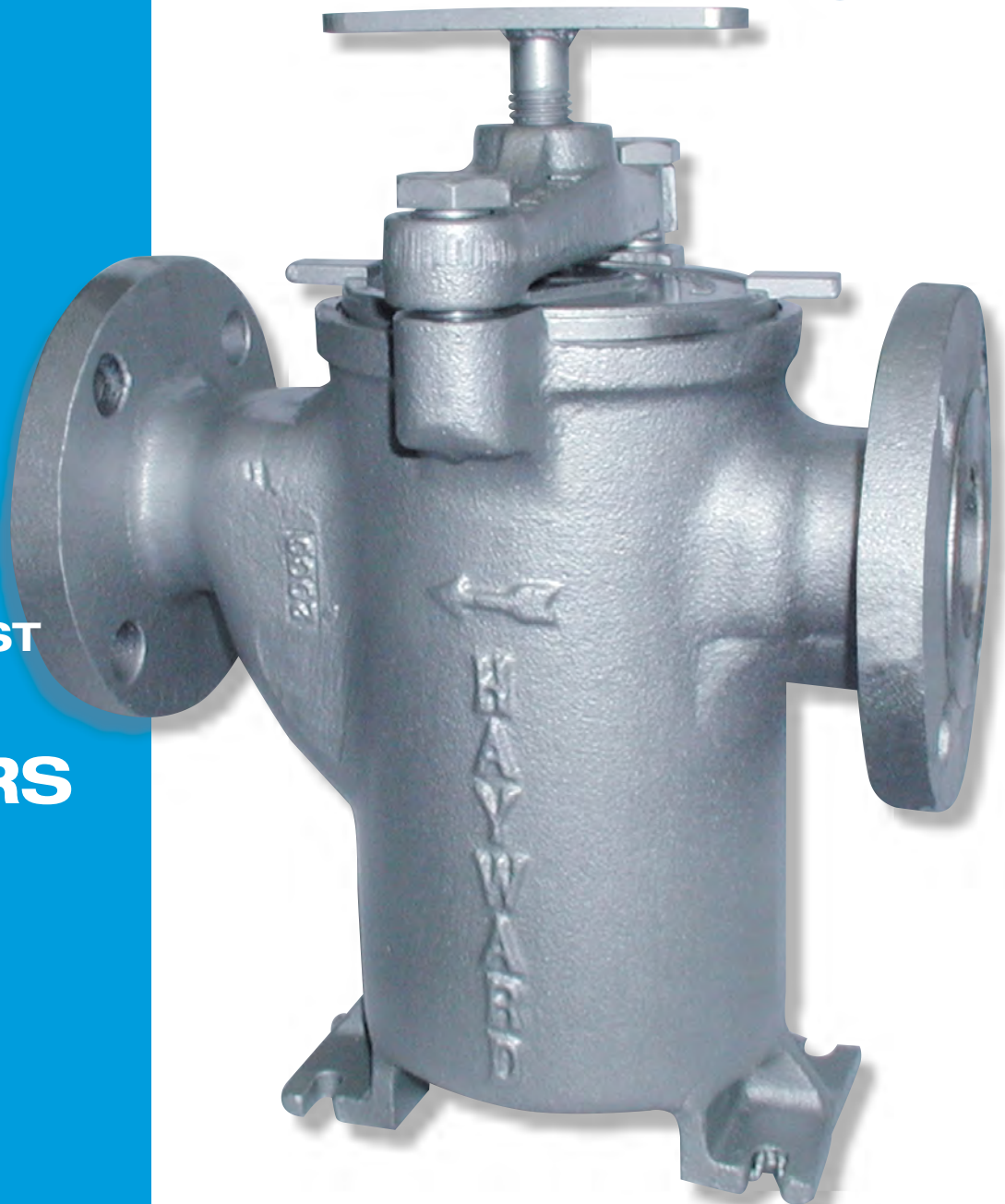




HAYWARD FILTRATION

**STANDARD CAST
PIPELINE
STRAINERS**



HAYWARD STANDARD CAST PIPELINE STRAINERS

Navigating through the Hayward Standard Cast Strainer Catalog is easy. If you are not familiar with Adobe Acrobat Reader the screenshot below will explain the basic ways to move through the catalog.

The easiest way to jump from page to page is to click on “Bookmarks” tab. That lists every page in the catalog. Clicking on a page takes you directly to that page. On the Table Of Contents page you can click on any product listed and go directly to that page. For quick navigation click on “Pages” to see thumbnail pictures of each page. Click on the thumbnail and go directly to that page.

For complete product information including dimensions drawings, AutoCAD files, instruction manuals and more visit our web site at www.haywardfiltration.com.

The screenshot displays the Adobe Acrobat Standard interface with a document titled "STD12_CoverstoPg28.pdf". The main content area shows a "TABLE OF CONTENTS" page with several entries: "Introduction to HAYWARD Filtration" (page 4), "Why Hayward? Strainer Applications" (page 6), "Introduction to Y Strainers" (page 8), and "Introduction to Basket Strainers" (page 14). The left sidebar contains tabs for "Bookmarks", "Signatures", "Layers", "Pages", and "Comments". The "Pages" tab is active, showing thumbnails for each page. The "Bookmarks" tab is also visible. The bottom of the window shows the Adobe Acrobat navigation bar with page 4 of 29 displayed. The Windows taskbar at the bottom shows the Start button, several open applications, and the system clock at 1:44 PM.

Click the Bookmarks tap to see a list of all the catalog pages.

Click "Pages" to see thumbnails.

Click the arrows to move forward or back.

On the Table of Contents page you can click any product listing to go to that page.

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Model 72 Straight Flow
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Model 30R Economy
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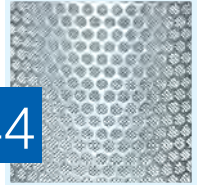




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HAYWARD FILTRATION



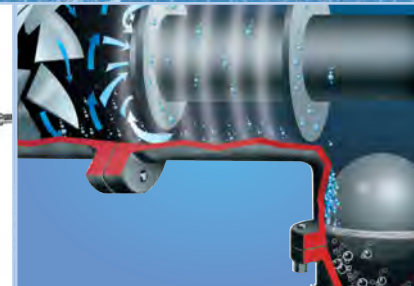
Thousand of different types of HAYWARD® Filter Bags are available.



HAYFLOW™ Filter Element...the next generation of filtration.



MAXILINE™ Multi-Bag Filter Housing with QIC LOCK cover for fast filter media change out.



WRIGHT-AUSTIN™ Separators remove 99% of moisture and particulate matter from air, gas and steam lines.

In 1923 Hayward began manufacturing specialty metal valves and industrial flow control products in a small shop in Brooklyn, NY. Since then Hayward Filtration has evolved through strategic acquisitions and technological advances into a global organization supplying solutions to customers' filtration, straining and separation problems around the world. Hayward Filtration has seven manufacturing facilities on four continents, 26 wholly owned subsidiaries and an independent distribution network that today serves customers in over 45 countries.

HAYWARD® Pipeline Strainers are manufactured in an ISO 9001:2000 certified facility in Elizabeth, New Jersey. They are used by industrial and commercial customers to protect their process piping equipment by removing debris from the liquid that flows through pipelines. Products include automatic self-cleaning strainers as well as manual, duplex, simplex and Y strainers. Both cast and fabricated type strainers are made in standard

configurations to meet the needs of most applications. For unique, complex, or specialized applications Hayward's Engineering Group can work with customers to design a strainer to meet the exact requirements of the application with no compromises. Strainers are manufactured in sizes from a tiny 1/4" up to a huge 48" pipeline size.

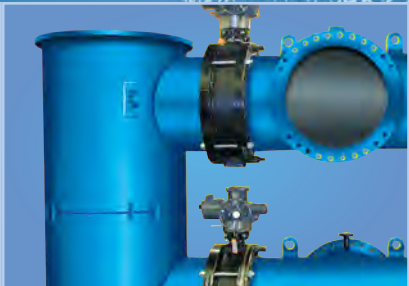
Beginning in the 1980's Hayward began to expand its cast basket strainer product offering with the addition of Y strainers through the acquisition of the Y Strainer Division of the Leslie Corporation in 1981. Gordon Engineering, a manufacturer and designer of fabricated strainers, was acquired in 1985. Automatic-self cleaning strainers were added to Hayward's product line with the acquisition of the Fluid Handling Division of Zurn Industries in 1986.

In 1994 Hayward entered the filtration market with a specialized line of industrial and commercial filtration

INTRODUCTION



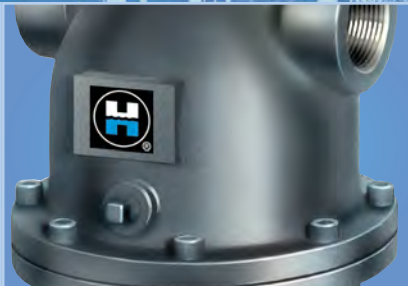
Cast iron simplex strainer



This duplex strainer for a 36" pipeline illustrates Hayward's custom fabrication capabilities



Stainless steel bag filters in both single and double length sizes



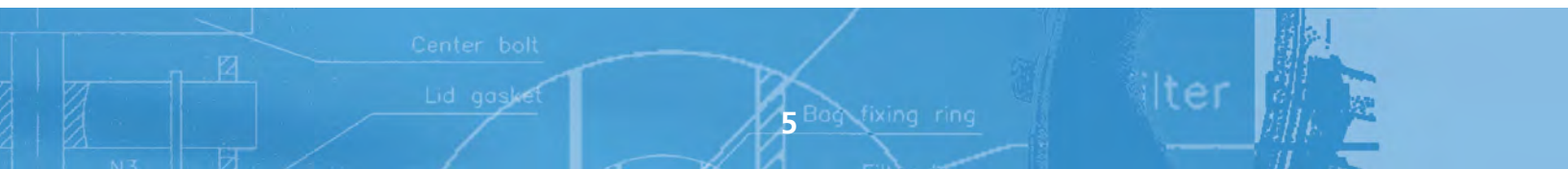
Gas/liquid separators remove moisture and particulate matter from compressed air, gas or steam lines

products. In 1996 the Filtration Division of American Felt and Filter was acquired adding bag filters and filter media to the product offering. Loeffler Filter-Technique, headquartered in Nettersheim, Germany was acquired in 1998. This greatly increased Hayward's product offering and expanded global sales. In 1999 GAF® Filter Systems was acquired further enlarging the product offering and increasing worldwide sales. Hayward Filtration is now one of the largest manufacturers of bag filtrations systems in the world. In 2000 the Loeffler and GAF Filter System product lines were combined under the Hayward name.

Hayward Filtration also manufactures the WRIGHT-AUSTIN™ brand of gas/liquid separators. These separators remove moisture and particulate matter from air, gas and steam lines thus protecting expensive equipment such as turbines. The Wright-Austin Company, established in 1894, was acquired by Hayward in 1996.

Hayward Filtration's gas/liquid separator customers can take advantage of the company's over 100 years experience in separation applications.

Hayward Filtration's greatest achievement over the years has been the development and implementation of a single global product line manufactured worldwide in multiple locations to a common design standard yet in compliance with local code requirements. This manufacturing flexibility lets customers worldwide choose the pipeline strainer, bag filter or gas/liquid separator that meets their exact requirements without compromise. Local Hayward Filtration Sales and Technical Support Specialists are always available to review the needs of an application with the customer and recommend specific solutions. This local support extends from initial purchase, to installation, through start up and beyond.



WHY HAYWARD?

Hayward Pipeline Strainers

....protecting pumps, filters, nozzles, flowmeters, valves, heat exchangers, condensers, oil burners, boilers and other process system components from damaging pipeline debris.

In over 75 years of manufacturing strainers, our dedication to excellence has earned us the confidence of thousands of users. Hayward Engineers have led the way with designs that meet the ever growing and rigorous demands of process and manufacturing industries, utilities and municipalities

Modern Equipment and Facilities Insure a Quality Strainer

To ensure our position as the world's leading strainer manufacturer, we continue to make major investments in the acquisition of the most up-to-date equipment available. Millions of dollars of computer controlled machining equipment have been installed to assure the accurate production of all Hayward Pipeline Strainers.

No Waiting for Delivery – 11,000+ Model Numbers Available

Maintaining the largest and broadest inventory of strainers in the industry, we can provide off-the-shelf delivery of simplex, duplex, and Y strainers in metals such as cast iron, carbon steel, bronze and stainless steel; and in corrosion resistant plastics such as PVC and Corzan® CPVC.

A Strainer for Every Application

Hayward has pipeline strainers for just about any straining application imaginable. We produce a broad and complete range of every type of strainer from 3/8" to 60" pipeline sizes.

We'll Design a Strainer Just For You

For a unique configuration or size, unusually high pressure, or a special alloy, Hayward has the capability and experience to economically fabricate a strainer to exactly meet your needs.

Unbeatable Hayward Quality

The name "Hayward" is synonymous with quality engineered and manufactured strainers. Standards to which we can conform include: 1) MIL-1-45208A – for quality inspection standards and 2) ASME Section VIII which authorizes us to code stamp strainers.

ISO Certification

Because Hayward is an ISO 9001:2000 certified manufacturer, you can be assured that we design and build for quality. Hayward's Quality Management System is monitored and certified by Lloyd's Register Quality Assurance.



Worldwide Customer Support

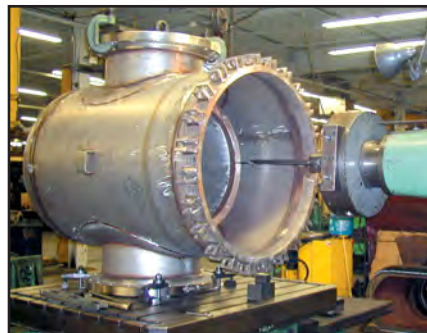
No matter where in the world you or your plant are located a Hayward Representative is available to assist you. We have a dedicated customer service support network serving all major cities in the United States, Great Britain, Canada, Europe and the Far East. Available help when and where you need it.



View of Hayward's Elizabeth, New Jersey plant showing some of the large inventory of strainers we keep in stock for immediate shipment.



View of the manufacturing floor at our 600,000 square foot Clemmons, North Carolina plant where Hayward plastic strainers are made.



16" Model 90 simplex pipeline strainer being finish machined.



Custom-fabricated Model 90 stainless steel simplex strainer with davit to aid in cover removal and basket changing.

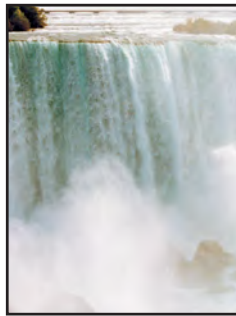
WHY ARE HAYWARD STRAINERS USED?

Chemicals:

This industry is perhaps the largest user of pipeline strainers. There are innumerable areas where the presence of a pipeline strainer means a cleaner product, protection of equipment, 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.

Water Handling

This is probably the biggest application for pipeline strainers. They are used to take sand, gravel and other debris from lakes, streams and wells which might damage or clog equipment. They take leaves, insects, feathers, etc. from cooling tower water where the system is open to the atmosphere. They strain out hair and lint from large swimming pools before the water passes to a filter. Pipeline strainers are an important part of desalinization equipment where they take out dirt or other unwanted matter from the water before it is treated for salt removal. Spent waste water from industrial use is frequently passed through a basket strainer to take out material which should not go into a sewer or a waterway.



Pharmaceuticals and Cosmetics

Ointments, lotions and similar products which may contain clumps of undispersed or undissolved 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 petroleum products ranging from crude oil to gasoline. A specific case is fuel oil, which can contain gums or tars or other dirt which 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 undesirable material away from pumps and meters.

Pulp and Paper

The problem of unseen lumps in coatings in the paper industry is an ever present one. Smooth paper finishes require that coatings be free of undispersed clumps of pigment. Pipeline strainers in the coating lines catch and hold 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 byproducts, 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.

Paint, Ink and Latex

The presence of lumps of undissolved resin, skins and clumps of pigment is a perpetual problem. They are hard to detect and can spoil a product. Pipeline strainers remove them.

Marine Industry

Pipeline strainers are used in the marine industry for many purposes. One of the most important is handling sea water in 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.

Tank Cars And Trucks

A basket strainer installed on a tank truck which must dispense liquids can catch solid material which is not wanted. Many chemical products undergo changes during

storage or transport which result in solid residues. The presence of solids in liquid fertilizers or pesticides, for example, can cause clogging of spray equipment. For this reason, many tank trucks and cars are equipped with strainers.

Commercial Buildings, Hospitals and Schools

Pipeline strainers are used on cooling towers and boilers to protect them from damage due to scaling.

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.



More Information

For specific, detailed application information consult a HAYWARD Application Specialist. HAYWARD pipeline strainers are for liquid applications only.

INTRODUCTION TO



Hayward Y strainers are available with threaded, socket weld and flanged connections

suitable because the steam temperature may be 1000 F or higher. In these cases, the Y strainer body is generally made of chrome-moly steel.

Besides steam, Y strainers are often used in air and natural gas applications. Here again, high pressures are not uncommon. However, unlike steam, high air pressure does not automatically mean high temperature – and so, ordinary carbon steel bodies of sufficient wall thickness will generally suffice.

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 manufacturers reduce the size of the Y strainer body to save material and cut cost.

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 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 cleanings, the strainer screen is manually cleaned by shutting down the line and removing the strainer cap. For applications with heavier dirt loading, Y strainers can be fitted with a “blow off” connection that permits the screen to be cleaned without removing it from the strainer body.

Y strainers are used in a wide variety of liquid straining applications 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 debris, are very common.

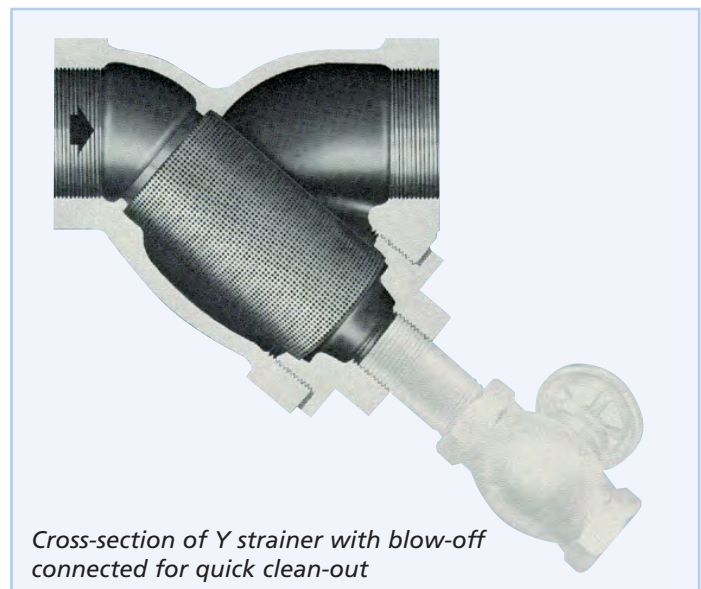
Applications

While often used in many different types of liquid applications, a Y strainer is considered the standard for steam applications – and is almost universally used for these applications. Its compact, cylindrical shape is very strong and can handle high pressures. It is, literally, a pressure vessel. Y strainers which handle pressures up to 6000 psi are not uncommon. Of course, in these cases, the design of the strainer is critical so that it can stand up to these high pressures without fear of failure. When high pressure steam is being handled, another complicating factor arises – temperature. With steam pressures of 1500 psi or higher, standard carbon steel is sometimes not

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 undersized unit.

Materials of Construction

Because of its cost effectiveness, iron should be the first choice of a Y strainer user and, for this reason, it is by far the most popular material. Cast iron has good corrosion resistance in water service. It is also used with many non-aqueous materials such as paint, fuel oils and plastics. The disadvantage of iron is its inability to stand



Cross-section of Y strainer with blow-off connected for quick clean-out

Y STRAINERS

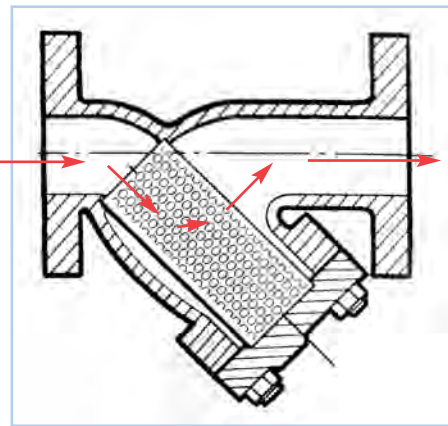
thermal or mechanical shock and its susceptibility to corrosion in some applications.

Bronze is the preferred material for marine service. Bronze strainers are widely used for handling sea water – and also brackish or saline ground waters. Another use for 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 pickup. Stainless steel may be too expensive. Bronze is a good compromise and is therefore used. Bronze can also be used with mildly corrosive materials where iron is unsatisfactory and stainless might be too costly.

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 steel strainers, of course, are used where high corrosion resistance or where freedom from contamination is required. They are



Flow path through a Y strainer

popular in the chemical, food and pharmaceutical industries.

Design Criteria

It cannot be stressed too highly that Y strainers for critical applications must be adequately designed. This means sufficiently heavy wall thickness and blowoff connections. As an example, in improperly trapped steam lines, condensate can collect in low points and become a slug of water traveling at very high velocity down the line. Even the slight change in direction caused by a Y strainer can produce a tremendous shock which can damage the strainer. Manufacturers who thin down walls to save weight and cost are asking for trouble in these cases.

A Y strainer, if fitted with a blowoff connection, can be a self cleaning strainer. A valve is installed on the connection located on the strainer cap. The screen can thus be cleaned by simply opening and then closing the valve without shutting off the flow or disassembling the strainer. When the valve is opened the material trapped inside the screen drains out.

Another critical thing to check for in Y strainers is the point where the screen or straining element seals to the body. This seat should be carefully machined so no particle can bypass it. The same thing applies to the cleanout end. The screen should fit tightly. Beware of strainers with un-machined seats: the improperly seated screen will permit bypass of the fluid – allowing dirt or debris downstream.

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 and soldered, rather than welded, connections can compromise the entire system. When a screen is damaged in service or in cleaning, the Y strainer is effectively out of service. While brass is sometimes used as a screen material to cut costs, it is truly false economy. 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 an extra screen for each size Y strainer installed.

Types of Connections

Y strainers are available in a wide variety of end types. Iron and bronze are almost always supplied with threaded or flanged end connections. Additionally, bronze strainers are available with solder end connections. In all cases, flanges are designed to ANSI specifications.

Special flanges such as ring joints are often available as well. Y strainers can also be constructed to US Navy flange dimensions, which are different from commercial standards. For extremely high pressure applications, Y strainers with socket or butt weld end connections are often specified.

Final Considerations

When specifying or buying a Y strainer, price, which is often the prime consideration, should be the least important consideration. A well made and properly designed Y strainer will last almost indefinitely. Its first cost is, therefore, not important compared 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 bypass of dirt? Is the body strong enough to resist mechanical shock and avoid accidents? Are blowoff connections heavy enough to avoid leakage or failure? All these factors should be considered carefully before selecting a Y strainer.



Stainless steel screens are standard for all Hayward Y strainers.

MODEL 85 HEAVY-DUTY Y STRAINERS

1/4" to 20" • Iron, Bronze, Carbon Steel and Stainless Steel • Threaded, Flanged and Socket Weld Connections

Rugged Design



Carbon steel and stainless steel Y strainers are offered in sizes for 1/4 in to 10 in pipelines



Cast iron Y strainers are offered in sizes for 1/4 in to 20 in pipelines



Bronze Y strainer are offered in sizes from 1/4 in to 6 in

Features

- Heavy Duty Construction
- Compact Design
- Bolted or Threaded Covers
- Standard Stainless Steel Screens
- Synthetic Fiber Gaskets

Options

- 1/32 "to 1/2 " Perforated Stainless Steel Screens
- 40, 60, 80, 100, 200, 325 and 400 Mesh Stainless Steel Screens
- Monel Screens
- Chrome-Moly Construction
- Ring Type Joint Connections
- Butt Weld Connections
- 900#, 1500#, and 2500# Ratings Available

Hayward Model 85 Y Strainers are heavy duty ones – engineered to stand up to the most aggressive of industrial and commercial applications...year after year. There is simply no higher quality Y strainer available...at any cost.

It may seem strange to discuss quality as a special feature of a basically simple Y strainer, however, it is appropriate when you consider the critical operational parameters often associated with Y strainers used in steam and gas applications, extremely high temperatures and high pressures. A Y strainer is a pressure vessel, its wall thickness can be analyzed and evaluated by different applicable standards. Hayward does not, and never will, compromise or stint on wall thickness. Every rugged Hayward Model 85 Y strainer is designed to stand up the most demanding real world applications. Hayward's over 75 years experience in manufacturing strainers ensures this.

There is a tendency to trivialize quality, particularly when price becomes a dominant consideration. What this design consideration amounts to in non-critical, light duty applications is an extra element of safety, as well as longer, more dependable service. We extend our preoccupation with quality to each screen that is supplied with Hayward Y strainers. It should not come as a surprise to learn that those Y strainers, whose bodies are trimmed to a bare minimum for cost reasons, are equipped with screens that lack structural integrity and are poorly seated and sealed. Hayward heavy duty Model 85 Y strainers are furnished with high quality stainless steel screens that are carefully fabricated to fit the strainer body perfectly. This, coupled with the precision machined screen seat on the body of the strainer, protects against any bypass..

Hayward Model 85 Heavy Duty Y Strainers are available in iron, bronze, carbon steel or stainless steel for pipeline sizes from 1/4" to 20", with threaded, flanged, or socket weld connections. Do you have a unique application where a standard strainer just won't work? Or...do you need special materials of construction, super high pressure ratings, special dimensions? Contact us. Our engineers will design and fabricate a strainer to match the requirements of the most complex applications.

Y STRAINERS

Hayward Model 85 Y Strainers 1/4 to 20" Cast Iron and Bronze - Threaded, Solder Weld & Flanged

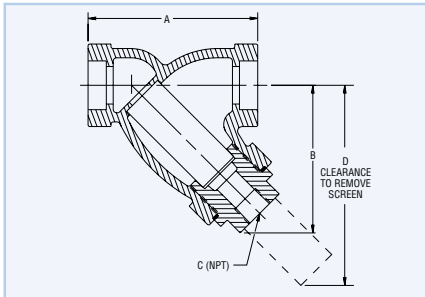
Size	Material	End Connections	Cover	Rating (WOG) Non Shock	Model No.
1/4" to 3"	Cast Iron	Threaded 250#	Threaded	400 psi @ 150 F	85
2 1/4" to 12"		Flanged 125#	Bolted	200 psi @ 150 F	
1/4" to 20"		Flanged 250#		400 psi @ 150 F	
		Flanged 125#	150 psi @ 150 F		
2" to 6"	Bronze	Threaded or Socket 150#	Threaded	200 psi @ 100 F	85
		Flanged 150#	Bolted	225 psi @ 100 F	

Hayward Model 85 Y Strainers 1/4 to 10" Carbon and Stainless Steel - Threaded, Socket Weld & Flanged

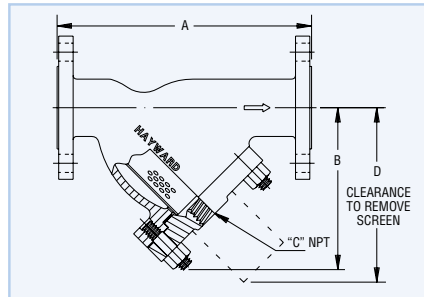
Size	Material	End Connections	Cover	Rating (WOG) Non Shock	Model No.
1/4" to 2"	Carbon Steel	Threaded or Socket Weld 600#	Threaded	1480 psi @ 100F	85
	Stainless Steel			1440 psi @ 100F	
1/4" to 10"	Carbon Steel	Flanged 150#	Bolted	285 psi @ 100F	
				Stainless Steel	
	Stainless Steel			275 psi @ 100F	
1/2" to 10"	Carbon Steel	Flanged 300#	Bolted	720 psi @ 100F	80
				Flanged 600#	

* DIN flanges and BSP threads available

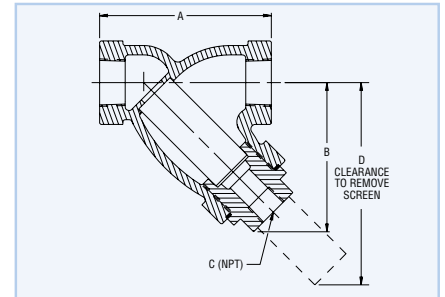
Dimensional Drawings



Typical Solder End Y Strainer



Typical Flanged Y Strainer



Typical Threaded Y Strainer

Flanged Carbon Steel and Stainless Steel – 150 lb (in / mm)

Size	A	B	C (Nom.)	D	Wt (lb / kg)
1/2	5.00 / 127	2.75 / 70	3/8 / 10	3.50 / 89	5 / 2.3
3/4	5.63 / 143	3.00 / 76	3/8 / 10	4.00 / 102	7 / 3.2
1	6.38 / 162	3.64 / 92	1/2 / 15	5.00 / 127	9 / 4.1
1-1/4	7.25 / 184	4.25 / 108	3/4 / 20	5.75 / 146	14 / 6.3
1-1/2	8.88 / 226	5.75 / 146	3/4 / 20	6.50 / 165	18 / 8.2
2	7.88 / 200	6.00 / 152	1 / 25	8.25 / 210	16 / 7.3
2-1/2	9.75 / 248	6.50 / 165	1 / 25	9.25 / 235	25 / 11.4
3	10.00 / 254	7.25 / 184	1-1/4 / 32	10.50 / 267	35 / 16
4	12.13 / 308	9.75 / 248	1-1/2 / 40	14.75 / 375	70 / 32
6	18.50 / 470	14.25 / 362	2 / 50	21.00 / 533	130 / 59
8	21.63 / 549	18.00 / 457	2 / 50	26.75 / 679	240 / 109
10	26.00 / 660	22.50 / 565	2 / 50	33.75 / 857	300 / 136

Flanged Carbon Steel and Stainless Steel – 300 lb (in / mm)

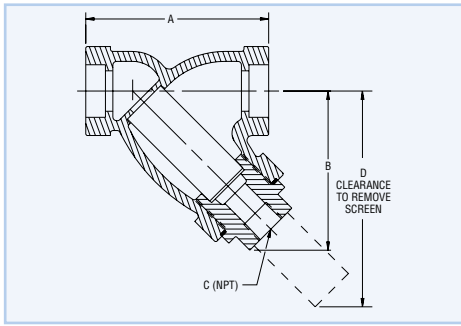
Size	A	B	C (Nom.)	D	Wt (lb / kg)
1/2	5.25 / 133	2.75 / 70	3/8 / 10	3.50 / 89	6 / 2.7
3/4	6.00 / 152	3.00 / 76	3/8 / 10	4.00 / 102	9 / 4.1
1	6.88 / 175	3.63 / 92	1/2 / 15	5.00 / 127	13 / 6.0
1-1/4	7.75 / 197	4.25 / 108	3/4 / 20	5.75 / 146	18 / 8.2
1-1/2	9.38 / 238	5.75 / 146	3/4 / 20	6.50 / 165	24 / 11
2	8.63 / 219	6.25 / 159	1 / 25	8.25 / 210	30 / 13.6
2-1/2	10.63 / 270	7.00 / 178	1 / 25	9.25 / 235	40 / 18.2
3	12.00 / 305	7.75 / 197	1-1/4 / 32	10.50 / 267	55 / 25
4	14.50 / 368	10.50 / 267	1-1/2 / 40	14.75 / 375	105 / 48
6	20.00 / 508	14.75 / 375	2 / 50	21.00 / 533	200 / 91
8	23.38 / 594	18.75 / 476	2 / 50	27.00 / 686	360 / 164
10	27.38 / 695	22.75 / 578	2 / 50	34.50 / 876	430 / 195

Socket Weld and Threaded Carbon Steel and Stainless Steel – 600 lb (in / mm)

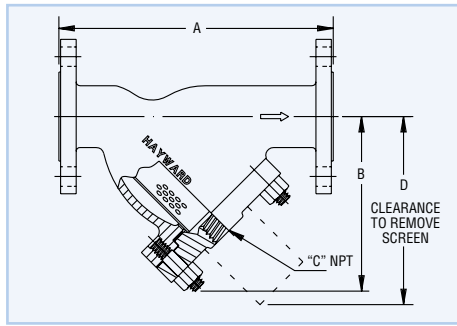
Size	A	B	C (Nom.)	D	Wt (lb / kg)
1/4	3.00 / 76	3.00 / 76	3/8 / 10	4.00 / 102	2 / 0.9
3/8	3.00 / 76	3.00 / 76	3/8 / 10	4.00 / 102	2 / 0.9
1/2	3.00 / 76	3.00 / 76	3/8 / 10	4.00 / 102	2 / 0.9
3/4	3.75 / 95	3.50 / 89	3/8 / 10	4.75 / 121	4 / 1.8
1	4.63 / 118	4.00 / 102	1/2 / 15	5.75 / 146	6 / 2.7
1-1/4	5.00 / 127	4.63 / 118	3/4 / 20	6.50 / 165	8 / 3.6
1-1/2	5.63 / 143	5.25 / 133	3/4 / 20	7.50 / 191	10 / 4.5
2	7.00 / 178	5.75 / 146	1 / 25	8.75 / 222	15 / 6.8

Consult Hayward for 12" and larger size dimensions. Dimensions and weights are for references only. Contact Hayward for certified drawings.

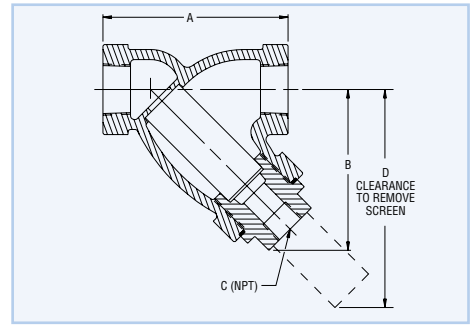
Y STRAINERS



Typical Solder End Y Strainer



Typical Flanged Y Strainer



Typical Threaded Y Strainer

Threaded Cast Iron – 250 lb (in / mm)

Size	A	B	C (Nom.)	D	Wt (lb / kg)
1/4	3.19 / 81	2.00 / 51	1/4 / 7	3.50 / 89	2 / 0.9
3/8	3.19 / 81	2.00 / 51	1/4 / 7	3.50 / 89	2 / 0.9
1/2	3.19 / 81	2.00 / 51	1/4 / 7	3.50 / 89	2 / 0.9
3/4	3.75 / 95	2.44 / 62	3/8 / 10	3.75 / 95	2.5 / 1.1
1	4.00 / 102	2.31 / 59	3/8 / 10	3.75 / 95	3 / 1.4
1-1/4	5.00 / 125	3.38 / 86	3/4 / 20	5.50 / 140	5 / 2.3
1-1/2	5.75 / 146	3.88 / 99	3/4 / 20	6.00 / 152	8 / 3.6
2	7.00 / 178	4.75 / 121	1 / 25	8.75 / 222	12 / 5.4
2-1/2	9.25 / 235	5.88 / 149	1-1/2 / 40	10.50 / 267	22 / 10
3	10.00 / 254	6.00 / 152	1-1/2 / 40	10.50 / 267	30 / 13.6

Threaded Bronze – 150 lb (in / mm)

Size	A	B	D	Wt (lb / kg)
1/4	2.62 / 66	1.88 / 48	3.50 / 89	.50 / .20
3/8	2.62 / 66	1.88 / 48	3.50 / 89	.50 / .20
1/2	3.13 / 80	2.31 / 58	3.75 / 95	.70 / .30
3/4	3.43 / 87	2.38 / 60	3.75 / 95	.90 / .40
1	4.06 / 104	2.81 / 72	4.50 / 114	1.40 / .60
1-1/4	4.88 / 124	3.25 / 82	5.50 / 140	2.40 / 1.10
1-1/2	5.62 / 142	3.75 / 95	6.00 / 152	3.30 / 1.50
2	6.69 / 170	4.75 / 120	8.75 / 222	5.30 / 2.40
2-1/2	8.39 / 213	5.83 / 148	10.50 / 267	9.20 / 4.20
3	9.06 / 230	6.69 / 170	11.00 / 279	13.40 / 6.10

Flanged Cast Iron – 125 lb (in / mm)*

Size	A	B	C (Nom.)	D	Wt (lb / kg)
2	7.88 / 200	5.25 / 133	1/2 / 15	7.00 / 178	18 / 8.2
2-1/2	10.00 / 254	6.50 / 165	1 / 25	9.75 / 249	28 / 12.7
3	10.12 / 257	7.00 / 178	1 / 25	10.00 / 254	34 / 15.4
4	12.13 / 308	8.25 / 210	1-1/2 / 40	12.00 / 305	60 / 27.2
5	15.63 / 397	11.25 / 286	2 / 50	17.00 / 432	95 / 43.1
6	18.50 / 470	13.50 / 343	2 / 50	20.00 / 508	135 / 61.2
8	21.63 / 549	15.50 / 394	2 / 50	22.75 / 578	250 / 113.4
10	25.75 / 654	18.50 / 470	2 / 50	28.00 / 711	370 / 167.8

Solder Weld End Bronze – 150 lb (in / mm)

Size	A	B	D	Wt (lb / kg)
1/4	3.38 / 86	1.88 / 48	3.50 / 89	.50 / .20
3/8	3.38 / 86	1.88 / 48	3.50 / 89	.50 / .20
1/2	3.19 / 81	2.31 / 58	3.75 / 95	.70 / .30
3/4	3.62 / 92	2.38 / 60	3.75 / 95	.90 / .40
1	4.25 / 108	2.81 / 72	4.50 / 114	1.40 / .60
1-1/4	5.12 / 130	3.25 / 82	5.50 / 140	2.40 / 1.10
1-1/2	5.94 / 150	3.75 / 95	6.00 / 152	3.30 / 1.50
2	7.44 / 188	4.75 / 120	8.75 / 222	5.30 / 2.40
2-1/2	8.25 / 210	5.81 / 148	10.50 / 267	9.20 / 4.20
3	9.06 / 230	6.69 / 170	11.00 / 279	13.40 / 6.10

Flanged Cast Iron – 250 lb (in / mm)*

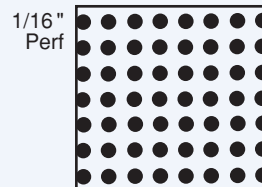
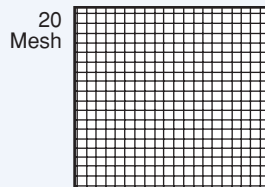
Size	A	B	C (Nom.)	D	Wt (lb / kg)
2	8.62 / 219	6.00 / 152	1/2 / 15	9.00 / 229	25 / 11.3
2-1/2	10.62 / 270	7.38 / 187	1 / 25	11.00 / 279	32 / 14.5
3	12.00 / 305	8.38 / 213	1 / 25	12.50 / 318	40 / 18.1
4	14.50 / 368	10.00 / 254	1-1/2 / 40	15.00 / 381	74 / 33.6
5	16.38 / 416	11.38 / 289	2 / 50	17.00 / 432	122 / 55.3
6	19.31 / 490	13.38 / 340	2 / 50	20.00 / 508	168 / 76.2
8	23.38 / 594	16.13 / 410	2 / 50	24.13 / 613	300 / 136.1
10	27.38 / 695	19.00 / 483	2 / 50	28.50 / 724	431 / 195.5

Flanged Bronze – 150 lb (in / mm)

Size	A	B	D	Wt (lb / kg)
2	7.88 / 200	5.25 / 133	7.00 / 178	17 / 7.70
2-1/2	10.00 / 254	6.50 / 165	9.75 / 248	28 / 12.70
3	10.12 / 257	7.00 / 178	10.00 / 254	34 / 15.40
4	12.13 / 308	8.25 / 209	12.00 / 305	56 / 25.40
5	15.62 / 397	11.25 / 286	17.00 / 432	91 / 41.30
6	18.50 / 470	13.50 / 343	20.00 / 508	131 / 59.40

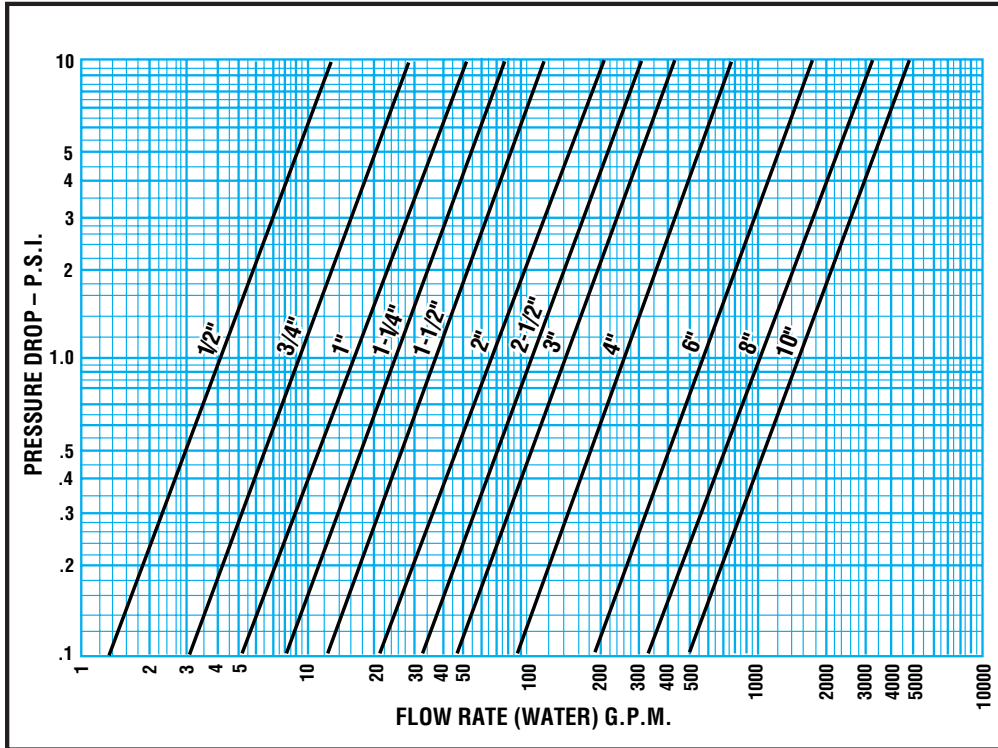
*Consult Hayward for 12" and larger sizes.

Typical Perforations
(Shown Actual Size)



Y STRAINERS

Water Pressure Drops



Calculating Saturated Steam Pressure Drop

Example:

Pressure = 300 psig

Flow Rate = 20,000 lb/hr

Strainer Size = 4 inches

1. Locate steam flow on Scale A.
2. Follow vertical line to required pressure.
3. Follow horizontal line to strainer size.
4. Follow vertical line downward and read pressure drop on Scale C.
5. Pressure drop equals 1.25 psi.

Calculating Superheated Steam Pressure Drop

Example:

Pressure = 300 psig

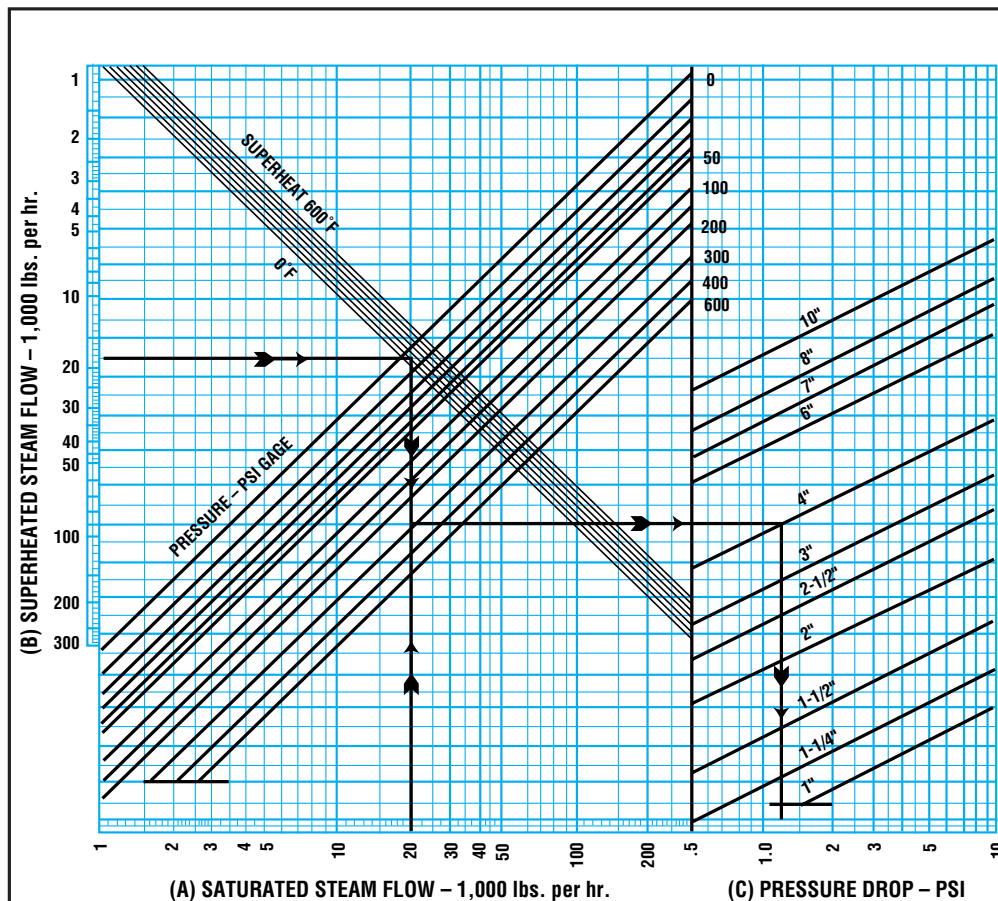
Flow Rate = 18,000 lb/hr

Strainer Size = 4 inches

1. Locate steam flow on Scale B.
2. Follow horizontal line to superheat.
3. Follow vertical line to pressure.
4. Follow horizontal line to strainer size.
5. Follow vertical line downward and read pressure drop on Scale C.
6. Pressure drop equals 1.25 psi.

Note: Use the superheat temperature value above the saturated steam temperature to obtain the point on this graph.

Steam Pressure Drops



Consult Hayward for 12" and larger sizes.

INTRODUCTION TO

How Basket Strainers Can Save Money and Improve Productivity

The problem of unwanted material in pipelines is a never ending one. Whether the flowing material is water, oil, paint or a variety of food or chemical products, there is often something present that can cause trouble. Dirt, foreign matter or even clumps of the product itself can clog or damage pumps, spray nozzles, condensers and similar equipment. Sometime a finished product has to be rejected because of the presence of undesirable solid matter. Pipeline strainers protect equipment by removing potentially damage-causing material from the process flow. Furthermore, pipeline strainers are relatively inexpensive compared to the equipment they protect or compared to the downtime, inferior products, or loss of production that would occur if they were not doing their job in the line.

Definitions

What is a strainer? An official definition adopted by the Fluid Controls Institute is "A closed vessel with cleanable screen element designed to remove and retain foreign particles down to 0.001-inch diameter from various flowing fluids." Note the term "foreign particles." Strainers do not necessarily remove only dirt. They take out material which is not wanted in the fluid and this can sometimes be a valuable product which may be saved.

What is the difference between a strainer and a filter? Actually there isn't any since a strainer is, in reality, a coarse filter. The question is then one of semantics. Generally, it is assumed that if the particle to be removed is not visible to the naked eye, the unit is filtering, and if the particle is visible, the unit is straining. The average human eye can detect a specific particle between 45 and 60 microns. Since 325 mesh is equivalent to 44 microns, a general rule would be that if the screening device is coarser than 325 mesh it is a strainer and if it is finer than 325 mesh it is a filter.

One of the best uses for a strainer is in conjunction with a filter. By installing a strainer directly ahead of a filter, the large heavy pieces which would quickly clog the filter are removed. The filter is then free to do its major job of fine particle removal and does not have to be cleaned as often.

Installation

Basket strainers are generally used with liquids and where regular or frequent cleaning is needed. Basket strainers hold considerably more material than Y strainers – and offer less pressure drop than Y strainers, both factors of more importance in liquid flow than in gaseous flow.

A basket strainer is installed upright and the basket is lifted out from the top. This makes it easier to use with gummy or sticky fluids or with large pipeline sizes where the filled basket weight can be considerable. However, it also means that a basket strainer has to be installed in a horizontal line. It cannot be used with vertical piping as a Y strainer can.

Criteria in Basket Strainer Selection

In selecting a basket strainer there are several things to look for. First, is the amount of free open area. This is the ratio of the open area through the strainer basket to the cross sectional area of the pipeline. A well-designed basket strainer should have an open ratio of at least 4 to 1. Anything less may cause excessive

pressure drop. The ratio is calculated with a clean basket and as the basket begins to clog the ratio will drop. Unless there is a wide safety margin the area through the basket may quickly become smaller than the pipe area. This will reduce flow through the strainer and necessitate very frequent cleaning. A small open area ratio also means the holding capacity of the basket is small...an important consideration if the amount of solid matter to be removed is large.

A second consideration in strainer selection is ease of basket removal. Since a basket strainer is used where cleaning may occur often, it stands to reason that the basket should be able to be removed and replaced as simply as possible. A yoke type cover will accomplish this. The strainer cover is held down by a clamping yoke which is sturdy enough to hold full line pressure and, yet, can be quickly loosened or tightened by hand. Bolted covers are



Simplex basket strainer with basket removed

Duplex basket strainer with one basket removed

BASKET STRAINERS

also furnished with some basket strainers and may cost less than yoke covers. However, every time they are handled the nuts must be spun off and then replaced. This is time consuming and, in the long run, expensive.

Another item to look for in picking a strainer is compactness of design. Is the strainer unnecessarily bulky or tall? In many application areas, space is at a premium and the less room a basket strainer takes the better. This is especially true on board ships and for skid-mounted systems where every square foot counts.

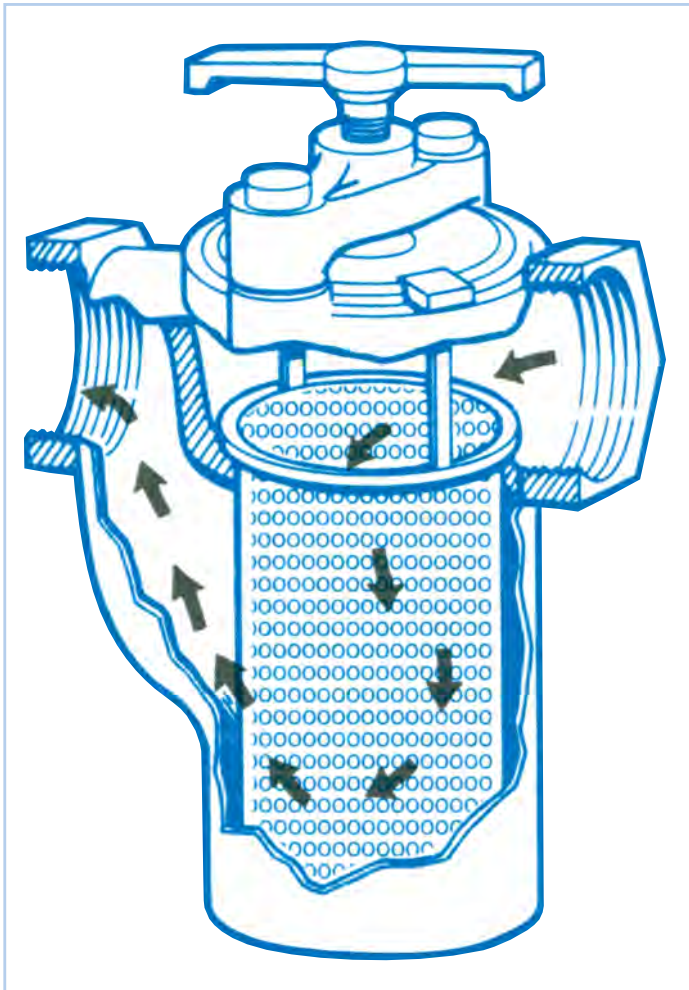
A wide variety of basket perforations and mesh sizes should be available. This is necessary to cope with the great range of particle sizes which the strainer may be called upon to remove.

Lastly, the basket strainer should be available in several materials of construction, the same as valves. A good manufacturer should offer metal basket strainers made of iron, bronze, carbon steel and stainless steel – and plastic ones made of PVC, CPVC and PPL. Bronze and carbon steel cost about twice as much as iron and stainless steel costs about four times as much.

Materials of Construction

Since it costs the least, iron should be the first choice for a basket strainer, and for this reason it is by far the most popular material.

Direction of Flow Through Typical Single Basket (Simplex) Strainer



Cast iron has good corrosion resistance in water service. It is also used with many non-aqueous materials such as paint, fuel oils and plastics. The disadvantages of iron are its inability to stand thermal or mechanical shock, plus its susceptibility to corrosion in many applications.

Bronze is the preferred material for marine service. Bronze strainers are widely used for handling sea water and, also, brackish or saline ground waters. Another use for 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 which is sensitive to iron pickup. Stainless steel is expensive. Bronze is a good compromise and is therefore used. Bronze can also be used with mildly corrosive materials where iron is unsatisfactory and stainless might be too costly.

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

Plastic strainers are used for very corrosive services where the process fluid would damage a metal strainer. In ultra-pure applications, plastic is preferred because there is nothing to leach out and contaminate sensitive fluids.

Types of Basket Strainers

There are two kinds of basket strainers, simplex and duplex or, as they are sometimes referred to, single and double. A simplex basket strainer is used where the line can be shut down for short periods to clean or change baskets. It becomes an integral part of the pipeline and all flow passes through it.

A duplex basket strainer can operate continuously and never has to be shut down for cleaning. The most popular and convenient type is, in reality, a specialized plug valve. A diverter plug is carefully fitted to the strainer body. It permits flow to pass either left or right. When one basket becomes full, the flow is shifted to the other one. The first basket is then removed, cleaned and replaced, ready for use again. In some types of duplex strainers the diverter plug is replaced by a diverter cartridge. This cartridge diverts the flow the same as the plug but provides a better seal shutoff between basket chambers. This gives the operator more time to clean or change out the basket.

As strainers get larger, however, the plug or ball type design becomes unwieldy and impractical. In these cases a sliding gate valve arrangement is used to transfer the flow. The valve discs are actuated by a set of hand wheels. They are synchronized so when one basket chamber is being opened to receive the flow, the other basket chamber is being sealed off. Other types of large-size duplex strainers use synchronized butterfly valves to divert the flow.

Obviously, duplex, or double basket strainers, are valuable in locations where it is impossible to shut off flow or stop the operation. Examples are cleaning fuel oil in large industrial oil burners, for all types of marine applications, screening water in cooling towers

INTRODUCTION TO



By convoluting (pleating) the strainer element, the screening area is increased while reducing the total basket size

burners, for all types of marine applications, screening water in cooling towers and straining fluids in continuously running chemical operations.

Often it is not realized that a duplex strainer is useful in applications other than ones which must run continually: For example, where it is desirable to keep something going for a few hours only, but during this short time the line must not shut down. In filling paint cans, for instance, there may be considerable variations from batch to batch. One lot might have an unusually large amount of material to be strained

and the filling line would have to be stopped several times if a single basket strainer were used. A duplex unit avoids this. Flow can be switched from one basket to the other as cans fill, and the line can keep running.

An important feature of a well-designed duplex strainer is that it will not allow the flow to stop. If this is possible, a careless worker could inadvertently do great damage. For instance, the flow of lubricating oil to a compressor could be shut off while switching from one basket to the other. With a properly made duplex strainer it should be impossible to stop the flow. If this is required, a separate valve can be used.

Basket Construction

The basket of course, is the heart of a strainer since this is where the unwanted material is trapped. Strainer baskets are made of perforated sheet metal and a wide range of opening sizes is available. The size of the basket perforation should be slightly smaller than the minimum particle size to be removed. Using a smaller perforation opening than necessary only means the basket will fill and clog more quickly. Well made strainer baskets should be brazed or welded. The use of solder to hold the basket together cuts the cost, but it is not recommended. Soldered baskets are inherently weak and can

break easily.

If finer straining is needed, then the basket is fitted with a wire mesh liner inside the perforated sheet. Here the mesh lining does the actual straining while the outer metal sheet acts only as a mechanical support. For this reason mesh-lined baskets are generally supplied with an outer perforation having about 50% open area. This gives the best combination of maximum flow rate with the least loss of strength. Perforated materials with more than 50% open area are too weak to provide adequate mechanical support for the mesh lining. It is important that the wire mesh be integrally and tightly fastened at the top and bottom of the basket. Otherwise, material can bypass the mesh lining by getting behind or under it. For this reason baskets with "removable" mesh linings should be avoided. A mesh-lined basket should be a one-piece welded unit.

Baskets should be handled carefully. They should be cleaned by using a brush or by soaking them in a solvent or cleaning solution. They must not be rapped on a table or struck to loosen something in them. This will cause them to dent out of shape and eventually their welds will break. It is a good idea to clean baskets promptly after removing them from a strainer. It prevents the product from drying and hardening and thus becoming harder to clean. Most important...a spare basket should be on hand for every strainer. Baskets have a habit of breaking at the most inconvenient times and the strainer cannot function unless there is a replacement.

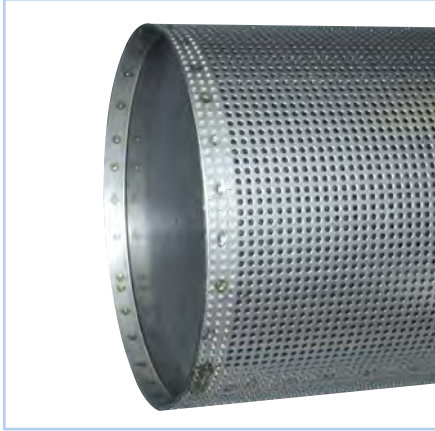
As strainers become larger, obviously the size of the basket increases. When baskets get too large they become too heavy to be easily handled. Also, sufficient headroom is needed above the strainer to remove the basket – and this can be a problem where



A variety of strainer baskets, lined and unlined, in sizes from 1-1/2" to 8"

BASKET STRAINERS

height above the strainer is limited. A simple way to solve this problem is to use several smaller baskets in place of one large one. A more compact, workable design is achieved with no loss in dirt-handling capacity.



The mesh lining of this basket is tightly welded to the side and bottom to assure integral, one-piece construction

Proper Basket Selection and Care

The question of which mesh lining or perforation size to use comes up regularly. Here again, the basic rule is to use the coarsest size which will strain out the product to be removed. Using a finer size than is needed will only result in premature clogging. When in doubt about which of two sizes to use it is often best to

choose the larger. When a mesh lining fills with dirt it is sometimes impossible to completely clean it since material will sometimes pack into the square corners of the wire weave. The result is that the cross-sectional area of the mesh opening is slightly reduced. Thus for instance, if uncertain whether to use a 40 or a 60 mesh lining, use the 40. After several fillings and cleanings, if the dirt packs into the mesh corners, the mesh will wind up being equivalent to a 60 size anyway.

While strainer housings are designed to withstand pressures far in excess of their rated maximum operating pressures, this is not true of baskets. Very few strainer baskets will stand high pressure differentials through them. Generally the amount of pressure baskets will stand when they are fully plugged is considerably less than the maximum operating pressure of the strainer. The larger the basket, the less differential pressure it will take. There are specially-made, reinforced baskets available which will take higher differential pressures than standard ones.

This is one of the reasons why baskets should be cleaned and changed on a regular schedule – not merely when they become clogged. Another is a phenomenon known as "runaway buildup." As dirt in a strainer basket accumulates, and as the mesh or perforation plug up, pressure drop increases. The curve of this pressure difference is not a straight line. It starts out as a low slope, but as the basket clogs more and more it turns upward faster and faster. As the dirt builds up the free open area in the basket gets smaller and smaller.

All conditions in the basket are now working faster and faster to decrease the flow rate and to increase drag on the liquid flowing through the basket. Dirt is being trapped more quickly in the passages that are open and these are closing up faster. Liquid velocity and pressure inside the basket build up faster and the whole process keep accelerating.

It means that a good flow of liquid can slow to a trickle or stop

quickly. It also means that full line pressure is brought to bear across the basket, and as pointed out before, if this is high, breakage can occur. Good maintenance procedure dictates that baskets be cleaned or changed before they can become clogged. Most strainer users do this at regular intervals, whether the baskets are ready for cleaning or not.

Of course, the most obvious indication that a basket needs changing is a drop in flow through the line. In closed systems this is not always so easy to notice. In these cases installation of a pressure gauge on the downstream side of the strainer will point out drop in flow or pressure. Better yet, two gauges, one on either side of the strainer, or the use of a pressure differential gauge, will indicate pressure drop through the unit and show whether the basket needs cleaning.

Magnetic Inserts

An interesting accessory to a strainer basket is a magnet insert. In systems where there is wear of iron or steel parts against each other there are often microscopic iron or steel particles present in the fluid. This happens in cooling or lubricating lines to bearings, in oil passing through gear boxes and in ink processed on roller mills, for example. These tiny particles can sometimes pass through the finest mesh screen. A good way to catch them is to install a magnet as an insert in the strainer basket.

Such an insert should be designed so all the fluid passes over it and thus comes near the magnet. The magnetic element should be powerful enough to lift several times its own weight, otherwise it will not catch and hold the metal particles. Alnico is probably



Magnetic basket insert captures small iron and steel particles before the can pass through the strainer

the best material. Finally, the magnet should be encased in an inert material such as stainless steel to prevent corrosion.

As a simple device to protect equipment, to get cleaner products, and to avoid expensive shutdown time, a basket strainer is almost ridiculously inexpensive. It can pay for itself many times over, has few or no moving parts to wear out and will last virtually indefinitely.

Over 1 Million Simplex Strainers in Operation

Hayward Simplex Pipeline Strainers are the most often selected basket strainer type. Over one million have been installed over the past years and most are still operating. With proper care a Hayward Simplex basket strainer will last almost indefinitely.

Simplex strainers are used to remove unwanted solids from every conceivable kind of industrial fluid. Water, oil paint, cosmetics, food products, and adhesives, for example pass through Hayward Simplex strainers.

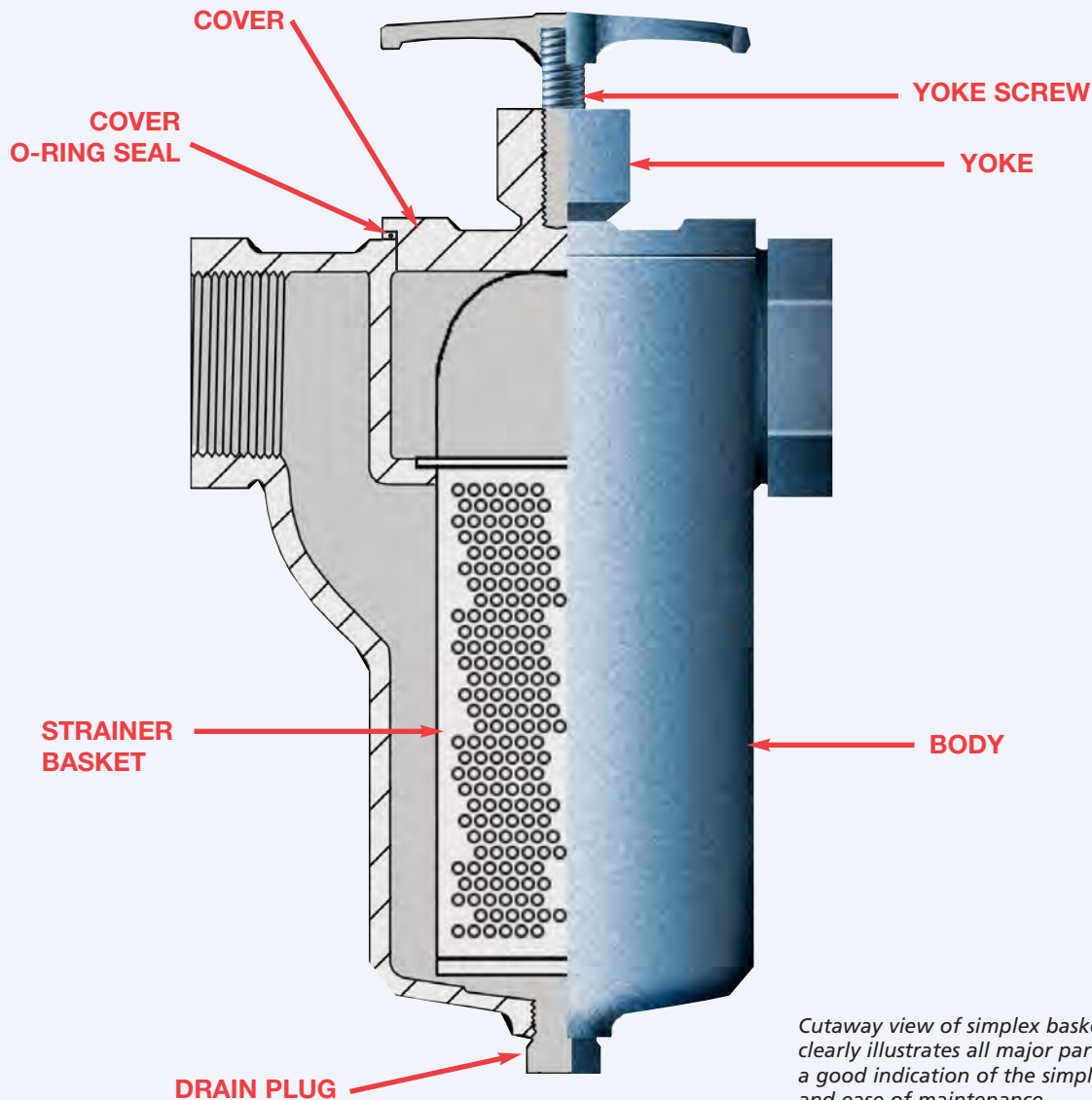
Simplex strainers are installed into systems that can be shut down temporarily for strainer basket cleaning or change out. Having an extra basket on hand greatly simplifies the procedure. The dirty basket is replaced with the clean one and the line is back in service quickly. Keeping an extra basket on hand is also valuable insurance in case a basket is damaged or breaks.

Expensive or sensitive equipment is protected by installing a

Hayward strainer before it. Pumps, flow meters, nozzles and valves can foul and stop functioning if solid material lodges in them. Hayward simplex strainers prevent this – resulting in lower maintenance cost and reduced downtime. Over time a strainer can pay for itself with these savings.

Cast metal simplex basket strainers are offered in sizes from 3/8" to 36" in metals such as iron, carbon steel, stainless steel, bronze and Tefzel® plastic-lined carbon steel. For plastic pipeline applications or where contamination or corrosion is a problem, plastic simplex strainers are available in sizes from 1/2" to 8".

Hayward has a simplex basket strainer for virtually every straining application. High pressures, high temperatures and high flow rates are never a problem. Should you have a unique application, Hayward can design and fabricate a special simplex strainer to meet your exact needs. Hayward...your one stop source for every type of simplex strainer.



Cutaway view of simplex basket strainer clearly illustrates all major parts — and gives a good indication of the simplicity of design and ease of maintenance



Model 72 Simplex Strainer for Pipelines to 8". Unusually large basket capacity...a free-straining area of at least 6 times the pipe cross-sectional area.



Model 72SJ Steam-Jacketed Simplex Strainer for Pipelines to 8". Use for materials that must be kept hot in order to remain fluid. Cover seal can be Viton® or other non-asbestos material for higher temperatures.



Model 72 Straight Flow Simplex Strainer for Pipelines from 10" to 18". Compact in size... and only one light-weight basket is required to handle the largest flowrates of 10" to 18" pipelines.



Model 72L Tefzel®-Lined Simplex Strainer for Pipelines from 1" to 6". This is a low-cost alternative to exotic alloy strainers for a wide variety of corrosive or abrasive lined piping applications.



Model 30R Inexpensive Simplex Strainer for Pipelines from 1-1/2" to 8". A lower-priced strainer for moderate pressure applications. Clamp-type cover is easily removed without the need for tools.



All-Plastic Simplex Strainer for Pipelines from 1/2" to 8". Will never rust or corrode and cannot contaminate process media. Don't require painting or coating to survive corrosive environmental conditions.

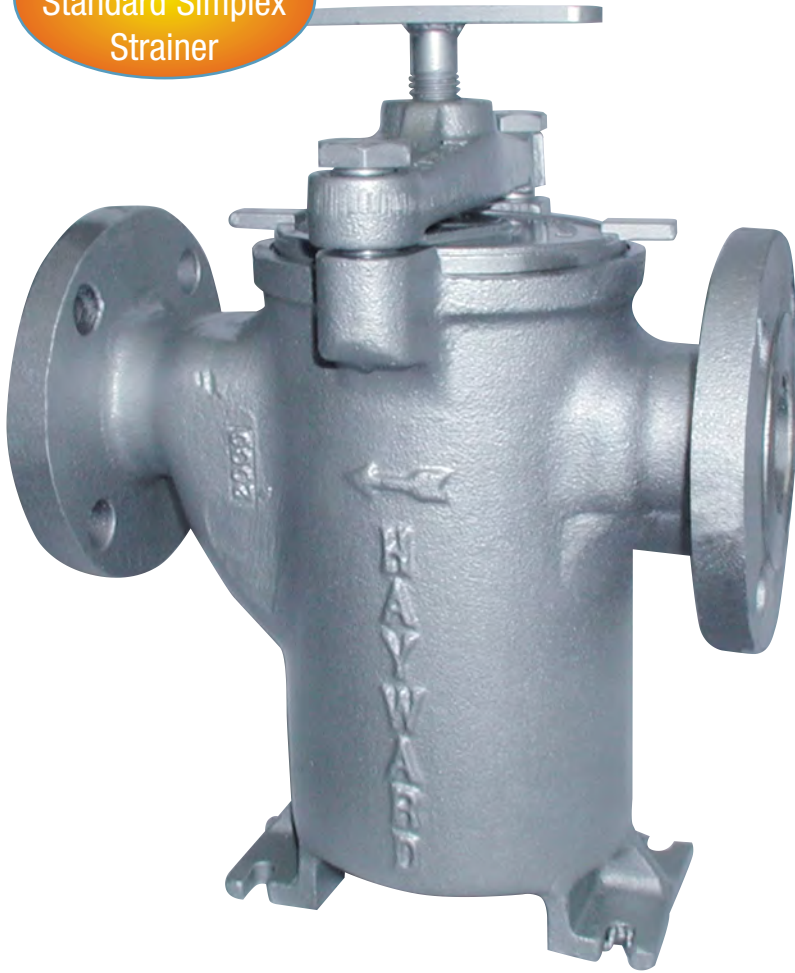


Model 510 Multibasket Simplex Strainer for Pipelines from 8" to 36". Extremely rugged with a low profile for tight installations. Angled baskets permit a high flow rate and a low pressure drop.

MODEL 72 SIMPLEX BASKET STRAINER

Sizes 3/8" to 8" • Iron, Bronze, Carbon Steel or Stainless Steel • Threaded or Flanged

The Industry
Standard Simplex
Strainer



Features

- Quick open cover – no tools needed
- Heavy wall construction
- Large capacity baskets
- Machined Basket seat
- Threaded drain
- Perforated Stainless Basket

Options

- Basket perforations from 1/32" to 1/2"
- Basket mesh from 20 to 400
- Monel baskets
- Viton, PTFE-encapsulated, or EPDM seals
- Vent valves
- 1/4" NPT taps
- Magnetic basket inserts
- Pressure differential gauge and switch



Hayward's Model 72 Simplex Strainer has been the industry standard simplex basket strainer for over 75 years. It's perfect for industrial and commercial applications where the line can be temporarily shut down for strainer basket cleaning or change-out.

A few of the reasons for its popularity are, first, the unusually large basket capacity. The free straining area is at least 6 times the cross sectional pipe area (even more in many sizes). Next, no tools are needed to open the cover. The quick opening, swinging yoke can be disassembled and the basket removed in seconds. On sizes 4" and larger, a special cover clamp is provided to distribute the seating pressure and to insure positive seating of the cover.

Another feature is a threaded drain on every size strainer (fitted with a plug). This can be used as a backwash connection, if desired. Sizes 2" and larger are provided with legs for bolting to the floor for rock solid installation.

Wall thicknesses are exceptionally heavy. We have not stinted on weight to save material costs. The basket seats are precision machined to give a tight seal and prevent any material from by-passing the basket. The Hayward Model 72 Simplex Basket Strainer is a top quality, heavy duty unit designed to stand up to the most demanding of applications. There is simply no better simplex basket strainer made.

Model 72 Simplex

Size	Material	End Connection *	Seals	Pressure Rating
3/8" to 3"	Iron and Bronze	Threaded	Buna N	200 psi @ 100F
1" to 3"	Carbon Steel		Viton®	
	Stainless Steel			
1" to 8"	Iron	Flanged 125#	Buna N	
	Bronze	Flanged 150#		
	Carbon Steel		Viton®	
	Stainless Steel			

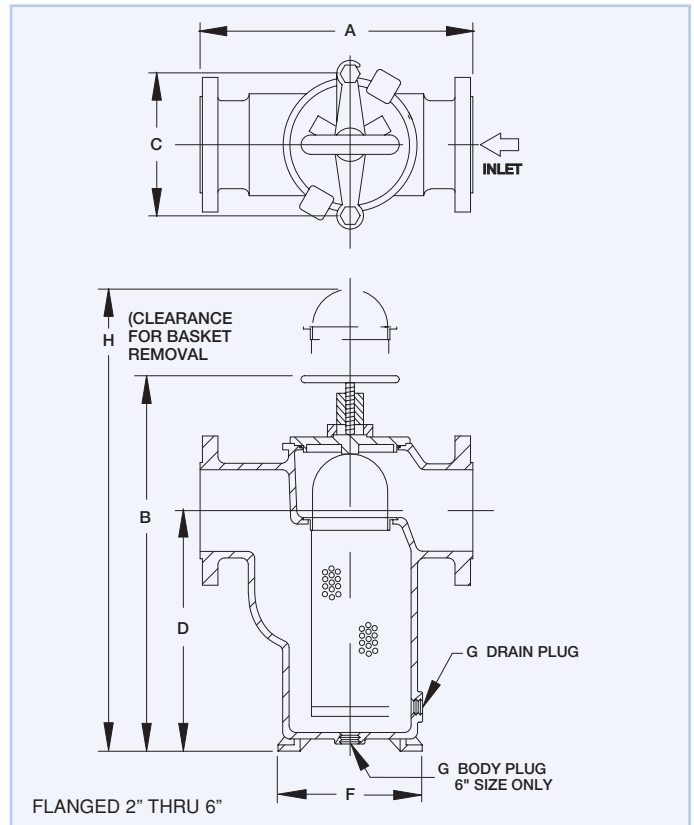
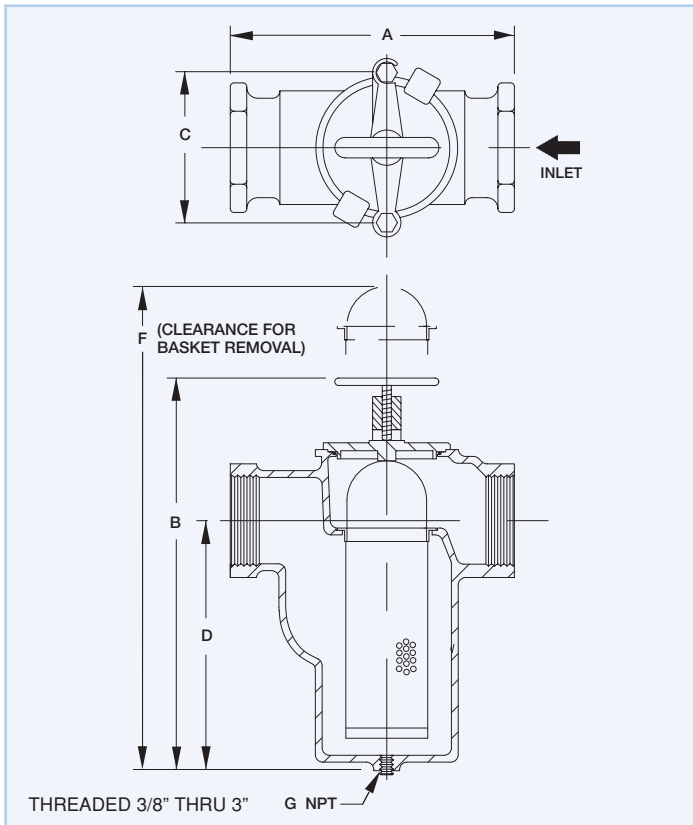
Mod. 72Cv Factors*

Size	Value	Size	Value
3/8"	15.0	2"	73
1/2"	15.0	2-1/2"	125
3/4"	15.0	3"	180
1"	22.5	4"	350
1-1/4"	31.5	6"	900
1-1/2"	46.0	8"	1400

* For water with clean, perforated basket

* DIN flanges and BSP threads available

Technical Details



Dimensions and weights are for reference only. Contact Hayward for certified drawings.

Threaded Model 72 Dimensions (in / mm)

Pipe Size	A	B	C	D	E	F	G	H	Net Wt. - lb / kg			
									Bronze	Carbon Steel	Iron	Stainless Steel
3/8	4.00 / 102	6.63 / 168	2.88 / 73	4.00 / 102	2.38 / 60	11 / 279	3/8 / 10	-	4 / 1.8	-	4 / 1.8	-
1/2	4.00 / 102	6.63 / 168	2.88 / 73	4.00 / 102	2.38 / 60	11 / 279	3/8 / 10	-	4 / 1.8	-	4 / 1.8	-
3/4	5.38 / 137	8.38 / 213	4.00 / 102	5.00 / 127	3.06 / 78	13 / 330	1/2 / 15	-	8 / 3.6	-	7 / 3.2	-
1	5.38 / 137	8.38 / 213	4.00 / 102	5.00 / 127	3.06 / 78	13 / 330	1/2 / 15	-	8 / 3.6	7 / 3.2	7 / 3.2	7 / 3.2
1-1/4	6.75 / 172	9.88 / 251	4.88 / 124	5.88 / 149	3.88 / 99	14 / 356	1/2 / 15	-	13 / 6	-	12 / 6	-
1-1/2	7.25 / 184	11.00 / 279	4.88 / 124	7.00 / 178	4.00 / 102	16 / 406	3/4 / 20	-	16 / 7	15 / 7	15 / 7	16 / 7.3
2	8.75 / 222	13.38 / 340	6.75 / 172	7.63 / 194	5.13 / 130	21 / 533	1-1/4 / 32	-	32 / 15	36 / 16	28 / 13	31 / 14
2-1/2	10.38 / 264	14.88 / 378	8.00 / 203	8.63 / 219	6.38 / 162	26 / 660	1-1/2 / 40	-	49 / 22	52 / 24	42 / 19	51 / 23
3	11.50 / 292	17.75 / 468	8.00 / 203	11.38 / 298	6.63 / 168	28 / 711	1-1/2 / 40	-	60 / 27	60 / 27	52 / 23	60 / 27

Flanged Model 72 Dimensions (in / mm)

2	10.50 / 268	13.75 / 349	6.75 / 172	7.63 / 194	5.13 / 130	6.25 / 159	3/8 / 10	20.00 / 508	49 / 22.3	36 / 16	36.5 / 17	36 / 16
2-1/2	11.63 / 295	15.63 / 397	8.00 / 203	8.88 / 226	6.38 / 162	7.63 / 194	3/8 / 10	23.00 / 584	64 / 29.1	63 / 27	54 / 25	63 / 29
3	13.13 / 334	18.00 / 457	8.00 / 203	10.63 / 270	6.50 / 165	8.00 / 203	3/8 / 10	27.00 / 686	85 / 38.6	-	76 / 35	-
3	13.13 / 334	18.75 / 476	7.94 / 202	12.00 / 305	6.50 / 165	8.00 / 203	1/2 / 15	27.00 / 686	-	86 / 39	-	86 / 39
4	16.75 / 425	19.88 / 505	10.75 / 273	10.75 / 273	9.63 / 245	11.38 / 289	1/2 / 15	30.00 / 762	140 / 63.6	-	125 / 55	-
4	17.25 / 438	19.88 / 505	10.69 / 272	10.69 / 272	9.25 / 235	11.38 / 289	1/2 / 15	30.00 / 762	-	130 / 59	-	130 / 59
5	18.13 / 461	25.13 / 638	10.75 / 273	15.25 / 387	10.00 / 254	11.38 / 289	1/2 / 15	41.00 / 1041	182 / 82.7	-	170 / 77.5	-
6	19.63 / 499	28.50 / 724	10.69 / 272	18.38 / 467	10.00 / 254	11.38 / 289	1/2 / 15	46.00 / 1168	270 / 122.7	235 / 107	200 / 91	235 / 107
8	27.00 / 686	40.50 / 1029	-	27.00 / 686	13.75 / 349	17.50 / 445	1/2 / 15	60.00 / 1524	600 / 272.7	550 / 250	500 / 227	550 / 250

MODEL 72

STRAIGHT FLOW BASKET STRAINER

Iron or Bronze • Sizes 10" to 18" • Flanged

Quick-Opening Cover



Features

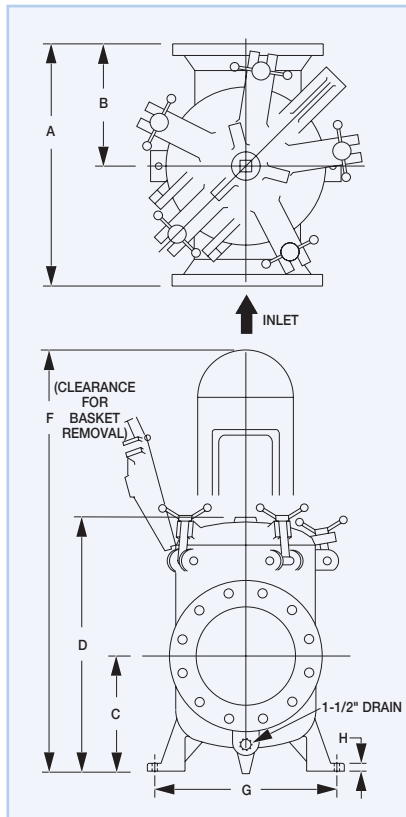
- Quick open cover
- Straight through flow design
- Low pressure loss
- Convoluted basket design
- Hand removable basket
- Threaded Drain
- Buna-N o-ring seal
- Standard perforated stainless steel basket

Options

- Basket perforations from 1/32" to 1/2"
- Basket mesh of 20 or 40
- Monel baskets
- Vent valves
- Drain valves
- 1/4" NPT taps
- Pressure differential gauge and switches

Large size pipelines with high flow rates required a unique type of basket strainer. The typical design for smaller size pipelines just won't perform efficiently...the pressure loss would be too high and the baskets too large to remove and clean easily.

Hayward has solved these problems with its Straight Through Flow design simplex basket strainer. With this straight through flow, pressure loss is greatly reduced and, at the same time, results in a compact strainer that can fit in tight spaces.



The basket that this strainer uses is special as well. The perforated or mesh straining screen in the basket is convoluted (pleated). This increases the amount of straining

area available while at the same time reducing the overall basket size and weight. This makes it easy to remove the basket from the strainer housing. No lifting tackle is required. And the quick opening cover provides fast and easy access to the basket. What all this means is that the basket of the Model 72 is quick and easy to service...saving considerable time and money over the years.

When selecting a pipeline strainer for a large size piping system with high flow rates, be sure to consider all the factors, not just initial pressure loss. The amount of straining area in the basket is critical to reducing the amount of time between cleanings or changeout. Also remember that if cleaning the basket is difficult, or requires two people to perform, operating costs will continue to be too high. The design of the Hayward Model 72 Straight Through Simplex Basket Strainer takes all these operating parameters into consideration and is the best simplex strainer for higher

Selection Chart

Size	Material	End Connections*	Seals	Pressure Rating
10" to 12"	Iron	Flanged 125#	Buna N	200 psi @ 100F
	Bronze	Flanged 150#		
14" to 18"	Iron	Flanged 125#		150 psi @ 100F
	Bronze	Flanged 150#		

* DIN flanges and BSP threads available

C_v Factors*

Size	Value
10"	2300
12"	3200
14"	5000
16"	6000
18"	7000

* For water with clean, perforated basket

Dimensions (in / mm) Model 72 Straight Flow

Pipe Size	A	B	C	D	F	G	H	Net Wt. (lb / kg)	
								Iron	Bronze
10	23.00 / 584	11.00 / 279	12.19 / 310	29.00 / 737	47.00 / 1194	19.00 / 483	15/16	420 / 191	500 / 227
12	27.00 / 686	13.00 / 330	16.75 / 425	38.00 / 965	67.00 / 1702	23.00 / 584	1	550 / 250	825 / 374
14	31.00 / 787	15.50 / 394	18.75 / 476	45.00 / 1143	77.00 / 1956	27.00 / 686	1	850 / 386	1150 / 522
16	31.00 / 787	15.50 / 394	18.75 / 476	45.00 / 1143	77.00 / 1956	27.00 / 686	1	975 / 443	1400 / 635
18	31.00 / 787	15.50 / 394	18.75 / 476	45.00 / 1143	77.00 / 1956	27.00 / 686	1	1000 / 454	—

Dimensions and weights are for reference only. Contact Hayward for certified drawings.

MODEL 72SJ STEAM JACKETED BASKET STRAINER

Carbon Steel or Stainless Steel, Sizes 1" to 8", Flanged

For High Viscosity Fluids



Features

- NPT Steam Connections
- Up to 100 psi steam pressure
- Quick open cover – no tools required
- Large capacity basket
- Threaded drain plug
- Machined basket seat
- Viton® Seals

Options

- Basket perforations from 1/32" to 1/2"
- Basket mesh from 20 to 400
- Monel baskets
- Vent valves
- Drain valves
- 1/4" NPT taps
- Pressure differential gauge and switches

The Model 72SJ is for applications where materials must be kept hot in order to remain fluid. Examples are chocolate, asphalt, resins and polymers. The strainer body temperature is maintained by circulating steam or a heat transfer fluid through the strainer jacket

The basic strainer used in the Model 72SJ is our popular Model 72 Simplex Basket Strainer which has, over the years, proven itself a standard of industry. All of the features of the Model 72 have been retained, including large basket capacity with an open area that is at least six times the pipe cross-sectional area.

No tools are needed to open the cover for basket cleaning or change out – an operation that is accomplished in a matter of seconds with a yoke type cover. The standard cover seal is Viton® and can be used in most applications up to a temperature of 400°F. For higher temperature applications, non-asbestos seals are available.

The strainer body is provided with either a carbon steel or stainless steel jacket welded to the cast body. The steam jacket will handle steam pressures up to 100 psi.

C_v Factors*

Size	Value	Size	Value
1"	22.5	3"	180
1-1/4"	31.5	4"	350
1-1/2"	46.0	6"	900
2"	73.0	8"	1400
2-1/2"	125		

* For water with clean, perforated basket

Selection Chart

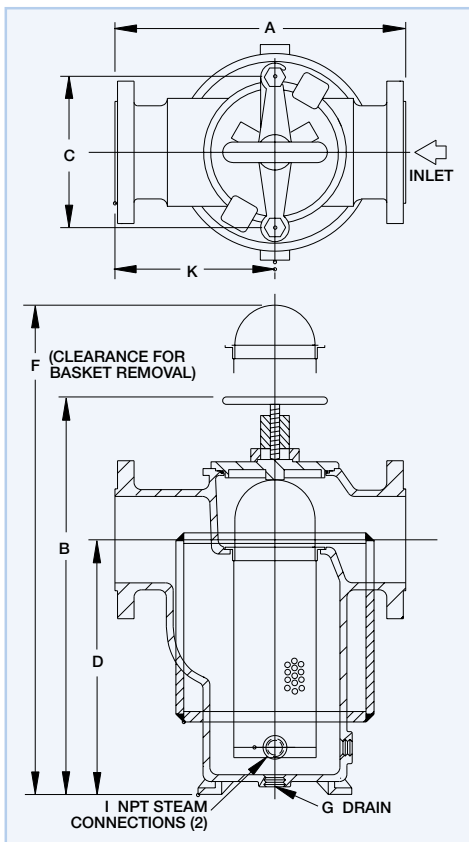
Size	Material	End Connections*	Seals	Pressure Rating
1" to 8"	Carbon Steel or Stainless Steel	Flanged 150#	Viton®	200 psi @ 100F

* DIN flanges and BSP threads available

Dimensions (in / mm) Model 72SJ Basket Strainer

Size	A	B	C	D	F	G	I	K	Net Wt. - lb / kg	
									Carbon Steel	Stainless
2	10.50 / 268	13.75 / 349	6.75 / 172	7.63 / 194	20 / 508	3/8	1/2	5.75 / 146	48 / 22	45 / 20
2-1/2	11.63 / 295	15.63 / 397	8.00 / 203	8.75 / 222	23 / 584	3/8	1/2	6.38 / 162	81 / 37	75 / 34
3	13.13 / 334	18.75 / 476	8.00 / 203	12.00 / 305	27 / 686	1/2	1/2	7.25 / 184	112 / 51	105 / 48
4	17.25 / 438	19.88 / 505	10.75 / 273	10.75 / 273	29 / 737	1/2	3/4	9.63 / 245	165 / 75	155 / 70
6	19.63 / 499	28.50 / 724	10.75 / 273	18.38 / 467	46 / 1168	1/2	3/4	10.81 / 275	315 / 143	280 / 127
8	27.00 / 686	40.50 / 1029	-	27.00 / 686	60 / 152	1/2	3/4	15.75 / 400	653 / 297	653 / 297

Dimensions and weights are for reference only. Contact Hayward for certified drawings.



MODEL 72L TEFZEL-LINED BASKET STRAINER

Sizes 1" to 6", Carbon Steel with Tefzel® Plastic Lining, Flanged

Heavy Duty
Tefzel® Liner



Features

- Excellent corrosion resistance
- Abrasion resistant 1/8" Tefzel® lining
- Service temperatures to 300F
- Quick opening covers
- Large capacity baskets
- Flanged drain
- Standard perforated basket
- Low cost alternative to exotic alloy strainers

Options

- Monel baskets
- Hastelloy C baskets
- Tefzel-coated baskets

A continuous lining of advanced fluoropolymer resin makes the Model 72L simplex strainer an excellent low cost alternative to exotic alloy strainers in a wide variety of corrosive or abrasive lined piping applications. These applications include waste water treatment, paper mills, hazardous materials, flue gas systems, ultra pure water handling, chemical and petrochemical processing. The basic design of the Model 72L is that of our popular, time tested Model 72.

The body and cover of the Model 72L are lined, not just coated, with Tefzel® – which protects all wetted surfaces of the strainer – making it impervious to attack by chemicals that can cause rapid deterioration of other types of plastics and all but the most costly metal alloys.

The Tefzel fluoropolymer lining is inert to strong mineral acids, inorganic bases, halogens and metal salt solutions. Even carboxylic acids, anhydrides, aromatic and aliphatic hydrocarbons, alcohols, aldehydes, ketones, ethers, esters, chlorocarbons and classic polymer solvents have little effect on the Tefzel lining. Service temperatures can range up to 300°F in many applications. The lining also displays excellent mechanical strength when handling abrasive slurries.

Fitted with fluoropolymer coated perforated baskets or mesh baskets made of Monel or Hastelloy C these strainers can be used in almost any lined piping or similar corrosive/abrasive strainer application.

Selection Chart

Size	Material	End Connection*	Seals	Pressure Rating
1" to 6"	Carbon Steel with Tefzel® Liner	Flanged 150#	Viton®	200 psi @ 100F

* DIN flanges available

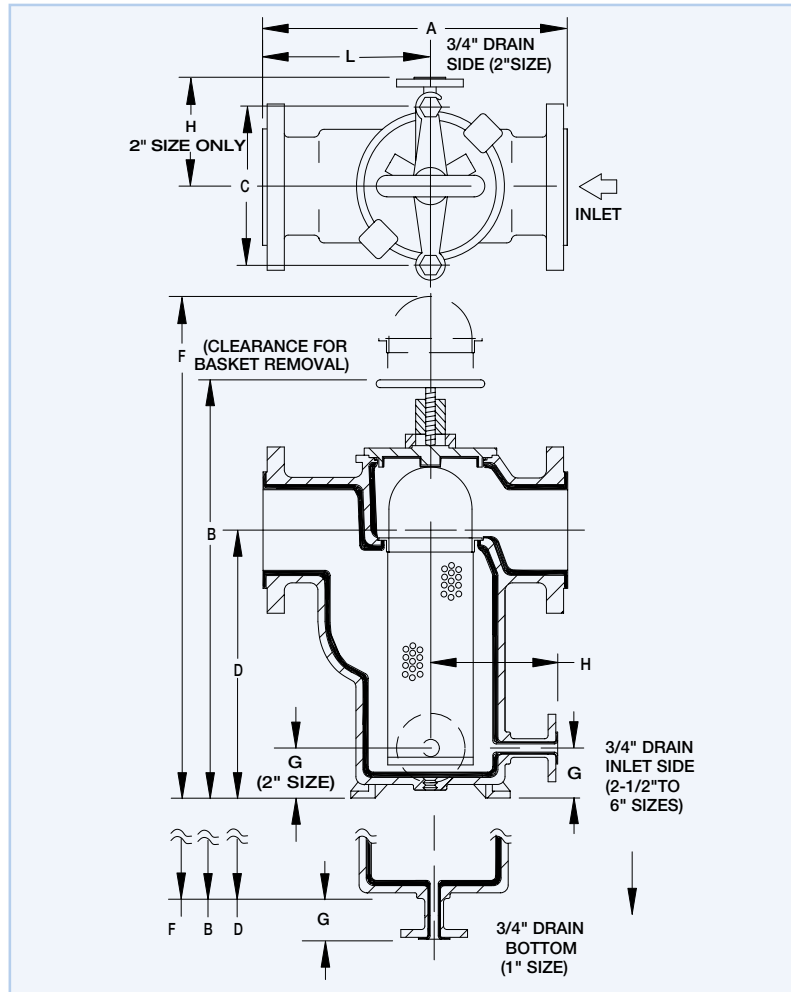
Tefzel is a trademark of E.I. DuPont

C_v Factors*

Size	Value	Size	Value
1"	23	3"	170
2"	72	4"	350
2-1/2"	135	6"	880

* For water with clean, perforated basket

Technical Details



Dimensions and weights are for reference only. Contact Hayward for certified drawings.

Basket And Screen Effective Area – Tefzel®-Coated Basket

Pipe Size (in)	Perf. Size (in)	Pipe Area (in ²)	Screen Area (in ²)	Free Area (in ²)	Free/Pipe Ratio
1"	1/32	0.86	19.5	5.2	6.1
2"	1/16	3.35	50.9	15.8	4.7
2-1/2"	1/16	4.78	80.2	24.9	5.2
3"	5/32	7.39	114.5	72.1	9.8
4"	5/32	12.73	168.3	106.0	8.3
6"	5/32	28.90	324.2	204.2	7.1

Dimensions (in / mm)

Pipe Size	A	B	C	D	F	G	H	J	K	L	Dry Wt. lb / kg
1	7.88 / 200	9.00 / 229	4.00 / 102	5.00 / 127	12 / 305	2.75 / 70	—	—	—	4.50 / 114	15 / 7
2	10.75 / 273	13.75 / 349	6.75 / 172	7.63 / 194	20 / 508	1.88 / 48	5.63 / 143	5.50 / 140	2.50 / 64	5.88 / 149	48 / 22
2-1/2	11.88 / 302	15.75 / 400	8.00 / 203	8.88 / 226	23 / 584	2.19 / 56	6.25 / 159	6.50 / 165	2.88 / 73	6.50 / 165	70 / 32
3	13.75 / 349	18.75 / 476	8.00 / 203	12.00 / 305	27 / 686	2.31 / 59	6.38 / 162	7.00 / 118	3.13 / 80	7.38 / 187	95 / 43
4	17.50 / 445	20.00 / 508	10.75 / 273	10.69 / 272	30 / 762	2.38 / 60	7.75 / 197	10.00 / 254	3.88 / 99	9.75 / 248	139 / 63
6	19.88 / 505	28.25 / 718	10.75 / 273	18.31 / 465	46 / 1168	2.19 / 56	7.88 / 200	10.00 / 254	5.00 / 127	11.00 / 279	250 / 1134

MODEL 30R ECONOMY BASKET STRAINER

Sizes 1-1/2" to 8" • Iron • Threaded or Flanged

Economical System Protection



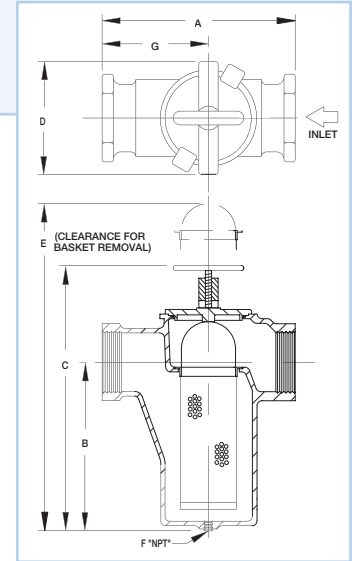
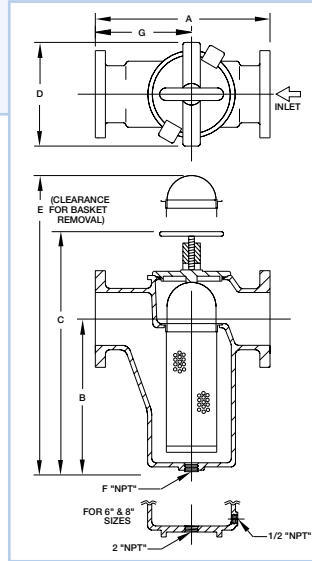
The Hayward Model 30R is a high quality, low cost simplex basket strainer...perfect for cost sensitive applications. While the cost of the Model 30R is low, its design incorporates many features found only on more expensive units including machined basket seats to protect against bypass insuring all of the flow is strained. The cover of the Model 30R is a clamp type and is hand removable without the need for tools, this makes access to the basket quick and easy for cleaning or change out and every size strainer comes standard with a drain plug. The Model 30R is the best choice simplex strainer for low or moderate pressure applications such as swimming pools, cooling towers, and large air conditioning installations.

Features:

- Hand removable cover
- Drain plug
- Machined basket seat
- Standard perforated stainless steel basket

Options:

- Basket perforations from 1/32" to 1/2"
- Basket mesh from 20 to 400
- Monel baskets
- Vent Valves
- Drain Valves
- 1/4" NPT taps
- Magnetic basket inserts
- Pressure differential gauges and switches



Dimensions and weights are for reference only. Contact Hayward for certified drawings.

Dimensions (in / mm) Flanged

Pipe Size	A	B	C	D	E	F	G	Dry Wt. lb / kg
1-1/2	7.75 / 197	6.50 / 165	10.63 / 270	6.00 / 152	14.88 / 378	3/4 / 20	4.44 / 113	12 / 5.5
2	9.63 / 245	7.50 / 191	11.63 / 295	7.50 / 191	17.38 / 441	1-1/4 / 32	5.63 / 143	27 / 12.3
2-1/2	11.00 / 279	9.13 / 232	15.25 / 387	8.00 / 203	22.38 / 568	1-1/4 / 32	5.88 / 149	45 / 20.5
3	11.88 / 302	9.13 / 232	15.25 / 387	8.00 / 203	22.38 / 568	1-1/4 / 32	6.50 / 165	59 / 26.6
4	13.75 / 349	9.63 / 245	16.63 / 422	9.25 / 235	30.00 / 762	1-1/2 / 40	8.44 / 214	71 / 32.2
6	17.50 / 445	12.38 / 315	26.13 / 664	14.75 / 375	35.00 / 889	2 / 50	10.31 / 262	150 / 68.1
8	23.63 / 600	17.75 / 451	32.63 / 829	14.75 / 375	48.00 / 1219	2 / 50	14.50 / 368	230 / 104.3

Dimensions (in / mm) Threaded

Pipe Size	A	B	C	D	E	F	G	Dry Wt. lb / kg
1-1/2	7.00 / 178	6.50 / 165	10.63 / 270	6.00 / 152	14.88 / 378	3/4 / 20	3.88 / 99	7 / 3.2
2	8.50 / 216	7.50 / 191	11.63 / 295	7.50 / 191	17.38 / 441	1-1/4 / 32	4.81 / 122	20 / 9.1
2-1/2	11.50 / 292	9.13 / 232	15.25 / 387	8.00 / 203	22.38 / 568	1-1/4 / 32	6.00 / 152	34 / 15.5
3	11.50 / 292	9.13 / 232	15.25 / 387	8.00 / 203	22.63 / 575	1-1/4 / 32	6.00 / 152	34 / 15.5

Selection Chart

Size	Material	End Connections*	Seals	Pressure Rating
1-1/2" to 3"	Iron	Threaded	Buna N	200 psi at 100F
1-1/2" to 8"		Threaded or Flanged 125#		

* DIN flanges and BSP threads available

C_v Factors*

Size	Value	Size	Value
1-1/2"	58	4"	240
2"	90	6"	370
2-1/2"	140	8"	600
3"	200		

* For water with clean, perforated basket

MODEL 510 MULTI-BASKET STRAINER

Sizes 8" to 36" • Iron or Carbon Steel • Flanged

Compact Design



Features:

- Four Baskets per Strainer
- Bolted cover
- Straight through flow design
- Compact
- Threaded drain
- Standard perforated stainless steel basket

Options:

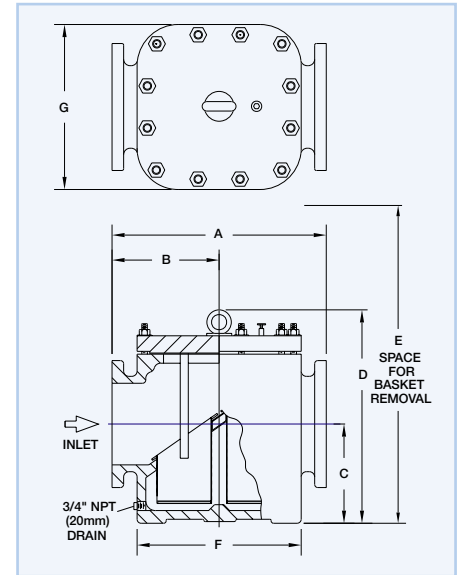
- Basket perforations from 1/32" to 1/2"
- Basket mesh from 20 to 400
- Monel baskets
- Vent Valves
- Drain Valves
- 1/4" NPT taps
- Basket flange gaskets
- Cover lift davit
- Bronze or stainless steel construction
- Magnetic basket inserts
- Pressure differential gauges and switches

The Model 510 Simplex Strainer is designed for larger piping systems having flow rates up to 40,000 gpm. Unlike other large size simplex strainers the Model 510 has a multi-basket design. Four strainer baskets per unit strain the process media and give the strainer an extremely high dirt removal capability – an important consideration in larger size strainers that, because of their size and design, take longer for basket cleaning or change out. The longer the strainer stays in service between cleaning, the less expensive its operating costs.

To reduce the pressure loss to an absolute minimum the Model 510 has a straight through flow configuration. This is made possible by a unique basket design that incorporates a slanted top to permit straight through flow.

The use of four baskets, rather than one or two, helps to keep operating costs low because the overall size of each basket can be smaller. This means that cleaning is a one person job. Two or more operators, or lifting tackle, are not needed to lift the baskets out of the strainer housing. To make this job even easier and quicker the Model 510 can be ordered with a special cover lifting davit with which the operator can raise the strainer cover and swing it out of the way for access to the strainer baskets. The four basket design of the Model 510 provides an additional benefit as well: the centerline to bottom and centerline to top dimension of the strainer are very short – creating a low-profile design that is ideally suited for installation in cramped quarters.

For large size piping systems with high flow rates the Model 510 offers significant advantages over ordinary large size strainers...advantages that will improve performance and reduce operating costs over the life of the strainer.



Dimensions (in / mm)

Pipe Size	A	B	C	D	E	F	G	Dry Wt lb / kg	
								Iron	Bronze
8	23.35 / 591	11.63 / 295	9.13 / 232	20.13 / 511	38 / 965	18.00 / 457	18.50 / 470	547 / 249	684 / 311
10	26.13 / 664	13.06 / 332	11.38 / 289	23.75 / 603	44 / 1118	20.25 / 514	21.00 / 533	730 / 332	914 / 415
12	29.00 / 737	14.50 / 368	14.63 / 372	28.38 / 721	52 / 1321	22.25 / 565	22.75 / 578	1080 / 491	1353 / 615
14	30.50 / 775	15.25 / 387	16.75 / 425	31.25 / 794	60 / 1524	24.63 / 626	25.13 / 638	1360 / 618	1702 / 774
16	33.50 / 851	16.75 / 425	19.13 / 486	35.50 / 902	66 / 1676	27.13 / 689	27.75 / 705	1750 / 795	2191 / 996
20	44.75 / 1137	22.00 / 559	28.50 / 724	46.25 / 1175	88 / 2235	32.75 / 832	34.75 / 883	3330 / 1514	4169 / 1895
24	44.38 / 1127	22.19 / 564	31.50 / 800	52.25 / 1327	98 / 2489	36.63 / 930	38.50 / 978	4550 / 2068	5697 / 2580
30	61.50 / 1562	30.75 / 781	41.63 / 1057	66.50 / 1689	125 / 3175	47.50 / 1207	47.50 / 1207	8880 / 4036	11117 / 5053
36	62.00 / 1575	31.00 / 787	41.63 / 1057	66.50 / 1689	125 / 3175	47.50 / 1207	47.50 / 1207	9700 / 4409	12144 / 5520

Dimensions and weights are for reference only. Contact Hayward for certified drawings.

Selection Chart

Size	Material	End Connections *	Gasket	Pressure Rating
8" to 36"	Iron	Flanged 125#	Non-Asbestos	125 psi @ 100F
8" to 24"	Carbon Steel	Flanged 150#		150 psi @ 100F
8" to 16"		Flanged 300#		300 psi @ 100F

* DIN flanges available

C_v Factors*

Size	Value	Size	Value	Size	Value
8"	1600	14"	4800	24"	13000
10"	2500	16"	5800	30"	19000
12"	3500	20"	9000	36"	23000

* For water with clean, perforated basket

ALL PLASTIC BASKET STRAINER

Sizes 1/2" to 8" • PVC, Corzan® CPVC or Eastar • Socket, Threaded or Flanged

Best for
Corrosive Service



Features:

- External Cover Threads
- Low Pressure Drop
- Wide Choice of Baskets
- In-Line or loop Piping Design
- True Union Connections
- Hand Removable Cover
- Integral, Flat mounting Base

Options:

- Stainless Steel Mesh Baskets
- EPDM Seals
- Clear, See Through Eastar Construction

Hayward's All-Plastic Simplex Strainer is the answer for straining applications in corrosive or ultra pure services. There is no metal used in its construction to leach out and contaminate sensitive fluids. And because it's plastic this simplex strainer will never rust or corrode. Another benefit, often overlooked, is that because it is plastic, the strainer will never need painting or coating. It will stand up and function for years in applications where a metal strainer would have to be coated or painted just to survive. Perforated plastic baskets, made of the same material as the strainer housing, are standard. For applications that require fine mesh straining, baskets can be fabricated from stainless steel, extending the application flexibility of this all-plastic basket strainer.

Basket changing or cleanout couldn't be easier. The cover spins off by hand, no tools are needed. And because of the light weight of the strainer, installation is simplified.

Plastic simplex strainers can be used in many applications, even

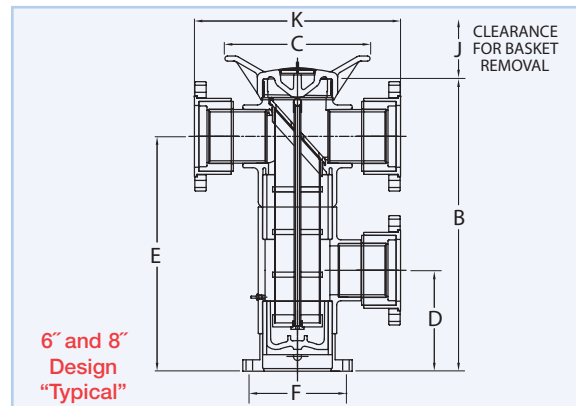
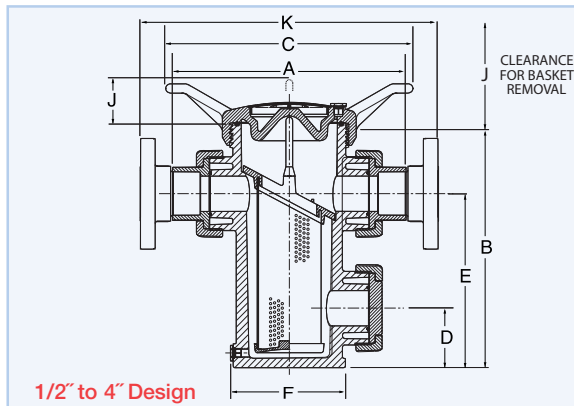
some that you may have thought would require metal strainers. Thinking of replacing a metal strainer with a plastic one to take advantage of lower costs and better corrosion resistance? First take a look at the temperature/non-shock pressure chart to see if your application falls within range of the plastic material you are considering. If it does, and chemical resistance is not a problem, then the other consideration is the actual installation itself. Contact Hayward for specific recommendations for your system. These recommendations may include things such as proper alignment of the strainer in the piping system to eliminate stress, correct support for the strainer and installation of spool pieces of plastic pipe or expansion joints.

Hayward All-Plastic Simplex Basket Strainers are the answer to highly corrosive or ultra pure applications. They are available in PVC and CPVC in sizes up to 8" – with socket, threaded or flanged connections. They are rated at 150 psi at 70F in most applications.

Selection Chart

Size	Material	End Connection	Seal	Pressure Rating
1/2" - 4"	PVC or CPVC	Threaded, Socket or Flanged	Viton®	150 psi @ 70°F
1/2" to 2"	EASTAR*	Threaded, Socket or Flanged		100 psi @ 70°F
6" to 8"	PVC or CPVC	Flanged		150 psi @ 70°F

Technical Details



Dimensions (Inches / Millimeters)

Size	A	B	C	D	E	F	J	K	Weight (lb / kg)		Volume (gal / liters)
									Skt / Thd	Flg	
1/2"	8.64 / 219	9.63 / 245	11.0 / 279	2.25 / 57	6.75 / 171	4.31 / 109	8.00 / 203	10.77 / 274	8.0 / 3.4	9.0 / 4	0.20 / 0.8
3/4"	8.64 / 219	9.63 / 245	11.0 / 279	2.25 / 57	6.75 / 171	4.31 / 109	8.00 / 203	11.02 / 280	8.0 / 3.4	9.0 / 4	0.20 / 0.8
1"	8.64 / 219	9.63 / 245	11.0 / 279	2.25 / 57	6.75 / 171	4.31 / 109	8.00 / 203	11.64 / 296	8.0 / 3.4	9.0 / 4	0.20 / 0.8
1-1/4"	12.75 / 324	13.38 / 340	13.5 / 343	3.25 / 83	9.5 / 241	6.13 / 156	12.86 / 327	15.63 / 397	14.0 / 6.4	16.5 / 7.5	0.70 / 2.7
1-1/2"	12.69 / 322	13.38 / 340	13.5 / 343	3.25 / 83	9.5 / 241	6.13 / 156	12.86 / 327	15.89 / 404	14.0 / 6.4	16.5 / 7.5	0.70 / 2.7
2"	12.75 / 324	13.38 / 340	13.5 / 343	3.25 / 83	9.5 / 241	6.13 / 156	12.86 / 327	16.29 / 414	14.0 / 6.4	16.5 / 7.5	0.70 / 2.7
2-1/2"	16.52 / 384	19.83 / 504	16.0 / 406	4.83 / 123	14.83 / 377	7.25 / 184	17.25 / 438	21.02 / 534	28.0 / 13	33.0 / 15	2.80 / 10.6
3"	16.40 / 384	19.83 / 504	16.0 / 406	4.83 / 123	14.83 / 377	7.25 / 184	17.25 / 438	20.36 / 517	28.0 / 13	33.5 / 15	2.80 / 10.6
4"	17.27 / 384	19.83 / 504	16.0 / 406	4.83 / 123	14.83 / 377	7.25 / 184	17.25 / 438	22.13 / 562	28.0 / 13	37.0 / 17	2.80 / 10.6
6"	n/a	34.28 / 871	18.0 / 457	10.66 / 271	27.19 / 691	11.75 / 298	21.80 / 554	22.42 / 569	n/a	60.0 / 27	6.8 / 25.7
8"	n/a	34.28 / 871	18.0 / 457	10.66 / 271	27.19 / 691	11.75 / 298	28.75 / 730	25.19 / 640	n/a	80.0 / 36	9.0 / 34.1

Dimensions and weights are for reference only. Contact Hayward for certified drawings.

C_v Factors*

Size	Value	Size	Value
1/2"	15	2-1/2"	290
3/4"	18	3"	300
1"	20	4"	350
1-1/4"	55	6"	1000
1-1/2"	58	8"	750
2"	60		

* For water with clean, perforated basket

The above C_v Factors were determined using a 1/16" perforated plastic basket in 1/2" through 4" strainers and a 5/32" perforated stainless steel basket in 6" and 8" strainers. For other size basket perforations, multiply by the correction factor in the above Correction Factor charts.

Pressure Drop Calculations

Basket Perforation Correction Factors

For 1/2" to 4" Strainers

Plastic Baskets	Stainless Steel Baskets
1/32" 1.05	1/32" .82
1/16" 1.00	3/64" .63
1/8" .58	1/2" .48
3/16" .46	1/16" .74
	20 Mesh .79
	5/64" .50
	40 Mesh 1.01
	7/64" .51
	60 Mesh 1.20
	1/8" .58
	80 Mesh 1.16
	5/32" .37
	100 Mesh 1.20
	3/16" .46
	200 Mesh 1.09
	1/4" .58
	325 Mesh 1.22

For 6" to 8" Strainers

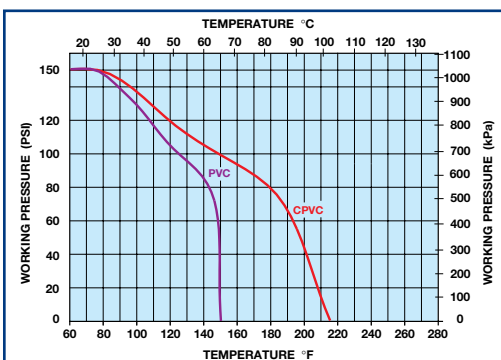
Plastic Baskets	Stainless Steel Baskets
1/8" 2.00	1/32" 2.25
3/16" 1.50	3/8" 1.24
	3/64" 1.73
	1/2" 1.31
	1/16" 2.03
	20 Mesh 2.16
	5/64" 1.37
	40 Mesh 2.79
	7/64" 1.40
	60 Mesh 3.28
	1/8" 1.58
	80 Mesh 3.18
	5/32" 1.00
	100 Mesh 3.30
	3/16" 1.26
	200 Mesh 2.98
	1/4" 1.58
	325 Mesh 3.33

The pressure drop across the strainer, for water or fluids with a similar viscosity, can be calculated using the formula at the right:

$$\Delta P = \left[\frac{Q}{C_v} \right]^2$$

Where ΔP = Pressure Drop
 Q = Flow in GPM
 C_v = Flow Coefficient

Operating Temperature/Pressure



Pressure Drop Calculation Example

The pressure loss for a 2" simplex strainer in water service, with a clean 100 mesh basket at 40 gpm, would be:

$$(40 / 55)^2 = 0.5 \times \text{correction factor of 1.20} = 0.6 \text{ psi}$$

Basket Selection

- The 1/2" to 1" strainers can be ordered with either a 1/32" or 1/16" perf plastic basket.
- The 1-1/2" and 2" with a 1/32", 1/16", 1/8", or 3/16" perf plastic basket.
- The 3" and 4" with a 1/16", 1/8" or 3/16" perf plastic basket.
- The 6" and 8" with a 1/8" or 3/16" perf plastic basket.
- Stainless steel baskets for all size strainers are available in these perms: 1/32", 3/64", 1/16", 5/64", 7/64", 1/8", 5/32", 3/16", 1/4", 3/8", 1/2"; and in mesh sizes: 20, 40, 60, 80, 100, 200, 325

HAYWARD DUPLEX BASKET STRAINERS

Excellent for Applications Where Pipelines Cannot Be Shut Down for Basket Changeout

A duplex, or double basket strainer can operate continuously and never has to be shut down for cleaning. This type of basket strainer has two separate strainer basket chambers, not just one like a simplex strainer. These chambers are put into service independently. When one basket chamber becomes full, the flow is switched to the other one. The strainer basket is then removed from the out-of-service chamber, cleaned and replaced, ready for use again.

For over 75 years, hundreds of thousands of Hayward Duplex Strainers have been installed all over the world to remove unwanted material from every conceivable kind of industrial fluid.

Examples of where duplex strainers are used: in continuously running lubrication systems where the flow of oil cannot be stopped, cooling lines in places like power plants where the cooling water must always run, industrial heating and power

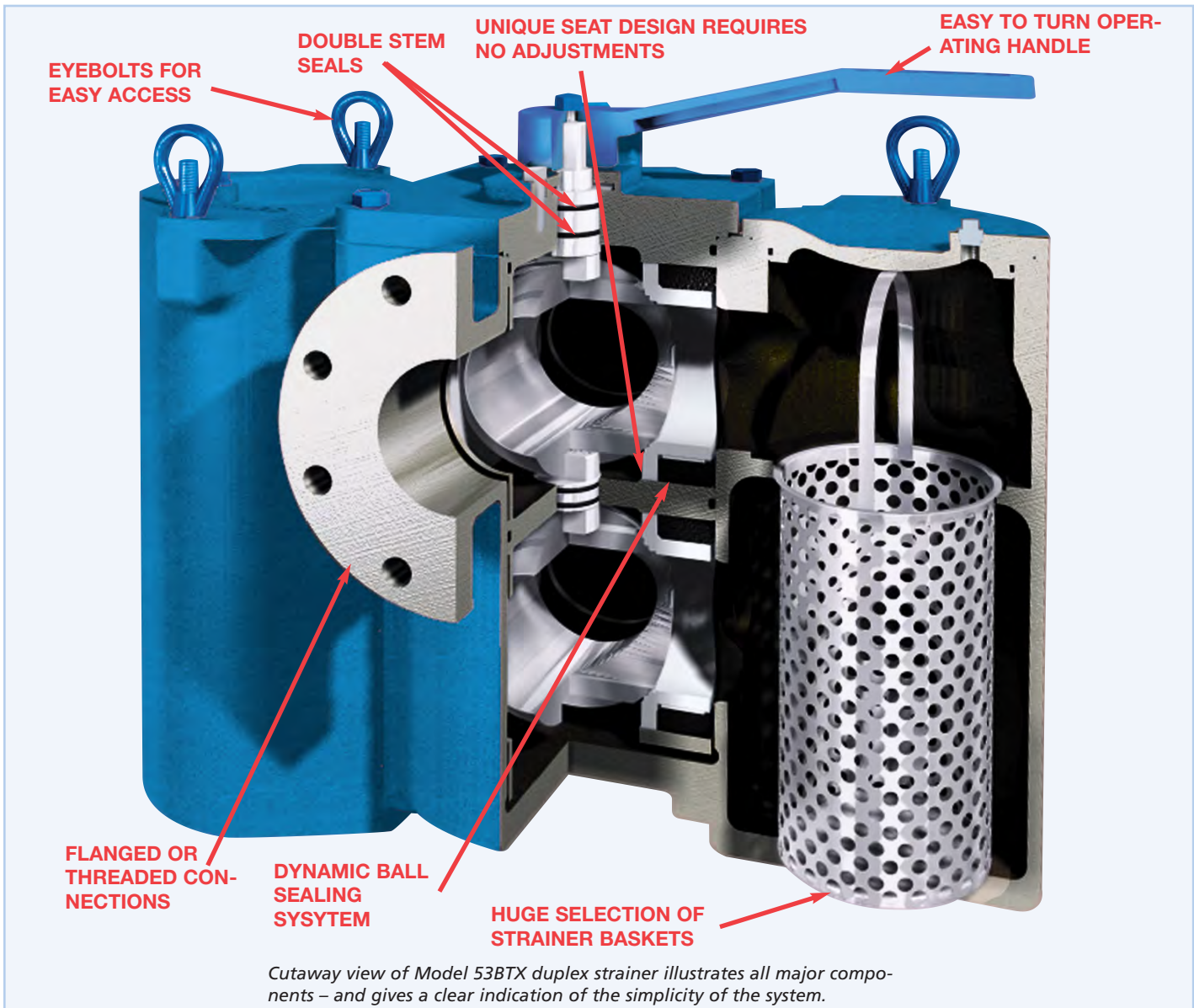
systems where the fuel lines must never be stopped. Many chemical operations must run continuously and a duplex strainer in the line provides assurance that auxiliary equipment will not plug and stop functioning.

The most important design component of a duplex strainer is the method by which flow is diverted between the two strainer basket chambers. Hayward has developed several cost efficient and reliable designs depending on the physical size of the strainer.

Smaller sizes, up to 4", utilize a patented diverter cartridge to switch the flow from one chamber to another. This cartridge completely shuts off the flow to the out-of-service chamber – making it easy to service the basket.

Hayward duplex strainers in 5", 6", and 8" sizes use a tapered plug to switch the flow. This simple, time-tested design has few parts and requires little maintenance.

For larger size duplex strainers, Hayward has developed two different designs. Duplex strainers in sizes 10" to 18" have a



butterfly valve flow diverter assembly which results in a very compact unit for strainers of this size. Strainers up to 36" in size have a special hand-wheel-operated sliding gate mechanism and a multi-basket design.

No matter what the design, Hayward Duplex Basket Strainers have been engineered to perform to specification year in and year out, in the most demanding industrial and commercial applications. If your application is unique and one of our standard duplex strainers won't work, contact us. We can work with you to custom design and fabricated one that will. Over the past 75 years we have engineered duplex basket strainers for just about every conceivable application....why look anywhere else?



Model 53BTX ball-type strainer, in sizes from 3/4" to 4", uses a dynamic ball sealing system which keeps the out-of-service strainer basket chamber from filling with fluid while the basket is being changed. A unique diverter cartridge is easy to remove for service.



The Model 50 duplex strainer is for 5", 6" and 8" pipelines where the process cannot be shut down for basket changeout. A tapered plug is used to divert flow from one basket to the other.



Duplex all-plastic basket strainers are ideal for service where corrosion or contamination of the process fluid could be a problem. Plus... these strainers do not have to be painted or coated to survive a difficult environment. Available in sizes up to 4".



For higher flow rates that require a duplex strainer, the large-size Model 50 switches flow between baskets with a built-in butterfly valve. This design is also compact and can be important when space is at a premium. Available in 10" to 18" sizes.

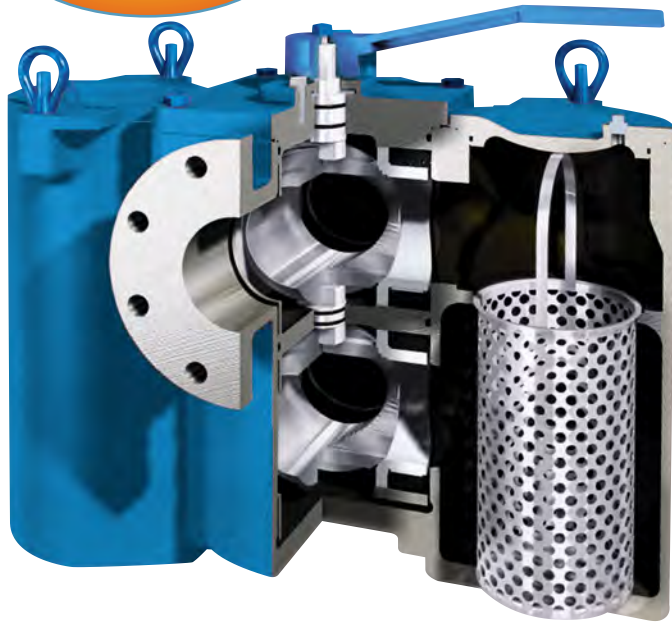


For handling very large volumes of water, and for quick and easy basket changeout, the Model 570 includes 4 baskets per chamber. Flow is switched by a sliding gate mechanism operated by a hand wheel. Available in sizes from 8" to 36".

MODEL 53BTX BALL TYPE DUPLEX BASKET STRAINER

Sizes 3/4" to 4" • Iron, Bronze, Carbon Steel or Stainless Steel • Threaded or Flanged

Easy Basket Changeout



Patented diverter cartridge assures leak-tight isolation of basket chamber during cleaning.

No more rushing to finish the job before the out of service chamber overflows. And... with no overflow, there's no clean-up.

Features

- Dynamic ball sealing system for long life...patent pending
- Easy-to-operate lever handle... no gear box required
- Unique seat and seal design requires no adjustments
- Reinforced polymer seats for longer service life
- Foot pads for rock solid installation
- Double-stem o-rings for positive sealing
- Easy-to-access body ven valve
- Both side and bottom drain plugs on each basket well
- Piston seal strainer basket cover
- Easy access for diverter cartridge removal
- Optional steam jacket construction



No-Hassle Strainer Basket Servicing

Hayward duplex strainers remove dirt and debris from pipelines and protect sensitive system components. The Model 53BTX, features a design that makes strainer basket servicing a no-hassle operation. No more "race against the clock" during basket servicing to get the job done before the basket chamber overflows with fluid. The Model 53BTX keeps the chamber dry during service. This gives you time to clean or replace the strainer basket without ever having to worry about leakage and overflow. And...without overflow, there's no need to clean up after servicing the strainer basket. The Model 53BTX is simply a better way to work.

A Better Duplex Strainer Design

A unique flow diverter valve cartridge in the Model53 BTX isolates the two strainer basket chambers and prevents fluid bypass. An easy-to-turn handle operates the cartridge and diverts the system flow from one

chamber to the other—the flow in the pipeline is never shut off.

When a strainer basket needs to be cleaned, the lever handle is turned to take it out of service and to divert the flow through the other chamber. The position of the handle clearly indicates at all times which chamber is in service.

No special tools are needed to access the strainer basket for cleaning. The chamber is first drained and then the cover is lifted and swung clear of the chamber opening. The dynamic diverter cartridge seals prevent fluid bypass into the out-of-service chamber—making for easy, hassle-free strainer basket servicing.

Hayward's Better Flow Diverter Cartridge

The heart of the Model 53BTX is the unique flow diverter cartridge that features a patent pending, highly dynamic sealing system on the diverter balls that ensures exceptionally long seat life and positive sealing. The Hayward design works so well that there is no need for manu-

Selection Table

Size	Body & Cartridge Material	Connection	Seat/Seal	Diverter Balls	Rating Standard (Metric)
3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2"	Iron	Threaded	TFE/ Buna N*	Stainless Steel	125# ANSI 200 PSIG @ 150F (PN16 13.8 bar @66C)
1", 1-1/2", 2", 2-1/2", 3", 4"		Flanged			
3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2"	Bronze	Threaded**			150# ANSI 200 PSIG @ 150F (PN16 13.8 bar @66C)
1", 1-1/2", 2", 2-1/2", 3", 4"	Carbon Steel Stainless Steel	Flanged			

*Viton® standard for SSSL, optional for iron, bronze and carbon steel. DIN flanges and BSP threads available.

**21/2" threaded not available in carbon or stainless steel.



1" stainless steel Model 53BTX with flanged connection

al internal or external ball support adjustments—and the low operating torque means the strainer can be operated with an easy-turn lever handle. A gear box is not needed.

A double sealing system on both the upper and lower stems guards against any possible leakage. Special reinforced polymer seats are used for extended service life.

Should cartridge service become necessary, it's easy to accomplish. Just remove four bolts and the cartridge comes right out through the top of the strainer. There's no need to take the strainer completely apart or to remove it from the line.

Better for All Applications

The compact, low profile Model 53BTX fits into spaces ordinary strainers might not, yet it still uses full-size strainer baskets with a low pressure drop performance.

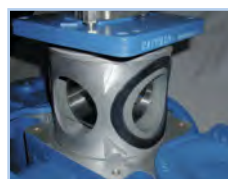
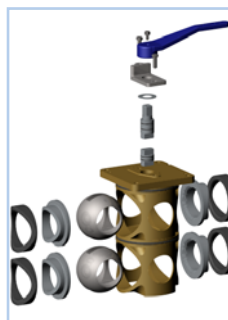
And, there's a strainer basket for every application. The standard basket is made of Type 316 stainless steel; however, if required, Monel, Brass or Hastelloy C materials are available. Baskets with openings from 3/4" down to 45 microns are offered: choose the best size for your application—with no compromises.

For easy basket servicing there are two drain plugs, not just one, on each strainer basket chamber. Additionally, there is an easy-to-access vent valve on top of the strainer body.

Finally, standard foot mounting pads insure a rock solid installation no

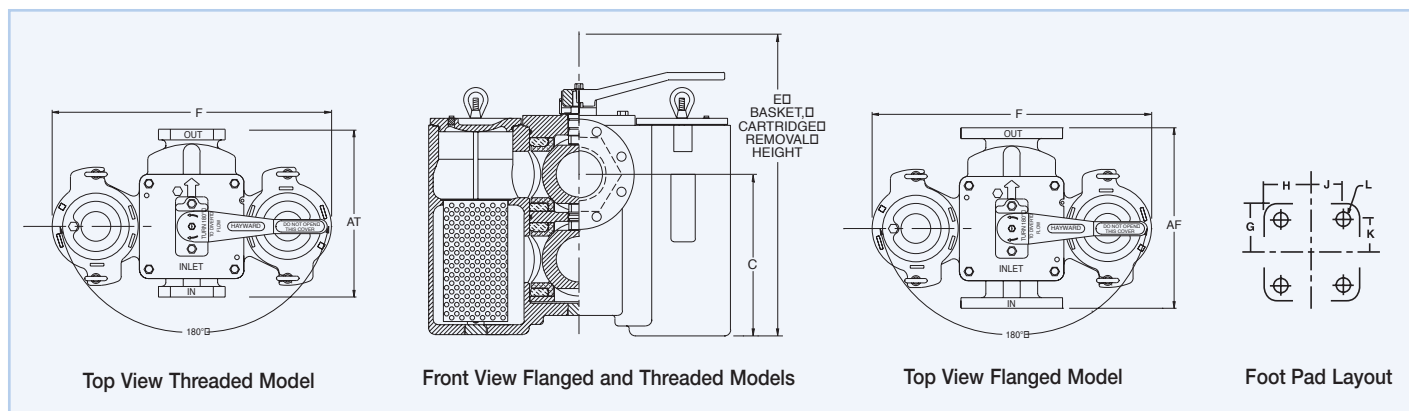
matter where the strainer is installed.

Available options for the Model 53BTX include differential pressure gauges, with or without switches, and magnetic separators installed in the strainer basket for removing fine ferrous particulate matter from the process media.



Should the diverter valve require service, it slides right out the top of the strainer body. A minimum of parts, easily replaced, makes service a snap. Exploded view shows simplicity of design.

Technical Details



Dimensions and weights are for reference only. Contact Hayward for certified drawings.

Dimensions (in / mm)

Pipe Size	AF	AT	C	E	F	G	H	J	K	L	Weight – Iron		Weight – Bronze		Weight – Carbon & SS	
											Flanged lb / kg	Threaded lb / kg	Flanged lb / kg	Threaded lb / kg	Flanged lb / kg	Threaded lb / kg
3/4	—	5.50 / 140	5.00 / 127	13.38 / 340	10.50 / 268	3.25 / 83	2.13 / 54	1.63 / 41	2.75 / 70	3/8	—	37 / 17	—	46 / 21	—	41 / 19
1	6.88 / 175	5.50 / 140	5.00 / 127	13.38 / 340	10.50 / 268	3.25 / 83	2.13 / 54	1.63 / 41	2.75 / 70	3/8	42 / 19	37 / 17	52 / 24	46 / 21	47 / 21	41 / 19
1-1/4	6.88 / 175	7.50 / 190	6.81 / 173	17.00 / 432	13.25 / 330	3.25 / 83	2.13 / 54	1.63 / 41	2.75 / 70	3/8	—	80 / 36	—	100 / 45	—	89 / 40
1-1/2	9.38 / 238	7.50 / 190	6.81 / 173	17.00 / 432	13.25 / 330	3.25 / 83	2.13 / 54	1.63 / 41	2.75 / 70	3/8	90 / 41	80 / 36	113 / 51	100 / 45	100 / 45	89 / 40
2	10.63 / 270	10.00 / 254	8.38 / 213	21.75 / 552	17.38 / 441	4.69 / 119	2.50 / 64	1.81 / 46	4.00 / 102	5/8	167 / 76	157 / 71	209 / 95	197 / 90	185 / 84	174 / 79
2-1/2	10.75 / 273	10.00 / 254	8.38 / 213	21.75 / 552	17.37 / 441	4.69 / 119	2.50 / 64	1.81 / 46	4.00 / 102	5/8	183 / 83	157 / 71	229 / 104	197 / 90	203 / 92	—
3	13.50 / 343	—	8.88 / 226	26.50 / 673	22.75 / 578	4.69 / 119	2.50 / 64	1.81 / 46	4.00 / 102	5/8	285 / 129	—	357 / 162	—	432 / 196	—
4	16.00 / 406	—	13.25 / 337	33.00 / 838	24.75 / 629	5.19 / 132	3.94 / 100	3.25 / 83	4.50 / 114	5/8	389 / 177	—	487 / 221	—	432 / 196	—

MODEL 50 PLUG TYPE DUPLEX BASKET STRAINER

Sizes 5", 6", 8" • Iron, Bronze, Carbon Steel or Stainless Steel • Flanged

Runs Continuously



Features:

- Continuous flow, no shutdown for basket cleaning
- Rugged tapered plug design
- Lift jack prevents galling of the plug
- Quick open cover, no tools needed
- Large capacity baskets
- Threaded drain
- Machined basket seat
- Perforated or mesh stainless steel basket

Options

- Ductile Iron Construction
- Basket perforations from 1/32" to 1/2"
- Basket mesh from 20 to 400
- Monel baskets
- Viton, PTFE, or EPDM seals
- Vent valves
- Drain valves
- 1/4" NPT taps
- Magnetic basket inserts
- Pressure differential gauge and switch connections
- Steam jacket



The Hayward Model 50 Plug Type Duplex Strainer is a simple, economical, and trouble free design...time tested in applications around the world over many years. This type of strainer is actually a high quality, pressure rated plug valve with integral straining baskets.

Switching the flow from one basket to the other is accomplished by moving the operating handle through a 90 degree arc. The design is such that is impossible for this operation to stop the flow because of the unique port design in the diverter plug. The entire switching operation takes less than 30 seconds. No tools are needed. The plug is automatically positioned each time in exactly the right spot by integral stops.

Before operating the handle a manual, integral lifting jack, built into the strainer is used to lift the diverter plug off of its seat. After the switching operation the lifting jack is used to reseat the plug. The lifting jack is specially designed to lift and seat the plug easily, even under high pressures. A built in stop limits the distance the diverter plug can be raised. This minimizes the possibility of material bypassing the plug while it is rotated. It also prevent

debris from building up under the plug and making it difficult to reseat.

Other important features of the plug type Model 50 Duplex Basket Strainers include Hayward's quick opening, swing away yoke design covers. No tools are required to remove the covers for quick and easy access to the strainer baskets, and they go back on just as fast as they came off.

Draining of the basket chambers is simplified with the standard NPT drain taps – and all sizes are provided with mounting legs for bolting the strainer to the floor for a rock solid installation.

Hayward's plug type Model 50 Duplex Basket Strainer is your best choice for most applications. Its rugged design and ease of operation have made it the duplex strainer of choice around the world in hundreds of different industries.

Selection Chart

Size	Body Material	Plug Material	End Connections	Seals	Rating
5", 6", 8"	Iron	Iron or Bronze	Flanged 125#	Buna N	200 psi@ 100F. 5" and 6" sizes. 150 psi @ 100F. 8" size.
	Bronze		Flanged 150#		
6", 8"	Carbon Steel	Bronze or Stainless Steel	Flanged 150#		
6", 8"	Stainless Steel	Stainless Steel	Flanged 150#		

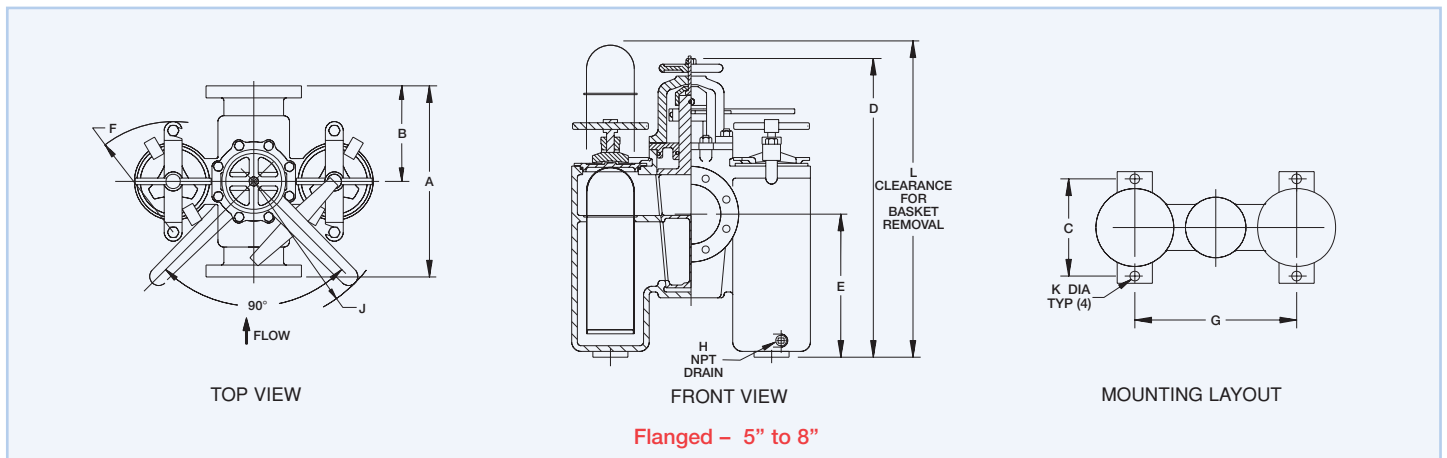
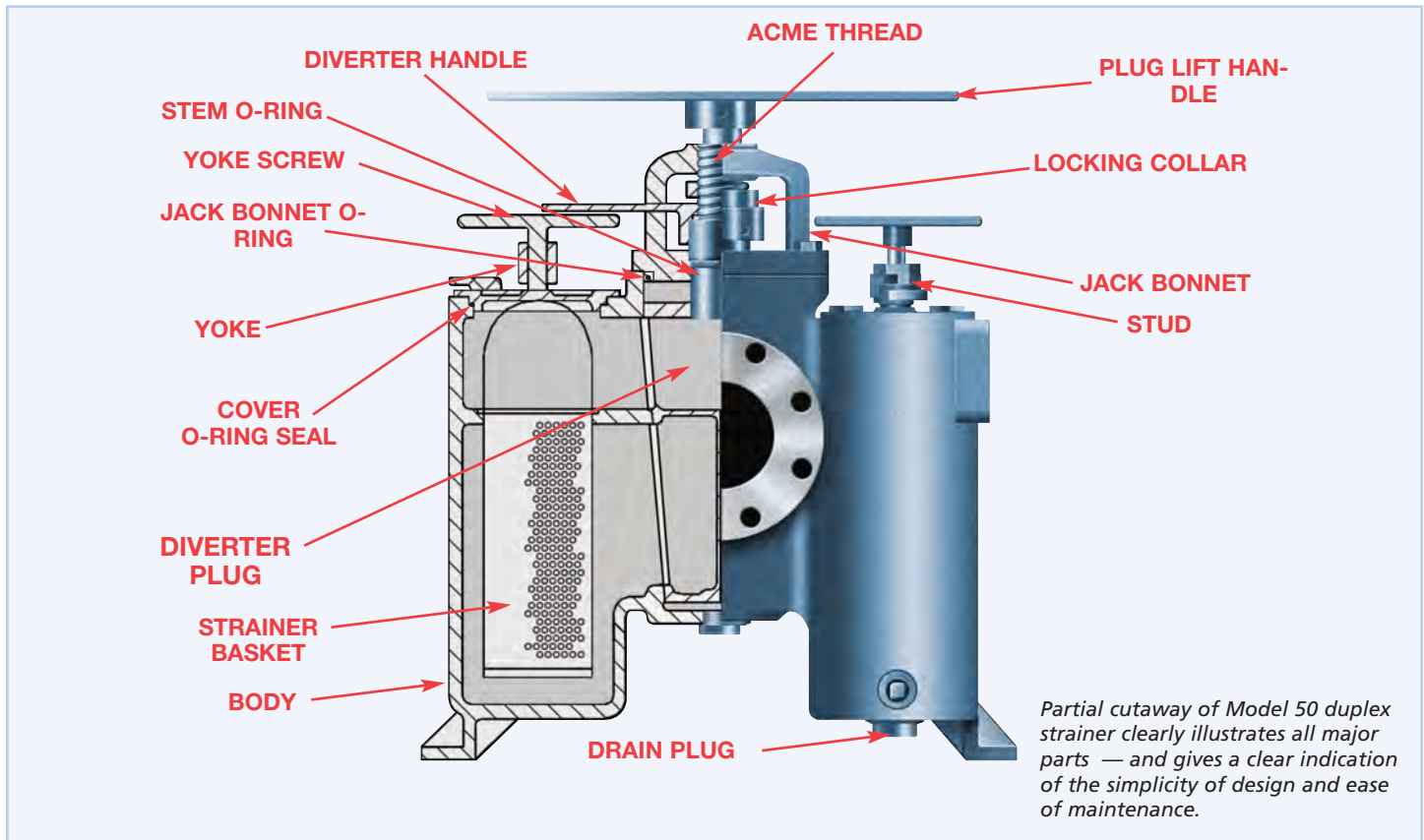
DIN flanges available

C_v Factors*

Size	Value
5"	300
6"	420
8"	900

* For water with clean, perforated basket

Technical Details



Dimensions (in / mm)

Pipe Size	Dimensions (in / mm)											Weight (lb / kg)			
	A	B	C	D	E	F	G	H	J	K	L	Cast Iron	Bronze	Carbon Steel	Stainless Steel
5	18.38 467	9.00 229	9.75 248	33.25 845	14.75 375	10.25 260	17.19 437	3/8 10	19.75 502	0.56 14	41.00 1041	403 183	412 187	—	—
6	22.00 559	12.88 327	12.50 318	36.25 921	19.50 495	11.75 298	20.75 527	3/8 10	19.75 502	0.63 16	42.00 1067	500 227	583 264	580 263	615 279
8	25.00 635	14.00 356	17.00 432	50.63 1286	23.06 586	—	30.75 781	1/2 15	28.00 711	0.94 24	56.00 56	1500 682	1800 818	1610 732	1670 759

MODEL 50 LARGE DUPLEX BASKET STRAINER

10" to 18" • Iron and Bronze • Flanged

Convolved Basket Design



Features

- Continuous flow – no shutdown for basket cleaning
- Compact butterfly valve design
- Quick opening covers
- Convolved-design baskets
- Threaded drain
- Perforated or mesh stainless steel baskets
- Vent
- Positive shutoff

Options

- Ductile iron construction
- Basket perforations from 1/32" to 1/2"
- Basket mesh 20 or 40
- Monel baskets
- Vent valves
- Drain valves
- 1/4" NPT taps
- Pressure differential gauge and switch connections
- Magnetic basket inserts

The Hayward Butterfly Valve Type Model 50 Duplex Basket Strainer is a special design with several important features and advantages for large size pipelines with high flow rates. Flow is switched from one basket chamber to the other by a pair of synchronized, high quality butterfly valves. This replaces the diverter plug used on smaller size strainers and gives a straight flow pattern with no sudden changes in flow direction. The result is a very low pressure loss. A 10" strainer of this type, for example, can handle 2000 GPM of water with a pressure drop on only 2psi. This is the strainer to choose when you have a high flow rate application and a low pressure loss is critical. Another important benefit of this new design is a saving in overall size. It is more compact than other large size duplex strainers – which means less weight and a smaller profile. This can be very important when space requirements are tight. This Hayward design also uses a new, unique basket design concept which incorporates a larger screening area. This is done by convoluting (pleating) the perforated sheet in the strainer basket, thus increasing the available screening area while reducing the total basket size. The flow enters the basket from the side, not the top – resulting in a straight-through flow pattern. What all this means in service is a lower pressure drop and greater time

between basket cleanings than would be possible with standard-design baskets...a real savings in time and operating costs. The butterfly valve assembly used to divert the flow from one basket chamber to the other is balanced so a minimum of effort is needed to switch the flow. There is a single handwheel operator, and it can be located on either side of the strainer if accessibility is a problem. There is an arrow on the top of the gear housing that indicates which basket chamber is in service and which is ready for cleaning. Quick opening covers make strainer basket changing or cleaning quick and easy. No tools or lifting gear are required to open them. This is a feature not often found on strainers of these larger sizes. If your strainer application is for larger size pipelines with high flow rates, the Hayward Model 50 Butterfly Valve offers you several unique features and advantages over other large size duplex strainers. Among them are...low pressure loss, operator friendly with quick open covers that don't require lifting gear, compact design with a smaller footprint than other strainers, and a special basket design to maximize time between basket cleanings. After you've investigated all the possibilities, you'll realize that this large size Hayward Model 50 Duplex Strainer is in a class by itself...and it's cost effective.

Selection Chart

Size	Material	End Connection	Seals	Pressure Rating
10" to 12"	Iron	Flanged 125#	Buna N	200 psi @ 100F
	Bronze	Flanged 150#		
14" to 18"	Iron	Flanged 125#		150 psi @ 100F
	Bronze	Flanged 150#		

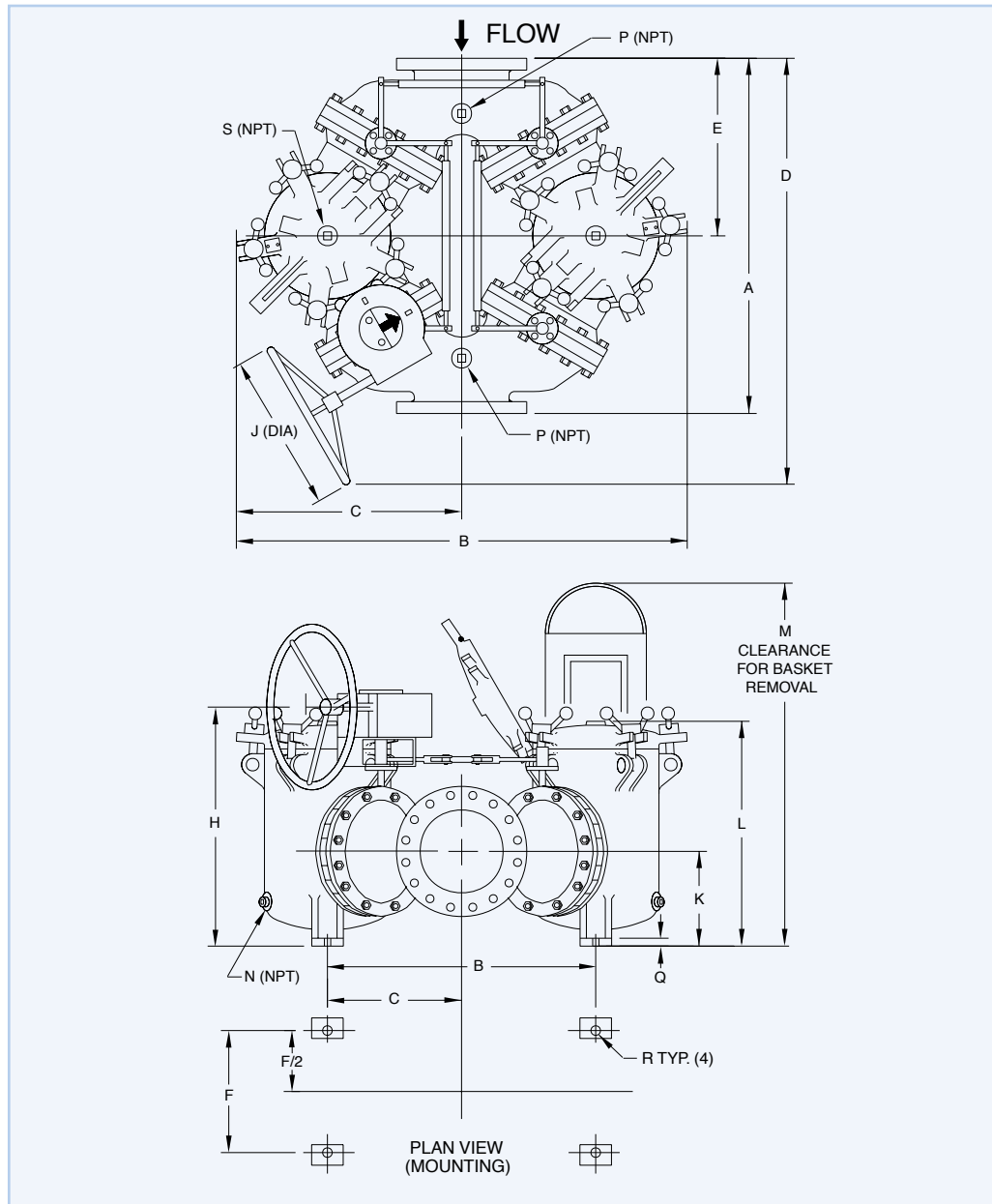
C_v Factors*

Size	Value	Size	Value
10"	1300	16"	3400
12"	2000	18"	4900
14"	2900		

* For water with clean, perforated basket

DIN flanges available

Technical Details



Dimensions and weights are for reference only. Contact Hayward for certified drawings.

Dimensions (inches / mm) Model 50 Large Duplex Strainer

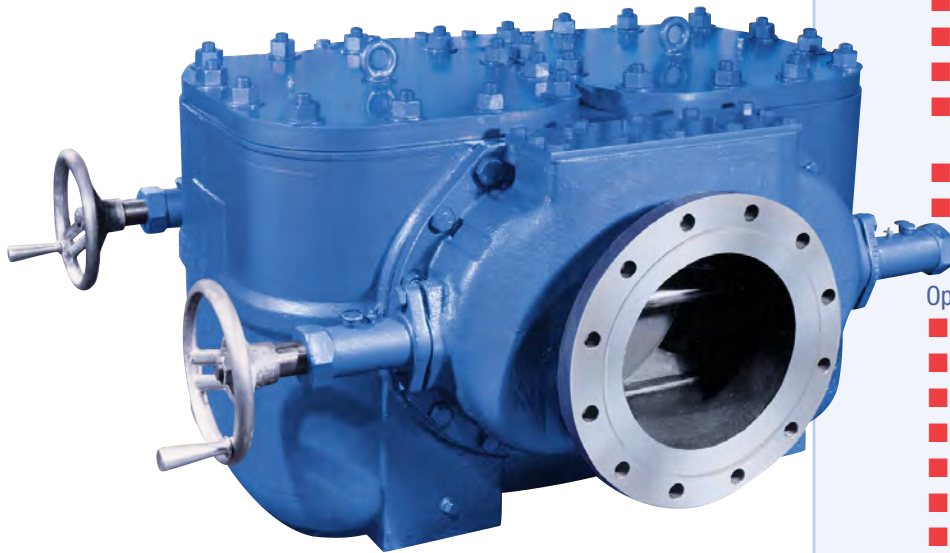
Pipe Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	Wt (lb) (kg)		
																		Iron	Bronze	
10	45	51	26	52	22-1/2	19	32	30-1/4	18	12-3/16	29	49							1600	2003
		1295	660	1321	572	483	813	768	457	310	737	1245							727	910
12	62	64	32	66	31	23	41	36-5/8	16	16-3/4	38	66							2650	3318
		1626	813	1676	787	584	1041	924	406	425	965	1676							1205	1508
14	72	76	38	79	35-1/2	27	48	44-3/4	24	18-3/4	44-1/2	77	1-1/2	1/2	1	1	1/4	4300	5384	
		1930	965	2007	902	686	1219	1137	610	476	1130	196						50	20	32
16	72	76	38	79	35-1/2	27	48	44-3/4	24	18-3/4	44-1/2	77							4400	5509
		1930	965	2007	902	686	1219	1137	610	476	1130	196							2000	2504
18	72	76	38	79	35-1/2	27	48	44-3/4	24	18-3/4	44-1/2	77								

MODEL 570

MULTI-BASKET DUPLEX STRAINER

8" to 24" • Iron or Carbon Steel • Flanged

Sliding Gate
Design



Features

- Continuous flow – no shutdown for basket cleaning
- Sliding gate design
- Eight baskets per strainer (four per side)
- Bolted cover
- Compact
- Threaded drain
- Perforated or mesh stainless steel baskets standard
- Synchronized chain drive
- Pressure equalization assembly

Options

- Bronze or stainless steel construction
- Basket perforations from 1/32" to 1/2"
- Basket mesh 20 to 400
- Monel baskets
- Vent valves
- Drain valves
- Cover lift davit
- Pressure differential gauge and switch connections
- Basket flange gaskets
- Magnetic basket inserts
- Left hand drive

The Hayward Model 570 Duplex Basket Strainer has been specifically designed to remove potential damage causing particles from large volumes of water and other process media (up to 30,000 GPM) efficiently and cost effectively. The strainer operates continuously and the pipeline flow never has to be shut down for strainer basket cleaning.

Flow is switched from one basket chamber to the other by a sliding gate mechanism operated by hand wheels. The free floating valve disc mechanism moves easily and does not bind. The valve operating stem is fully enclosed, protecting it from the fluid flow.

The Model 570 is a multi-basket strainer, providing four baskets in each of the two straining chambers for a total of eight per duplex strainer. This makes the Model 570 a very compact unit for its size with a low profile – ideal for tight installations where space is a problem. And even if space is not a problem, why use a strainer that takes up more valuable floor space than is necessary?

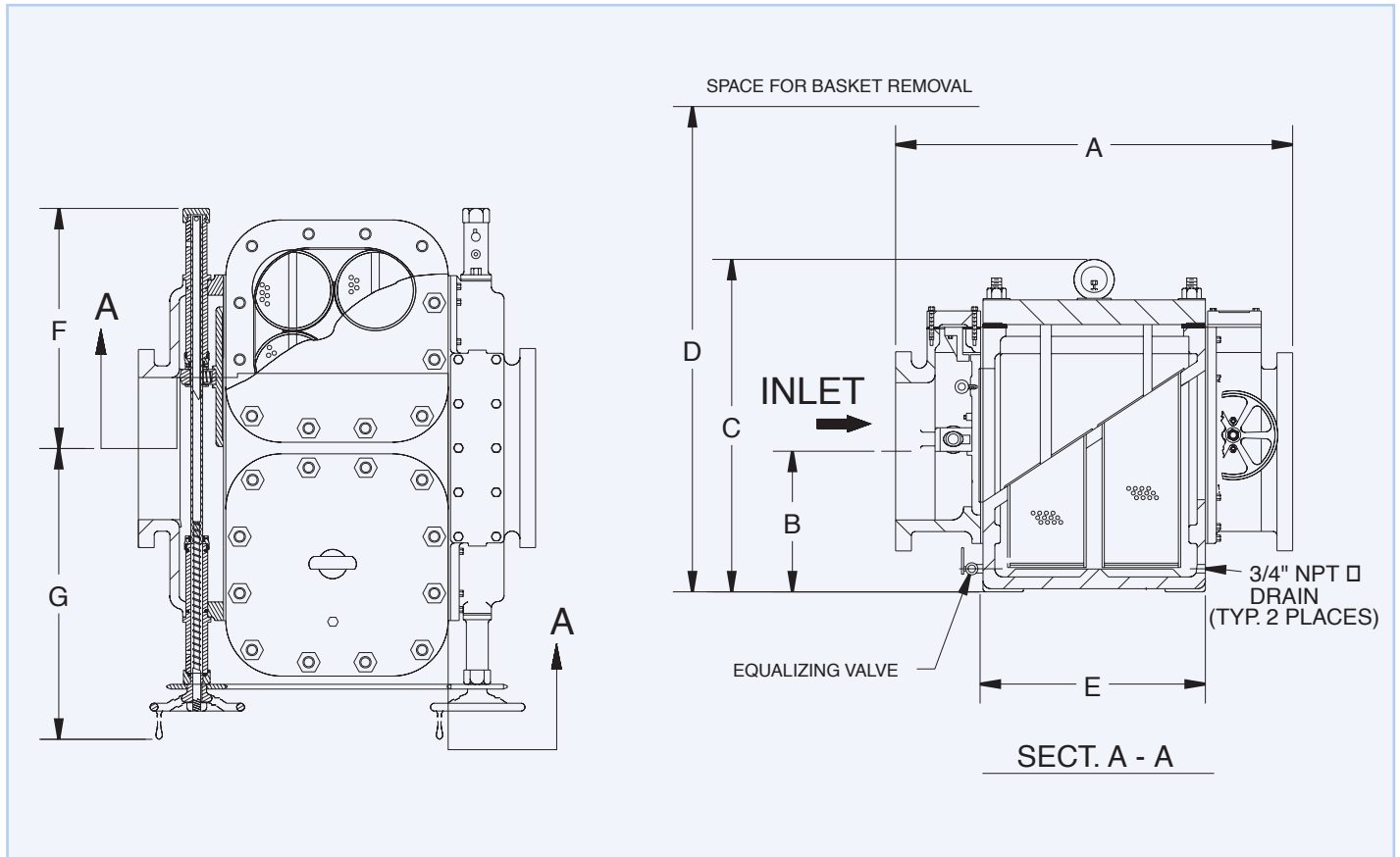
Because of the multibasket design, the individual baskets are smaller and lighter than would be possible with just a single basket. And a single person can remove and clean the baskets easily

and rapidly. Lifting tackle is not needed to remove the baskets from the strainer housing. The baskets feature a unique, angled top to permit direct fluid entry that contributes to the strainer's low pressure drop. Because of the large open area ratio in the baskets, they have an unusually high dirt holding capacity – which results in a longer cycle between basket cleaning. Over time the savings in labor and downtime for basket cleaning will be considerable.

The Model 570's design has stood the test of time...over 60 years. They have long been used by the electric power industry and the primary metals industry for cleaning cooling water. They have long been the duplex strainers of choice in the paper, sewage, water treatment and chemical process industries for straining water and protecting equipment. In the petroleum industry, they are used to remove gums, tars, and dirt from oil and oil products.

All over the world, in dozens of different industries moving large volumes of liquid, you'll find the Hayward Model 570 protecting equipment or improving the quality of the process media.

Technical Details



Dimensions and weights are for reference only. Contact Hayward for certified drawings.

Dimensions (inches / mm) Model 570 Multi-Basket Duplex Strainer

Pipe Size	A	B	C	D	E	F	G	Weight-Iron lb / kg	Weight-Carbon Steel lb / kg
8 / 200	38.50 / 978	8.25 / 210	20.50 / 521	38.00 / 965	18.25 / 464	18.00 / 457	28.50 / 724	1410 / 641	1565 / 711
10 / 250	40.50 / 1029	10/38 / 264	23.75 / 603	44.00 / 1118	20.50 / 521	20.25 / 514	30.5- / 775	1880 / 855	2087 / 949
12 / 300	43.50 / 1105	13.50 / 343	29.25 / 743	52.00 / 1321	23.00 / 584	23.38 / 594	32.50 / 826	2604 / 1184	2890 / 1314
14 / 350	46.25 / 1175	15.75 / 400	31.63 / 803	60.00 / 1524	24.88 / 632	25.56 / 649	35.00 / 889	3006 / 1366	3337 / 1517
16 / 400	49.63 / 1261	17.81 / 458	35.00 / 889	66.00 / 1676	28.13 / 715	27.75 / 705	37.50 / 953	4350 / 1977	4826 / 2197
20 / 500	64.00 / 1626	26.63 / 676	45.75 / 1162	88.00 / 2235	33.75 / 857	34.00 / 864	43.75 / 1111	10000 / 4545	11100 / 5045
24 / 800	67.75 / 1721	29.50 / 749	53.00 / 1346	98.00 / 2489	36.63 / 930	40.38 / 1026	49.50 / 1257	11440 / 5200	12698 / 5772

Selection Chart

Size	Material	End Connection	Gaskets	Pressure Rating
8" to 24"	Iron	Flanged 125#	Non-Asbestos	125 psi @ 100F
8" to 24"	Carbon Steel	Flanged 150#		175 psi @ 100F
8" to 16"		Flanged 300#		300 psi @ 100F

DIN flanges available

C_v Factors*

Size	Value	Size	Value
8"	700	20"	3600
10"	1250	24"	5200
12"	1600	30"	8000
14"	2000	36"	11000
16"	2500		

* For water with clean, perforated basket

ALL PLASTIC DUPLEX BASKET STRAINER

Sizes 1/2" to 4" • PVC or CPVC • Threaded or Flanged

Best for
Corrosive Service



Features

- Uninterrupted Flow
- External Body Threads
- Low Pressure Drop
- Wide Choice of Baskets
- In-line or loop piping design
- True union connections
- Hand Removable Covers
- Integral, Flat mounting Base

Options

- Stainless Steel Mesh Baskets
- EPDM Seals
- Clear, See Through Eastar Construction

In many corrosive or sensitive process media straining applications, plastic is the preferred material of construction for a duplex strainer. Hayward's All Plastic Duplex Basket Strainers are resistant to a wide variety of corrosive acids and other aggressive materials. They will work in applications that might require a much more expensive exotic alloy strainer – if one were even available. And because they are plastic they will not contaminate sensitive process media such as photographic chemicals and de-ionized water.

Flow is diverted from one strainer basket to the other by an all-plastic, three-way ball valve assembly. A quick turn of the handle diverts the flow. The handle points to the basket chamber in service, making it easy to determine which basket needs servicing. The strainer covers spin off for fast and easy access to the baskets for cleaning or change out.

Viton® seals are standard on all sizes of Hayward's All-Plastic Duplex Basket Strainers. The cover o-rings are a piston seal assuring a leak tight assembly with the covers only hand tight.

These duplex strainers come standard with two perforated all-plastic baskets made of the same material as the strainer itself. This makes determination of chemical compatibility for an application

much easier than if two different materials were involved. For finer straining applications, stainless steel baskets are available in mesh sizes from 20 to 325.

Plastic duplex strainers can be used in many applications, even some that you may have thought would require metal strainers. Thinking of replacing a metal strainer with a plastic one to take advantage of lower costs and better corrosion resistance? First take a look at the temperature/non-shock pressure chart to see if your application falls within range of the plastic material you are considering. If it does, and chemical resistance is not a problem, then the other consideration is the actual installation itself.

Contact Hayward for specific recommendations for your system. These recommendations may include things such as proper alignment of the strainer in the piping system to eliminate stress, correct support for the strainer and installation of spool pieces of plastic pipe or expansion joints.

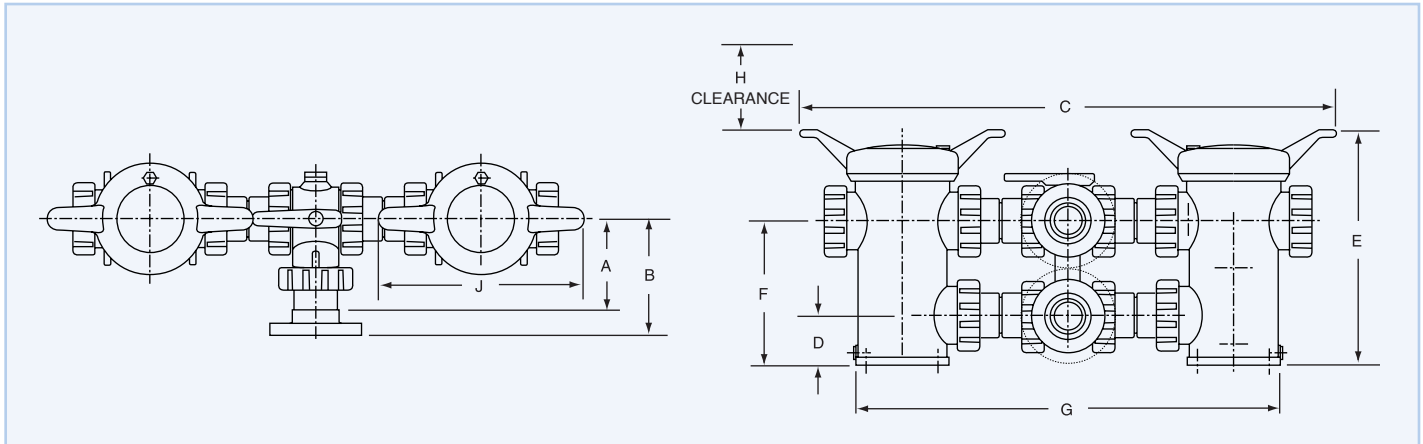
Hayward All-Plastic Duplex Basket Strainers are the answer to highly corrosive or ultra-pure applications. They are available in PVC (or CPVC for higher temperatures), in sizes up to 4" with socket, threaded or flanged connections. They are rated at 150 psi at 70°F in most applications.

Selection Chart

Size	Material	End Connections	Seals	Pressure Rating
1/2" to 4"	PVC or CPVC	Socket, Threaded or Flanged	Viton®	150 psi @ 70F
1" to 4"	EASTAR	Socket or Threaded	Viton®	150 psi @ 70F*

*3" & 4" EASTAR Rated at 100 PSI at 70°F

Technical Details



Dimensions and weights are for reference only. Contact Hayward for certified drawings.

Dimensions - (inches / mm)

Size	A	B	C	D	E	F	G	H	J	Weight (lb / kg)	
										Skt / Thd	Flg
1/2"	4.14 / 105	5.21 / 132	27.2 / 693	2.25 / 57	11.7 / 297	6.75 / 171	20.5 / 521	5.0 / 127	11.0 / 279	20.0 / 9	21.0 / 9.5
3/4"	4.14 / 105	5.33 / 135	27.2 / 693	2.25 / 57	11.7 / 297	6.75 / 171	20.5 / 521	5.0 / 127	11.0 / 279	20.0 / 9	21.0 / 9.5
1"	4.14 / 105	5.64 / 143	27.2 / 693	2.25 / 57	11.7 / 297	6.75 / 171	20.5 / 521	5.0 / 127	11.0 / 279	20.0 / 9	21.0 / 9.5
1-1/4"	6.0 / 152	7.44 / 189	35.3 / 897	3.25 / 83	15.5 / 394	9.5 / 241	28.0 / 711	10.8 / 274	13.5 / 343	39.5 / 18	42.0 / 20
1-1/2"	6.0 / 152	7.6 / 193	35.3 / 897	3.25 / 83	15.5 / 394	9.5 / 241	28.0 / 711	10.8 / 274	13.5 / 343	39.5 / 18	42.0 / 20
2"	6.0 / 152	7.77 / 197	35.3 / 897	3.25 / 83	15.5 / 394	9.5 / 241	28.0 / 711	10.8 / 274	13.5 / 343	39.5 / 18	42.0 / 20
2-1/2"	7.6 / 178	9.85 / 250	44.4 / 1128	4.83 / 123	22.3 / 566	14.83 / 377	35.6 / 904	14.8 / 376	16.0 / 406	83.0 / 38	88.0 / 40
3"	7.6 / 178	9.85 / 243	44.4 / 1128	4.83 / 123	22.3 / 566	14.83 / 377	35.6 / 904	14.8 / 376	16.0 / 406	83.0 / 38	88.5 / 40
4"	9.33 / 237	11.76 / 299	47.5 / 1207	4.83 / 123	22.3 / 566	14.83 / 377	38.7 / 983	14.8 / 376	16.0 / 406	100 / 45	105 / 48

C_v Factors*

Size	Value	Size	Value
1/2"	12.5	1-1/2"	45
3/4"	13	2"	48
1"	14	3"	200
1-1/4"	40	4"	230

* For water with clean, perforated basket
The above C_v Factors were determined using a 1/16" perforated plastic basket.

Basket Perforation Correction Factors

Plastic Baskets		Stainless Steel Baskets	
1/32"	1.05	1/32"	.82
1/16"	1.00	3/64"	.63
1/8"	.58	1/16"	.74
3/16"	.46	20 Mesh	.79
		5/64"	.50
		40 Mesh	1.01
		7/64"	.51
		60 Mesh	1.20
		1/8"	.58
		80 Mesh	1.16
		5/32"	.37
		100 Mesh	1.20
		3/16"	.46
		200 Mesh	1.09
		1/4"	.58
		325 Mesh	1.22

Pressure Drop Calculations

The pressure drop across the strainer, for water or fluids with a similar viscosity, can be calculated using the formula below:

$$\Delta P = \left[\frac{Q}{C_v} \right]^2 \quad \text{Where } \Delta P = \text{Pressure Drop}$$

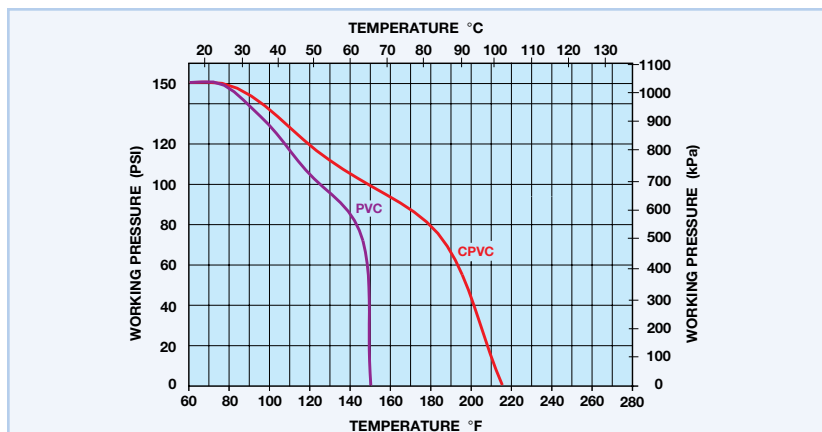
Q = Flow in GPM
C_v = Flow Coefficient

Pressure Drop Calculation Example

The pressure loss for a 2" duplex strainer in water service, with a clean 100 mesh basket at 40 gpm, would be:

$$(40 / 38)^2 = 1.1 \times \text{correction factor of } 1.20 = 1.3 \text{ psi}$$

Operating Temperature/Pressure



Basket Selection

- The 1/2" to 1" strainers can be ordered with either a 1/32" or 1/16" perf plastic basket.
- The 1-1/2" and 2" with a 1/32", 1/16", 1/8", or 3/16" perf plastic basket.
- The 3" and 4" with a 1/16", 1/8" or 3/16" perf plastic basket.
- Stainless steel baskets for all size strainers are available in these perfs: 1/32", 3/64", 1/16", 5/64", 7/64", 1/8", 5/32", 3/16", 1/4", 3/8", 1/2"; and in mesh sizes: 20, 40, 60, 80, 100, 200, 325.

STRAINER OPTIONS

Description of Options

Taps

1/4" NPT cover vent taps and inlet/outlet nozzle taps are available for most strainers with the exception of plastic strainers.

Cover Vent Valves

Available in brass or stainless steel, needle type valves mount on the cover of the strainer with a 1/4" NPT tap. These valves are rated for 200 psi at 100° F.

Drain Valves

These ball type valves are used to drain the strainer housing. Available in brass or stainless steel, they are rated at 600 psi at 100° F with either 1/4" or 1/2" NPT connections.

Heavy Duty Strainer Baskets

For very demanding applications, heavy-duty-construction baskets are extremely rugged and stand up to the most abusive applications.

Elastomer Seals

If the standard seals on a Hayward strainer are not suitable for a specific application, a variety of special seals is offered which includes EPDM, Viton®, Buna-N and TFE-encapsulated.

Differential Pressure Gauge

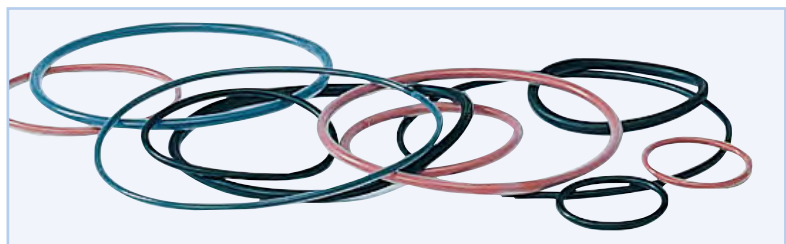
This gauge shows the pressure differential across the strainer and is an aid in determining when to change out the strainer basket. It has a 0–30 psid pressure range and features a 3-1/2" gauge face. Rated at 3000 psi, it comes with a 1/4" NPT connection in either brass or stainless steel.

Differential Pressure Gauge with Switch

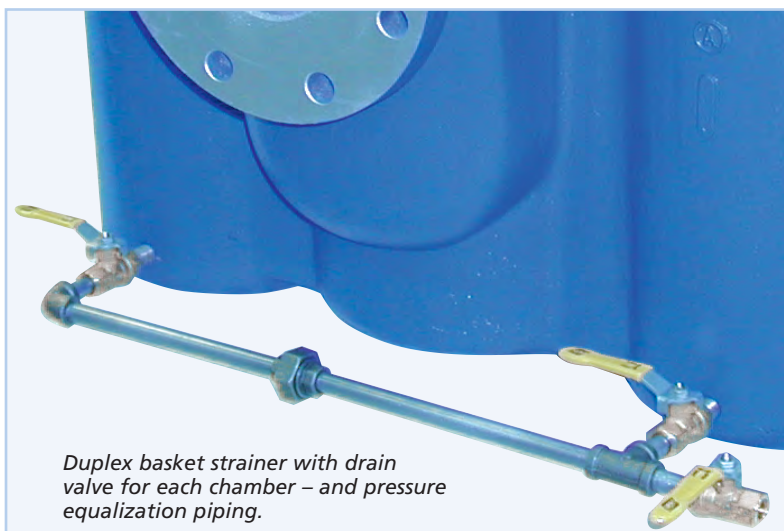
This is the standard Hayward differential pressure gauge described above, except that double pole, double throw relay contacts are included to permit actuation of a remote electrical signalling device such as a light on a control panel when a predetermined differential pressure is reached. Contact rating is 10 A/ 115 V/ 60 Hz.



Heavy duty strainer basket has metal banding spot welded at top and middle to provide extra support for difficult applications.



Elastomer seals are available in a variety of materials.



Duplex basket strainer with drain valve for each chamber – and pressure equalization piping.



Typical pressure differential gauge with switch.

TEMPORARY STRAINERS

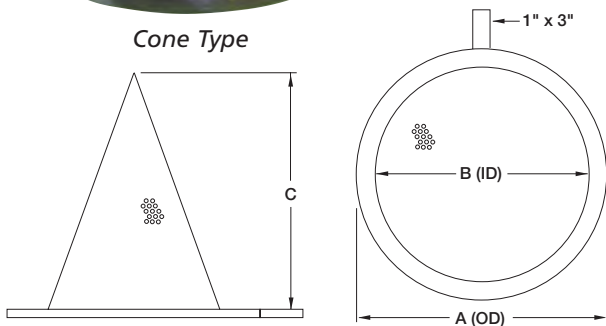
2" to 24" • Flanged • Stainless Steel and Monel

Perfect for
Startup Service



Basket Type

Cone Type



Features

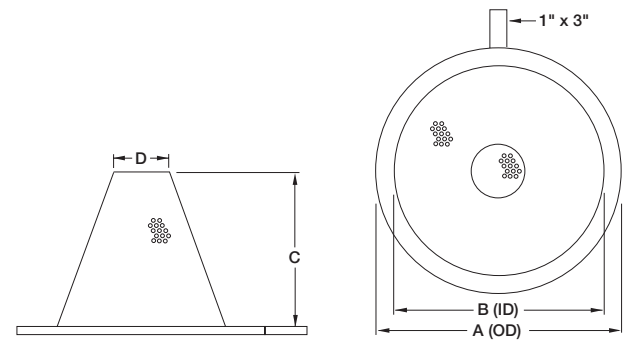
- ANSI Classes 150, 300 and 600
- Perforations: 1/32" to 1/2" diameter
- Mesh Liners: 20, 40, 60, 80 and 100 (best with basket type strainers)
- Stainless steel or monel construction

Options

- Alloy construction, RTJ-style connections

Designed For Use In:

- New pipeline startup service
- Systems where solid contaminants are not prevalent, but where protection of piping system components is desirable



Dimensions (inches) Model 92 Cone Type

Pipe Size	A			B	C
	Class 150	Class 300	Class 600		
2	3.88	3.88	4.13	1.75	6.0
2 -1/2	4.63	4.63	4.88	2.25	7.0
3	5.13	5.13	5.63	2.75	9.0
4	6.63	6.63	6.88	3.50	12.0
5	7.50	7.50	9.25	4.63	14.0
6	8.50	8.50	10.25	5.50	17.0
8	10.75	10.75	12.38	7.13	23.0
10	12.13	13.13	15.50	9.0	27.0
12	15.88	15.88	17.38	10.88	32.0
14	17.50	17.50	19.13	12.63	33.0
16	20.0	20.0	22.0	14.50	39.0
18	21.38	21.38	23.88	16.38	44.0
20	23.63	23.63	26.63	18.38	49.0
24	28.0	28.0	30.88	20.38	58.0

Dimensions (inches) Model 92 Basket Type

Pipe Size	A			B	C	D
	Class 150	Class 300	Class 600			
2	3.88	3.88	4.13	1.75	3.50	1.0
2-1/2	4.63	4.63	4.88	2.25	4.0	1.0
3	5.13	5.13	5.63	2.75	4.50	1.0
4	6.63	6.63	6.88	3.50	6.0	2.0
5	7.50	7.50	9.25	4.63	7.50	2.0
6	8.50	8.50	10.25	5.50	9.0	2.0
8	10.75	10.75	12.38	7.13	12.0	2.0
10	13.13	13.13	15.50	9.0	14.0	3.0
12	15.88	15.88	17.38	10.88	16.50	3.0
14	17.50	17.50	19.13	12.63	17.0	4.0
16	20.0	20.0	22.0	14.50	19.0	4.0
18	21.38	21.38	23.88	16.38	21.0	6.0
20	23.63	23.63	26.63	18.38	24.0	6.0
24	28.0	28.0	30.88	22.38	28.0	10.0

BASKET & SCREEN DATA

Basket and Screen Design

The basket or screen is the heart of a Hayward Strainer and is designed to be both effective and durable to perform its function correctly. During Hayward's 75 years of manufacturing strainers, we have developed two different designs of both baskets for basket strainers and screens for Y strainers...standard and heavy duty. Hayward's standard baskets and screens meet the needs of nearly all applications.

In those certain cases where either an extremely high viscosity material is being strained or where a high solids load is experienced, the heavy duty basket or screen design is recommended.

Baskets and screens are available from Hayward in two materials:

1) type 316 stainless steel and 2) Monel. These three materials cover nearly all corrosion resistance levels needed in strainer services. A wide range of perforations and mesh providing removal of solids from 1/2" down to as low as 40 micron. For special, unique applications Hayward can custom fabricate a basket from just about any material to your exact specifications.

Basket Construction

Each style basket includes a perforated sheet which is induction welded to a rigid top ring and solid bottom cap. Special attention is paid to the welds along the perforated sheet seam to prevent the possible bypass of solids and to maintain the basket's strength. A handle is then welded to the I.D. of the top ring to facilitate easy removal. Heavy duty baskets have reinforcing strips induction welded along the perforation's seam and circumferentially on the outside of the mid-section ring of the basket. The perforated sheet is placed inside the top ring and bottom cap as well.

Screen Construction

Y-Strainer screens are rolled to form a perfect cylinder and are induction welded along the seam. A neat, continuous weld must be applied along the perforated sheet seam to prevent the possible bypass of solids and to provide a seam of acceptable strength. Hayward Y-Strainer screen seats are machined to specific dimensions and, accordingly, both the O.D. and length of these screens are closely toleranced.

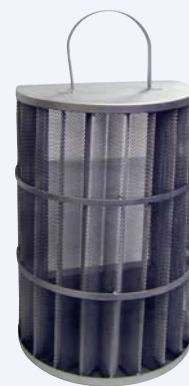
Perforated Sheet – Specification

All Hayward baskets and screens are made of perforated sheet. The percentage of open area of a screen generally dictates the internal pressure drop that will be experienced across it. Other factors, though, must be taken into consideration to produce a screen that will provide a reasonable service life. The objective is to select a perforation with the best balance of open area, hole arrangement and sheet thickness. There are several styles of perforated sheet to choose from, including ones with round, square, rectangular or diamond shape perforations.

Hayward uses perforated sheet with round holes because of its greater inherent strength and because of its resistance to stress cracking.



Cylindrical baskets for simplex and duplex strainers up to 8" size



Pleated basket for Model 72 simplex and Model 50 duplex strainers sizes 10" to 18 in



Slant top baskets for Model 510 simplex and Model 570 duplex strainers sizes 8" to 36"

BASKET & SCREEN DATA

Open Area

Perforated sheet can have an open area from between 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 distorts and becomes weak. Table A describes the sheet thickness which is used to construct baskets and screens.

Another factor in controlling the sheet thickness is the hole diameter. The smaller the hole diameter, the thinner the sheet. The rule of thumb used by commercial perforated sheet manufacturers is that hole dimensions smaller than the plate thickness are impractical and costly to manufacture. Hayward's baskets and screens have between 28% to 51% 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.

Hole Arrangement

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

Perforations

Perforations are stocked by Hayward in 1/32", 3/64", 1/16", 5/64", 7/64", 1/8", 5/32", 3/16", 1/4", 3/8" and 1/2" and in mesh sizes: 20, 40, 60, 80, 100, 200 and 325. However, over many years 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.

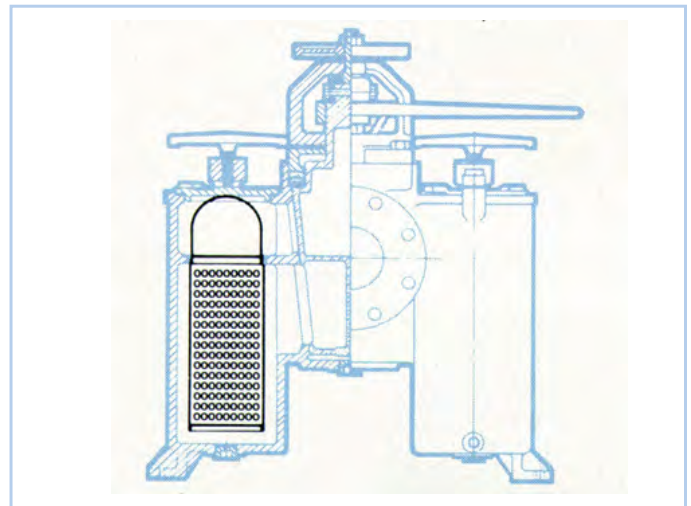
Wire Mesh Specifications

All Hayward strainers are available with woven wire mesh screens. Wire mesh provides smaller openings than can be obtained by perforating for very fine straining applications ...down to 40 micron.

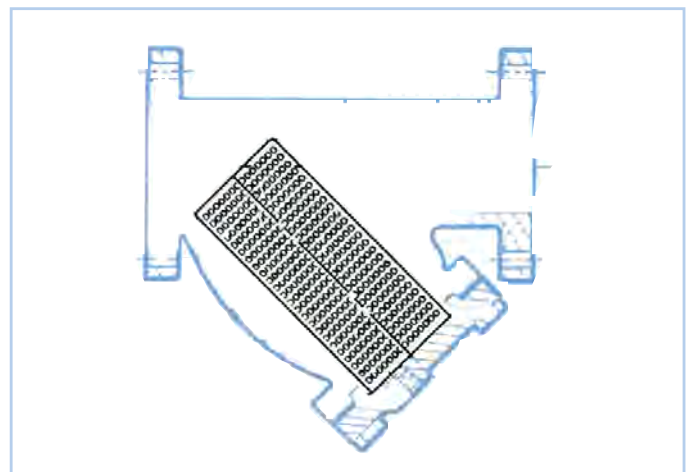
Woven mesh is constructed similarly to fabric and is woven on machines like those used in the textile industry.

Hayward uses monofilament mesh having equal wire size and wire count in both directions to produce square openings. Other types of mesh such as Dutch (or Hollander) are also available. Dutch weave has a greater quantity of wires in one direction and less wires, but which are of larger in diameter, in the other direction. This creates a rectangular opening. As with perforated sheet, the best wire mesh selection is a balance of open area, wire diameter and type of weave.

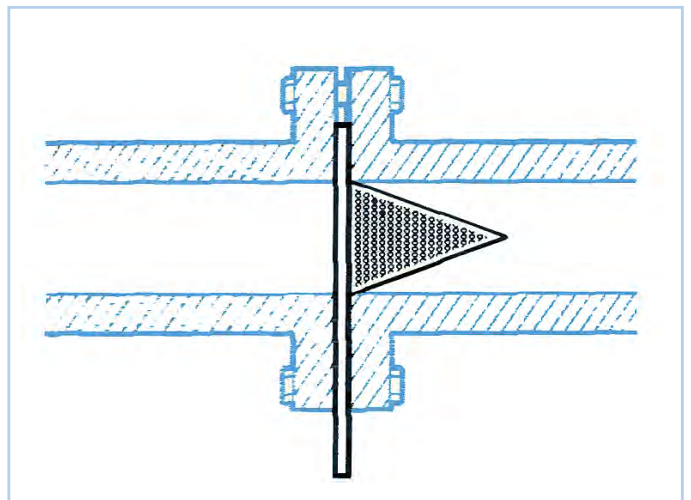
Hayward has standardized certain mesh sizes based on past experience which we feel will provide the best strainer operation and longest life.



Partial cutaway of plug type duplex strainer showing basket in position



Cutaway of Y strainer shows strainer screen in position



Cone type temporary strainer is shown bolted between two pipe flanges

BASKET & SCREEN DATA

Openings

Hayward wire mesh liners 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 a vertical and horizontal direction. Therefore, as the wire size increases, the hole size decreases. Hayward baskets offer wire mesh with openings from 0.034" to 0.0015" (20 mesh to 400 mesh)

Open Area

The open area of wire mesh is a function of both the weave and the wire diameter. Hayward uses a plain square weave in most cases because its straight-through flow path creates the least pressure drop. In almost all cases, the mesh is reinforced with a perforated metal backing having greater than a 50% open area. This combination affords the greatest degree of strength, yet offers a lower pressure drop than other types of wire mesh.

In certain instances, such as Y strainer steam applications, the increased pressure drop resulting from the use of a Dutch weave is not as critical as the retention of small particles. Therefore, in applications which involve steam, Hayward suggests the use of weave such as the 30 X 160 size which can withstand a much higher differential pressure without bursting. Hayward can supply baskets and screens having open areas from 14% to 46%.

Plain Square Weave

Woven in an over and under pattern of wire having the same diameter. This weave produces a square opening having excellent flow characteristics.

Plain Dutch Weave

Woven in an over and under pattern in one direction where the horizontal wires are larger in diameter than the vertical wires which are driven close and crimped at each pass. This weave produces greater strength, but lower flow rates than a square weave. Most often used in steam applications.

Mesh Liners Available

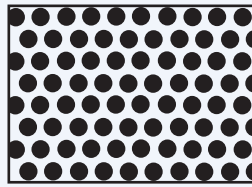
The size of mesh liners is determined by the number of openings per linear inch. The standard sizes Hayward can furnish are 20, 40, 60, 80, 100, 200, 325 and 400.

Magnetic Inserts

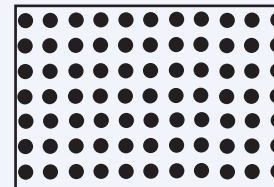
Although a mesh lined Hayward strainer basket will catch and remove very small unwanted particles (down to 400 mesh), there are applications where microscopic iron or steel particles are present in the fluid. Being so tiny they will often pass through the finest mesh screen. The problem is particularly prevalent whenever there is wear of iron or steel parts against each other in the system. Examples are cooling or lubricating lines to bearings, liquids being processed on rolls or roller mills such as paint or ink, and any material passing through a gear system.

A simple, cost effective way to remove these damage-causing particles is to install Hayward magnetic inserts in the strainer basket. All the fluid passes over the powerful magnets which catch those fine steel or iron particles which might otherwise pass through the mesh lining of the basket. The magnets are Alnico, guaranteed to retain their magnetism indefinitely, and so powerful they will hold metal several times their own weight. They are completely encased and sealed in a 1/8" thick type 316 stainless steel shell – thus assuring freedom from contamination or corrosion.

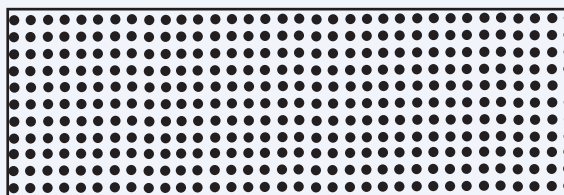
Pattern Examples



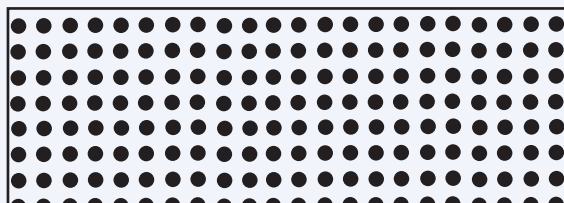
Staggered Holes



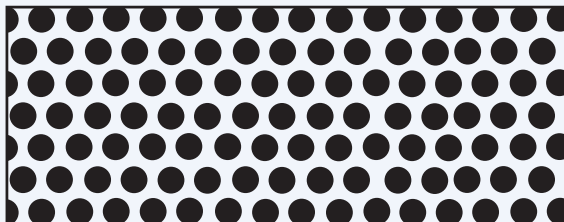
Straight Holes



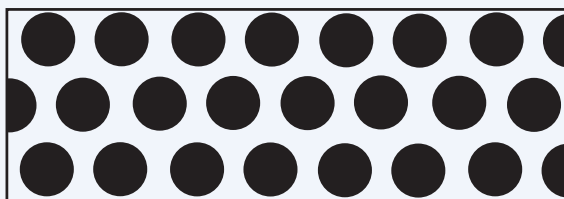
1/32" – Actual Size



1/16" – Actual Size



1/8" – Actual Size



1/4" – Actual Size

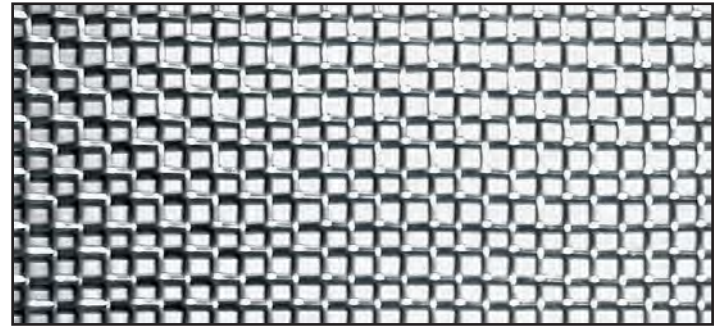


Magnetic strainer element captures microscopic iron and steel particles

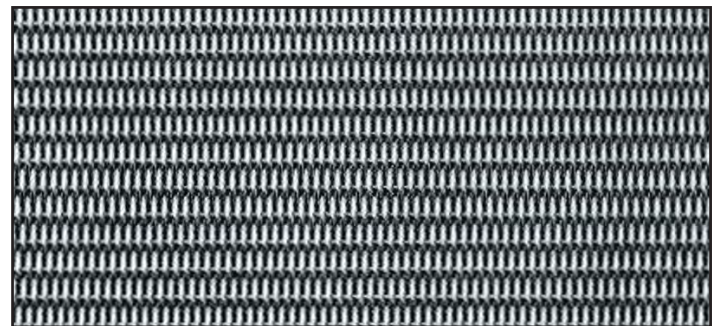
Wire Mesh Weaves

Table A. Perforated Basket Sheet Specifications

Perforation Size Inches	Sheet Thickness USS Gauge #	Hole Pattern	% Open Area
0.020	26	Straight	16.0
1/32	26	Straight	28.0
3/64	24	Straight	30.2
0.045	26	Staggered	36.0
1/16	26	Straight	31.0
1/8	26	Staggered	47.9
5/32	26	Staggered	63.0
3/16	26	Staggered	50.0
1/4	26	Staggered	42.0
3/8	26	Staggered	52.0
1/2	26	Staggered	47.9



Plain Square Weave

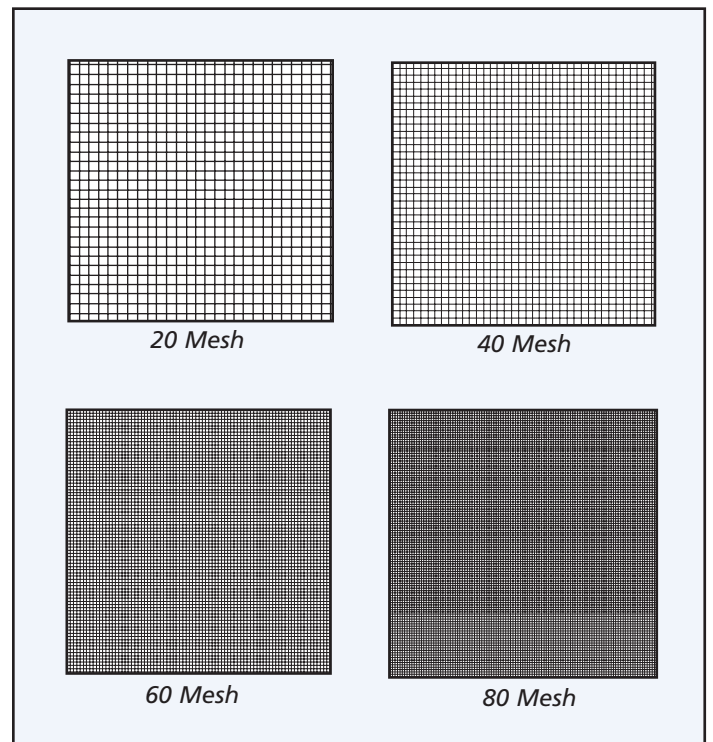


Plain Dutch Weave

Table B. Mesh Basket 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
400	0.0015	0.0381	38	36.0

Mesh Liners



BASKET & SCREEN DATA

Basket Effective Area

Strainer Model	Pipe Size	Perforation Size	Nominal Area of Pipe (sq in)	Gross Screen Area (sq in)	Free Area (sq in)	Ratio Free Area to Pipe Area
30R	1-1/2	5/32	2.03	35.4	22.3	11.0
30R	2	5/32	3.35	50.9	32.1	9.6
30R	2-1/2	5/32	4.78	84.7	53.4	11.2
30R	3	5/32	7.39	84.7	53.4	7.2
30R	4	5/32	12.73	114.5	72.1	5.6
30	5	5/32	20.0	158.1	99.6	5.0
30R	6	5/32	28.9	180.9	113.9	4.0
30R	8	5/32	50.03	275.6	171.8	3.4
50	3/4	1/32	0.53	19.5	5.2	9.8
50	1	1/32	0.86	19.5	5.2	6.1
50	1-1/4	1/8	1.49	39.7	19.0	12.8
50	1-1/2	1/8	2.03	39.7	19.0	9.4
50	2	1/8	3.35	64.0	30.7	9.2
50	2 -1/2	1/8	4.78	64.0	30.7	6.4
50	3	3/16	7.39	85.6	42.8	5.8
50	4	3/16	12.73	146.1	73.0	5.7
50	5	3/16	20.0	216.1	106.0	5.4
50	6	3/16	28.9	265.4	132.7	4.6
50	8	3/16	50.02	506.7	253.4	5.1
50	10	3/16	78.8	800	400	5.1
50	12	3/16	113.1	1200	600	5.3
50	14	3/16	137.9	2000	1000	7.3
50	16	3/16	182.6	2000	1000	5.5
50	18	3/16	182.6	2000	1000	5.5
53BTX	3/4	1/32	0.53	19.8	5.5	10.4
53BTX	1	1/32	0.86	19.8	5.5	6.4
53BTX	1-1/4	1/8	1.49	45.0	22.0	14.4
53BTX	1-1/2	1/8	2.03	45.0	22.0	10.6
53BTX	2	1/8	3.35	65.0	31.0	9.3
53BTX	2 -1/2	1/8	4.78	65.0	31.0	6.5
53BTX	3	3/16	7.39	110.3	55.1	7.4
53BTX	4	3/16	12.73	152.0	76.0	5.9
72	3/8	1/32	0.19	12.7	3.4	18.0
72	1/2	1/32	0.30	12.7	3.4	11.3
72	3/4	1/32	0.53	19.5	5.2	9.9
72	1	1/32	0.86	19.5	5.2	6.1
72	1-1/4	1/8	1.49	30.1	14.4	9.7
72	1-1/2	1/8	2.03	49.7	19.0	9.4
72	2	1/8	3.35	50.9	24.4	7.3
72	2-1/2	1/8	4.78	80.2	38.4	8.0
72	3	3/16	7.39	114.5	57.2	7.8
72	4	3/16	12.73	168.3	84.1	6.6
72	5	3/16	20.0	265.4	132.7	6.6
72	6	3/16	28.9	324.2	162.1	5.6
72	8	3/16	50.02	555.3	277.7	5.6
72	10	3/16	78.8	800	400	5.1
72	12	3/16	113.1	1200	600	5.3
72	14	3/16	137.9	2000	1000	7.3
72	16	3/16	182.6	2000	1000	5.5
72	18	3/16	182.6	2000	1000	5.5

PRESSURE DROP CALCULATIONS

For Simplex and Duplex Strainers

In the following pages, pressure drops for Hayward Models 30, 50, 510, 570 and 72 strainers are shown. The curves are based on the flow of water through clean, perforated baskets or screens. For mesh-lined baskets or screens and/or for fluids other than water, use the correction factors listed on this page

To accurately calculate the pressure loss for filters and strainers in a pipeline, proceed as follows:

1. First calculate pressure loss using C_v factor formula at right.
2. Take the pressure loss figure obtained in (1) and recalculate it using the appropriate correction factor from the following table.

Pressure Loss Calculation Using C_v Factor Example

Standard Units

$$\Delta P = \left[\frac{Q}{C_v} \right]^2$$

ΔP = Pressure Drop in psi
 Q = Flow in GPM
 C_v = Flow Coefficient

Metric Units

$$\Delta P = \left[\frac{Q}{C_v} \right]^2 (133.6)$$

ΔP = Pressure Drop in kPa
 Q = Flow in M³/hr
 C_v = Flow Coefficient

The pressure loss across a strainer can be calculated using the system's flow rate and the C_v factor for that strainer.

For example, a 1" Model 72 simplex strainer with a perforated basket has a C_v factor of 22.5. In water service with a 30 gpm flow rate, it will have a 1.7 psi pressure drop $(30 \div 22.5)^2 = 1.7$. For mesh-lined baskets and/or fluids with a viscosity greater than water, multiple the pressure drop by the correction factors in the chart "Correction Factors for Mesh-Lined Baskets."

Correction Factors for Mesh-Lined Baskets

First – Multiply the pressure drop for water shown in charts by the specific gravity of the liquid.

Second – Multiply the corrected pressure drop figure by the following correction factors for more viscous liquids. (Water has a viscosity of 30 SSU.)

Viscosity (SSU)	Unlined Perforated Basket	40 Mesh Lined Basket	60 Mesh Lined Basket	80 Mesh Lined Basket	100 Mesh Lined Basket	200 Mesh Lined Basket	325 Mesh Lined Basket
30 (water)	0	1.2	1.4	1.6	1.7	2.0	2.5
500	1.6	1.9	2.1	2.4	2.6	3.1	3.6
1000	1.7	2.2	2.4	2.6	2.8	3.3	3.8
2000	1.9	2.4	2.7	2.9	3.2	3.8	4.0
3000	2.0	2.6	2.9	3.2	3.5	4.1	4.3
5000	2.2	3.0	3.5	4.0	4.5	5.3	6.3
10000	2.5	3.5	4.2	5.0	6.0	7.1	8.5

Strainer Basket Opening Equivalents

Mesh	Inches	Millimeters	Microns	Perf	Inches	Millimeters	Microns
400	0.0015	0.0381	38	1/32	0.033	0.838	838
300	0.0018	0.0457	45	3/64	0.045	1.143	1143
250	0.0024	0.0609	60	1/16	0.070	1.778	1776
200	0.0027	0.0686	68	3/32	0.094	2.387	2387
150	0.0041	0.1041	104	1/8	0.125	3.175	3175
100	0.0065	0.1651	165	5/32	0.150	3.810	3810
80	0.007	0.1778	177	3/16	0.1875	4.762	4762
60	0.009	0.2286	228	1/4	0.250	6.350	6350
40	0.015	0.8636	380	3/8	0.375	9.525	9525
20	0.034	0.8636	862	1/2	0.500	12.700	12700

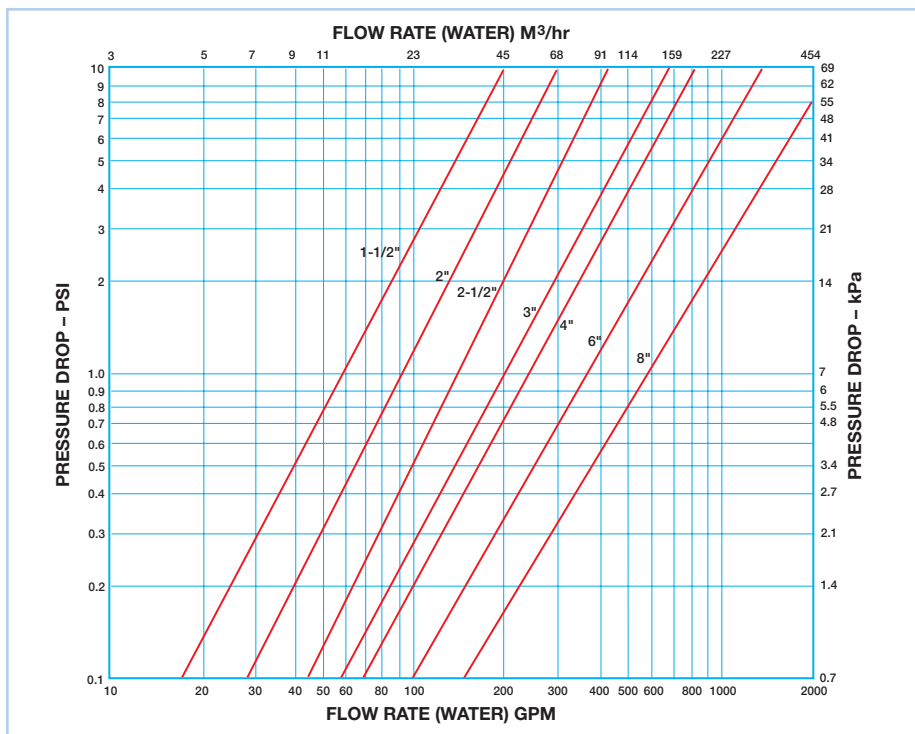
MODEL 30 & 72 PRESSURE DROP CURVES

Pressure Drop vs Flow Rate

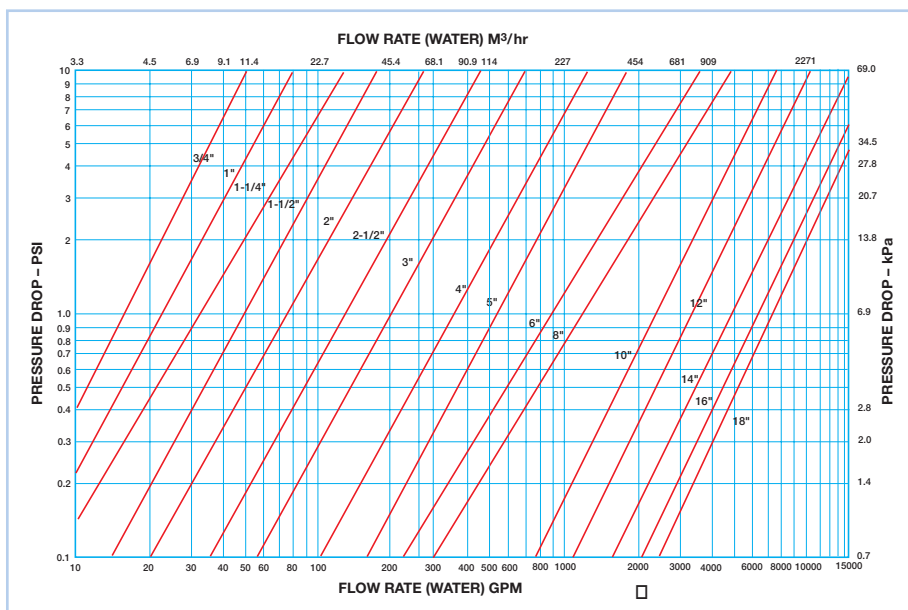
These curves are for clean baskets, without mesh liners – and with WATER flowing through the strainer.

For mesh-lined baskets and/or for other fluids, you must first compute a correction factor. See Page 47 for full details.

Model 30R Simplex – 1-1/2" through 8"



Model 72 Simplex – 3/4" through 18"

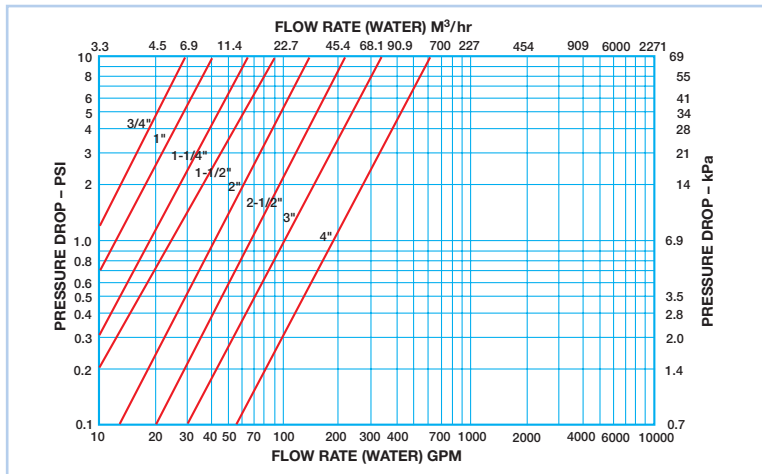


MODEL 50 PRESSURE DROP CURVES

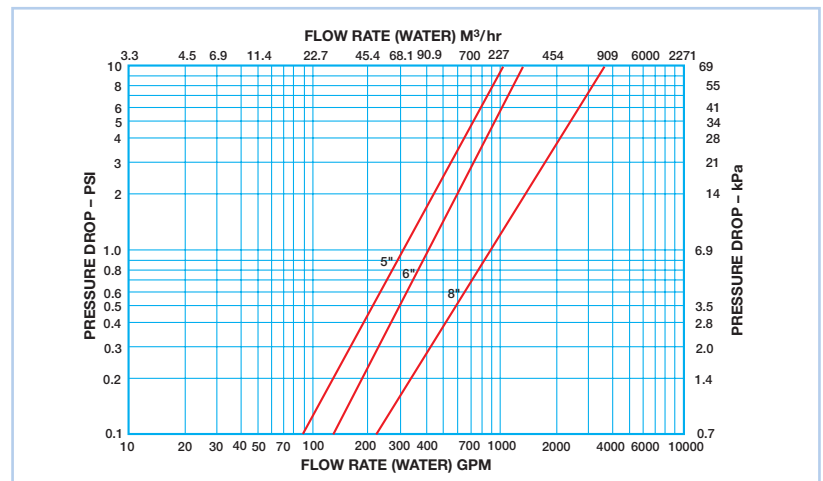
Pressure Drop vs Flow Rate

These curves are for clean baskets, without mesh liners – and with WATER flowing through the strainer. For mesh-lined baskets and/or for other fluids, you must first compute a correction factor. See Page 47 for full details.

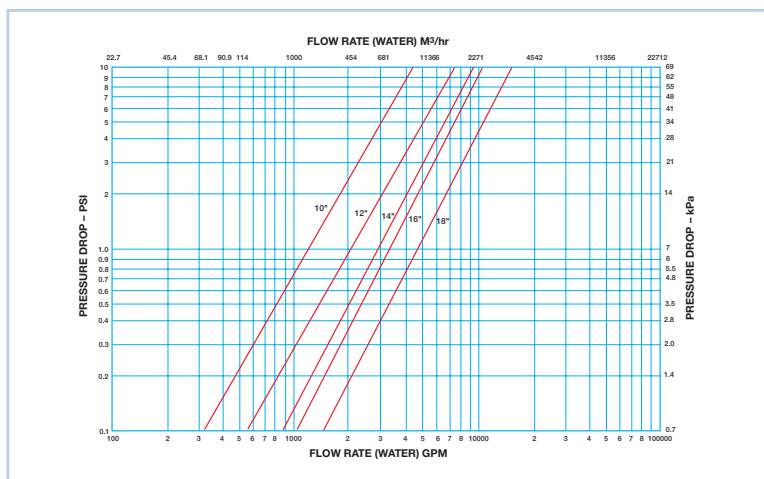
Model 53BTX Duplex – 3/4" Through 4"



Model 50 Duplex – 5" Through 8"



Model 50 Multibasket Duplex – 10" Through 18"

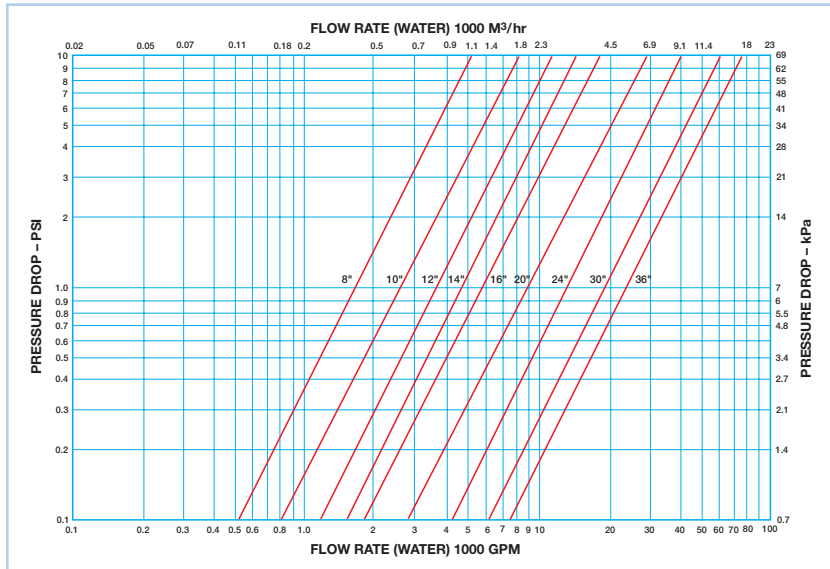


MODEL 510 & 570 PRESSURE DROP CURVES

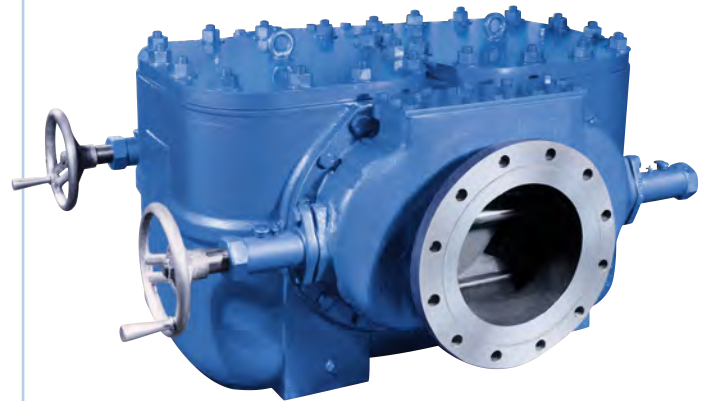
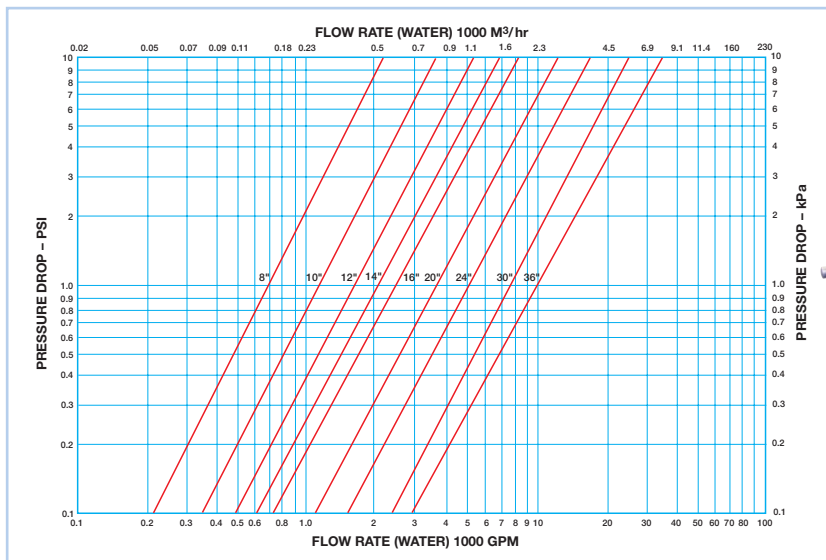
Pressure Drop vs Flow Rate

These curves are for clean baskets, without mesh liners – and with WATER flowing through the strainer.
 For mesh-lined baskets and/or for other fluids, you must first compute a correction factor. See Page 47 for full details.

Model 510 Multibasket Simplex – 8" through 36"



Model 570 Sliding Gate Duplex – 8" Through 36"



PLASTIC STRAINER MATERIAL SPECIFICATIONS/DATA

Plastic Basket Strainers

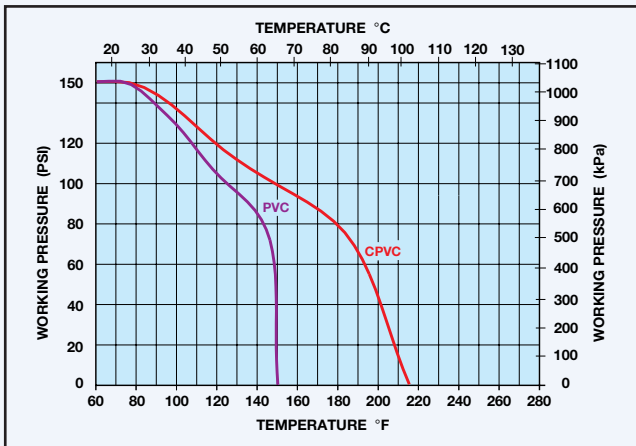
Material Specifications

- PVC (polyvinyl chloride) – Type 1, Cell Classification conforming to ASTM D-1784
- CPVC (chlorinated polyvinyl chloride) – Type 4, Grade 1, Cell Classification conforming to ASTM D-1784
- Polypropylene – Type 1, ultra-high strength, highly chemical coupled, glass reinforced conforming to ASTM D-4101

End Connection Specifications

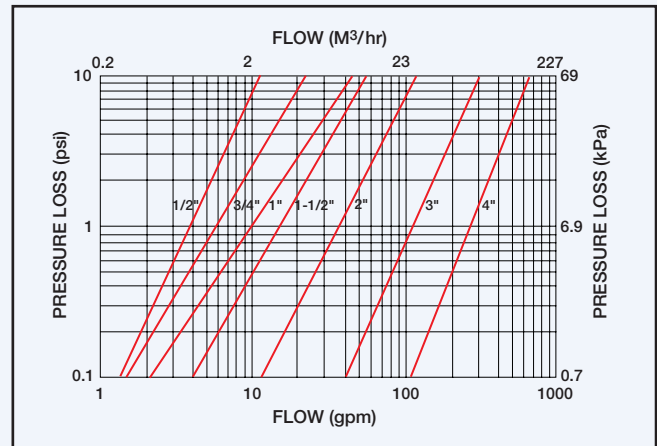
- All flanges have bolt hole pattern to meet ANSI 150 lb dimensions
- Polypropylene strainers available threaded and flanged only
- All 1/2" and 3/4" basket strainers are 1" strainers with reducer bushings
- All 1-1/2" basket strainers are 2" strainers with reducer bushings

Operating Pressures and Temperatures 150 psi Rated Plastic Basket Strainers



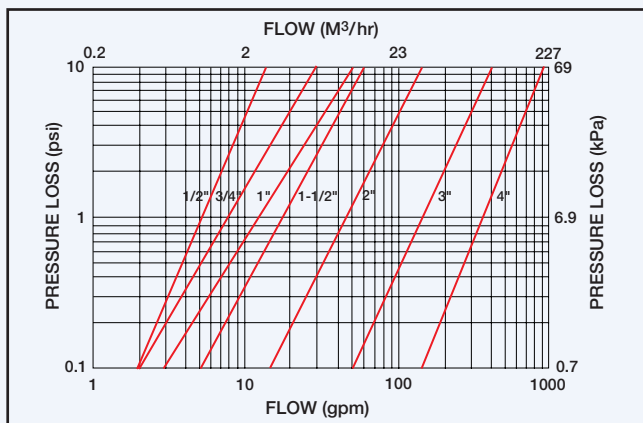
Pressure-Temperature relationship of Hayward pipeline strainer materials. Working pressure (non-shock) figures are the maximum recommended for the indicated temperatures.

Pressure Drop Curves Duplex Basket Strainers

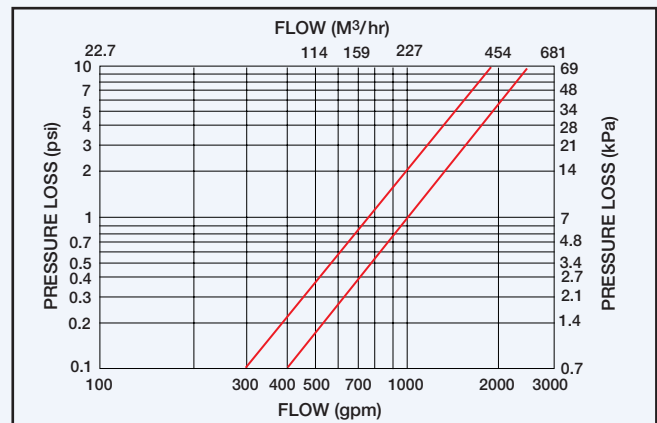


Pressure Drop Curves – Simplex Basket Strainers

1/2" to 4" Plastic Basket Strainers



6" and 8" Plastic Basket Strainers



PHYSICAL PROPERTIES & CHEMICAL COMPOSITION

Metal Alloys Used in Hayward Strainers

Carbon Steel – ASTM A-216 Grade WCB

Tensile Strength: 70,000 lb/sq in
 Yield: 36,000 lb/sq in
 Elongation: 22%

Chemical Composition:

C (Carbon) 0.30%
 Si (Silicon) 0.60%
 P (Phosphorus) 0.04%
 S (Sulfur) 0.045%
 Mn (Manganese) 1.00%
 Residual Elements 1.00% max

Aluminum Bronze – ASTM B-148 Grade C95400

Tensile Strength: 75,000 lb/sq in
 Yield: 30,000 lb/sq in
 Elongation: 12%

Chemical Composition:

Cu (Copper) 85%
 Fe (Iron) 4%
 Al (Aluminum) 11%

Stainless Steel – ASTM A-351 Grade CF8M

Tensile Strength: 70,000 lb/sq in
 Yield: 30,000 lb/sq in
 Elongation: 30%

Chemical Composition

C (Carbon) 0.08% max
 Si (Silicon) 1.5%
 P (Phosphorus) 0.040%
 Cr (Chromium) 18.0 - 21.0%
 Ni (Nickel) 9.0 - 12.0%
 Mn (Manganese) 1.50%
 S (Sulfur) 0.04%
 Mo (Molybdenum) 2.0 - 3.0%

Cast Iron – ASTM A-126 Class B

Tensile Strength: 31,000 lb/sq in
 Compressive Strength: 109,000 lbs/sq in
 Tensile Modulus: 15 x 10⁶ lb/sq in

Chemical Composition:

C (Carbon) 3.20 - 3.40 %
 Si (Silicon) 2.10 - 2.30%
 P (Phosphorus) 0.15 - 0.30%
 S (Sulfur) 0.08 - 0.12%
 Mn (Manganese) 0.50 - 0.80%

Ductile Iron - ASTM A-395 Grade 60 -40 -18

Tensile Strength: 60,000 lb/sq in
 Yield: 40,000 lb/sq in
 Elongation: 18%

Chemical Composition:

C (Carbon) 3.20 - 4.0%
 Si (Silicon) 1.80 - 2.80%
 P (Phosphorus) 0.08% max.
 S (Sulfur) 0.03% max.
 Mn (Manganese) 0.03% max.

Bronze - ASTM B-62

Tensile Strength: 30,000 lb/sq in
 Yield: 14,000 lbs/sq in
 Elongation: 20%

Chemical Composition:

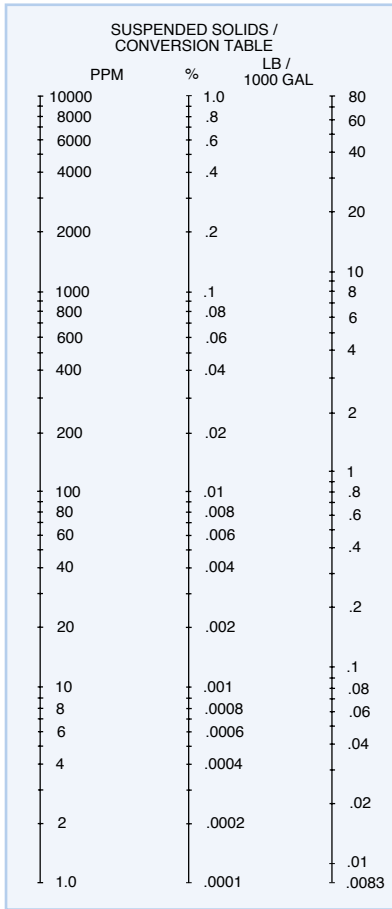
Cu (Copper) 85.0%
 Sn (Tin) 5.0%
 Pb (Lead) 5.0%
 Zn (Zinc) 5.0%
 Ni (Nickel) 1.0% max.
 Fe (Iron) 0.3% max.
 P (Phosphorus) 0.05% max.

Viscosity Equivalents

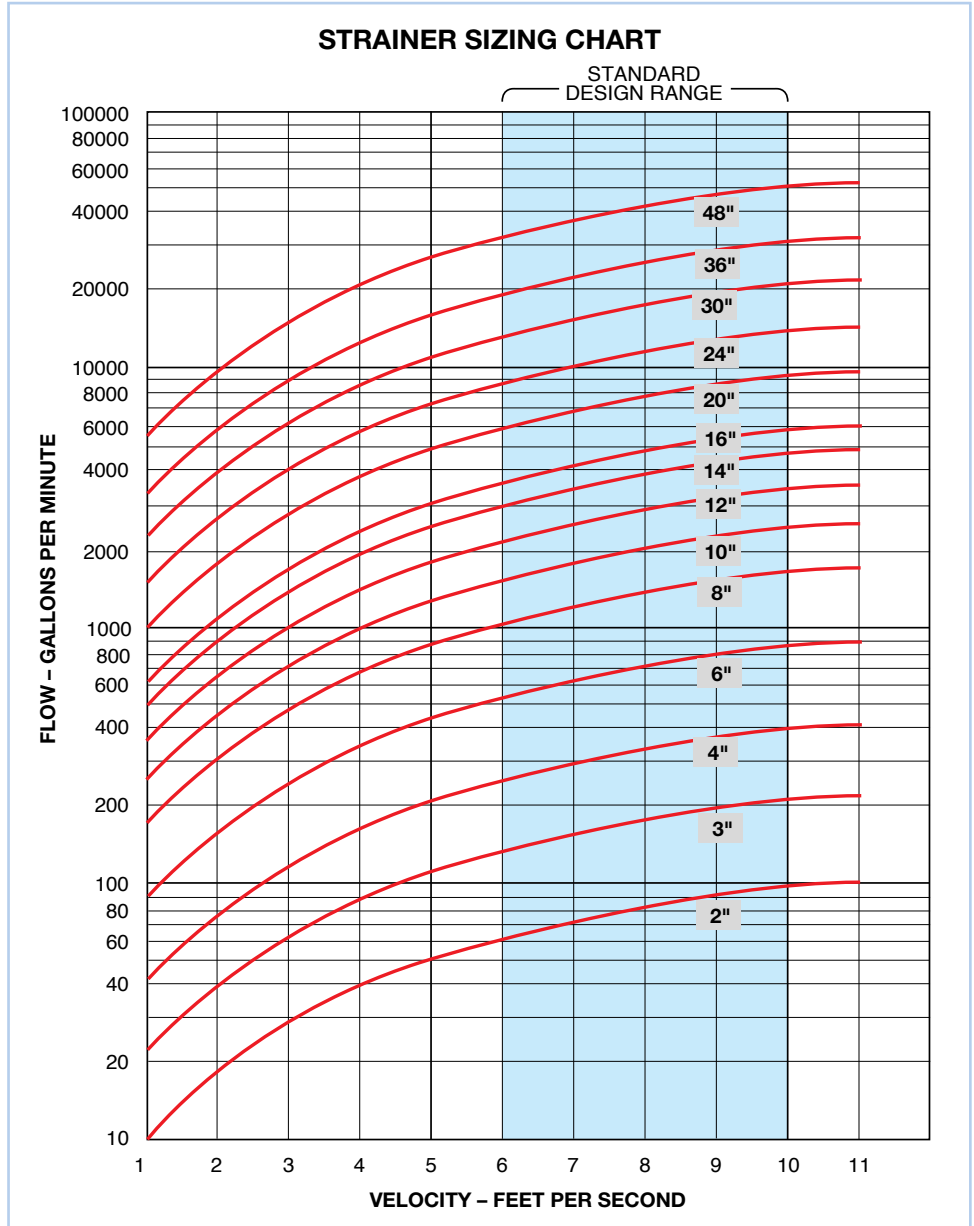
SSU (Saybolt Seconds Universal)	Centipoise	Engler Degrees 20°C	Redwood Standard
30	1	—	—
50	5	2	44
100	20	3.5	88
200	40	16	175
300	65	30	263
400	85	43	350
500	105	57	440
600	130	72	525
700	150	90	615
800	175	115	700
900	195	132	790
1000	210	150	880
2000	425	350	1750
3000	625	540	2600
4000	860	740	3500
5000	1050	930	4550
6000	1300	1120	5250
7000	1500	1320	6150
8000	1700	1510	7300
9000	1920	—	—
10000	2150	—	—

TECHNICAL DATA

Suspended Solids / Conversion Chart



Strainer Sizing Chart



Strainer Basket Opening Equivalents

Mesh	Inches	Millimeters	Microns	Perf	Inches	Millimeters	Microns
400	0.0015	0.0381	38	1/32	0.033	0.838	838
300	0.0018	0.0457	45	3/64	0.045	1.143	1143
250	0.0024	0.0609	60	1/16	0.070	1.778	1776
200	0.0027	0.0686	68	3/32	0.094	2.387	2387
150	0.0041	0.1041	104	1/8	0.125	3.175	3175
100	0.0065	0.1651	165	5/32	0.150	3.810	3810
80	0.007	0.1778	177	3/16	0.1875	4.762	4762
60	0.009	0.2286	228	1/4	0.250	6.350	6350
40	0.015	0.8636	380	3/8	0.375	9.525	9525
20	0.034	0.8636	862	1/2	0.500	12.700	12700

TECHNICAL DATA

Cv Calculation for Liquid, Gas, Steam and Vapor

Liquid

$$C_v = GPM \left(\frac{G}{\Delta P} \right)^{1/2}$$

Gas

$$C_v = \frac{SCFH}{963} \left(\frac{GT}{\Delta P (P_2 + P_1)} \right)^{1/2}$$

Steam and Vapor

$$C_v = \frac{\text{lb/hr}}{63.3} \left(\frac{1}{\Delta P \times (\text{lb/CF})} \right)^{1/2}$$

For gas, steam and vapor, values used for ΔP cannot exceed $1/2 P_1$ (PSIA) and P_2 cannot be less than $1/2 P_1$ (PSIA). lb/CF is at exit conditions. T is abs T °Rankine.

Saturated Steam Table

PSIA	°F	PSIA	°F
30	250.34	200	381.82
60	292.71	300	417.33
100	327.83	400	444.58
150	358.43	600	486.21

Flow Velocity Conversion Factor

$$\text{Velocity in Ft/Sec} = \frac{\text{GPM} \times 0.4085}{\text{ID}^2 \text{ in Inches}}$$

Flow Conversion Factors

M ³ /hr	=	3.671 I.G.M.
I.G.P.M.	=	41.14 Barrels/Day
T.P.H.	=	3.74 I.G.P.M. ÷ S.G.
I.G.P.M.	=	1.2 U.S. G.P.M.
I.G.P.M.	=	4.54 Liters/Min
Liter/Min	=	0.22 I.G.P.M.
U.S. G.P.M.	=	0.833 I.G.P.M.
Barrel	=	35 Imp. Gallons
Barrel	=	42 U.S. Gallons

Volume Conversion Factors

To Obtain: Multiply By:	U.S. Gallon	Imperial Gallon	U.S. Pint	U.S. Pound Water	U.S. Cubic Foot	U.S. Cubic Inch	Liter	Cubic Meter
U.S. Gallon	1	0.833	8.0	8.337	0.13368	231.0	3.78533	0.003785
Imperial Gallon	1.2009	1	9.60752	10.0	0.16054	277.42	4.54596	0.004546
U.S. Pint	0.125	0.1041	1	1.042	0.01671	28.875	0.473168	0.000473
U.S. Pound Water	0.11995	0.1	0.9596	1	0.016035	27.708	0.45405	0.00454
U.S. Cubic Foot	7.48052	6.22888	59.8442	62.365	1	1728.0	28.31702	0.028317
U.S. Cubic Inch	0.004329	0.00361	0.034632	0.03609	0.0005787	1	0.016387	0.0000164
Liter	0.2641779	0.2199756	2.113423	2.202	0.0353154	61.02509	1	0.001000
Cubic Meter	264.170	219.969	2113.34	2202	35.31446	61023.38	999.972	1

To convert from one unit to another, locate the starting unit in the left hand column. Multiply by the factor shown horizontally to the right under the desired unit.

Pressure Conversion Factors

To Obtain: Multiply By:	Pound Sq. In.	Pound Sq. Ft.	Atmosphere	Kilogram Sq. Cm.	Inch Water	Foot Water	Inch Mercury	mm Mercury	Bar
Pound/Sq. In.	1	144.0	0.068046	0.070307	27.7276	2.3106	2.0360	51.7150	0.06895
Pound/Sq. Ft.	0.0069545	1	0.000473	0.000488	0.1926	0.01605	0.014139	0.35913	0.000479
Atmosphere	14.696	2116.22	1	1.0332	407.484	33.9570	29.921	760.0	1.01325
Kilograms/Sq. Cm.	14.2233	2048.16	0.96784	1	394.27	32.864	28.959	735.558	0.9807
Inch Water	0.03607	5.194	0.002454	0.00254	1	0.08333	0.0734	1.865	0.00249
Foot Water	0.43278	62.3205	0.029449	0.03043	12.0	1	0.8811	22.381	0.02984
Inch Mercury	0.49115	70.726	0.033421	0.03453	13.617	1.1349	1	25.40	0.03386
mm Mercury	0.019337	2.7845	0.0013158	0.0013595	0.5361	0.04468	0.03937	1	0.001333
Bar	14.5038	2088.55	0.98692	1.0197	33.51	402.1	29.53	750.0	1

To convert from one unit to another, locate the starting unit in the left hand column. Multiply by the factor shown horizontally to the right under the desired unit.

APPLICATION INFORMATION FORM

For Simplex, Duplex and Y Strainers

LIQUID TO BE STRAINED

SPECIFIC GRAVITY _____

FLOW CONDITIONS

FLOW (GPM) _____ MAXIMUM _____ MINIMUM _____ VEL (FT/SEC) _____

STEAM OR GAS FLOW _____ STD CU FT/MIN (SCFM) _____ OR LBS/HR _____

(GIVE MINIMUM WORKING PRESSURE FOR GAS APPLICATIONS)

OPERATING PRESSURE (PSI) _____ NORMAL _____ DESIGN _____ MINIMUM _____

OPERATING TEMPERATURE (°F) _____ NORMAL _____ DESIGN _____ MINIMUM _____

MAXIMUM ALLOWABLE PRESSURE DROP: CLEAN _____ PSI DIRTY _____ PSI

CAN FLOW BE INTERRUPTED TO CLEAN STRAINER BASKET? YES NO

CONTAMINANT

SOLIDS TO BE REMOVED _____ ARE THEY? HARD SOFT STICKY FIBROUS

SOLIDS CONCENTRATION _____ PPM _____ % WT _____ % VOLUME

PARTICLE SIZE _____ MICRONS, OR _____ INCHES

MESH OR PERFORATION _____

STRAINER CONSTRUCTION

BODY & COVER: CAST IRON CAST STEEL FABRICATED STAINLESS STEEL BRONZE

PLUG (DUPLEX ONLY): BRONZE (STD) CAST IRON STAINLESS STEEL

PIPE SIZE (INCHES): _____

END CONNECTIONS: THREADED SOCKET WELD BUTT WELD

FLANGED ANSI 150 LB 300 LB 600 LB OTHER

O-RING MATERIAL: STANDARD NON-STANDARD

SPECIAL FEATURES REQUIRED

DIFFERENTIAL PRESSURE GAUGE SWITCH DRAIN VALVE VENT VALVE

PAINTING _____ COATING _____

FOR FABRICATED STRAINERS: BOLTED COVERS QUICK OPENING

SUPPORT LEGS: _____

SUBMITTALS (CHECK IF REQUIRED)

APPROVAL PRINTS CERTIFIED TESTS CHEMICAL/PHYSICAL CERTIFICATIONS

COMPLIANCE CERTIFICATIONS HYDRO TEST REPORTS SHOCK/VIBRATION TEST

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Hayward has two ways to fulfill your requirements for non-standard strainers. First, we show four fabricated designs below. These can be easily modified to your special requirements. If none of these will do the job, we can create a unique, one-of-a-kind strainer that will

fit your needs exactly – with no compromises. Your special size, pressure rating and materials of construction requirements are never a problem for Hayward. To learn more, request our: **Automatic/ Fabricated Strainer Catalog FAB-11.**



Models 596 and 2596 Self-Cleaning Strainers

Sizes: From 2" pipe diameter through 60"

Materials of Construction: Fabricated carbon steel, stainless steel, copper-nickel or Monel for 6" through 60" sizes. Cast iron, cast bronze, carbon steel or stainless steel for 2" through 8" sizes.

Screen Elements: Stainless steel – openings up to 1/2" offered

Backwashing: Automatic, either through differential pressure sensing or on a timed cycle. Can also be operated manually or in a continuous backwash mode

Construction: In general accordance with ANSI and ASME Sec. VIII, Div. 1, ASME Code construction



Model 90 Simplex Strainer - 1" to 48"

Materials of Construction: Carbon steel, stainless steel or Monel

Flanged Connections: ANSI 150#, 300# or 600#

Cover: Bolted or quick-opening hinged

Basket: Stainless steel – perforated or mesh-lined

Options: Alloy construction for body and baskets, duplex configuration, ASME code construction, other pressure ratings, RTJ-style connections



Model 91 Tee Type Strainer - 2" to 48"

Material of Construction: Carbon steel, stainless steel or Monel

Flanged Connections: ANSI 150#, 300# or 600#

Cover: Bolted or quick-opening hinged

Basket: Stainless steel – perforated or mesh-lined

Installation: Horizontal or vertical

Options: Alloy construction, other pressure ratings



Models 900 and 950 Duplex Strainers - 1" to 48"

Material of Construction: Carbon steel or stainless steel

Flanged Connections: ANSI 150# or 300#

Design: Butterfly or ball valve duplex arrangement

Cover: Bolted or quick-opening hinged

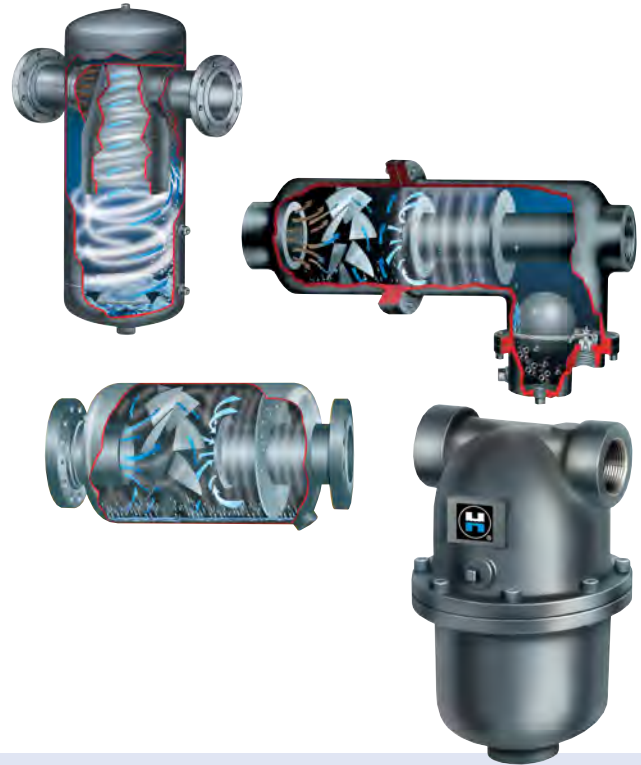
Basket: Perforated or mesh stainless steel

Options: Alloy construction for body or baskets, automated operation, backwash design, ASME Code construction

Gas/Liquid Separators ▶

Hayward's Wright-Austin brand Gas/Liquid Separators have been the "Industry Standard" for over 100 years. Nobody knows more about gas/liquid separation than HAYWARD Filtration. Wright-Austin 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.

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Choosing the correct filter bag is critical to the success of your application. Don't trust anything less than a filter bag from HAYWARD. They're made under ISO 9001:2000 standards to ensure the consistent, reliable performance that you demand. HAYWARD Filter Bags fit all HAYWARD Filter Vessels... and the vessels of most other manufacturers as well.



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