

**A Guide Line to Pipe Line Strainers**

**Simplex**

**Y-Type**

**Duplex**

**Fabricated**

**Solving Your Need for More  
Reliable Process Systems,**

*With Smarter Technology*

# Y- STRAINER REDUCES MAINTENANCE COSTS & PROTECTS PIPELINE SYSTEM COMPONENTS

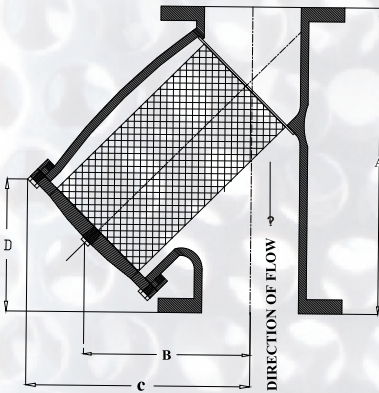
Y- Strainers are devices for mechanically removing unwanted solids from liquid, gas or steam lines by means of a perforated or wire mesh straining element .They are used in pipeline to protects Pumps, Flow Meters, Control Valves, Steam Traps, Regulators and other Process Equipment.

Y- Strainers are very cost effective straining solutions in many applications. Where the amount of material to be removed from the flow is relatively small, resulting in long intervals between screen cleaning. The Strainer screen is manually cleaned by shutting down the line and removing the strainer cap.



Y- Strainers are used in a wide variety of liquid straining application to protect downstream process system components in many industries including: Chemical Processing, Petroleum, Power Generation and Marine. Water handling applications where Y- strainers are used to protect equipment that could be damaged or clogged by unwanted sand, gravel or other devices, are very common. Unlike other types of strainers, a Y- strainer has the advantage of being able to be installed in either a horizontal or vertical position. Obviously, in both cases, the screening element must be on the " down side" of the strainer body so that the entrapped material can properly collect in it.

Some manufactures reduce the size of the Y- Strainer body to save material and cut cost. Before installing a Y-strainer, be sure it is large enough to properly handle the flow. A low priced strainer may be an indication of an under sized unit.



## Features

- Large capacity basket
- Threaded drain
- Perforated or mesh stainless steel basket standard
- Low Pressure Drop
- In Line Design
- Machined Seat for Basket

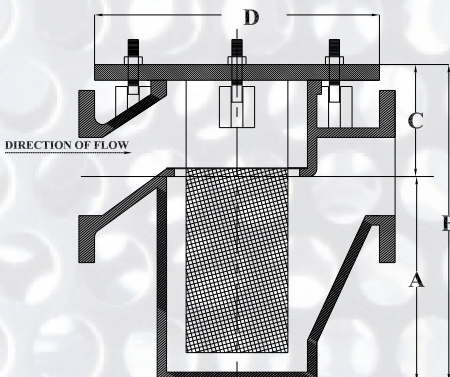
## Options

- Basket perforations from 1/32" to 1/2"
- Basket mesh from 20 to 400
- SS Housing
- Viton, PTFE or EPDM seals
- Vent valves
- Drain valves
- Pressure Differential Gauge & Switch connections

# SIMPLEX PIPELINE STRAINER REDUCES MAINTENANCE COSTS & PROTECT PIPING SYSTEM COMPONENTS

Simplex pipeline strainers remove damage causing particulate matter from the process media, protecting system components such as flow meters, pumps, and spray nozzles. The particulate matter is captured in the strainer basket. The line is then temporarily shut down and the basket removed for cleaning or replacement.

Universal's UNISTAIN make Model 16 has been the industry standard simplex basket strainer for over 10 years. A few of the reasons for its popularity are, first, the unusually large basket capacity. Second, the free straining area is at least 6 times the cross-sectional pipe area. Third the basket can be removed in seconds. Forth, each strainer also comes standard with a threaded drain which can be used as a backwash connection if desired.



Wall thicknesses are exceptionally heavy. The basket seats are precision machined to give a tight seal and prevent any material from by-passing the basket. And every strainer is hydrostatically tested at 150% of its maximum rated pressure. The Universal Model 16 is a high quality, heavy duty unit that will stand up to the most demanding of applications. There is no better simplex basket strainer made.

## Features

- Large capacity basket
- Threaded drain
- Perforated or mesh stainless steel basket standard
- Low Pressure Drop
- In Line Design
- Machined Seat for Basket

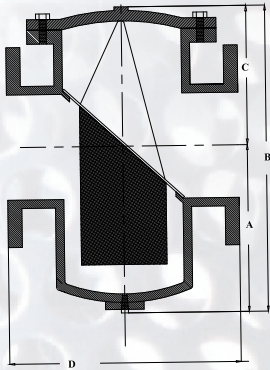
## Options

- Basket perforations from 1/32" to 1/2"
- Basket mesh from 20 to 400
- SS Housing
- Viton, PTFE or EPDM seals
- Vent valves
- Drain valves
- Pressure Differential Gauge & Switch connections

## ECONOMICAL PIPELINE STRAINER REDUCES MAINTENANCE COST & PROTECTS PIPING SYSTEM COMPONENTS.

Now Designers and Installers of piping systems can take advantage of all of the benefits afforded by a pipeline basket strainer, without incurring excessive costs, by specifying the low cost, high quality UNISTAIN make model 12.5 pipeline Strainer from Universal Engineers

The UNISTAIN make model 12.5 Basket Strainer from Universal removes dirt and debris from the process media which could potentially damage expensive piping system components. The Stainless steel strainer basket inside the cast iron strainer body, effectively and inexpensively removes the material from the process media thus protecting downstream System components, Pumps, Flow Meters & Valves. System components will have a longer service life and require less maintenance when protected by Universal's UNISTAIN make Model 12.5 Pipeline Basket Strainer.



The Model 12.5 will also be used by Original Equipment Manufacturers looking for a quality, low cost pipeline basket strainer to protect their systems and add value to their final product.

While Universal has designed the Model 12.5 to be very cost effective, many features found only on higher cost pipeline strainers have been incorporated into its design. It is easy to replace and clean the strainer basket. The seat on which the strainer basket shoulder rests is carefully designed to prevent any unwanted material from by passing the strainer basket.

A basket strainer is only as useful and versatile as the type and number of strainer baskets available for it. Users of the Universal's Model 12.5 Baskets strainer can select from over 25 different baskets to match their specific applications. Universal will fabricate a one-of-a-kind basket to specific specifications affording unprecedented versatility in an inexpensive basket strainer.

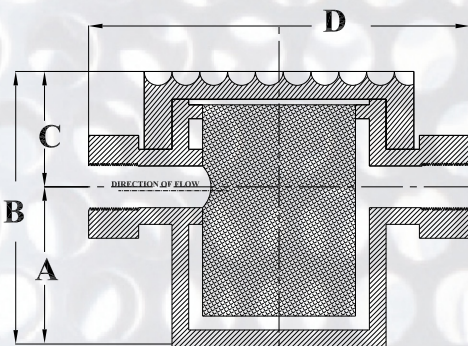
### Features

- Wide Choice of baskets
- Threaded drain
- Perforated stainless steel basket standard
- Low Pressure Drop
- In Line Design

### Options

- Basket perforations from 1/32" to 1/2"
- SS Housing
- Viton, PTFE or EPDM seals
- Vent valves
- Drain valves
- Pressure Differential Gauge & Switch connections

## LARGE OPEN AREA ENSURES LONGER CLEANING INTERVALS



UNISTAIN make model 110.5 basketed strainers from Universal improves upon the basic model 12.5 as it offers more open area . It is more useful where incident of debris is very high.

The stainless steel stainer basket inside the cast iron stainer body effectively & inexpensively remove the material in large quantities from the process media thus protecting down stream System components, Pumps, Flow meter & Valves .

It's exceptionally large open area of 10 times of inlet area ensures longer cleaning intervals & service life. It also helps with lower pressure drop across the stainer. It can handle large volume of liquid flow.

A wide range of sizes available from 15 mm - 300 mm.

### Features

- Large capacity basket
- Threaded drain
- Perforated stainless steel basket standard
- Low Pressure Drop
- In Line Design

### Options

- Basket perforations from 1/32" to 1/2"
- SS Body
- Viton, TFE or EPDM seals
- Vent valves
- Drain valves
- Pressure Differential Gauge & Switch connections

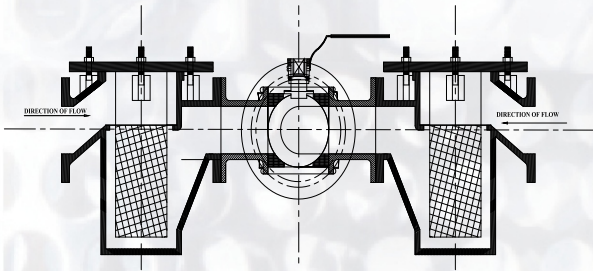


## DUPLEX STRAINER ENSURES UN-INTERPTED FLOW

UNISTAIN make Duplex strainer model D-22 futher improves upon range of strainers being offered by Universal.

As the name suggests it has two simplex basket strainers model 16, where one always remains as stand by. So you have a strainer which has all the high end features of model 16 & at the same time ,it offers the flexibility that you need not stop the line for cleaning the basket.

It ensures, un - interrupted flow for the applications where one does not want or can not afford stoppage of flow. Flow of liquid can be routed thru sand by basket while the other Basket is being cleaned.



It comes with three way ball valve & a pressure equalizing valve. Variety of body material such as C.I., Bronze, C.S., S.S. can be offered. Strainer Basket remains standard SS 304 / 316 wire mesh.

A wide range of sizes are avaiiable from 15 mm - 300 mm

## STRAINER MATERIALS OF CONSTRUCTION

Because of its cost effectiveness, iron should be the first choice of a Stainer user &,for this reason, it is by far the most popular material. Cost iron has good corrosion resistance in Water service . It is also used with many non - aqueous materials such as paint, fuel oil & plastics The disadvantage of iron is its inability to stand thermal or mechanical shock & its susceptibility to corrosion in some applications.

Bronze is the preferred material for marine service. Bronze body strainers are widely used for handling sea water & also brackish or saline ground waters. Another use of bronze strainers is where the product can be contaminated by iron, but the cost of stainless steel is prohibitive. A good example is handling liquid sugar . The material is sensitive to iron pick up. Stainless steel may be to expensive. Bronze is a good compromise & is there fore used. Bronze can also be used with mildly corrosive materials where iron is unsatisfactory & stainless might be too costly.

Carbon steel strainers are used mainly in the oil & petrochemical industry. They have excellent resistance to mechanical or thermal shock & these are important consideration in the event of a fire. Most oil refiners will not permit iron piping components for this reason .Carbon steel Strainers are also used for higher pressure applications because of their strength.

Stainless steel strainers are used where high corrosion resistance or where freedom from contaminated is required. They are popular in the chemical. food & pharmaceutical industries.

## STRAINER SCREEN CONSIDERATIONS

The screen is the heart of the Strainer & the point where the dirt or unwanted material is trapped, Strainer screens made with thin gauge material & soldered, rather than welded, connections can compromise the entire system. When a screen is damaged in service or in cleaning ,the strainer is effectively out of service. While SS is always the preferred material for strainer screen. The screen is critical to the operation of the stainer & it is recommended that an extra screen be kept on hand for each size of stainer installed .

## FINAL CONSIDERATIONS

When specifying or buying a strainer, price, which is often the prime consideration, should be the least important consideration. A well made & properly designed strainer will last almost indefinitely. Its first cost is, therefore, important compare to other features when spread out over a service life of many years.

Is the screen area large enough to assure adequate flow? Are the seats carefully machined to eliminate by pass of dirt? Is the body strong enough to resist mechanical shock & avoid accidents?

All these factors should be considered carefully before selecting a Stainer

**Universal**  
*engineers*

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