W3G630-GU31-71

EC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

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
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**W3G630-GU31-71**
Motor	**M3G150-IF**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	1510
Power consumption	W	3250
Current draw	A	5.0
Max. back pressure	Pa	320
Max. back pressure	in. wg	1.28
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	65

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Occasional start-up at temperatures between -40 °C and -25 °C is permitted. For continuous operation at ambient temperatures below -25 °C (such as refrigeration applications), a fan design with special low-temperature bearings must be used.

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	37.3	36.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		40.5	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	3.17
09 Air flow q_v	m^3/h	15415
09 Pressure increase p_{fs}	Pa	287
10 Speed (rpm) n	min^{-1}	1505
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-176699

EC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

Technical description

Weight	39 kg
Size	630 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Blade material	Sheet aluminum insert, sprayed with PP plastic
Fan housing material	Sheet steel, galvanized and coated with black plastic (RAL 9005)
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Blade pitch	0°
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H2
Ambient temperature note	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at temperatures below -25°C (e.g. refrigeration applications) we recommend our fan design with special low-temperature bearings.
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (parameter setting) - External release input - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from supply - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Reverse polarity and locked-rotor protection

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	EAC

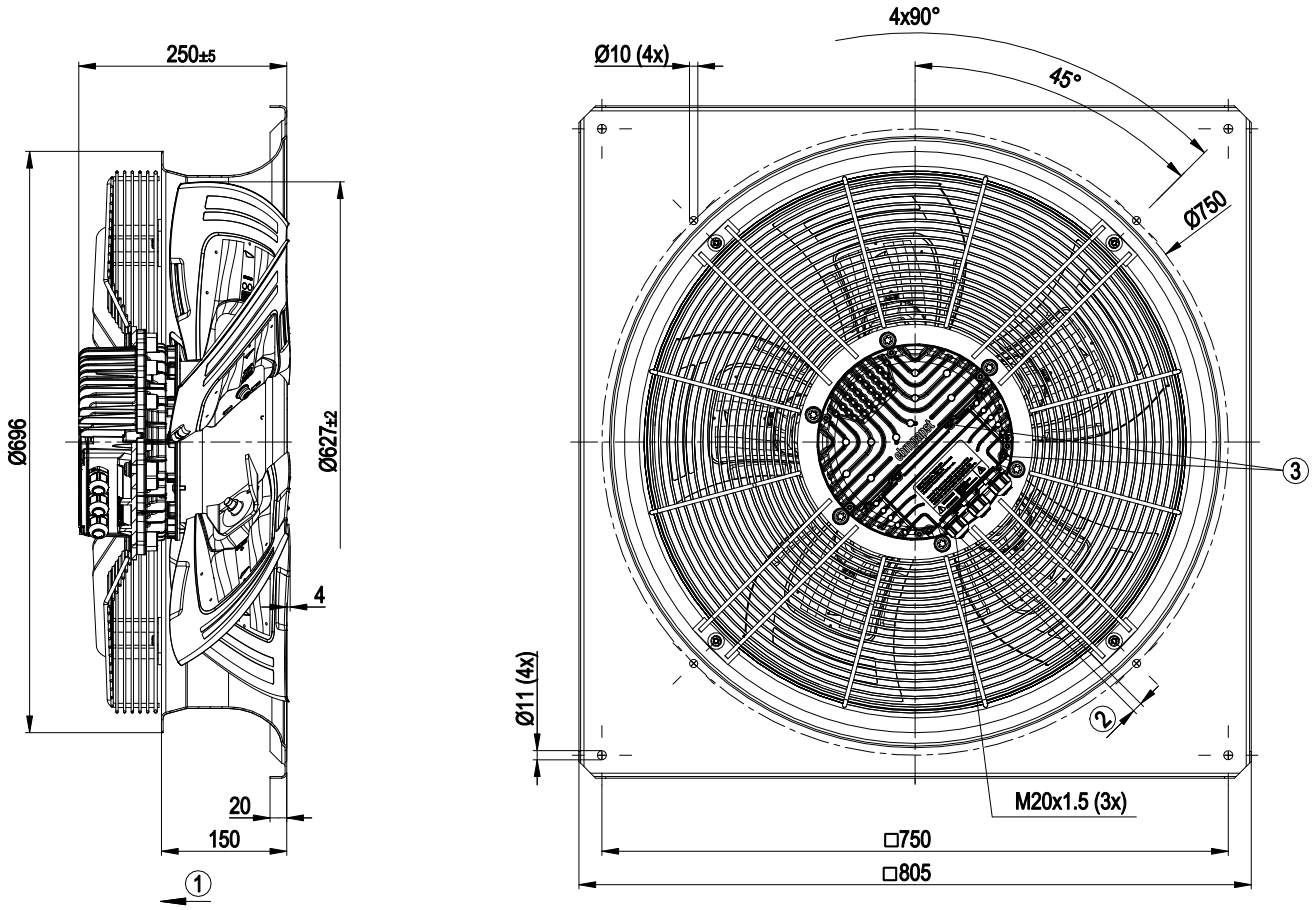
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

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

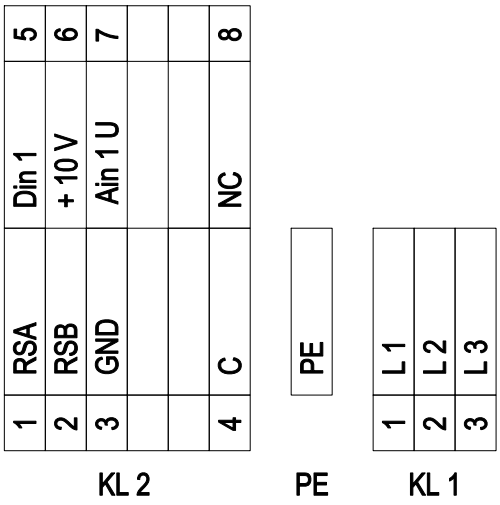
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

Connection diagram



No.	Conn.	Designation	Function/assignment
KL 1	1	L1	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1	2	L2	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
KL 1	3	L3	Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz
PE		PE	Ground connection, PE connection
KL 2	1	RSA	Bus connection RS485, RSA, MODBUS-RTU; SELV
KL 2	2	RSB	Bus connection RS485, RSB, MODBUS-RTU; SELV
KL 2	3	GND	Reference ground for control interface; SELV
KL2	4	C	Status relay, floating status contact, break for failure; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA
KL 2	5	Din1	Digital input 1 enable electronics, enable: pin open or applied voltage 5-50 VDC disable: bridge to GND or applied voltage < 1 VDC reset function: triggers software reset after a level change to < 1 V; SELV
KL 2	6	+ 10 V	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot); SELV Or: +24 VDC input for parameter setting via MODBUS without line voltage
KL 2	7	Ain1 U	Analog input 1 (set value) 0-10 V, Ri = 100 kΩ, adjustable curve; SELV
KL2	8	NC	Status relay, floating status contact, break for failure

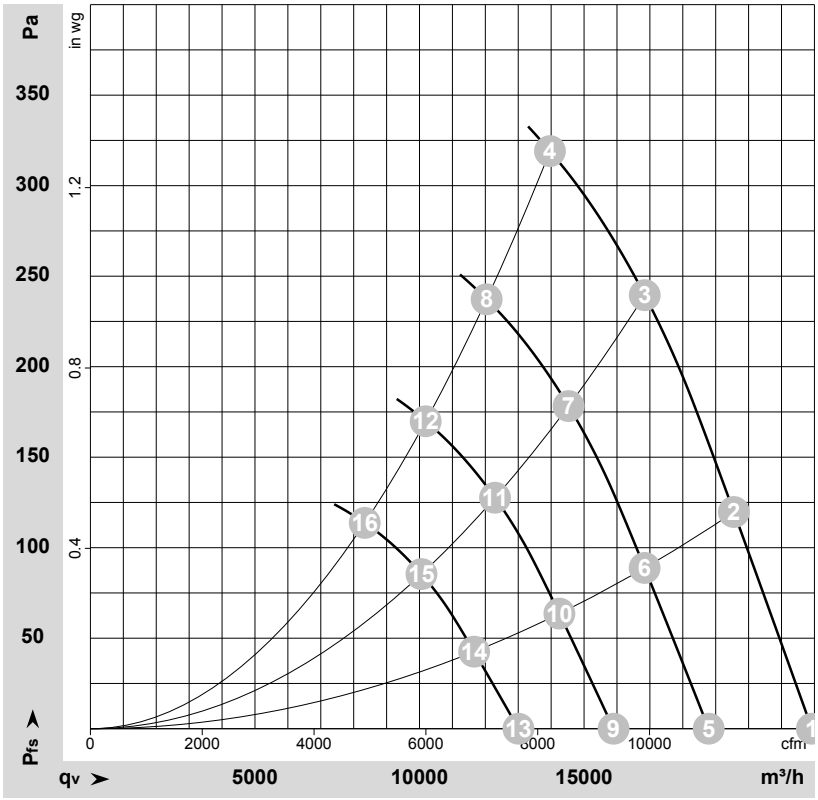
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle

Curves: Air performance 50 Hz



ρ = 1.173 kg/m³ ± 2 %

Measurement: LU-176699-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	Wired	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	in. wg
1	Y	400	50	1510	2589	4.00	74	82	83	21925	0	12905	0.00
2	Y	400	50	1510	2821	4.34	73	81	81	19550	120	11510	0.48
3	Y	400	50	1510	3071	4.71	74	81	81	16845	240	9915	0.96
4	Y	400	50	1510	3250	5.00	77	84	83	13965	320	8220	1.28
5	Y	400	50	1300	1630	2.52	70	78	79	18790	0	11060	0.00
6	Y	400	50	1300	1805	2.78	70	77	78	16840	90	9910	0.36
7	Y	400	50	1300	1971	3.03	70	77	77	14530	179	8550	0.72
8	Y	400	50	1300	2082	3.19	73	81	79	12040	237	7085	0.95
9	Y	400	50	1100	987	1.52	66	74	75	15895	0	9355	0.00
10	Y	400	50	1100	1094	1.68	65	73	73	14250	64	8385	0.26
11	Y	400	50	1100	1194	1.83	66	73	73	12295	128	7235	0.51
12	Y	400	50	1100	1261	1.93	69	76	75	10190	170	5995	0.68
13	Y	400	50	900	541	0.83	61	69	70	13005	0	7655	0.00
14	Y	400	50	900	599	0.92	60	68	68	11660	43	6860	0.17
15	Y	400	50	900	654	1.00	61	68	68	10060	86	5920	0.35
16	Y	400	50	900	691	1.06	64	71	70	8335	114	4905	0.46

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com