1. TECHNICAL SPECIFICATIONS

1.1 FILTER HOUSING

Construction
The filter housings are designed in accordance with international regulations. They consist of a cover plate, filter head and housing tube. The element is top-removable. These filters can be installed horizontally below the oil level. Standard equipment:

- mounting holes on the filter head
- magnetic core built into cover plate
- foot valve
- connection for a clogging indicator in filter head

1.2 FILTER ELEMENTS

HYDAC filter elements are validated and their quality is constantly monitored according to the following standards:

- ISO 2941
- ISO 2942
- ISO 2943
- ISO 3724
- ISO 3968
- ISO 11170
- ISO 16889

Contamination retention capacities in g for 0.5 bar

<table>
<thead>
<tr>
<th>SFAR</th>
<th>Polyester (PE)</th>
<th>Wire mesh (WR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>10 µm (nominal)</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>15.5</td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>23.2</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>27.5</td>
<td></td>
</tr>
<tr>
<td>250</td>
<td>30.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>42.7</td>
<td></td>
</tr>
</tbody>
</table>

Filter elements are available with the following pressure stability values:

- Polyester (PE): 6 bar
- Wire mesh (WR): 6 bar

Other filtration ratings on request.

1.4 FILTER SPECIFICATIONS

<table>
<thead>
<tr>
<th></th>
<th>-30 °C to +100 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material of housing tube</td>
<td>SFAR 100, 150, 180: PA6 – GF30</td>
</tr>
<tr>
<td></td>
<td>SFAR 200, 250: Steel DIN EN 10130-PE P04 A</td>
</tr>
<tr>
<td>Material of filter head</td>
<td>SFAR 100, 150: Die-cast EN AC 43300 - F</td>
</tr>
<tr>
<td></td>
<td>SFAR 180, 200, 250: Chill-cast EN AC 43300-F</td>
</tr>
<tr>
<td>Material of cover</td>
<td>PA6 – GF30</td>
</tr>
<tr>
<td>Type of clogging indicator</td>
<td>VMFR – Connection thread G 1/8</td>
</tr>
<tr>
<td>Pressure setting of the clogging indicator</td>
<td>-0.25 bar (others on request)</td>
</tr>
</tbody>
</table>

1.4 SEALS

NBR (=Perbunan)

1.5 INSTALLATION

Tank-top filter

1.6 SPECIAL MODELS AND ACCESSORIES

- without port, no clogging indicator
- without magnetic core

1.7 SPARE PARTS

See Original Spare Parts List

1.8 CERTIFICATES AND APPROVALS

Test certificate 2.2
Other approvals on request

1.9 COMPATIBILITY WITH HYDRAULIC FLUIDS ISO 2943

- Hydraulic oils H to HLPD DIN 51524
- Lubrication oils DIN 51517, API, ACEA, DIN 51515, ISO 6743
- Compressor oils DIN 51506
- Biodegradable operating fluids VDMA 24568 HETG, HEES, HEPG

1.10 IMPORTANT INFORMATION

- Filter housings must be earthed.
- When using electrical clogging indicators, the electrical power supply to the system must be switched off before removing the clogging indicator connector.

Symbol for hydraulic systems

VA = clogging indicator
### 2. MODEL CODE (also order example)

#### 2.1 COMPLETE FILTER

<table>
<thead>
<tr>
<th>Filter type</th>
<th>SFAR PE 180 W Z F 10 W 1.0 /V</th>
</tr>
</thead>
</table>

**Filter type**
- SFAR

**Filter material**
- PE Polyester
- WR Wire mesh

**Size of filter or element**
- SFAR: 100, 150, 180, 200, 250

**Operating pressure**
- W suction operation

**Additional connection options multiport head**

<table>
<thead>
<tr>
<th>Type</th>
<th>Connection</th>
<th>Filter size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>to customer spec.</td>
<td></td>
</tr>
</tbody>
</table>

**Type and size of connection**

<table>
<thead>
<tr>
<th>Type</th>
<th>Connection</th>
<th>Filter size</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>G 1 1/4</td>
<td>10 150 180 200 250</td>
</tr>
<tr>
<td>F</td>
<td>G 1 1/2</td>
<td>10 150 180 200 250</td>
</tr>
</tbody>
</table>

**Filtration rating in µm**
- PE: 10
- WR: 100

**Type of clogging indicator**
- W without port, no clogging indicator
- A steel blanking plug in indicator port
- UE vacuum gauge for other clogging indicators
- UF vacuum switch see brochure no. 7.050../..

**Type code**
- 0 without indicator port, no clogging indicator
- 1-4 see Point 2.5

**Modification number**
- X the latest version is always supplied

**Supplementary details**
- V FPM seals
- OM without magnetic core
- MPx Multiport head only for SFAR 180, 200, 250 (see Point 2.4)

#### 2.2 REPLACEMENT ELEMENT

<table>
<thead>
<tr>
<th>Size</th>
<th>0100, 0150, 0180, 0200, 0250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>RS</td>
</tr>
</tbody>
</table>

**Filtration rating in µm**
- PE: 010
- WR: 100

**Filter material**
- PE, WR

**Supplementary details**
- V (for descriptions, see Point 2.1)

#### 2.3 REPLACEMENT CLOGGING INDICATOR

<table>
<thead>
<tr>
<th>Type</th>
<th>VMF 1 UE . X /V</th>
</tr>
</thead>
</table>

**Type**
- VMF Thread G 1/8 (SFAR 100, 150)*

**Pressure setting**
- 1 1 bar (for type UE)
- 0.2 0.2 bar (for type UF)

**Type of clogging indicator**
(see Point 2.1)

**Modification number**
- X the latest version is always supplied

**Supplementary details**
- V (for descriptions, see Point 2.1)
- * for SFAR 180, 200 and 250 on request
2.4 PORT CONFIGURATION
SFAR 180, 200, 250
Since there are numerous options for machining the ports on the head of the SFAR 180-250, the code WZF is selected here as standard. In order to determine the position and size of the ports, an MPF, MPI or MPL code is added as a supplementary detail. These three connection options are preferred types, please contact us to discuss other options.

Example:
SFAR PE 200 WZF 10 W 0.0 /-MPI

2.5 TYPE CODE
SFAR 100, 150

SFAR 180, 200, 250

MPF
S1: Connection G1½
S2: Connection G1
S3: Connection G1½
S4: Connection G1

MPI
S1: Connection G1½
S2: Connection G1¼
S3: Connection G1½
S4: Connection G1¼

MPL
S1: Connection G1½
S2: Connection G1
S3: Connection SAE DN 50
S4: Connection G1

<table>
<thead>
<tr>
<th>Type code</th>
<th>Mounting position of clogging indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.x</td>
<td>Plain, undrilled</td>
</tr>
<tr>
<td>1.x</td>
<td>To right of filter outlet</td>
</tr>
<tr>
<td>2.x</td>
<td>Opposite filter outlet</td>
</tr>
<tr>
<td>3.x</td>
<td>To left of filter outlet</td>
</tr>
<tr>
<td>4.x</td>
<td>All positions with G 1/8 port and with blanking plug in ports</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type code</th>
<th>Mounting position of clogging indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.x*</td>
<td>All undrilled</td>
</tr>
<tr>
<td>1.x*</td>
<td>A = G 1/4; B = G 3/8; C = G 3/8; D = G 3/8</td>
</tr>
<tr>
<td>2.x*</td>
<td>A = G 3/8; B = G 3/8; C = G 1/4; D = G 3/8</td>
</tr>
<tr>
<td>3.x</td>
<td>A = G 3/8; B = G 3/8; C = G 3/8; B and D undrilled</td>
</tr>
<tr>
<td>4.x</td>
<td>All positions with G 1/8 port and with blanking plug in ports</td>
</tr>
</tbody>
</table>

* Preferred range
3. FILTER CALCULATION / SIZING

3.1 GRAPHS FOR COMPLETE FILTER
The total pressure drop graphs apply to mineral oil with a density of 0.86 kg/dm³ and a kinematic viscosity of 30 mm²/s.

SFAR 100: PE

![Graph for SFAR 100: PE](image)

- ∆p [bar]
- Q [l/min]

SFAR 150: PE

![Graph for SFAR 150: PE](image)

- ∆p [bar]
- Q [l/min]

SFAR 180: PE

![Graph for SFAR 180: PE](image)

- ∆p [bar]
- Q [l/min]

SFAR 200: PE

![Graph for SFAR 200: PE](image)

- ∆p [bar]
- Q [l/min]

SFAR 250: PE

![Graph for SFAR 250: PE](image)

- ∆p [bar]
- Q [l/min]

4. DIMENSIONS

SFAR 100 – 150

![Dimensions Diagram for SFAR 100 – 150](image)

<table>
<thead>
<tr>
<th>Type</th>
<th>A</th>
<th>C</th>
<th>Weight incl. element [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFAR 100</td>
<td>274</td>
<td>250</td>
<td>1.8</td>
</tr>
<tr>
<td>SFAR 150</td>
<td>354</td>
<td>330</td>
<td>2.1</td>
</tr>
</tbody>
</table>
SFAR 180 – 250

<table>
<thead>
<tr>
<th>Type</th>
<th>a</th>
<th>B</th>
<th>C</th>
<th>Weight incl. element [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFAR 180</td>
<td>404</td>
<td>396</td>
<td>520</td>
<td>3.63</td>
</tr>
<tr>
<td>SFAR 200</td>
<td>441</td>
<td>429</td>
<td>580</td>
<td>4.68</td>
</tr>
<tr>
<td>SFAR 250</td>
<td>583</td>
<td>571</td>
<td>690</td>
<td>5.38</td>
</tr>
</tbody>
</table>
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.