

# HYDAC INTERNATIONAL

## Filters



### HF3P Series Service and Parts

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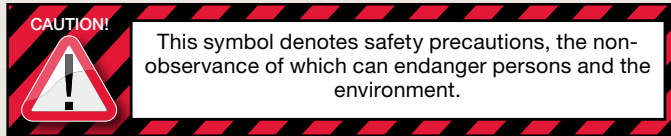
HF3P-04 254  
HF3P-08 349

[4.53]  
115  
Clearance required  
for element removal



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 20 bar (290 psid), high collapse BH/HC type filter elements must be used to ensure safe operation.

### 1.3. Commissioning

Unscrew bowl and check that the correct filter element is installed. Screw in bowl again fully (metal to metal contact) and then unscrew by one quarter-turn (*the sealing effect will not be improved by overtightening.*) 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 filter bowl	Allen wrench size for oil drain plug	Wrench size for VD 0 A.1
4/8/13/16	36 mm	10 mm	27mm

### 1.5 Torque Values

Type	Torque Nm[ft-lb]
VD-clog ind	100 [74] 50 [37] (A, LE, LZ)
Oil Drain Plug	80 [59] – G½ 30 [22] – G¼
Bowl/ Lid or end cover	Do not Torque (See 1.3 and 2.2)

## 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.
- 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.

## 3. Element Replacement

### 3.1. Element Removal

1. Shut off system.
  2. Relieve system pressure to atmosphere.  
**Caution:** Do not relieve pressure through plugs, Item 2.1 or 4.6.
  3. Drain system if filter is at a low point in the system.
  4. Remove filter bowl or cap (*on size HF3P 16*).  
**Caution:** Filter bowl may be full of hot hydraulic fluid. Collect oil in a suitable container and dispose of properly.
  5. Remove threaded rod (*HF3P 16 only*).
  6. Remove filter element, Item 1.1.
  7. Inspect bowl O-ring, Item 4.2 for damage. Replace if necessary.
  8. Discard disposable element (*BH or BN*).
  9. Clean and degrease the cleanable filter element, (*V or W*).
- See separate cleaning procedure for details.

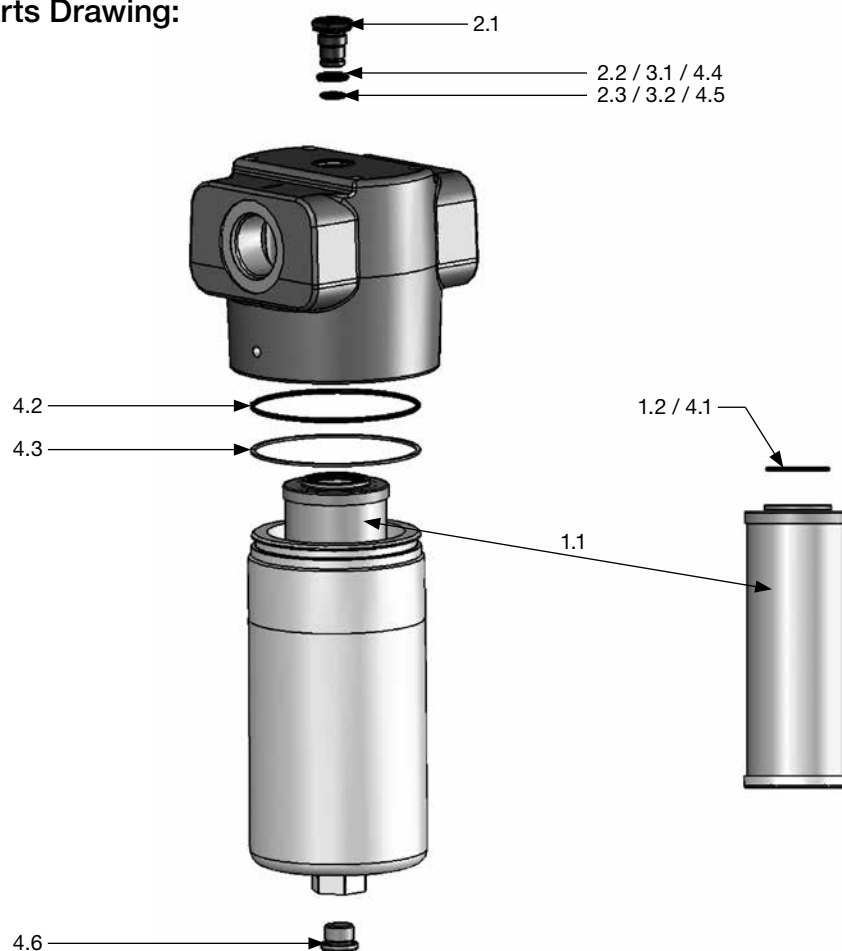
### 3.2. Element Installation

1. Lubricate the new filter element O-ring, Item 4.1 with system fluid or silicone O-ring grease.
2. Install the filter element, Item 1.1 onto the filter head. Use a twisting action to avoid damaging the O-ring.
3. Install threaded rod (*HF3P 16 only*).
4. Apply silver grade anti-seize (per Mil-PRF-907E) to threads. Screw filter bowl onto filter head (metal to metal contact), then unscrew by one quarter-turn.  
Note: For HF3P 16, screw cap, Item 12 onto the bottom threads of the filter housing.  
**Caution:** do not torque the filter bowl or cap, only hand tighten.
5. Pressurize the system and check for leaks.

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. Replacement Parts Drawing:

### 4.1. HF3P 4 - 13



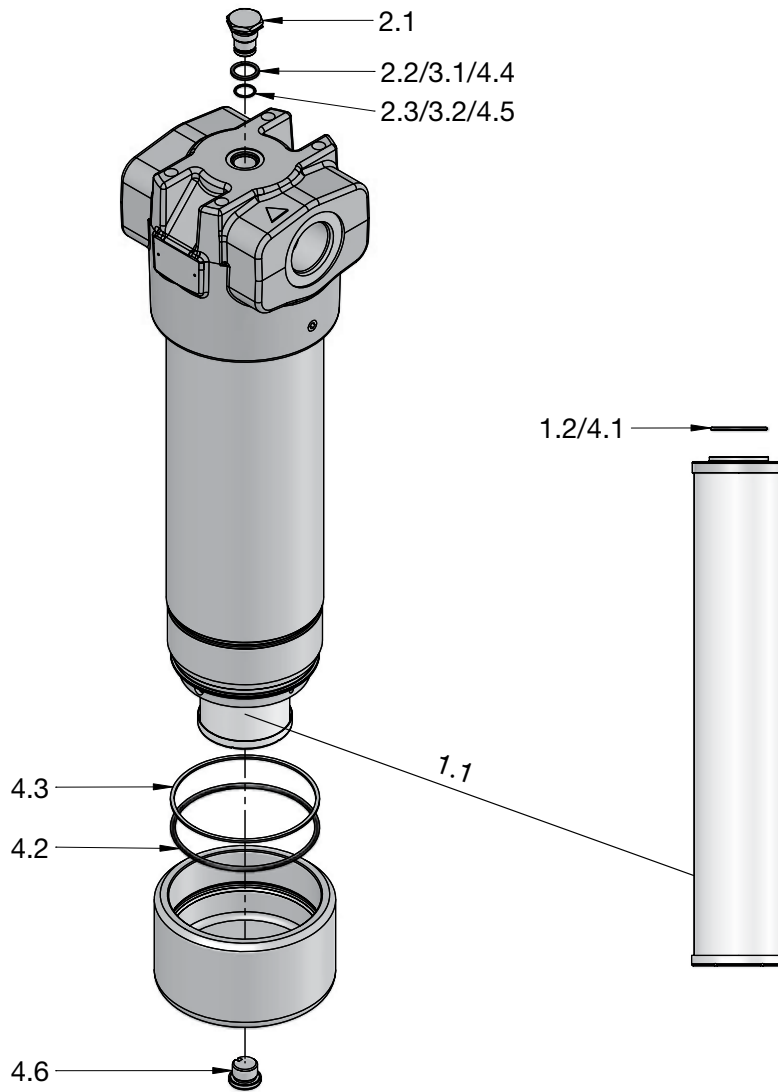
Item	Consists of	Designation	4	8	13
<b>1.</b>		<b>Filter element</b>	See point 5 Replacement elements		
	1.1	Filter element	According to order		
	1.2	O-ring	42.52 x 2.62		
<b>2.</b>		<b>Clogging indicator or indicator plug</b>	See Filter Clogging Indicator brochure		
		<b>VD 0 A.1</b>	00305932		
		<b>VD 0 A.1 /-V</b>	00305931		
	2.1	Indicator plug	VD.../VM		
	2.2	Profile seal ring	VD...		
	2.3	O-ring	15 x 1.5		
<b>3.</b>		<b>SEAL KIT-E VD</b>	00319648		
		<b>SEAL KIT-E VD /-V</b>	00319638		
	3.1	Profile seal ring	VD...		
	3.2	O-ring	15 x 1.5		
<b>4.</b>		<b>SEAL KIT HF3P</b>	02069927		
		<b>SEAL KIT HF4P /-V</b>	02065997		
	4.1	O-ring ( <i>element</i> )	42.52 x 2.62		
	4.2	O-ring ( <i>bowl</i> )	117 x 4		
	4.3	Back-up ring ( <i>bowl</i> )	116.3 x 3.1 x 1.7		
	4.4	Profile seal ring ( <i>VD 0 A.1</i> )	VD		
	4.5	O-ring ( <i>VD 0 A.1</i> )	15 x 1.5		
	4.6	Oil drain plug	G 1/2		

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.  
 -Bowl assembly kits on request - kits include complete bowl with seals, and plug (if present).

# FILTER MAINTENANCE

## 4.3. HF3P 16

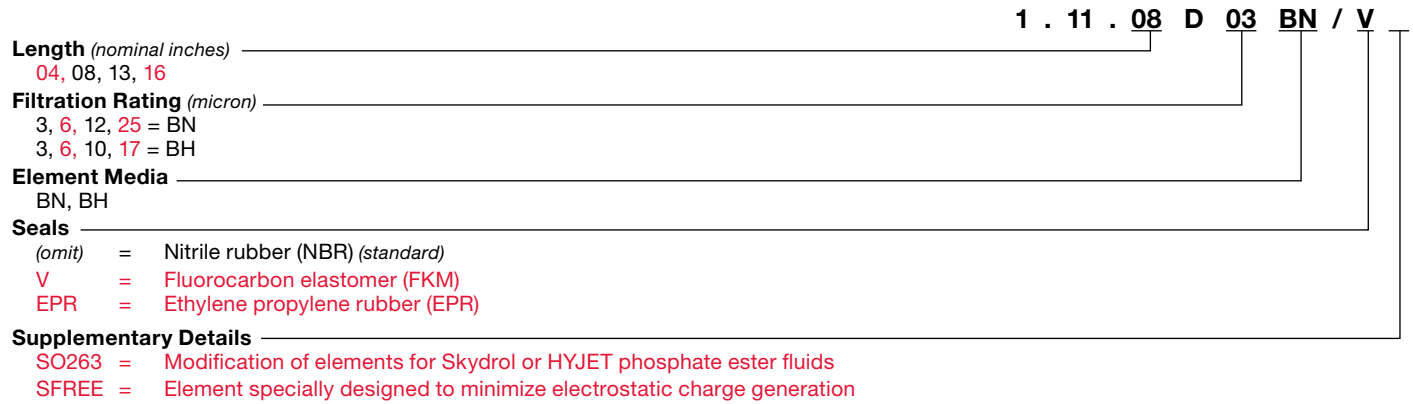


Item	Consists of	Designation	16
<b>1.</b>		<b>Filter element</b>	See point 5 Replacement elements
	1.1	Filter element	According to order
	1.2	O-ring	42.52 x 2.62
<b>2.</b>		<b>Clogging indicator or indicator plug</b>	See Filter Clogging Indicator brochure
		<b>VD 0 A.1</b>	00305932
		<b>VD 0 A.1 /-V</b>	00305931
	2.1	Indicator plug	VD.../VM
	2.2	Profile seal ring	VD...
	2.3	O-ring	15 x 1.5
<b>3.</b>		<b>Seal kit-E VD</b>	00319648
		<b>Seal kit-E VD /-V</b>	00319638
	3.1	Profile seal ring	VD...
	3.2	O-ring	15 x 1.5
<b>4.</b>		<b>Repair Kit HF3P 16"</b>	2096204
		<b>Repair Kit HF3P 16" /-V</b>	2096205
	4.1	O-ring ( <i>element</i> )	42.52 x 2.62
	4.2	O-ring ( <i>bowl</i> ) ( <i>note, also used in cap</i> )	117 x 4
	4.3	Back-up ring ( <i>bowl</i> ) ( <i>note, also used in cap</i> )	116.3 x 3.1 x 1.7
	4.4	Profile seal ring ( <i>VD 0 A.1</i> )	VD
	4.5	O-ring ( <i>VD 0 A.1</i> )	15 x 1.5
	4.6	Oil drain plug	G 1/2

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.  
 -Bowl assembly kits on request - kits include complete bowl with seals, and plug (if present).

## 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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