

A3G630-BG97-07 ebmpapst Datasheet

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Nominal data

| | | |
|--------------------------|-------------------|------------|
| Type | A3G630-BG97-07 | |
| Motor | M3G112-IA | |
| Phase | | 3~ |
| Nominal voltage | VAC | 400 |
| Nominal voltage range | VAC | 380 .. 480 |
| Frequency | Hz | 50/60 |
| Method of obtaining data | | ml |
| Speed (rpm) | min ⁻¹ | 1160 |
| Power consumption | W | 1080 |
| Current draw | A | 1.7 |
| Max. back pressure | Pa | 190 |
| Max. back pressure | in. wg | 0.76 |
| Min. ambient temperature | °C | -40 |
| Max. ambient temperature | °C | 40 |

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

| | | Actual | Req. 2015 | | | |
|-----------------------------------|---|--------|-----------|-------------------------------|-------------------|------|
| 01 Overall efficiency η_{es} | % | 50.6 | 33.6 | 09 Power consumption P_{ed} | kW | 0.97 |
| 02 Measurement category | | A | | 09 Air flow q_v | m ³ /h | 9445 |
| 03 Efficiency category | | Static | | 09 Pressure increase p_{fs} | Pa | 173 |
| 04 Efficiency grade N | | 57 | 40 | 10 Speed (rpm) n | min ⁻¹ | 1165 |
| 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 = $1 + p_s / 100\,000\text{ Pa}$

LU-182932



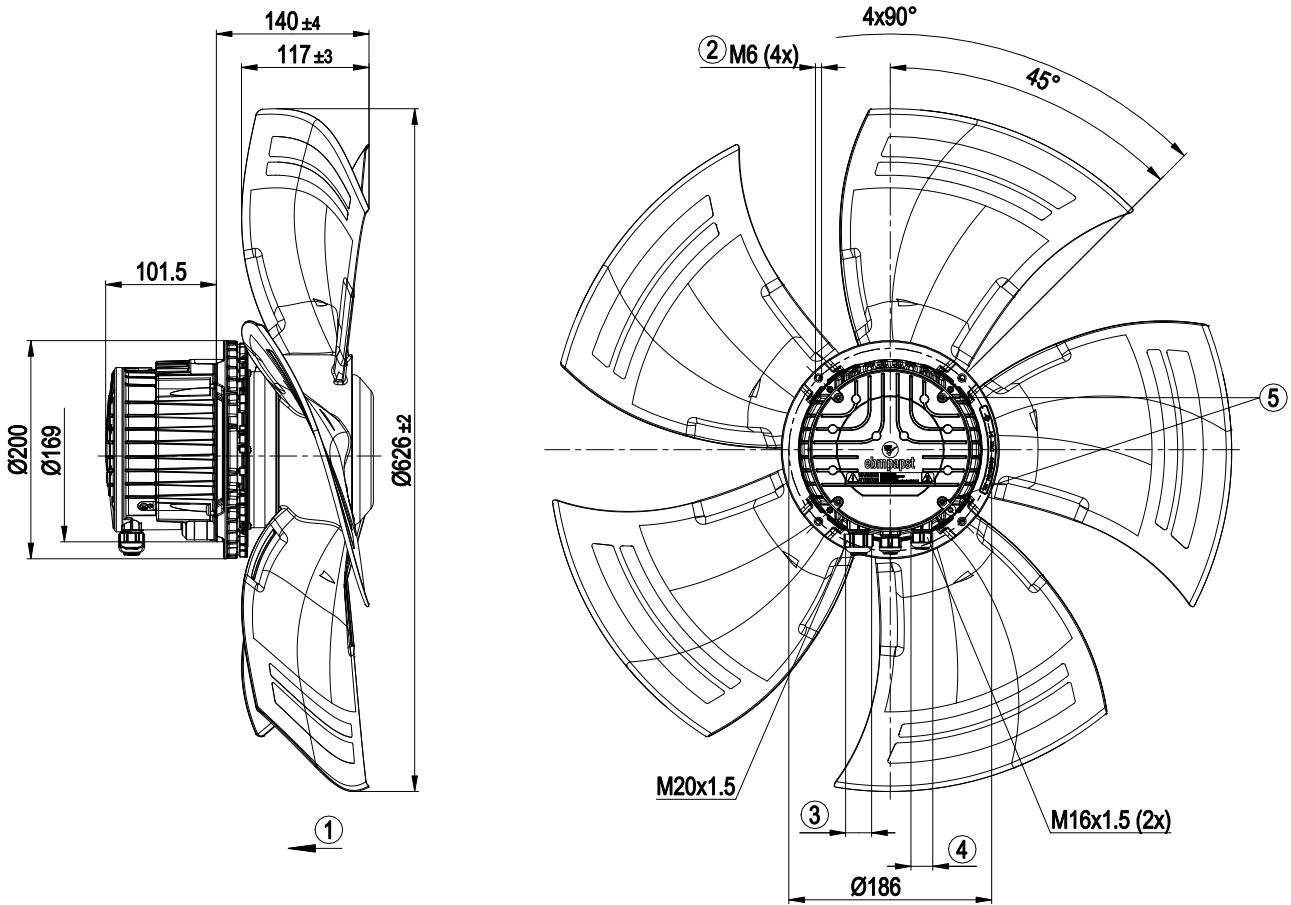
Technical description

| | |
|--|--|
| Weight | 11.2 kg |
| Fan size | 630 mm |
| Rotor surface | Painted black |
| Terminal box material | PP plastic |
| Electronics housing material | Die-cast aluminum, painted black |
| Blade material | Press-fitted sheet steel blank, sprayed with PP plastic |
| Number of blades | 5 |
| Airflow direction | "V" |
| Direction of rotation | Counterclockwise, viewed toward rotor |
| Degree of protection | IP55 |
| Insulation class | "F" |
| Moisture (F) / Environmental (H) protection class | H2 |
| Max. permitted ambient temp. for motor (transport/storage) | +70 °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 with low-temperature lubricant |
| Technical features | <ul style="list-style-type: none"> - Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (parameter setting) - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - 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 |
| EMC immunity to interference | According to EN 61000-6-2 (industrial environment) |
| EMC interference emission | According to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW |
| 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; UL 1004-7 + 60730; C22.2 No.77 + CAN/CSA-E60730-1 |

EC axial fan - HyBlade

sickle-shaped blades (S series)

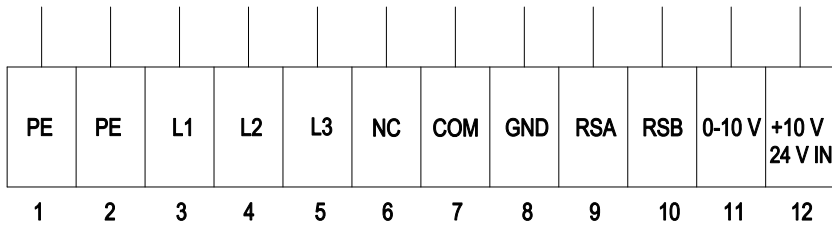
Product drawing



| | |
|---|--|
| 1 | Airflow direction "V" |
| 2 | Max. clearance for screw 16 mm |
| 3 | Cable diameter min. 8 mm, max. 12 mm, tightening torque 2.5 ± 0.4 Nm |
| 4 | Cable diameter min. 6 mm, max. 10 mm, tightening torque 2.5 ± 0.4 Nm Cable diameter min. 4 mm, max. 7 mm, tightening torque 2.5 ± 0.4 Nm (included seal must be used) |
| 5 | Tightening torque 1.5 ± 0.2 Nm |

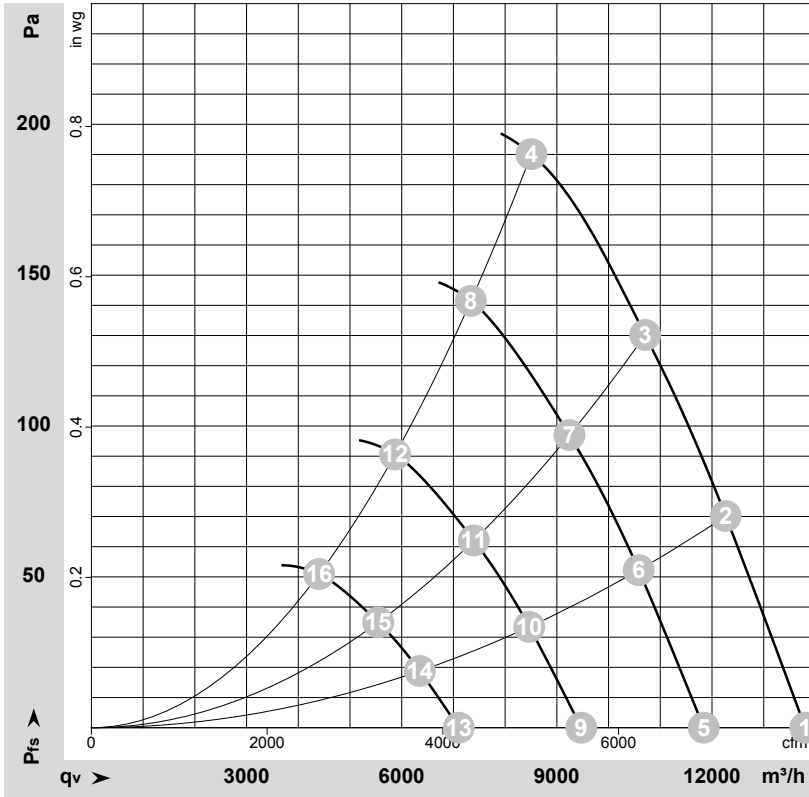


Connection diagram



| No. | Conn. | Designation | Function/assignment |
|-----|--------|-------------|--|
| 1 | PE | PE | Protective earth |
| 2 | PE | PE | Protective earth |
| 3 | L1 | L1 | Power supply |
| 4 | L2 | L2 | Power supply |
| 5 | L3 | L3 | Power supply |
| 6 | NC | NC | Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic insulation on control interface side |
| 7 | COM | COM | Status relay, floating status contact, break for failure, contact rating 250 VAC / 2 A (AC1) / min. 10 mA; reinforced insulation on supply side and basic insulation on control interface side |
| 8 | GND | GND | Reference ground for control interface, SELV |
| 9 | RSA | RSA | RS485 interface for MODBUS, RSA; SELV |
| 10 | RSB | RSB | RS485 interface for MODBUS, RSB; SELV |
| 11 | 0-10 V | 0-10 V | Analog input (set value) SELV, 0-10 V, Ri = 100 kΩ, adjustable curve |
| 12 | +10 V | +10 V | Fixed voltage output 10 VDC, SELV, +10 V ±3%, max. 10 mA, short-circuit-proof, power supply for external devices (e.g. pot); fixed voltage input 24 VDC for setting parameters via MODBUS without line voltage supply |

Curves: Air performance 50 Hz



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

Measurement: LU-182932-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. 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} | 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 | 400 | 50 | 1160 | 674 | 1.06 | 70 | 77 | 77 | 13805 | 0 | 8125 | 0.00 |
| 2 | 400 | 50 | 1160 | 790 | 1.23 | 66 | 72 | 72 | 12265 | 70 | 7220 | 0.28 |
| 3 | 400 | 50 | 1160 | 883 | 1.37 | 64 | 71 | 71 | 10710 | 130 | 6300 | 0.52 |
| 4 | 400 | 50 | 1160 | 1080 | 1.70 | 67 | 75 | 74 | 8505 | 190 | 5005 | 0.76 |
| 5 | 400 | 50 | 1000 | 426 | 0.67 | 66 | 73 | 73 | 11840 | 0 | 6970 | 0.00 |
| 6 | 400 | 50 | 1000 | 508 | 0.79 | 62 | 69 | 69 | 10585 | 53 | 6230 | 0.21 |
| 7 | 400 | 50 | 1000 | 569 | 0.88 | 61 | 67 | 67 | 9245 | 97 | 5440 | 0.39 |
| 8 | 400 | 50 | 1000 | 647 | 1.00 | 64 | 71 | 70 | 7340 | 143 | 4320 | 0.57 |
| 9 | 400 | 50 | 800 | 218 | 0.34 | 61 | 67 | 67 | 9470 | 0 | 5575 | 0.00 |
| 10 | 400 | 50 | 800 | 260 | 0.40 | 56 | 63 | 63 | 8465 | 34 | 4985 | 0.14 |
| 11 | 400 | 50 | 800 | 291 | 0.45 | 55 | 62 | 61 | 7395 | 62 | 4350 | 0.25 |
| 12 | 400 | 50 | 800 | 331 | 0.51 | 58 | 65 | 65 | 5870 | 91 | 3455 | 0.37 |
| 13 | 400 | 50 | 600 | 92 | 0.14 | 53 | 60 | 60 | 7105 | 0 | 4180 | 0.00 |
| 14 | 400 | 50 | 600 | 110 | 0.17 | 49 | 56 | 56 | 6350 | 19 | 3735 | 0.08 |
| 15 | 400 | 50 | 600 | 123 | 0.19 | 48 | 55 | 54 | 5545 | 35 | 3265 | 0.14 |
| 16 | 400 | 50 | 600 | 140 | 0.22 | 51 | 58 | 58 | 4405 | 51 | 2590 | 0.20 |

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

