

MODEL TSF Y STRAINER

Factory Direct Pipeline Products, Inc.
<http://www.fdpp.com>

Model TSF Y Strainers



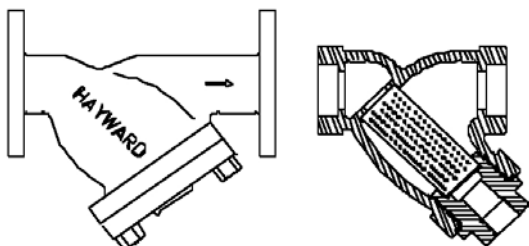
Installation/Operations Manual



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Sectional view of flanged and socket weld and threaded wye strainers

Introduction

The **FDPP Model TSF Strainers** are devices installed in a pipeline to remove sediment and debris from fluids. The **FDPP Model TSF Strainers** are designed for the full ANSI pressure rating @ 100°F that is shown on the strainer.

Straining is accomplished by directing the fluid through sized openings in the Screen. Once sediment and debris is collected in the Screen, fluid flow is interrupted while the Screen is removed for cleaning.

Receiving, Handling and Inspection

1. Unpack the **FDPP Strainer** and inspect for damage occurring during transit. Report damage to the carrier. If the **FDPP Strainer** is not installed immediately, see "**Storage**" instructions.
2. Remove any preservatives with solvent dampened cloths. Exercise care when using solvent and follow solvent manufacturer's instructions.
3. Verify that the rating of the **FDPP Strainer** is greater than or equal to the maximum pressure & temperature of the installation.
4. Inspect Strainer by checking for and removing any foreign or loose material that could be carried down stream when fluid is introduced into the Strainer.

Storage

1. Replace protective wrap, flange protectors, etc. which may have been removed during receiving, handling and inspection.
2. Store the Strainer indoors in a clean, dry environment.

Read all the information and instructions prior to installing & operating the Strainer. Failure to comply with these

instructions could result in bodily injury or property damage.

Installation

Caution

Before Installation, review the application and chemical compatibility of the process fluid to the materials of construction of the Strainer.

1. Remove protective wraps, etc. before installing the Strainer into operation.
2. Position the Strainer in the pipeline so that the fluid enters the connection marked "IN", "INLET" or in the **direction of the Arrow** cast into the Strainer. Always install the Strainer with the blow-off (drain) in the lowest position. Flow must be downward into the inlet of the Strainer for satisfactory operation for vertical piping installations.

Caution

To lift the Strainer, put slings under the inlet, outlet connections.

3. Be sure sufficient clearance is provided for easy opening of the cover (blow-off) and screen removal. Refer to the Sales Drawing for removal clearances.
4. For larger sized Strainers, support the Strainer firmly in the pipeline. Piping must allow for adjustments due to Strainer connection tolerances. Strainer supports must prevent piping forces and moments from acting on the Strainer.
5. Connect the **FDPP Y-Strainer** to the pipeline. On flanged Strainers, be sure to use the same type flange faces. **Do not bolt a raised face flange to a flat face flange!** Be sure flange gaskets are in place and fasteners are tight. On Strainers with other line connections, use standard piping practice when installing the Strainer.

Caution

FDPP Y-Strainers are not designed to be anchor supports in the piping line. Be sure to properly support process piping on both sides of the Strainer. Use care to prevent piping forces and moments from acting on the strainer connections. Damage may occur to strainer if improperly connected.



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6. Y-Strainers have no provision to accept gauges. Pressure gauges near the Strainer inlet & outlet are required to determine differential pressure across the Strainer and cleaning frequency. Pressure gauges are essential for the safe operation of the Strainer and should be installed using standard piping practices.
7. It is recommended that a compatible valve (and piping as needed) be installed in the cover (blow-off) for safe quick clean out (normal blow-down cleaning).

Caution

To protect the operator when draining and clean-out, the fluid must be piped to a safe area by using the valve stated in Item 7 above. This requirement is for all fluids and water (temperature above 120°F). The operator should wear appropriate protective equipment (goggles, gloves, vests, clothing, etc.) consistent with the process fluid for strainer operation & servicing.

Start-Up

1. Open Blow-Down valve to expel air from the Strainer.
2. **Slowly** allow fluid to enter the Strainer.

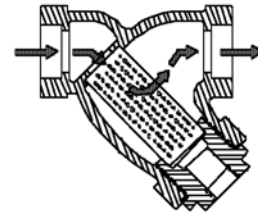
Caution

Start system **GRADUALLY**. This eliminates sudden shock to the Strainer and other equipment in the line. This is **EXTREMELY important for steam service**.

3. Close vent when air is expelled & fluid begins to flow.

Shut Down Periods

1. Slowly close the pipeline valves upstream and downstream from the Strainer. Make sure these valves are tightly closed.
2. Relieve fluid pressure in the Strainer by first opening the drain, then vent if provided. **The Strainer must be drained and internal pressure relieved prior to cleaning.** Proceed to clean the screen.



Directional Flow through a typical wye strainer

When to Clean the Screen

A differential pressure increase of **5 to 10 psi** across the Strainer indicates that the screen is full of debris and needs to be cleaned.

Caution

To prevent screen damage, **DO NOT permit differential pressure across the strainer to exceed 20 psi.**

Normal Blow-Down Cleaning

To avoid shutting down the piping system when possible, clean the screen of debris by opening the valve (See Installation, Item 7). Valve is to stay open until all debris has been blown out from the screen. Then close the valve and resume normal operation.

Screen Removal, Cleaning and Replacement

1. Follow the **Shut Down** procedures above.
2. When the Strainer's internal pressure is relieved, drain the fluid & loosen fasteners. Remove cover (blow-off).
3. Remove the debris laden screen. **Note:** Do not permit the screen debris to dry, as it would be difficult to remove and clean the screen
4. Invert the screen and wash out debris by directing a stream of air or water against the screen exterior. Use solvent if strained fluid is fuel or a chemical. Follow manufacturer's instructions when using a solvent to clean the screen.
5. Inspect screen at each cleaning for holes or tears. Replace as needed with genuine FDPP screens. Always keep spare screens and gaskets in stock.
6. Inspect sealing surfaces and cover gasket. Clean sealing surfaces and cover (blow off) seat. Replace cover



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7. (blow off) gasket as necessary. Always keep spare screens in stock.

Note: Model TSF Strainers have spiral wound gaskets. These gaskets must be replaced using only a genuine FDPP part each time the cover blow-off is removed

8. Place the cleaned / new screen squarely on the seat in the cover (blow off).
9. Replace the cover (blow off and tighten the fasteners uniformly).
10. Close the valve (if provided) and follow the **Start-Up** instructions

For additional copies of this document, please go to the FDPP Industrial Products, Inc. website at www.industrial-strainers.com. FDPP warrants its products against defective material & workmanship only. **FDPP assumes no responsibility for damage or injuries resulting from improper installation, misapplication, or abuse of any product.**

FDPP assumes no responsibility for damage or injury resulting from chemical incompatibility between its products and the process fluids to which they are subjected. Customer should always test to determine application suitability.



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