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**Installation, Operation &
Service Manual**

**Model 510
Basket Strainer**

Read all instructions before installation or operation of equipment. Failure to comply with these instructions could result in bodily injury or property damage.



Introduction

A simplex strainer is a device installed in a pipeline to remove dirt and other unwanted debris from fluids. Straining is accomplished by directing the fluid through sized opening in baskets. Simplex strainers are installed where fluid flow can be interrupted while the baskets are removed for cleaning. Simplex strainer are designed to withstand the pressures of the piping system.

For additional information about simplex basket strainers visit our web site:

www.Eaton.com/Filtration

Receiving, Handling, and Inspection

Inspect strainer after unpacking for damage incurred during transit. Report any damage to carrier immediately. If the strainer is not to be installed immediately, store indoors in a clean, dry environment.

Remove preservative with solvent dampened cloths. Exercise care when using solvent.

Check to be sure the rated pressure and temperature on the strainer name plate is not less than the maximum pressure and temperature of the installation. The rated pressure shown on the name plate is the maximum pressure, including shock, at which the strainer may be operated.

Remove strainer cover. Check for and remove any foreign or loose materials that could be carried downstream when fluid is introduced into the strainer.

Replace strainer cover. Tighten fasteners uniformly. Baskets are held in place by the pressure of the cover on the basket handles. If the baskets are loose, spring the handles to a higher position to insure greater compression when the cover is seated.

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Installation

Caution: Lift strainers with slings under the inlet and outlet connections. **DO NOT** lift the strainer by the lift eye located on the strainer cover. The lift eye is used to lift **ONLY** the cover.

Position the strainer in the line so that the fluid enters the connection marked inlet.

Be sure sufficient headroom is provided for easy removal of cover and baskets.

Support the strainer in the line on concrete or steel pads.

Connect the strainer to the line. Use the same type flange faces. For example: **DO NOT** bolt raised face flanges to iron flat face flanges. Iron flanges must be flat face with full face gaskets. Cast strainers are subject to face-to-face variations due to shrinkage and machining tolerances. Prefabricated piping systems must allow for adjustments to compensate.

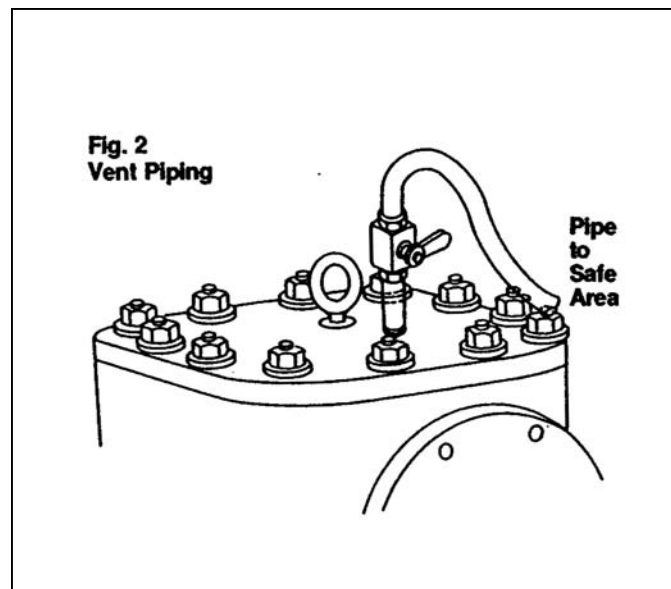
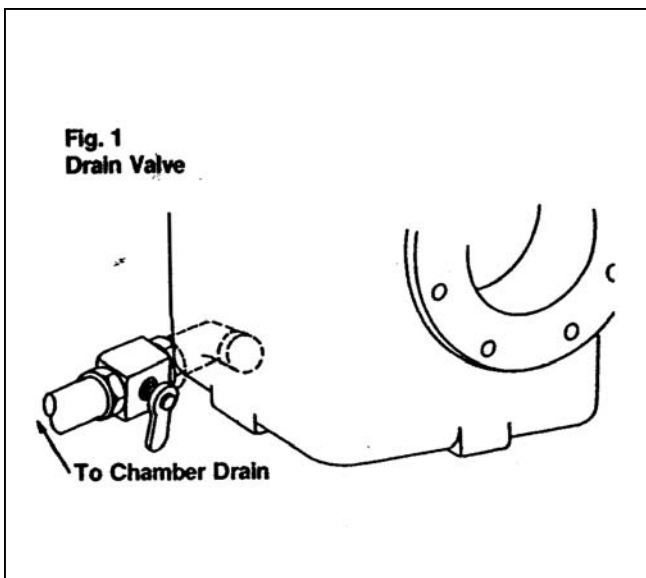
Installation, Continued

Be sure flange gaskets are in place and fasteners are tight.

It is recommended that the drain plug be removed and a drain valve be installed at the bottom of the basket chamber as shown in Figure 1.

Caution: When fluids other than water and with temperatures in excess of 120°F are to be handled by the strainer, the vent cock must be removed and the vent piped to a safe discharge going to protect the operator (see Figure 2). Wear protective clothing which includes gloves, vests and goggles when handling dangerous fluids.

Pressure gages near the strainer inlet and outlet are recommended. Cleaning frequency can be determined by the pressure drop across the strainer.



Start-Up

Open vent to expel air from the strainer.

Slowly introduce fluid to be strained.

Caution: Start system GRADUALLY. This eliminates sudden shock to strainer and other equipment in the line.

Close vent when air is expelled and fluid begins to flow.

Shut Down

Tightly close valves on inlet and outlet connections of the strainer.

Open vent to relieve liquid pressure in the strainer.

Caution: DO NOT loosen cover while there is liquid or air flow from the vent.

Basket Removal

Follow shut down procedure.

When pressure is relieved, loosen fasteners, remove cover and drain fluid through bottom drain to a level below the basket seats.

Remove dirty baskets.

Basket Replacement

Place new or clean baskets squarely on basket seats. Make sure short baskets are located on the inlet side of the strainer.

Be sure basket handles are sufficiently high to be compressed by strainer cover.

Inspect cover gasket and seal surface, clean seat or replace cover gasket as necessary. Always keep spare cover gaskets in storage.

Replace cover, tighten fasteners uniformly. Close drain valve. If strainer is on suction service, fill basket chamber from outside source before installing cover.

Follow start up procedure.

Basket Cleaning

When to Clean

Clean baskets when there is a 5 PSI increase in pressure loss across the strainer.

Caution: To prevent damage to the baskets, DO NOT permit strainer pressure differential between inlet and outlet connections to exceed 20 PSI

How to Clean

Invert basket and wash out debris by directing a stream of air or water against the basket exterior. Use solvent if strained fluid is fuel or a chemical. Follow manufacturer's instructions when using a solvent to clean the baskets.

Inspect basket at each cleaning for holes or tears, repair or replace as required. Always keep spare baskets in stock.

Shutdown Periods

During shutdown periods:

Drain the fluid.

Clean the baskets.

Recommended Spare Parts

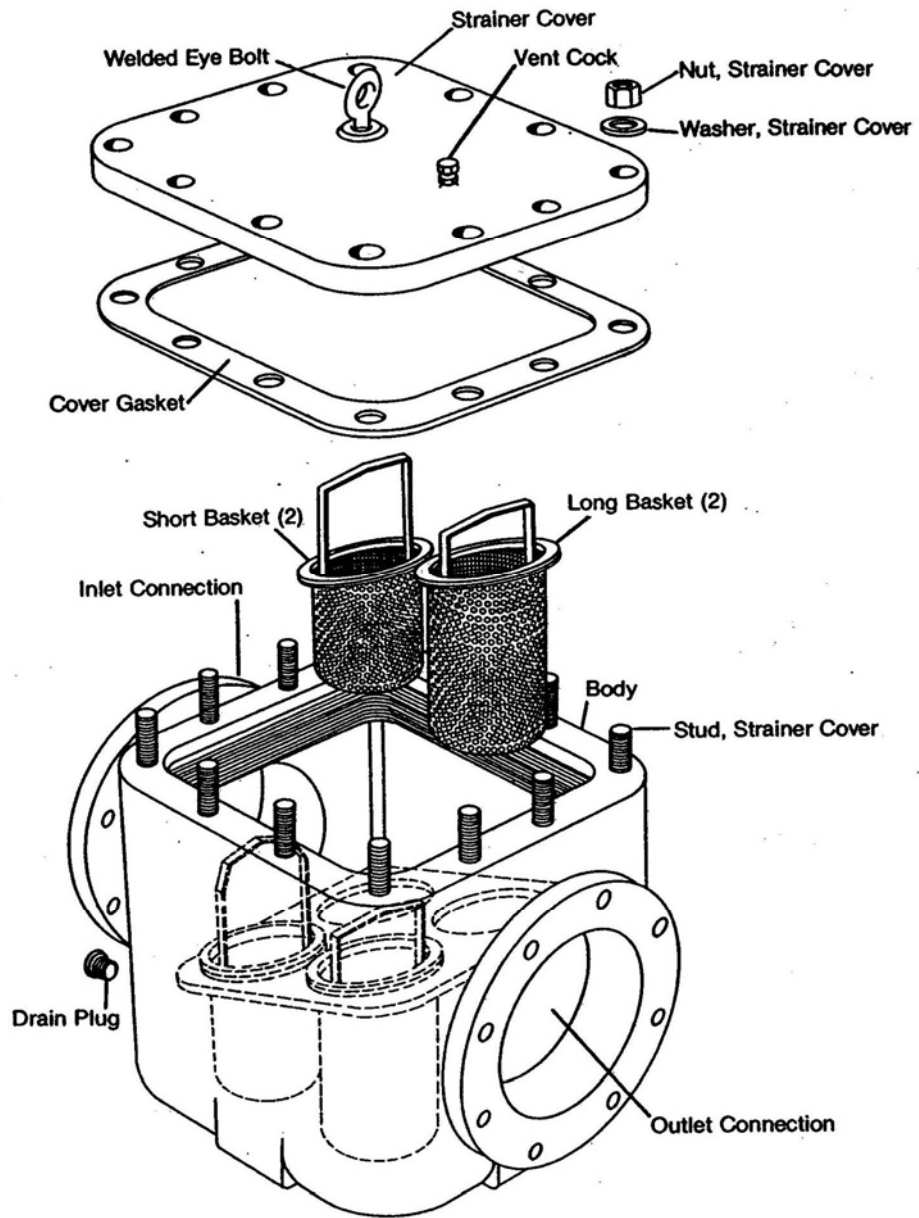
One Eaton basket set (2 long baskets, 2 short)

One Eaton gasket set.

Always use genuine Eaton replacement parts for guaranteed fit and performance. When ordering spare parts, be sure to specify all name plate data as well as description and quantity of parts.

Visit our web site www.filtration.eaton.com for information about the different types of Eaton pipeline strainers.

Parts Drawing



Eaton

More From Eaton Filtration

Pipeline Strainers

Eaton provides the most complete range of standard cast pipeline strainers for coarse filtration available from any manufacturer. These include Simplex, Duplex and Y Type Strainers, in Iron, Bronze, Carbon and Stainless Steel. For ultra-pure applications, strainers of all plastic construction are available. Cast Pipeline Strainers range in size from 1/2" to 36" and larger.

When a cast strainer won't meet the applications requirements because of size, weight or design Eaton offers standard fabricated strainers to meet exact customer requirements. without any trade-offs. When a standard design fabricated strainer will not meet an application's requirements Eaton's design team can work with customers to create a unique one that will.

Eaton also offers Automatic Self-Cleaning strainers. These are motorized strainers designed for the continuous removal of entrained solids from liquids in pipeline systems. The strainer operates un-attended and the system flow never has to be shut down for strainer element cleaning. These strainers are available in both cast and fabricated types.

Find out more on the web at:
www.Eaton.com/Filtration

Gas/Liquid Separators

Eaton's Gas/Liquid Separators have been the "Industry Standard" for over 100 years. Nobody knows more about gas/liquid separation than us.

Eaton Gas/Liquid Separators are used to remove 99% of damage causing moisture and particulate matter from air, gas and steam pipelines. They protect valuable system components like air compressors and turbines from damage.

Eaton has a wide selection with hundreds of different Gas/Liquid Separators. When a standard model isn't right for an application, Eaton Engineers can work with customers to create a custom fabricated model that fits the application requirements exactly.

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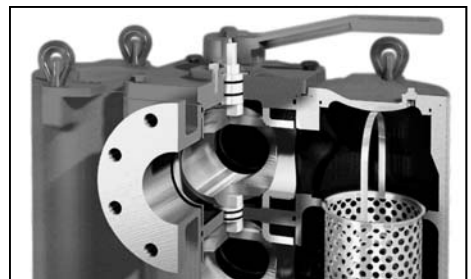
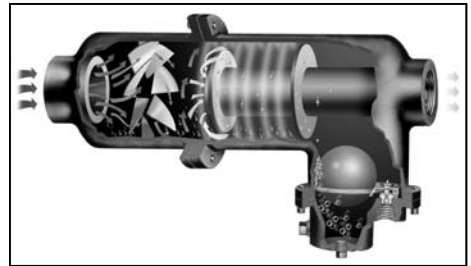
Filtration Systems

With Eaton Filter Housings you have your choice of high grade investment cast construction or engineered fabricated construction in stainless steel or carbon steel. Or, for extremely corrosive or ultra-pure services, you can choose all-plastic construction. You can be sure Eaton Filter Housings will meet specifications because they are all made to ISO 9001:2000 Standards. Eaton has representatives in over 40 countries, experienced professionals to provide the filtration help you need, when and where you need it.

Choosing the correct filter bag is critical to the success of you application. Don't trust anything less than a filter bag from Eaton. They're made under ISO 9001:2000 Standards to ensure

the consistent, reliable performance that you demand. Eaton Filter Bags fit all Eaton Filter Housings and the housings of most other manufacturers as well.

Find out more on the web at:
www.Eaton.com/Filtration



Eaton Filtration warrants its products against defective material and workmanship only. Eaton assumes no responsibility for damage or injury resulting from improper installation, abuse, or misapplication of any product. Eaton assumes no responsibility for damage or injury resulting from chemical incompatibility between its products and the process fluids to which they are subjected. The end user should always test to determine application suitability. Contact your Eaton Representative for complete warranty information.

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