

# HYDAC INTERNATIONAL

## Filters



## NFHD Series Service and Parts

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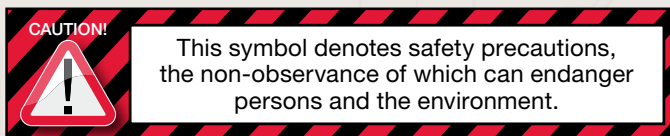
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$\Delta P$  clogging  
indicator  
port  
G 1/2"  
2 Places



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

- This pressure unit is for use with hydraulic power or lube systems only.
- All repair, maintenance, installation and commissioning work must be carried out by trained personnel.
- Operate this pressure unit in accordance with hydraulic power or lube system operating instructions.
- Ensure the pressure unit is sufficiently cool before handling.
- This pressure unit is suitable for use with hydraulic or lubricating fluids only.
- It is the responsibility of the operator to comply with local water regulations.



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

- Observe proper venting procedures to avoid the formation of air pockets.
- Caution: Pressurized unit. Purge system pressure before performing any work on the pressure unit.
- Under no circumstances must any modifications (*welding, drilling, or opening by force...*) be carried out on the pressure unit. Any modifications will void the warranty.
- Statutory accident prevention regulations, safety regulations and safety data sheets for fluids must be observed.
- When working on or near hydraulic systems, avoid exposure to open flames and spark generating equipment. Do not smoke near equipment.
- Comply with all regulations with regard to the disposal of used oil and waste.
- Wear proper protective clothing and guards to avoid injury or scalding due to high pressure or high temperature oil.
- Filter housing must be grounded.
- Disconnect all electrical power to the system and other electrical components, prior to working on filter clogging indicators.

# FILTER MAINTENANCE

## 1. General

### 1.1 Commitment to Quality

HYDAC demonstrates its commitment to quality through the implementation of an ISO 9001: 2008 program, which encompasses not only product design and manufacturing but service and delivery as well.

### 1.2. Installation

- Before installing the filter in the system, check that the operating pressure of the system does not exceed the maximum allowable operating pressure of the filter.
- Observe type code label on the filter.

### 1.3. Commissioning

Check that the correct filter element is installed. Replace cover plate and screw in cover plate bolts by hand; tighten alternately. Turn lever in the middle position and fill filter via the system (*both filter sides will be filled*). Vent the filter by loosening both vent screws on the cover plates. Then turn the lever to one filter side. Switch on hydraulic system and check filter for leakage. Vent filter at an appropriate point in the system.

### 1.4. Tools Required for Maintenance

Size	Allen wrench size for oil drain plug	Wrench size for VD 0 A.1
NFHD1300	9/16"	27 mm
NFHD2600	9/16"	27 mm

### 1.5. Torque Values

Type	Max. Torque	Threads
VM clogging indicators	22 ft-lb	G 1/2
Oil Drain Plug	135 ft-lb	1-1/16-12UN
Vent Plug	10 ft-lb	7/16-20UN
Bowl/Lid or end cover	Do not Torque See 1.3 and 3.2	N/A

## 2. Maintenance

### 2.1. General

This section describes periodic maintenance requirements. Periodic and thorough maintenance will ensure operator safety and the life of the filter.

### 2.2. Maintenance Procedures

- Only high quality spare parts meeting the technical requirements specified by the manufacturer should be used, quality is always guaranteed with HYDAC original spare parts.
- Keep tools, working area and equipment clean.
- After disassembling the filter, clean all parts and check for damage or wear. Replace parts as required.
- When changing filter elements, a high level of cleanliness must be observed.

### 2.3. Interval Between Changing Elements

- To ensure optimum performance, HYDAC recommends replacing filter elements every 6 months or upon indication, whichever occurs first.
- HYDAC recommends installing the filter with a clogging indicator (*visual and/or electric or electronic*) to monitor for excessive filter element pressure drop.
- If the clogging indicator trips, immediately change or clean the filter element. (*Only wire mesh and metal fiber elements can be cleaned*).
- If no clogging indicator is installed, HYDAC recommends changing elements at specified intervals (*depends on filter sizing and conditions*). Higher dynamic loads across the element might necessitate shorter intervals between changes. Shorter intervals can also be expected during commissioning, repairs, oil changes, etc. of the hydraulic system.

## 3. Element Replacement

### 3.1. Element Removal

1. Turn lever through 90°, filtration is switched over to the other filter side.
2. Open vent valve on the side not currently in use to release pressure  
Note: Flow path is always indicated by the "L" shaped engraving on top of the transfer valve spindle. Leg of "L" not pointing to inlet/outlet indicates side in operation. Opposite side is non-operational.
3. Remove oil drain plug (*if present*) from the side not currently in use. Drain oil into a suitable container.
4. Swing bolts away from lid. Loosen finger knobs. Swing bolts away from lid. Turn cover plate through 30 degrees and lift off.
5. Remove filter element. (*examine surface of element for dirt residue and larger particles; these can indicate damage to the components*).
6. Replace filter element.
7. Clean housing and cover plate, if necessary.
8. Examine filter, especially sealing surfaces, for damage.
9. Check O-rings and replace parts as necessary.

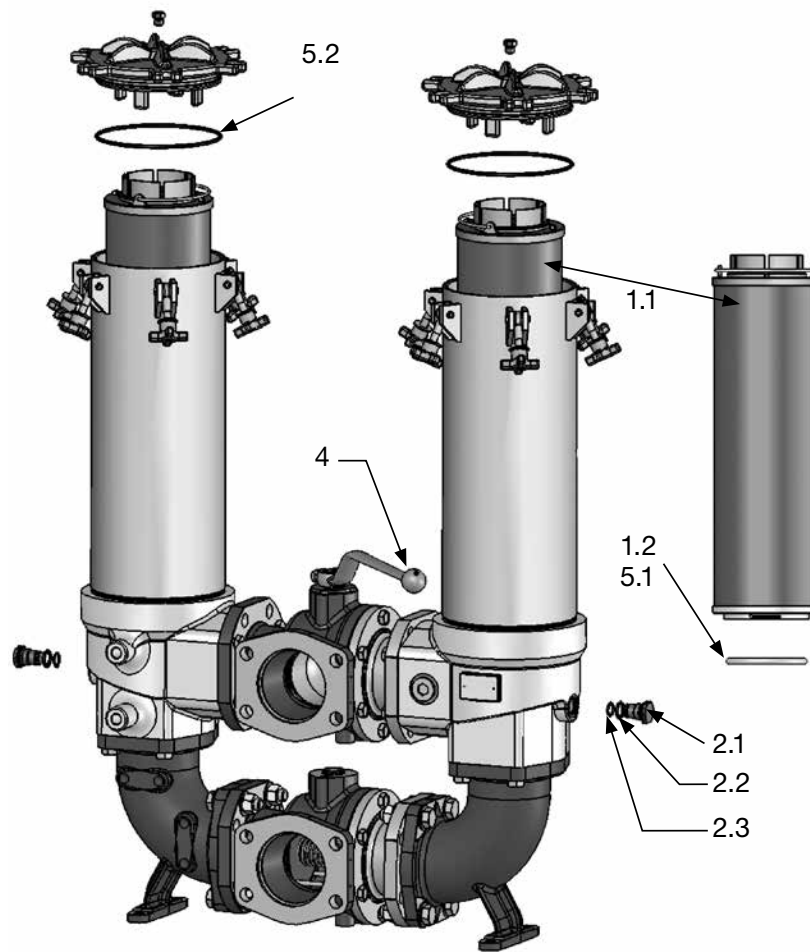
### 3.2. Element Installation

1. Lubricate sealing surfaces on the filter housing and cover plate, and the seals, if necessary, with clean operating fluid.
2. When installing a new element, verify that the designation corresponds to that of the old element.
3. Place filter element carefully onto the element location nozzle inside the filter housing (*note position of handle on element*).
4. Apply silver grade anti-seize (per Mil-PRF-907E) to threads. Reposition cover plate, pivot swing bolts upward and tighten hand knobs over end of swing bolts. Tighten alternately.
6. Turn transfer valve handle to center position. Fill filter side up until oil seeps past the vent screw (*do not reuse oil previously drained unless it is cleaned first*).
7. Once a steady stream of fluid (without air) emerges from the vent port, tighten the vent screw back onto the lid.

**Note: Filter elements which cannot be cleaned must be disposed of in accordance with environmental regulations.**

## 4. Spare Parts

### 4.1 NFHD 1300-2600



Item	Consists of	Designation	1300-2600
<b>1.</b>		<b>Filter element</b>	See point 5 Replacement elements
	1.1	Filter element	According to order
	1.2	O-ring	97.8 x 5.33
		Number of elements per filter side/size	1 x 1300 R.../ 1 x 2600 R...
<b>2.</b>		<b>Clogging indicator or indicator plug VD 0 A.1</b>	See Filter Clogging Indicator brochure <b>00305932</b>
		<b>Indicator plug VD 0 A.1 /-V</b>	<b>00305931</b>
	2.1	Clogging Indicator or indicator plug	See Filter Clogging Indicator brochure
	2.2	Profile seal ring	VA
	2.3	O-ring	15 x 1.5 (13.5 x 1.5, pre-2002 - both seals included in kit)
<b>3.</b>		<b>SEAL KIT-E VD/VM/VR</b>	<b>00319648</b>
		<b>SEAL KIT-E VD/VM/VR /-V</b>	<b>00319638</b>
<b>4.</b>		<b>Handle for change-over valve</b>	<b>01205525</b>
<b>5.*</b>		<b>SEAL KIT NFHD 1300/2600 NBR</b>	<b>02068865</b>
		<b>SEAL KIT NFHD 1300/2600 FKM</b>	<b>02065044</b>
	5.1	O-ring ( <i>element</i> )	97.8 x 5.33
	5.2	O-ring ( <i>cover plate</i> )	158.34 x 3.53

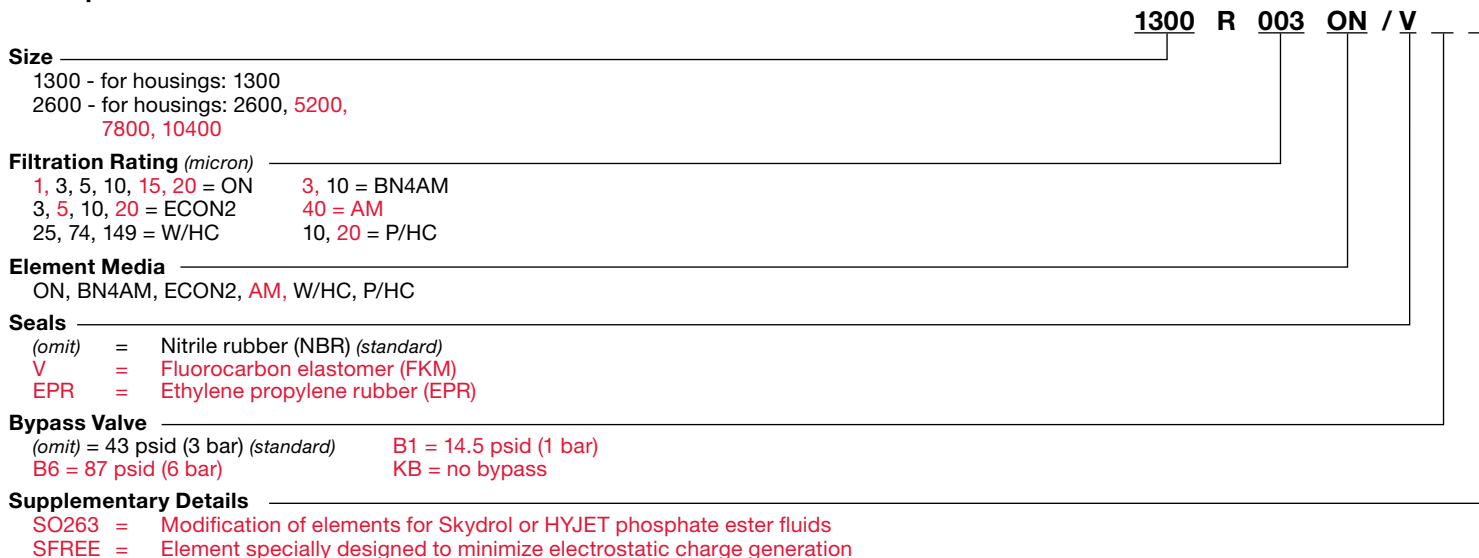
Other spare parts available on request  
Bold items can be ordered.

-O-Ring durometer can range from 70-80Sh. EPR Seal Kits available on request.

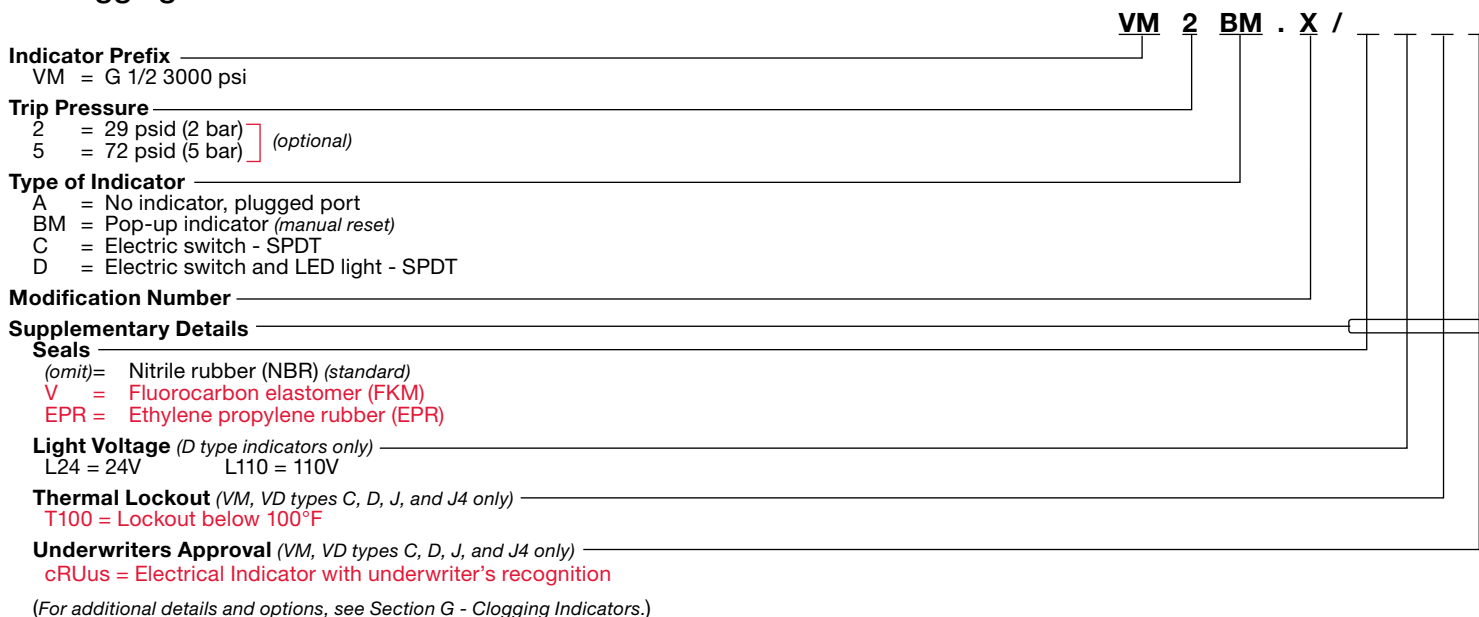
\*Note - Included but not listed here are clogging indicator, bleed valve, head/tube, and vent seals

# FILTER MAINTENANCE

## 5. Replacement Element Model Code



## 6. Clogging Indicator Model Code



## 6. 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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