SIMPLEX & DUPLEX FILTER VESSELS

INSTALLATION/OPERATION & MAINTENANCE INSTRUCTIONS

1.0 INSTALLATION

1.1 General

1.1.1 Upon receipt, inspect the filter for any damage incurred during shipping. Notify carrier of any damage immediately.

1.1.2 Read all instructions, attachments, drawings carefully before installing, operating or servicing the filter assembly.

1.1.3 Locate the filter assembly in a position convenient to the equipment being serviced. Allow sufficient overhead clearance for removal of filter cartridges.

1.1.4 If a transfer valve was supplied with duplex assemblies allows flow through either filter or both dependent on valve position. Continuous flow is provided to the equipment regardless of valve position. Refer to transfer valve operating instructions data sheet.

1.1.5 A pressure equalization/fill line is required for proper operation of the duplex system. Refer to Section 3.0 for operating instructions.

1.2 Piping

1.2.1 Inlet piping should be sized large enough to handle rated fluid flow without excessive pressure drop. Piping should be clean and free of dirt, scale, etc.

1.2.2 Shutoff valves may be installed in the inlet and outlet piping to isolate assembly.

1.2.3 Install a check or relief valve in the outlet piping if filter head pressure is greater than filter discharge pressure or if fluid sump is a higher level than the filter.

1.2.4 Ensure filter drains and vents have appropriate valves so as to operate properly.

1.3 Cover Lifter

1.3.1 If unit has been supplied with a cover lifting device, refer to Page 4 for cover lifter assembly operating instructions.

1.4 Filter Cartridges

1.4.1 Remove filter cover to ensure proper cartridges have been installed and are undamaged. If filter cartridges are not installed, refer to section 4.0 for proper procedure.

1.4.2 Check cover seal gasket or “O” ring for damage and placement. Replace if needed.

2.0 STARTING & OPERATING – SIMPLEX FILTERS
2.1 Open Inlet & Outlet Valves
   2.1.0 Ensure proper sump level is maintained after filter empty filter vessel by adding make-up oil.

2.2 Open Vent Valve on Filter Cover
   2.2.1 To release trapped air. Close valve when fluid appears
   2.2.2 Periodically bleed accumulated air from vessel.

2.3 Periodically Observe Pressure Gauge Readings
   2.3.1 To determine if filter cartridges need to be changed. An increase in differential pressure across the filter cartridges of 25 PSID would signify that the elements need to be changed.

3.0 Starting & Operating – Duplex Vessels
3.1 Transfer Valve
   3.1.1 Place valve in position with one filter as active and the other as inactive.
   3.1.2 For cold starts or viscous fluids, the valve may be placed in mid-position to divert flow through both filter vessels. Once proper operating temperature has been reached the transfer valve may be switched to allow flow through desired filter only.
   3.1.3 “ENSURE PRESSURE EQUALIZATION LINE VALVE IS OPEN.” This line serves to equalize pressure between the two vessels for proper transfer valve operation and acts as a fill line for the clean or inactive vessel after element changes. This line should be equipped with an orifice to prevent excessive flow.

3.2 Start Flow Through System
   3.2.1 Open vent valves on both filter covers. Allow entrapped air to bleed off both filter vessels. When fluid appears, close vent valves.
   3.2.2 Periodically bleed entrapped air from vessels or provide a continuous vent with orifice back to main sump.

3.3 Flow Transfer
   3.3.1 Flow transfer from active filter to clean or inactive filter is accomplished by first ensuring clean filter is filled with fluid and pressure is equalized between the two filter vessels. THE PRESSURE EQUALIZATION LINE MUST BE OPEN.
   3.3.2 Switch transfer valve position to divert flow to clean filter.
   3.3.3 Close pressure equalization line valve.
   3.3.4 Proceed with element change per section 4.0.
   3.3.5 After the element change is completed open pressure equalization line to fill inactive filter and balance pressure. Vent valve on filter cover must open to bleed off entrapped air. Close vent when fluid appears.

3.4 Observe Pressure Gauge Readings
   3.4.1 Periodically observe pressure gauge readings to determine if the filter cartridges need to be changed. An increase in differential pressure across the filter cartridges of 25 PSID would signify that the elements need to be changed.

4.0 FILTER CARTRIDGE SERVICING
4.1 Changing the Filter Elements
   4.1.1 Filter elements should be changed when the differential pressure across the element reaches or exceeds a 25 PSID increase over the starting
clean differential pressure; or every twelve (12) months, whichever occurs first.

4.2 How to Change the Filter Elements

4.2.1 For Duplex Vessels: Transfer flow from active filter to clean filter per section 3.3.

4.2.2 For Simplex Vessels: Stop flow of fluid through the filter vessel.

4.2.3. RELEASE PRESSURE IN THE FILTER VESSEL BY OPENING THE COVER VENT VALVE. THE PRESSURE MUST BE AT ZERO BEFORE OPENING THE COVER ASSEMBLY.

4.2.4 Open filter drain valve and drain fluid to below bottom of lowest cartridge to prevent dirty fluid from passing into clean fluid side of housing.

4.2.5 Loosen cover bolts and remove the cover. If cover lifter is installed, refer to operating instructions for cover lifter assembly.

4.2.6 Allow filter elements to drain in vessel to prevent excessive fluid loss.

4.2.7 Remove element compression cap/hold down assembly.

DO NOT THROW AWAY!

4.2.8 Remove dirty elements from filter vessel and discard in proper manner.

4.2.9 Replace elements with new filter elements.

4.2.10 Replace element compression cap/hold down assembly. Be sure cap sealing surface is clean and free of nicks and scratches.

4.2.11 Examine cover seal gasket / “O” ring and replace if damaged. Clean cover sealing surfaces as required.

4.2.12 Replace cover and carefully tighten cover bolts.

4.2.13 For Duplex Vessels – Place filter back in standby condition per section 2.3.5.

4.2.14 For Simplex Vessels – Restart equipment and bleed entrapped air from vessel by opening cover vent valve. Close valve when liquid appears.

4.2.15 Check for leakage around cover seal.
1.0 INSTALLATION

1.1 GENERAL

1.1.1 Upon receipt, inspect cover lifter assembly for any damage incurred during shipping. Notify carrier of any damage immediately.

1.1.2 Read all instructions, attachments, and drawings before operating or servicing the cover lifter assembly.

1.1.3 Refer to figure for part nomenclature and description.

1.2 OPERATION

1.2.1 To remove filter cover:
A. Loosen and release cover bolts.
B. Raise hydraulic jack until cover is free from filter.
C. Swing cover until clear of filter casing.

1.2.2 To replace filter cover:
A. Swing cover to centered position over filter casing.
B. Release hydraulic jack until cover rests on cover gasket / “O” ring.
C. Replace and secure cover bolts.