

Operating and Maintenance



Pressurized filters are utilized to remove contaminant from hydraulic systems. Long working life of the hydraulic components and correct use of the hydraulic systems can be assured only when maintenance is performed correctly and at regular intervals.

Pressurized filters can be equipped with bypass valves, reverse flow valves, and check valves.

If the filters are not equipped with a bypass valve, only high strength filter cartridges should be used (Δp 210 bar) to avoid the risk of collapse due to the presence of contaminants retained during the filtration process.

- “H” series cartridges when by-pass valves are not installed.
- “S” series cartridges when reverse flow valves and duplex filters are installed.

When bypass valves are present and during flushing operations, we recommend the use of cartridges with low mechanical strength (Δp 20 bar).

- “N” series cartridges when reverse flow valves are not installed.
- “R” series cartridges when reverse flow valves and duplex filters are installed.

In order to prevent the filter elements from collapsing due to excessive hydraulic pressure it is essential to use differential indicators that serve to inform the user of the need to change the cartridge.

Effective contamination control can be assured only by the correct use of clogging indicators.

CHANGING THE FILTER ELEMENT ELEMENT FILTERS WITH IN-LINE AND MANIFOLD TYPE CONNECTIONS

- 1 Depressurize system and filter.
- 2 Unscrew (the oil drain plug, first if present) the housing using the appropriate tools and extract the filter element (see fig. 2).
- 3 Collect the spent oil and cartridge in a suitable container and dispose of them in compliance with statutory legislation.

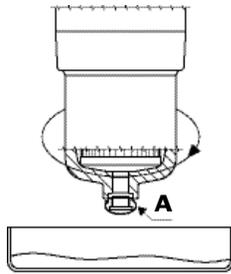


Fig. 1

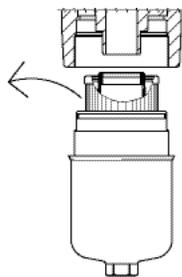


Fig. 2

!!! WARNING !!!

- 4 To avoid damaging the components check and clean the following parts is necessary:
 - the thread of the housing and the seals and the thread of the head.
 Check the condition of the seals - when chasing the seals lubricate the new seals with operating fluid prior to installation (see fig. 3).

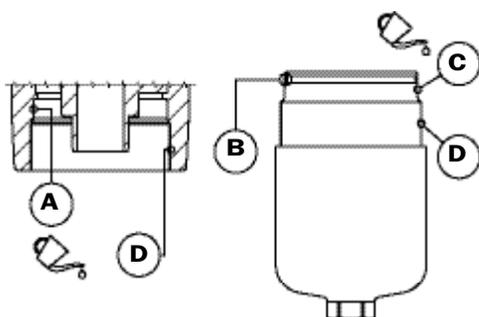


Fig. 3

- 5 Lubricate the filter element seal with the operating fluid before installing the new filter element (see fig. 4).

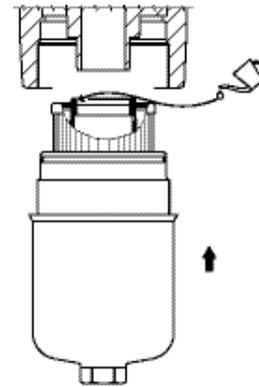


Fig. 4

- 6 Screw the housing onto the head using the correct tool. **WARNING:** Screw the housing fully home onto the head “**DO NOT APPLY EXCESSIVE TIGHTENING TORQUE**”.

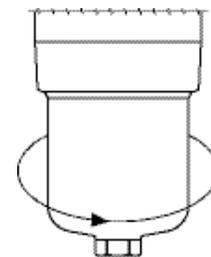


Fig. 5

- 7 Start the machine and check for the absence of leaks. Repeat the operation when the machine has reached its operating temperature.

**CHANGING THE FILTER
ELEMENT ON FMP - FHP - FHM - FHB
FILTERS
WITH HOUSING LENGTH 4 AND 5**

- 1 Depressurize the system.
- 2 Unscrew the oil drain plug and collect the fluid in a suitable container. When the filter has fully drained check the condition of the seals and if OK re-assemble the plug, tightening it fully down (see fig. 1). Unscrew the cover (version P01) or housing (version P02) using the specific tools, and then extract the filter element (see fig. 2).
- 3 Collect the spent oil and cartridge in a suitable container and dispose of them in compliance with statutory legislation.

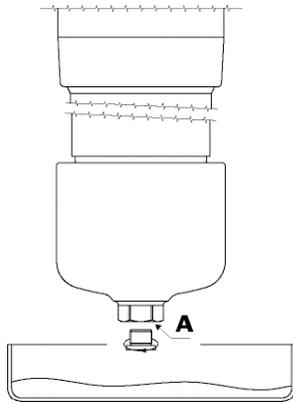


Fig. 1

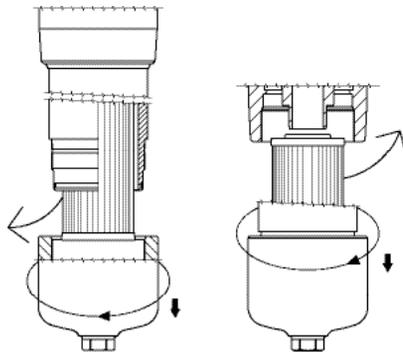


Fig. 2

!!! WARNING !!!

- 4 To avoid damaging the components, check the cover threads (version P01) or the housing threads (version P02) and the seals thoroughly; check also the housing (version P01) or head threads (version P02). Check the condition of the seals - when changing the seals lubricate the new seals with operating fluid prior to installation (see fig. 3).

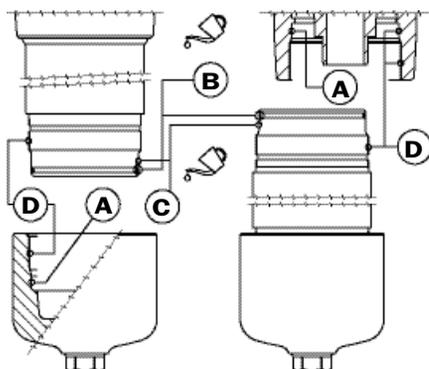


Fig. 3

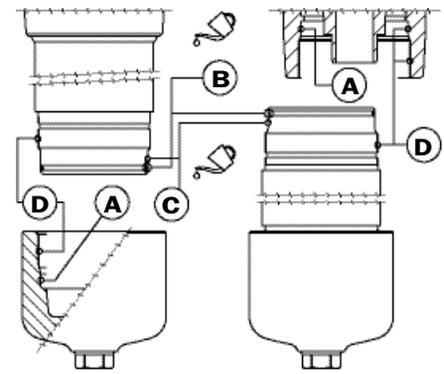


Fig. 3

- 5 Lubricate the filter element seal with the operating fluid prior to installation (see fig. 4).

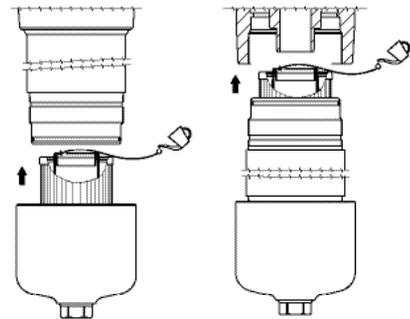


Fig. 4

- 6 Screw the cover onto the housing (version P01), or the housing onto the head (version P02) using the correct tool. **WARNING:** Screw the cover / housing fully home on the housing **"DO NOT APPLY EXCESSIVE TIGHTENING TORQUE"**.

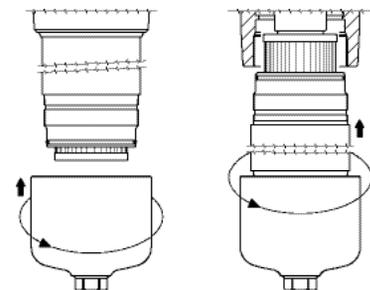


Fig. 5

- 7 Start the machine and check for the absence of leaks. Repeat the operation when the machine has reached its operating temperature.

CHANGING THE FILTER ELEMENT ON FHF FILTERS

- 1 Depressurize the system and clean the filter.
- 2 Unscrew the air vent plug (pos. A) and open the oil drain connection (pos. B), collect the fluid in a suitable container (see fig. 1).

When the operation is finished check the condition of the seals and if OK re-assemble plug (pos. A) and drain plug tightening both fully down. Unscrew the cover using the specific tools and extract the filter element (see fig. 2).

- 3 Collect the spent oil and cartridge in a suitable container and dispose of them in compliance with statutory legislation.

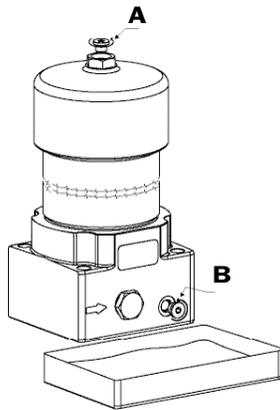


Fig. 1

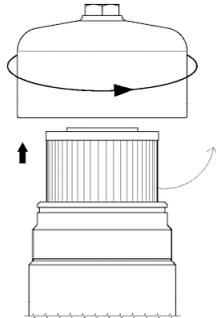


Fig. 2

!!! WARNING!!!

- 4 To avoid damaging the components check the cover threads and the seals thoroughly; check also the housing-thread. Check the condition of the seals - when changing the seals lubricate the new seals with operating fluid prior to installation (see fig. 3).

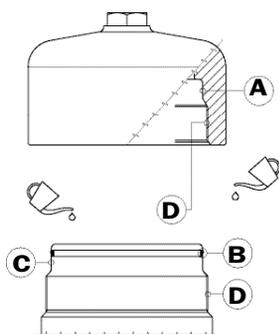


Fig. 3

- 5 Lubricate the filter element seal with the operating fluid prior to installation (see fig. 4).

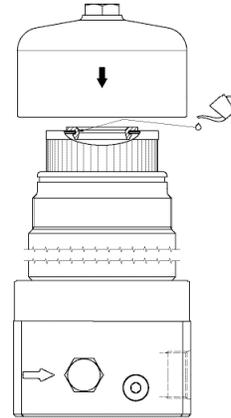


Fig. 4

- 6 Screw the cover onto the housing using the correct tool. **WARNING:** Screw the cover fully home into the housing "DO NOT APPLY EXCESSIVE TIGHTENING TORQUE".

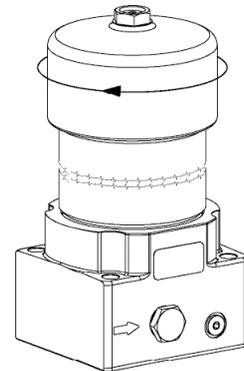


Fig. 5

- 7 Start the machine and bleed the air by unscrewing (max. one turn) the plug (pos. A). When the operation is terminated screw the plug fully down and check for the absence of leaks. Repeat the operation when the machine has reached its operating temperature.

**CHANGING THE FILTER
ELEMENT ON FILTERS
FHD 020 - 051 - 325 - 332**

- 1** Before turning the valve from housing B to housing A, open the * balancing valve (pos. C) by turning it counterclockwise.
Bleed the air through the plug (pos. A1), the screw must be turned through a maximum of one revolution.
After bleeding the air re-tighten the vent plug and close the balancing valve (pos. C) by turning it clockwise.

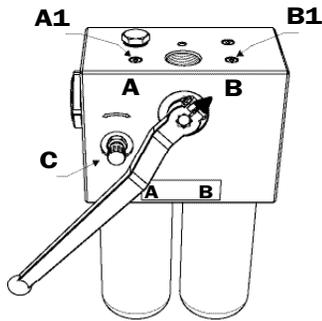


Fig. 1

- 2** Turn handle to divert the oil flow from housing B to housing A (see fig. 2). Unscrew the air vent plug (pos. B1) and open the oil drain connection (pos. B2) collecting the fluid in a suitable container.
When the operation is finished check the condition of the seals and if OK re-assemble on the plug (pos. B2) tightening it fully down and re-tighten the the air vent connection (pos. B1).
Unscrew housing (B) using the appropriate tools and extract the filter element (see fig. 3).

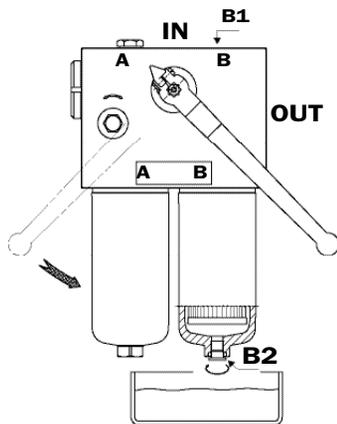


Fig. 2

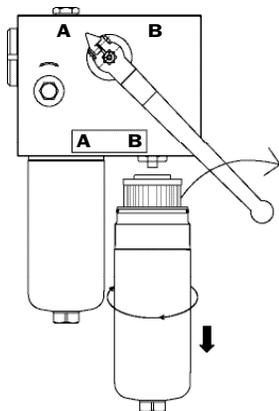


Fig. 3

- 3** Collect the spent oil and cartridge in a suitable container and dispose of them in compliance with statutory legislation.

!!! WARNING !!!

- 4** To avoid damaging the components check the thread of the housing and the seals thoroughly; check also the thread of the head.
Check the condition of the seals - when changing the seals lubricate the new seals with operating fluid prior to installation (see fig. 4).

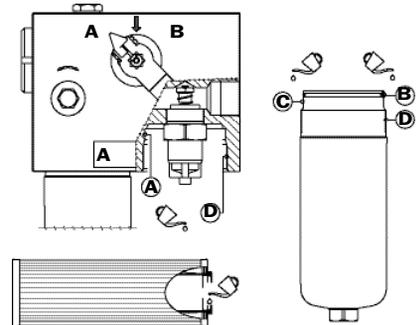


Fig. 4

- 5** Lubricate the filter element seal with the operating fluid prior to installation.

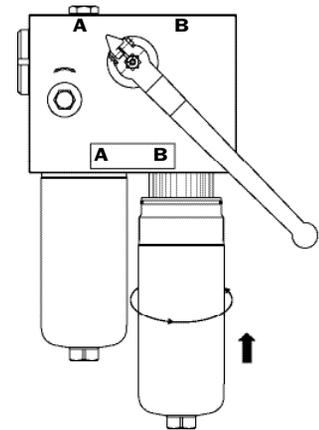


Fig. 5

- 6** Screw the housing onto the head using the correct tool. **WARNING:** Screw the housing fully home on the housing **“DO NOT APPLY EXCESSIVE TIGHTENING TORQUE ”** Open the balancing valve* (pos. C) by turning it counterclockwise.
Bleed the air through the plug (pos. B1), the screw must be turned through a maximum of one revolution.
After bleeding the air re-tighten the vent plug and close the balancing valve* (pos. C) by turning it clockwise.
Check for the absence of leaks.

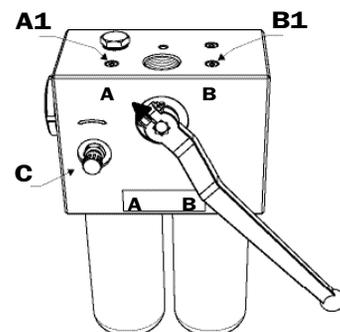


Fig. 6

- * The balancing valve is not present in version FHD 020.

**CHANGING THE FILTER
ELEMENT ON FILTER FHD 332
HOUSING LENGTH 4**

- 1** Before turning the valve from housing B to housing A, open the balancing valve (pos. C) by turning it counterclockwise. Bleed the air through the plug (pos. A1), the screw must be turned through a maximum of one revolution. After bleeding the air re-tighten the vent plug and close the balancing valve (pos. C) by turning it clockwise (see fig 1).

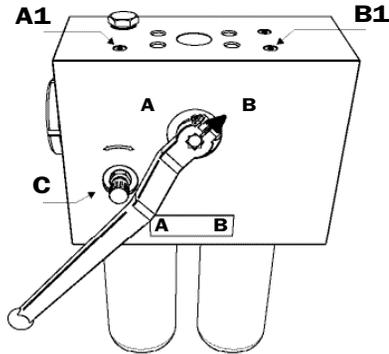


Fig. 1

- 2** Turn handle to divert the oil flow from housing B to housing A. Unscrew the air vent plug (pos. B1) and open the oil drain connection (pos. B2) collecting the fluid in a suitable container. When the operation is finished check the condition of the seals and if OK re-assemble on the plug (pos. B2) tightening it fully down and close the the air vent connection (pos. B1). Unscrew the cover (version P01) or housing (version P02) using the specific tools, and then extract the filter element (see fig 2).

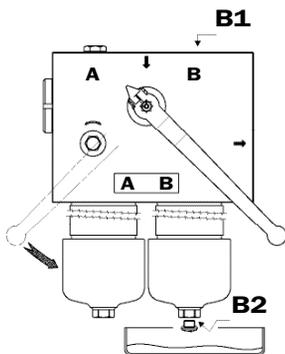


Fig. 2

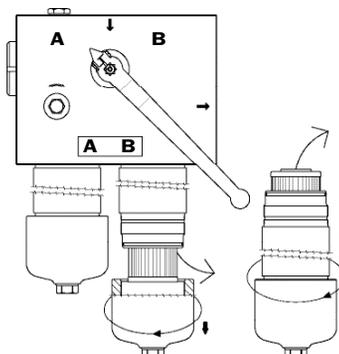


Fig. 3

- 3** Collect the spent oil and cartridge in a suitable container and dispose of them in compliance with statutory legislation.

!!! WARNING !!!

- 4** To avoid damaging the components check the cover threads (version P01) or the housing threads (version P02) and the seals thoroughly; check also the housing threads (version P01) or the head threads (version P02). Check the condition of the seals - when changing the seals lubricate the new seals with operating fluid prior to installation (see fig. 4).

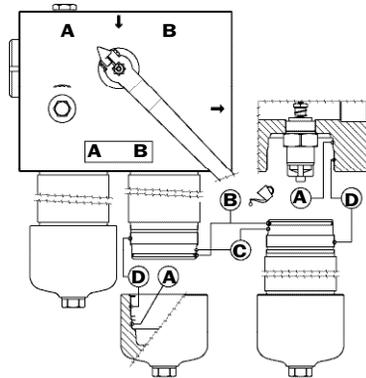


Fig. 4

- 5** Lubricate the filter element seal with the operating fluid prior to installation (see fig 5).

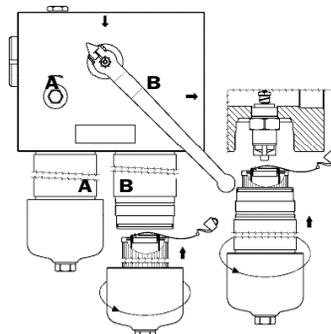


Fig. 5

- 6** Screw the cover onto the housing (version P01), or the housing onto the head (version P02) using the correct tool. **WARNING:** Screw down the cover / housing fully home into the housing **"DO NOT APPLY EXCESSIVE TIGHTENING TORQUE"**. Open the balancing valve* (pos. C) by turning it counterclockwise. Bleed the air by means of plug (pos. B1), the screw must be turned through a maximum of one revolution. After bleeding the air refit the vent plug and close the balancing valve* (pos. C) by turning it clockwise. Check for the absence of leaks.

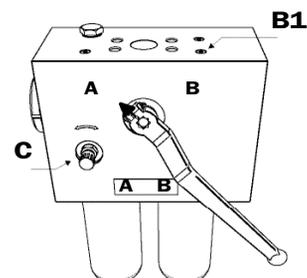


Fig. 6

* The balancing valve is not present in version FHD 020.