

**RETURN LINE FILTER, change-over**  
**Series DTEF 2551 145 PSI**

**1. Type index:**

**1.1. Complete filter:** (ordering example)

**DTEF. 2551. 10VG. 10. S. P. -. FS. C. -. E2. O. -**

|   |   |   |   |   |   |   |   |   |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|

- |    |  |
|----|--|
| 1  | <b>series:</b><br>DTEF = tank-mounted return-line filter, change-over  |
| 2  | <b>nominal size:</b> 2551  |
| 3  | <b>filter-material and filter-fineness:</b><br>80 G = 80 µm, 40 G = 40 µm, 25 G = 25 µm stainless steel wire mesh,<br>25 VG = 20 µm <sub>(c)</sub> , 16 VG = 15 µm <sub>(c)</sub> , 10 VG = 10 µm <sub>(c)</sub> , 6 VG = 7 µm <sub>(c)</sub> , 3 VG = 5 µm <sub>(c)</sub> Interpor fleece (glass fiber)<br>25 P = 25 µm, 10 P = 10 µm paper |
| 4  | <b>resistance of pressure difference for filter element:</b><br>10 = Δp 145 PSI  |
| 5  | <b>filter element design:</b><br>E = without by-pass<br>S = with by-pass, Δp 29 PSI  |
| 6  | <b>sealing material:</b><br>P = Nitrile (NBR)<br>V = Viton (FPM)   |
| 7  | <b>filter element specification:</b> (see catalog)<br>- = standard<br>VA = stainless steel<br>IS06 = see sheet-no. 31601   |
| 8  | <b>connection:</b><br>FS = SAE-flange connection 3000 PSI  |
| 9  | <b>connection size:</b><br>C = 5"  |
| 10 | <b>filter housing specification:</b> (see catalog)<br>- = standard<br>IS06 = see sheet-no. 31605   |
| 11 | <b>clogging indicator at M1:</b><br>- = without<br>O = visual, see sheet-no. 1616<br>E1 = pressure switch, see sheet-no. 1616<br>E2 = pressure switch, see sheet-no. 1616<br>E5 = pressure switch, see sheet-no. 1616  |
| 12 | <b>clogging indicator at M2:</b><br>possible indicators see position 11 of the type index  |
| 13 | <b>clogging indicator at M3:</b><br>possible indicators see position 11 of the type index  |

**1.2. Filter element:** (ordering example)

**01E. 950. 10VG. 10. S. P. -**

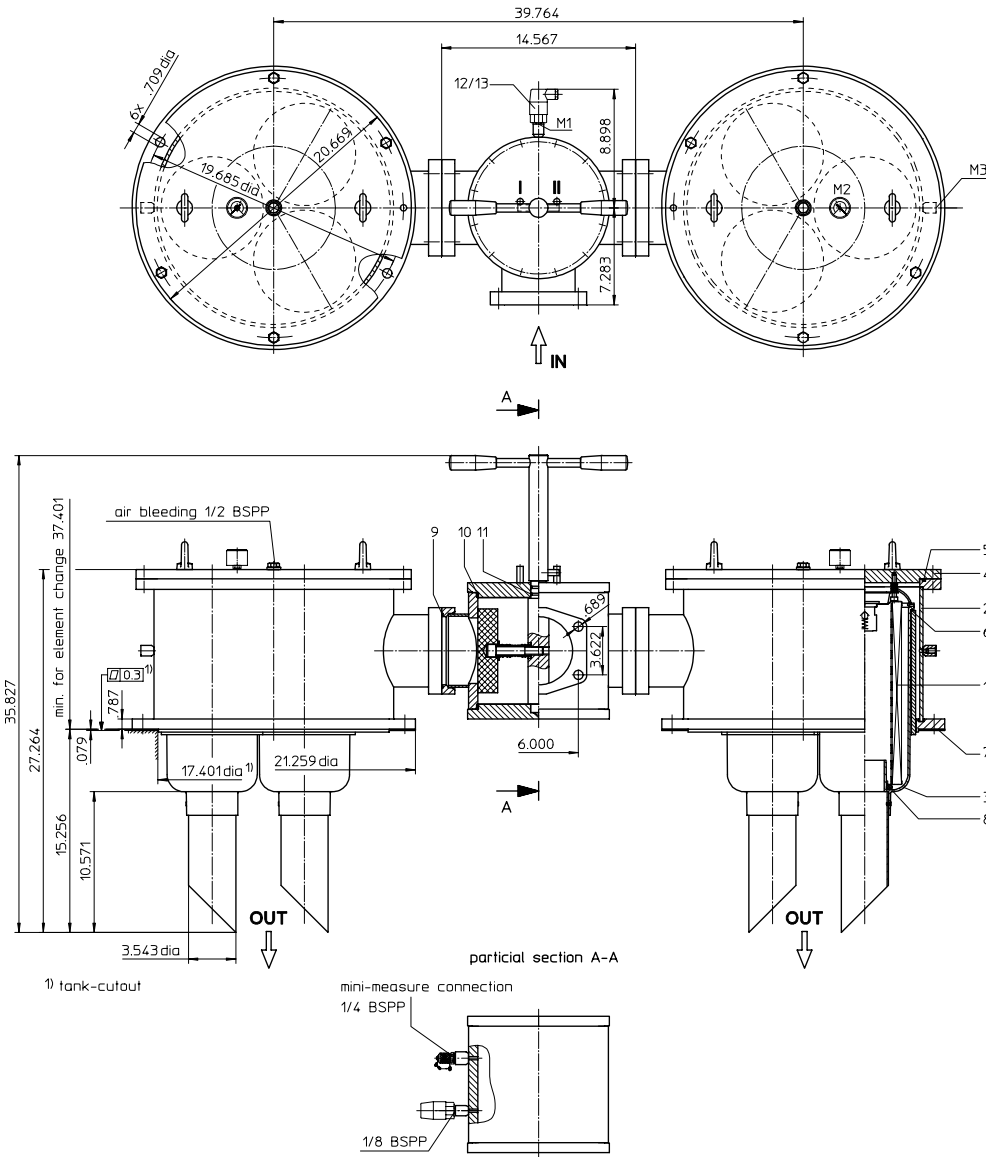
|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|

- |   |  |
|---|--|
| 1 | <b>series:</b><br>01E. = filter element according to INTERNORMEN factory specification |
| 2 | <b>nominal size:</b> 950   |
| 3 | - 7   see Type index-complete filter   |

**2. Accessories:**

- measure- and bleeder connection, see sheet-no. 1650
- evacuation and bleeder-connection, see sheet-no. 1651
- counter flange, see sheet-no. 1652

weight: approx. 605 lbs.  
Changes of measures and design are subject to alteration!



Position I: left filter-side in operation  
Position II: right filter-side in operation

### 3. Spare parts:

| item | qty. | designation                 | dimension     | article-no         |              |
|------|------|-----------------------------|---------------|--------------------|--------------|
| 1    | 6    | filter element              | 01E.950       |                    |              |
| 2    | 2    | filter head <sup>1)</sup>   |               | 313295             |              |
| 3    | 6    | filter bowl <sup>1)</sup>   |               | 327461             |              |
| 4    | 2    | filter cover <sup>1)</sup>  |               |                    |              |
| 5    | 2    | O-ring                      | 455 x 5       | 314742 (NBR)       | 314741 (FPM) |
| 6    | 6    | O-ring                      | 170 x 6       | 304799 (NBR)       | 306529 (FPM) |
| 7    | 2    | gasket                      | 540 x 441 x 2 | 313293 (NBR)       | 317461 (FPM) |
| 8    | 6    | O-ring                      | 78 x 10       | 305017 (NBR)       | 305552 (FPM) |
| 9    | 2    | O-ring                      | 136,12 x 3,53 | 320162 (NBR)       | 320163 (FPM) |
| 10   | 2    | O-ring                      | 225 x 5       | 308652 (NBR)       | 311473 (FPM) |
| 11   | 2    | O-ring                      | 24 x 3        | 303038 (NBR)       | 304397 (FPM) |
| 12   | 1    | pressure switch, electrical | E1, E2 or E5  | see sheet-no. 1616 |              |
| 13   | 1    | clogging indicator, visual  | O             | 301721             |              |

<sup>1)</sup> in case of ordering these spare parts use the complete type index

### 4. Description:

Return-line filters change-over in the DTEF series are suitable for a working pressure up to 145 PSI. Pressure peaks will be absorbed by a sufficient margin of safety. The DTEF-filters are directly mounted to the reservoir and connected to the return-line. A rotary slide valve which is integrated in the middle of the housing makes it possible to switch from the dirty filter-side to the clean filter-side without interrupting operation.

The filter element consists of a star-shaped, pleated filter material which is supported on the inside by a perforated core tube and is bonded to the end caps with a high-quality adhesive. The flow is from outside to inside. Filters finer than 40 µm should use throw-away elements made of paper or Interpor fleece (glass fiber). Filter elements as fine as 5 µm<sub>0</sub> are available; finer filter elements on request.

INTERNORMEN-Filters can be used for petroleum-based fluids, HW emulsions, water glycols, most synthetic fluids and lubrication fluids. Consult factory for specific fluid applications.

INTERNORMEN-Filters elements are known as stable elements which have excellent filtration capabilities and a high dirt retaining capacity, therefore having a long service life. Due to its practical design, the return-line filter is easy to service.

When changing the filter element a detachable connection between the filter head and the filter bowl prevents a flow back of dirty oil into the tank.

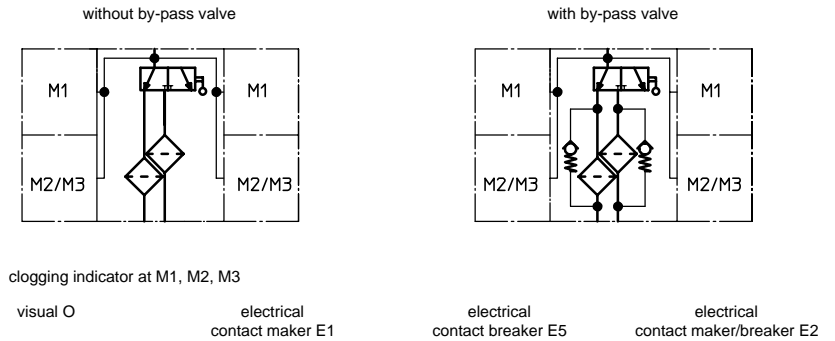
### 5. Technical data:

|                                 |  |
|---------------------------------|--|
| temperature range:              | + 14°F to + 176°F (for a short time + 212°F)             |
| operating medium:               | mineral oil, other media on request                      |
| max. operating pressure:        | 145 PSI  |
| opening pressure by-pass valve: | 29 PSI   |
| connection system:              | SAE-flange connection 3000 PSI                           |
| housing material:               | C-steel, glass fiber reinforced polyamide (filter bowl)  |
| sealing material:               | Nitrile (NBR) or Viton (FPM), other materials on request |
| installation position:          | vertical   |
| volume tank:                    | 2x 12.5 Gal.   |

Classified under the Pressure Equipment Directive 97/23/EC for mineral oil (fluid group 2), Article 3, Para. 3.

Classified under ATEX Directive 94/9/EC according to specific application (see questionnaire sheet-no. 34279-4).

### 6. Symbols:



**7. Pressure drop flow curves:** Precise flow rates see 'INT-Expert-System Filter', respectively Δp- curves; depending on filter fineness and viscosity.

### 8. Test methods:

Filter elements are tested according to the following ISO standards:

|           |   |
|-----------|---|
| ISO 2941  | Verification of collapse/burst resistance               |
| ISO 2942  | Verification of fabrication integrity                   |
| ISO 2943  | Verification of material compatibility with fluids      |
| ISO 3723  | Method for end load test                                |
| ISO 3724  | Verification of flow fatigue characteristics            |
| ISO 3968  | Evaluation of pressure drop versus flow characteristics |
| ISO 16889 | Multi-pass method for evaluating filtration performance |