W3G500-DM56-35

EC axial fan - HyBlade

sickle-shaped blades (S series)

with square full nozzle, for barn ventilation

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**W3G500-DM56-35**
Motor	**M3G112-EA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	1420
Power consumption	W	750
Current draw	A	3.4
Max. back pressure	Pa	175
Max. back pressure	inH2O	0.7
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 ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	41.6	32.8
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		48.8	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.73
09 Air flow q_v	m^3/h	5850
09 Pressure increase p_{fs}	Pa	173
10 Speed (rpm) n	min^{-1}	1425
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-121382

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Technical description

Weight	14 kg
Fan size	500 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Blade material	Press-fitted, painted sheet steel blank, sprayed with PP plastic
Support ring material	Steel, galvanized and coated with black plastic (RAL 9005)
Fan housing material	Sheet steel, galvanized and 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	F4-2
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 top
Condensation drainage holes	On stator side
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 - Operation and alarm display - Selection of direction of rotation left/right - Input for sensor 0-10 V or 4-20 mA - External 24 V input (parameter setting) - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, active - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Via terminal box
Motor protection	Thermal overload protector (TOP) internally connected
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	EAC

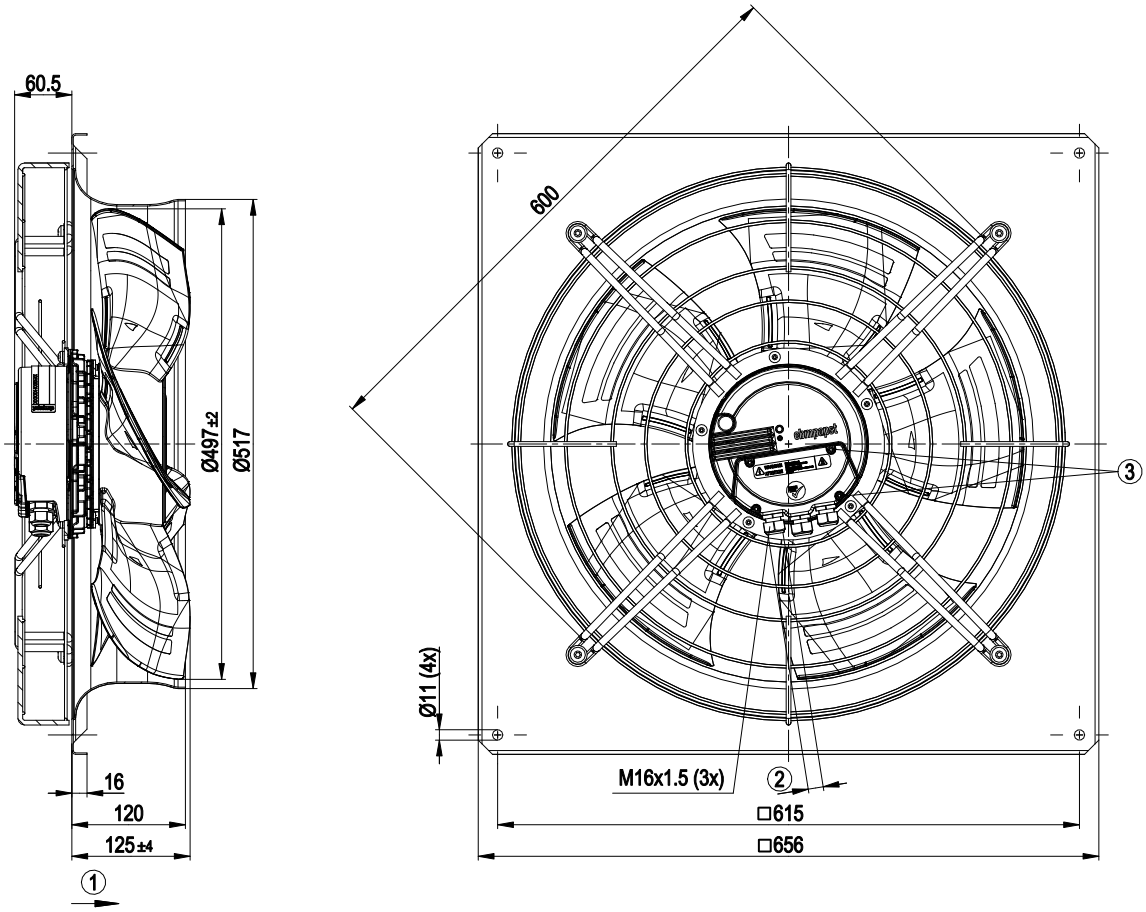
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Product drawing



1	Direction of air flow "A"
2	Cable diameter min. 4 mm, max. 10 mm, tightening torque 2.5 ± 0.4 Nm
3	Tightening torque 3.5 ± 0.5 Nm

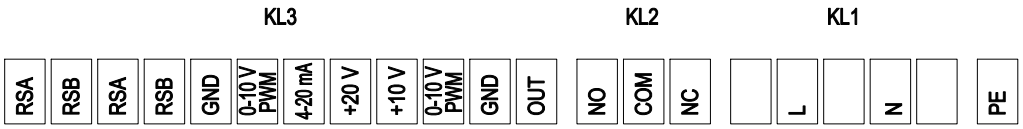
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Connection diagram



No.	Conn.	Designation	Function/assignment
PE		PE	Protective earth
KL1		N	Supply 50/60 Hz, neutral conductor
KL1		L	Supply 50/60 Hz, phase
KL2		COM	Alarm relay, common (2 A, 250 VAC, AC1)
KL2		NC	Alarm relay, break for failure
KL2		NO	Alarm relay, make for failure
KL3		+10 V	Supply for external potentiometer, 10 VDC (+10%) @ 10 mA
KL3		+20 V	Supply for external sensor, 20 VDC (±20%) @ 50 mA
KL3		0-10 V/PWM	Control / current sensor value input
KL3		0-10 V/PWM	Control / current sensor value input (impedance 100 kΩ)
KL3		4-20 mA	Control / current sensor value input
KL3		GND	GND
KL3		GND	GND
KL3		OUT	Master output 0-10 V, max. 3 mA
KL3		RSA	RS485 interface for ebmBUS, RSA
KL3		RSA	RS485 interface for ebmBUS, RSA
KL3		RSB	RS485 interface for ebmBUS, RSB
KL3		RSB	RS485 interface for ebmBUS, RSB

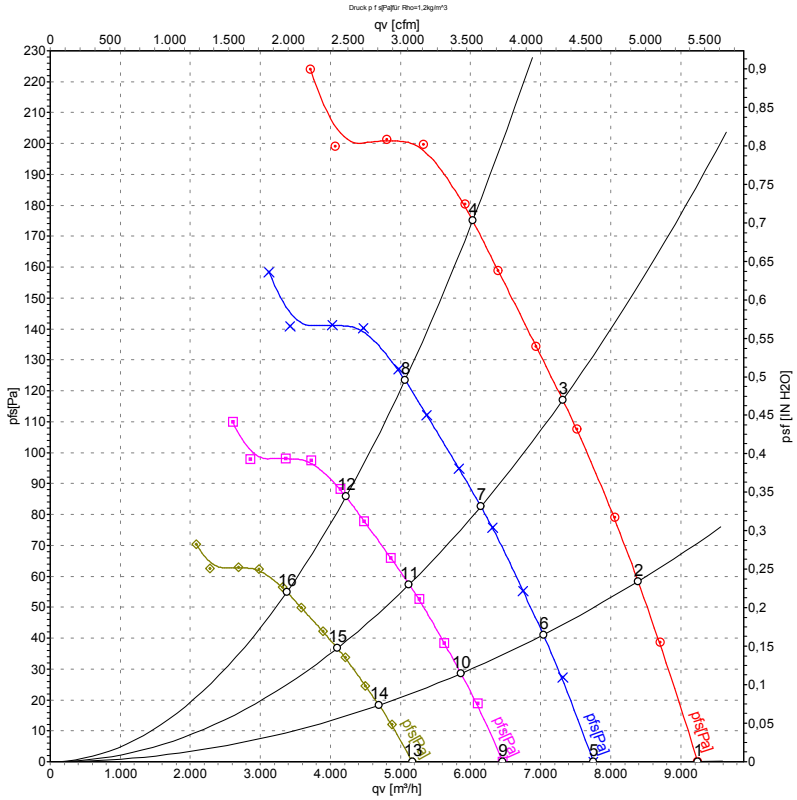
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Curves: Air performance 50 Hz



Measurement: LU-131222-1

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

	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	LwA_{out}	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	230	50	1420	554	2.52	70	77	77	9245	0	5440	0.00
2	230	50	1420	633	2.85	67	75	75	8390	58	4940	0.23
3	230	50	1420	696	3.12	66	73	73	7315	117	4305	0.47
4	230	50	1420	750	3.40	66	74	73	6030	175	3550	0.70
5	230	50	1200	327	1.49	66	74	74	7755	0	4565	0.00
6	230	50	1200	373	1.68	64	71	71	7040	41	4145	0.16
7	230	50	1200	413	1.85	62	69	69	6145	83	3620	0.33
8	230	50	1200	443	1.97	62	70	70	5065	124	2980	0.50
9	230	50	1000	189	0.86	62	70	70	6460	0	3805	0.00
10	230	50	1000	216	0.97	60	67	67	5865	28	3455	0.11
11	230	50	1000	239	1.07	58	65	65	5125	57	3015	0.23
12	230	50	1000	256	1.14	58	66	66	4220	86	2485	0.35
13	230	50	800	97	0.44	58	65	65	5170	0	3040	0.00
14	230	50	800	111	0.50	55	62	62	4695	18	2760	0.07
15	230	50	800	122	0.55	53	60	60	4100	37	2410	0.15
16	230	50	800	131	0.59	54	61	61	3375	55	1990	0.22

U = Power supply · 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 · qv = Air flow · p_{fs} = Pressure increase

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