Suction return line filter
Pi 550
Nominal pressure 10 bar, nominal size 100

1. Features

High-performance filters for modern stationary and mobile hydraulic systems

- Provided for tank top installation
- Very low overall height since suction and return line connections are very close together
- Minimum pressure drop through optimum flow design
- Electrical maintenance indicator
- Version with threaded connectors
- Service-friendly
- Equipped with highly efficient PS filter elements, with optional feeding filter stage
- Optional elements with filtration of the feeding volume flow available
- Beta rated elements according to ISO 16889 multipass test
- High dirt holding capacity thanks to large filter surface
- Worldwide distribution
2. Flow rate/pressure drop curves complete filter

\[ y = \text{differential pressure } \Delta p \, [\text{bar}] \]
\[ x = \text{flow rate } V \, [\text{l/min}] \]

3. Separation grade characteristics

\[ y = \text{beta value} \]
\[ x = \text{particle size } [\mu \text{m}] \]

determined by multipass tests (ISO 16889)
calibration in accordance with ISO 11171 (NIST)

4. Filter performance data
tested in accordance with ISO 16889 (multipass test)

PS elements with max. \( \Delta p \) 20 bar

- PS \( 3 \beta_{50C} \geq 200 \)
- PS \( 6 \beta_{50C} \geq 200 \)
- PS \( 10 \beta_{50C} \geq 200 \)
- PS \( 16 \beta_{50C} \geq 200 \)
- PS \( 25 \beta_{20C} \geq 200 \)

up to 10 bar differential pressure up to 20 bar differential pressure

5. Quality assurance

FGC filters and filter elements are manufactured and/or tested in compliance with the following international standards:

<table>
<thead>
<tr>
<th>Norm</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIN ISO 2941</td>
<td>Hydraulic fluid power filter elements; verification of collapse/burst resistance</td>
</tr>
<tr>
<td>DIN ISO 2942</td>
<td>Hydraulic fluid power filter elements; verification of fabrication integrity</td>
</tr>
<tr>
<td>DIN ISO 2943</td>
<td>Hydraulic fluid power filter elements; verification of material compatibility with fluids</td>
</tr>
<tr>
<td>DIN ISO 3723</td>
<td>Hydraulic fluid power filter elements; method for end load test</td>
</tr>
<tr>
<td>DIN ISO 3724</td>
<td>Hydraulic fluid power filter elements; verification of flow fatigue characteristics</td>
</tr>
<tr>
<td>ISO 3968</td>
<td>Hydraulic fluid power-filters-evaluation of pressure drop versus flow characteristics</td>
</tr>
<tr>
<td>ISO 10771.1</td>
<td>Fatigue pressure testing of metal containing envelopes in hydraulic fluid applications</td>
</tr>
<tr>
<td>ISO 16889</td>
<td>Hydraulic fluid power filters-multipass method for evaluating filtration performance of a filter element</td>
</tr>
</tbody>
</table>
6. Symbols

V1 = bypass valve
V2 = preloaded valve
V3 = feeding valve

7. Order numbers

Example for ordering filters:

1. Filter housing  
   V=100 l/min  
   Type: Pi 55010/01/-200  
   Order number: 72338649

2. Filter element  
   Type: Pi 852 101 PS 10 DRG  
   Order number: 70530136

7.1 Housing design

<table>
<thead>
<tr>
<th>Nominal size NG [l/min]</th>
<th>Order number</th>
<th>Types</th>
<th>① without DS</th>
<th>② DSO</th>
<th>③ DSS</th>
<th>④ DSO/USO</th>
<th>⑤ DSS/USS</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>72338649</td>
<td>Pi 55010/01/-200</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
</tr>
<tr>
<td></td>
<td>72338651</td>
<td>Pi 55010/01/-201</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
</tr>
<tr>
<td></td>
<td>72338652</td>
<td>Pi 55010/01/-202</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
</tr>
<tr>
<td></td>
<td>72338654</td>
<td>Pi 55010/01/-203</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
</tr>
<tr>
<td></td>
<td>72338655</td>
<td>Pi 55010/01/-204</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
</tr>
</tbody>
</table>

All versions with bypass valve 3.5 bar, preloaded valve 0.5 bar and feeding valve

DSO Pressure switch normally closed $\Delta p$ 2.2 bar  
DSS Pressure switch normally open $\Delta p$ 2.2 bar  
USO Ported vacuum switch normally closed $\Delta p$ 0.2 bar  
USS Ported vacuum switch normally open $\Delta p$ 0.2 bar

7.2 Filter elements (other element versions on request)

<table>
<thead>
<tr>
<th>Nominal size NG [l/min]</th>
<th>Order number</th>
<th>Type designation</th>
<th>Filter material</th>
<th>max. $\Delta p$ [bar]</th>
<th>Filter surface [cm²]</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>72397561</td>
<td>852 101 PS 3</td>
<td>PS 3</td>
<td>10</td>
<td>1800</td>
</tr>
<tr>
<td></td>
<td>72397562</td>
<td>852 101 PS 6</td>
<td>PS 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70530086</td>
<td>852 101 PS 10</td>
<td>PS 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70530087</td>
<td>852 101 PS 16</td>
<td>PS 16</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>72397563</td>
<td>852 101 PS 25</td>
<td>PS 25</td>
<td>10</td>
<td>1800</td>
</tr>
<tr>
<td></td>
<td>72397565</td>
<td>852 101 PS 3 DRG</td>
<td>PS 3 DRG</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>72397566</td>
<td>852 101 PS 6 DRG</td>
<td>PS 6 DRG</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70530136</td>
<td>852 101 PS 10 DRG</td>
<td>PS 10 DRG</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70530137</td>
<td>852 101 PS 16 DRG</td>
<td>PS 16 DRG</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>72397567</td>
<td>852 101 PS 25 DRG</td>
<td>PS 25 DRG</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8. Technical data

Design:
Nominal pressure Pi 55010
Test pressure Pi 55010
Temperature range:

-30 °C to +100 °C
(temperatures other than -10 °C to +100 °C on request)

Charging pressure:
Switching pressure vacuum switch:
Switching pressure dynamic pressure switch:
Bypass opening pressure:
Filter head material:
Filter housing material:
Sealing material:

<table>
<thead>
<tr>
<th></th>
<th>Suction return line filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 bar</td>
<td>15 bar</td>
</tr>
</tbody>
</table>

We draw attention to the fact that all values indicated are average values. Our products are continually being further developed. Values, dimensions and weights can change as a result of this. Our specialist department would be pleased to offer you advice.

We recommend you contact us concerning applications for our filters in areas governed by the EU Directive 94/9 EC (ATEX 95). The standard version can be used for liquids based on mineral oil (corresponding to the fluids in Group 2 of Directive 97/23 EC Article 9). Please contact us if you intend using other media.

Subject to technical alteration without notice.

9. Dimensions

C = dismantling height required 220 mm
DS = pressure switch
US = vacuum switch
In = inlet G1
M = marking for housing installation
S = suction connection G1
V1 = bypass valve
V2 = preloaded valve
V3 = feeding valve

Suction return line filter Pi 550 up to NG 100
10. Installation, operating and maintenance instructions

10.1 Filter installation
When installing the filter, make sure that
a) sufficient space is available to remove the filter element and the filter housing,
b) the filter mounting hole in the tank top is not excessively large, to ensure proper sealing,
c) the filter is free of tension after installation. Preferably the filter should be installed with the filter housing pointing downwards. In this position the optical dynamic pressure indicator is accessible and visible.

10.2 Connection of the electrical dynamic pressure indicator
The electrical dynamic pressure indicator is connected via a blade terminal 2x6.3x0.8. The electrical vacuum pressure switch is connected via a blade terminal 2x6.3x0.8.

10.3 When must the filter element be replaced?
1. Filters equipped with electrical dynamic pressure indicator: There may be an electrical signal during cold starts. If the electrical signal does not go out at operating temperature, the filter element has to be replaced after the end of the shift.
2. Filters without dynamic pressure indicator: The filter element should be replaced after the trial run or flushing of the system. Afterwards follow the manufacturer’s instructions.
3. Always make sure you have original FGC spare elements in stock. Disposable elements (PS and Mic) cannot be cleaned.

10.4 Element replacement
1. Stop the system and relieve the filter from pressure.
2. Unscrew the filter housing by turning counter-clockwise.
3. Pull the filter housing with element upwards and out.
4. Remove the filter element by moving it gently backwards and forwards.
5. Clean the filter housing with a suitable medium.
6. Check the O-rings on the filter cover and the filter housing for damage. Replace these if necessary.
7. Make sure that the order number on the spare element corresponds to the order number on the filter name plate.
8. Remove the filter element from the plastic sleeve and reassemble the filter in reverse order (points 1-4).

11. Spare parts list

<table>
<thead>
<tr>
<th>Position</th>
<th>Designation</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Seal kit for housing</td>
<td>72355714</td>
</tr>
<tr>
<td></td>
<td>NBR</td>
<td>72355715</td>
</tr>
<tr>
<td></td>
<td>Fluororubber</td>
<td>72355716</td>
</tr>
</tbody>
</table>

Suction return line filter Pi 550 up to NG 100