

WHY DO WE NEED STRAINERS?

Strainers are installed in steam pipes to ensure that no dirt gets through with the steam and only clean steam is provided to the process. Often, pipeline debris such as dirt, metal burrs from welding, scale, rust and other solids find their way into the steam pipes leading to more maintenance hassles and plant shutdowns. Strainers are an important pipeline accessory that literally 'strains out' these solids in flowing liquids or gases, and protects steam equipment. Every important equipment like a PRV or trap has to have a strainer fitted upstream, i.e., just before it.

There is a fine mesh provided in the strainer which effectively filters out solids from the system. During routine maintenance strainers must be cleaned regularly otherwise unclean steam will go through and damage the plant pipework and fittings. It may contaminate the product as well.

TYPES OF STRAINERS

ARI Armaturen Steamline makes two types of strainers. The CRPS and trap modules have the Y-strainers and the PRS has a 'bucket' strainer

Y-type Strainers. These strainers are manufactured in-house for the CRPS and the Trap modules. These are standard strainers and can be used for steam, any other gas, or even liquids. The body is a cylindrical pipe and has a mesh pocket attached to it which contains the strainer mesh (80microns).

This filters out all the solids. It can handle pressures upto 10 kg/cm²g and is available in line sizes upto 2". Generally used for condensate or small steam lines.

As the Y-type strainers are more compact than the pot strainers, the surface area of the mesh available for straining is less and therefore, the dirt accumulates faster. This means more frequent cleaning. This is only a problem during commissioning when the plant is new and a lot of welding grit is present in the pipes.

Installation Of Y-type Strainers.

- **For Steam:** Horizontal mounting with drain pocket in the horizontal plane prevents water collection, which prevents carryover.

- **For Liquids:** For eg. in our CRPS systems, the strainer is mounted with the mesh pocket facing vertically down. If this is not done, the water may draw back the dirt upstream if the flow reduces.

CAUTION: If you install the strainer with the mesh pocket pointing up, all the debris will fall into the pipe!!

Bucket Strainers. The Steamline pot strainer has a bucket type structure. This is a vertical cylinder. It's chamber is larger than a typical Y-type strainer. The straining area is therefore much larger and can go without cleaning longer. This also reduces the pressure drop across the pot strainer as the flow is not hampered by that much debris. The bucket strainer can be used on bigger diameter pipes. Strainers may have accumulated debris in the bottom of the bucket, which is removed via the drain plug.

Bucket strainers have to be installed in a horizontal position only.



Fig. 1: To the left, a Bucket Strainer, on the right, a Y-type strainer

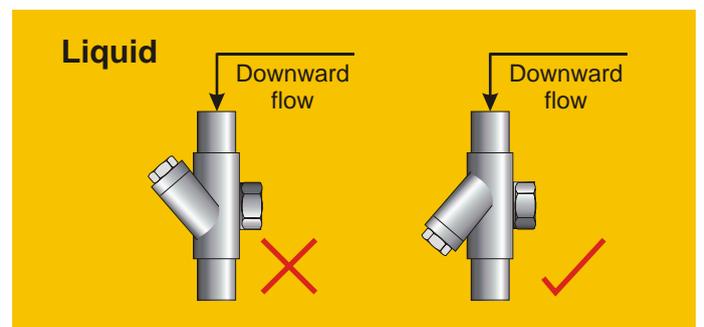
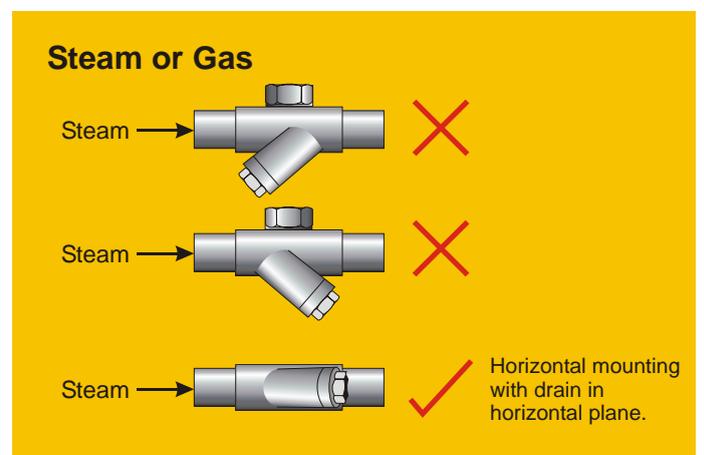


Fig. 2: Y-type Strainer - Installation for Steam and Liquid mediums

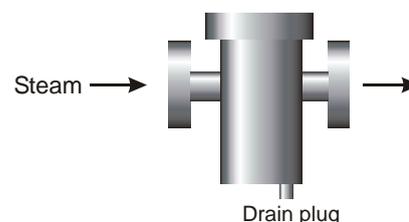


Fig. 3: Bucket Strainer - Installation for Steam