

## Filters



# SF/SFM/SFF Series

## Service and Parts

up to 132 gpm (500 l/min)

### 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, replace cover plate and tighten cover plate screws alternately. Switch on the hydraulic system and check filter for leakage. Vent filter at an appropriate point in the system.

#### 1.4 Maintenance Tools

Size SF	Torque Value Nm [ft-lb]	Hex Allen key
60	20 [15]	Int. Hex 6.35 [1/4"]
110	20 [15]	Int. Hex 6.35 [1/4"]
160	20 [15]	Int. Hex 6.35 [1/4"]
240	20 [15]	Int. Hex 6.35 [1/4"]
330	40 [29]	Int. Hex 8
950-1300	200 [147]	Ext. Hex 30

Size SFM	Torque Value Nm [ft-lb]	Cover plate bolts Wrench for hex. bolts
330	35 [26]	Hex 17

Size SFF	Cover plate Wrench for hex
400	Hex 36
500	Hex 36

#### 1.5 Torque Values

Type	Max. Torque Nm [ft-lb]
VR-clog ind	15 [11]
V1/4-clog ind (on SFF)	15 [11]
Oil Drain Plug	N/A
Lid or end cover	Do not Torque (See 1.3 and 2.2)

### 2. Element Replacement

#### 2.1 Element Removal

1. 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*).

2. Size 60-330:  
Loosen cover plate bolts and lift off the cover plate.

Size SFM 330:  
Loosen cover plate bolts and lift off the cover plate.

Size SFF 400 - 500:  
Unscrew cover plate bolts.

3. Lift out filter element. Examine element surface for dirt residues and larger particles since these can be an indication of damage to components.
4. Replace or clean filter element(s) (only W/HC and V elements can be cleaned).
5. Clean housing, cover plate.
6. Examine filter, especially sealing surfaces, for mechanical damage.
7. Check O-rings – and replace if necessary.

#### 2.2 Element Installation

1. Lubricate the sealing surfaces on the filter housing and cover plate, as well as the O-ring, with clean operating fluid.
2. When installing a new filter element, check that the designation corresponds to that of the old element.
3. Place filter element(s) carefully on to the element nozzle in the housing.
4. Size SF 60 - 330, SFM 330:  
Replace cover plate and screw in cover plate bolts by hand; then tighten bolts alternately.  
Size SFF 400 - 500:  
Replace cover plate and screw in manually.
5. Switch on hydraulic system
6. Check filter for leakage.
7. Vent filter at a suitable point in the system.

#### NOTE:

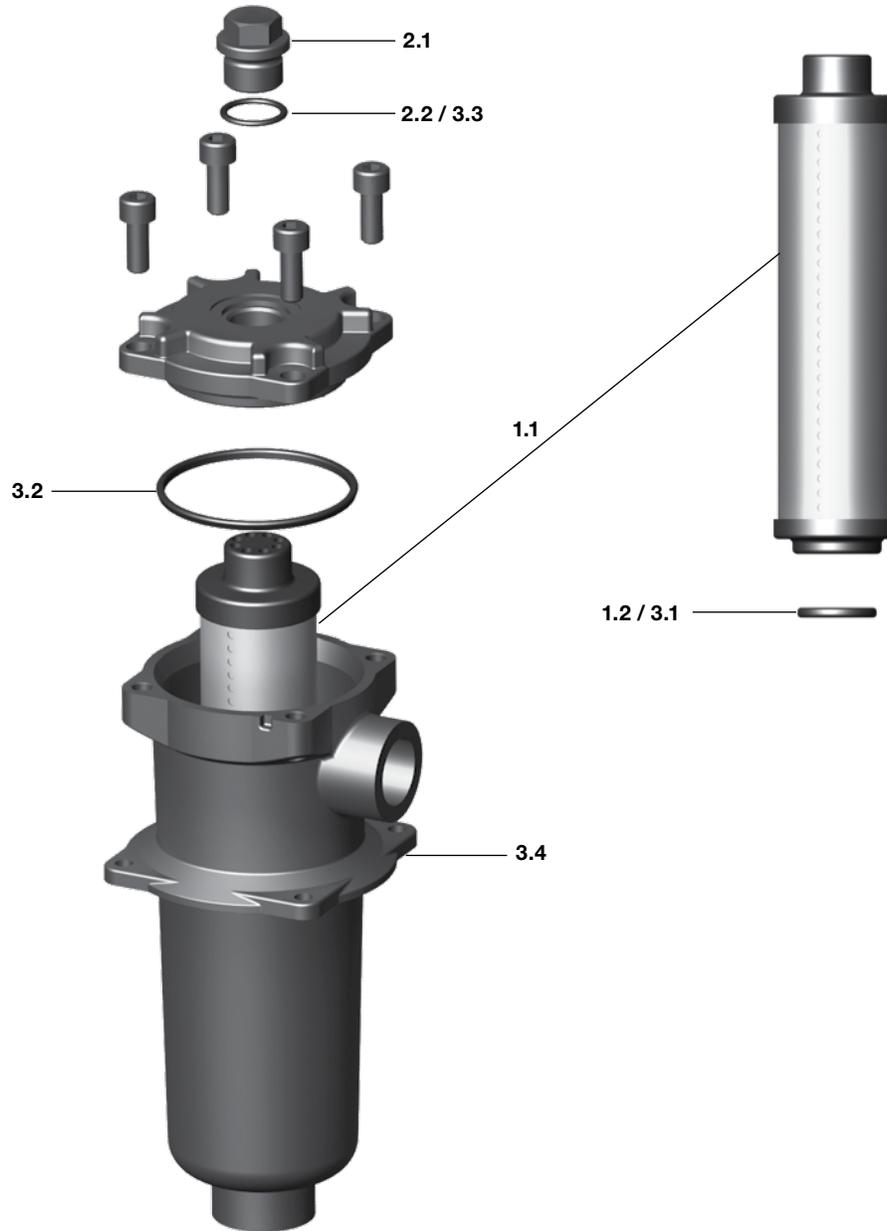
Contamination or incomplete pressure release on disassembly can lead to seizing of the bowl thread.

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

# FILTER MAINTENANCE

## 3. Spare Parts

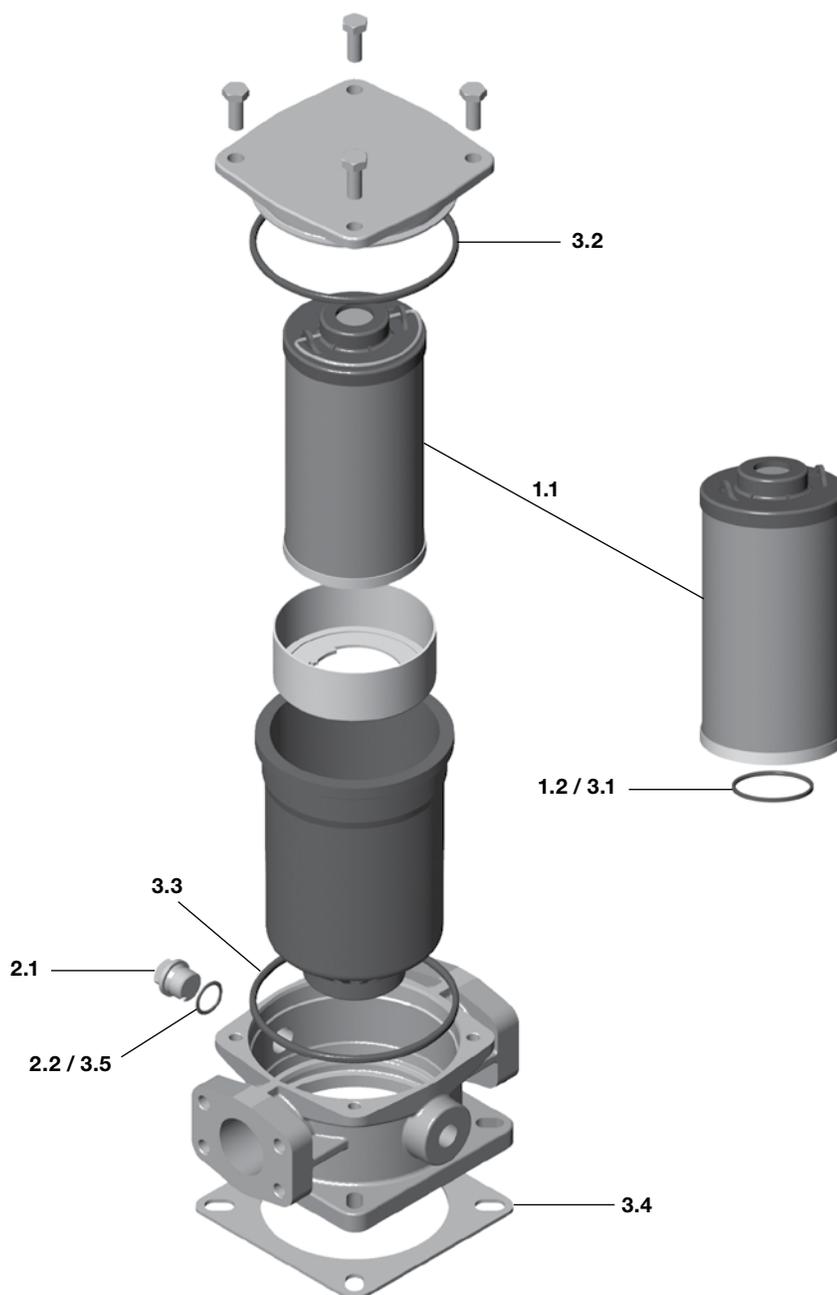
### 3.1 SF 60-330



Item	Consists	Designation	SF 60	SF 110	SF 160	SF 240	SF 330
<b>1.</b>		<b>Filter element</b>	See Point 4. Replacement elements				
	1.1	Filter element	0060 RS...	0110 RS...	0160 RS...	0240 RS...	0330 RS...
	1.2	O-ring	22 x 3.5		34 x 3.5		48 x 3
<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 SF Repair kit SF /-V</b>	01267827 01267828		01270657 01270658		00319613 00311702
	3.1	O-ring (element)	22 x 3.5		34 x 3.5		48 x 3
	3.2	O-ring (cover plate)	63.09 x 3.53		91.67 x 3.53		105 x 5
	3.3	O-ring (indicator)	18 x 2.5				
	3.4	O-ring (tank seal)	82.14 x 3.53		110.72 x 3.53		00405588

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 SFM 330

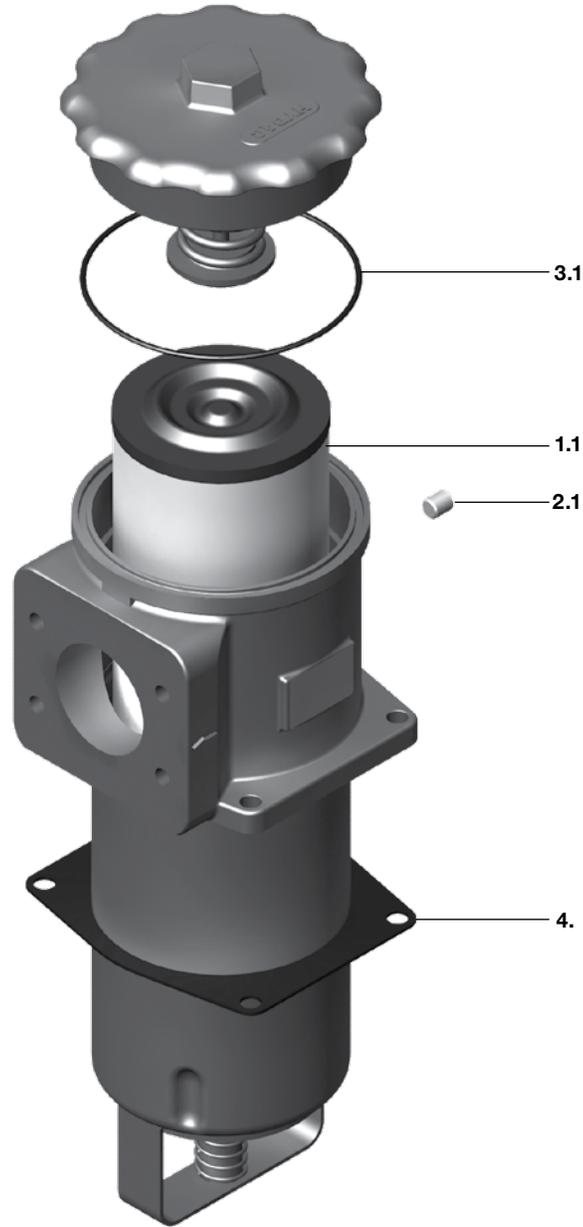


Item	Consists	Designation	SFM 330
<b>1.</b>		<b>Filter element</b>	See Point 4. Replacement elements
	1.1	Filter element	0330 RS...
	1.2	O-ring	48 x 3
<b>2.</b>		<b>Clogging indicator or indicator plug</b>	See Point 5. Replacement clogging indicator
		VR 0 A.0	00306006
		VR 0 A.0 /-V	00305928
	2.1	Blanking plug	G ½
	2.2	O-ring	18 x 2.5
<b>3.</b>		<b>Seal kit RFM</b>	01250666
		<b>Seal kit RFM /-V</b>	00313109
	3.1	O-ring (element)	48 x 3
	3.2	O-ring (cover plate)	123.19 x 5.33
	3.3	O-ring (head)	123.19 x 5.33
	3.4	O-ring (tank seal)	Seal RFM..330
	3.5	O-ring (VR 0 A.0)	18 x 2.5

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.

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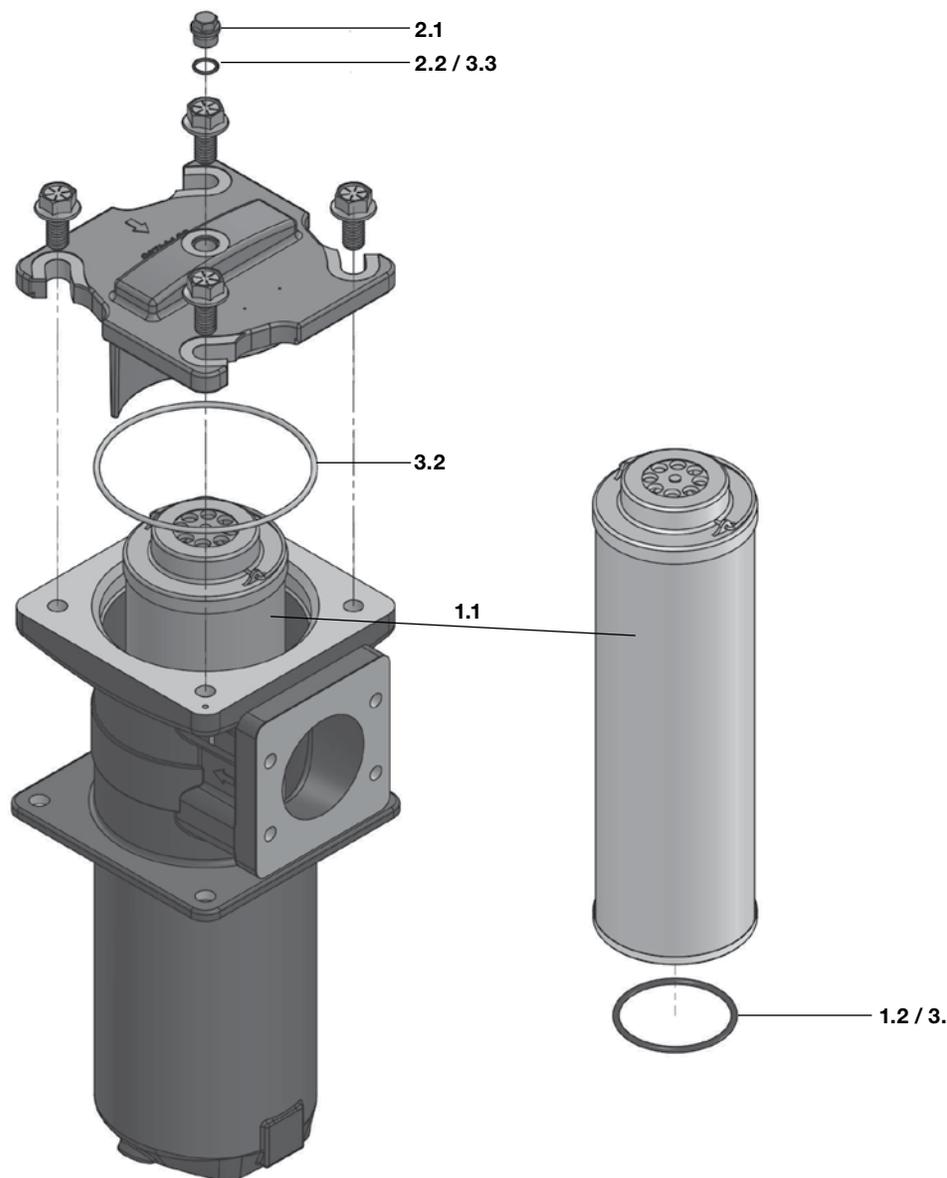
## 3.3 SFF 400 - 500



Item	Consists	Designation	SFF 400	SFF 500
1.		<b>Filter element</b>	See Point 4. Replacement elements	
	1.1	Filter element	0400 RS...	0500 RS...
2.		<b>Clogging indicator or indicator plug</b>	See Point 5. Replacement clogging indicator	
	2.1	Indicator plug	Indicator plug NPTF ¼ 6013772	
3.		<b>Seal kit SFF</b> <b>Seal kit SFF /-V</b>	01294713 01294714	
	3.1	O-ring (cover plate)	134.5 x 3	
4.		<b>Tank seal</b>	3072810	

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.

## 3.4 SF 950/1300

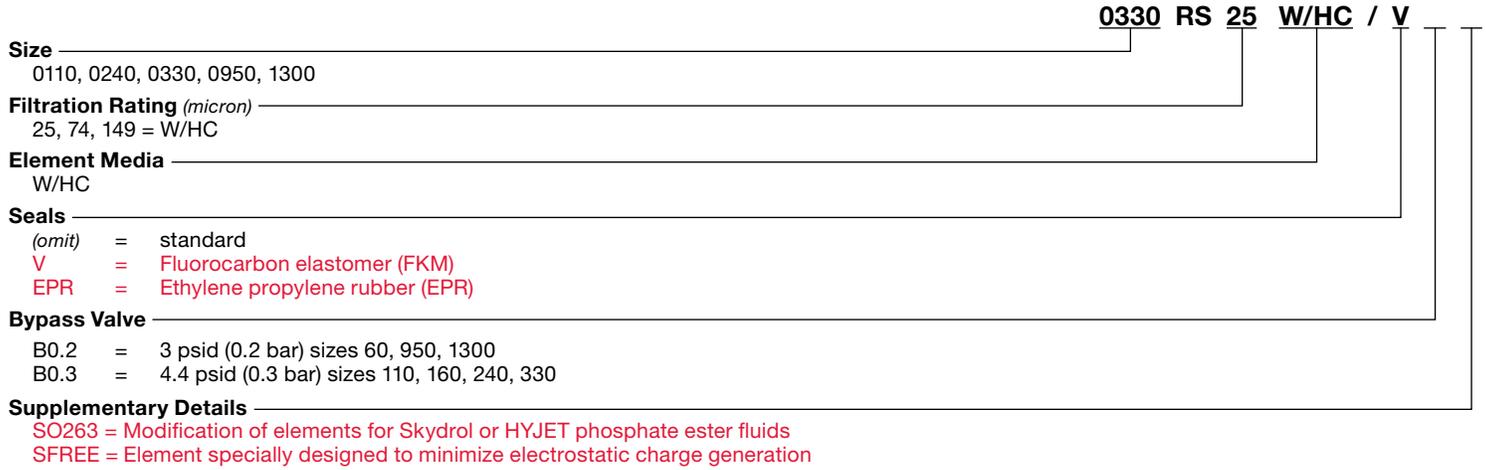


Item	Consists	Designation	SF 950	SF 1300
<b>1.</b>		<b>Filter element</b>	See Point 4. Replacement elements	
	1.1	Filter element	0950 RS	1300 RS
	1.2	O-Ring		
<b>2.</b>		<b>Clogging indicator or indicator plug</b>	See Point 5. Replacement clogging indicator	
	2.1	Indicator plug VR 0 A.0 VR 0 A.0 /-V	306006 305928	
	2.2	O-ring	18 x 2.5	
<b>3.</b>		<b>Repair kit SF Repair kit SF /-V</b>	303814 1260043	
	3.1	O-ring (element)	97.79 x 5.33	
	3.2	O-ring (cover plate)	175 x 5	
	3.3	O-ring (indicator)	18 x 2.5	
	3.4	O-ring (tank seal)	Gasket SF 950/1300	

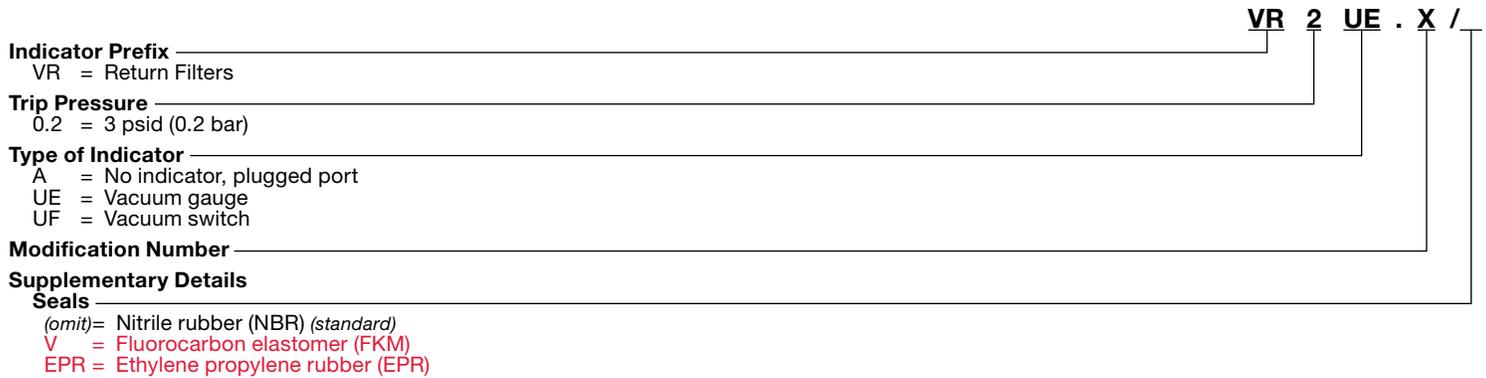
Other spare parts on request - O-Ring durometer can range from 70-80Sh. Seal material is nitrile rubber (NBR). EPR Seal Kits available on request.  
 - Lid assembly kits on request - kits include complete lid with seals.  
 - Bolts not included.

# FILTER MAINTENANCE

## 4. Replacement Element Model Code



## 5. Clogging Indicator Model Code



(For additional details and options, see Section G - Clogging Indicators of the HYDAC Filter catalog.)

## 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

##### HYDAC Technology Corporation Filter Division

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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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