85	63	70	70	17080	31

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 sideqv = Air flow · p_{fs} = Pressure increase