W3G500-AL04-10

EC axial fan - HyBlade

sickle-shaped blades (S series)

Fan housing with guard grille

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Nominal data

Type	**W3G500-AL04-10**
Motor	**M3G074-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	800
Power consumption	W	140
Current draw	A	1.2
Max. back pressure	Pa	40
Max. back pressure	in. wg	0.16
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	50

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 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	36.8	28.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		48.6	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.13
09 Air flow q_v	m^3/h	3930
09 Pressure increase p_{fs}	Pa	41
10 Speed (rpm) n	min^{-1}	795
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

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Technical description

Weight	8.6 kg
Size	500 mm
Motor size	74
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Fan housing material	Sheet steel, pre-galvanized and coated with black plastic (RAL 9005)
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	A
Direction of rotation	Clockwise, 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	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
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
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Electronic motor protection
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60034-1; EN 60204-1; EN 60335-1; CE
Approval	CCC

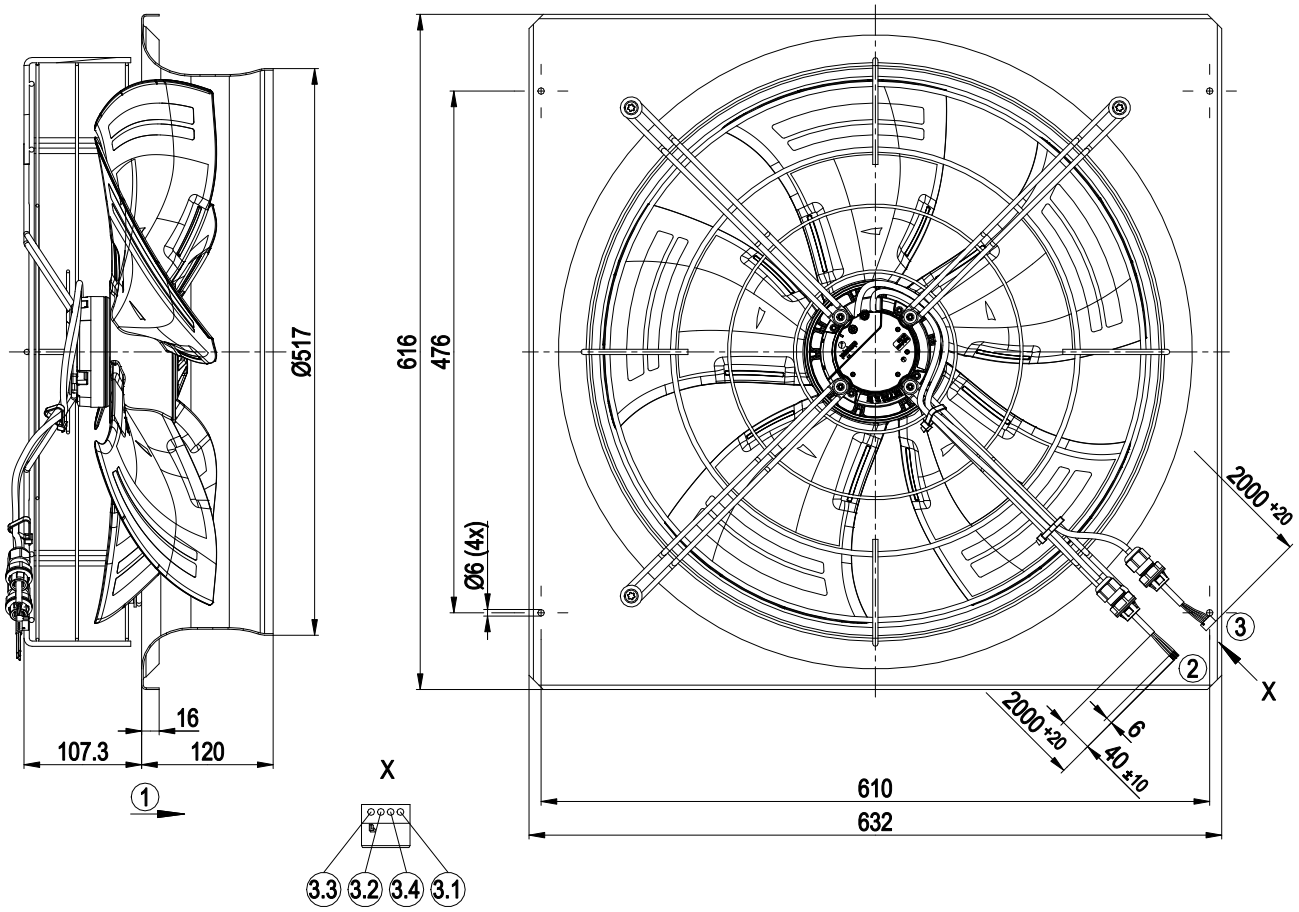
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Product drawing



1	Direction of air flow "A"
2	Cable PVC AWG20
	3x splice
3	Cable PVC AWG22
	4-pole connector Lumberg 3521 04 K00 M12
3.1	GND (blue)
3.2	0-10 V/PWM (yellow)
3.3	+10 V (red)
3.4	Tach (white)

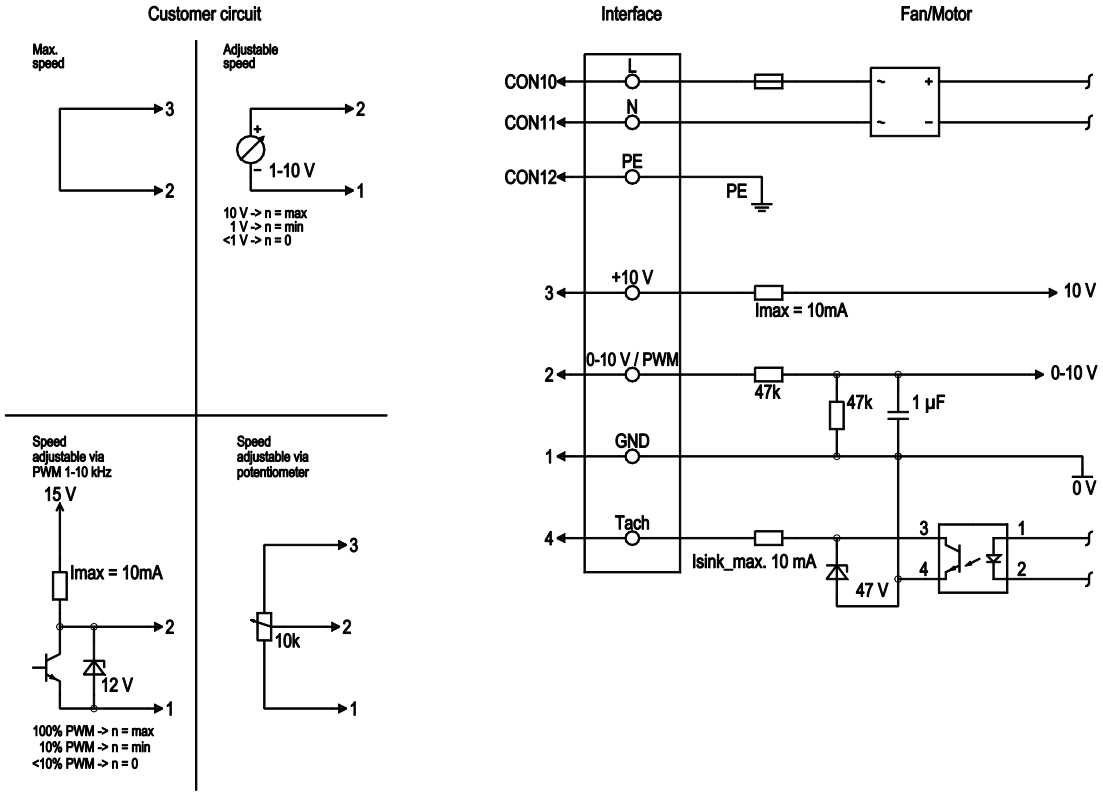
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Connection diagram



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, Ri=100 kΩ, SELV
	4	Tach	white	Tach output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV
	3	+10 V	red	Fixed voltage output 10 VDC +/-3 %, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. pot), SELV
	1	GND	blue	Reference ground for control interface, SELV

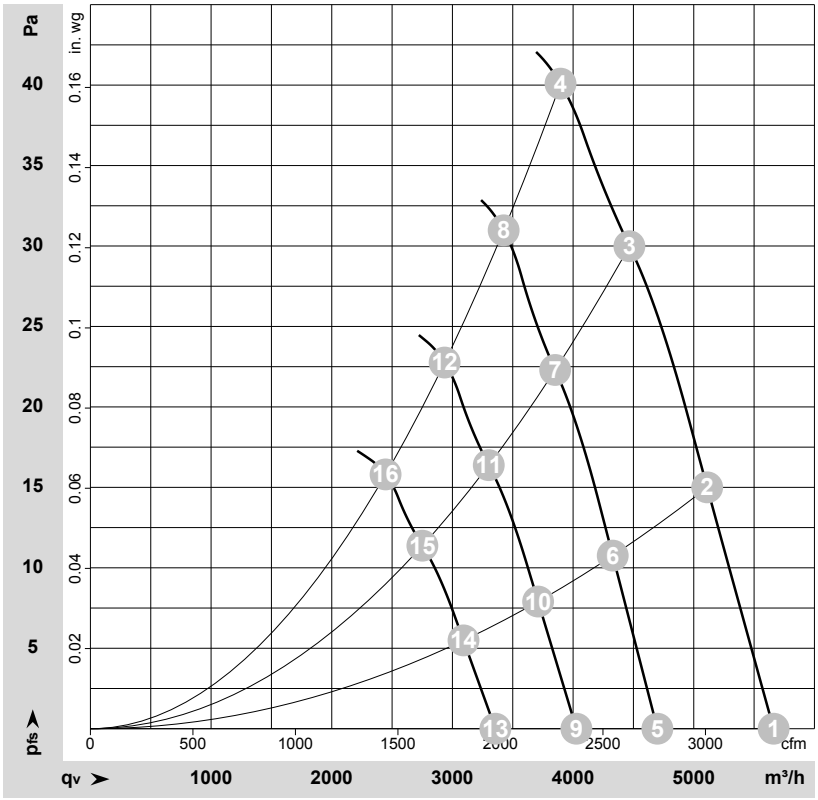
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-201388-1

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	1~	230	50	845	118	1.03	56	62	61	5660	0	3335	0.00
2	1~	230	50	825	126	1.10	54	61	60	5110	15	3010	0.06
3	1~	230	50	810	132	1.14	53	59	58	4465	30	2630	0.12
4	1~	230	50	800	140	1.20	53	59	58	3895	40	2295	0.16
5	1~	230	50	700	67	0.59	51	57	56	4700	0	2765	0.00
6	1~	230	50	700	77	0.67	50	57	56	4330	11	2545	0.04
7	1~	230	50	700	84	0.73	49	56	55	3850	22	2265	0.09
8	1~	230	50	700	93	0.80	50	56	55	3425	31	2015	0.12
9	1~	230	50	600	42	0.37	47	53	52	4025	0	2370	0.00
10	1~	230	50	600	48	0.42	46	53	52	3710	8	2185	0.03
11	1~	230	50	600	53	0.46	45	52	51	3300	16	1945	0.06
12	1~	230	50	600	59	0.51	46	52	51	2935	23	1725	0.09
13	1~	230	50	500	25	0.21	43	49	47	3355	0	1975	0.00
14	1~	230	50	500	28	0.24	42	48	47	3090	5	1820	0.02
15	1~	230	50	500	31	0.27	41	47	46	2750	11	1620	0.04
16	1~	230	50	500	34	0.29	41	48	47	2445	16	1440	0.06

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

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