



W3G300-EQ28-56 ebmpapst Datasheet  
sales@fansco.com  
www.fansco.com

Nominal data

|                          |                   |          |
|--------------------------|-------------------|----------|
| Type                     | W3G300-EQ28-56    |          |
| Motor                    | M3G074-CF         |          |
| Nominal voltage          | VDC               | 27.5     |
| Nominal voltage range    | VDC               | 15 .. 32 |
| Method of obtaining data |                   | fa       |
| Speed (rpm)              | min <sup>-1</sup> | 3380     |
| Power consumption        | W                 | 320      |
| Current draw             | A                 | 11.6     |
| Min. ambient temperature | °C                | -25      |
| Max. ambient temperature | °C                | 70       |

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 $\eta_{es}$ | % | 41.3   | 30.5      |
| 02 Measurement category           |   | A      |           |
| 03 Efficiency category            |   | Static |           |
| 04 Efficiency grade N             |   | 50.8   | 40        |
| 05 Variable speed drive           |   | Yes    |           |

Data obtained at optimum efficiency level.  
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

|                               |                   |      |
|-------------------------------|-------------------|------|
| 09 Power consumption $P_e$    | kW                | 0.31 |
| 09 Air flow $q_v$             | m³/h              | 2100 |
| 09 Pressure increase $p_{fs}$ | Pa                | 200  |
| 10 Speed (rpm) $n$            | min <sup>-1</sup> | 3375 |
| 11 Specific ratio*            |                   | 1.00 |

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

LU-78458



# EC axial fan

with brushless DC motor

## Technical description

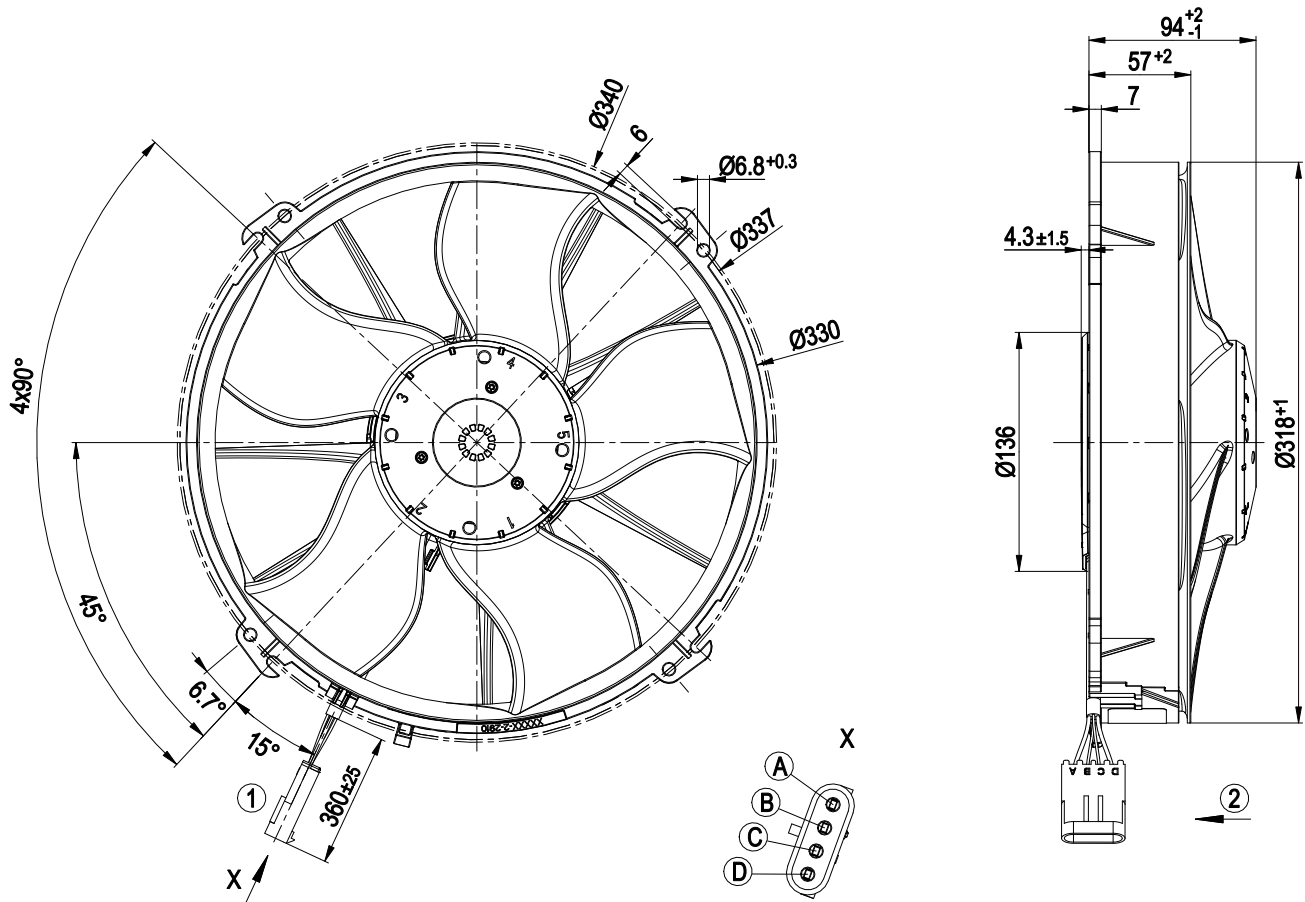
|                                                            |                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight                                                     | 2.5 kg                                                                                                                                                                                                                                                                                                                                                                                       |
| Size                                                       | 300 mm                                                                                                                                                                                                                                                                                                                                                                                       |
| Motor size                                                 | 74                                                                                                                                                                                                                                                                                                                                                                                           |
| Rotor surface                                              | Painted black                                                                                                                                                                                                                                                                                                                                                                                |
| Impeller material                                          | PBT plastic                                                                                                                                                                                                                                                                                                                                                                                  |
| Fan housing material                                       | PP plastic                                                                                                                                                                                                                                                                                                                                                                                   |
| Number of blades                                           | 5                                                                                                                                                                                                                                                                                                                                                                                            |
| Airflow direction                                          | V                                                                                                                                                                                                                                                                                                                                                                                            |
| Direction of rotation                                      | Counterclockwise, viewed toward rotor                                                                                                                                                                                                                                                                                                                                                        |
| Degree of protection                                       | Motor IP24 KM                                                                                                                                                                                                                                                                                                                                                                                |
| Insulation class                                           | "B"                                                                                                                                                                                                                                                                                                                                                                                          |
| 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) | +70 °C                                                                                                                                                                                                                                                                                                                                                                                       |
| Min. permitted ambient temp. for motor (transport/storage) | -40 °C                                                                                                                                                                                                                                                                                                                                                                                       |
| Installation position                                      | Any                                                                                                                                                                                                                                                                                                                                                                                          |
| Condensation drainage holes                                | None, open rotor                                                                                                                                                                                                                                                                                                                                                                             |
| Cooling hole/opening                                       | On rotor side                                                                                                                                                                                                                                                                                                                                                                                |
| Mode                                                       | S1                                                                                                                                                                                                                                                                                                                                                                                           |
| Motor bearing                                              | Ball bearing; (sealed)                                                                                                                                                                                                                                                                                                                                                                       |
| Life expectancy                                            | 25,000 h (typical)                                                                                                                                                                                                                                                                                                                                                                           |
| Technical features                                         | <ul style="list-style-type: none"> <li>- Start at 85°C (2 min permissible)</li> <li>- Load dump protection</li> <li>- Motor current limitation</li> <li>- Soft start</li> <li>- Control input 0-5 VDC</li> <li>- Standstill in the case of open circuit</li> <li>- Overvoltage detection</li> <li>- Thermal overload protection for electronics</li> <li>- Undervoltage detection</li> </ul> |
| EMC regulations                                            | According to ECE R10 Rev. 3                                                                                                                                                                                                                                                                                                                                                                  |
| Electrical hookup                                          | Connector with cable                                                                                                                                                                                                                                                                                                                                                                         |
| Motor protection                                           | Reverse polarity and locked-rotor protection                                                                                                                                                                                                                                                                                                                                                 |
| With cable                                                 | Lateral                                                                                                                                                                                                                                                                                                                                                                                      |
| Approval                                                   | EAC; E1                                                                                                                                                                                                                                                                                                                                                                                      |



# EC axial fan

with brushless DC motor

## Product drawing

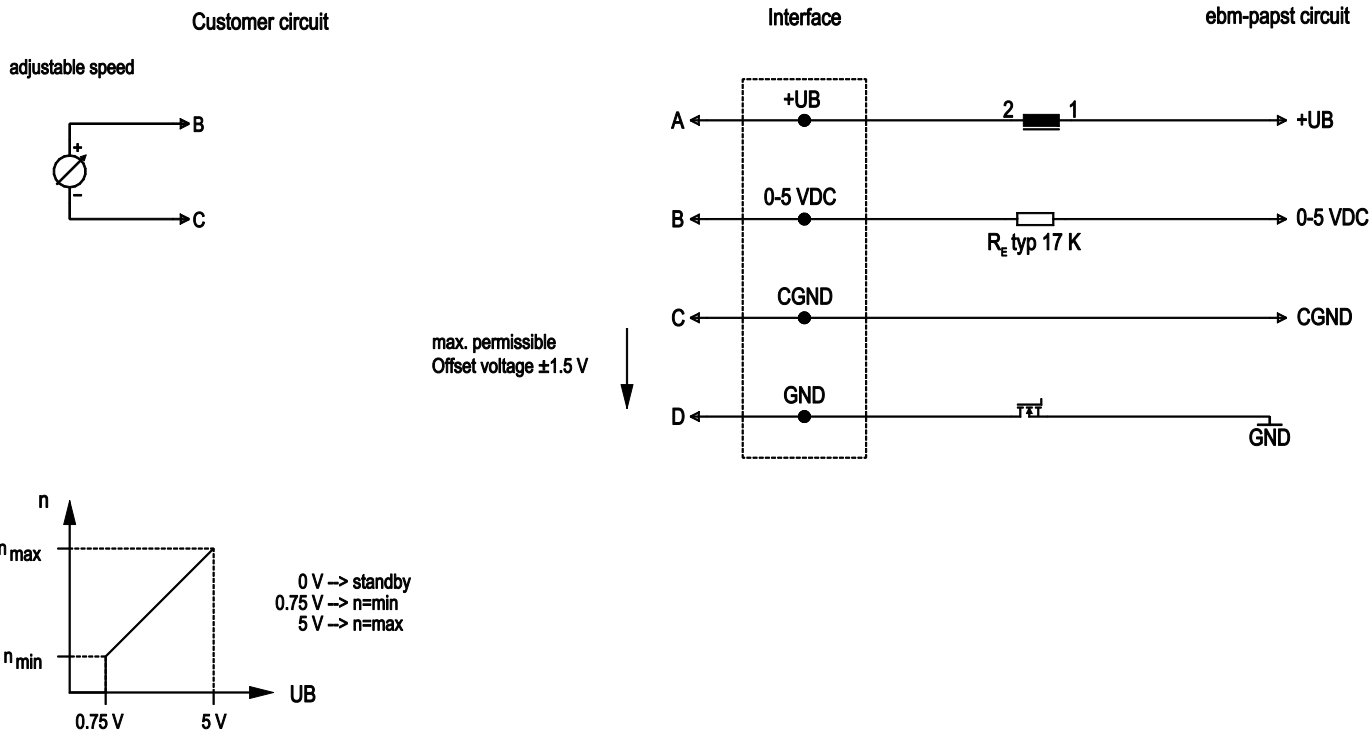


|   |                                                                                                                                                 |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Cable 2x AWG20, 2x AWG14                                                                                                                        |
|   | 4-pole connector housing Aptiv 12010974, 2x plug pin Aptiv 12089040, 2x plug pin Aptiv 12124582, 2x seal Aptiv 15324982, 2x seal Aptiv 15324983 |
|   | Cable with mating connector Aptiv "Weather Pack" 12015797 not included in scope of delivery                                                     |
| A | + UB                                                                                                                                            |
| B | 0-5 VDC                                                                                                                                         |
| C | CGND                                                                                                                                            |
| D | GND                                                                                                                                             |
| 2 | Airflow direction "V"                                                                                                                           |

# EC axial fan

with brushless DC motor

Connection diagram



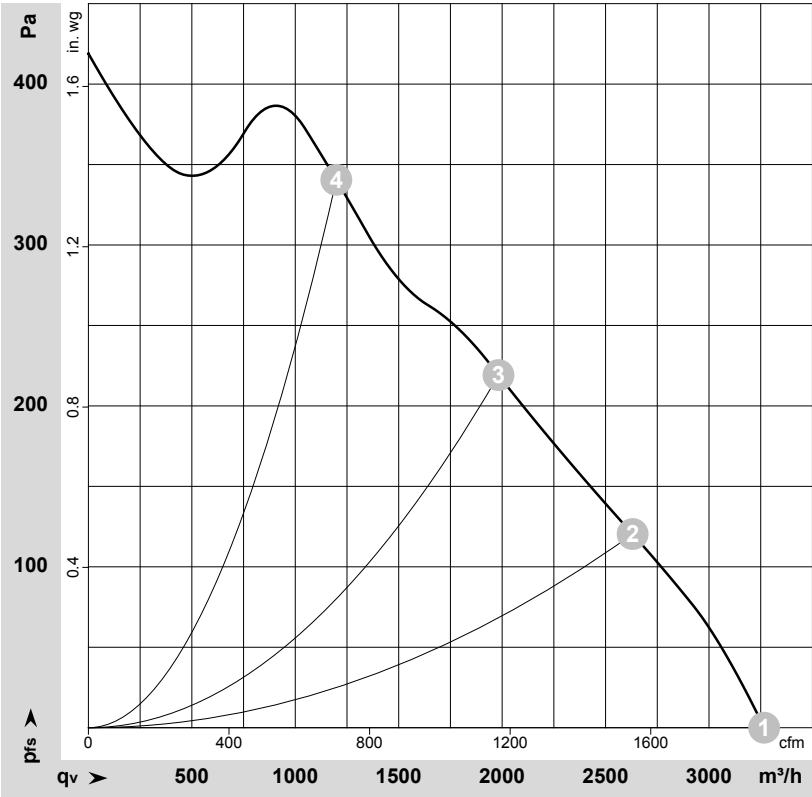
| No. | Conn. | Designation | Function/assignment                                                   |
|-----|-------|-------------|-----------------------------------------------------------------------|
|     | A     | +UB         | Power supply                                                          |
|     | B     | 0-5 VDC     | Analog voltage control input 0-5 V                                    |
|     | C     | CGND        | Control input reference ground, permissible offset $\pm 1.5\text{ V}$ |
|     | D     | GND         | Power supply GND, reference ground                                    |



# EC axial fan

with brushless DC motor

Curves: Air performance



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

Measurement: LU-78458-1

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    | n                 | P <sub>ed</sub> | I     | q <sub>v</sub>    | p <sub>fs</sub> | q <sub>v</sub> | p <sub>fs</sub> |
|---|------|-------------------|-----------------|-------|-------------------|-----------------|----------------|-----------------|
|   | V    | min <sup>-1</sup> | W               | A     | m <sup>3</sup> /h | Pa              | cfm            | in. wg          |
| 1 | 27.5 | 3380              | 300             | 10.70 | 3265              | 0               | 1925           | 0.00            |
| 2 | 27.5 | 3370              | 311             | 11.30 | 2630              | 120             | 1550           | 0.48            |
| 3 | 27.5 | 3375              | 329             | 11.98 | 1980              | 220             | 1165           | 0.88            |
| 4 | 27.5 | 3320              | 397             | 14.43 | 1200              | 340             | 705            | 1.36            |

U = Voltage · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase

