

HYDAC

INTERNATIONAL

Filters



HF4RL Series Service and Parts

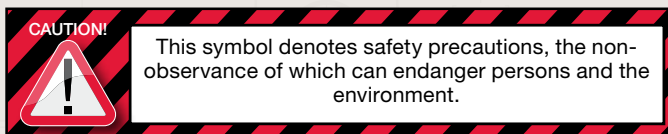
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This symbol is followed by user tips and particularly useful information.

- 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.

- Filter bowl may be full of hot hydraulic fluid. Collect oil in a suitable container and dispose of properly.
- 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.

NOTE: All details subject to technical modification

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.
- Important: When operating filters without bypass valve above 150 psi, filter elements of the type BH must be used to ensure safe operation.

1.3. Commissioning

Unscrew lid and check that the correct filter element is installed. Screw on lid again fully (metal to metal contact). Switch on hydraulic system and check filter for leakage.

1.4. Tools Required for Maintenance

Size	Wrench Opening
Lid	41.3 mm
Drain Plug	22.2 mm
VD0A.1	27 mm

1.5. Torque Values

Type	Max. Torque Nm[ft-lb]
VD...LE/LZ clogging indicators	50 [37]
VM all clogging indicators	30 [22]
Oil Drain Plug	SAE-8 52 [38]
Bowl/Lid or end cover	Do not Torque See 1.3 and 3.2

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 W 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. Switch off hydraulic system.
2. If filter is a system low point, isolate the filter from the system. Otherwise, continue to Step 3.
3. Vent/release filter pressure
4. Remove oil drain plug (*if present*). Drain oil into a suitable container.
5. Remove lid from housing. It may be necessary to use a strap wrench to prevent the housing from coming off of the filter head. Caution: Cap is spring loaded.
6. Remove spring and grommet cap.
7. Remove filter element from element location nozzle in the filter head (*examine surface of element for dirt residue and larger particles; these can indicate damage to the components*).
8. Replace filter element.
9. Clean lid and housing, paying particular attention to the threads.
10. Examine filter, especially sealing surfaces, for damage.
11. Check seals and replace if necessary.

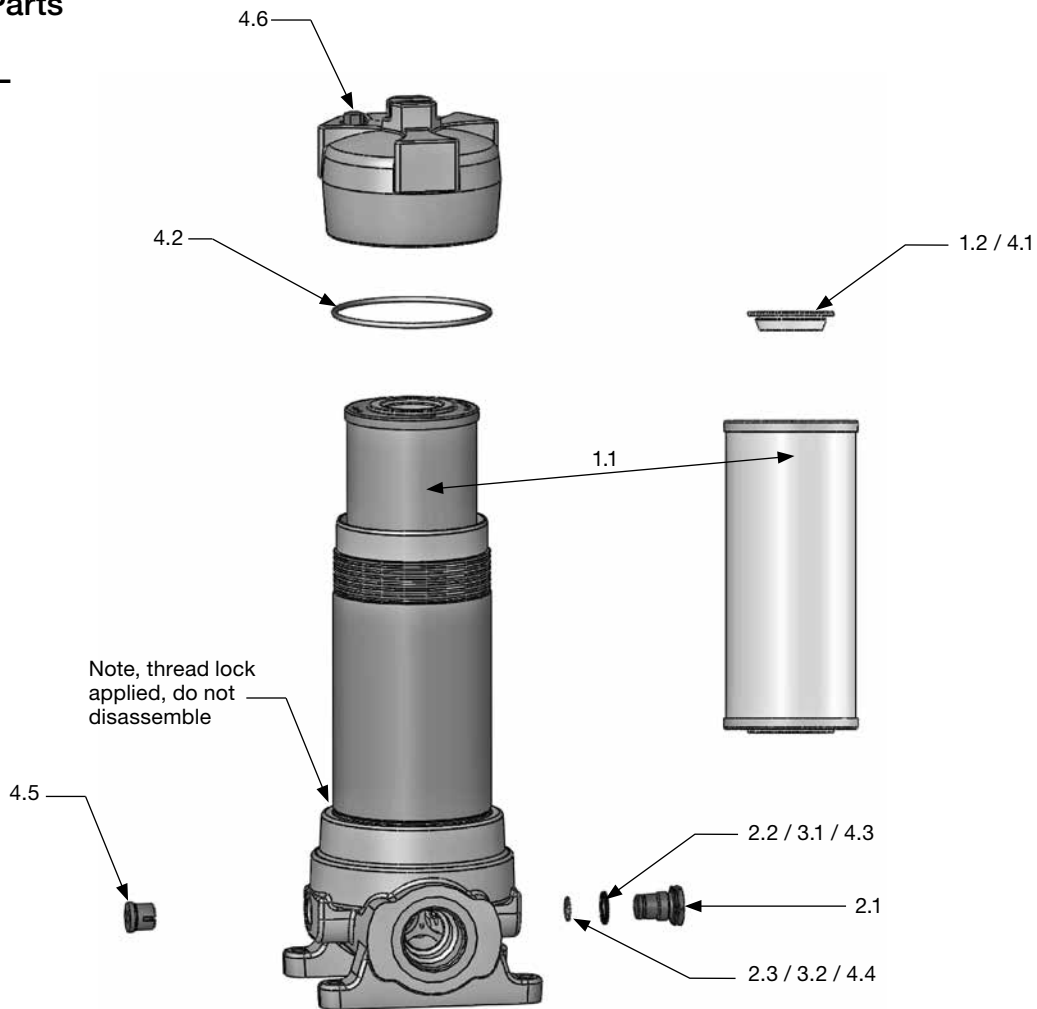
3.2. Element Installation

1. Lubricate sealing surfaces and threads, as well as the seals 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 in the filter housing.
In addition: Insert grommet cap in top element. Insert spring into grommet cap.
4. Screw in lid fully (metal to metal contact).
5. Screw in oil drain plug (*if present*).
6. Fill the filter housing with system fluid until it is level with the top of the vent plug port.
7. Install vent plug.
8. Switch on hydraulic system and vent filter at an appropriate point in the system.
9. 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 regulations.

4. Spare Parts

4.1. HF4RL



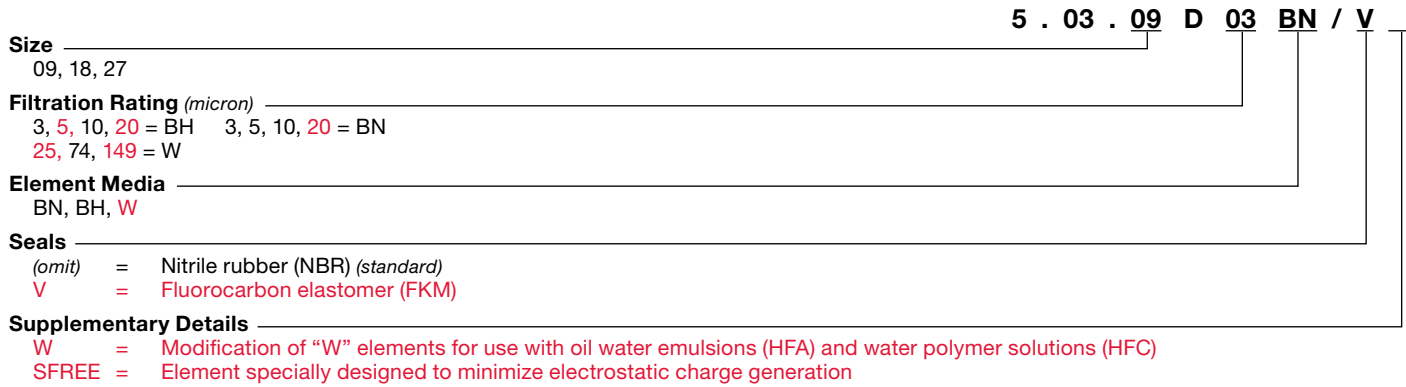
Item	Consists of	Designation	09	18	27
1.		Filter element	See point 5 Replacement elements		
	1.1	Filter element	On request		
	1.2	Grommet	2		
2.		Clogging indicator or indicator plug VD 0 A.1 VD 0 A.1 /-V	See Filter Clogging Indicator brochure		
	2.1	Indicator plug	VD... 00305932 00305931		
	2.2	Profile seal ring	VD...		
	2.3	O-ring	15 x 1.5		
3.		SEAL KIT-E VD SEAL KIT-E VD /-V	00319648 00319638		
	3.1	Profile seal ring	VD...		
	3.2	O-ring	15 x 1.5		
4.		SEAL KIT HF4RL NBR SEAL KIT HF4RL FKM	2088185 2097121		
	4.1	Grommet (<i>element</i>)	2		
	4.2	O-ring (<i>lid</i>)	110.72 x 3.53 (AS568A-245)		
	4.3	Profile seal ring (VD 0 A.1)	VD...		
	4.4	O-ring (VD 0 A.1)	15 x 1.5		
	4.5	Oil drain plug O-ring	16.36 X 2.21 (AS568A-908)		
	4.6	Vent plug O-ring	8.92 x 1.83 (AS568A-904)		

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.
 -Lid assembly kits on request - kits include complete lid with seals, vent plug (if present).

FILTER MAINTENANCE

5. Replacement Element 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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