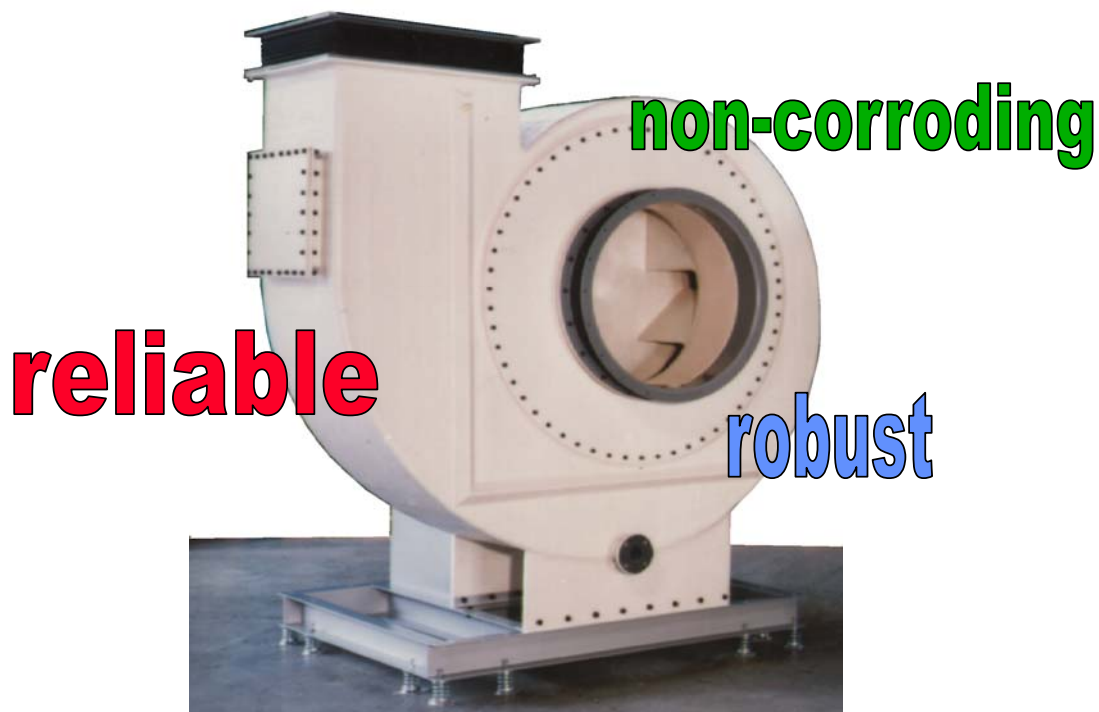


Radial fans of FRP Series VRE - GfK



APPLICATION

Radial fans of type VRE are used in all branches of industry and agriculture. The applied plastic materials allow excellent resistivity.

Fans of high-class fibre reinforced plastics are distinguished by much wider performance and applicability than fans of thermoplastic materials. This means that these fans can be employed wherever high pressures occur along with extraordinarily high chemical and thermal stress. These are applications in which conventional fans of thermoplastic materials such as PVC or PP usually fail. This mainly applies to different applications of the chemical and process engineering industries, microelectronic and similar industries.

TECHNICAL DESCRIPTION

The fans are made in sizes between 315 and 1,000 and consist of the following main components:

Impeller

with vanes curved backward and dynamically balanced according to ISO 1940. Manufactured by hand lay-up technique of glass-fibre reinforced plastic (G.R.P., GfK) or for higher stresses of carbon-fibre reinforced plastic (C.R.P., CfK). Resins used depend on the very application.

Spiral housing

made by hand lay-up technique of glass-fibre reinforced plastic (G.R.P., GfK). Resins used depend on the very application.

Air lines are connected by flange (suction side) or frame (pressure side).

Drive

The fans are driven by standardized three-phase motors of standard design or EX design.

- ♦ Design version **W** (direct driven) --> impeller arranged directly on motor shaft
- ♦ Design version **R** (belt-driven) --> impeller arranged on robust flange or block bearing with calculated service life of about 60,000 hours

Power is transmitted by state-of-the-art multiple vee-belt with belt adjuster. Compared with conventional vee-belt drives, it has the following advantages:

- ♦ Outstanding force closure and high efficiency
- ♦ Little maintenance (tensioning is usually not necessary)
- ♦ Running with little vibration and noise)

Motor base

Robust welded steel base holding the motor or belt drive

Corrosion protection by varnish or zinc coating according to fan size

Vibration isolators (optionally with height setting) in range of delivery

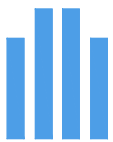
The design warrants that steel components have no direct contact with the medium conveyed.

The shaft lead-through is technically gastight by means of a special ring seal. Special seals, such as with sealing gas, can be used for higher demands.

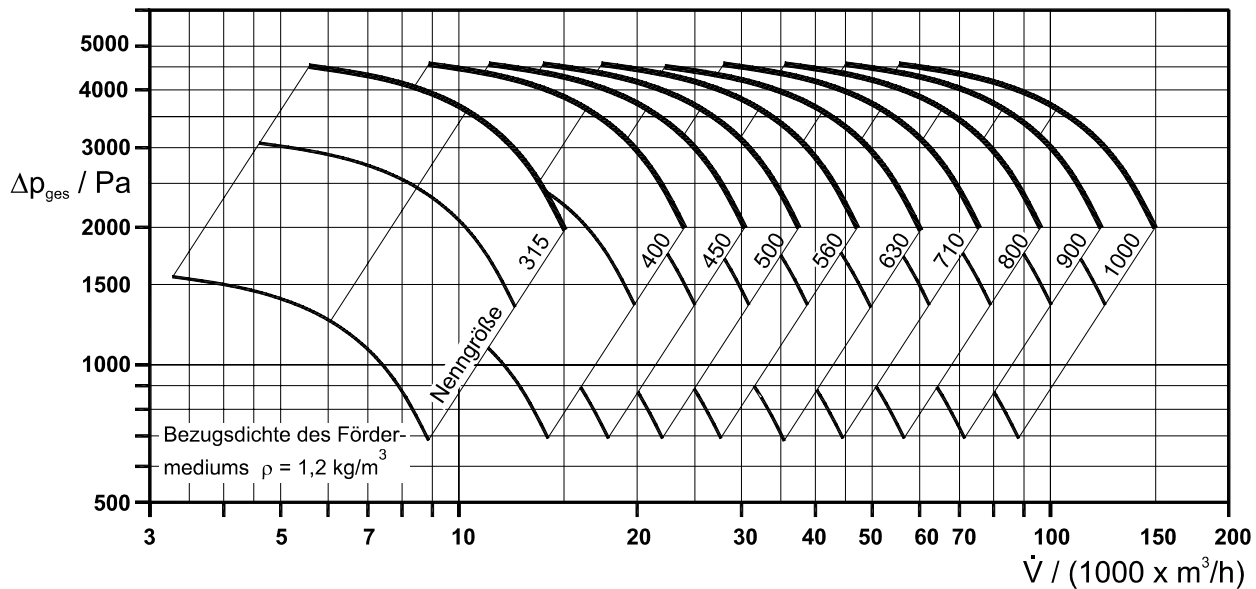
A condensate drain has been arranged in the deepest section of the housing.

Radial fans of reinforced plastic Series VRE - GfK

MIETZSCH



TYPE SURVEY - PRESELECTION



CONDITIONS OF USE

Working range

The fan allows stable operation in the entire characteristics range. If needed, the permissible characteristics range has to be restricted if the motor and belt drive have been dimensioned for a certain working point.

Permissible temperature range (continuous loading)

medium conveyed -30 °C ... 60 °C
surroundings -30 °C ... 40 °C
Higher temperatures are possible on request.

Medium to be conveyed

The applied materials result in good chemical resistivity to many substances. It should be considered, however, that even synthetic materials are attacked by certain chemicals.

Please specify the purpose of fan use and the medium to be conveyed in cases of inquiries or orders so that the suitable material can be chosen.

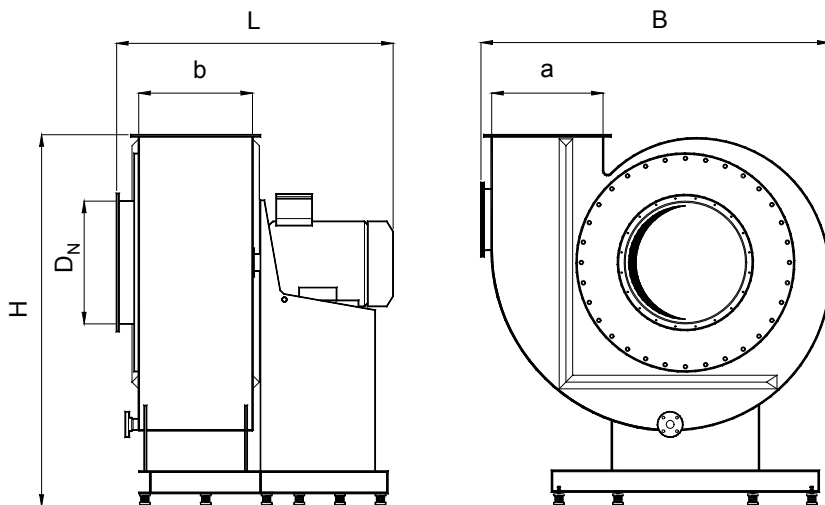
SPECIAL DESIGN

TS = with thermal winding protection (PTC resistor)
EX = explosion-proof design (with EExe motor)

ACCESSORIES

Inspection opening
Condensate drain
Compensators with flange of PVC or PPs (PP)

MAIN DIMENSIONS (for design W = direct-driven)



| type | D _N | B | L | H | a | b |
|----------|----------------|------|------|------|-----|-----|
| mm | mm | mm | mm | mm | mm | mm |
| VRE 315 | 315 | 906 | 900 | 992 | 288 | 300 |
| VRE 400 | 400 | 1141 | 1200 | 1215 | 370 | 380 |
| VRE 450 | 450 | 1300 | 1350 | 1350 | 410 | 428 |
| VRE 500 | 500 | 1450 | 1500 | 1500 | 455 | 464 |
| VRE 560 | 560 | 1600 | 1300 | 1700 | 510 | 517 |
| VRE 630 | 630 | 1800 | 1700 | 1900 | 574 | 590 |
| VRE 710 | 710 | 2000 | 1900 | 2050 | 646 | 662 |
| VRE 800 | 800 | 2250 | 2000 | 2300 | 727 | 742 |
| VRE 900 | 900 | 2550 | 2200 | 2500 | 832 | 846 |
| VRE 1000 | 1000 | 2800 | 2300 | 2800 | 910 | 950 |