1. Maintenance

1.1 General
Please follow the maintenance instructions.

1.2 Installation
Before installing the filter into the system, check that the operating pressure of the system does not exceed the permitted operating pressure of the filter. Refer to the type code label on the filter.

1.3 Commissioning
Check that the correct filter cartridge(s) is/are screwed on firmly.

1.4 Maintenance Tools
Strap wrench

1.5 Torque Values For Clogging Indicators

<table>
<thead>
<tr>
<th>Type</th>
<th>Torque Nm[ft-lb]</th>
</tr>
</thead>
<tbody>
<tr>
<td>VMF</td>
<td>10 [7.4] or use Loctite 542 or equivalent for indicator installation</td>
</tr>
</tbody>
</table>

Filter cartridge type MA:
2. Lubricate seal and install on the filter head.
3. Screw on the cartridge until contact is made with the sealing surface – then tighten by hand by another half to full turn. (Consult the instructions printed on the cartridge for specifics regarding cartridge sizes.)
4. Do not overtighten.

Filter Cartridge Type MG:
1. Unscrew filter cartridge counterclockwise using a strap wrench.
2. Lubricate seal and install on the filter cartridge.
3. Screw on the cartridge until contact is made with the sealing surface – then tighten by hand by another half to full turn. (Consult the instructions printed on the cartridge for specifics regarding cartridge sizes.)
4. Do not overtighten.

NOTE:
Contamination or incomplete pressure release on disassembly can lead to seizing of the bowl thread.
Filter elements which cannot be cleaned must be disposed of in accordance with environmental protection regulations.

Seal on MA version
Note:
On this version, the seal must be installed on the filter head.

Seal on MG version
Note:
On this version, the seal must be installed on the filter cartridge.
FILTER MAINTENANCE

3. Spare Parts

3.1 MF

### 3.2 SPARE PARTS LIST MF

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>80/85</th>
<th>90/95</th>
<th>160/180/190/195</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Refer to model code breakdown on Pg 4.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Seal Kit (note, seals are included with replacement cartridge)</td>
<td>N/A – seal integral to cartridge</td>
<td>N/A – seal integral to cartridge</td>
<td>3132212</td>
</tr>
<tr>
<td>3</td>
<td>Head Assembly – consult HYDAC for part number. Please provide complete filter assembly model code.</td>
<td>HEAD ASS’Y MF80GXX……</td>
<td>HEAD ASS’Y MF90GXX……</td>
<td>HEAD ASS’Y MF160GXX…… or HEAD ASS’Y MF190GXX……</td>
</tr>
</tbody>
</table>

Buna seals only.
Size 190 uses 0160 MA cartridge, size 195 uses 0180 MA cartridge.
3.3 MFD/MFDS

3.4 SPARE PARTS LIST MFD/MFDS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>MFD</th>
<th>MFDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Refer to model code breakdown on Pg 4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Seal Kit (note, seals are included with replacement cartridge)</td>
<td>3132212, two kits required</td>
<td>2070531 (head seal kit) &amp; 3132212 (cartridge seal kit, two kits required)</td>
</tr>
<tr>
<td>3</td>
<td>Head Assembly – consult HYDAC for part number. Please provide complete filter assembly model code.</td>
<td>HEAD ASS’Y MFD160GXX……</td>
<td>HEAD ASS’Y MFDS160GFXX…… or HEAD ASS’Y MFDS190GFXX……</td>
</tr>
</tbody>
</table>

Buna seals only.
Size 190 uses 0160 MA cartridge, size 195 uses 0180 MA cartridge.
4. Replacement Element Model Code

**Size**
- 0040, 0080 - *(not available with 3 µm BN elements)*
- 0085 - *(available only with 10 µm P elements)*
- 0090 - *(not available in 3 µm or 25 µm P medias)*
- 0095 - *(not available with 20 µm BN or 25 µm P elements)*
- 0160, 0180 - *(available in all medias)*

**Filtration Rating (microns)**
- 3, 5, 10, 20 = BN
- 10 = AM *(not available with size 0085)*

**Element Media**
- BN, P, AM

**Supplementary Details**
- Bypass settings for element 0040 only *(bypass valve is inside element can)*
- B1.3 = 18 PSID Bypass (P)
- B1.7 = 25 PSID Bypass (BN)

*(Spin-on elements available with NBR seals only)*

5. Clogging Indicator Model Code

**Indicator Prefix**
- VMF = Static *(sizes 80/85/160/180)*
- B = Differential *(sizes 90/95/190/195)*

**Trip Pressure**
- 1.4 = 20 psid (1.4 bar) standard
- 1.7 = 25 psid (1.7 bar) *(optional)*
- 2.7 = 40 psid (2.7 bar) *(optional)*
- 1,420 = 13 psid (1 bar)
- 1,5420 = 22 psid (1.5 bar)
- 3,420 = 44 psid (3 bar)

**Type of Indicator**
- A = No indicator - all available with plugged port
- B MF = Pop-up indicator *(auto reset)* *(∆P - sz. MF 90/95, 190/195, MFDS 190/195)*
- C MF = Single terminal electric switch *(∆P - sz. MF 90/95, 190/195, MFDS 190/195)*
- C = 2 terminal electric switch *(Static - sz. MF 80/85, 160/180)*
- E = Visual Pressure Gauge *(Static - sz. MF 80/85, 160/180)*
- ES = Visual Pressure Gauge *(port bottom)* *(Static - sz. MF 80/85, 160/180)*
- LE MF = Electric switch & Pop-up *(∆P - sz. MF 90/95, 190/195, MFDS 190/195)*

**Modification Number**

**Seals**
- (omit) = Nitrile rubber (NBR) *(standard)*
- 3 = NPT port adapter

*(For additional details and options, see Section G - Clogging Indicators of the HYDAC Filter catalog.)*
6. Maintenance Instructions

6.1 User Instructions for Filters

This symbol is followed by user tips and particularly useful information.

- This pressure equipment must only be put into operation in conjunction with a machine or system.
- The pressure equipment must only be used as stipulated in the operating instructions of the machine or system.
- This pressure equipment must only be operated using hydraulic or lubricating fluid.
- It is the responsibility of the operator to comply with the water regulations of the country concerned.

This symbol denotes safety precautions, the non-observance of which can endanger persons and the environment.

CAUTION
- The user must take appropriate action (e.g. venting) to prevent the formation of air pockets.
- Repairs, maintenance work and commissioning must only be carried out by trained personnel.
- Allow the pressure equipment to cool before handling.
- The stipulations of the operating instructions of the machine or the system must be followed.
- Statutory accident prevention regulations, safety regulations and safety data sheets for fluids must be observed.
- Filter housing must be grounded.
- When working on, or in the vicinity of, hydraulic systems, open flames, sparks and smoking are forbidden.
- Hydraulic oils and water-polluting fluids must not be allowed to enter the soil or watercourses or sewer systems. Please ensure safe and environmentally friendly disposal of hydraulic oils. The relevant regulations in the country concerned with regard to ground water pollution, used oil and waste must be complied with.
- Whenever work is carried out on the filter, be prepared for hot oil to escape which can cause injury or scalding as a result of its high pressure or temperature.

DANGER!
- Caution: pressure equipment! Before any work is carried out on the pressure equipment, ensure the pressure chamber concerned (filter housing) is depressurized.
- On no account must any modifications (welding, drilling, opening by force...) be carried out on the pressure equipment.
- When using electrical clogging indicators, the electrical power supply to the system must be switched off before removing the clogging indicator connector.

6.2 Maintenance, General

This section describes maintenance work which must be carried out periodically. The operational safety and life expectancy of the filter, and whether it is ready for use, depend to a large extent on regular and careful maintenance.

6.3 Maintenance Measures

- Spare parts must fulfil the technical requirements specified by the manufacturer.
- This is always ensured when using original HYDAC spare parts.
- Keep tools, working area and equipment clean.
- After disassembling the filter, clean all parts, check for damage or wear and replace parts if necessary.
- When changing a filter element, a high level of cleanliness must be observed.

6.4 Interval Between Cartridge Changes

In principle we recommend that the filter element is changed every 6 months or upon indication, whichever occurs first. We recommend installing the filter with a clogging indicator (pressure gauge/ pressure switch or vacuum gauge/ vacuum switch) to monitor the filter element. If the clogging indicator responds, it is necessary to change the filter cartridge. If the pressure gauge indicates 2 bar (or the vacuum pressure switch 0.2 bar), it is also necessary to change the filter cartridge.

Customer Information in respect of Machinery Directive 2006/42/EC

Hydraulic filters are defined as fluid power parts / components and are therefore excluded from the scope of the Machinery Directive, sections 1.4.1 - 1.4.3. They do not bear the CE mark.

Before using these components, ensure compliance with the specifications provided by HYDAC Technology Corporation. The specifications also contain information on the relevant essential health and safety requirements (based on Machinery Directive 2006/42/EC).

We hereby declare that the filters are intended to be incorporated into machinery within the terms of the Directive 2006/42/EC. It is prohibited to put the filters into service until the machinery as a whole is in conformity with the provisions of the Machinery Directive.

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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.
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