

## Determine Filter Housing Size Requirements

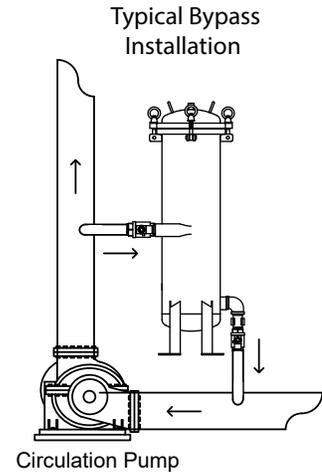
### Bypass line installation using system flow rate:

System flow rate x 10% = base flow rate needed through housing

Example = 200 GPM system flow X 10 % = 20 GPM

Add some flexibility by oversizing the base rate by 20% = 20 GPM + 20% = 24 GPM

Filter housing and cartridge rating needed => 24 GPM



### Basin only filtering (a booster pump will be needed):

Basin Volume divided 120

Example 1000 Gallon basin volume / 120 = 8.3 GPM

Add some flexibility by oversizing needed rate by 20% = 8.3 + 20% = 10 GPM

Choose a Filter Housing/Cartridge combination rated for => 10 GPM

**Why oversize?** Extra filtering capacity will provide longer filter life, more dirt holding capacity and less pressure drop thereby reducing maintenance time and cost.

### Determining Filter Cartridge Micron Rating and Type:

When filtration is first installed in a system, it is best to use a filter with a higher micron rated filter (50 micron or higher) to avoid overloading and prematurely plugging the cartridges. As the system is cleaned, gradually reduce the cartridge micron rating until desired micron rating is achieved.

### Filter Types:

**Bag** – low cost but least amount of surface area requiring more frequent replacement; best suited for removing debris and larger visible items.

**String** – lower cost and flow but higher temp capacity with metal core (recommended for hot loops).

**Pleated** – provides the most surface area for collecting more particulate and higher flow capacity.

## Installation & Service Instructions

1. Place vessel on a flat surface and secure using mounting legs.
2. Prior to install, note port labels to confirm proper flow direction (inlet/outlet).
3. Connect piping to inlet/outlet ports.
4. Loosen T-nut and remove band-clamp.
5. Open lid.
6. Inspect lid o-ring to confirm that it is free of defects and/or debris.
7. Loosen & remove hand-nut(s) from threaded rods and remove holddown/compression plate(s).
8. Install filter cartridges. If using DOE cartridges, place cap/spring assembly on top of each cartridge.
9. Install hold-down/compression plate.
10. Tighten hand-nut(s) to compress springs/secure cartridges.
11. Close lid & reinstall band-clamp.
12. Tighten T-nut and confirm that band-clamp is evenly engaged around the vessel lid (a gap of ~ $\frac{1}{2}$ " should remain between each of the clamp segments).
13. Close outlet valve.
14. Slowly open inlet valve to allow liquid to fill vessel.
15. Open vent valve at top of vessel- leave open until steady stream of liquid is present.
16. Close vent valve.
17. Slowly open outlet valve.
18. Open inlet valve completely.
19. Inspect lid and all port connections for leaks.

## Removal of Spent Cartridges

1. Close inlet valve.
2. Open vent valve.
3. Open drain valves.
4. Loosen T-nut and remove band-clamp.
5. Open lid.
6. Loosen & remove hand-nut(s) from threaded rods and remove holddown/compression plate(s).
7. Remove spent filter cartridges.
8. Inspect lid o-ring to confirm that it is free of defects and/or debris. Replace if necessary.
9. Repeat steps #8-19.

## Warning/Safety

- If improperly used, pressure vessels may cause serious injury or death.
- Always wear proper protective clothing for the liquid being filtered. Check your MSDS sheets for instructions or suggestions.
- Do not operate the vessel in excess of the rated pressure and/or temperature found on the vessel label.
- Confirm chemical compatibility of selected o-ring and vessel material prior to vessel installation.