

HYDAC INTERNATIONAL

Filters

HF4R Series Service and Parts



Clearance Required
for Element Removal

HF4R-9
10" (254mm)

HF4R-18
18" (457mm)

HF4R-27
27" (686mm)

G 1/2"
Indicator Port

ø7"
(ø177.8mm)

ø0.44"
(ø11.1mm)
4 Places

Bolt Circle
ø6.25"
(ø158.8mm)

ø5.03"
(ø127.8mm)

Tank
Cutout

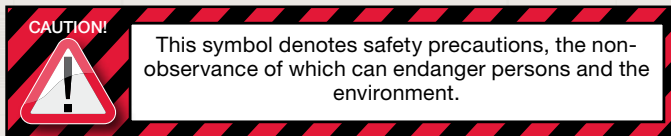
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This symbol is followed by user tips and particularly useful information.

- 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 , high collapse BH/HC type filter elements must be used to ensure safe operation.

1.3. Commissioning

Remove lid/cover plate and check that the correct filter element is installed. Replace cover plate. Screw in cover plate bolts manually and tighten alternately. 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	Wrench size for cover plate bolts
09/18/27	12.7 mm

1.5. Torque Values

Type	Torque Nm[ft-lb]
VMF... clogging indicators	15 [11]
Oil Drain Plug	N/A
Lid Screws	33 [25]
Bowl/Lid or end cover	Do not Torque See 1.3 and 3.2

Note: Use Loctite 542 or equivalent for indicator installation.

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.
- Ultrasonic cleaning is used for cleaning Metal Fiber (V) and Wire Screen (W/HC) elements.

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.

FILTER MAINTENANCE

3. Element Replacement

3.1. Element Removal

1. Switch off hydraulic system and release filter pressure.
2. Unscrew cover plate bolts, turn cover plate through 45° and lift off. *Caution: Cover plate is spring loaded.*
3. Remove spring.
4. Remove element from housing.
5. Remove bypass valve from the element.
6. Replace filter element.
7. Clean housing and cover plate, paying particular attention to the threads.
8. Examine filter, especially sealing surfaces, for mechanical damage.
9. Check seals and replace if necessary.

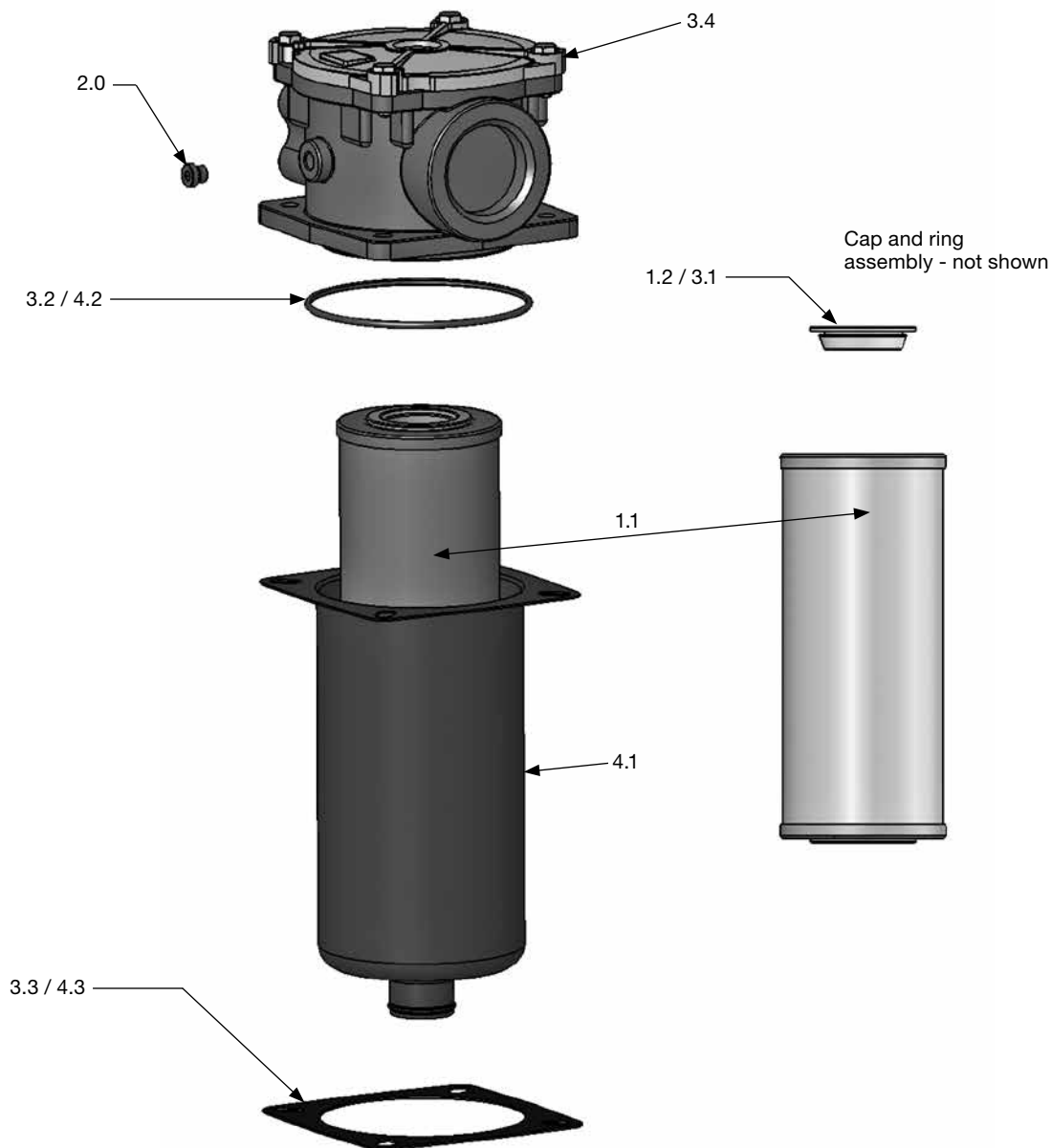
3.2. Element Installation

1. Lubricate sealing surfaces, 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.
4. Install bypass valve.
5. Install spring.
6. Replace cover plate. Screw in cover plate bolts manually and tighten alternately.
7. Switch on hydraulic system and vent filter at an appropriate point in the system.
8. 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. HF4R 09/18/27 (versions 1.0, 1.1 & 2.1)



Item	Consists of	Designation	version 1.0	versions 1.1 & 2.1
1.		Filter element	See point 5 Replacement elements	
	1.1	Filter element	On request	
	1.2	Grommet	2	
2.		Clogging indicator or indicator plug	See Filter Clogging Indicator brochure – 1/8 NPT (seal 18 x 2.5)	
3.		SEAL KIT HF4R...NBR	2064703	2079225
		SEAL KIT HF4R...1.1 / FKM	2069943	2093279
	3.1	Grommet / Seal	Seal HF4R 1.0	
	3.2	O-ring (<i>head / bowl</i>)	Seal HF4R 1.0	129.77 X 3.53 (AS568A-251)
	3.3	Gasket	Gasket Reservoir HF4R	
	3.4	O-ring (<i>cover plate</i>)	Seal HF4R 1.0	129.77 X 3.53 (AS568A-251)

Item	Consists of	Designation	09 version 1.0, 1.1, 2.1	18 version 1.0, 1.1, 2.1	27 versions 1.0, 1.1, 2.1
4		Bowl Assembly Bowl Assembly /-V	Consult HYDAC		
	4.1	Bowl			
	4.2	O-ring (bowl)			
	4.3	Gasket Reservoir			

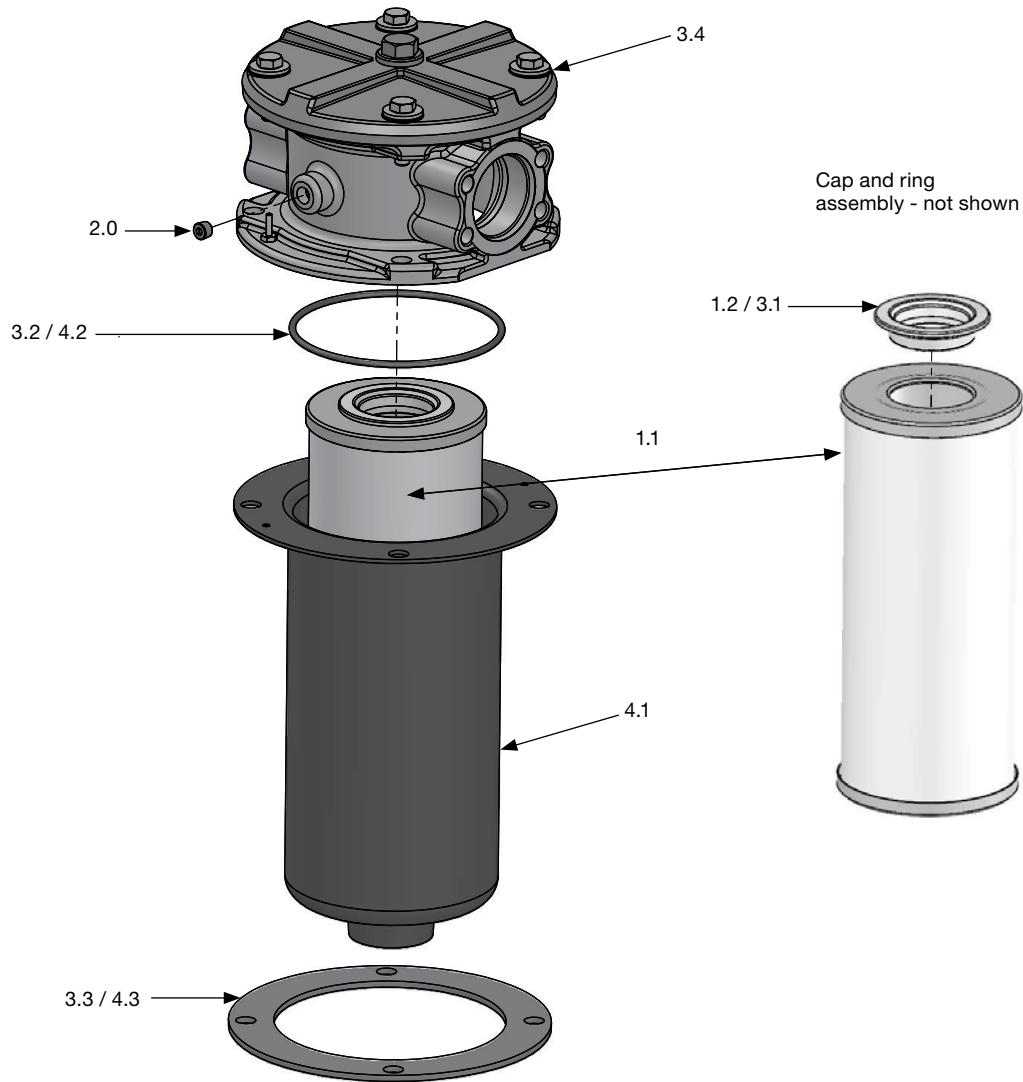
Other spare parts available on request
 Bold items can be ordered.

-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). Bolts not included.

FILTER MAINTENANCE

4. Spare Parts

4.1. HF4R 09/18/27 (version 1.2 & 2.2)



Item	Consists of	Designation	version 1.2 & 2.2
1.		Filter element	See point 5 Replacement elements
	1.1	Filter element	On request
	1.2	Grommet	2
2.		Clogging indicator or indicator plug	See Filter Clogging Indicator brochure – 1/8 NPT (seal 18 x 2.5)
3.		SEAL KIT HF4R...NBR	2099108
		SEAL KIT HF4R...1.1 / FKM	2099109
	3.1	Grommet / Seal	Grommet
	3.2	O-ring (head / bowl)	Square Seal
	3.3	Gasket	Gasket Reservoir HF4R
	3.4	O-ring (cover plate)	110.72 x 3.53 (AS568A-245)

Item	Consists of	Designation	09/09DT version 1.2, 2.2	18/18DT version 1.2, 2.2	27/27DT version 1.2 & 2.2
4		Bowl Assembly	2202855/2202857	2202859/2202861	2202863/2202865
		Bowl Assembly /-V	2202856/2202858	2202860/2202862	2202864/2202864
	4.1	Bowl	BOWL HF4R-09 / BOWL w/ DOWNTUBE	BOWL HF4R-18 / BOWL w/ DOWNTUBE	BOWL HF4R-27 / BOWL w/ DOWNTUBE
	4.2	O-ring (bowl)	110.72 x 3.53	110.72 x 3.53	110.72 x 3.53
	4.3	Gasket Reservoir	HF4R	HF4R	HF4R

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, bypass valve, vent plug (if present). Bolts not included.

5. Replacement Element Model Code

5 . 03 . 09 D 03 BN / V

Length (nominal inches) _____

09, 18, 27

Type _____

D = HF4R (return)

Filtration Rating (micron) _____

3, 5, 10, 20 = BN 3, 10 = BN4AM (9" only)

40 = AM 25, 74, 149 = W

3, 10, 25 = P

Element Media _____

BN, W, AM, BN4AM, P

Seals _____

(omit) = Nitrile rubber (NBR) (standard)

V = Fluorocarbon elastomer (FKM)

Supplementary Details _____

SFREE = Element specially designed to minimize electrostatic charge generation

Element Stacking Interconnector (PN2056730)

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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