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 element is installed. Install lid/cover plate, screw in cover plate bolts alternately (except RFN 40-100: screw in cover plate manually).

Switch on the hydraulic system and check filter for leakage. Vent filter at an appropriate point in the system.

1.4 Maintenance Tools

<table>
<thead>
<tr>
<th>Size</th>
<th>Torque value Nm [ft-lb]</th>
<th>Cover plate bolts</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-100</td>
<td>Hand-tight</td>
<td>ISO 4017 Ext. hex. head wrench</td>
</tr>
<tr>
<td>160-630</td>
<td>35 [26]</td>
<td>Hex 18</td>
</tr>
</tbody>
</table>

1.5 Torque Values

<table>
<thead>
<tr>
<th>Type</th>
<th>Torque Nm[ft-lb]</th>
</tr>
</thead>
<tbody>
<tr>
<td>VR Clogging indicators</td>
<td>30 [22]</td>
</tr>
<tr>
<td>VMF Clogging indicators</td>
<td>15 [11]</td>
</tr>
</tbody>
</table>

2. Element Replacement

2.1 Element Removal
1. Switch off hydraulic system and release filter pressure.
2. **Size 40 - 100:** Unscrew cover plate manually
   Sizes 160 - 630: Loosen cover plate bolts and lift off the cover plate.
3. Pull filter element out using handle. Examine element surface for dirt residues and larger particles since these can be an indication of damage to components.
4. Replace filter element.
5. Clean housing and cover plate.
6. Examine filter, especially sealing surfaces, for mechanical damage.
7. Check O-rings – and replace if necessary

2.2 Element Installation
1. Wet the sealing surfaces on the filter housing and cover plate, as well as the O-ring, with clean operating fluid.
2. When installing a new filter element, check that the designation corresponds to that of the old element.
3. Place filter element carefully on to the element nozzle in the housing.
4. **Sizes 40 - 100:**
   Replace cover plate and screw in manually.
   Sizes 160 - 630:
   Replace cover plate and screw in cover plate bolts by hand; then tighten bolts alternately.
5. Switch on hydraulic system and vent filter at a suitable point in the system.
6. Check filter for leakage.

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.
### FILTER MAINTENANCE

#### 3. Spare Parts

**3.1 RFN 40 – 100**

<table>
<thead>
<tr>
<th>Item</th>
<th>Consists</th>
<th>Description</th>
<th>RFN 40</th>
<th>RFN 63</th>
<th>RFN 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Filter element</td>
<td>see Point 4. Replacement elements</td>
<td><img src="image1" alt="Filter element Image" /></td>
<td><img src="image2" alt="Filter element Image" /></td>
<td><img src="image3" alt="Filter element Image" /></td>
</tr>
<tr>
<td>1.1</td>
<td>Filter element</td>
<td>0040 RN...</td>
<td>0063 RN...</td>
<td>0100 RN...</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>O-ring</td>
<td>2 x 32.92 x 3.53</td>
<td>2 x 32.92 x 3.53</td>
<td>2 x 32.92 x 3.53</td>
<td></td>
</tr>
</tbody>
</table>

- **2. Clogging indicator** or indicator plug
  - See Point 5. Replacement clogging indicator VMF
  - ![Clogging Indicator Image](image4)

<table>
<thead>
<tr>
<th>Item</th>
<th>Consists</th>
<th>Description</th>
<th>RFN 40</th>
<th>RFN 63</th>
<th>RFN 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Indicator plug or Clogging indicator</td>
<td>VSTI G1/8</td>
<td>VSTI G1/8</td>
<td>VSTI G1/8</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Repair kit RFN /-V</td>
<td><img src="image5" alt="Repair Kit RFN Image" /></td>
<td><img src="image6" alt="Repair Kit RFN Image" /></td>
<td><img src="image7" alt="Repair Kit RFN Image" /></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>O-ring (element)</td>
<td>2 x 32.92 x 3.53</td>
<td>2 x 32.92 x 3.53</td>
<td>2 x 32.92 x 3.53</td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>O-ring (head)</td>
<td>71.12 x 2.62</td>
<td>71.12 x 2.62</td>
<td>71.12 x 2.62</td>
<td></td>
</tr>
<tr>
<td>3.3</td>
<td>Gasket</td>
<td>RFM 165</td>
<td>RFM 165</td>
<td>RFM 165</td>
<td></td>
</tr>
<tr>
<td>3.4</td>
<td>Indicator plug or Clogging indicator</td>
<td>VSTI G1/8 VMF...</td>
<td>VSTI G1/8 VMF...</td>
<td>VSTI G1/8 VMF...</td>
<td></td>
</tr>
<tr>
<td>3.5</td>
<td>Seal (cover plate)</td>
<td>RFM / RFN</td>
<td>RFM / RFN</td>
<td>RFM / RFN</td>
<td></td>
</tr>
<tr>
<td>3.6</td>
<td>Blanking plug</td>
<td>VSTI G3/4</td>
<td>VSTI G3/4</td>
<td>VSTI G3/4</td>
<td></td>
</tr>
<tr>
<td>3.7</td>
<td>Oil separator</td>
<td>RFM 165</td>
<td>RFM 165</td>
<td>RFM 165</td>
<td></td>
</tr>
</tbody>
</table>

**Other spare parts on request**
- O-Ring durometer can range from 70-80Sh. EPR Seal Kits available on request.
- Lid assembly kits on request - kits include complete lid with seals, vent plug (if present). Bolts not included.
### FILTER MAINTENANCE

#### 3.3 RFN 160 - 630

**FILTER MAINTENANCE**

- O-Ring durometer can range from 70-80Sh. EPR Seal Kits available on request.
- Lid assembly kits on request - kits include complete lid with seals, vent plug (if present). Bolts not included.

### 3.3 RFN 160 - 630

**Item** | **Description** | **RFN 160** | **RFN 250** | **RFN 400** | **RFN 630**
--- | --- | --- | --- | --- | ---
1. | Filter element | see Pt. 4. Replacement elements
   | 1.1 Filter element | 0160 RN... | 0250 RN... | 0400 RN... | 0630 RN... |
   | 1.2 O-ring | 2 x 53.34 x 5.33 | 2 x 53.34 x 5.33 | 2 x 69.22 x 5.33 | 2 x 69.22 x 5.33 |
2. | Clogging indicator or indicator plug | See Point 5. Replacement clogging indicator
   | 2.1 Indicator plug VR 0 A.0 VR 0 A.0 /-V | 00306006 00305928 | 00306006 00305928 | 00306006 00305928 | 00306006 00305928 |
   | 2.2 O-ring | 18 x 2.5 | 18 x 2.5 | 18 x 2.5 | 18 x 2.5 |
3. | Repair kit RFN Repair kit RFN /-V | 01261052 01261053 | 01261052 01261053 | 01261054 01261055 | 01261054 01261055 |
   | 3.1 O-ring (element) | 2 x 53.34 x 5.33 | 2 x 53.34 x 5.33 | 2 x 69.22 x 5.33 | 2 x 69.22 x 5.33 |
   | 3.2 O-ring (head) | 132.72 x 5.33 | 132.72 x 5.33 | 164.47 x 5.33 | 164.47 x 5.33 |
   | 3.3 O-ring (indicator) | 2 x 18 x 2.5 | 2 x 18 x 2.5 | 2 x 18 x 2.5 | 2 x 18 x 2.5 |
   | 3.4 Gasket | RFN 250 | RFN 250 | RF 660 Size 4 | RF 660 Size 4 |
   | 3.5 O-ring (cover plate) | 132.72 x 5.33 | 132.72 x 5.33 | 164.47 x 5.33 | 164.47 x 5.33 |

Other spare parts on request

- O-Ring durometer can range from 70-80Sh. EPR Seal Kits available on request.
- Lid assembly kits on request - kits include complete lid with seals, vent plug (if present). Bolts not included.
### 4. Replacement Element

<table>
<thead>
<tr>
<th>Size</th>
<th>0040, 0063, 0100, 0160, 0250, 0400, 0630</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>RN</td>
</tr>
<tr>
<td>Filtration rating</td>
<td>BN4HC 003, 006, 010, 025</td>
</tr>
<tr>
<td>Filter material</td>
<td>BN4HC</td>
</tr>
<tr>
<td>Supplementary details</td>
<td>V (For description see “RFN” brochure)</td>
</tr>
</tbody>
</table>

### 5. Replacement Clogging Indicator

<table>
<thead>
<tr>
<th>Type of indicator</th>
<th>VR = port G 1/2 return line indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VMF = port G 1/8 return line indicator</td>
</tr>
<tr>
<td>Pressure setting</td>
<td>2.5 = standard 2.5 bar (36 psid), others on request</td>
</tr>
<tr>
<td>Type of clogging indicator</td>
<td>A = with steel blanking plug in indicator port</td>
</tr>
<tr>
<td></td>
<td>B = visual</td>
</tr>
<tr>
<td></td>
<td>C = electrical</td>
</tr>
<tr>
<td></td>
<td>D = visual and electrical</td>
</tr>
<tr>
<td></td>
<td>other on request</td>
</tr>
<tr>
<td>Modification number</td>
<td>X = the latest version is always supplied</td>
</tr>
<tr>
<td>Supplementary details</td>
<td>L..., LED, V (for description, see “Clogging Indicators” brochure)</td>
</tr>
</tbody>
</table>
6. Maintenance Instructions

6.1 User Instructions for Filters

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

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.
- Hydraulic oils and water-polluting fluids must not be allowed 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, 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 Element 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 (visual and/or electrical or electronic) to monitor the filter element.

If the clogging indicator responds, it is necessary to change or clean the filter element without delay (only W and V elements can be cleaned).

When no clogging indicator has been installed, we recommend changing the element.

The standard clogging indicators only respond when fluid is flowing through the filter. With electrical indicators the signal can also be converted into a continuous display on the control panel. In this case the continuous display must be switched off during a cold start or after changing the element.

If the clogging indicator responds during a cold start only, it is possible that the element does not yet need to be changed.

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.

Service address

HYDAC Technology Corporation
Filter Division
2260 City Line Road
Bethlehem, PA 18017
+1.810.266.0100

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.
# North America Locations

## USA

**North America Headquarters**

**HYDAC TECHNOLOGY CORPORATION**

Filter Division

2260 City Line Road
Bethlehem, PA 18017
+1.610.266.0100

**HYDAC TECHNOLOGY CORPORATION**

Electronic Division

Process Filter Division

**HYDAC CORPORATION**

Accumulator Division

90 Southland Drive
Bethlehem, PA 18017
+1.610.266.0100

**HYDAC TECHNOLOGY CORPORATION**

Filter System Division

Process Filter Division

Fuel Filtration Division

580 West Park Road
Leetsdale, PA 15056
+1.724.318.1100

**HYDAC TECHNOLOGY CORPORATION**

Cooling System Division

1051 Airlie Parkway
Denver, NC 28037
+1.610.266.0100

**HYDAC TECHNOLOGY CORPORATION**

Sales Office & Operations

510 Stonestage Drive
Katy, TX 77494
+1.281.579.8100

**HYDAC CORPORATION**

SE Sales Office

1051 Airlie Parkway
Denver, NC 28037
+1.610.266.0100

**HYDAC TECHNOLOGY CORPORATION**

Hydraulic Division –

Compact Hydraulics

450 / 445 Windy Point Drive
Glendale Heights, IL 60139
+1.630.545.0800

**HYDAC TECHNOLOGY CORPORATION**

Hydraulic Division – Tech Center

430 Windy Point Drive
Glendale Heights, IL 60139
+1.630.545.0800

**HYDAC TECHNOLOGY CORPORATION**

Mobile Hydraulic Division

1660 Enterprise Parkway • Suite E
Wooster, OH 44691
+1.610.266.0100

**HYDAC TECHNOLOGY CORPORATION**

NE Sales Office

1660 Enterprise Parkway • Suite E
Wooster, OH 44691
+1.610.266.0100

**HYDAC TECHNOLOGY CORPORATION**

NC Sales Office

9415 West Forest Home Ave. • Suite 200
Hales Corners, WI 53130
+1.610.266.0100

**HYDAC CORPORATION**

Sales Office

14 Federal Road
Welland, Ontario, Canada L3B 3P2
+1.905.714.9322

**HYDAC CORPORATION**

Sales Office

5160 75 Street NW
Edmonton, Alberta, Canada T6E 6W2
+1.780.484.4228

**HYDAC CORPORATION**

NE Sales Office

1201 NE 144th St. Bldg. B • Suite 111
Vancouver, WA 98685
+1.610.266.0100

**HYDAC CYLINDERS LLC**

540 Carson Road North
Birmingham, AL 35217
+1.205.520.1220

**HYDAC CORPORATION**

Sales Office

5160 75 Street NW
Edmonton, Alberta, Canada T6E 6W2
+1.780.484.4228

**HYDAC CORPORATION**

Sales Office

Montreal, Québec, Canada J2M 1K9
+1.877.539.3388

---

## Canada

**HYDAC CORPORATION**

14 Federal Road
Welland, Ontario, Canada L3B 3P2
+1.905.714.9322

**HYDAC CORPORATION**

Sales Office

5160 75 Street NW
Edmonton, Alberta, Canada T6E 6W2
+1.780.484.4228

**HYDAC CORPORATION**

Sales Office

Montreal, Québec, Canada J2M 1K9
+1.877.539.3388

---

## Mexico

**HYDAC INTERNATIONAL SA de CV**

Calle Alfredo A Nobel No 35
Col Puente de Vagas
Tlalnepantla, Ed Mexico
CP 54090
Mexico
+011.52.55.4777.1262

---

© Copyright 2019 HYDAC TECHNOLOGY CORPORATION • Brochure - Service RFN