PTV® Solutions

Duplex Strainer Class 150

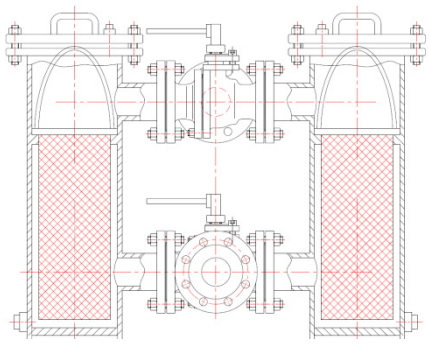
Duplex strainer or twin basket strainer is a type of filter built into a fuel, oil or water piping system and it is used to remove large particles of dirt and debris. The duplex strainer system usually consists of two separate strainer baskets housings. The system also contains changeover valves placed between the two baskets to divert the flow of liquid to one strainer while the other is being cleaned. They are designed for continuous applications where the flow cannot be interrupted to clean the basket. Unlike other types of strainers, it is easy to conduct maintenance on these strainers.

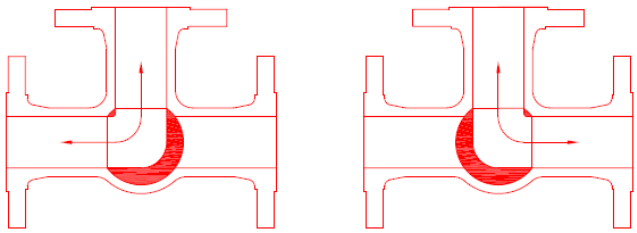
Strainers designed to meet the requirements of ASME B31.1, ASME B31.3 and/or ASME Section VIII, Div.1.
The duplex strainer body inlet/outlet connections are Off-Set Design to minimize the face-to-face dimension.

Since this is a custom fabricated design, we can offer different features, higher pressure designs and larger sizes.

Available options for the SBM PTV Duplex Basket Strainer include differential pressure gauges, with or without switches, and magnetic separators installed in the strainer basket for removing fine ferrous particulate matter.

SBM PTV Duplex Strainers, ideal for non-interruptible applications, are now available in larger sizes and higher pressure classes so you don't have to stop the flow for cleaning and maintenance.





Type 1. ChangeOver valve 3 way ball valve L type Class 150

This design (available for sizes equals or below 6") consists of fabricated pipe, basket strainers and 3 way ball valves to control the diversion of fluid from one chamber to the other. The duplex strainer shall have two 3 way ball valves.

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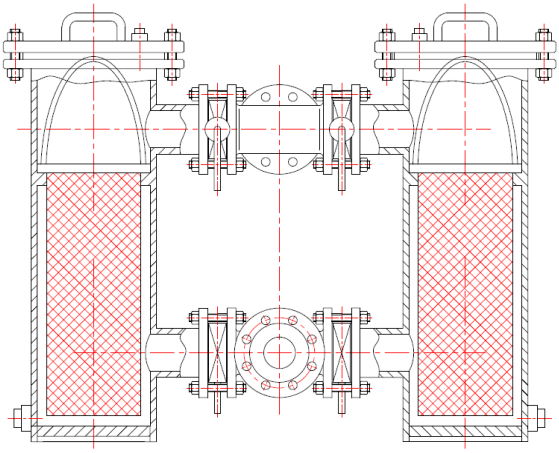
ChangeOver valve Butterfly valve Class 150

This design (available for sizes equals or above 8") consists of fabricated pipe, tee's and basket strainers with slave linked butterfly valves to control the diversion of fluid from one chamber to the other. The duplex strainer shall have four butterfly valves.

Gate and other isolation valve types may be used if requested.



How it Works

The unit is designed to allow changeover from one strainer to the other when cleaning or maintenance work is required. The change over is accomplished by isolating the particular strainer via closing the changeover valves around the strainer to provide a tight shut off between the strainer chamber.

There is only one filter to operation in normally work. When the filter pressure loss exceed more than 0.35Mpa, roll the changeover valves switch to another filter to work, and then clean or replace the filter element

Features:

A) Use 3-way ball valves or butterfly valve as the changeover valves.
B) Compact and Economical units available.
C) Standard or Custom configurations.
D) Large straining capacity. With its large body and sizeable straining element, the basket strainer has the ability to store large quantities of debris without affecting pressure loss. Thus maximizing time between servicing.
E) Provide a wide selection of mesh sizes (mesh:2.5~325)
F) High Quality stainless steel screen; May made out of high resistance wire, rugged and braided type. Thick enough to avoid deformation.
G) Drain port or drain ball valve with NPT end; May for in line emptying of condensate or water.
H) Bolting cover to ease maintenance operations.
I) Large strainer screens.
J) Fabricated body. Custom modifications are available.
K) Epoxy painting

Performance Standard

1. Size range: NPS 2"~12"
2. Pressure ratings: 150LB / 300LB
3. Working temperature: -29°C ~ +200°C
4. Suitable Medium: Water, oil systems. Other liquid systems. Protection of pumps, meters, valves and other similar equipment
5. Body Material: Carbon steel A234 WPB / A105
   Stainless steel A276 SS304 / SS316 / SS316L
   Duplex stainless steel 2205
   Other Alloys
7. Screen Material: SS316 / SS316L / 2205
8. Mesh: As per purchaser

Technical Data

1. Design & Manufacture standard as to:
   ASME B31.1
   ASME B31.3 and/or ASME Section VIII, Div.1.
   ASME B16.34
2. Face to Face dimension standard as to: MFR-STD
3. Flange dimension conforms as to: ASME B16.5 RF
4. Testing and Inspection as to: API 598
5. Pressure-temperature conforms as to: ASME B16.34
6. Anti Corrosion as per NACE MR-0175 requirement

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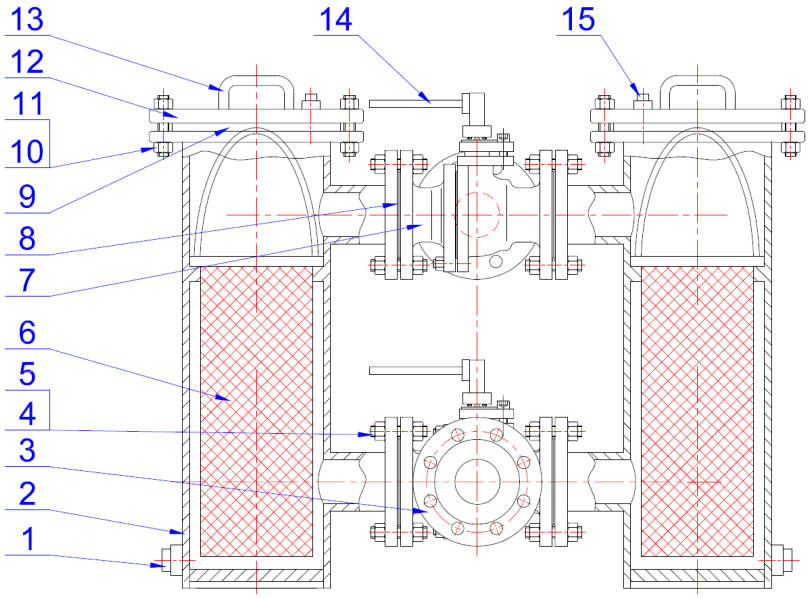
Part List:

Duplex Strainer Type 1
3 Ways Ball Valves



No.	Part Name	Material	Standard
1.	Drain Plug	Carbon Steel Stainless Steel	ASTM A105 A182 F304 / F316 / F316L
2.	Strainer Body	Carbon Steel Stainless Steel	ASTM A105 A276 SS304 / SS316 / SS316L
3.	Changeover V alve (3 way ball valve)	Carbon Steel Stainless Steel	ASTM A216 WCB A276 SS304 / SS316 / SS316L
4.	Bol t	B7 / B8 / B8 M	ASTM A193
5.	Nut	2H / 8 / 8 M	ASTM A194
6.	Scr een	SS316	ASTM A276
7.	Changeover V alve (3 way ball valve)	Carbon Steel Stainless Steel	ASTM A216 WCB A276 SS304 / SS316 / SS316L
8.	Gasket 1	SS316+Graphite	ASTM A276
9.	Gasket 2	SS316+Graphite	ASTM A276
10.	Bol t	B7 / B8 / B8 M	ASTM A193
11.	Nut	2H / 8 / 8 M	ASTM A194
12.	Cover	Carbon Steel Stainless Steel	ASTM A105 A182 F304 / F316 / F316L
13.	Handl e	Carbon Steel Stainless Steel	AISI 1025 A276 SS304
14.	Hand Lever	WCB	ASTM A216
15.	Vent Plu g	Carbon Steel Stainless Steel	ASTM A105 A182 F304 / F316 / F316L

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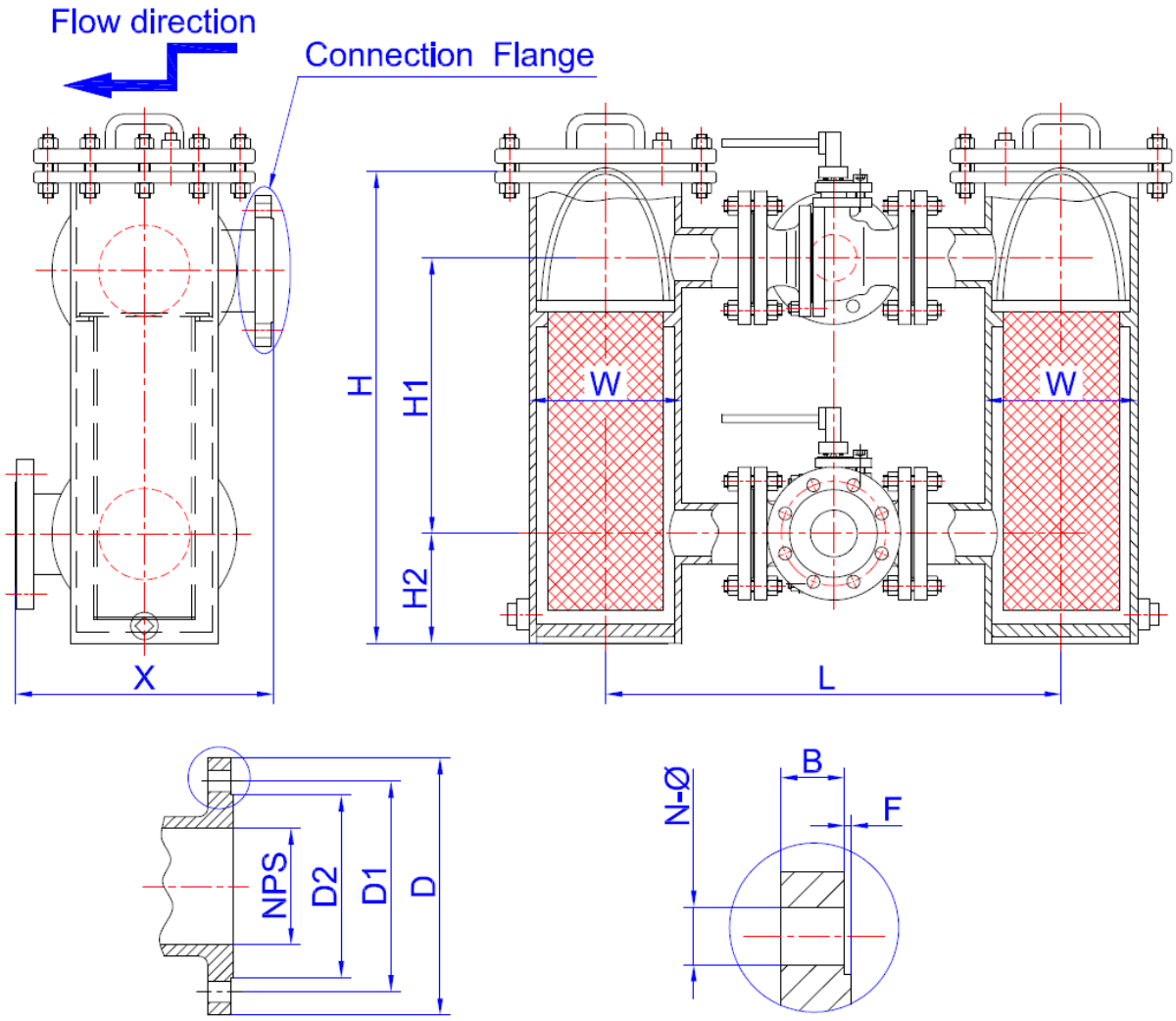
Main dimension

Duplex Strainer Type 1
3 Ways Ball Valves



NPS	L	W	H	H1	H2	X	D	D1	D2	B	N-Φ	F	Weight (Kg)
2"	500	Φ133	520	280	120	240	Φ150	Φ120.7	Φ92	17.5	4-Φ19	2	70
2 1/2"	550	Φ133	560	300	130	260	Φ180	Φ139.7	Φ105	21	4-Φ19	2	97
3"	600	Φ159	640	350	145	280	Φ190	Φ152.4	Φ127	22.5	4-Φ19	2	110
4"	740	Φ219	850	450	200	320	Φ230	Φ190.5	Φ157	22.5	8-Φ19	2	210
6"	950	Φ273	960	480	240	440	Φ280	Φ241.3	Φ216	24	8-Φ22	2	350

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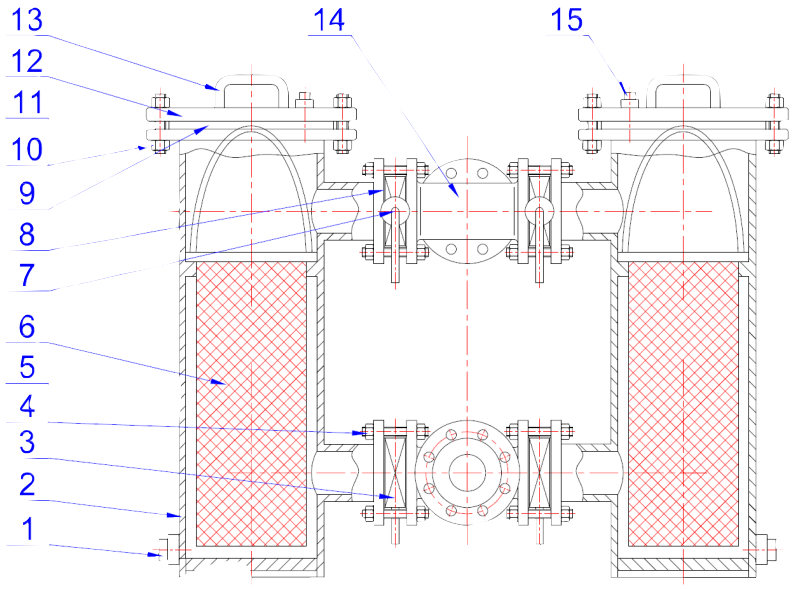
Part List:

Duplex Strainer Type 2 Butterflies Valves



No.	Part Name	Material	Standard
1.	Drain Plug	Carbon Steel Stainless Steel	ASTM A105 A182 F304 / F316 / F316L
2.	Strainer Body	Carbon Steel Stainless Steel	ASTM A105 A276 SS304 / SS316 / SS316L
3.	Changeover V alve (3 way ball valve)	Carbon Steel Stainless Steel	ASTM A216 WCB A276 SS304 / SS316 / SS316L
4.	Bol t	B7 / B8 / B8 M	ASTM A193
5.	Nut	2H / 8 / 8 M	ASTM A194
6.	Scr een	SS316	ASTM A276
7.	Changeover V alve (3 way ball valve)	Carbon Steel Stainless Steel	ASTM A216 WCB A276 SS304 / SS316 / SS316L
8.	Gasket	SS316+Graphite	ASTM A276
9.	Gasket 1 2	SS316+Graphite	ASTM A276
10.	Bol t	B7 / B8 / B8 M	ASTM A193
11.	Nut	2H / 8 / 8 M	ASTM A194
12.	Cover	Carbon Steel Stainless Steel	ASTM A105 A182 F304 / F316 / F316L
13.	Handl e	Carbon Steel Stainless Steel	AISI 1025 A276 SS304
14.	T Type 3 W ay	Carbon Steel Stainless Steel	ASTM A105 A276 SS304 / SS316 / SS316L
15.	Vent Plu g	Carbon Steel Stainless Steel	ASTM A105 A182 F304 / F316 / F316L

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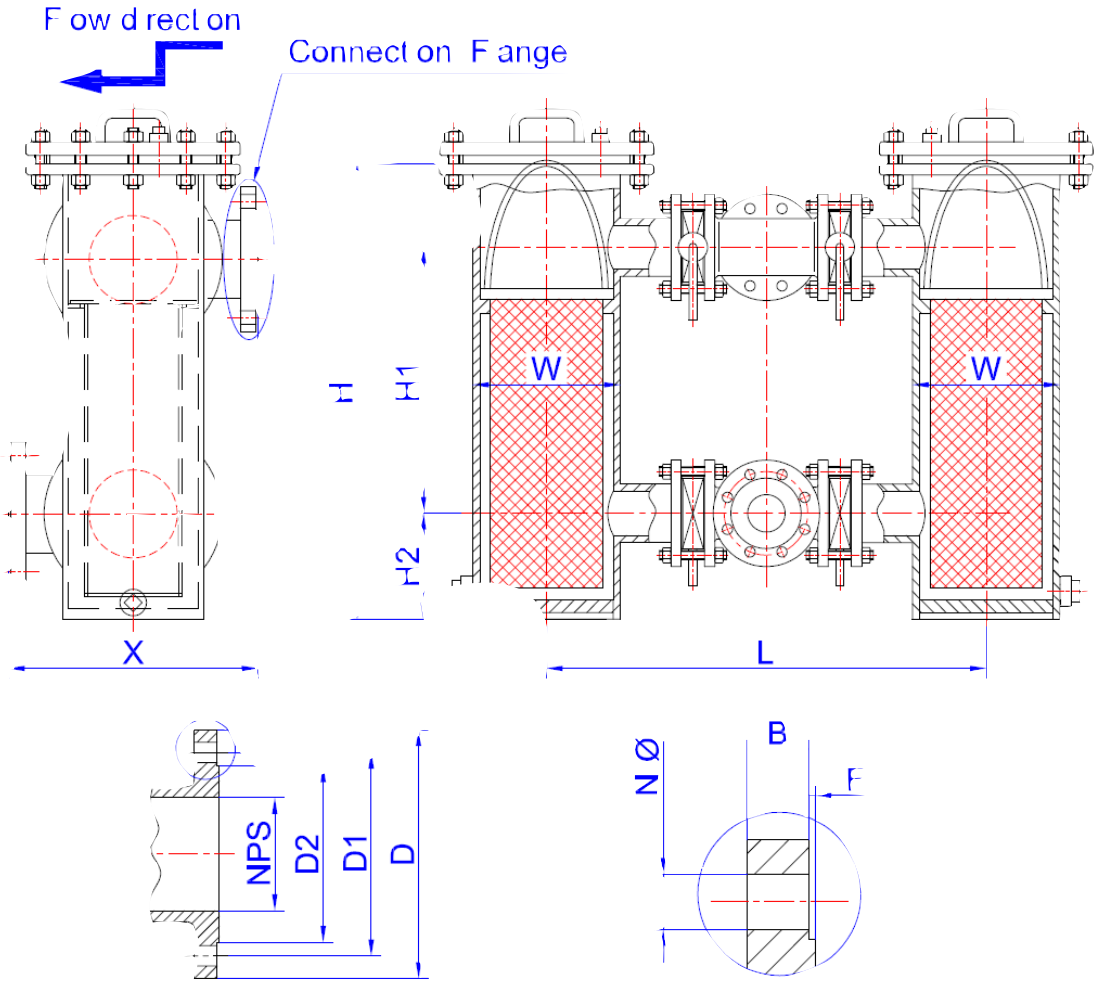
Main dimension

Duplex Strainer Type 2
Butterflies Valves



NPS	L	W	H	H1	H2	X	D	D1	D2	B	N-Φ	F	Weight (Kg)
2″	600	Φ133	520	280	120	240	Φ150	Φ120.7	Φ92	17.5	4-Φ19	2	82
2 1/2″	650	Φ133	560	300	130	260	Φ180	Φ139.7	Φ105	21	4-Φ19	2	105
3"	700	Φ159	640	350	145	280	Φ190	Φ152.4	Φ127	22.5	4-Φ19	2	121
4"	800	Φ219	850	450	200	350	Φ230	Φ190.5	Φ157	22.5	8-Φ19	2	227
6"	1000	Φ273	960	480	240	440	Φ280	Φ241.3	Φ216	24	8-Φ22	2	370
8"	1100	Φ325	1060	540	260	540	Φ345	Φ298.5	Φ270	27	8-Φ22	2	540
10"	1300	Φ377	1300	700	300	640	Φ405	Φ362.0	Φ324	29	12-Φ25.5	2	760
12"	1500	Φ426	1420	850	285	745	Φ485	Φ421.8	Φ381	31	12-Φ25.5	2	1150

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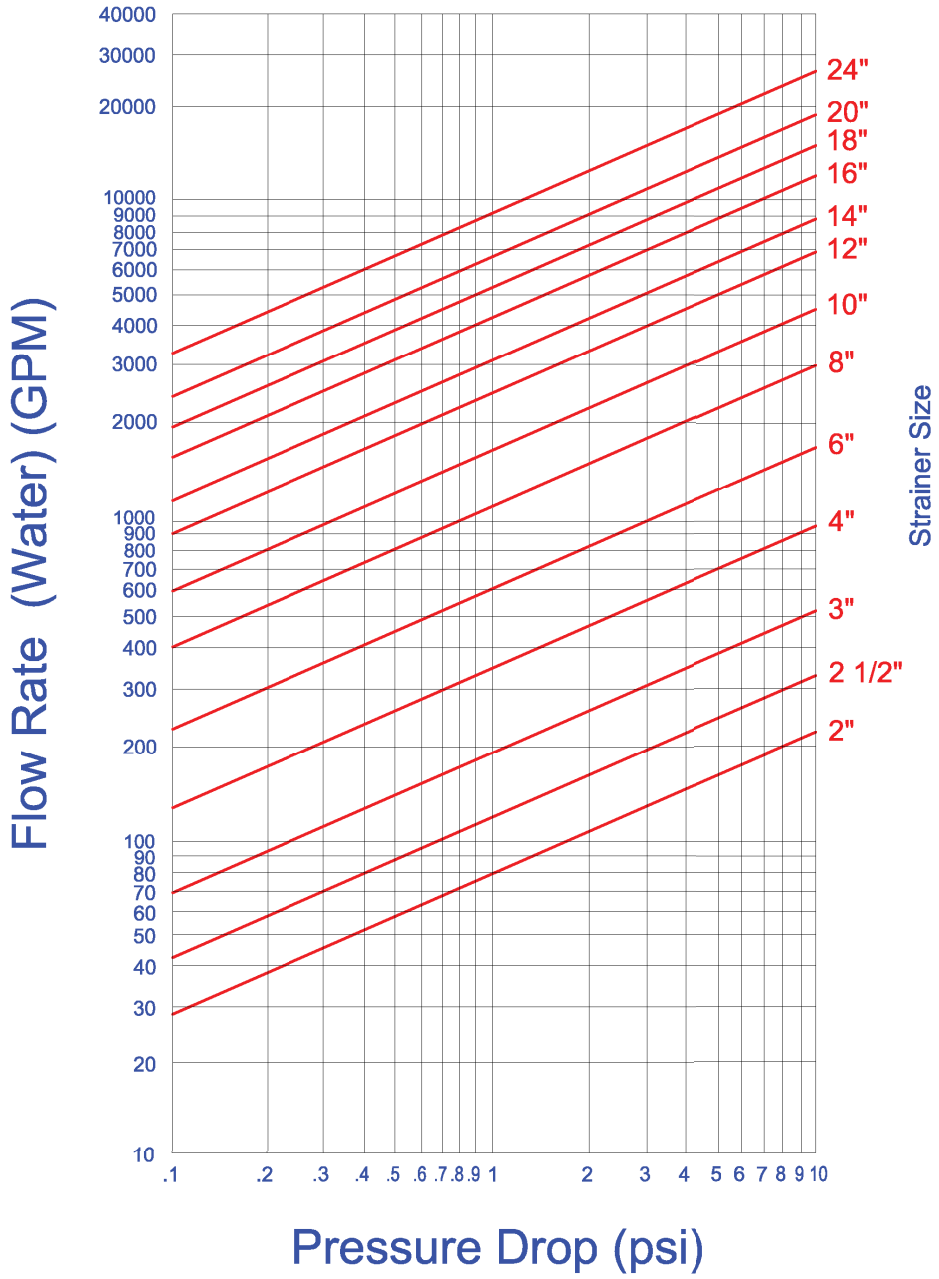
Engineering Data

Duplex Strainer Flow Rate Vs Pressure Drop (Clean Screen)



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ORDERING CODE:

Example: OMEGA CS-23-21-200

Model: OMEGA AIR VENT CAST STEEL SERIES CLASS 150
Standard A216 WCB Body Red Epoxy
SS316 CF8M Interior and floating ball
NBR Buna seat
Flanged End RF
Rating Class 150
Size 2″

Available Interior and Floating Ball Material Code:

SS304 CF8 Stainless Steel: 1

SS316 CF8M Stainless Steel: 2

SS316L CF3M Stainless Steel: 3

Available Seat Material Code:

Viton: 1

EPDM: 2

NBR Buna: 3

Available Rating Class Code:

Class 150: 1

Class 300: 2

Class 600: 3

Available Connection Code:

Thread NPT: 1

Flanged End: 2

Available Size Code:

1″: 100

1 1/4″: 125

1 1/2″: 150

2″: 200

2 1/2″: 250

3″: 300

4″ 400

6″: 600

8″: 800