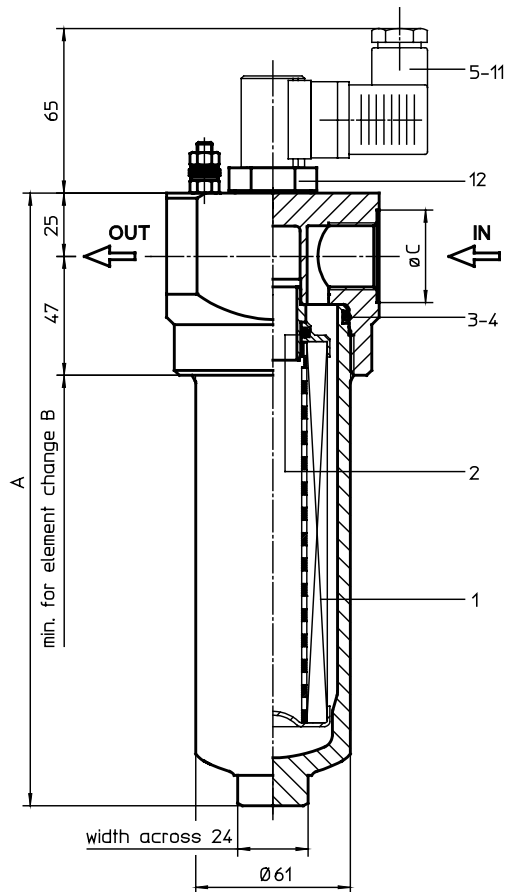


PRESSURE FILTER

Series MNL 40 - 100 DN 15 - 25 PN 160

Sheet No.
1427 F



connection for the potential equalisation only for application in the explosive area.

2. Dimensions:

| type | MNL 40 | MNL 63 | MNL100 |
|-------------|--------|--------|--------|
| connection | G ½ | G ¾ | G 1 |
| A | 182 | 242 | 332 |
| B | 210 | 270 | 360 |
| C | 30 | 36,5 | 46 |
| weight kg | 2,0 | 2,5 | 3,3 |
| volume tank | 0,25 l | 0,35 l | 0,55 l |

Connection assignments as shown in the table are standard according to DIN 24 550 T1. Are the connection assignments against DIN 24 550 T1, see item 9 of the type code.

1. Type index:

1.1. Complete filter: (ordering example)

MNL. 63. 10VG. HR. E. P. - . G. 4. - . - . AE

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

- 1 **series:**
MNL = standard in-line filter-medium pressure range according to DIN 24550 T1, T2
- 2 **nominal size:** 40, 63, 100
- 3 **filter-material and filter-fineness:**
80 G = 80 µm, 40 G = 40 µm, 25 G = 25µm
stainless steel wire mesh
25 VG = 20 µm_(c), 16 VG = 15 µm_(c), 10 VG = 10 µm_(c),
6 VG = 7 µm_(c), 3 VG = 5 µm_(c) Interpor fleece (glass fibre)
- 4 **resistance of pressure difference for filter element:**
30 = Δp 30 bar
HR = Δp 160 bar (rupture strength Δp 250 bar)
- 5 **filter element design:**
E = single-end open
- 6 **sealing material:**
P = Nitrile (NBR)
V = Viton (FPM)
- 7 **filter element specification:** (see catalog)
- = standard
VA = stainless steel
IS06 = see sheet-no. 31601
- 8 **connection:**
G = thread connection according to ISO 228
- 9 **connection size:**
3 = G ½
4 = G ¾
5 = G 1
- 10 **filter housing specification:** (see catalog)
- = standard
IS06 = see sheet-no. 31605
- 11 **internal valve:**
- = without
S1 = with by-pass valve Δp 3,5 bar
S2 = with by-pass valve Δp 7,0 bar
R = reversing valve, Q ≤ 70,06 l/min
- 12 **clogging indicator or clogging sensor:**
- = without
AOR = visual, see sheet-no. 1606
AOC = visual, see sheet-no. 1606
AE = visual-electrical, see sheet-no. 1615
VS1 = electronical, see sheet-no. 1617
VS2 = electronical, see sheet-no. 1618

1.2. Filter element: (ordering example)

01NL. 63. 10VG. HR. E. P. -

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

- 1 **series:**
01NL = standard filter element according to DIN 24550, T3
- 2 **nominal size:** 40, 63, 100
- 3 - 7 | see type index-complete filter

3. Spare parts:

| item | qty. | designation | dimension | | | article-no. | |
|------|------|--------------------------------------|-----------|--------------|----------|--------------------|--------------|
| | | | MNL 40 | MNL 63 | MNL 100 | | |
| 1 | 1 | filter element | 01NL.40 | 01NL.63 | 01NL.100 | | |
| 2 | 1 | O-ring | | 22 x 3,5 | | 304341 (NBR) | 304392 (FPM) |
| 3 | 1 | O-ring | | 54 x 3 | | 304657 (NBR) | 304720 (FPM) |
| 4 | 1 | support ring | | 60 x 2,6 x 1 | | 311779 | |
| 5 | 1 | clogging indicator visual | | AOR or AOC | | see sheet-no. 1606 | |
| 6 | 1 | clogging indicator visual-electrical | | AE | | see sheet-no. 1615 | |
| 7 | 1 | clogging sensor electrical | | VS1 | | see sheet-no. 1617 | |
| 8 | 1 | clogging sensor electrical | | VS2 | | see sheet-no. 1618 | |
| 9 | 1 | O-ring | | 15 x 1,5 | | 315357 (NBR) | 315427 (FPM) |
| 10 | 1 | O-ring | | 22 x 2 | | 304708 (NBR) | 304721 (FPM) |
| 11 | 1 | O-ring | | 14 x 2 | | 304342 (NBR) | 304722 (FPM) |
| 12 | 1 | screw plug | | 20913-4 | | 309817 | |

item 12 execution only without clogging indicator or clogging sensor

4. Description:

The pressure filters of the series MNL 40-100 are suitable for a working pressure up to 160 bar and equipped with elements according to DIN 24 550 T3.

The pressure peaks are absorbed by a sufficient margin of safety. The MNL-filter is in-line mounted.

The filter element consists of 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 direction is from outside to the inside. Filter elements are available down to 4 $\mu\text{m}_{(c)}$.

INTERNORMEN-Filter elements are known as elements with a high intrinsic stability and an excellent filtration capability, a high dirt-retaining capacity and a long service life.

INTERNORMEN-Filter are suitable for all petroleum based fluids, HW-emulsions, most synthetic hydraulic fluids and lubrication oils.

INTERNORMEN-Filter elements are available up to a pressure difference resistance of Δp 160 bar and a rupture strength of Δp 250 bar.

The internal valves are integrated into the centering pivot for the filter element.

After reaching the opening pressure the by-pass valve causes that an unfiltered partial flow passes the filter. With the reverse valve a protection of the filter element is given when having a reverse flow inside the filter. The reverse flow will not be filtered.

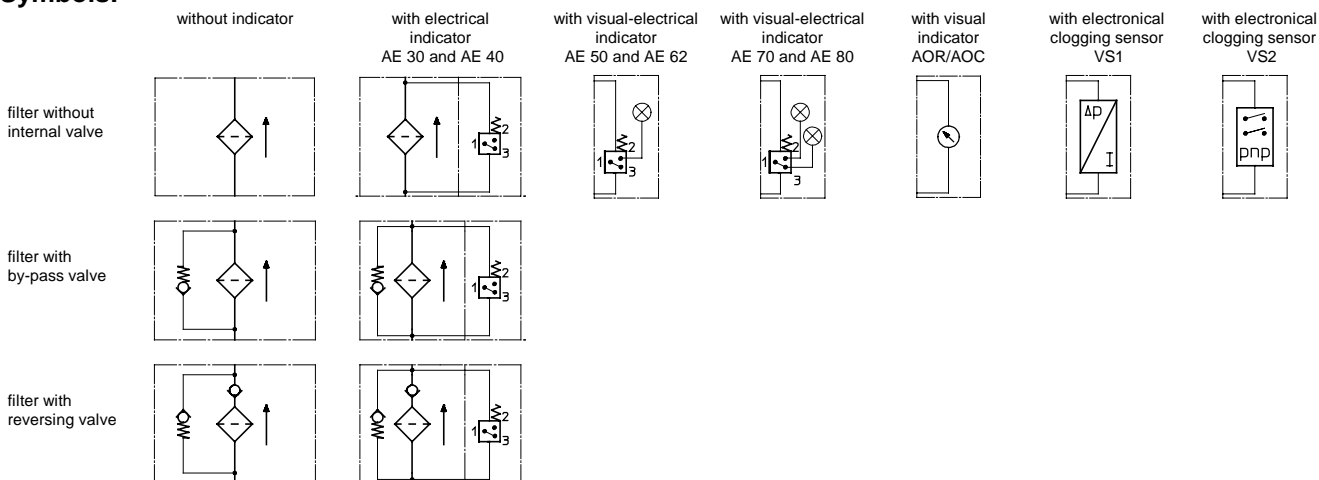
5. Technical data:

| | |
|--------------------------|--|
| temperature range: | -10°C to + 80°C (for a short time + 100°C) |
| operating medium: | mineral oil, other media on request |
| max. operating pressure: | 160 bar |
| test pressure: | 229 bar |
| connection system: | thread connection according to ISO 228 |
| housing material: | aluminium forging alloy; C-steel |
| sealing material: | Nitrile (NBR) or Viton (FPM), other materials on request |
| installation position: | vertical |

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 |