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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	A3G990-AZ01-03	
Motor	M3G150-NA	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min ⁻¹	980
Power consumption	W	2800
Current draw	A	4.3
Max. back pressure	Pa	210
Max. back pressure	in. wg	0.84
Min. ambient temperature	°C	-40
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 (EN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	53.1	36.5	09 Power consumption P_{ed}	kW	2.76
02 Measurement category		A		09 Air flow q_v	m ³ /h	24890
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	208
04 Efficiency grade N		56.6	40	10 Speed (rpm) n	min ⁻¹	980
05 Variable speed drive		Yes		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 = $1 + p_{fs} / 100\,000\text{ Pa}$

LU-204249

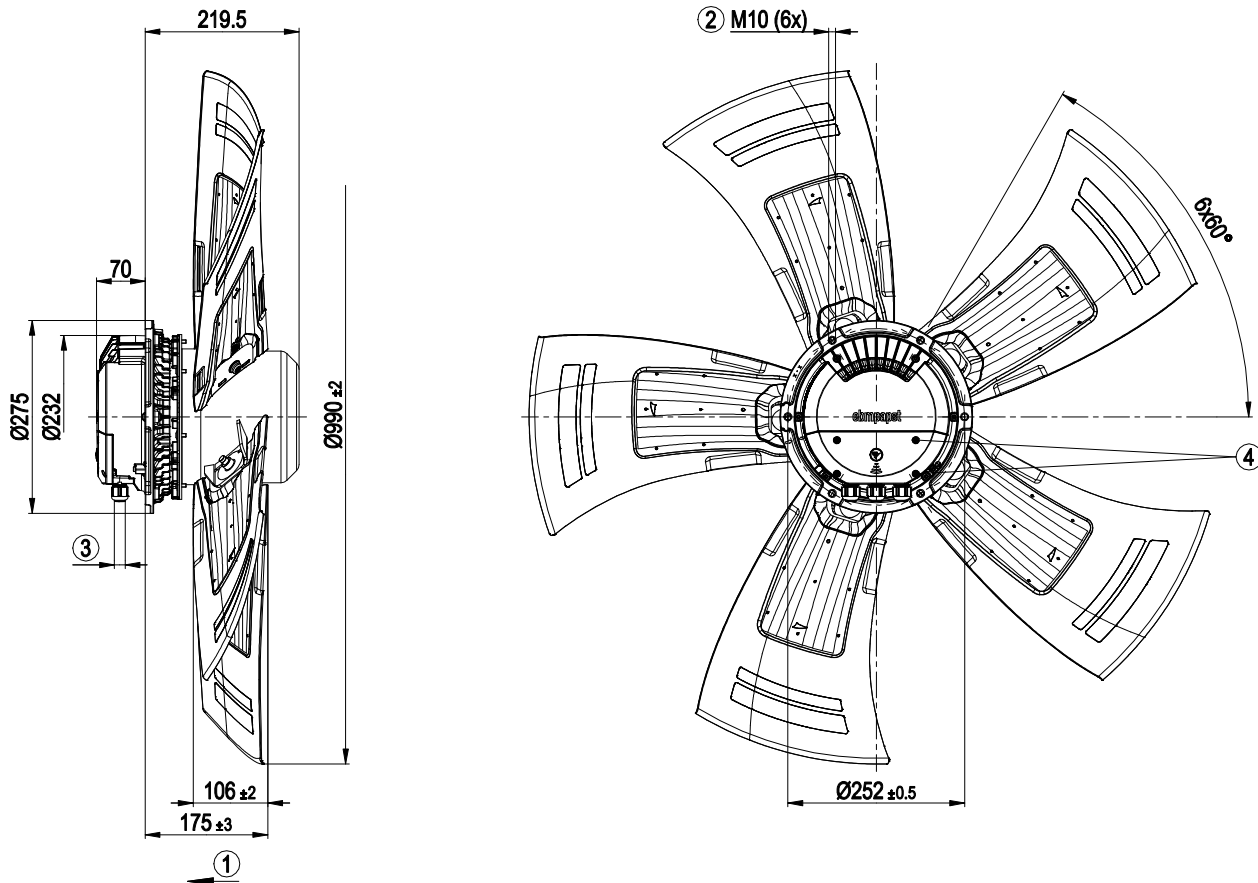


Technical description

Weight	30.2 kg
Size	990 mm
Motor size	150
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted gray
Blade material	Sheet aluminum insert, sprayed with PP plastic
Number of blades	5
Blade pitch	-5°
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 at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a 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	- Operation and alarm display with LED - External 15-50 VDC input (parameterization) - Alarm relay - Integrated PI controller - Configurable inputs/outputs (I/O) - MODBUS V6.0 - Motor current limitation - RFID - ISO 15693 compatible - RS-485 MODBUS-RTU - Soft start - Voltage output 3.3-24 VDC, Pmax = 800 mW - 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	Terminal box
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	UL 1004-7 + 60730-1; CSA C22.2 No. 77 + CAN/CSA-E60730-1; EAC

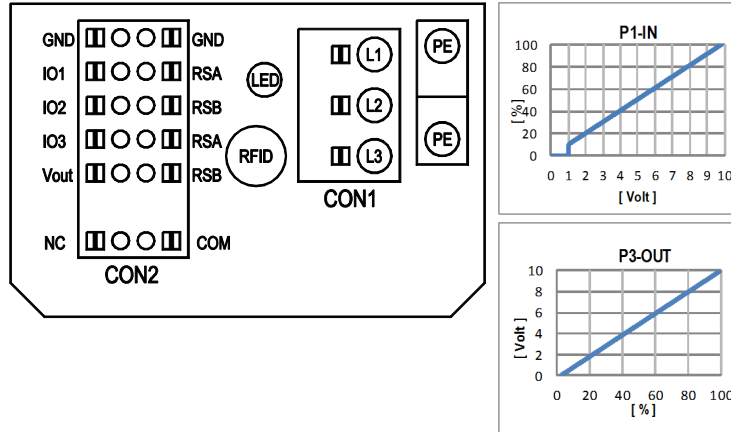


Product drawing



1	Airflow direction "V"
2	Max. clearance for screw 20 mm
3	Cable diameter min. 4 mm, max. 10 mm, tightening torque 4 ± 0.6 Nm
4	Tightening torque 1.5 ± 0.2 Nm

Connection diagram



No.	Conn.	Designation	Function/assignment
	CON1	L1, L2, L3	Power supply, phase, see nameplate for voltage range
	PE	PE	Protective earth
	CON2	RSA	RS485 interface for MODBUS, RSA; SELV
	CON2	RSB	RS485 interface for MODBUS, RSB; SELV
	CON2	GND	Reference ground for control interface, SELV
	CON2	IO1	Function parameterizable (see "Optional interface functions" table) Factory setting: Digital input - high active, function: Disable input, SELV - inactive: Pin open or applied voltage < 1.5 VDC - active: applied voltage 3.5-50 VDC Reset function: Triggering of error reset on change of state from "enabled" to "disabled"
	CON2	IO2	Function parameterizable (see "Optional interface functions" table) Factory setting: Analog input 0-10 V / PWM, Ri=100 kΩ, function: Set value Characteristic curve parameterizable (see input characteristic curve P1-IN), SELV
	CON2	IO3	Function parameterizable (see "Optional interface functions" table) Factory setting: Analog output 0-10 V, max. 5 mA, function: Fan modulation level Characteristic curve parameterizable (see output characteristic curve P3-OUT), SELV
	CON2	Vout	Voltage output 3.3-24 VDC ±5%, Pmax=800 mW, voltage parameterizable Factory setting: 10 VDC short-circuit-proof, supply for external devices, SELV alternatively: 15-50 VDC input for parameterization via MODBUS without line voltage
	CON2	COM	Status relay, floating status contact, common connection, contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on supply side and on control interface side
	CON2	NC	Status relay, floating status contact, break for failure
		LED	green: status = good, ready for operation orange: status = warning red: status = failure
		P1-IN	Input characteristic curve
		P3-OUT	Output characteristic curve

Terminal/plug assignment

configurable IO functions: normal/ inverse		electrical specification		configurable IO mode		CON2
				Din1 (active high): digital input		
IO1	MODBUS Register for IO mode configuration	D158 [0]	not active: pin open or applied voltage < 1.5VDC active: applied voltage 3.5-50VDC, SELV	○		
		D158 [2]	RI=100K, characteristic curve parameterizable, f _{PWM} =1k..10KHz, SELV	○		
		D158 [5]	Umax=50VDC, Imax=20mA, SELV		○	
		D158 [6]	Umax=50VDC, Imax=20mA, SELV		○	
IO2		D159 [0]	not active: pin open or applied voltage < 1.5VDC active: applied voltage 3.5-50VDC, SELV		○	
		D159 [2]	RI=100K, characteristic curve parameterizable, f _{PWM} =1k..10KHz, SELV		○	
		D159 [3]	RI=125R, characteristic curve parameterizable, SELV		○	
		D15A [0]	not active: pin open or applied voltage < 1.5VDC active: applied voltage 3.5-50VDC, SELV		○	
IO3		D15A [1]	active: pin open or applied voltage 3.5-50VDC not active: applied voltage < 1.5VDC, SELV		○	
		D15A [7]	40Hz - 10kHz, characteristics parameterizable not active: pin open or applied voltage 3.5-50VDC active: applied voltage < 1.5VDC, SELV		○	
		D15A [4]	function parameterizable, max. 5mA max output frequency 300Hz, SELV		○	
		D15A [5]	0-10V max. 5mA max output frequency 300Hz, SELV		○	
RSA RSB		D15A [6]	0-10V max. 5mA max output frequency 300Hz, SELV		○	
	RS485 bus connection,		MODBUS RTU, specification V6.0, SELV			
Vout					○	

○ configurable option

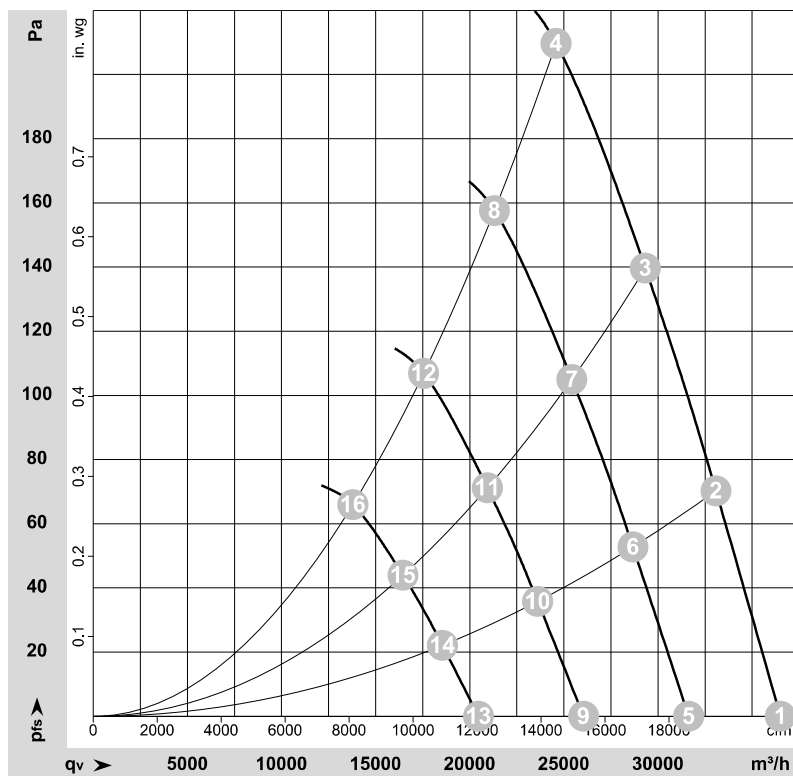
For further information and additional functions see EC Control Software, Fan-Set-App, or MODBUS Parameter Specification V6.0

◦ configurable option

For further information and additional functions see EC Control Software, Fan-Set-App, or MODBUS Parameter Specification V6.0



Curves: Air performance 50 Hz



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

Measurement: LU-204249-1

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)	m³/h	Pa	cfm	in. wg
1	3~	400	50	980	1641	2.60	75	82	82	36500	0	21485	0.00
2	3~	400	50	980	2074	3.24	72	79	78	33075	70	19470	0.28
3	3~	400	50	980	2446	3.79	73	80	79	29325	140	17260	0.56
4	3~	400	50	980	2800	4.30	77	84	84	24580	210	14470	0.84
5	3~	400	50	850	1068	1.69	71	78	78	31625	0	18615	0.00
6	3~	400	50	850	1349	2.10	68	76	75	28665	53	16870	0.21
7	3~	400	50	850	1594	2.47	69	76	75	25420	105	14965	0.42
8	3~	400	50	850	1812	2.79	74	80	80	21310	158	12540	0.63
9	3~	400	50	700	596	0.95	66	74	73	26045	0	15330	0.00
10	3~	400	50	700	753	1.18	63	71	70	23605	36	13895	0.14
11	3~	400	50	700	890	1.38	64	72	71	20935	71	12320	0.29
12	3~	400	50	700	1012	1.56	69	76	75	17550	107	10330	0.43
13	3~	400	50	550	289	0.46	60	67	67	20465	0	12045	0.00
14	3~	400	50	550	365	0.57	57	65	64	18550	22	10915	0.09
15	3~	400	50	550	432	0.67	58	65	64	16450	44	9680	0.18
16	3~	400	50	550	491	0.76	63	69	69	13790	66	8115	0.26

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

