

## Filter Element Replacement Procedure

MODELS HF(GRADE)52 THROUGH HF(GRADE)92

FORM NO.: 3151988 REVISION: 02/2019

READ AND UNDERSTAND THIS MANUAL PRIOR TO OPERATING OR SERVICING THIS PRODUCT.

### Maintenance

#### A. When to Replace Filter Element

**NOTE:** Grades 7,5,3,1 - complete element is replaced;  
Grade 9 - unless separator core is damaged outer sleeve only is replaced.

1. Grades 9,7,5,3
  - a. Initial (dry) pressure drop: 1 psi (0.07 kgf/cm<sup>2</sup>) to 2 psi (0.14 kgf/cm<sup>2</sup>)
  - b. Operating pressure drop: As filter becomes liquid loaded (wetted), pressure drop will increase to 2 to 6 psi (0.14 to 0.42 kgf/cm<sup>2</sup>). Further pressure drop occurs as element loads with solid particles.

FOR MAXIMUM FILTRATION EFFICIENCY, REPLACE ELEMENT WHEN PRESSURE DROP REACHES 10 PSI (0.7 KGF/CM<sup>2</sup>) (INDICATOR IN RED AREA) OR ANNUALLY, WHICHEVER OCCURS FIRST.

**NOTE:** Pressure drop may temporarily increase when flow is resumed after flow stoppage. Pressure drop should return to normal within one hour.

**NOTE:** Grades 5 and 3 - During normal operation bottom of foam sleeve will have a band of oil. Spotting above the band indicates that liquids are accumulating faster than they can be drained and that prefiltration is required.

2. Grade 1
  - a. Adsorption capacity - 1000 hours at rated capacity. Element life is exhausted when odor can be detected downstream of the filter.

#### B. Procedure for Element Replacement

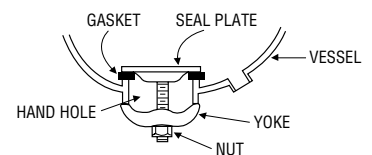
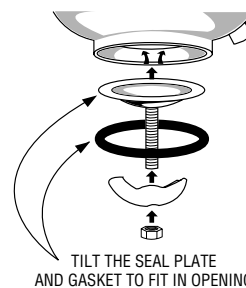
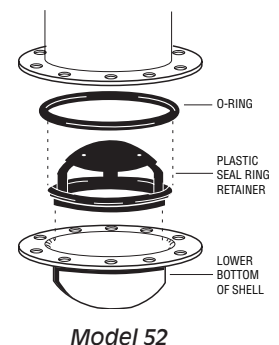
**WARNING: THIS FILTER IS A PRESSURE CONTAINING DEVICE. DEPRESSURIZE BEFORE SERVICING.**

1. By-pass the filter to permit servicing.
2. Depressurize the filter assembly slowly by opening blowdown valve.
3. Open pressure vessel.

3A. Model 52 - Remove flange bolts. Lower bottom shell, o-ring, and seal ring retainer.

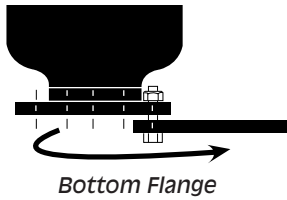
3B. Models with handhole.

- a. Remove nut and yoke.
- b. Lift seal plate and turn so that seal plate and seal plate gasket can be removed.



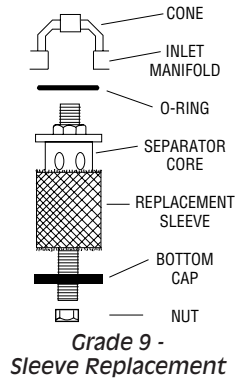
Handhole

- 3C. Models with flanged bottom.
  - a. Loosen bottom blind flange bolts.
  - b. Remove all but one bolt.
  - c. Swing flange to one side.

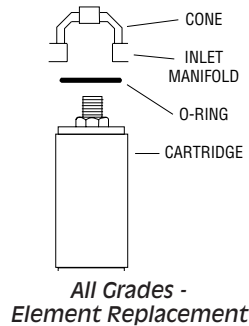


4. Starting in the center, unscrew the filter elements and remove the filter elements and element o-rings.
5. Grades 7, 5, 3, 1 - Discard old elements and o-rings.
- 5A. Grade 9

- a. Remove nylon nut and bottom cap.
- b. Slide disposable filter sleeve down over separator core.
- c. If necessary, clean separator core with soap and water.
- d. Slide new filter sleeve over separator core and replace bottom cap and nylon nut.



6. Clean face of inlet manifold with a mild detergent using a long-handled brush or clean rag attached to a rod. Manifold face must be free of all dirt and grease to insure proper o-ring seal between new filter element top cap and inlet manifold.



7. Install new o-rings in the o-ring groove in each filter element top cap.
8. Starting from the outside (filter element closest to the vessel wall), screw new filter elements into inlet manifold connections. A cone in the manifold will guide the element bolt into the female threads.

**NOTE:** It is only necessary to finger tighten the filter element to insure a seal. **DO NOT WRENCH TIGHTEN.**

9. Close vessel.
- 9A. Model 52 - Reassemble bottom shell, o-ring and seal-ring retainer to housing. Make sure seal-ring retainer provides a backup for the o-ring as shown in drawing.
- 9B. Models with hand hole.
  - a. Reinsert seal plate and seal plate gasket into vessel and position on lip as shown in drawing.

**NOTE:** Do not reuse gasket if gasket is torn or gasket surface is damaged.

- b. Reinstall yoke and nut.
- c. Tighten nut making sure that gasket is properly positioned under seal plate.
- 9C. Models with flanged bottom.
  - a. Swing blind bottom flange into position.
  - b. Rebolt after inspecting flange gasket to ensure its integrity.
10. Pressurize unit slowly by slowly opening inlet valve, then opening outlet valve, and finally closing by-pass valve.

SERVICE DEPARTMENT : (724) 746-1100

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