



A3G990-AW22-01 ebmpapst Datasheet
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Nominal data

Type	A3G990-AW22-01	
Motor	M3G150-FF	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min ⁻¹	740
Power input	W	1160
Current draw	A	1.8
Max. back pressure	Pa	105
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

		Actual	Request 2015			
01 Overall efficiency η_{es}	%	49.3	34.1	09 Power input P_{ed}	kW	1.16
02 Measurement category		A		09 Air flow q_v	m ³ /h	17895
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	107
04 Efficiency grade N		55.2	40	10 Speed (rpm) n	min ⁻¹	740
05 Variable speed drive		Yes		11 Specific ratio [*]		1.00

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

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

LU-114461



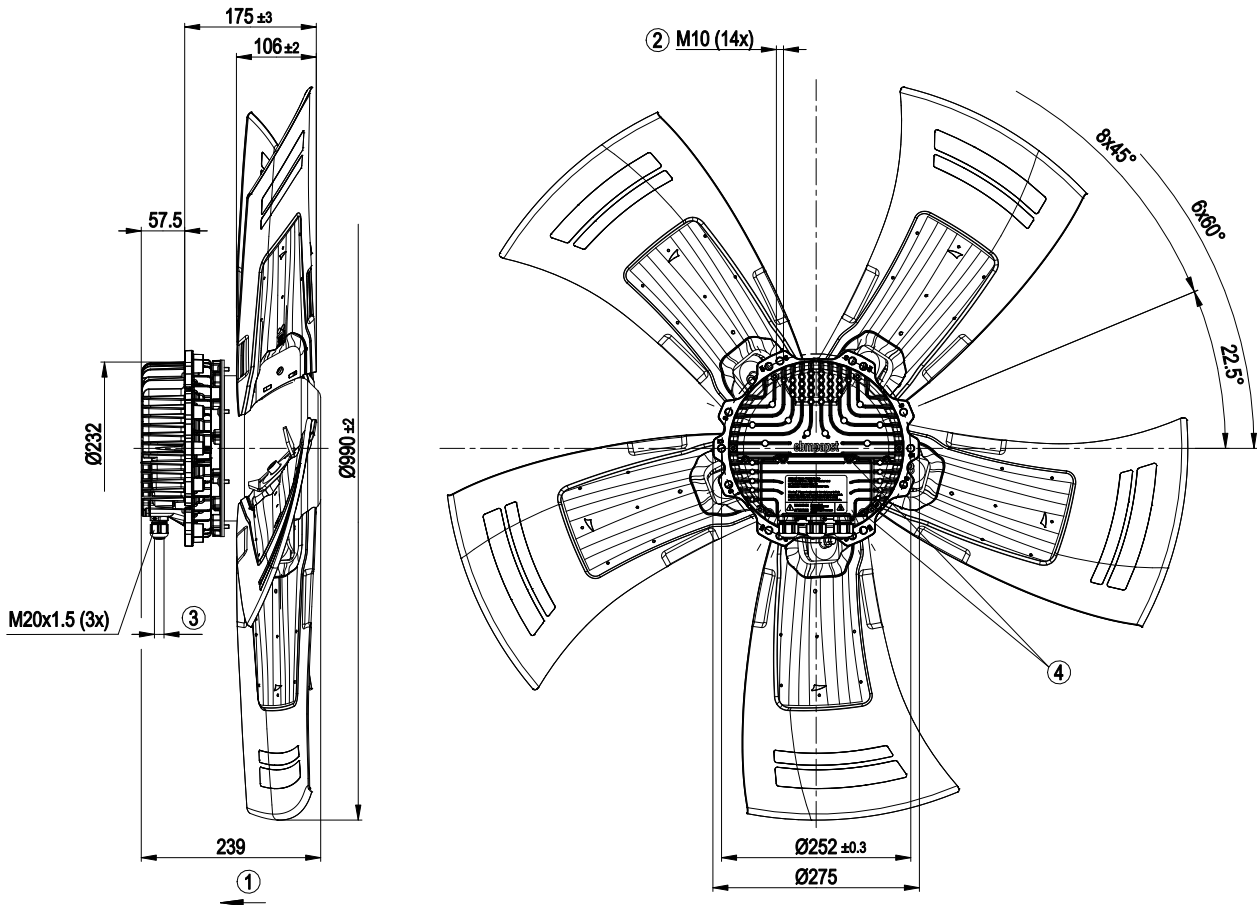
Technical features

Mass	22.8 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, sprayed with PP plastic
Number of blades	5
Blade angle	-5°
Direction of air flow	"V"
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 55
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F4-1
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 bottom; rotor on top on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	<ul style="list-style-type: none"> - Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - 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, passive - RS485 MODBUS RTU - Soft start -Maximum EEPROM write cycles 100,000 - 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
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 55022 (Class B, household environment)
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	C22.2 Nr.77 + CAN/CSA-E60730-1; UL 1004-7 + 60730; EAC

EC axial fan - HyBlade

sickled blades (S series)

Product drawing



1	Direction of air flow "V"
2	Depth of screw max. 25 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4±0.6 Nm
4	Tightening torque 3.5±0.5 Nm



Connection screen

	8		
	Din 2		
	Din 3		
	GND		
	Ain 2 U		
	+ 20 V		
	Ain 2 I		
	Aout		
1	RSA		
2	RSB		
3	GND		
4	Ain 1 U		
5	+ 10 V		
6	Ain 1 I		
7	Din 1		

KL 3

1	NO
2	COM
3	NC

KL 2

PE

PE

1	L1
2	L2
3	L3

KL 1

No.	Conn.	Designation	Function / assignment
KL 1	1	L1	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
KL 1	2	L2	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
KL 1	3	L3	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
PE		PE	Earth connection, PE connection
KL 2	1	NO	Status relay, floating status contact; normally open; close with error
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; break with error
KL 3	1	RSA	Bus connection RS-485, RSA, MODBUS RTU; SELV
KL 3	2	RSB	Bus connection RS-485, RSB, MODBUS RTU; SELV
KL 3	3 / 10	GND	Signal ground for control interface; SELV
KL 3	4	Ain1 U	Analogue input 1, set value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain1; SELV
KL 3	5	+ 10 V	Fixed voltage output 10 VDC, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. potentiometer), SELV
KL 3	6	Ain1 I	Analogue input 1, set value: 4-20 mA; Ri = 100 Ω, parametrisable curve, only usable as alternative to input Ain1 U; SELV
KL 3	7	Din1	Digital input 1: enabling of electronics, enabling: open pin or applied voltage 5-50 VDC disabling: bridge to GND or applied voltage <1 VDC reset function: triggers software reset after a level change to <1 VDC; SELV
KL 3	8	Din2	Digital input 2: parameter set switch 1/2, according to EEPROM setting, the valid/used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: open pin or applied voltage 5-50 VDC Parameter set 2: bridge to GND or applied voltage <1 VDC; SELV
KL 3	9	Din3	Digital input 3: controller function of integrated controller, according to EEPROM setting, the controller function of the integrated controller is normally/inversely selectable per bus or per digital input normal: open pin or applied voltage 5-50 VDC inverse: bridge to GND or applied voltage <1 VDC; SELV
KL 3	11	Ain2 U	Analogue input 2, actual value: 0-10 V, Ri = 100 kΩ, parametrisable curve, only usable as alternative to input Ain2; SELV
KL 3	12	+ 20 V	Fixed voltage output 20 VDC, +20 V ±25/-10%, max. 50 mA, short-circuit-proof, power supply for external devices (e.g. sensors); SELV



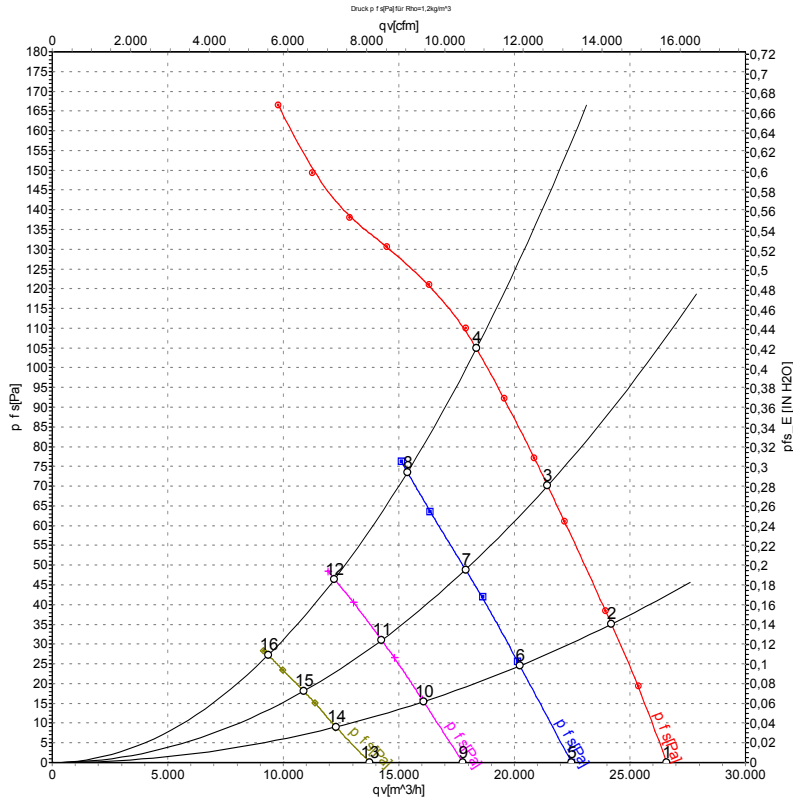
EC axial fan - HyBlade

sickled blades (S series)

No.	Conn.	Designation	Function / assignment
KL 3	13	Ain2 I	Analogue input 2, actual value: 4-20 mA, $R_i = 100 \Omega$, parametrisable curve, only usable as alternative to input Ain2 U; SELV
KL 3	14	Aout	Analogue output 0-10 VDC, max. 5 mA, output of the current motor level control coefficient / motor speed parametrisable curve; SELV



Charts: Air flow 50 Hz



Measurement: LU-114461-1
 Measurement: LU-115197-1
 Measurement: LU-115198-1
 Measurement: LU-118523-1

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: L_{wA} measured as per ISO 13347 / L_{pA} 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}	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	inH ₂ O
1	400	50	740	677	1.07	69	77	77	26590	0	15650	0.00
2	400	50	740	849	1.32	67	75	75	24200	35	14245	0.14
3	400	50	740	1020	1.55	69	76	76	21440	70	12620	0.28
4	400	50	740	1160	1.80	70	77	77	18360	105	10805	0.42
5	400	50	615	365	0.62	65	72	72	22470	0	13225	0.00
6	400	50	615	462	0.76	63	70	69	20240	25	11915	0.10
7	400	50	615	548	0.88	63	70	70	17890	49	10530	0.20
8	400	50	615	629	0.99	64	71	71	15370	74	9045	0.30
9	400	50	490	195	0.41	59	66	65	17770	0	10460	0.00
10	400	50	490	245	0.49	57	64	63	16070	16	9460	0.06
11	400	50	490	291	0.55	57	64	63	14250	31	8385	0.12
12	400	50	490	327	0.59	58	65	64	12220	46	7190	0.18
13	400	50	375	93	0.27	52	59	58	13740	0	8085	0.00
14	400	50	375	117	0.30	50	58	57	12270	9	7220	0.04
15	400	50	375	135	0.32	51	58	57	10880	18	6405	0.07
16	400	50	375	161	0.36	51	58	57	9345	27	5500	0.11

U = Supply voltage · f = Frequency · n = Speed (rpm) · 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 side
 q_v = Air flow · P_{fs} = Pressure increase

