

Pipeline strainers

for steam, liquids and gases



spirax
/sarco
steam specialties

Pipeline strainers

from Spirax Sarco



Pipeline strainers

For over six decades, Spirax Sarco has been providing simple strainer technology to maintain complex plant in almost every marketplace throughout the world. During this time, the nature of pipeline debris has not changed - scale, rust, jointing compound, weld metal etc, but the nature of business has; maintenance staff and purchase budgets have been reduced, whilst the importance of protecting hi-tech products and the highly automated equipment they serve has never been more important.

A plant which operates 24 hours a day, seven days a week cannot afford any downtime. A blocked control valve would stop production leading to costly repairs, reduced profits and a low level of customer service.

Benefits of strainers






- Safeguards plant, providing peace of mind.
- Reduces maintenance costs and downtime.
- Wide range of materials and end connections.
- Ability to clean the screen in service using the blowdown / drain valve option.
- Plant and control valve life increased.
- Spirax Sarco's guarantee of worldwide technical support, knowledge and service.

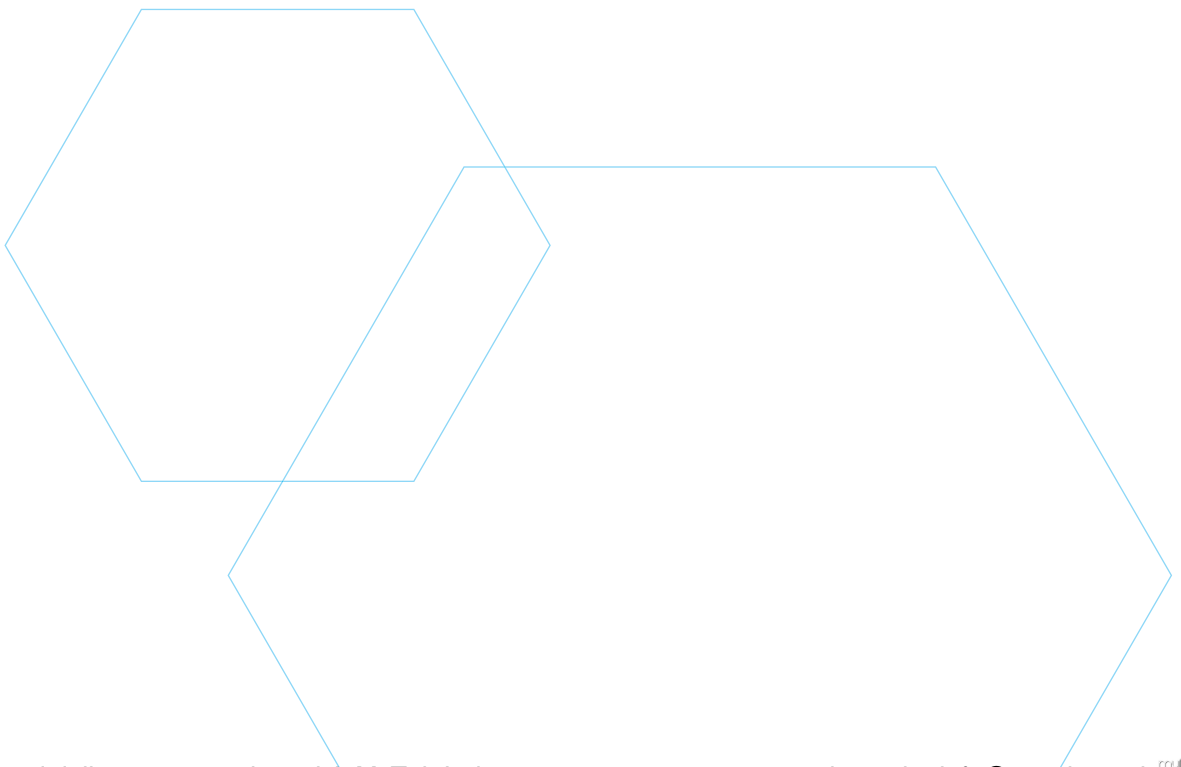
Choice of body material

- Brass
- Bronze
- Cast iron
- SG iron
- Carbon steel
- Stainless steel












Key features and benefits

| Key features | Key benefit |
|---|---|
|  | Large screening area Low pressure drop and high Kv. The frequency of blowdown for cleaning the screen is considerably reduced. |
|  | Large screen Will not block easily so frequency of cleaning is reduced and pressure drop is low. |
|  | Lightweight but robust bodies Lower pipework loads and stresses. Reduced system weight. |
|  | High Kv High flow capacity through strainer with low pressure drop. This is especially important in pumped liquid pipework. |
|  | Optional blowdown / drain valve Ability to clean the screen in service. Using the blowdown / drain valve option - reduces system downtime. |



Range and options

| Material | | | Brass and Bronze | | | | | Cast iron | | | |
|--------------------|-------------|------|---|---|---|---|---|---|---|---|---|
| Strainer type | | | FIG 1 | FIG 4 | FIG 5 | FIG 3 | FIG 6 | FIG 12 | FIG 13 | FIG 33 | FIG 37 |
| Body design rating | | |  |  |  |  |  |  |  |  |  |
| Body design rating | | | PN16 | PN16 | PN16 | PN25 | PN25 | PN25 | PN16 | PN16 | PN16 |
| Size | DN8 | ¼" | | | | | | | • | | |
| | DN10 | ⅜" | | | | | | • | • | | |
| | DN15 | ½" | | • | • | • | • | • | | • | • |
| | DN20 | ¾" | | • | • | • | • | • | | • | • |
| | DN25 | 1" | | | | • | • | • | | • | • |
| | DN32 | 1¼" | | | | • | | • | | • | • |
| | DN40 | 1½" | | | | • | | • | | • | • |
| | DN50 | 2" | | | | • | | • | | • | • |
| | DN65 | 2½" | | | | • | | • | | • | • |
| | DN80 | 3" | • | | | • | | | | • | • |
| | DN100 | 4" | | | | • | | | | • | • |
| | DN125 | 5" | | | | | | | | • | • |
| | DN150 | 6" | | | | | | | | • | • |
| | DN200 | 8" | | | | | | | | • | • |
| DN250 | 10" | | | | | | | | | | |
| Connections | Screwed | | • | • | • | | • | • | • | | |
| | Socket weld | | | | | | | | | | |
| | Flanged | EN | | | | • | | | | | • |
| | | ANSI | | | | • | | | | | • |
| | JIS/KS | | | | | | | | | • | |
| Geometry | 'Y' | | • | | | • | | • | • | • | • |
| | Angle | | | • | | | • | | | | |
| | Straight | | | | • | | | | | | |
| | Pot | | | | | | | | | | |

Strainer options

| | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|
| Blowdown / drain valve | • | • | • | • | • | • | • | • | • | • |
| 3.1 certification | | | | | | | | | | • |

Standard screens in stainless steel

| | | | | | | | | | | |
|--------------|--------------------------|---|---|---|---|---|---|---|---|---|
| Perforations | 0.8 mm DN8 to DN80 | • | • | • | • | • | • | • | • | • |
| | 1.6 mm DN100 to DN200 | | | | • | | | | • | • |
| | 3.0 mm | | | | | | | | | |

Optional screens in stainless steel

| | | | | | | | | | | |
|--------------|------------------------|---|---|---|---|---|---|---|---|---|
| Perforations | 1.6 mm DN8 to DN80 | • | • | • | • | • | • | • | • | • |
| | 3.0 mm DN8 to DN200 | • | • | • | • | • | • | • | • | • |
| Mesh | 40, 100, 200 | • | • | • | • | • | • | • | • | • |

Optional screens in monel

| | | | | | | | | | | |
|--------------|--------------------------|---|---|---|---|---|---|---|---|---|
| Perforations | 0.8 mm DN8 to DN80 | • | • | • | • | • | • | • | • | • |
| | 1.6 mm DN100 to DN200 | | | | | | | | • | • |
| | 3.0 mm DN8 to DN200 | • | • | • | • | • | • | • | • | • |
| Mesh | 100 | • | • | • | • | • | • | • | • | • |

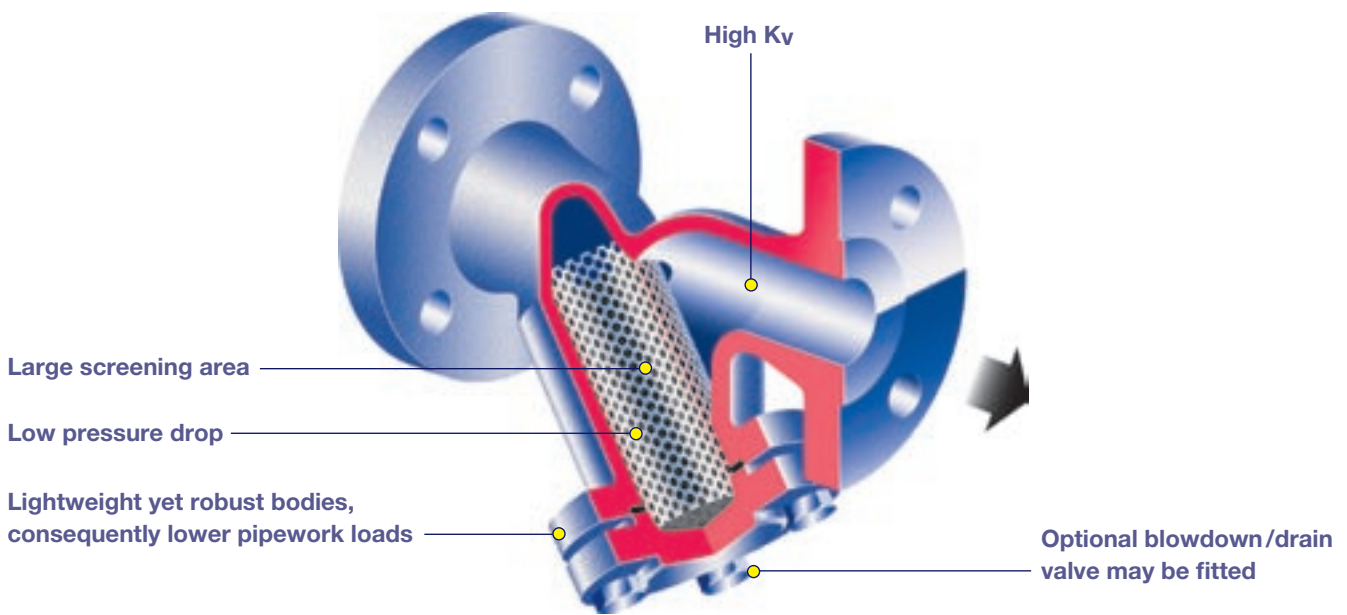
How strainers work

The strainer removes debris from pipelines by directing the flow through a screen. There are different mesh options available which allows optimum selection for each specific application and type of fluid.

All strainer screens have a large screening and free area, designed to remove as much dirt as possible without 'clogging up'. For example, the sum of the area of holes in a DN25 Y-type strainer screen is nearly five times the cross-sectional area of the pipe. This is why the pressure drop through our strainers is very low, not to say negligible, even allowing for screen blockage between servicing.

To assist with servicing on dirty systems, the fitting of a drain valve or a blowdown valve on the bottom cap of the strainer is recommended. This allows the strainer screen to be cleaned in service under pressure.

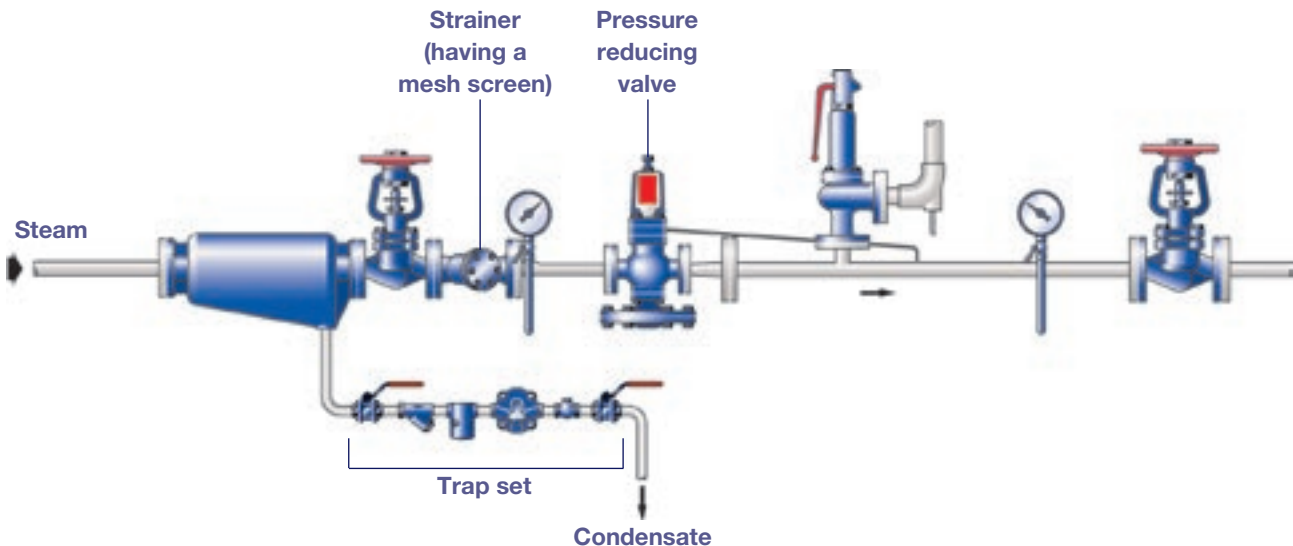
For very viscous fluids where resistance to flow can affect pressure drop, and therefore pumping requirements, your local Spirax Sarco engineer can size strainers to offer the best strainer diameter and screen option.



Applications

Pipeline debris is commonly found in all types of plant within all types of industry. It is important that strainers are fitted to protect hi-tech equipment such as steam traps and control valves to prevent steam blockage.

Strainer installed upstream of a pressure reducing valve station



Guide to selection

1. Select strainer size

Pipeline sizing is the normal requisite for selecting a strainer. However, on some applications such as pumped water systems the strainer should be sized by pressure drop.

Note: Details regarding pressure drop are available on Technical Information sheet TI-S60-01 which is available from Spirax Sarco.

The strainer must be selected so that it is suitable for the maximum operation and design conditions of pressure and temperature. These values will influence the body material and end connections.

2. Select material

The Spirax Sarco range of strainers are available in a wide range of materials. Certain fluids, due to their corrosive nature, will prohibit the use of some materials for specific applications. Please contact your local Spirax Sarco engineer for advice.

3. Select geometry

The design and layout of the pipework dictates the inlet and outlet geometry of the required strainer(s). Spirax Sarco offer four geometries; angle, straight, Y-type and pot type.

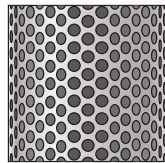
Most pipework is laid horizontally making the Y-type and pot type the ideal choice.

Note: The pot type strainer which is available from Spirax Sarco is suitable for large bore pipes (for example 200 mm to 250 mm nominal bore) where it is intended that the flat base will be supported.

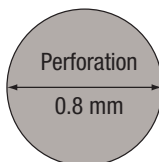
4. Select end connections

Spirax Sarco strainers are available with screwed, flanged and socket weld connections.

5. Select a screen type



Perforated strainer screen



Perforated strainer screen:

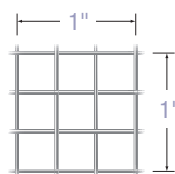
These are relatively coarse strainer screens produced from sheet metal having multiple punched holes designed to remove general pipeline debris.

The term perforation indicates the diameter of each hole. Perforated strainer screens from Spirax Sarco are available from 0.8 mm to 3.0 mm.

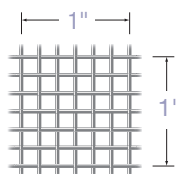
Other screen sizes are available, please contact your local Spirax Sarco engineer for further information.

Mesh strainer screen:

These provide much finer screen protection for items such as control valves and pressure reducing valves where small orifices can become easily blocked.



3 mesh screen



6 mesh screen

Mesh options

| Mesh | Opening | |
|------|---------|--------|
| | mm | micron |
| 40 | 0.401 | 401 |
| 100 | 0.152 | 152 |
| 200 | 0.076 | 76 |

Note: The 200 mesh option should only be used on gas applications.

6. Select screen material

Stainless steel: Specified for its strength and chemical resistance.

Monel: For admiralty and offshore use and for very specialised chemical applications.

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Some of the products may not be available in certain markets

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