

## Filters



# RF Series Service and Parts

up to 3962 gpm (15000 l/min), up to 360 psi (25 bar)

## 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, screw in cover plate bolts alternately (except RF 30 cover plate).

### 1.4 Maintenance Tools

Size	Torque Value Nm [ft-lb]	Int. hex. Allen key
30	Hand-tight	
60/110	20 [15]	Hex 6.36 (1/4")
160/240	20 [15]	Hex 6.36 (1/4")
330	40 [29]	Hex 8 (5/16")
450/580	30 [22]	Hex 8

Size	Torque Value Nm [ft-lb]	Ext. hex.
660	150 [110]	Hex 24
950/1300	200 [147]	Hex 30
2500/4000	150 [110]	Hex 24
5200	250 [184]	Hex 30
6500/15000	250 [184]	Hex 36

### 1.5 Torque Values

Type	Max. Torque Nm [ft-lb]
VR-clog ind	30 [22]
VM-clog ind	30 [22]
Oil Drain Plug (RF30-1300)	N/A
Oil Drain Plug-G1 (RF2500-7800)	200 [148]
Lid or end cover	Do not Torque (See 1.3 and 2.2)

### 1.6 Torque Values for Reservoir Mounting Bolts

Size	Torque Nm [ft-lb]	Bolt Size
RF 30	1.5 [1.1]	M4
RF 60/110	5 [3.7]	M5
RF 160/240	8 [6]	M6
RF 330	20 [15]	M8
RF 660	20 [15]	M12
RF 950/1300	25 [19]	M16

## 2. Element Replacement

### 2.1 Element Removal

- Switch off hydraulic system and release filter pressure.

**Caution:** when installed inline before opening the filter, slowly open the vent screw and release pressure (release pressure in the tank, if any).

- Size 30:**  
Unscrew cover plate manually

**Size 60-330 & 2500-15000:**  
Loosen cover plate bolts and lift off the cover plate.

**Size 450 and 580:**  
Loosen cover plate bolts. Screw two of the bolts into the tapped extraction holes in the cover plate, so that the cover plate is released from its seat.  
Lift off the cover plate, with the filter element attached, from the housing.

**Size 660-1300:**  
Unscrew cover plate bolts by approx. 2 turns (do not need to remove completely). Turn cover plate clockwise until it can be lifted off by holding near the bolts (bayonet fitting).

- Pull out filter element (with contamination retainer, if present) by the handle.  
**Size 450 and 580:**  
Remove filter element from cover plate by turning (bayonet fitting).  
Then unscrew bolts from extraction holes in cover plate.

- Examine element surface for dirt residues and larger particles since these can be an indication of damage to components.

- Remove contamination retainer (if present) by turning counter-clockwise – bayonet fitting.

- Replace or clean filter element(s) (only W/HC and V elements can be cleaned).
- Clean housing, cover plate and contamination retainer.
- Examine filter, especially sealing surfaces, for mechanical damage.
- Check O-rings – and replace if necessary

### 2.2 Element Installation

- Lubricate the sealing surfaces on the filter housing and cover plate, as well as the O-ring, with clean operating fluid.
- When installing a new filter element, check that the designation corresponds to that of the old element.
- If present, install the contamination retainer onto the new or cleaned filter element by turning clockwise.
- Place filter element(s) carefully on to the element nozzle in the housing.  
**Size 450 and 580:**  
Push filter element onto the cover plate and turn to secure (bayonet fitting).  
Place cover plate with filter element into the housing. In so doing, the filter element will locate automatically in the element nozzle in the housing.
- Size 30:**  
Replace cover plate and screw in manually.  
**Size 60-330 and 2500-15000:**  
Replace cover plate and screw in cover plate bolts by hand; then tighten bolts alternately.  
**Size 450 and 580:**  
Screw in cover plate bolts by hand; then tighten bolts alternately.  
**Size 660-1300:**  
Replace cover plate in correct position (dowel pin in the housing must line up with groove in cover plate) and turn counter-clockwise as far as it will go. Tighten cover plate bolts alternately.
- Switch on hydraulic system and vent filter at a suitable point in the system.
- Check filter for leakage.

#### NOTE:

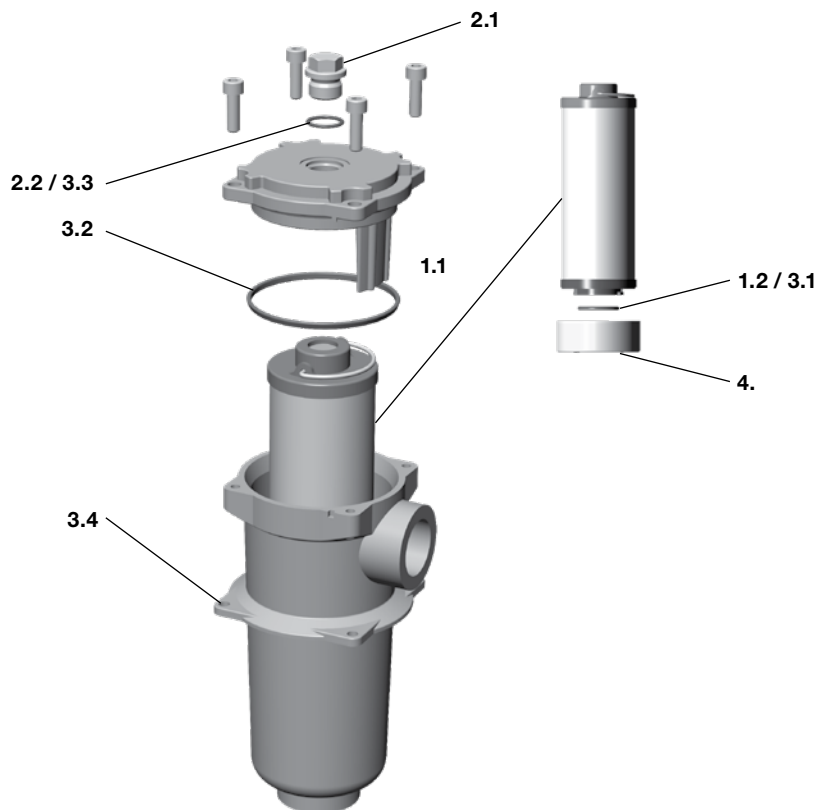
Contamination or incomplete pressure release on disassembly can lead to seizing of the bowl thread.

Filter elements which cannot be cleaned must be disposed of in accordance with environmental protection regulations.

# FILTER MAINTENANCE

## 3. Spare Parts

### 3.1 RF 30-1300



Item	Consists	Designation	RF 30 B B	RF 60 D C	RF 110 D C	RF 160 D E	RF 240 D E
<b>1.</b>		<b>Filter element</b>	see Point 4. Replacement elements				
	1.1	Filter element	0030 R...	0060 R...	0110 R...	0160 R...	0240 R...
	1.2	O-ring	12.37 x 2.62	22 x 3.5		34 x 3.5	
<b>2.</b>		<b>Clogging indicator or indicator plug</b>	See Point 5. Replacement clogging indicator				
	2.1	Indicator plug VR 0 A.0 VR 0 A.0 /-V	00306006 00305928				
	2.2	O-ring	18 x 2.5				
<b>3.</b>		<b>Repair kit RF</b>	00307664	01267827		01270657	
		<b>Repair kit RF /-V</b>	00303733	01267828		01270658	
	3.1	O-ring (element)	12.37 x 2.62	22 x 3.5		34 x 3.5	
	3.2	O-ring (cover plate)	56 x 3	63.09 x 3.53		91.67 x 3.53	
	3.3	O-ring (indicator)	18 x 2.5				
	3.4	O-ring (tank seal)	01205967	82.14 x 3.53		110.72 x 3.53	
<b>4.*</b>		<b>Contamination retainer RF...</b>	01202459	00245028	00246164	00245029	00246182
		<b>Contamination retainer RF...HC</b>	01202459	01202362		01202363	
-		Tank breather filter	00246109	-	-	-	-
Item	Con-sists	Designation	RF 330 D G	RF 330 D L	RF 660 D N RF 660 D M	RF 950 D O	RF 1300 D P
<b>1.</b>		<b>Filter element</b>	see Point 4. Replacement elements				
	1.1	Filter element	0330 R...	0330 R...	0660 R...	0950 R...	1300 R...
	1.2	O-ring	48 x 3		68 x 5	97.8 x 5.33	
<b>2.</b>		<b>Clogging indicator or indicator plug</b>	see Point 5. Replacement clogging indicators				
	2.1	Indicator plug VR 0 A.0 VR 0 A.0 /-V	00306006 00305928				
	2.2	O-ring	18 x 2.5				
<b>3.</b>		<b>Repair kit RF</b>	00319613	01293042		01293043	
		<b>Repair kit RF /-V</b>	00311702	01293039		01293040	
	3.1	O-ring (element)	48 x 3	68 x 5		97.8 x 5.33	
	3.2	O-ring (cover)	105 x 5	153 x 6		185 x 5	
	3.3	O-ring (indicator)	18 x 2.5				
	3.4	O-ring (tank seal)	00405588	03170653		00405590	00405590
<b>4.*</b>		<b>Contamination retainer RF...</b>	00245030	00245031		00413196	00400985
		<b>Contamination retainer RF...HC</b>	01202364	01202357		01204141	

\*if present

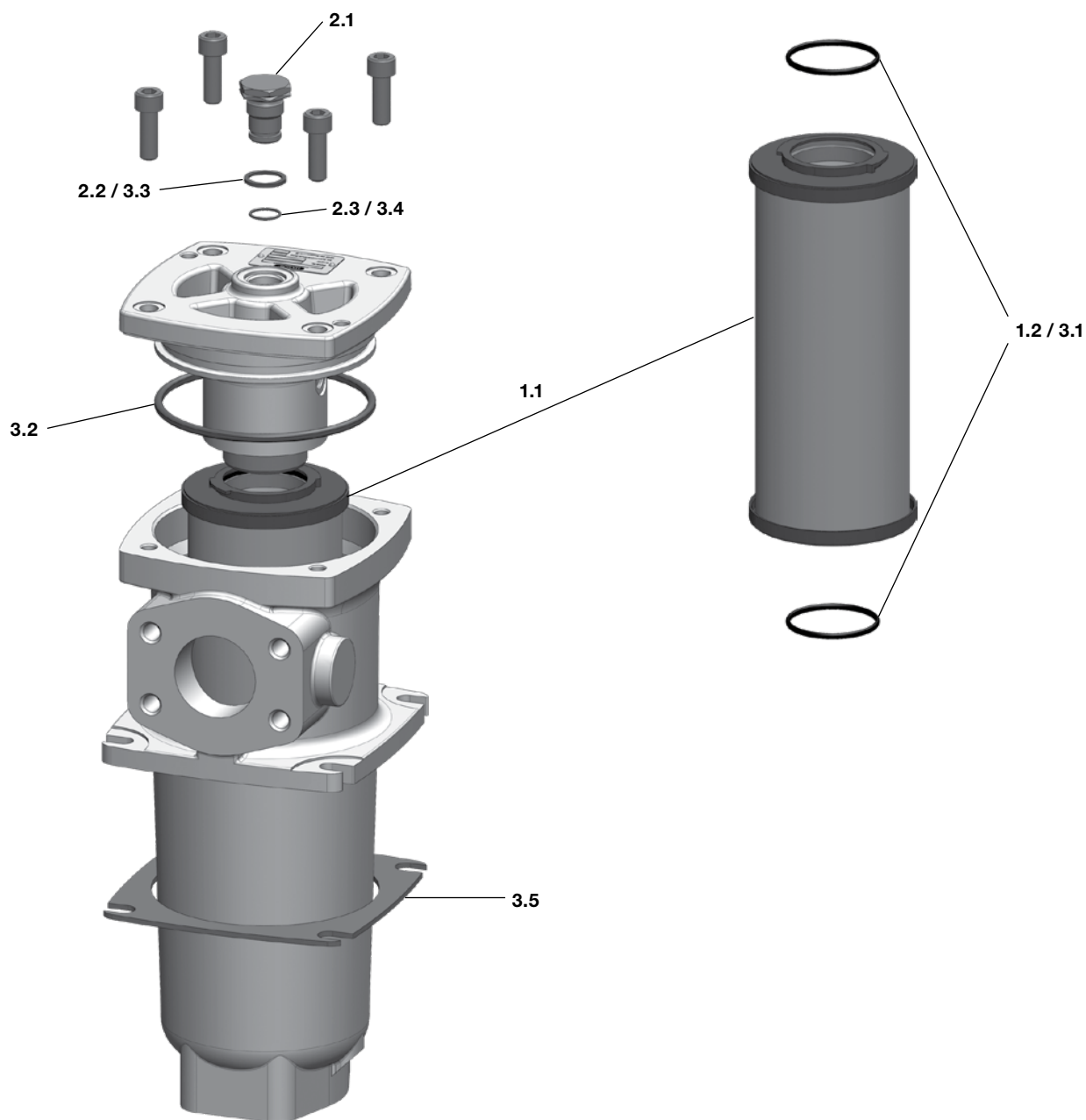
Other spare parts on request

- O-Ring durometer can range from 70-80Sh. Seal material is nitrile rubber (NBR) - EPR Seal Kits available on request.

- Lid assembly kits on request - kits include complete lid with seals.

- Bolts not included.

## 3.2 RF 450-580

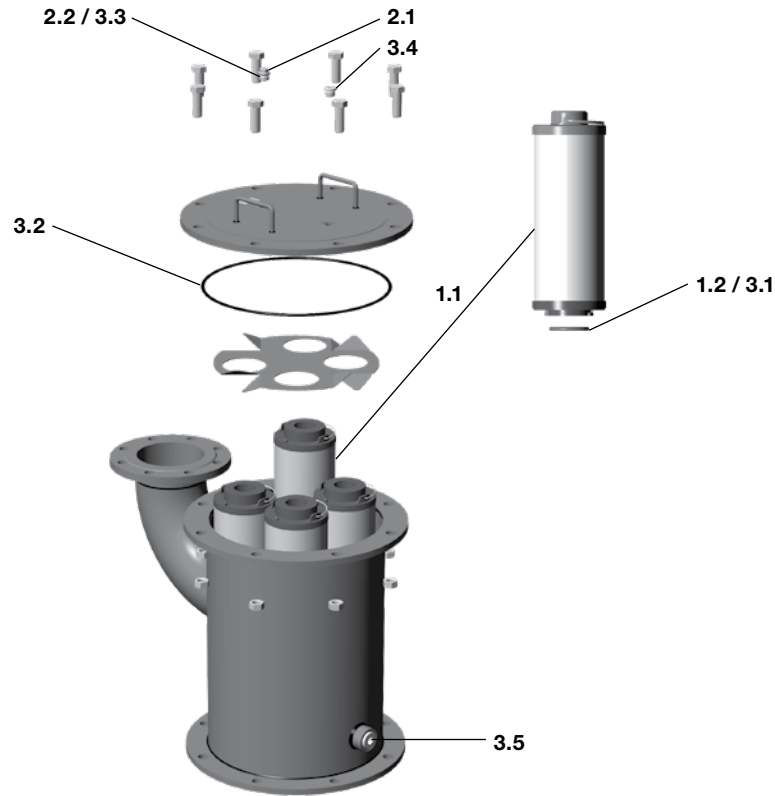


Item	Consists	Designation	RF 450 C L	RF 580 C L
<b>1.</b>		<b>Filter element</b>	see Point 4. Replacement elements	
	1.1	Qty. and type of element	0450 R...	0580 R...
	1.2	O-ring	48 x 3	48 x 3
<b>2.</b>		<b>Clogging indicator or indicator plug</b>	See Point 5. Replacement clogging indicator	
	2.1	Indicator plug VD 0 A.1 VD 0 A.1 /-V	00305932 00305931	
	2.2	Profile seal ring		VD...
	2.3	O-ring		15 x 1.5
<b>3.</b>		<b>Repair kit RF</b>		01300526
		<b>Repair kit RF /-V</b>		01300527
	3.1	O-ring (element)		48 x 3
	3.2	O-ring (cover plate)		115 x 5
	3.3	Profile seal ring (indicator)		VD...
	3.4	O-ring (indicator)		15 x 1.5
	3.5	Tank seal		03401359

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

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## 3.3 RF 2500-15000

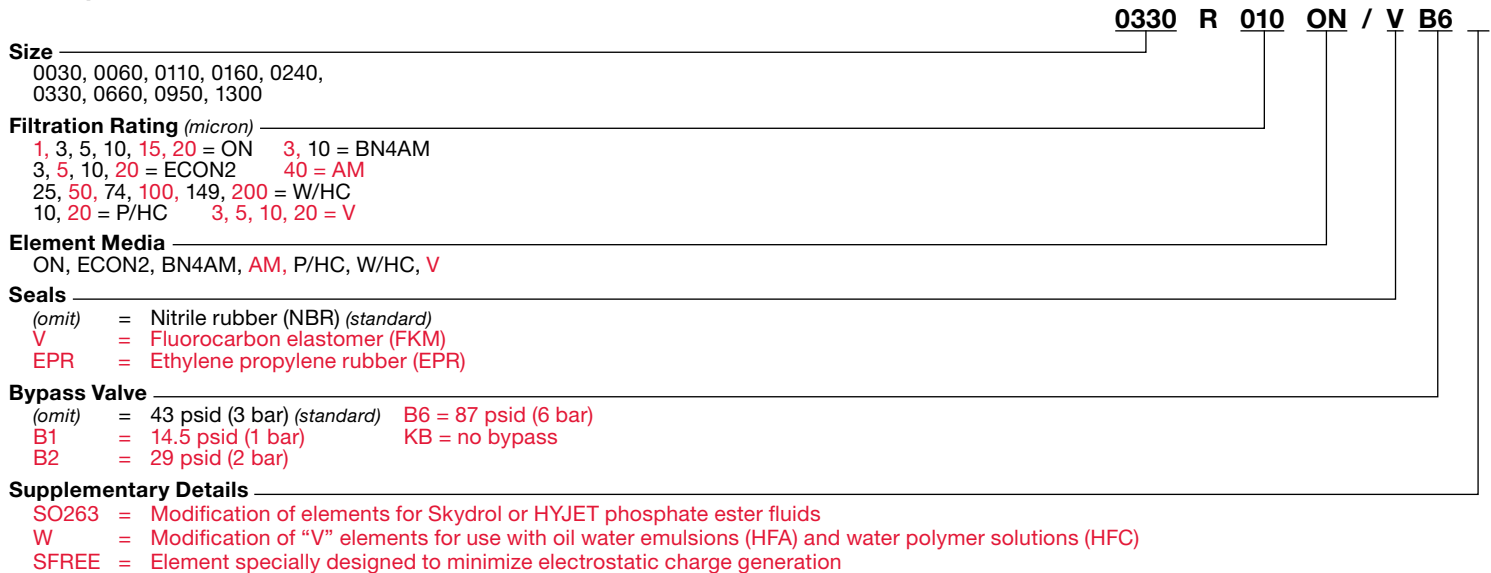


Item	Consists	Designation	RF 2500 B R	RF 2500 B U	RF 4000 B U	RF 4000 B V	RF 5200 B U	RF 5200 B V
<b>1.</b>		<b>Filter element</b>	see Point 4. Replacement elements					
	1.1	Qty. and type of element	3 x 0850 R...	3 x 0850 R...	5 x 0850 R...	5 x 0850 R...	4 x 1300 R...	4 x 1300 R...
	1.2	O-ring	68 x 5					
<b>2.</b>		<b>Clogging indicator or indicator plug</b>	See Point 5. Replacement clogging indicator					
	2.1	Indicator plug VR 0 A.0 VR 0 A.0 /-V	00306006 00305928					
	2.2	O-ring	18 x 2.5					
<b>3.</b>		<b>Repair kit RF</b>	01273117	01273119		01273121		
		<b>Repair kit RF /-V</b>	01273118	01273120		01273122		
	3.1	O-ring (element)	68 x 5					
	3.2	O-ring (cover plate)	278.77 x 5.33		370 x 5		97.8 x 5.33	
	3.3	O-ring (indicator)	18 x 2.5					
	3.4	Blanking plug VSTI G ½ (cover plate)	00607166 00613168 for /-V					
	3.5	Blanking plug VSTI G1 (drain)	00607168 00625536 for /-V					

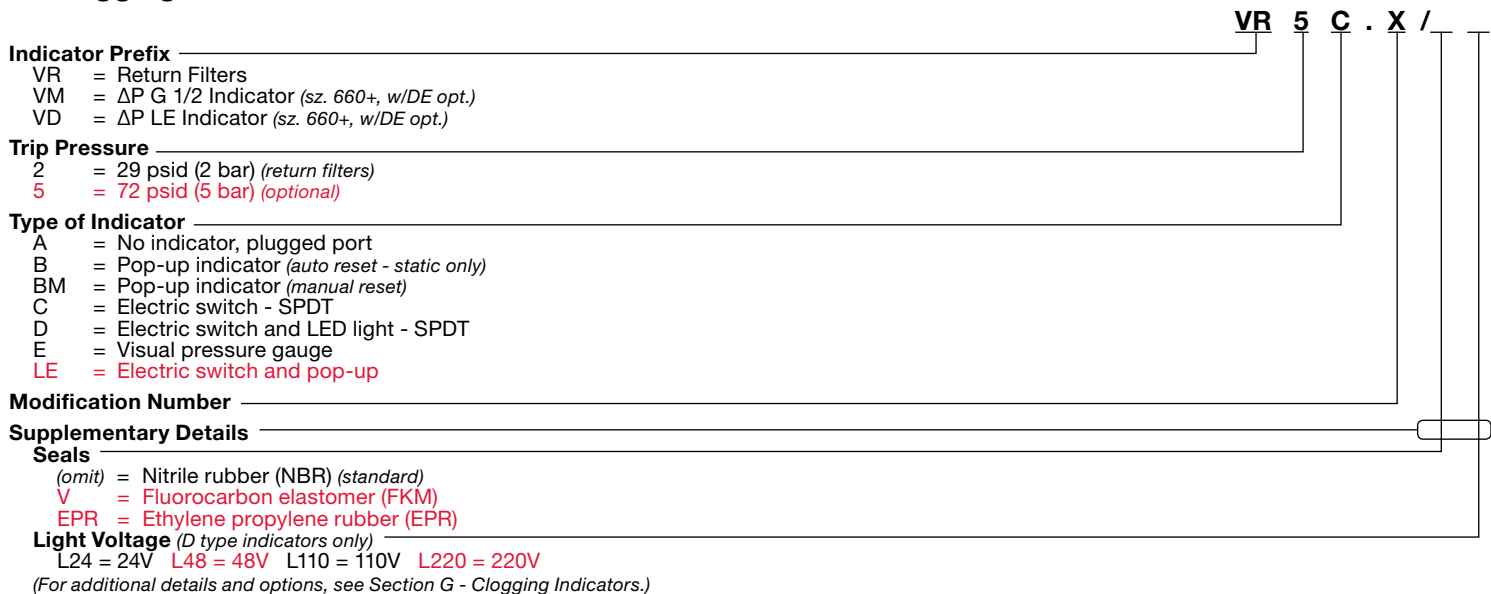
Item	Consists	Designation	RF 6500 B V	RF 6500 B W	RF 7800 B W	RF 7800 B X	RF 15000 B X	RF 15000 B Y
<b>1.</b>		<b>Filter element</b>	See Point 4. Replacement elements					
	1.1	Qty. and type of element	5 x 1300 R...	5 x 1300 R...	6 x 1300 R...	6 x 1300 R...	10 x 1300 R...	10 x 1300 R...
	1.2	O-ring	97.8 x 5.33					
<b>2.</b>		<b>Clogging indicator or indicator plug</b>	See Point 5. Replacement clogging indicator					
	2.1	Indicator plug VR 0 A.0 VR 0 A.0 /-V	00306006 00305928					
	2.2	O-ring	18 x 2.5					
<b>3.</b>		<b>Repair kit RF</b>	01273123	01273830		01273125		
		<b>Repair kit RF /-V</b>	01273124	01273831		01273126		
	3.1	O-ring (element)	97.8 x 5.33					
	3.2	O-ring (cover plate)	506.86 x 6.99				715 x 8.4	
	3.3	O-ring (indicator)	18 x 2.5					
	3.4	Blanking plug VSTI G ½ (cover plate)	00607166 00613168 for /-V					
	3.5	Blanking plug VSTI G1 (drain)	00607168 00625536 for /-V					

Other spare parts on request - O-Ring durometer can range from 70-80Sh. Seal material is nitrile rubber (NBR) - 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 Model Code



## 5. Clogging Indicator Model Code



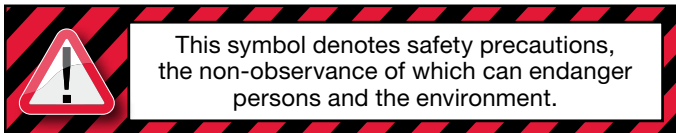
# FILTER MAINTENANCE

## 6. Maintenance Instructions

### 6.1 User Instructions for Filters



- 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.
- Filter housing must be grounded.
- When working on, or in the vicinity of, hydraulic systems, open flames, sparks and smoking are forbidden.
- Hydraulic oils and water-polluting fluids must not be allowed to enter the soil or watercourses or sewer systems. Please ensure safe and environmentally friendly disposal of hydraulic oils. The relevant regulations in the country concerned with regard to ground water pollution, used oil and waste must be complied with.
- Whenever work is carried out on the filter, be prepared for hot oil 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, ensure 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 elements at specific intervals. (*The frequency of changing the filter elements depends on the filter design and the conditions under which the filter is operated*). When filter elements are subject to high dynamic loading it may prove necessary to change them more frequently. The same applies when the hydraulic system is commissioned, repaired or when the oil is changed

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

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#### 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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