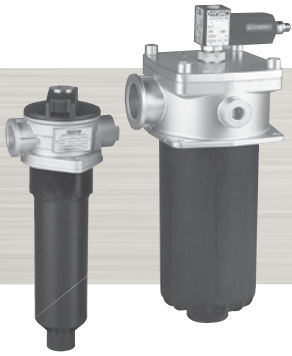


Filters



RFN Series Service and Parts

up to 166 gpm (630 l/min), up to 145 psi (10 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/cover plate, screw in cover plate bolts alternately (except RFN 40-100: screw in cover plate manually).

Switch on the hydraulic system and check filter for leakage. Vent filter at an appropriate point in the system.

1.4 Maintenance Tools

Size	Torque value Nm [ft-lb]	Cover plate bolts ISO 4017 Ext. hex. head wrench
40-100		Hand-tight
160-630	35 [26]	Hex 18

1.5 Torque Values

Type	Torque Nm[ft-lb]
VR Clogging indicators	30 [22]
VMF Clogging indicators	15 [11]

2. Element Replacement

2.1 Element Removal

- Switch off hydraulic system and release filter pressure.
- Size 40 - 100:
Unscrew cover plate manually
Sizes 160 - 630:
Loosen cover plate bolts and lift off the cover plate.
- Pull filter element out using handle. Examine element surface for dirt residues and larger particles since these can be an indication of damage to components.
- Replace filter element.
- Clean housing and cover plate.
- Examine filter, especially sealing surfaces, for mechanical damage.
- Check O-rings – and replace if necessary

2.2 Element Installation

- Wet 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.
- Place filter element carefully on to the element nozzle in the housing.
- Sizes 40 - 100:
Replace cover plate and screw in manually.
Sizes 160 - 630:
Replace cover plate and screw in cover plate bolts by hand; then tighten bolts alternately.
- Switch on hydraulic system and vent filter at a suitable point in the system.
- Check filter for leakage.

NOTE:

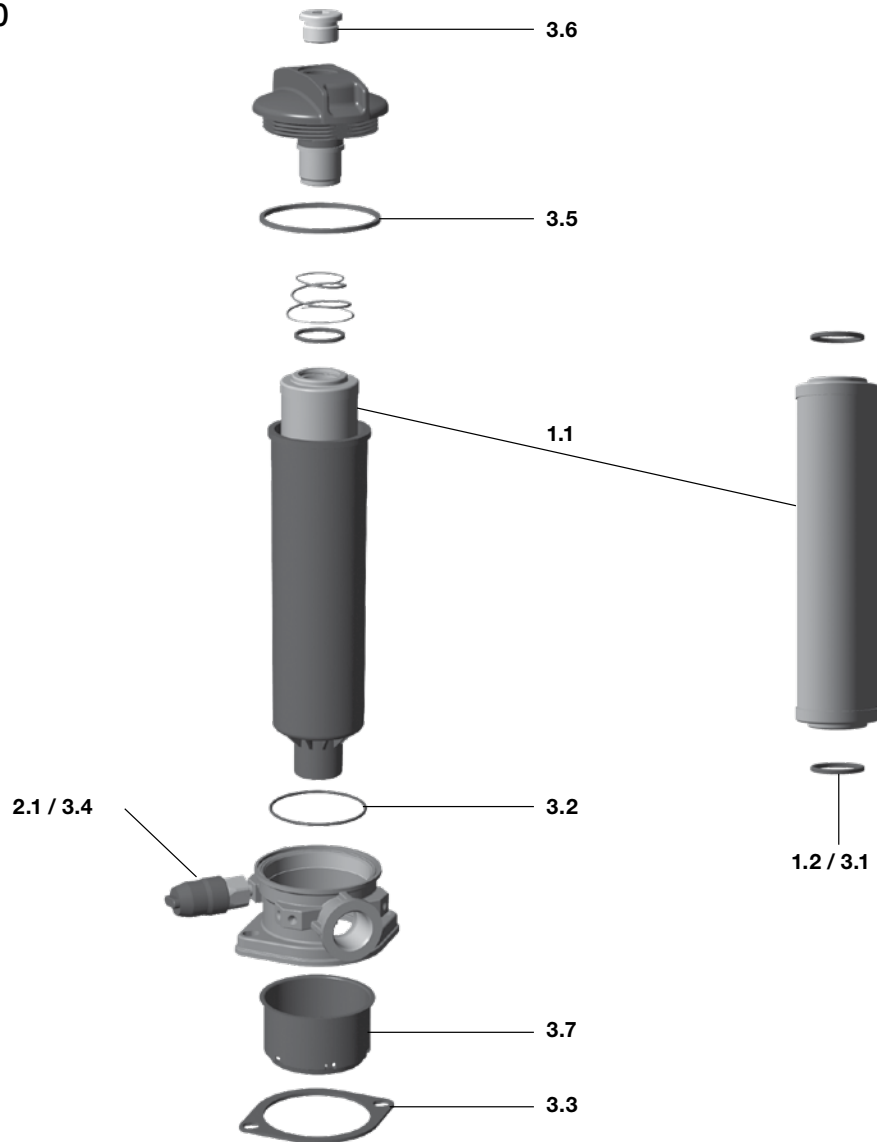
Contamination or incomplete pressure release on disassembly can lead to seizing of the bowl thread.

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

FILTER MAINTENANCE

3. Spare Parts

3.1 RFN 40 – 100



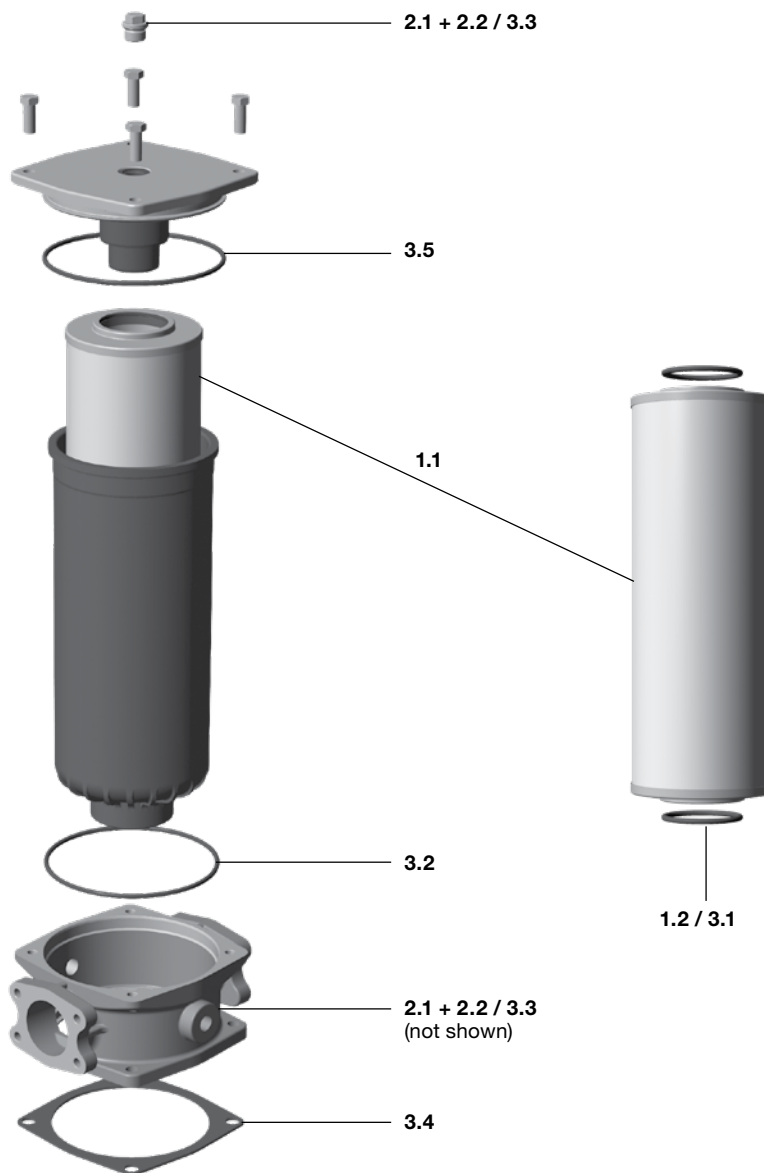
Item	Consists	Description	RFN 40	RFN 63	RFN 100
1.		Filter element	see Point 4. Replacement elements		
	1.1	Filter element	0040 RN...	0063 RN...	0100 RN...
	1.2	O-ring	2 x 32.92 x 3.53	2 x 32.92 x 3.53	2 x 32.92 x 3.53
2.		Clogging indicator or indicator plug	See Point 5. Replacement clogging indicator VMF		
	2.1	Indicator plug or Clogging indicator	VSTI G1/8	VSTI G1/8	VSTI G1/8
3.		Repair kit RFN Repair kit RFN /-V	01261050 01261051	01261050 01261051	01261050 01261051
	3.1	O-ring (element)	2 x 32.92 x 3.53	2 x 32.92 x 3.53	2 x 32.92 x 3.53
	3.2	O-ring (head)	71.12 x 2.62	71.12 x 2.62	71.12 x 2.62
	3.3	Gasket	RFM 165	RFM 165	RFM 165
	3.4	Indicator plug or Clogging indicator	VSTI G1/8 VMF...	VSTI G1/8 VMF...	VSTI G1/8 VMF...
	3.5	Seal (cover plate)	RFM / RFN	RFM / RFN	RFM / RFN
	3.6	Blanking plug	VSTI G3/4	VSTI G3/4	VSTI G3/4
	3.7	Oil separator	RFM 165	RFM 165	RFM 165

Other spare parts on request

- 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.

3.3 RFN 160 - 630



Item	Consists	Description	RFN 160	RFN 250	RFN 400	RFN 630
1.		Filter element	see Pt. 4. Replacement elements			
	1.1	Filter element	0160 RN...	0250 RN...	0400 RN...	0630 RN...
	1.2	O-ring	2 x 53.34 x 5.33	2 x 53.34 x 5.33	2 x 69.22 x 5.33	2 x 69.22 x 5.33
2.		Clogging indicator or indicator plug	See Point 5. Replacement clogging indicator			
	2.1	Indicator plug VR 0 A.0 VR 0 A.0 /-V	00306006 00305928	00306006 00305928	00306006 00305928	00306006 00305928
	2.2	O-ring	18 x 2.5	18 x 2.5	18 x 2.5	18 x 2.5
3.		Repair kit RFN Repair kit RFN /-V	01261052 01261053	01261052 01261053	01261054 01261055	01261054 01261055
	3.1	O-ring (element)	2 x 53.34 x 5.33	2 x 53.34 x 5.33	2 x 69.22 x 5.33	2 x 69.22 x 5.33
	3.2	O-ring (head)	132.72 x 5.33	132.72 x 5.33	164.47 x 5.33	164.47 x 5.33
	3.3	O-ring (indicator)	2 x 18 x 2.5	2 x 18 x 2.5	2 x 18 x 2.5	2 x 18 x 2.5
	3.4	Gasket	RFN 250	RFN 250	RF 660 Size 4	RF 660 Size 4
	3.5	O-ring (cover plate)	132.72 x 5.33	132.72 x 5.33	164.47 x 5.33	164.47 x 5.33

Other spare parts on request

- 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. Replacement Element

	0250	RN	010	BN4HC	/-V
Size _____ 0040, 0063, 0100, 0160, 0250, 0400, 0630					
Type _____ RN					
Filtration rating _____ BN4HC 003, 006, 010, 025					
Filter material _____ BN4HC					
Supplementary details _____ V (For description see "RFN" brochure)					

5. Replacement Clogging Indicator

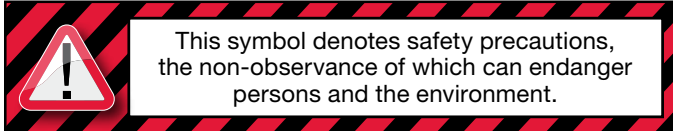
	VR	2.5	D	X	/-L24
Type of indicator _____ VR = port G 1/2 return line indicator VMF = port G 1/8 return line indicator					
Pressure setting _____ 2.5 = standard 2.5 bar (36 psid), others on request					
Type of clogging indicator _____ A = with steel blanking plug in indicator port B = visual C = electrical D = visual and electrical <i>other on request</i>					
Modification number _____ X = the latest version is always supplied					
Supplementary details _____ L..., LED, V (for description, see "Clogging Indicators" brochure)					

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.

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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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