

## PRF-EX Centrifugal Fans

### Speed controllable, explosion-proof efficiency

- Certified according to ATEX 2014/34/EU
- Handles Aggressive Media
- Flexible Use

[Find more details in our online catalogue](#)



### Safety first

PRF-EX fans are designed for challenging environments where explosive atmospheres can occur. Which is why they are tested according to ATEX directive 2014/34/EU – to ensure they'll perform as intended after installation.

### Flexibility

Where dirt, corrosive gases or other problematic elements occur, fans are exposed to particular challenges. Our **PRF-EX range** were specially developed for such applications in the food, electronics, medical facilities and chemical industries. With the help of robust and carefully selected components, there function reliably in unfavourably conditions.

### Modularity

The position of the unit's antistatic casing, which is made from UV-resistant and waterproof PP or PE, can be easily adapted. This making the PRF suitable for various configurations.

### Performance

**PRF-EX** could be used for temperature classes T1 to T4. Exhaust of potentially explosive gases in Zone 1 and Zone 2, as well as Groups IIA, IIB and hydrogen is also possible.

## Features

### Construction

Sintered casing made of UV-resistant PP or PE, waterproof. The casing can be easily adjusted through turning it (Standard position is LG270). The pedestal is manufactured of stainless steel, abrasion-resistant lacquered.

### Impeller

The PRF-EX fans use single-flow impellers made out of PP or GFK (PRF-EX 500D4 Ex d) with effective blade geometry, dynamically **balanced** and paired with corresponding **IEC Ex db motor**.

### Motor

Explosion proof motor Ex db with terminal box Ex eb on the motor.

### Motor protection

Integrated **PTC thermistors**, to be connected to a motor protection device.

### Control

Speed controllable by **frequency converter**.

### Installation

PRF-EX fans can be stand **on floor** with mounted **pedestal**. For **preventing vibration** to the duct is recommended to use **flexible connection**.

## Technical parameters

### Nominal data

|   |         |                   |
|---|---------|-------------------|
| Voltage (nominal)   | 400     | V                 |
| Frequency   | 50      | Hz                |
| Motor circuit connection                                  | Y       |                   |
| Input power   | 206     | W                 |
| Input power kW  | 0.206   | kW                |
| Starting current  | 2.1     | A                 |
| Input current   | 0.52    | A                 |
| Impeller speed  | 1,413   | rpm               |
| Air flow  | max 990 | m <sup>3</sup> /h |
| Temperature of transported air                            | max 60  | °C                |
| Max temperature of transported air, when speed controlled | 60      | °C                |

### Sound data

|   |    |       |
|---|----|-------|
| Sound pressure level at 3m (20m <sup>2</sup> Sabin) | 54 | dB(A) |
|---|----|-------|

### Protection/Classification

|                         |                           |
|-------------------------|---------------------------|
| Enclosure class, motor  | IP55                      |
| Insulation class        | F                         |
| Explosion proof marking | II 2G Ex h IIB+H2 T4 Gb   |
| Certificate             | TPS 19 ATEX 085751 0005 X |

### Ambient and duct temperature

|                              |           |    |
|------------------------------|-----------|----|
| Ambient and duct temperature | -20 to 60 | °C |
|------------------------------|-----------|----|

### Dimensions and weights

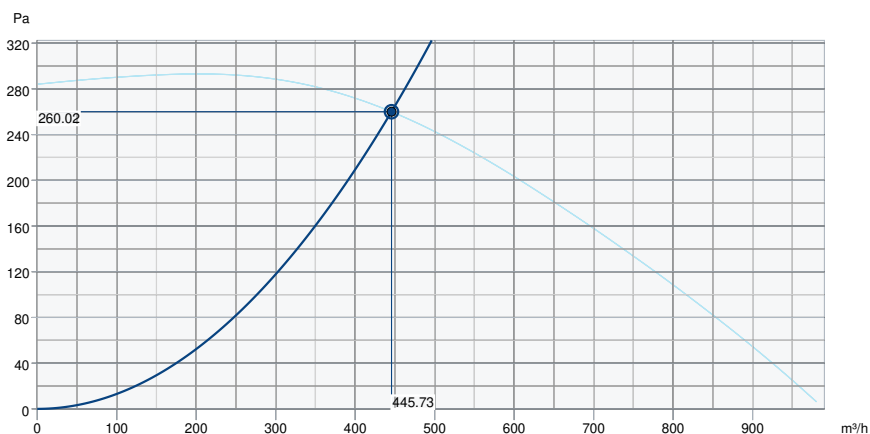
|                                  |     |    |
|----------------------------------|-----|----|
| Duct dimension; Circular, inlet  | 180 | mm |
| Duct dimension; Circular, outlet | 180 | mm |
| Weight                           | 24  | kg |

### Others

|                      |          |
|----------------------|----------|
| Duct connection type | Circular |
| Motor type           | AC       |

Performance

Performance curve

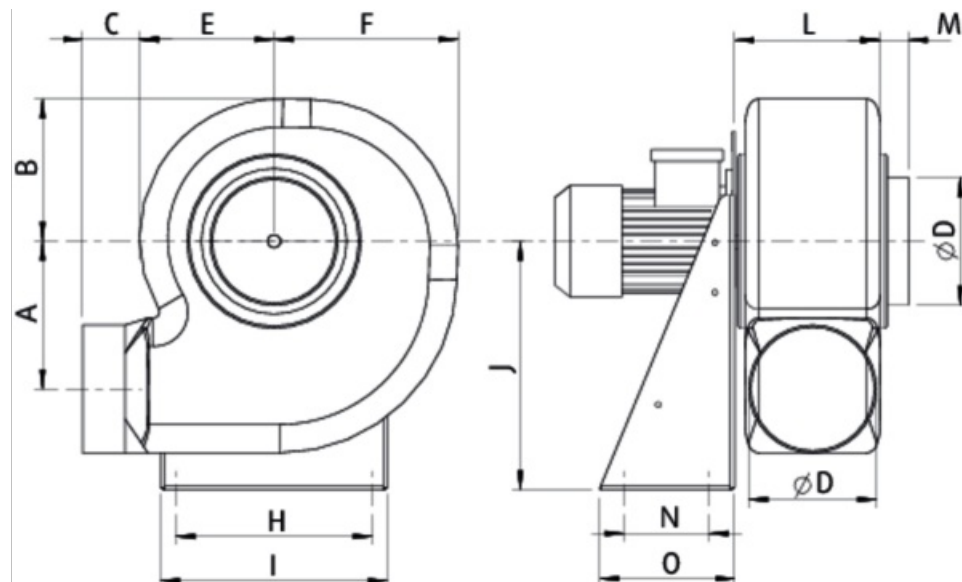


Hydraulic data

|                          |               |
|--------------------------|---------------|
| Required air flow        | 446 m³/h      |
| Required static pressure | 260 Pa        |
| Working air flow         | 446 m³/h      |
| Working static pressure  | 260 Pa        |
| Air density              | 1.204 kg/m³   |
| Power                    | 134.3 W       |
| Fan control - RPM        | 1,454 rpm     |
| Current                  | 0.49 A        |
| SFP                      | 1.085 kW/m³/s |
| Control voltage          | 400.0 V       |
| Supply voltage           | 400 V         |

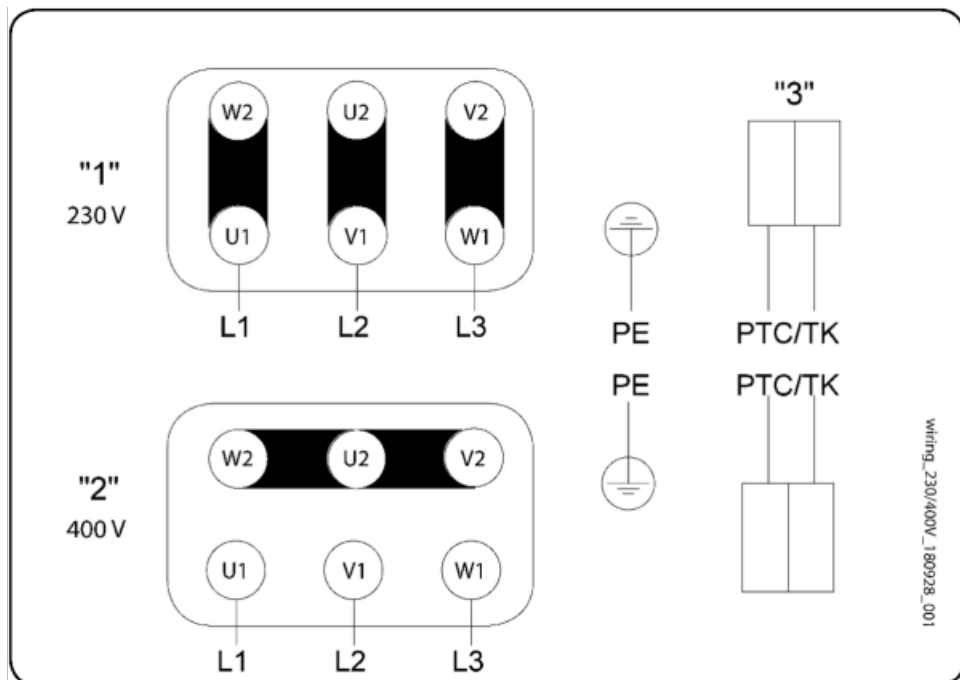
| Sound power level                        |       | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | Total |
|--|-------|----|-----|-----|-----|----|----|----|----|-------|
| Inlet                                    | dB(A) | 54 | 63  | 63  | 66  | 58 | 51 | 44 | 37 | 69    |
| Outlet                                   | dB(A) | 65 | 66  | 66  | 68  | 59 | 54 | 46 | 38 | 73    |
| Surrounding                              | dB(A) | 30 | 43  | 51  | 60  | 54 | 43 | 35 | 31 | 61    |
| Sound pressure level at 3m (20m² Sabine) | dB(A) | -  | -   | -   | -   | -  | -  | -  | -  | 54    |
| Sound pressure level at 3m free field    | dB(A) | -  | -   | -   | -   | -  | -  | -  | -  | 40    |

Dimension



| Typ        | A   | B   | C  | $\varnothing D$ | E   | F   | H   | I   | J   | L   | M  | N   |
|------------|-----|-----|----|-----------------|-----|-----|-----|-----|-----|-----|----|-----|
| PRF 180 EX | 205 | 230 | 80 | 180             | 205 | 275 | 277 | 320 | 350 | 160 | 40 | 120 |

## Wiring



230/400V motor

- "1" 3 x 230V Delta connection
- "2" 3 x 400V Star connection
- "3" Thermal motor protection optional

See motor name plate!

## Accessories

- ASS-P 180 flex. con. PRF (32379)
- Frequency converter FRQ5-4A (36229)
- Frequency converter FRQS-4A (36231)
- SD rubber mou. 4Pcs PRF160-250 (32568)
- VKA-P 180 adjust. damper PRF (32380)
- VP-Splinter protection PRF 180 (305463)
- REV-3POL/ATEX-11kW R/Y (36414)
- Frequency converter FRQ-4A (36227)
- Frequency converter FRQ5S-4A (36233)
- Frequency converter FXDM5AM (31387)
- U-EK230E Motor protection (30199)
- VKS-P 180 gravity shutter PRF (32381)
- FC102-1,1kW/3A-IP55, 150/50m (36158)

## Documents

- Installation and Operating Instructions\_012.pdf
- TPS 19 ATEX 085751 0005 X 01 EN.PDF
- TUV\_IT\_13\_ATEX\_039\_X\_REV\_2.PDF
- compatibility with chemical agents\_en\_003
- EU\_DECLARATION\_OF\_CONFORMITY\_ALL\_009\_314830.PDF
- CASING POSITION PRF.PDF