

EC axial panel fan - HyBlade

sickle-shaped blades (S series)
with guard grille for short nozzle

ebm-papst Mulfingen GmbH & Co. KG

Bachmühle 2 · D-74673 Mulfingen

Phone +49 7938 81-0

Fax +49 7938 81-110

info1@de.fansco.com

www.fansco.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	S3G450-AO02-52	
Motor	M3G074-DF	

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min ⁻¹	980
Power consumption	W	163
Current draw	A	1.34
Max. back pressure	Pa	74
Max. back pressure	in. wg	0.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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

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

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	37.9	28.8	09 Power consumption P_{ed}	kW	0.16
02 Measurement category	A			09 Air flow q_v	m³/h	3505
03 Efficiency category	Static			09 Pressure increase p_{fs}	Pa	61
04 Efficiency grade N	49.1	40		10 Speed (rpm) n	min ⁻¹	1000
05 Variable speed drive	Yes			11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

* Specific ratio = $1 + p_s / 100\,000\text{ Pa}$

LU-138244

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.
The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

EC axial panel fan - HyBlade

sickle-shaped blades (S series)

with guard grille for short nozzle

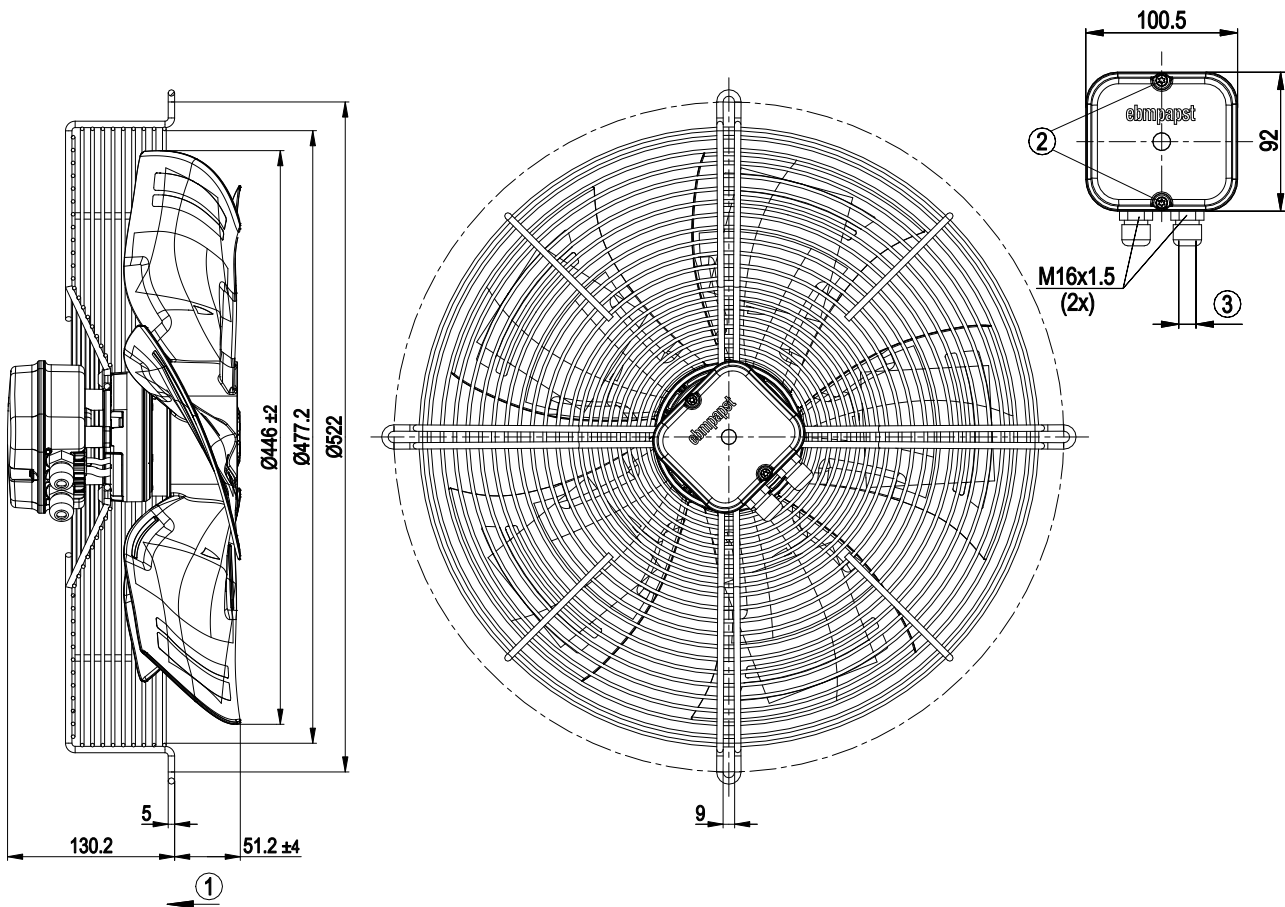
Technical description

Weight	4.9 kg
Size	450 mm
Motor size	74
Terminal box material	PP plastic
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	V
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Any
Condensation drainage holes	None, open rotor
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Tach output - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Electronic motor protection
With cable	Variable
Protection class assignment	I; If a protective earth is connected. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.
Conformity with standards	EN 60034-1; EN 60204-1; EN 60335-1; CE
Approval	EAC; CCC

EC axial panel fan - HyBlade

sickle-shaped blades (S series)
with guard grille for short nozzle

Product drawing



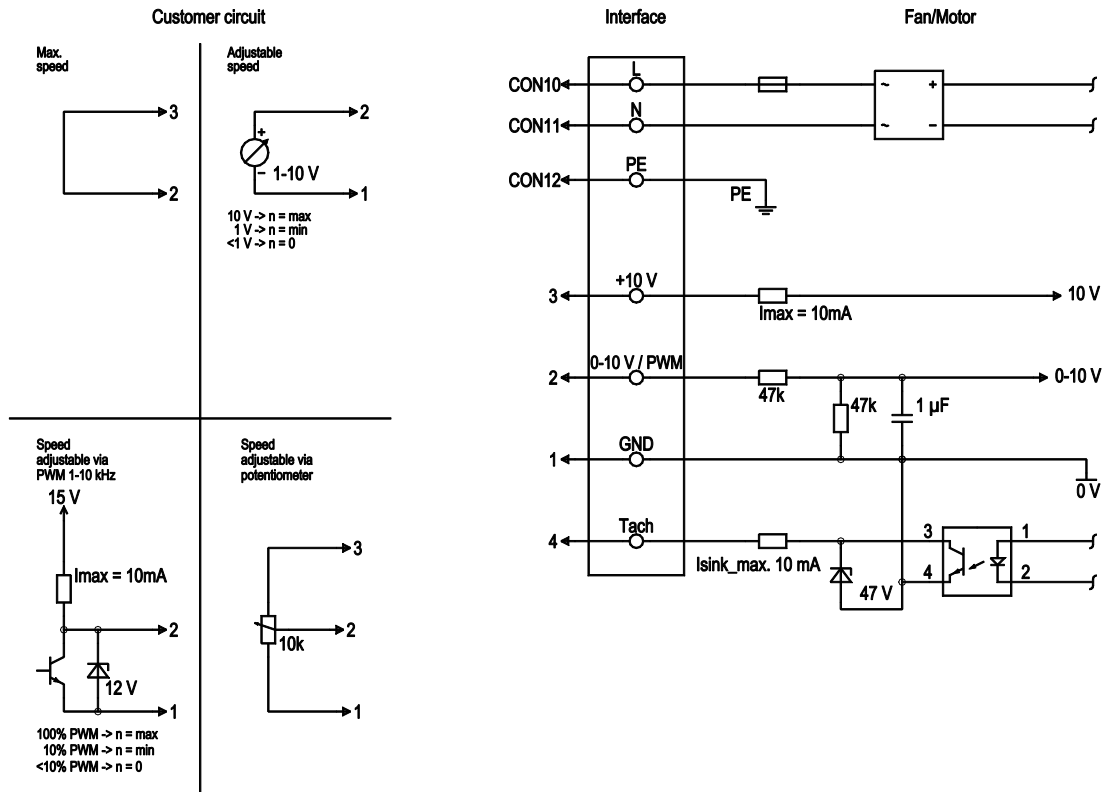
1	Direction of air flow "V"
2	Tightening torque 1.5 ± 0.2 Nm
3	Cable diameter max. 7.5 mm, tightening torque 1.3 ± 0.2 Nm

EC axial panel fan - HyBlade

sickle-shaped blades (S series)

with guard grille for short nozzle

Connection diagram

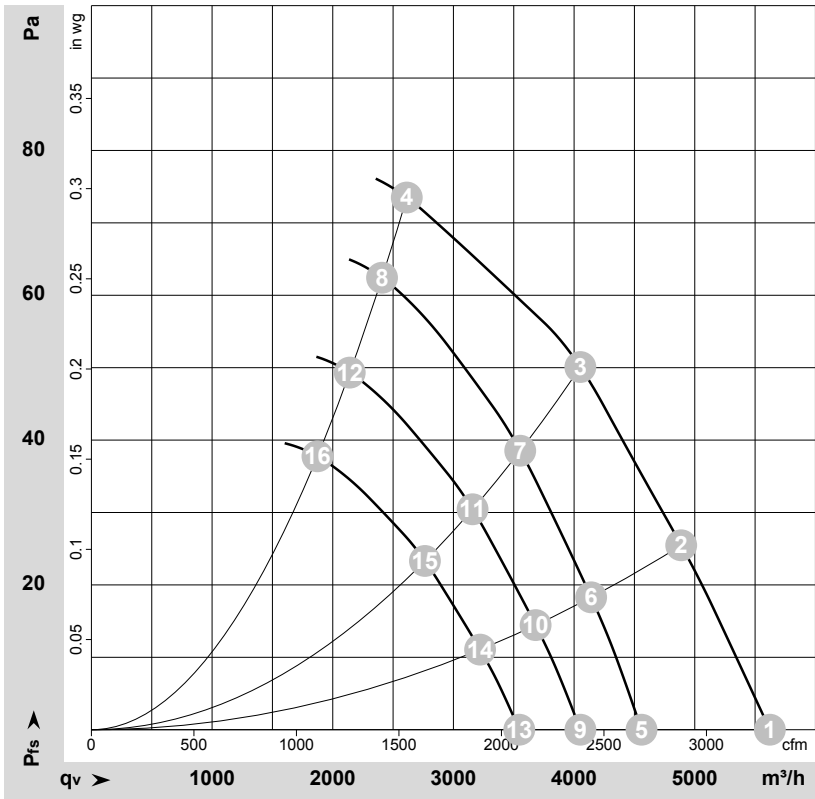


No.	Conn.	Designation	Color	Function/assignment
	CON10	L	black	Supply connection, power supply, phase, see nameplate for voltage range
	CON11	N	blue	Supply connection, power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Ground connection
	2	0- 10V PWM	yellow	0-10 V / PWM control input, R _i =100 kΩ, SELV
	4	Tach	white	Tach output, open collector, 1 pulse per revolution, I _{sink max} = 10 mA, SELV
	3	+10 V	red	Fixed voltage output 10 VDC +/-3 %, I _{max} . 10 mA, short-circuit-proof, power supply for ext. devices (e.g. pot), SELV
	1	GND	blue	Reference ground for control interface, SELV

EC axial panel fan - HyBlade

sickle-shaped blades (S series)
with guard grille for short nozzle

Curves: Air performance 50 Hz



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-138244-1
Date: 2011-11-10
Housing: 64000-2-4037

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

	U	f	n	P _{ed}	I	LpA _{in}	LwA _{in}	q _v	p _{fs}	q _v	p _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	m³/h	Pa	cfm	in. wg
1	230	50	1110	163	1.34	59	66	5620	0	3310	0.00
2	230	50	1060	163	1.34	57	64	4890	25	2875	0.10
3	230	50	1025	163	1.34	54	61	4050	50	2385	0.20
4	230	50	980	163	1.34	61	68	2615	74	1540	0.30
5	230	50	900	89	0.72	54	60	4560	0	2685	0.00
6	230	50	900	102	0.83	53	60	4140	18	2435	0.07
7	230	50	900	113	0.93	51	58	3555	39	2090	0.16
8	230	50	900	131	1.09	59	66	2410	63	1415	0.25
9	230	50	800	63	0.51	51	57	4050	0	2385	0.00
10	230	50	800	72	0.58	50	57	3680	14	2165	0.06
11	230	50	800	80	0.65	48	55	3160	31	1860	0.12
12	230	50	800	92	0.76	56	63	2140	49	1260	0.20
13	230	50	700	42	0.34	48	54	3545	0	2085	0.00
14	230	50	700	48	0.39	47	53	3220	11	1895	0.04
15	230	50	700	53	0.44	45	51	2765	23	1625	0.09
16	230	50	700	62	0.51	52	60	1875	38	1100	0.15

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