

8300100484  
VBS0280CSNES

# EC centrifugal fan - RadiPac

backward-curved, single-intake

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Amtsgericht (court of registration) Stuttgart · HRB 590142

## Nominal data

|                          |                   |            |
|--------------------------|-------------------|------------|
| Item                     | 8300100484        |            |
| Motor                    | E07422-25         |            |
| Phase                    |                   | 1~         |
| Nominal voltage          | VAC               | 230        |
| Nominal voltage range    | VAC               | 200 .. 240 |
| Frequency                | Hz                | 50/60      |
| Method of obtaining data |                   | ml         |
| Status                   |                   | prelim.    |
| Speed (rpm)              | min <sup>-1</sup> | 2100       |
| Power consumption        | W                 | 170        |
| Current draw             | A                 | 1.4        |
| Min. ambient temperature | °C                | -25        |
| Max. ambient temperature | °C                | 55         |

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 (prEN 17166)

|                                   |   | Actual | Req. 2015 |                               |                   |      |
|-----------------------------------|---|--------|-----------|-------------------------------|-------------------|------|
| 01 Overall efficiency $\eta_{es}$ | % | 69.2   | 43.3      | 09 Power consumption $P_{ed}$ | kW                | 0.16 |
| 02 Measurement category           |   | A      |           | 09 Air flow $q_v$             | m³/h              | 1445 |
| 03 Efficiency category            |   | Static |           | 09 Pressure increase $p_{fs}$ | Pa                | 253  |
| 04 Efficiency grade N             |   | 87.9   | 62        | 10 Speed (rpm) n              | min <sup>-1</sup> | 2110 |
| 05 Variable speed drive           |   | Yes    |           | 11 Specific ratio*            |                   | 1.00 |

Data obtained at optimum efficiency level.  
The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).  
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.  
The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

\* Specific ratio =  $1 + p_{fs} / 100\,000\text{ Pa}$  LU-220542

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## Technical description

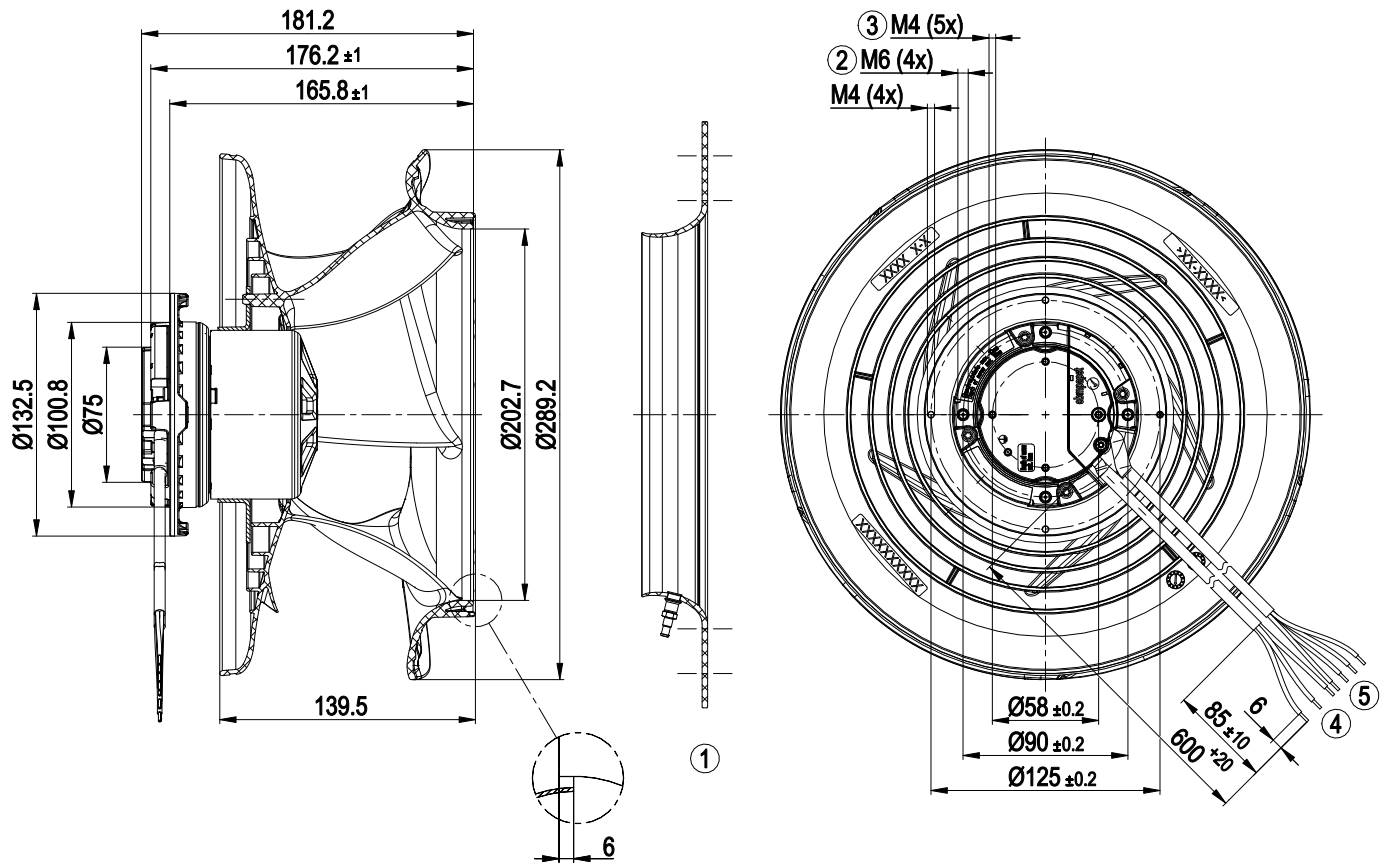
|                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Size                                                                       | 280 mm                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Motor size                                                                 | 74                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Rotor surface                                                              | Thick-film passivated                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Electronics housing material                                               | Die-cast aluminum                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Impeller material                                                          | PP plastic                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Number of blades                                                           | 5                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Direction of rotation                                                      | Clockwise, viewed toward rotor                                                                                                                                                                                                                                                                                                                                                                                                                |
| Degree of protection                                                       | IP54                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Insulation class                                                           | "B"                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Moisture (F) / Environmental (H) protection class                          | H1                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 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                                                | None, open rotor                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Cooling hole/opening                                                       | On rotor side                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Mode                                                                       | S1                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Motor bearing                                                              | Ball bearing                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Technical features                                                         | <ul style="list-style-type: none"><li>- Output 10 VDC, max. 10 mA</li><li>- Tach output</li><li>- Power limiter</li><li>- Motor current limitation</li><li>- Soft start</li><li>- Control input 0-10 VDC / PWM</li><li>- Control interface with SELV potential safely disconnected from the mains</li><li>- Overvoltage detection</li><li>- Thermal overload protection for electronics/motor</li><li>- Line undervoltage detection</li></ul> |
| EMC immunity to interference                                               | According to EN 61000-6-2 (industrial environment)                                                                                                                                                                                                                                                                                                                                                                                            |
| EMC interference emission                                                  | According to EN 61000-6-4 (industrial environment)                                                                                                                                                                                                                                                                                                                                                                                            |
| Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system) | <= 3.5 mA                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Motor protection                                                           | Electronic motor protection                                                                                                                                                                                                                                                                                                                                                                                                                   |
| With cable                                                                 | Variable                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Protection class assignment                                                | I; If a protective earth is connected by the customer<br>This component for installation may have several local protection classes. This information relates to this component's basic design.<br>The final protection class is based on the component's intended installation and connection.                                                                                                                                                |
| Conformity with standards                                                  | EN 60034-1; EN 60204-1; EN 60335-1; UKCA; CE                                                                                                                                                                                                                                                                                                                                                                                                  |
| Approval                                                                   | UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1                                                                                                                                                                                                                                                                                                                                                                                 |

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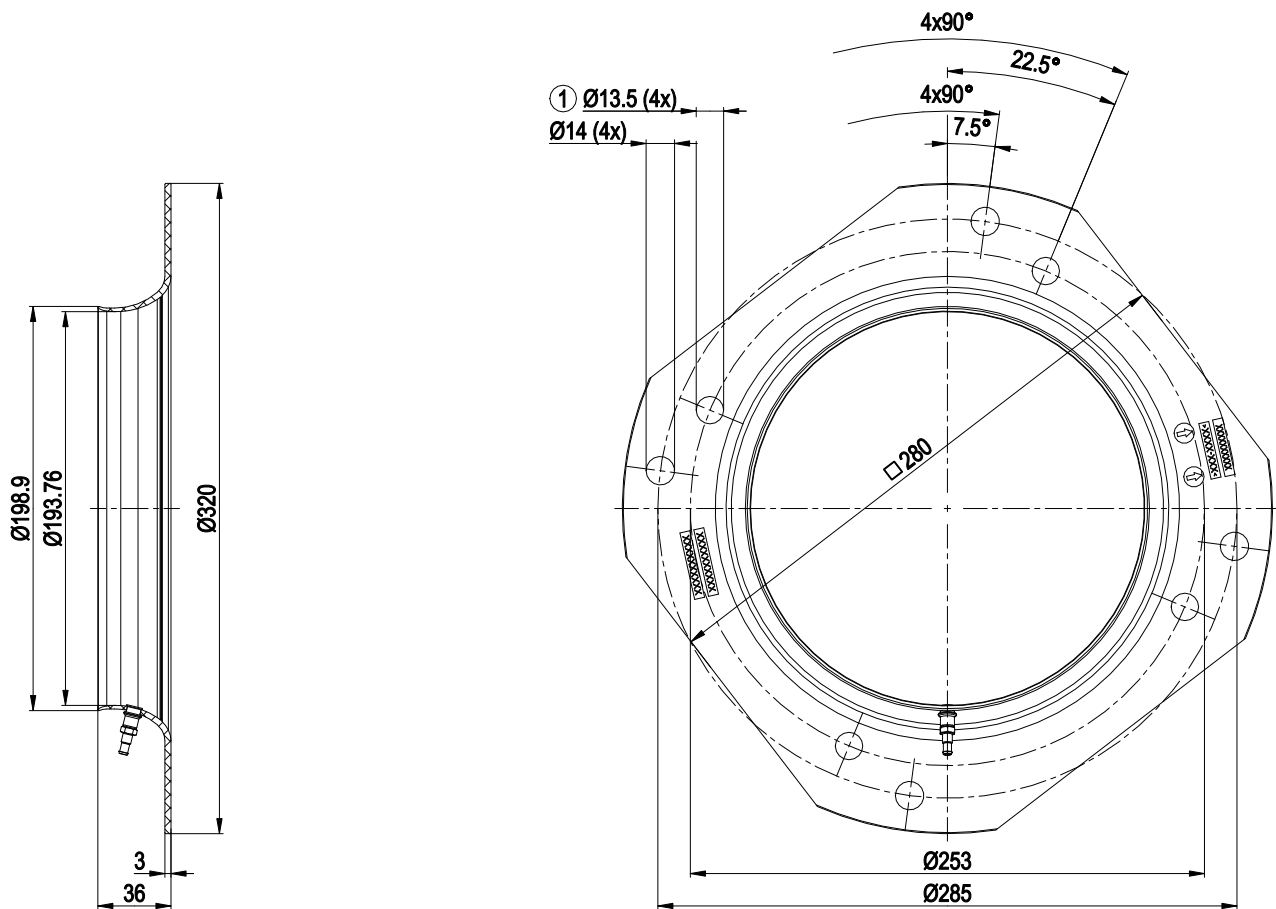
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## Product drawing



|   |                                                                                                            |
|---|------------------------------------------------------------------------------------------------------------|
| 1 | Accessory part: Inlet ring 8217104581 with pressure tap (k-factor: 98) (not included in scope of delivery) |
| 2 | Max. clearance for screw 10 mm                                                                             |
| 3 | Max. clearance for screw 5 mm                                                                              |
| 4 | Cable PVC AWG20<br>3x splice                                                                               |
| 5 | Cable PVC AWG22<br>4x splice                                                                               |

Accessory part



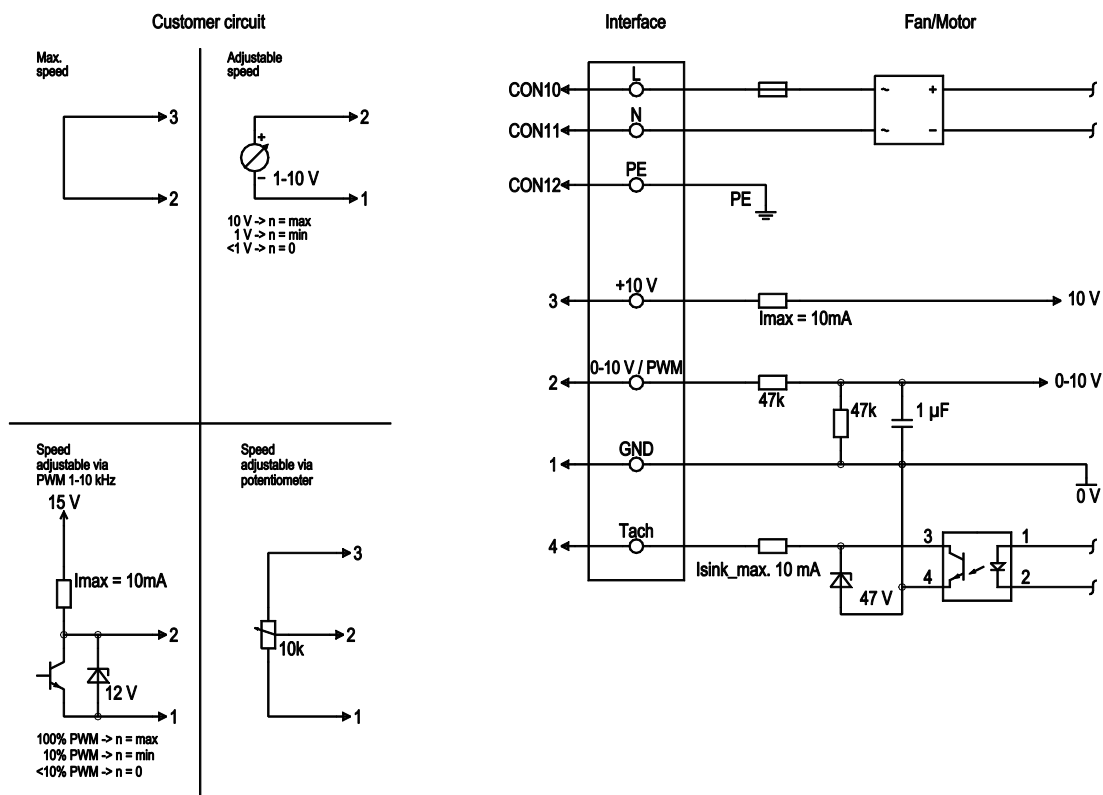
Inlet ring 8217104581 with pressure tap (k-factor: 98)

- |   |                                                                                                                                        |
|---|----------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Fastening holes for FlowGrid 20280-2-2957 (not included in scope of delivery) are provided and must be subsequently opened as required |
|---|----------------------------------------------------------------------------------------------------------------------------------------|

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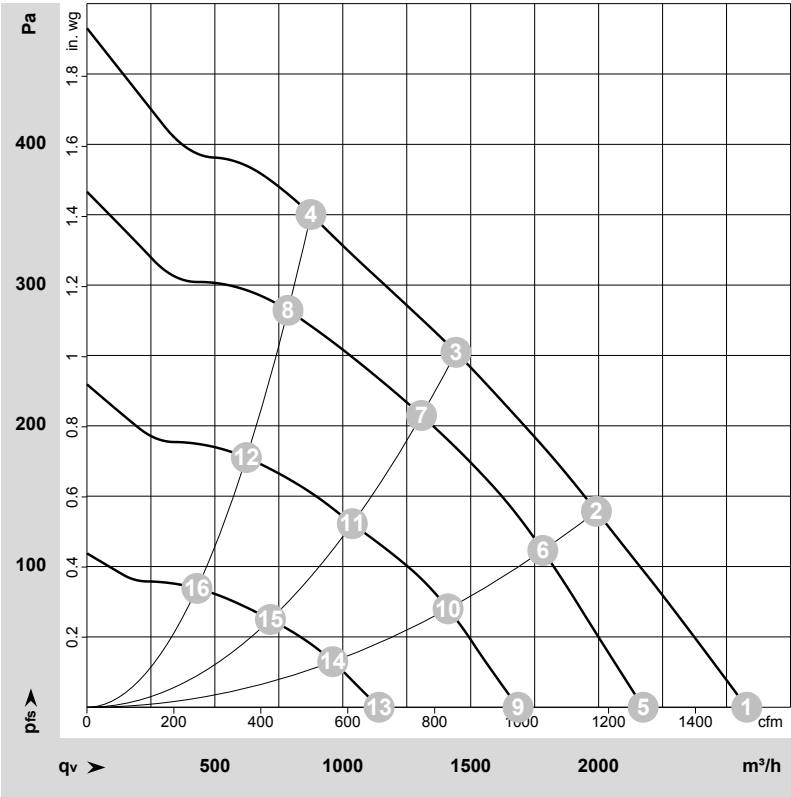
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## Connection diagram



| No. | Conn. | Designation | Color        | Function/assignment                                                                                                  |
|-----|-------|-------------|--------------|----------------------------------------------------------------------------------------------------------------------|
|     | CON10 | L           | black        | Supply connection, power supply, phase, see nameplate for voltage range                                              |
|     | CON11 | N           | blue         | Supply connection, power supply, neutral conductor, see nameplate for voltage range                                  |
|     | CON12 | PE          | green/yellow | Ground connection                                                                                                    |
|     | 2     | 0- 10V PWM  | yellow       | 0-10 V / PWM control input, Ri=100 kΩ, SELV                                                                          |
|     | 4     | Tach        | white        | Tach output, open collector, 1 pulse per revolution, Isink max = 10 mA, SELV                                         |
|     | 3     | +10 V       | red          | Fixed voltage output 10 VDC +/-3 %, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. pot), SELV |
|     | 1     | GND         | blue         | Reference ground for control interface, SELV                                                                         |

Curves: Air performance 50 Hz



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

Measurement: LU-220542-1  
Date: 2022-03-23  
Nozzle: 8217102502

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 <sub>e</sub> | I    | LpA <sub>in</sub> | LwA <sub>in</sub> | q <sub>v</sub>    | p <sub>fs</sub> | q <sub>v</sub> | p <sub>fs</sub> |
|----|-------|-----|----|-------------------|----------------|------|-------------------|-------------------|-------------------|-----------------|----------------|-----------------|
|    |       | V   | Hz | min <sup>-1</sup> | W              | A    | dB(A)             | dB(A)             | m <sup>3</sup> /h | Pa              | cfm            | in. wg          |
| 1  | 1~    | 230 | 50 | 2400              | 170            | 1.40 | 67                | 75                | 2580              | 0               | 1520           | 0.00            |
| 2  | 1~    | 230 | 50 | 2170              | 170            | 1.40 | 59                | 67                | 1990              | 140             | 1170           | 0.56            |
| 3  | 1~    | 230 | 50 | 2100              | 170            | 1.40 | 55                | 63                | 1440              | 250             | 850            | 1.00            |
| 4  | 1~    | 230 | 50 | 2160              | 170            | 1.40 | 59                | 67                | 875               | 350             | 515            | 1.41            |
| 5  | 1~    | 230 | 50 | 2040              | 102            | 0.89 | 63                | 71                | 2175              | 0               | 1280           | 0.00            |
| 6  | 1~    | 230 | 50 | 1950              | 119            | 1.03 | 57                | 65                | 1780              | 111             | 1050           | 0.45            |
| 7  | 1~    | 230 | 50 | 1915              | 124            | 1.08 | 53                | 61                | 1310              | 208             | 770            | 0.84            |
| 8  | 1~    | 230 | 50 | 1940              | 119            | 1.04 | 55                | 63                | 785               | 282             | 465            | 1.13            |
| 9  | 1~    | 230 | 50 | 1595              | 51             | 0.47 | 57                | 65                | 1685              | 0               | 990            | 0.00            |
| 10 | 1~    | 230 | 50 | 1545              | 62             | 0.56 | 52                | 60                | 1410              | 70              | 830            | 0.28            |
| 11 | 1~    | 230 | 50 | 1530              | 64             | 0.58 | 48                | 56                | 1035              | 130             | 610            | 0.52            |
| 12 | 1~    | 230 | 50 | 1540              | 62             | 0.56 | 48                | 56                | 625               | 178             | 365            | 0.71            |
| 13 | 1~    | 230 | 50 | 1090              | 19             | 0.19 | 48                | 57                | 1140              | 0               | 670            | 0.00            |
| 14 | 1~    | 230 | 50 | 1065              | 23             | 0.22 | 43                | 52                | 960               | 32              | 565            | 0.13            |
| 15 | 1~    | 230 | 50 | 1060              | 24             | 0.23 | 38                | 47                | 715               | 62              | 420            | 0.25            |
| 16 | 1~    | 230 | 50 | 1065              | 23             | 0.22 | 37                | 45                | 430               | 84              | 255            | 0.34            |

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>e</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase