

STRAINRITE, INC

P.O.Box 1970 – 65 First Flight Drive – Auburn, Maine 04210

Strainrite Value Series Cartridge and Bag Filter Vessel Operating Instructions.

WARNING

To minimize the risk of serious injury and property damage:

- Do not exceed maximum pressure and temperature rating on the vessel
- Do not attempt to open the vessel until all internal pressure has been relieved
- Read and follow instructions and safety information in this manual

Contents:

- 1- Shutdown Procedure
- 2- Media Replacement – Single Cartridge Filter Vessels
- 3- Media Replacement – Multi Cartridge Filter Vessels
- 4- Media Replacement – Bag Filter Vessels
- 5- Startup Procedure

WARNING !

Do not service this vessel while inlet or outlet valves are open or while unit contains pressure. Do not, at any time, loosen closure bolts before draining. Failure to open drain and vent will result in pressurized liquid being trapped in vessel. Pressurized liquid will spray out when the bolts are loosened which could cause serious injury or property damage.

I. Shutdown Procedure

1. Before opening vessel: Turn off pump and lock it out.
2. Close inlet and outlet valves. Inlet or pressure side should always be closed first.
3. Open vent valve. Make sure the valve is piped such that escaping fluids do not cause personal injury or property damage.
4. Check pressure gauges to make sure the vessel's internal pressure is zero. Note : A Differential pressure gauge connected between the inlet and outlet WILL NOT show internal pressure. Differential pressure gauges are usually marked "PSID" in the gauge face.
5. Open bottom drain. Gravity will move fluid through drain. After vessel has drained, close drain valve.
6. Loosen cover nuts, and swing bolts and justs away from cover. On single round cartridge vessels, remove the clamp and set aside until ready for startup.
7. Remove the cover and set aside until ready to re-assemble. Protect gasket surface from damage. On single round cartridge filter vessels, remove the bowl and set aside until ready to re-assemble.

II. Media Replacement – Single Cartridge Filter Vessels

1. Follow shut down procedure in Section I.
2. Remove the spent cartridge and dispose per local regulations and policies.
3. If using DOE (double open end) cartridges, push the cartridge onto the guide, over the spring and against the head sealing surface. Attache the bottom seal nut and tighten securely.
4. Replace the bowl and the clamp, and refer to section V, Startup Procedures.
5. If using SOE (single open end) 222/Flat cartridges, lubricate the cartridge o-rings with a suitable lubricant or water, and push the cartridge up into the o-ring sealing gland of the head until fully seated.
6. Inspect the cover o-ring for damage and replace if necessary. Lubricate the o-ring with an appropriate substance compatible with the application.
7. Replace the bowl and the clamp, and refer to Section V, Startup Procedure.

III. Media Replacement – Multi Cartridge Filter Vessels

1. Follow shut down procedure in Section I.
2. If using DOE (double open end) cartridges, loosen then remove the alignment plate wing nut(s), remove the alignment plate, and remove the cartridge seal springs. Set these aside for re-assembly.
3. Remove the spent cartridges and dispose per local regulations and policies. If cartridge guides are inadvertently removed with the cartridges, place the guides back into the bottom seal cups in the vessel.
4. If using DOE (double open end) cartridges, place the cartridges over the guides and onto the bottom seal cup. Replace all of the springs(one per cartridge) and the alignment plate, and thread an alignment plat wing nut onto each alignment rod. Tighten all wing nuts evenly until secure. Compression of the plate should be 3/4" to 1" minimum in order to obtain and maintain the seal.
5. If using SOE (single open end) 222/fin or flat cartridges, lubricate the cartridge o-rings with a suitable lubricant or water, and push the cartridge into the bottom seal cup until fully seated. The use of the cartridge guides is optional for SOE 222 style cartridges. Install the alignment plate and nuts and tighten until secure. Compression of the plate and the use of the springs is not required for SOE cartridges.
6. Refer to Section V, Startup Procedure.

IV. Media Replacement – Bag Filter Vessels

1. Follow shut down procedure in Section I.
2. Remove the bag constraint ring(s), and set aside for re-installation. Remove the spent bag(s) from the vessel and dispose per local regulations and policies. If the bag support basket is inadvertently removed with the bag, separate the bag from the basket and re-install the basket into the vessel.
3. Insert a new bag bottom first into the support basket inside the vessel and push the bag down until the bag ring is seated against the basket rim. For best results, ensure that the bag is fully extended to the bottom of the basket. Replace the bag constraint ring.
4. For bag vessels, each bag has a separate constraint ring that is secured by twisting the device until the rod ends are secured under the constraint clips. This will prevent the bags from dislodging. The positive pressure of the liquid flow will create the necessary seal on the bag.
5. Refer to Section V, Startup Procedure.

V. Startup Procedure

1. Clean and inspect closure o-ring and o-ring groove. Lubricate o-ring with suitable lubricant. Ensure that the lubricant is compatible with the seal material and the application.
2. Close cover onto vessel. Do not slam the cover against the vessel. Damage to the o-ring seal or sealing surfaces may occur. Swing bolts up into position
3. Tighten nuts in an alternate crisscross pattern. Do not apply excessive torque to the nuts as a permanent distortion to the filter may result. Maximum torque applied to the bolting should not exceed the values in table 1 below.
4. On single cartridge vessels, do not over tighten the clamp bolt. Max Torque is 5 ft-lb. Do not tighten under pressure. If the vessel seal leaks, disassemble, clean the o-ring and seal surfaces, and re-assemble.
5. Close drains and open vent plug.
6. Open inlet valve and allow vessel to fill slowly, taking care to not allow process fluid to spray from the vent.
7. When air is expelled from vent and liquid begins to bleed from vent, close the vent plug.
8. Open outlet valve to resume normal operation.

TABLE 1 – MAXIMUM COVER BOLT TORQUE VALUES – LUBRICATED THREADS

Nominal Bolt Diameter	Stainless Steel Bolt – Max torque ft-lb
M12	20
M16	30
M20	40

GENERAL WARNINGS

WARNING! USE PROTECTIVE CLOTHING. Operator should wear protective clothing including protective gloves and face shield.

WARNING! Operating vessel with damaged or worn parts could cause serious injury and/or damage. Inspect vessel interior and all components for wear, corrosion or damage. Replace all damaged components.

WARNING! Do not exceed the operating limits that are listed in the vessel's nameplate/label. Property damage, serious injury or death can result if limits are exceeded.