synflo

Innovation | High end technology | World class performance...

Technical Brochure

"Y" Strainers

www.synflovalves.in

INTRODUCTION

"Y" Strainers are used in a wide variety of liquid and gas straining applications to protect downstream process system components in many industrial applications.

"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 pipelines to protect pumps, meters, control valves, steam traps, regulators and other process equipments.

Quality

- High end world class performance
- Engineered to withstand even the most aggressive industrial applications
- Designed to stand up to the most demanding real world applications.
- Furnished with high quality stainless steel screens that fits the strainer body perfectly
- Precision machined screen seat in the body to protect against any bypass.
- Complete material traceability & interchangeability is maintained
- Material / Pressure Test certificates available on request

Salient Features

- Heavy Duty Construction with Heavy Wall Thickness
- Compact Design
- Available Ex-stock
- Bolted Covers / Leakproof fully encased body cover joint gasket
- High Quality Stainless Steel Screens
- Low Maintenance

Size Available

25 mm (1"), 40 mm (1½"), 50 mm (2"),
65 mm (2½"), 80 mm (3"), 100 mm (4"),
150 mm (6"), 200 mm (8"), 250 mm (10")

Screen Options

- Perforated Stainless Steel Screens – 1/32" to ½"
- 20, 40, 60, 80, 100, 200, 325 and 400 Mesh
- Stainless Steel Screens

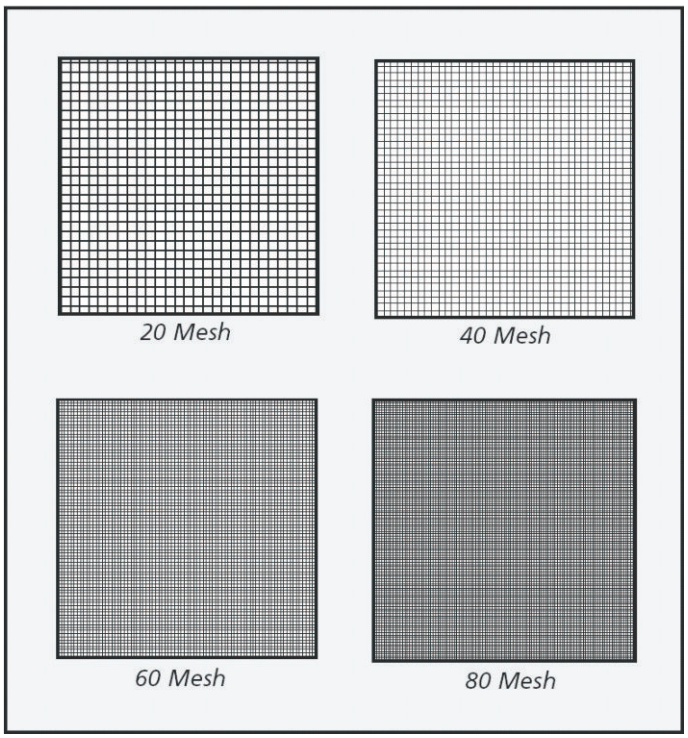
  Monel Screens

TECHNICAL DATA

Screen Construction

The screen is the heart of the "Y" Strainer and the point where the dirt or unwanted material is trapped. Strainer screens made with thin gauge material can compromise the entire system. Stainless steel, because of its strength and corrosion resistance, is always the preferred material for "Y" strainer screens. The screen is critical to the operation of the strainer, and it is recommended that the user have on hand extra screens for each size "Y" strainer installed.

Mesh Liners



Wire Mesh

Standard wire mesh liners for Synflo "Y" Strainers and screens are available from 20 mesh to 400 mesh. For any size mesh, there are several different open area selections based on the diameter of the wires used. Twenty mesh means 20 wires per inch in both vertical and horizontal direction. Therefore, as the wire size increases, the hole size decreases.

Open Area

Perforated sheet can have an open area from 15% to 75%. In general, the larger the open area of perforated sheet, the thinner the sheet thickness must be. As holes are punched closer together to increase the perforated open area, the solid portion between holes distort and becomes weak. Table A describes the sheet thickness which is used to construct screens.

Another factor in controlling the sheet thickness is the hole diameters. The smaller the hole diameters, the thinner the sheet. Synflo strainers and screens have between 28% to 63% open area with gauge thickness from 18 (0.048") to 25 (0.021"), depending upon the size of the perforations and the size and model of the strainer.

Table A
Perforated Sheet Specifications

Perforation Size Inches	Sheet Thickness USS Gauge #	Hole Pattern	% Open Area
0.020	25	Straight	16.0
1/32	22	Straight	28.0
3/64	22	Straight	30.2
0.045	22	Staggered	36.0
1/16	22	Straight	31.0
5/64	22	Staggered	41.0
7/64	22	Staggered	46.0
1/8	18	Staggered	47.9
5/32	18	Staggered	63.0
3/16	18	Staggered	50.0
1/4	18	Staggered	42.0
3/8	18	Staggered	52.0
1/2	18	Staggered	47.9

TECHNICAL DATA

Hole Arrangement

Holes can be punched in a straight line or in a staggered pattern. Synflo strainers and screens have a staggered pattern which increases the open area, provides extra strength and creates less pressure drop.

Perforations

Synflo strainers and screens are available in 1/32", 3/64", 1/16", 1/8", 5/32", 1/14", 3/8" and 1/2" perforations and in mesh sizes : 20, 40, 60, 80, 100, 200, 325 and 400. However we have found that for general service there is one perforation for each size and type of strainer which is most popular. This is called the standard perforation and is the size furnished with the strainer unless another perforation is specified.

Wire Mesh Specifications

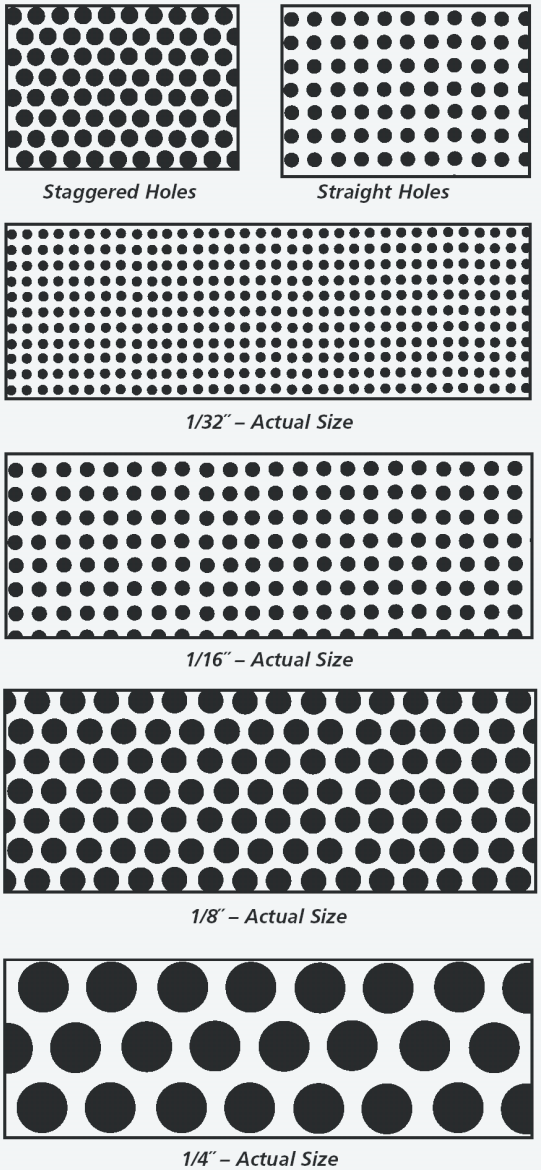
All Synflo strainers are available with woven wire mesh screens. Wire mesh provides smaller openings than can be obtained by perforating for very fine straining applications.

Synflo screens are made using monofilament mesh having equal wire size and wire count in both directions to produce square openings.

Table B
Mesh Sheet Specifications

Mesh Size	Wire Diameter Inches	Mesh Opening Inches	Mesh Opening Microns	% Open Area
20	0.016	0.0340	864	46.2
40	0.010	0.0150	381	36.0
60	0.0075	0.0092	234	30.5
80	0.0060	0.0065	165	27.0
100	0.0045	0.0055	140	30.3
200	0.0021	0.0029	74	33.6
325	0.0014	0.0017	43	30.0

Pattern Examples



APPLICATIONS

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

Stainless strainers, of course, are used where high corrosion resistance or where freedom from contamination is required. They are popular in the chemical, food and pharmaceutical industries.

Chemicals

There are innumerable areas where the presence of a pipeline strainer means a cleaner product, protection of equipment, and/or simple separation of solids from liquids.

There is scarcely a chemical operation involving liquid flow which cannot be improved or guaranteed longer running life by the installation of a pipeline strainer in the line.

Industrial And Municipal Water

Synflo strainers are used to take debris from lakes, streams and wells that can damage or clog equipment. They also remove leaves, insects, feathers, etc. from cooling tower water where the system is open to the atmosphere.

For desalinization equipment, they take out dirt or other unwanted matter from the water before it is treated for salt removal. Spent waste water is frequently passed through a basket strainer to take out material which should not go into a sewer or a water way.

Pharmaceuticals And Cosmetics

Ointments, lotions and similar products which may contain clumps of undispersed orundissolved matter are pumped through pipeline strainers. In the manufacture of lipstick, for instance, unwanted lumps can ruin the product.

Petroleum

Pipeline strainers clean unwanted material from from petroleum products ranging from crude oil to gasoline. A specific case is fuel oil, which can contain gums, tars or other dirt that can plug the nozzles of an oil burner. Every industrial oil burner is equipped with a pipeline strainer to screen these out. Strainers are used in similar ways in refineries and in oil handling operations to keep debris away from pumps and meters.

Pulp And Paper

Smooth paper finishes require that coatings be free of pigment clumps. Pipeline strainers in the coating lines catch and retain the lumps. They are also used to clean traces of pulp or paper from white water effluent before it is discharged.

Process Equipment

Expensive equipment is often protected against damage from scale, dirt and by-products, or from costly shutdown due to the presence of these materials, by installing a pipeline strainer ahead of them in the line. Heat exchangers, condensers and pumps use strainers on their intake sides. Flow meters and spray nozzles are kept from clogging by pipeline strainers.

APPLICATIONS

Paint, Ink And Latex

Undisslved lumps of resin, skins or clumps of pigment can ruin costly coating products. They are hard to detect, yet easy to avoid by using strainers.

Marine Industry

Pipeline strainers are instrumental in handling sea water for cooling lines, fire control lines, sanitary lines and general cleaning lines. This water comes from outside the ship and can contain a good deal of undesirable matter. Strainers are used on board ships to clean fuel, hydraulic and lubricating systems.

Food Industry

Strainers are used to remove bits of pulp, skins or other unwanted matter from fruit juices. They are used to remove lumps from chocolate syrup and wax from honey. The baking industry strains bone and gristle from molten lard with basket strainers, and also uses them to remove bits of dough, seeds, etc. from discharge water. Straining water allows it to be recycled and used for other purposes.

Power Generation

The electric power industry uses strainers to clean water for cooling and to protect equipment. They also strain transformer oil to avoid clogging of the circulating lines.

How to Order

Strainer Series	Strainer Size (mm)	Pressure Class #	Body & Cover MOC	Mesh MOC	Mesh Type	End Connections
SY	15**	150#-A	WCB-1	Special-1*	Perforated-1	Flanged-RF
	20**	300#-B	CF8-2	CF8-2	20 Mesh-2	Screwed BSP-BS
	25		CF8M-3	CF8M-3	40 Mesh-3	Socketweld-SW
	40		CF3-4	CF3-4	60 Mesh-4	
	50		CF3M-5	CF3M-5	80 Mesh-5	
	80		Special-6*		100 Mesh-6	
	100				200 Mesh-7	
	150				325 Mesh-8	
	200				400 Mesh-9	
	250					

* Pls specify material

**Available only in screwed ends

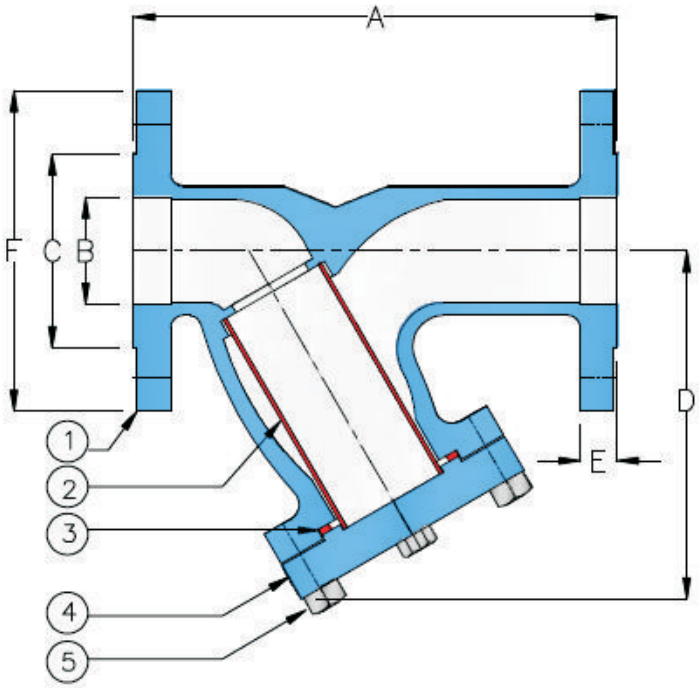
Example

SY 50 A 2 2 3 R F

Indicates

SS 304 "Y" Strainer, 50mm, Bolted Cover, SS 304-40 Mesh, Flanged ends to ASA 150#

Dimensions & Weights



A - Face to Face

B - Port Diameter

C - Raised Face

D - Center of Height

E - Flange Thickness

F - Flange Diameter

G - Flange Pcd.

H - Hole Diameter

I _ No. of Hole

Materials of Construction

Sr	Part Name	Material of construction		
1	Body / Cover*	ASTM A216 Gr. WCB	ASTM A 351 Gr. Cf8	ASTM A 351 Gr CF8M
2	Mesh	SS 304		SS 316
3	Gaskets	SS 304 Metallic Spiral Wound Graphite Filled Gaskets		
4	Bolts / Nuts	ASTM A 193 Gr. B7 / 2H	Stainless Steel	

* Other special materials available on request.

Size (mm)	Dimensions in mm					Mounting Details				Weight (kg)
	A	B	C	D	E	F	G	H	I	
25	160	25	50.8	120	14.3	107.9	79.4	16	4	4.5
40	200	39	73	150	17.5	127	98.4	16	4	8
50	230	50	92.1	165	19.3	152.4	120.6	19	4	11
80	310	75	127	215	23.8	190.5	152.4	19	4	21
100	350	100	157.2	260	23.8	228.6	190.5	19	8	32
150	480	150	215.9	335	25.4	279.4	241.3	22.2	8	78

** For sizes 8" and above, pls consult factory.

Synflo does not assume any responsibility for the data and specifications given in this brochure, although it is believed to be accurate. When properly selected, Synflo valves are designed to perform its intended function safely during its useful life. However, the purchaser / user of Synflo valves should be aware that the valves are used in numerous applications under a wide variety of industrial service conditions. The purchaser / user must therefore assume the ultimate responsibility of for the proper sizing and selection, installation, operation and maintenance of Synflo products.

Synflo reserves the right, without notice, to alter, improve and upgrade its product designs, specifications and dimensions described herein.

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