

SPC-FRP-501: SPECIFICATION FOR FIBERGLASS REINFORCED PLASTIC (FRP) BASKET STRAINERS IN CORROSIVE PIPING SYSTEM- P SERIES

1. SCOPE

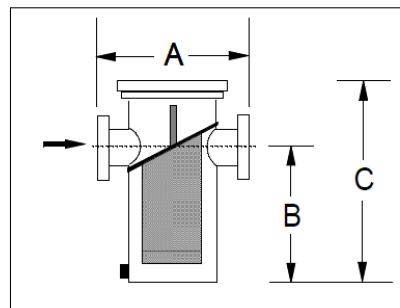
The fiberglass reinforced plastic basket strainer shall be designed for continuous contact with corrosive fluids operating at elevated temperature and pressures. These strainers are designed for maximum resistance to austere environments without sacrificing ergonomics for maintenance personnel. Baskets are designed to remove foreign particulate that could damage pump impellers or foul process equipment.

2. DESIGN REQUIREMENTS

2.1. Configuration

- 2.1.1. Strainer type shall be flanged basket.
- 2.1.2. Standard configuration is in-line. Other configurations may incur additional pressure drop.
- 2.1.3. Interface dimensions shall be interchangeable with Fluidtrol P series design shown in table below to minimize installation costs. Standard dimensions may not meet ASME BPVC vessel nozzle minimum length. Deviation from dimension A can be made to meet customer facility code requirements.

Standard Dimensions			
Strainer	A	B	C
2"	11"	10.5"	18.5"
3"	11"	10.5"	18.5"
4"	13.75"	11.625"	21.25"
5"	17"	16"	25"
6"	18"	16"	26.5"
8"	20"	21.5"	34.5"
10"	22"	23"	37.5"
12"	27.5"	31.625"	46.75"
14"	35"	32.5"	49"



2.2. Flanges

- 2.2.1. Flanges shall be ASME/ANSI 16.5 Class 150 and manufactured per PS-15-69 and ASTM D5421.
- 2.2.2. Flange bolt holes are spot faced and coated with resin.
- 2.2.3. Drain flange shall be a minimum of 1/2" diameter.

2.3. Basket

- 2.3.1. Basket material shall be PVDF with 1/4" perforation on 3/8" centers.
- 2.3.2. Basket shall have handle attached to body, capable of holding 50lbs of debris.
- 2.3.3. Basket shall be able to withstand 5 psi pressure drop across the perforated wall.
- 2.3.4. Basket open area shall be 10 times greater than influent cross-section area.

2.4. Basket Maintenance

- 2.4.1. The basket access lid shall be a coated FRP blind flange manufactured to PS-15-69 and ASTM D5421. External coating shall match the body coating.
- 2.4.2. Basket shall be suspended to ensure basket seals with basket flange.
- 2.4.3. Optional vent plug shall allow for gas removal without lid removal.
- 2.4.4. Drains shall be minimum 1 inch off floor to prevent debris plugging the drain.

2.5. Operating Conditions

- 2.5.1. Normal operating temperature is 75 deg F with no effect on longevity.
- 2.5.2. Maximum fluid temperature shall be 180 deg F with reduced longevity.

2.6. Pressure Rating

- 2.6.1. The shell and head thickness shall be at least 2 times greater than the minimum thickness specified using ASME BPVC SEC X design equations for FRP vessels.
- 2.6.2. Hydrostatic testing of strainer at 150 psig shall be conducted on every unit.

2.7. Materials of Construction

- 2.7.1. Gaskets shall be EPDM.
- 2.7.2. Resin shall be Vinyl Ester: Derakane 41, Hetron 922, or equal.
- 2.7.3. Strainers shall have a shell fabricated from FRP filament wound pipe per ASTM-D2996 or be constructed with hand layup process per PS-15-69 to meet a pressure rating of 150 psi at a fluid temperature of 220 °F.
- 2.7.4. The body shall have a 100 mil chemical resistant liner with 10% glass content, an anti-wicking layer of chopped mats with 25% glass content, and a structural filament wound layer with up to 65% glass content.
- 2.7.5. Exterior coating shall have a minimum 10 mil layer of unsaturated polyester resin based, high quality gel coat with UV protective inhibitors to maximize service life.

3. MANUFACTURER

- 3.1. Manufacturer shall have minimum five year service history in industry.
- 3.2. Manufacturer shall maintain as-built dimensions of each strainer.
- 3.3. Manufacturer shall be ISO 9001:2008 Certified.
- 3.4. Manufacturer shall supply minimum one year warranty on lids, baskets, and gaskets to cover defect in material or workmanship.
- 3.5. Manufacturer shall supply minimum five year warranty on FRP shell to cover defect in material or workmanship.
- 3.6. Known Approved manufacturers
 - 3.6.1. Fluidtrol Process Technologies, Inc. www.fluidtrol.com