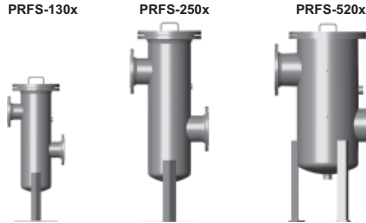


Process Screen Basket Filter PRFS



1. TECHNICAL SPECIFICATIONS

1.1 GENERAL

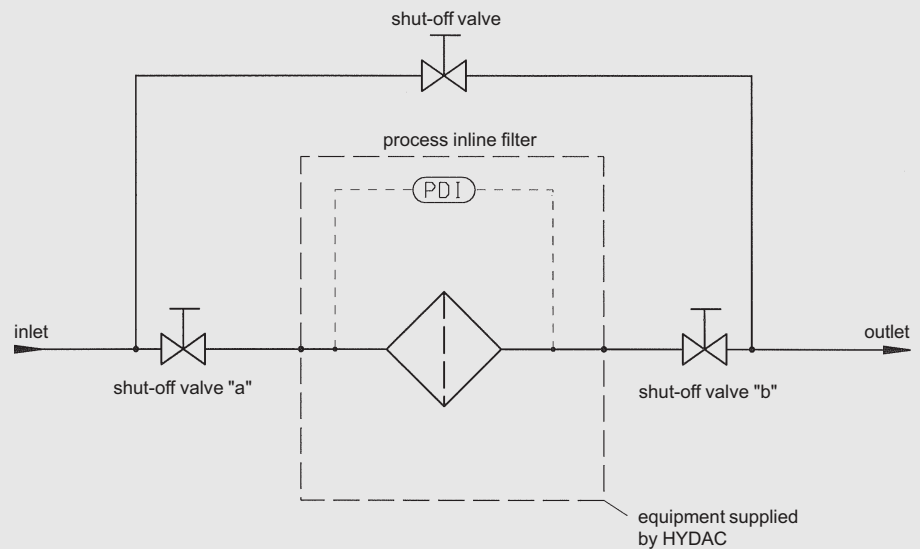
Screen basket filters are used mainly as coarse filters or pre-filters. The direction of flow is from the inside to the outside. The separated solid contamination is collected in the stainless steel screen basket and can be disposed of quickly and conveniently. By using clogging indicators which monitor the differential pressure, the condition of the screen basket filter can be determined at any time. The filter materials can be cleaned and reused, and this therefore reduces operating costs. Filter housings are available in carbon steel with an internal epoxy coating and in stainless steel.

1.2 SUMMARY OF AVAILABLE SIZES AND CONNECTIONS

| Connection size | Series | | | | | |
|-----------------|--------|------|------|------|-------|-------|
| | 130x | 250x | 520x | 650x | 1500x | 2500x |
| DN 50 | ● | | | | | |
| DN 80 | ● | | | | | |
| DN 100 | ● | ● | | | | |
| DN 150 | | ● | ● | | | |
| DN 200 | | ● | ● | ● | | |
| DN 250 | | | ● | ● | ● | |
| DN 300 | | | | ● | ● | |
| DN 400 | | | | | ● | |
| DN 500 | | | | | ● | ● |
| DN 600 | | | | | | ● |

The selection of the connection size depends on the level of contamination of the fluid and the associated filter area.

1.3 CIRCUIT DIAGRAM



2. FILTER SPECIFICATIONS

2.1 SUMMARY OF TECHNICAL SPECIFICATIONS OF STANDARD FILTER HOUSINGS

| Series | Type | Connection size DIN DN | Materials | | | Pressure range* | Temperature [°C] | Weight [kg] | Volume [l] |
|--------|-------|---------------------------|-----------------|---|--|-----------------|-------------------------|--------------------|-------------------|
| | | | Stainless steel | Carbon steel without int. corrosion protection | Carbon steel with int. corrosion protection | | | | |
| 130x | 1303 | 50/ | ● | | | PN 16 | -10 to 90 | 80 | 20 |
| | 1304 | 80/ | | | ● | | | | |
| | 1305 | 100 | | ● | | | | | |
| 250x | 2503 | 100/ | ● | | | | | 130 | 46 |
| | 2504 | 150/ | | | ● | | | | |
| | 2505 | 200 | | ● | | | | | |
| 520x | 5203 | 150/ | ● | | | | | 300 | 118 |
| | 5204 | 200/ | | | ● | | | | |
| | 5205 | 250 | | ● | | | | | |
| 650x | 6503 | 200/ | ● | | | | | 360 | 213 |
| | 6504 | 250/ | | | ● | | | | |
| | 6505 | 300 | | ● | | | | | |
| 1500x | 15003 | 300/ | ● | | | | | 460 | 433 |
| | 15004 | 400/ | | | ● | | | | |
| | 15005 | 500 | | ● | | | | | |
| 2500x | 25003 | 500/ | ● | | | 990 | 1330 | | |
| | 25004 | 600/ | | | ● | | | | |
| | 25005 | 700 | | ● | | | | | |

* Other pressure ranges for welded versions on request.

2.2 FURTHER SPECIFICATIONS ON THE STANDARD FILTER HOUSING

2.2.1 Seal materials

FPM (Viton), asbestos-free gasket

2.2.2 Corrosion protection, external

2-coat primer (not required for stainless steel filters)

2.2.3 Corrosion protection, internal

2K-epoxy primer (not required for stainless steel filters)

2.2.4 Documentation

Operating and maintenance instructions

2.3 SUMMARY OF TECHNICAL SPECIFICATIONS OF FILTER ELEMENTS

| Series | No. of screen baskets | Filter element type | Filter area [cm²] | Filter materials and filtration ratings [µm] | | Permiss. Diff. pressure across element [bar] |
|--------|-----------------------|---------------------|----------------------|---|-------------------------|---|
| | | | | Slotted tube | Perforated plate | |
| 130x | 1 | SK-3-... | 2035 | 50, | 4000, 5000, 10000 | 10 |
| 250x | 1 | SK-4-... | 2850 | 100, 200, | | |
| 520x | 3 | SK-3-... | 6150 | 250, 300, | | |
| 650x | 4 | SK-4-... | 11400 | 500, | | |
| 1500x | 7 | SK-4-... | 19950 | 1000, 2000, | | |
| 2500x | 5 | SK-5-... | 36000 | 3000 | | |

2.4 OPTIONAL VERSIONS

There is a range of optional versions available for the Process Screen Basket Filter PRFS. For technical details and prices, please contact our Technical Sales Department at Head Office.

2.4.1 Housing manufacture

- AD Notices / PED 97/23/EC
- ASME Code Design (with or without U-Stamp)

2.4.2 Flange connections

- ANSI
- JIS

2.4.3 Housing materials

- Various qualities of stainless steel*
 - Various qualities of carbon steel*
- * not for cast versions

2.4.4 Materials of internal parts and elements

- Various qualities of stainless steel
- Various qualities of carbon steel
- Various qualities of Duplex/ Superduplex

2.4.5 Cover plate lifting devices

- Stainless steel version
- Carbon steel version

2.4.6 Seal materials

- Various seal materials on request, depending on the resistance to the fluid

2.4.7 Corrosion protection and external finishes

- RAL colours according to customer requirement (for carbon steel qualities)
- Various multi-layer coatings

2.4.8 Differential pressure monitoring

- Visual
- Electrical
- Visual-electrical
- Differential pressure gauge with 2 micro switches

2.4.9 Documentation

- Manufacturer's test certificates
- Material certificates 3.1 according to DIN EN 10204
- 3rd parties (TÜV, ABS, Lloyds, etc)
- Welding procedure specifications (WPS) / Procedure Qualification Record (PQR)
- Inspection plan
- and many others on request

Further optional models on request.

3. MODEL CODE

PRFS - S - 1303 - AF3 - 10 - 0 - 1 - X

3.1 SCREEN BASKET FILTER PRFS / PRFSD

Type

PRFS = Screen basket filter

PRFSD = Screen basket filter duplex (change-over)

Material of filter element

D = wire mesh (cleanable)

S = slotted tube (cleanable)

L = perforated plate (cleanable)

Size

130x = DN 50 / 80 / 100

250x = DN 100 / 150 / 200

520x = DN 150 / 200 / 250

650x = DN 200 / 250 / 300

1500x = DN 250 / 300 / 400

2500x = DN 500 / 600 / 700 (only for single filter PRFS)

End code x

x = 3 stainless steel housing

x = 4 housing carbon steel + epoxy internal coating

x = 5 housing carbon steel without coating

Type of connection (see table)

F = flange to DIN followed by nominal width e.g. F100

AF = flange to ANSI followed by nominal width in inches

Filtration rating in μm

50, 100, 200, 300, 500, 1000, 2000, 3000 (slotted tube)

3000, 4000, 5000, 10000 (perforated plate)

Equipment

0 = without additional equipment

1 = cover plate lifting device

2 = vent and drain ball valve

Type of clogging indicator

0 = without clogging indicator

1 = visual indicator PVD 2 B.1

2 = visual-electrical indicator PVD 2 D.0

3 = visual-electrical-analogue indicator V01

4 = visual-analogue indicator in aluminium with 2 adjustable contacts (0...4 bar)

5 = visual-analogue indicator in stainless steel with 2 adjustable contacts (0...4 bar)

6 = electrical differential pressure switch PVD 2 C.0

Modification number

X = the latest version is always supplied

Supplementary details

Drawing number for special equipment

3.2 SCREEN BASKET ELEMENT

SK - 4 - S - 1000 - 0

Element construction

Screen basket element with handle

Size

1, 2, 3, 4, 5

Material of filter element

S = slotted tube

L = perforated plate

Filtration rating in μm

50, 100, 200, 300, 500, 1000, 2000, 3000 (slotted tube)

3000, 4000, 5000, 10000 (perforated plate)

Seal material

0 = no seal for filtration rating > 500

V = Viton

N = NBR

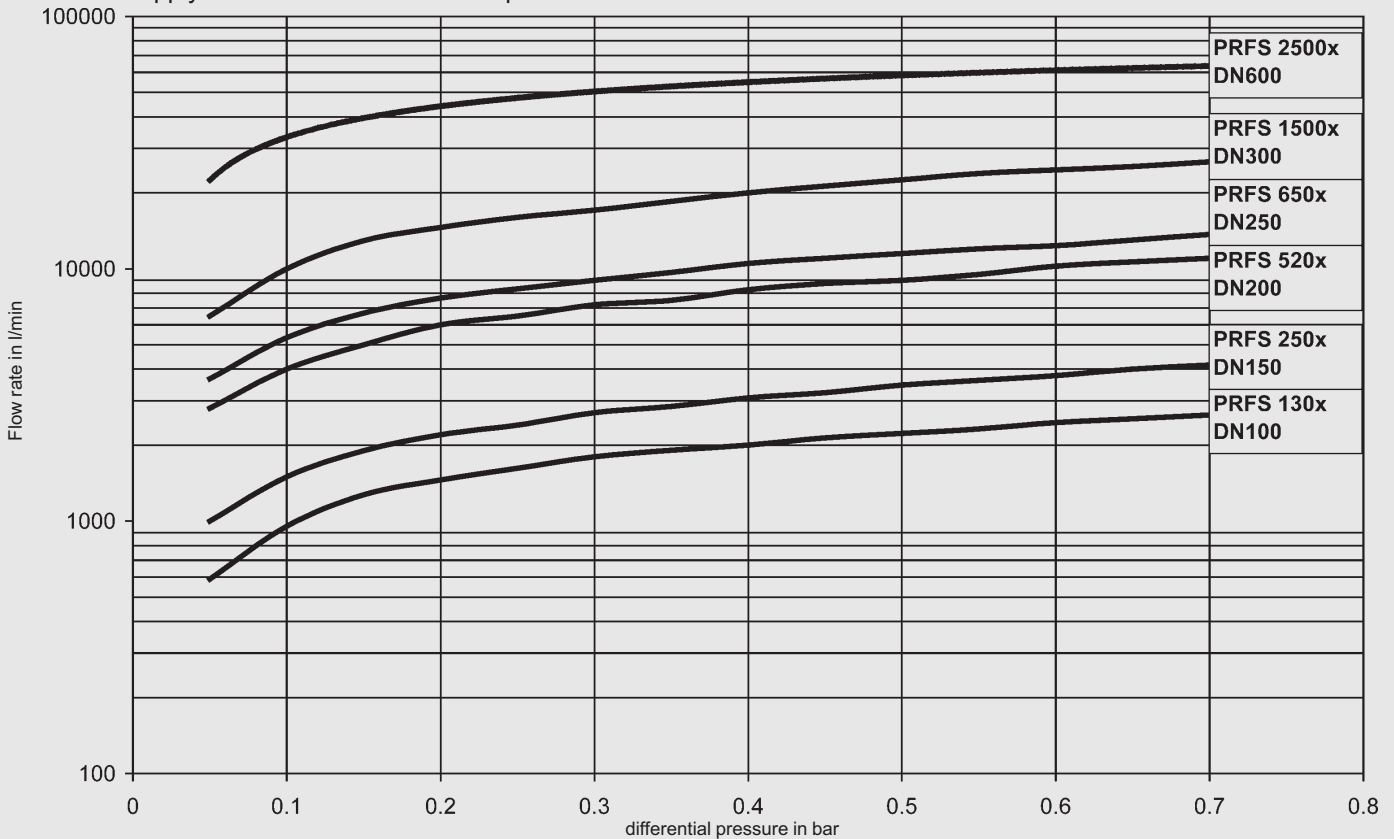
EP = EPDM

SI = Silicon

4. FILTER CALCULATION / SIZING

4.1 PRESSURE DROP CURVES FOR HOUSING

The curves apply to water at 20°C or fluids up to 15 mm²/s!



4.2 CALCULATION CRITERIA

In order to be able to size the filter correctly, the following design data should be available:

- Flow rate
- Type of medium
- Materials / resistance
- Viscosity
- Required filtration rating
- Particulate loading in the fluid
- Type of contamination
- Operating pressure
- Operating temperature

Use the pressure drop curves to calculate the Process Screen Basket Filters PRFS and PRFSD.

Generally speaking, an initial Δp (clean condition of the filter) of > 0.2 bar should not be exceeded.

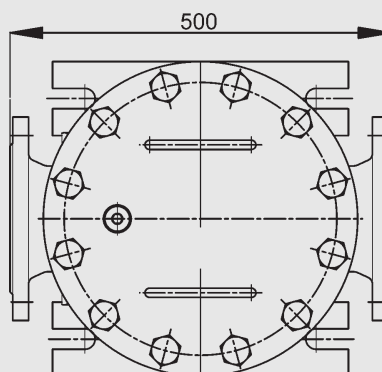
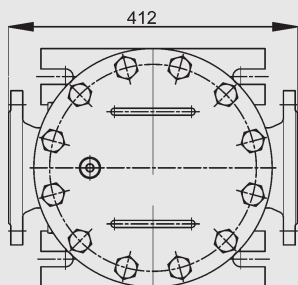
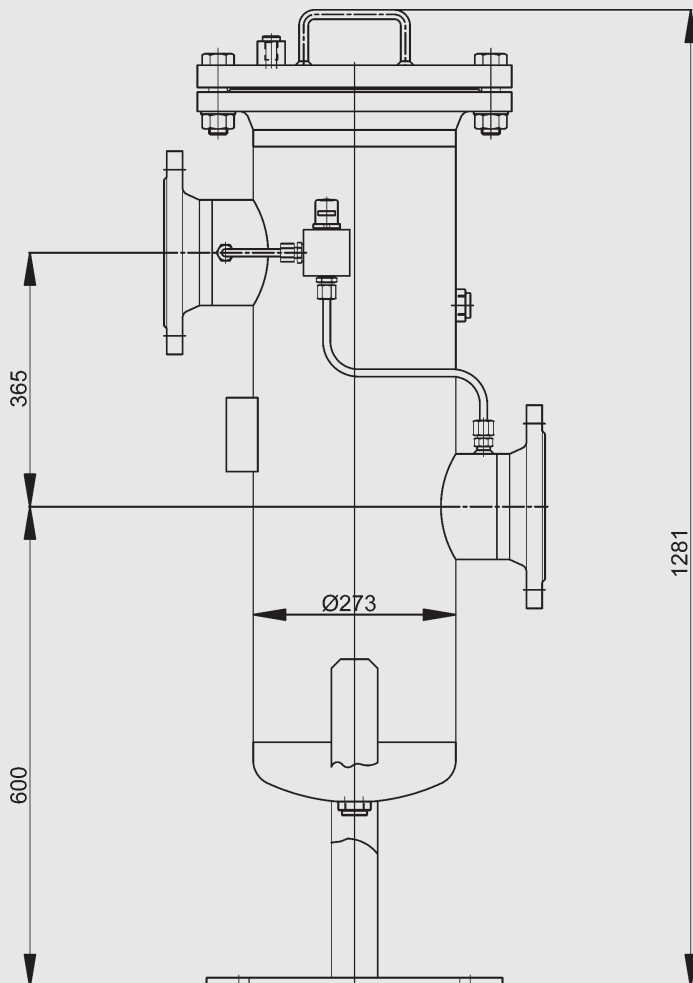
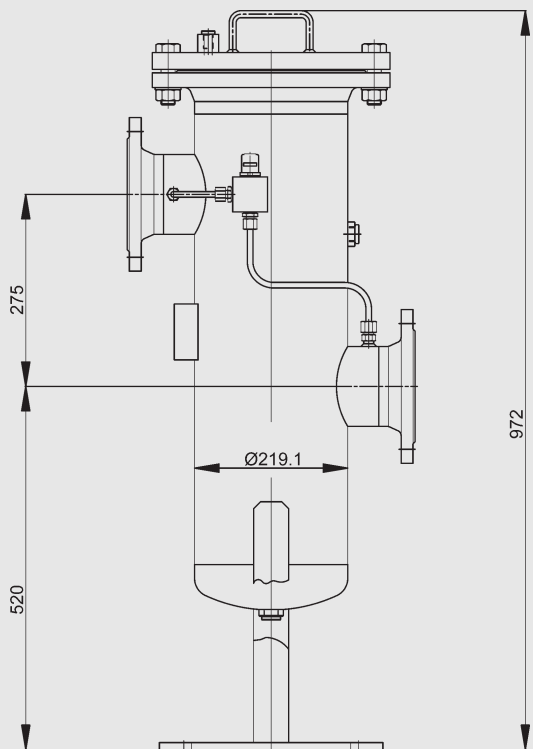
A further factor in the calculation is the flow velocity through the flange inlet. It should not exceed 4 m/s.

5. DIMENSIONS

5.1 FILTER HOUSING

PRFS 130x

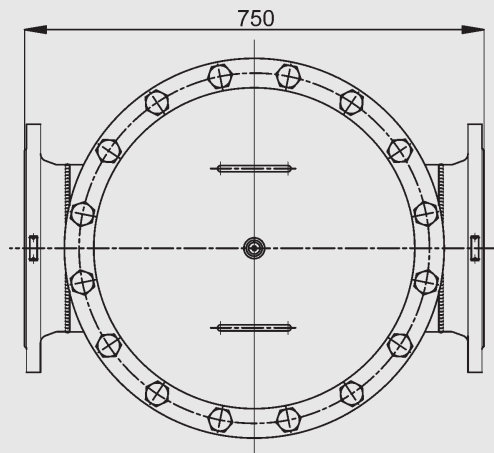
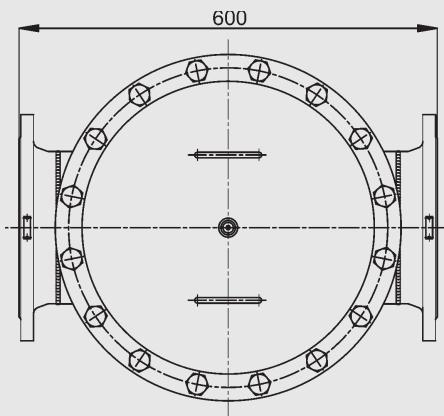
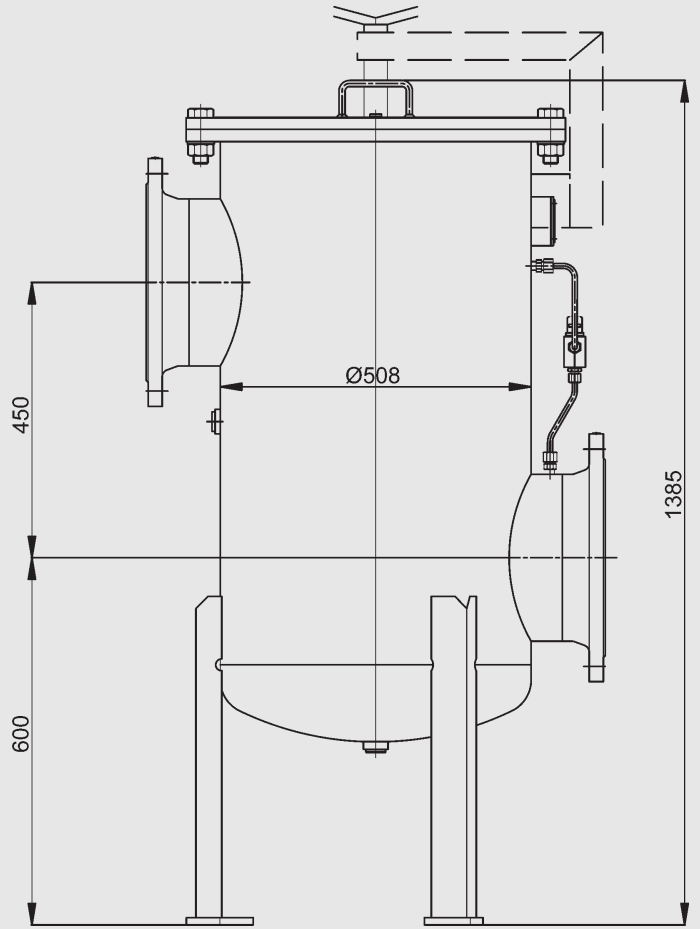
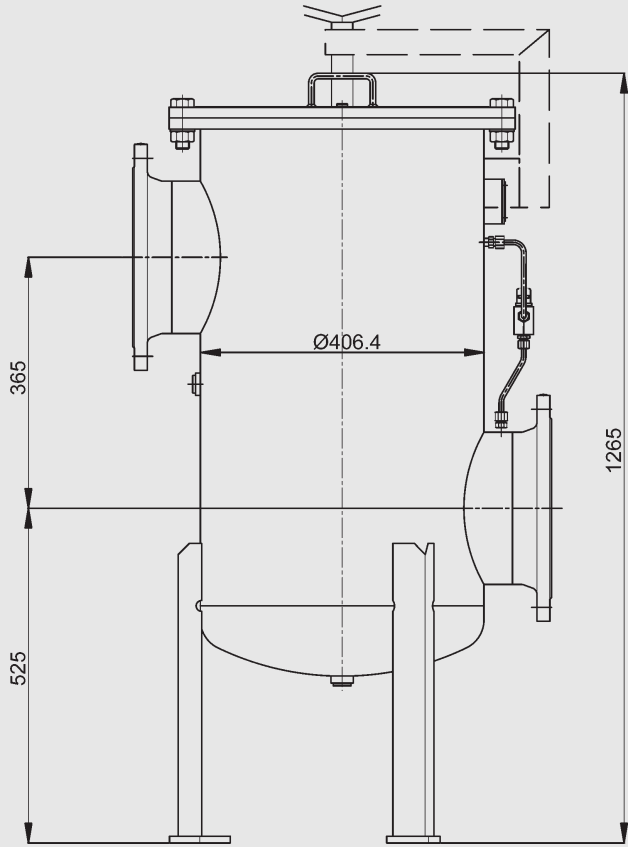
PRFS 250x



- The filter must not be used as a pipe support
- The dimensions quoted have ± 5 mm tolerances

PRFS 520x

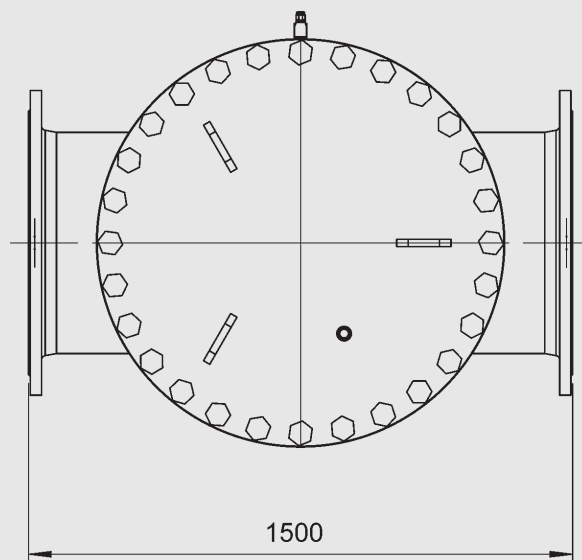
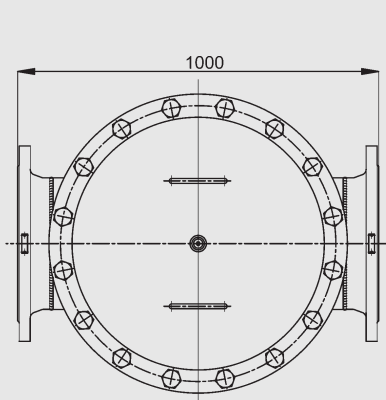
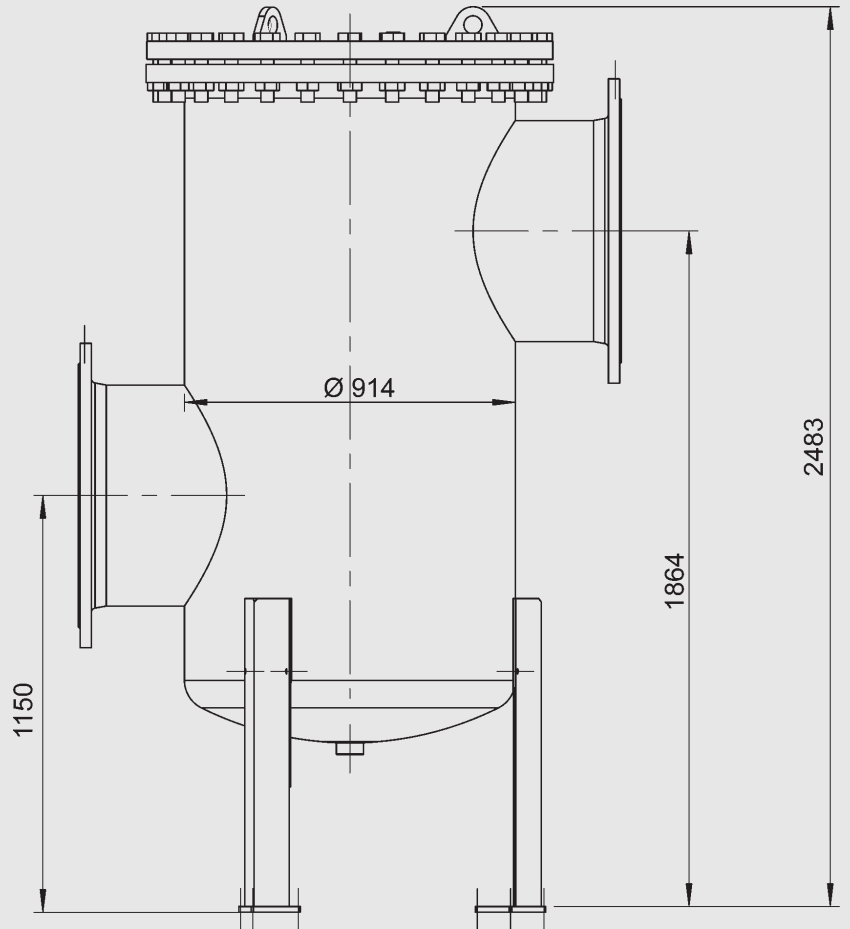
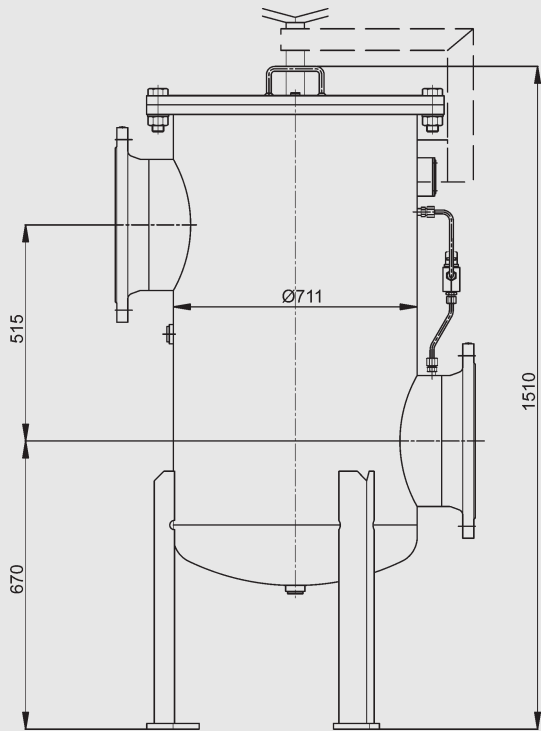
PRFS 650x



- The filter must not be used as a pipe support
- The dimensions quoted have ± 10 mm tolerances

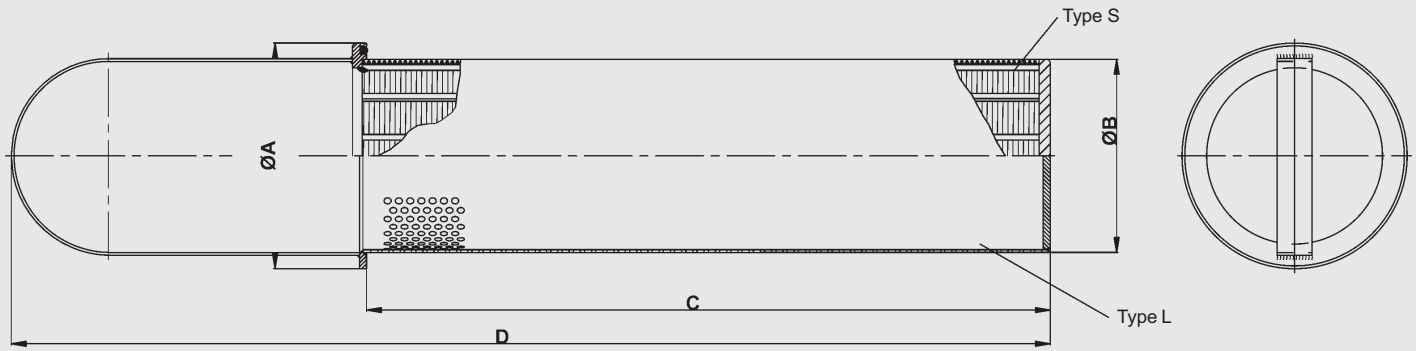
PRFS 1500x

PRFS 2500x



- The filter must not be used as a pipe support
- The dimensions quoted have ± 10 mm tolerances

5.2 FILTER ELEMENT



| Size | A | B | C | D |
|------|-----|-----|-----|-------|
| SK-3 | 160 | 137 | 486 | 738.5 |
| SK-4 | 187 | 164 | 566 | 913 |
| SK-5 | 300 | 260 | 910 | 1619 |

NOTE

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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