



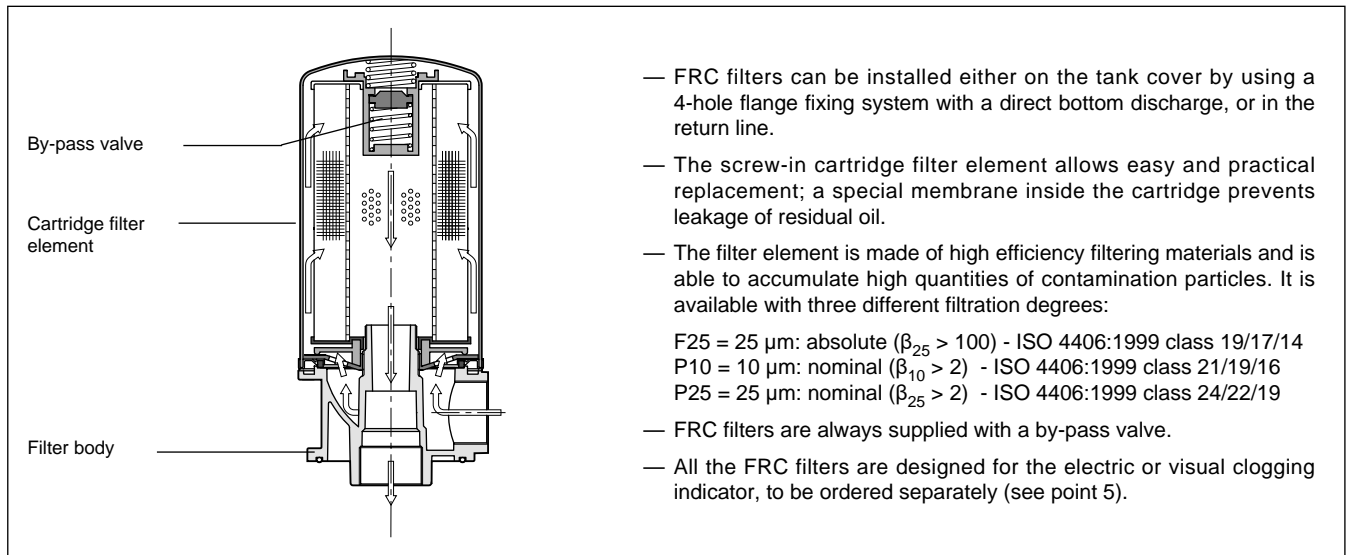
# FRC

## RETURN FILTER FOR TANK TOP OR IN-LINE MOUNTING

SERIES 10

**p** max 7 bar  
**Q** max (see table of performances)

### OPERATING PRINCIPLE



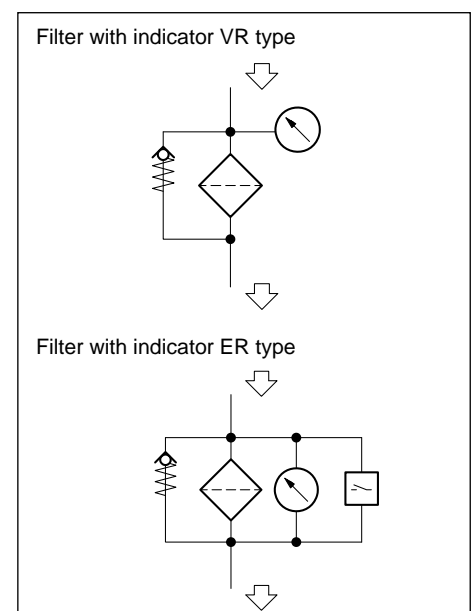
### PERFORMANCES

| Filter code      | BSP port dimensions | Mass [kg] | Indicative rated flow (NOTE)<br>[l/min] |      |      |      |      |
|------------------|---------------------|-----------|-----------------------------------------|------|------|------|------|
|                  |                     |           | F25L                                    | P10S | P10L | P25S | P25L |
| <b>FRC-TB034</b> | 3/4"                | 2.3 - 2.8 | 65                                      | 65   | 70   | 70   | 75   |
| <b>FRC-TB112</b> | 1 1/2"              | 3.5 - 3.7 | 180                                     | 150  | 200  | 200  | 200  |

**NOTE:** Values obtained with mineral oil with viscosity 36 cSt at 50°C and  $\Delta p$  0.5 bar.  
As for a different viscosity range, see **NOTE 2 - point 2.2.**

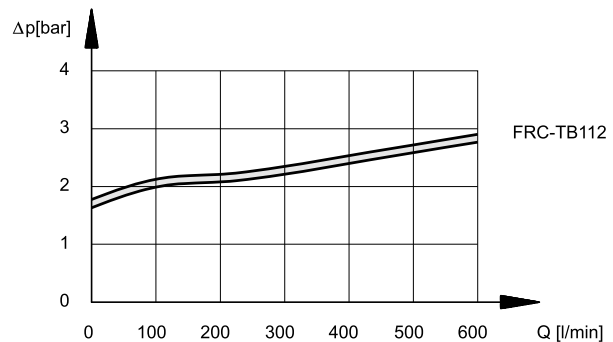
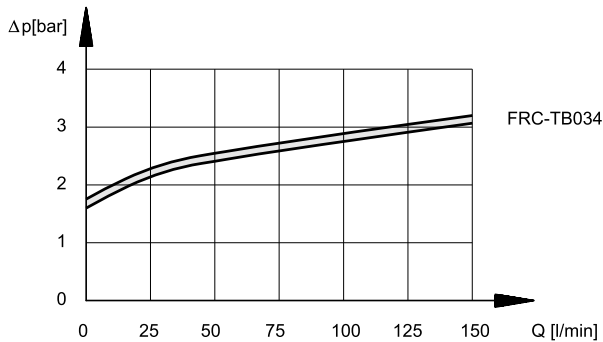
|                                                                           |     |            |
|---------------------------------------------------------------------------|-----|------------|
| Maximum pressure                                                          | bar | 7          |
| Collapsing differential pressure of the filter element                    | bar | 3.0        |
| Differential pressure for the opening of the by-pass valve ( $\pm 10\%$ ) | bar | 1.7        |
| Ambient temperature range                                                 | °C  | -25 / +50  |
| Fluid temperature range                                                   | °C  | -25 / +110 |
| Fluid viscosity range                                                     | cSt | 10 ÷ 400   |

### HYDRAULIC SYMBOL





### 2.3 - Pressure drops through the by-pass valve



### 3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For the use of other kinds of fluid such as HFA, HFB, HFC, please consult our technical department. Using fluids at temperatures higher than 80 °C causes a faster degradation of the fluid and of the seals characteristics.

The fluid must be preserved in its physical and chemical characteristics.

### 4 - OVERALL AND MOUNTING DIMENSIONS

| filter    | filter element | D1 (BSP) | D2  | D3 | D4      | D5  | H1  | H2 | H3 | E1  | E2 | E3 | E4  | R* |
|-----------|----------------|----------|-----|----|---------|-----|-----|----|----|-----|----|----|-----|----|
| FRC-TB034 | S              | 3/4"     | 95  | 7  | 40 ÷ 45 | 99  | 196 | 25 | 18 | 70  | 50 | 38 | 90  | 15 |
|           | L              |          |     |    |         | 241 |     |    |    |     |    |    |     |    |
| FRC-TB112 | S              | 1 1/2"   | 130 | 9  | 65 ÷ 70 | 141 | 252 | 36 | 18 | 100 | 72 | 56 | 124 | 30 |
|           | L              |          |     |    |         | 297 |     |    |    |     |    |    |     |    |

dimensions in mm

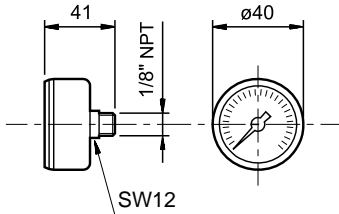
|   |                                                   |
|---|---------------------------------------------------|
| 1 | Clogging indicator port:<br>1/8" NPT.<br>Plugged. |
|---|---------------------------------------------------|

### 5 - CLOGGING INDICATORS

The filters are designed to incorporate clogging indicators, which have to be ordered separately.

#### 5.1 - Visual indicator for return filters

Identification code: VR/10



This type of indicator is a pressure gauge sensitive to the filter inlet pressure.

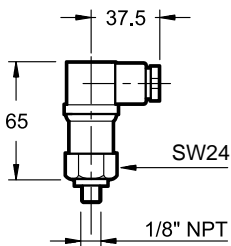
The indicator is preset with a 0 ÷ 6 bar relative scale and with a two-colour reading scale, which provide an indication of the clogging status of the filter element:

GREEN: efficient filter element (0 ÷ 1.7 bar)

RED: the filter element has to be replaced (> 1.7 bar)

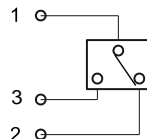
#### 5.2 - Electric indicator for return filters

Identification code: ER/11



This type of indicator is an SPDT pressure switch, sensitive to the filter inlet pressure, which intervenes by modifying the state of the electrical contact when the filter element has reached the clogging limit.

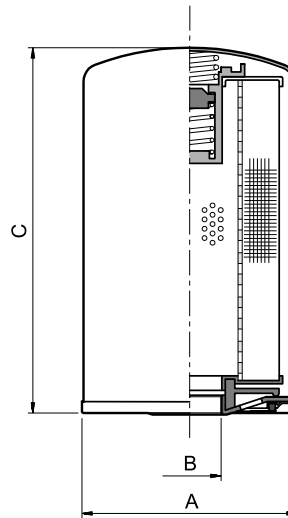
The contact can be wired normally open or closed (see diagram).



### TECHNICAL SPECIFICATIONS

|                                                                |                              | AC  | DC   |
|----------------------------------------------------------------|------------------------------|-----|------|
| Operating pressure                                             | bar                          | 1.5 |      |
| Operating voltage                                              | V                            | 250 | 110  |
| Max. load on contacts                                          | A                            | 0.5 | 0.15 |
| Electric connector                                             | EN 175301-803 (ex DIN 43650) |     |      |
| Class of protection according to EN 60529 (atmospheric agents) | IP65                         |     |      |
| ATEX suitability                                               | 3 GD EEx e T6                |     |      |

### 6 - FILTER ELEMENTS



| Filter element code  | ØA   | ØB         | C   | Average filtering surface [cm <sup>2</sup> ] |
|----------------------|------|------------|-----|----------------------------------------------|
| <b>FRCE-034-P*S</b>  | 96.5 | 3/4" BSP   | 146 | 3100                                         |
| <b>FRCE-034-P*L</b>  | 96.5 | 3/4" BSP   | 191 | 4745                                         |
| <b>FRCE-034-F25L</b> | 96.5 | 3/4" BSP   | 191 | 3630                                         |
| <b>FRCE-112-P*S</b>  | 129  | 1 1/4" BSP | 181 | 5560                                         |
| <b>FRCE-112-P*L</b>  | 129  | 1 1/4" BSP | 226 | 7360                                         |
| <b>FRCE-112-F25L</b> | 129  | 1 1/4" BSP | 226 | 5088                                         |

### FILTER ELEMENT IDENTIFICATION CODE

