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### **Corporate Profile**

Sure Flow Equipment Inc. was founded three decades ago and is both a U.S. and Canadian Corporation.

Privately owned by John L. Wordsworth, and passionately encouraged by his team, Sure Flow Equipment continues to be the leader in the production of industrial valves and strainers. Technology redefines all aspects of this business and Sure Flow remains the industry leader with our success founded on continuous improvement and commitment to industry leading quality control.

Our goal is to exceed our customers' expectations in Competitiveness, Quality, and Service. We maintain a large inventory of quality approved products on our shelves at all times. With our strong commitment to quality control we are certified in ISO 9001:2015, ASME "U", NB Mark, and TSSA. We are also recognized by PIP (Partners In Protection) for our C-TPAT status.

At Sure Flow Equipment we believe in being 'Hands On'. We answer our phone calls live and have no auto attendant. "Service," is simply our mandate.

### **Service Applications**



**Pulp and Paper** 



**Steel Mills** 



Sewage Treatment Industry



**Mining Operations** 



Chemica Plants



**Cement Manufacturing** 



Food Processing Facilities



**Petrochemical** 

### **Computational Fluid Dynamics**

Computational Fluid Dynamics (CFD) is a sophisticated use of numerical methods and algorithms to solve and analyze problems that involve fluid flows. Computers are used to perform the millions of calculations required to simulate the interaction of liquids and gases with surfaces defined by boundary conditions. Sure Flow Equipment uses CFD to build and test strainer assembly models based on the service conditions provided by the end user. This allows for multi-scenario design studies that can help in finding the optimal product design. CFD helps Sure Flow Equipment test the applicable flow and thermal simulations when designing a custom engineered strainer. Sure Flow Equipment can build a virtual prototype of a strainer in order to generate a drawing that can be submitted to the end user for review. CFD aids in assuring that all custom products fabricated by

Sure Flow Equipment will succeed in performing as desired and surpassing expectations.



### **Company Address and Contact Information**

#### **Head Office and Production Facility**

5010 North Service Road, Burlington, ON, Canada L7L 5R5

Tel: 905-335-1350 • Fax: 905-332-4993 • info@sureflowequipment.com

#### **International Office**

P.O. Box 321, Tonawanda, NY, U.S.A. 14151-0321 Tel: 1-800-263-8251 • Fax: 1-800-876-1164

### **Management Personnel**

CEO
President
Plant Manager
Quality Manager
VP of Sales and Marketing
VP of Engineering & Design

John L. Wordsworth

Penni Boxall
Danny Miles
David Crespo
John Zuber
Justin LeBlanc

### **Quality Control and Certifications**

Sure Flow Equipment Inc. features complete custom engineered design and fabrication expertise within a quality focused state-of-the-art manufacturing facility. Commitment to quality, customer satisfaction and continual improvement is integral to our manufacturing processes and ensures custom engineered strainers meet your design specifications and stringent quality requirements. We've made it easy for you to place your order with confidence.

Sure Flow Equipment Inc. provides industry with Custom Engineered Fabricated Strainers to many design codes. Custom products are designed and manufactured to ASME BPVC SECTION VIII, DIV 1, Current Edition. ASME "U" Code Stamp is available on certain products as specified in this brochure.

The Sure Flow Equipment Inc. list of Certifications includes:

ISO 9001:2015 Certificate of Registration

ASME "U" Code Stamp Certificate of Authorization

(ASME Boiler and Pressure Vessel Code; ASME Section VIII, Div 1, Current Edition);

National Board Certified authorized to apply the "NB" Mark for pressure vessels and/or pressure retaining items manufactured in accordance with ASME, BPVC, Section VIII, Div 1, Current Edition.

TSSA Certificate of Authorization (Technical Standards & Safety Authority) for the manufacture of pressure vessels in accordance with ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 and CSA Standard B51, Boiler, Pressure Vessel and Pressure Piping Code.

CE Mark is available

CRN's (Canadian Registration Numbers) are available upon request

Compliance to USMCA (United States-Mexico-Canada Agreement) is available upon request

C-TPAT Certified (Customs-Trade Partnership Against Terrorism)

Recognized by PIP (Partners In Protection) for our C-TPAT status



### **Production Facilities and Capabilities**

### Head Office and Production Facility

- 100,000 Square Foot Facility
- Central Distribution Centre
- All Finished Products
- Complete Machine Shop, lathe, vertical & horizontal boring
- 12 Welding Stations with Jib cranes
- Fully equipped with overhead cranes
- 40' drive-in dock, dock height door and service door
- 20' Paint Booth



#### **Welding Capabilities**



- MIG (GMAW)
- TIG (GTAW)
- Submerged Arc Welding (SAW)
- Flux-Core (FCAW)
- Stick Electrode (SMAW)
- Titanium
- Inconel
- Clean Welding Room



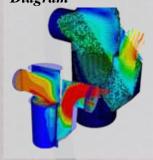
#### **Engineering Capabilities**



- Full in-house design, Engineering Department
- CAD services to design and build specialty products
- 'CFD' Computational Fluid Dynamics software program
- 3D Product Models

3D Computerized Product Models. This capability enables our Sure Flow Engineering Department to provide a better illustration of the installation, flow and positioning of our custom engineered products.

Flow Analysis Diagram



### 'CFD' Computational Fluid Dynamics Software.

This program enables us to model flow throughout our strainers and valves to accurately determine the pressure drop for any fluid travelling through stainless perforation or mesh, to any design condition.





Testing Services by fully accredited laboratories.



- Film Thickness Testing
- Adhesion Testing
- Holiday Testing
- Hydrostatic, Pneumatic
- Hardness Testing
- PMI Positive Material Identification
- Non-Destructive Testing
- Automated Marking System

To provide you with the most elite Strainer, Check valve, Butterfly valve, and a variety of other industrial valves, Sure Flow uses an in-house handheld PMI (Positive Material Identification) Analyzer. Within 5 seconds we can provide a full traceability of any alloy; plus download the analysis to provide an in-house M.T.R. (Material Test Report). We can even provide M.T.R. 's for welding rod, wire, pipe plugs and other raw materials.



Additional Services

- Heat Tracing and Treatment
- Full Material Traceability
- Stress Relieving
- Oxygen Service Cleaning and Degreasing
- Machining
- Rubber Lining, Epoxy and related coatings
- All commercially applied protective coatings available
- Sand Blasting
- Plasma Cutting
- Water Jet Cutting (Carbon Steel, Stainless Steel and Aluminum - thickness of up to 1")
- Contour Beveling



ASME American Society of Mechanical Engineers

• ANSI American National Standards Institute

• API American Petroleum Institute

• NACE National Association of Corrosion Engineers

• ASTM American Society for Testing and Materials

MSS Manufacturers Standardization Society

• AWWA American Water Works Association

DIN Deutsches Institut für Normung e.V. German Institute for Standardization

• JIS Japanese Industrial Standards

• CSA Canadian Standards Association









### **Product Availability**

#### Complete Line of Strainers • Y-Type Strainers

- Simplex Basket Strainers
- **Duplex Strainers**
- **Automatic Backwash Strainers**
- **Temporary Cone Strainers**
- Tee Type Strainers
- Sanitary Strainers
- **Fabricated Strainers**
- Replacement Screens and Baskets

#### **Complementary Products**

- Retainerless Double Door Check Valves
- Silent and Swing Check Valves
- Rubber Flapper Check Valves
- Foot Valves
- **Ductile Iron Butterfly Valves**
- Flanged Ball Valves
- Stainless Steel Knife Gate Valves
- **Rubber Expansion Joints**
- Line Blinds and Bleed Rings
- Barred Tees, Launchers and Receivers
- **Application Custom Designs**
- High Performance Butterfly Valves Double and Triple Offset

#### **Automated Products**

- **Electric Actuators**
- **Pneumatic Actuators**

#### Materials

- Cast Iron
- Carbon Steels
- High Alloy Steels
- Non-Ferrous Alloys (Inconel, Monel)

• Ductile Iron

Stainless Steels

• Low Alloy Steels









### **Training • Health and Safety**

#### **Training**

- Self Contained Conference Room
- Full Audio and Video Equipment
- Product Demonstrations available for team members and customers
- **Executive Board Room**

#### Health and Safety

- Safety Equipment used on site
- St. John Ambulance First Aid Trained Staff
- Automated External Defibrillator on site



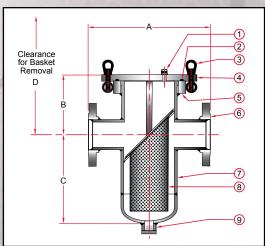






#### With Quick Opening Eye Bolts

Sure Flow Fabricated Flanged
Basket Strainers were initially developed for the petrochemical market. With continuous success they have now become a standard product available off the shelf in most sizes. The unique quick-opening closure and venting allows the field operator, in a timely and safe fashion, to remove the basket for cleaning. An o-ring seal provides positive sealing of the cover.



#### Notes:

- Higher ASME pressure ratings available
- Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Construction										
Item	1	2	3	4	5	6	7	8	9	
Description	Vent Assembly	O-Ring	Quick Open Eye Bolts	Cover Plate	Ring Flange	Outlet Nozzle	Body Assembly	Basket	Drain Assembly	

	Dimensions (Inches)											
	Size		A	В	С	D						
Inches	Prefix	Body	A	D	C	D						
2	0200	6	12	7	11	22						
2 1/2	0250	6	12	7 1/2	11	25						
3	0300	6	12	7 7/8	13	26						
4	0400	8	14 7/8	8 5/8	13	27						
5	0500	8	14 7/8	9 3/8	17	31 1/2						
6	0600	10	18 3/4	10 5/16	20	36						
8	0800	12	20 1/8	11 7/8	23	40 3/4						
10	1000	14	25 3/8	13 1/4	26	46						
12	1200	16	27 5/8	16 5/16	29	55						
14	1400	18	29 1/8	17 3/8	32	60						
16	1600	20	33 5/8	19	34	64						
18	1800	24	38 5/8	20 3/4	39	70						
20	2000	24	38 5/8	21 5/8	39	72						
24	2400	30	46	24 5/8	45	83						

#### **Ordering Information**

Example: Include full description

Size Model Screen
(Prefix) Number Opening
0200 BWEB150SS 045

2" Basket Strainer,	Stainless	Steel,	Class	150 ASME
Flanges, 3/64" Perf.	Screen	1		

Operating Pressures and Temperatures							
Type Size psi @ Temp WOG							
BWEB150	2" - 24"	100 @ 150 °F					
BWEB150SS	2" - 24"	100 @ 150 °F					

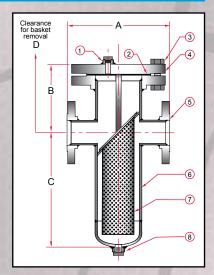




#### BW150 / BW300 - Carbon Steel BW150SS / BW300SS - Stainless Steel

Sure Flow Fabricated Flanged Basket Strainers can be designed to your specific application.

Strainers are available in Carbon Steel and Stainless Steel. 2" to 24" pipe sizes in Class 150 and Class 300 are available. ASME flanges are standard, with the capability to supply larger pipe sizes and/or higher ASME pressure ratings. Basket size can be tailored to hold sufficient solids for the required time between clean-outs. Flange sizes can be selected to fit existing piping, or to achieve the required clean pressure drop. Maintenance reducing features include Automatic Flush and Hinged Cover, with or without Davit Assembly.



#### Notes:

- Higher ASME pressure ratings available
- Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Construction											
Item	1	2	3	4	5	6	7	8			
Description	Vent Assembly	Gasket	Bolting	Cover	Inlet / Outlet Flange	Body Assembly	Basket	Drain Assembly			

	Dimensions (Inches)									
	Size		1	4	E	3	(		D	
Inches	Prefix	Body	150	300	150	300	150	300	150	300
2	0200	6	14	14	7	9	12	12	23	26
2 1/2	0250	6	15	15	8	9	12 1/2	12 1/2	24	26
3	0300	6	15	15	8	9	12 1/2	12 1/2	24	26
4	0400	8	16	16	8 1/4	9 1/2	14	14	28	28
5	0500	10	16	17 1/2	9 1/2	11	15	15	32	33 1/2
6	0600	10	20	21	9 1/2	11	17	17	34	33 1/2
8	0800	12	22	23	11	14	21	21	41	42 1/2
10	1000	16	32	33	14	14 1/2	25	25	47 1/2	49
12	1200	18	35	36	14 1/2	18	28	28	53	54 1/2
14	1400	20	37	38	15 3/4	19	33	33	61	62 3/4
16	1600	24	42	43	18 1/4	22	36	36	63	69 3/4
18	1800	24	42	43	18 1/4	22	39	36	70	71 3/4
20	2000	30	43	50	23 1/4	28	44	44	82	84 1/2
24	2400	36	52	53	27 1/4	31	60	60	98	106 1/2

#### **Ordering Information**

Example: Include full description

 Size
 Model
 Screen

 (Prefix)
 Number
 Opening

 0800
 BW150SS
 125

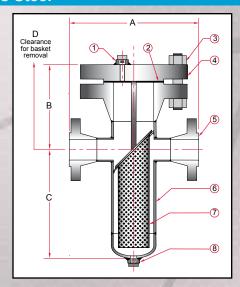
8" Basket Strainer, Stainless Steel, Class 150 ASME Flanges, 1/8" Perf. Screen

Operating Pressures and Temperatures							
	Туре	Size	psi @ Temp Steam	psi @ Temp WOG			
	BW150	2" - 24"	150 @ 366 °F	285 @ 100 °F			
	BW150SS	2" - 24"	150 @ 366 °F	275 @100 °F			
1	BW300	2" - 24"	300 @ 422 °F	740 @ 100 °F			
	BW300SS	2" - 24"	300 @ 422 °F	720 @100 °F			









#### Notes:

- Higher ASME pressure ratings available
- Sizes 8" and up come standard with flat bottom
- Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Construction										
Item	1	2	3	4	5	6	7	8		
Description	Vent Assembly	Gasket	Bolting	Cover	Inlet / Outlet Flange	Body Assembly	Basket	Drain Assembly		

	Dimensions (Inches)										
	Size		•	1		5					
Inches	Prefix	Body	Α	В	С	D					
2	0200	6	18 3/8	10 7/16	12	28					
2 1/2	0250	6	18 3/8	10 1/2	12	28					
3	0300	6	23 7/8	10 3/4	15 3/4	31 1/2					
4	0400	8	23 7/8	12 3/16	17 3/8	38					
5	0500	8	28	14	17 3/8	40					
6	0600	10	29 7/8	14 7/8	21 3/8	42 1/2					
8	0800	12	37	15 7/8	23 3/8	50 1/4					
10	1000	16	42 1/2	20	27 1/4	57 1/2					
12	1200	18	44	22 7/8	30 3/8	66					
14	1400	20	46	25	35	72					
16	1600	24	54	27 3/4	42 1/4	85					
18	1800	24	57	30	47	90 1/2					
20	2000	30	60	34	50	98					
24	2400	36	68	38	54	112					

### **Ordering Information**

Example: Include full description

Size Model Screen
(Prefix) Number Opening
0400 BW600SS 125

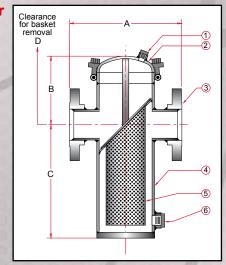
	Operating Pressures and Temperatures								
Type Size psi @ Temp psi @ Temp Steam WOG									
	BW600	2" - 24"	600 @ 489 °F	1480 @ 100 °F					
	BW600SS	2" - 24"	600 @ 489 °F	1440 @100 °F					

<sup>4&</sup>quot; Basket Strainer, Stainless Steel, Class 600 ASME Flanges, 1/8" Perf. Screen.









#### Notes:

- Higher ASME pressure ratings available
- Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Construction								
Item	1 2 3 4 5 6							
Description	Vent Assembly	Quick Open Cover	Inlet/Outlet Flange	Body Assembly	Basket	Drain Assembly		

	Dimensions (Inches)								
	Size		Α	В	С	D			
Inches	Prefix	Body	150 and 300	150 and 300	150 and 300	150 and 300			
2	0200	6	14	8 5/8	12 1/4	26			
2 1/2	0250	6	15	8 5/8	12 3/4	26			
3	0300	6	15	8 5/8	12 3/4	26			
4	0400	8	16	9 1/2	14 5/16	28			
5	0500	10	16	11 1/4	15 5/8	32			
6	0600	10	20	11 1/4	17 3/8	34			
8	0800	12	22	13	21 5/8	42			
10	1000	16	32	15 3/4	25 7/8	50			
12	1200	18	35	17 3/4	28	56			
14	1400	20	37	19 3/4	34 1/8	65			
16	1600	24	42	23 1/4	36	67			
18	1800	24	42	23 1/4	40 1/4	76			
20	2000	30	43	27 3/4	45 1/8	82			
24	2400	36	52	27 3/4	61 1/2	102			

#### **Ordering Information**

Example: Include full description

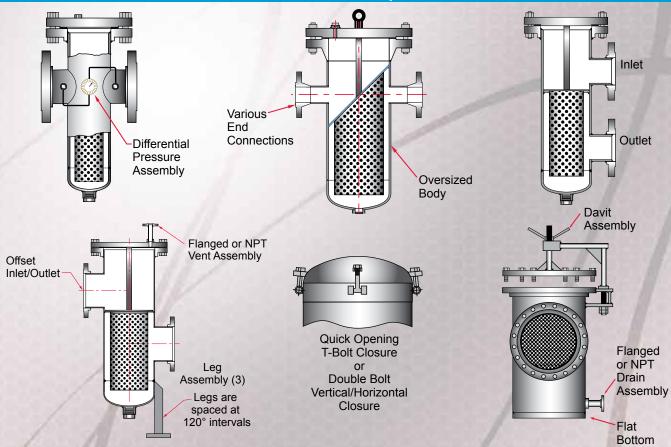
Size Model Screen (Prefix) **Number Opening** 1200 **BWH300SS** 

12" Basket Strainer, Stainless Steel, Class 300 ASME Flanges, 1/8" Perf. Screen, Hinged Cover

	Operating Pressures and Temperatures							
	Туре	Size	psi @ Temp Steam	psi @ Temp WOG				
	BWH150	2" - 24"	150 @ 366 °F	285 @ 100 °F				
	BWH150SS	2" - 24"	150 @ 366 °F	275 @100 °F				
1	BWH300	2" - 24"	300 @ 422 °F	740 @ 100 °F				
	BWH300SS	2" - 24"	300 @ 422 °F	720 @100 °F				



#### **Custom Strainer Options**



#### **Optional Features**

- Quick opening covers
- Body materials of Stainless Steel or special alloys
- Custom Baskets of 316SS, Monel, and special alloys
- Davit Assembly
- Various end connections available including Weld Neck Flanges, Socket Weld and Ring Type Joint connections
- Larger sizes available
- Single or multiple baskets
- Oversized body design to reduce pressure drop
- Automatic air vent
- Pressure gauges or differential pressure switches
- Special internal and external coatings
- · Many codes and designs are available

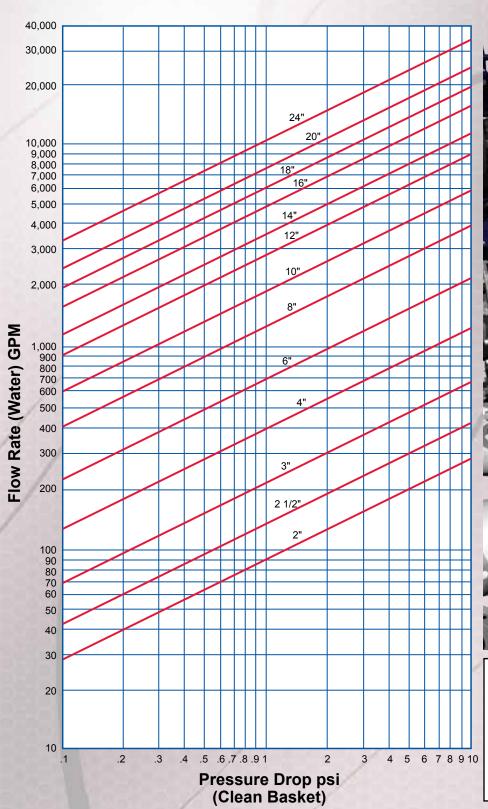
#### **Special Construction**

- · Backwash connections
- High pressure Class 600, Class 900, Class 1500 and Class 2500
- Special perf or mesh as low as 5 microns





#### **Pressure Drop Chart**





**Note:** These charts are for theoretical calculations **ONLY**.

Please contact our office with your exact specifications and you will be provided with factory calculations.



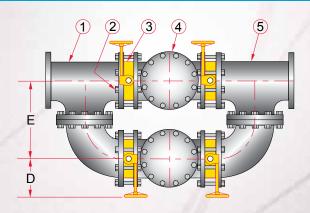
#### Cast Iron, Carbon Steel, Stainless Steel

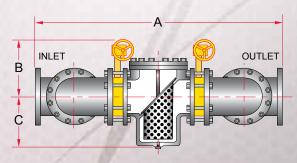
Sure Flow Dual Basket Strainers are an innovative and economical alternative to conventional Duplex Strainers. Dual Basket Strainers are designed for applications where flow cannot be interrupted to service the strainer basket. Rather than stopping the line to clean and replace the basket, the Dual Basket Strainer allows for flow to be redirected through a second basket while the initial basket is serviced. The changeover is accomplished by use of a handwheel (or lever) operator on a Buna lined (standard) butterfly valve. This arrangement provides a bubble-tight shut off between basket chambers, essential for use in gas or negative head pump suction systems. Standard units are available in Cast Iron with Class 125 ASME flanged connections as well as in Carbon or Stainless Steel with Class 150 ASME flanged connections. Selecting a Sure Flow Fabricated Dual Basket Strainer allows for pressure ratings, basket sizes and flange sizes to be customized in order to

Strainer allows for pressure ratings, basket sizes and flange sizes to be customized in order to meet specific design requirements. Additions are available for Dual Basket Strainers such as automatic air vents, quick opening covers, special internal coatings, back wash connections and more. Our staff will help select the best Sure Flow Dual Basket Strainer for each unique application Sure Flow Model BDB Dual Basket Strainers are a bolted design. The standard version comes in Cast Iron material with Class 125 flanged connections and is available in sizes 2" through 18". Baskets can be supplied with bolted or quick release clamp covers. Sure Flow Model DB Dual Basket Strainers are a welded design. They are a very economical alternative to standard uni-casting Duplex Strainers. They are available in Carbon and Stainless Steel materials. These strainers are custom fabricated allowing for many options. The strainers are available in up to Class 2500 ASME pressure ratings. The included valves can be selected to suit the application for which the strainer is required.



#### Type BDB - Bolted Dual Basket Strainer Cast Iron





Dimensions (Inches)								
Si	ze	^	,	)	D	7		
Inches	Prefix	Α	В	С	ט	Е		
2	0200	29 1/2	11	5	6	9 1/8		
2 1/2	0250	31 7/8	11	5 3/8	6	10 1/8		
3	0300	35 1/2	11	6 1/2	6	11 1/8		
4	0400	41 5/8	11 7/8	8	6	13 1/8		
5	0500	47 1/2	11 7/8	8	6 1/8	15 1/8		
6	0600	52	11 11/16	8 5/8	6 1/8	16 1/8		
8	0800	61	17 1/16	11 3/4	9	18 1/8		
10	1000	70 3/4	10 1/2	13 3/4	11	22 1/8		
12	1200	83	13 1/16	16 3/8	11	24 1/8		
14	1400	96 1/2	15 11/16	22 3/8	11	28 1/8		
16	1600	104 3/4	16 11/16	23 5/8	11	30 1/8		
18	1800	123 3/4	27 7/16	28	11	33 1/8		
20	2000	124	29 11/16	32	11	36 1/8		
24	2400	141 3/4	32 7/8	32 3/8	11	44 1/8		

Larger sizes are available.

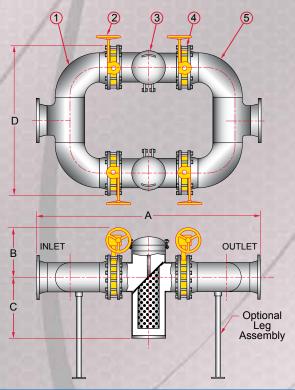
Construction				
Item Description				
1 Inlet Manifold				
2	Bolting			
3	Butterfly Valves			
4	Strainers			
5	Outlet Manifold			

#### Notes:

Also available is our model BDBC125 with clamp covers. Consult factory for details.

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

# Type DBH150 / DBH150SS - Fabricated Dual Basket Strainer Carbon Steel, Stainless Steel



	Dimensions (Inches)									
S	ize	Λ	9	С						
Inches	Prefix	А	В	C	D					
2	0200	36 3/8	10 7/8	12 1/4	15					
2 1/2	0250	40 5/8	11 3/8	12 3/4	18					
3	0300	42 1/2	11 5/8	12 3/4	20 1/4					
4	0400	48 3/8	12 3/8	14 5/16	25 1/4					
6	0600	61 5/8	13 1/2	17 3/8	34 1/4					
8	0800	72 3/4	17 3/4	21 5/8	43 1/2					
10	1000	90 1/2	18 7/8	25 7/8	53					
12	1200	103 1/8	20 1/2	28	63					
14	1400	111 5/8	23 1/2	34 1/8	71					
16	1600	126	29	36	79 1/2					
18	1800	135 1/2	30	40 1/4	88					
20	2000	145 3/4	32	45 1/8	97 1/2					
24	2400	171 7/8	36	61 1/2	114					

Larger sizes are available.

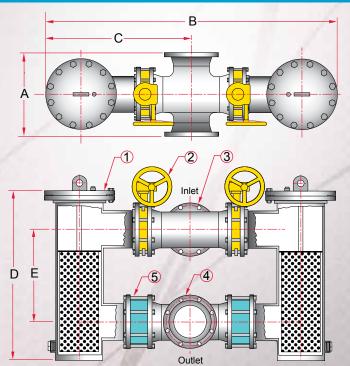
Construction					
Item Description					
1	Inlet Manifold				
2	Butterfly Valves				
3	Strainers				
4	Check Valves				
5	Outlet Manifold				

#### Notes:

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.



#### **DB150 - Short Face to Face Dual Basket Assembly**



Dimensions (Inches)									
Siz	Size		В		,	٦.			
Inches	Prefix	A	В	С	D	Ш			
2	0200	10	35 3/8	17 11/16	21	10			
2 1/2	0250	11 1/2	37 1/8	18 9/16	22 1/2	10			
3	0300	12 1/4	38 1/4	19 1/8	23	10			
4	0400	14 1/4	45 1/8	22 9/16	27 1/2	11			
5	0500	16 3/4	52 7/8	26 7/16	30	12			
6	0600	18 1/4	54 7/8	27 7/16	32	13			
8	0800	22	64 3/8	32 3/16	37	15			
10	1000	25	74	37	42	18			
12	1200	29	83 1/2	41 3/4	47 1/2	21			
14	1400	32	91 5/8	45 13/16	52	23			
16	1600	34	97 7/8	48 15/16	54	25			
18	1800	38	108 7/8	54 7/16	60	27			
20	2000	41 3/8	123 5/8	61 13/16	65	29			
24	2400	46	144	77	74	34			

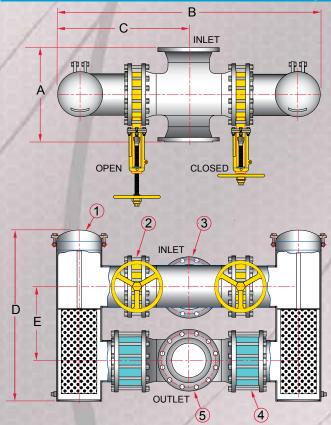
Larger sizes are available.

	Construction				
Item Description					
1	Strainer Assemblie				
2	Butterfly Valves				
3	Inlet Manifold				
4	Outlet Manifold				
5	Check Valves				

#### Notes:

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

#### **DBH150 - Knife Gate Operated Dual Basket Assembly**



Dimensions (Inches)								
Siz	ze	А	В	С	7	Е		
Inches	Prefix	A	Б	٥	D			
2	0200	10	33 1/2	16 3/4	23 5/8	10		
2 1/2	0250	11 1/2	35	17 1/2	24 5/8	10		
3	0300	12 1/4	37 1/8	18 9/16	24 7/8	10		
4	0400	14 1/4	39 1/2	19 3/4	27 5/8	11		
5	0500	16 3/4	47	23 1/2	30	12		
6	0600	18 1/4	50 3/8	25 3/16	32	13		
8	0800	22	61	30 1/2	37 3/8	15		
10	1000	25	70	35	43 5/8	18		
12	1200	29	79 1/4	39 5/8	50	21		
14	1400	32	87	43 1/2	54 5/8	23		
16	1600	34	94	47	60 5/8	25		
18	1800	38	102	51	65	27		
20	2000	41 3/8	117 3/4	58 7/8	71	29		
24	2400	46	134 1/2	67 1/4	80 5/8	34		

Larger sizes are available.

Construction				
Item	Description			
1	Quick Open Strainer Assembly			
2	Knife Gate Valves			
3	Inlet Manifold			
4	Check Valves			
5	Outlet Manifold			

#### Notes:

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.



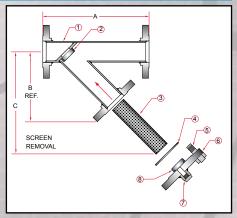
### **Fabricated Y Strainers**

#### FW150 / FW300 - Carbon Steel FW150SS / FW300SS - Stainless Steel



Sure Flow Fabricated "Y" Strainers can be designed to your specific application in Carbon Steel or Stainless Steel, along with other materials such as exotic alloys. Pipe sizes 2" to 24" in Class 150 and Class 300 ASME flanges

are standard with the capability to supply larger pipe sizes and/or



higher ASME pressure ratings. Screen sizes can be tailored to hold sufficient solids for the required time between clean-outs. Flange sizes can be chosen to fit existing piping, or to achieve the required clean pressure drop. Hinge covers are also available for quick opening. Please contact factory for details.

#### Notes

- Higher ASME pressure ratings available
- Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Construction								
Item 1 2 3 4 5 6 7 8								8
Description	Body Assembly	Screen Guide	Screen	Gasket	Bolting	Blind Flange	Drain Assembly	Screen Guide

	Dimensions (Inches)										
S	ize	А	В	С							
Inches	Prefix	150 and 300	150 and 300	150 and 300							
2	0200	12	8 1/2	12							
2 1/2	0250	13	10	14							
3	0300	15	11	16 1/2							
4	0400	18	13	18							
5	0500	18	14 1/2	21							
6	0600	24	16	23							
8	0800	30	21	30							
10	1000	34	23	33							
12	1200	36	24	38							
14	1400	36	30 1/2	43							
16	1600	41 9/16	32	51							
18	1800	46	35	57							
20	2000	49 1/2	39	61							
24	2400	58 3/8	44	70							

#### **Ordering Information**

Example: Include full description

 Size
 Model
 Screen

 (Prefix)
 Number
 Opening

 1400
 FW300
 125

14" "Y" Strainer, Carbon Steel, Class 300 ASME Flanges, 1/8" Perf. Screen, Bolted Cover

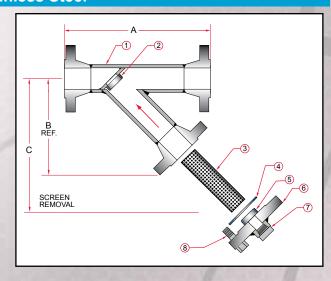
I	Operating Pressures and Temperatures									
	Туре	Size	psi @ Temp Steam	psi @ Temp WOG						
	FW150	2" - 24"	150 @ 366 °F	285 @ 100 °F						
	FW150SS	2" - 24"	150 @ 366 °F	275 @100 °F						
	FW300	2" - 24"	300 @ 422 °F	740 @ 100 °F						
	FW300SS	2" - 24"	300 @ 422 °F	720 @100 °F						



### **Fabricated Y Strainers**

#### FW600 - Carbon Steel FW600SS - Stainless Steel





#### Notes:

- Higher ASME pressure ratings available
- · Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

	Construction											
Item	1	2	3	4	5	6	7	8				
Description	Body Assembly	Screen Guide	Screen	Gasket	Screen Guide	Blind Flange	Drain Assembly	Bolting				

		Dimensions (Inches)		
	Size		_	
Inches	Prefix	Α	В	С
2	0200	16	14	19
2 1/2	0250	17	15	21
3	0300	19	17	24
4	0400	22	20	28
5	0500	26	24	34
6	0600	28	26	37
8	0800	34	32	45
10	1000	40	34	48
12	1200	44	36	50
14	1400	50	38	53
16	1600	55	41	58
18	1800	60	45	63
20	2000	65	50	70
24	2400	75	55	77

#### **Ordering Information**

Example: Include full description

 Size
 Model
 Screen

 (Prefix)
 Number
 Opening

 0800
 FW600
 125

8" Y Strainer, Carbon Steel,	Class 600 ASME Flanges,
1/8" Perf. Screen.	

Operating Pressures and Temperatures								
Type Size psi @ Temp psi @ Temp Steam WOG								
FW600	2" - 24"	600 @ 489 °F	1480 @ 100 °F					
FW600SS 2" - 24" 600 @ 489 °F 1440 @100 °F								



### **Fabricated Y Strainers**

#### FWT150 / FWT300 - Carbon Steel FWT150SS / FWT300SS - Stainless Steel

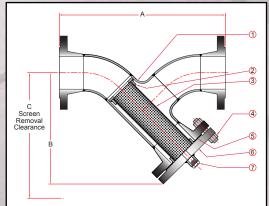
#### With Standard Buttweld Fittings



The Sure Flow Fabricated "FWT" Y strainer differs from the "FW" Y strainer by incorporating standard buttweld components into its construction. Fabricated in Carbon or Stainless Steel, pipe sizes 2" through 24" and in Class 150 and Class 300 ASME flanges,

the standard strainer is suited for many applications. Sure Flow also has the capability to

supply larger pipe sizes and/or higher ASME pressure ratings where



needed. Screen sizes can be tailored to hold sufficient solids for the required time between clean-outs. Flange sizes can be chosen to fit existing piping, or to achieve the required clean pressure drop. Hinge covers are also available for quick opening. Alternate materials of construction are available. Please contact factory for details.

#### Notes:

- Higher ASME pressure ratings available
- · Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Construction										
Item	1	2	3	4	5	6	7			
Description	Body Assembly	Screen Guide	Screen	Bolting	Gasket	Blind Flange	Drain Assembly			

	Dimensions (Inches)												
Si	ze	F	4	E	3	С							
Inches	Prefix	150	300	150	300	150	300						
2	0200	13 1/4	13 3/4	9	9 7/16	12	12 1/4						
2 1/2	0250	15 11/16	16 1/4	10 5/8	10 15/16	14 1/8	14 1/4						
3	0300	17 1/8	17 7/8	11 9/16	12 3/16	15 5/8	16						
4	0400	20 3/8	21 1/8	13 5/8	14 1/2	18 1/2	19						
5	0500	24 9/16	25 5/16	15 7/8	16 13/16	22 1/2	22 1/2						
6	0600	27 3/4	28 1/2	17 3/4	18 15/16	25 1/2	25 1/2						
8	0800	35	35 3/4	22	23 1/16	31	31 1/2						
10	1000	41 3/8	42 1/2	25 7/8	27 5/16	36 3/4	37 1/8						
12	1200	48 3/4	49 15/16	30 5/16	31 13/16	42 7/8	43 3/4						
14	1400	55 7/16	56 11/16	33 11/16	35 7/16	47 3/8	48 3/4						
16	1600	61 3/16	62 5/8	36 15/16	38 7/8	52 7/8	53 7/8						
18	1800	68 1/2	70	40 15/16	43 1/8	59 1/2	60						
20	2000	78 1/4	76 5/8	45 1/16	47 3/16	65 1/2	66 1/4						
24	2400	87 1/4	88 1/2	51 5/8	54 1/16	73 1/4	75 1/8						

#### **Ordering Information**

Example: Include full description

 Size
 Model
 Screen

 (Prefix)
 Number
 Opening

 0400
 FWT150
 125

4" Y Strainer, Carbon Steel, Class 150 ASME Flanges, 1/8" Perf. Screen.

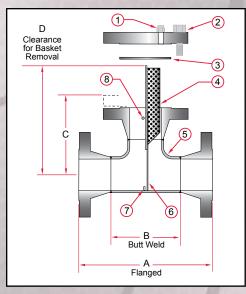
I	Operating Pressures and Temperatures									
	Туре	Size	psi @ Temp Steam	psi @ Temp WOG						
	FWT150	2" - 24"	150 @ 366 °F	285 @ 100 °F						
	FWT150SS	2" - 24"	150 @ 366 °F	275 @100 °F						
	FWT300	2" - 24"	300 @ 422 °F	740 @ 100 °F						
	FWT300SS	2" - 24"	300 @ 422 °F	720 @100 °F						



### **Fabricated Tee Strainers**

### TW150 / TW300 - Carbon Steel TW150SS / TW300SS - Stainless Steel





#### Notes:

- Higher ASME pressure ratings available
- · Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Construction										
ltem 1 2 3 4 5 6 7 8								8		
Description	Vent Assembly	Bolting	Gasket	Basket Assembly	Body Assembly	Body Ring	Screen Guide	Cross Bar		

	Dimensions (Inches)										
Si	ze	F	4	-	В			[	D		
Inches	Prefix	150	300	150	300	150	300	150	300		
2	0200	10	10 1/2	5	5	5 7/8	6 1/4	13	13		
2 1/2	0250	11 1/2	12	6	6	6 3/4	7 1/8	13	13		
3	0300	12 1/4	13	6 3/4	6 3/4	7 3/16	7 3/4	14	14		
4	0400	14 1/4	15	8 1/4	8 1/4	8 3/16	8 7/8	16	16		
5	0500	16 3/4	17 1/2	9 3/4	9 3/4	9 7/16	10 1/4	19	19		
6	0600	18 1/4	19	11 1/4	11 1/4	10 1/4	11 1/16	22	22		
8	0800	22	22 3/4	14	14	12 1/4	13 1/8	25	25		
10	1000	25	26 1/4	17	17	13 13/16	15 1/8	29	29		
12	1200	29	30 1/4	20	20	15 7/8	17 1/4	31	31		
14	1400	32	33 1/4	22	22	17 1/2	18 7/8	38	38		
16	1600	34	35 1/2	24	24	18 9/16	20 1/8	41	41		
18	1800	38	39 1/2	27	27	20 11/16	22 1/4	46	46		
20	2000	41 3/8	42 3/4	30	30	22 9/16	24	51	51		
24	2400	46	47 1/4	34	34	25	26 1/2	56	56		

### **Ordering Information**

Example: Include full description

 Size
 Model
 Screen

 (Prefix)
 Number
 Opening

 2400
 TW300
 125

24" Tee Strainer, Carbon Steel, Class 300 ASME Flanges, 1/8" Perf. Screen.

	Operating Pressures and Temperatures										
	Туре	Size	psi @ Temp Steam	psi @ Temp WOG							
	TW150	2" - 24"	150 @ 366 °F	285 @ 100 °F							
	TW150SS	2" - 24"	150 @ 366 °F	275 @100 °F							
1	TW300	2" - 24"	300 @ 422 °F	740 @ 100 °F							
	TW300SS	2" - 24"	300 @ 422 °F	720 @100 °F							

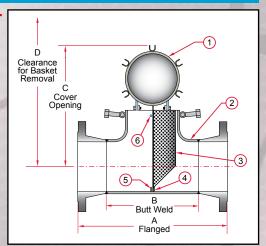


### **Fabricated Tee Strainers**

### TWH150 / TWH300 - Carbon Steel TWH150SS / TWH300SS - Stainless Steel

#### With Quick Opening Hinged Cover

The Sure Flow Tee Strainer is a custom fabricated compact strainer. It is designed to remove foreign particles from pipelines. Sure Flow Tee Strainers provide the ultimate protection for pumps, valves, and other related equipment. The Sure Flow Tee Strainer can be fabricated to meet your specifications.



The standard Sure Flow Tee Strainer is constructed of Carbon or Stainless Steel material. Sure Flow also has vast experience in fabricating these strainers from Chrome-Moly material. Other materials, end connections and accessories are available.

#### Notes:

- Higher ASME pressure ratings available
- Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Construction							
Item	1	2	3	4	5	6	
Description	Quick Open Hinge Cover	Body Assembly	Basket	Body Ring	Screen Guide	Cross Bar	

	Dimensions (Inches)							
S	ize	,	4		В		2	
Inches	Prefix	150	300	150	300	С	D	
6	0600	18 1/4	19	11 1/4	11 1/4	15 1/2	22	
8	0800	22	22 3/4	14	14	19 1/4	25	
10	1000	25	26 1/4	17	17	23 1/4	29	
12	1200	29	30 1/4	20	20	26 7/8	31	
14	1400	32	33 1/4	22	22	29 3/8	38	
16	1600	34	35 1/2	24	24	32 3/8	41	
18	1800	38	39 1/2	27	27	36 15/16	46	
20	2000	41 3/8	42 3/4	30	30	40 5/8	51	
24	2400	46	47 1/4	34	34	47 1/8	56	

#### **Ordering Information**

Example: Include full description

 Size
 Model
 Screen

 (Prefix)
 Number
 Opening

 2000
 TWH150
 125

20" Tee Strainer, Carbon Steel, Class 150 ASME Flanges, 1/8" Perf. Screen, Hinged Cover

	Operating Pressures and Temperatures					
	Туре	Size	psi @ Temp Steam	psi @ Temp WOG		
	TWH150	6" - 24"	150 @ 366 °F	285 @ 100 °F		
ĺ	TWH150SS	6" - 24"	150 @ 366 °F	275 @100 °F		
	TWH300	6" - 24"	300 @ 422 °F	740 @ 100 °F		
	TWH300SS	6" - 24"	300 @ 422 °F	720 @100 °F		



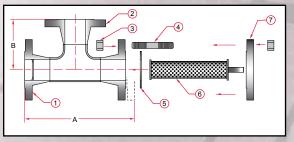
### **Fabricated Tee Strainers**

### TWA150 / TWA300 - Carbon Steel TWA150SS / TWA300SS - Stainless Steel

#### **Angled Flow Design**



The Sure Flow TWA Strainer is similar to the standard Tee strainer except that it is designed for angled flow. The Strainer can



be fabricated with a standard bolted cover or a quick opening hinged cover (TWHA). The Sure Flow TWA Strainer can be fabricated to meet your specifications. The standard Strainer is constructed of Carbon or Stainless Steel material. Sure Flow also has vast experience in fabricating these strainers from Chrome-Moly material. Other materials, end connections and accessories are available.

#### Notes

- Higher ASME pressure ratings available
- Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Construction							
Item	1	2	3	4	5	6	7
Description	Inlet Flange	Outlet Flange	Hex Nuts	Studs	Gasket	Basket Assembly	Cover

	Dimensions (Inches)						
Si	ze	,	4	Į.	3		
Inches	Prefix	150	300	150	300		
2	0200	10 7/8	11 1/2	5	5 1/4		
2 1/2	0250	12 1/2	13 1/8	5 3/4	6		
3	0300	13 5/16	14 1/4	6 1/8	6 1/2		
4	0400	15 5/16	16 3/8	7 1/8	7 1/2		
5	0500	17 13/16	19	8 3/8	8 3/4		
6	0600	19 3/8	20 9/16	9 1/8	9 1/2		
8	0800	23 1/4	24 1/2	11	11 3/8		
10	1000	26 5/16	28 1/4	12 1/2	13 1/8		
12	1200	30 3/8	32 3/8	14 1/2	15 1/8		
14	1400	33 1/2	35 1/2	16	16 5/8		
16	1600	35 9/16	37 7/8	17	17 3/4		
18	1800	39 11/16	42	19	19 3/4		
20	2000	43 3/16	45 3/8	20 3/4	21 3/8		
24	2400	48	50 1/8	23	23 5/8		

#### **Ordering Information**

Example: Include full description

 Size
 Model
 Screen

 (Prefix)
 Number
 Opening

 1000
 TWA150
 125

10" Tee Strainer, Carbon Steel, Class 150 ASME Flanges, 1/8" Perf. Screen.

	Operating Pressures and Temperatures					
	Туре	Size	psi @ Temp Steam	psi @ Temp WOG		
ı	TWA150	2" - 24"	150 @ 366 °F	285 @ 100 °F		
	TWA150SS	2" - 24"	150 @ 366 °F	275 @100 °F		
1	TWA300	2" - 24"	300 @ 422 °F	740 @ 100 °F		
	TWA300SS	2" - 24"	300 @ 422 °F	720 @100 °F		



# **Fabricated Tee Type Strainers**

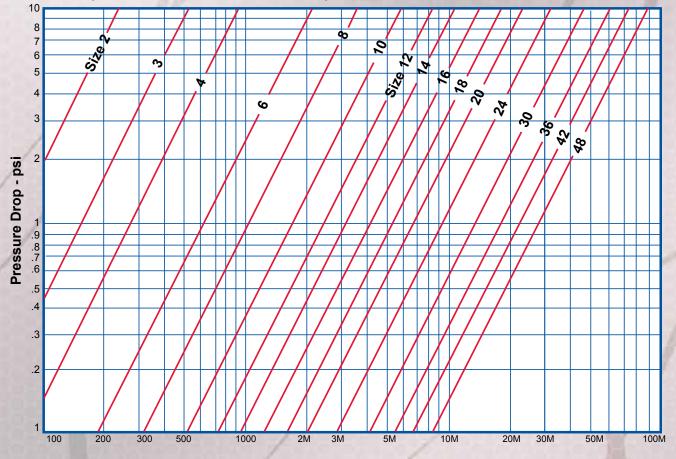
#### **Pressure Drop for Liquids**

For Liquids more viscous than water or where wire cloth liner is added, multiply the pressure drop in charts by:

	Correction Factors					
Viscosity	Perforated	Perforated with Wire Cloth				
(SSU)	(1/8" Holes)	40 Mesh	60 Mesh	80 Mesh		
30	1.00	1.32	1.53	1.62		
270	1.30	1.61	1.83	2.00		
385	1.44	1.76	2.00	2.20		
500	1.58	1.92	2.13	2.41		
1,000	1.66	2.22	2.41	2.63		
2,000	1.86	2.41	2.72	2.91		



(Perforated basket 1/8" dia. holes on 3/16" centers)

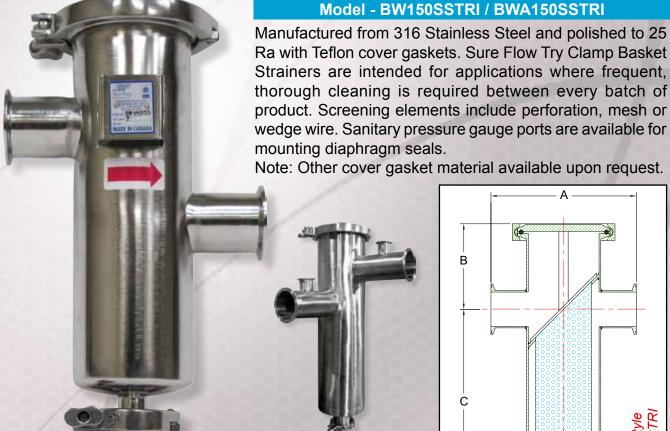


Flow Rate of Water — GPM (Clean Basket)

**Note:** These charts are for theoretical calculations **ONLY**. Please contact our office with your exact specifications and you will be provided with factory calculations.



# **Fabricated Sanitary Basket Strainers**



	Dimensions (Inches)							
	Size		Α	В	С	D	Е	F
Inches	Prefix	Body	A	Б	)	ט	_	
1/2	0050	4	7	3 1/2	6	3 1/2	2 1/2	3 1/2
3/4	0075	4	7	3 1/2	6	3 1/2	2 1/2	3 1/2
1	0100	4	7	3 1/2	6	3 1/2	2 1/2	3 3/4
1 1/2	0150	4	7	3 1/2	6	3 1/2	2 1/2	3 3/4
2	0200	4	7	3 1/2	6	3 1/2	3	4
2 1/2	0250	4	7	3 1/2	6	3 1/2	3 1/2	4 1/2
3	0300	6	10	5	11	5	5	6
4	0400	6	10	5	11	5	5	6

Larger sizes available.

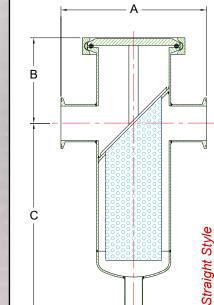
Manufacturer reserves the right to modify dimensions, materials, or design. Contact factory for certification.

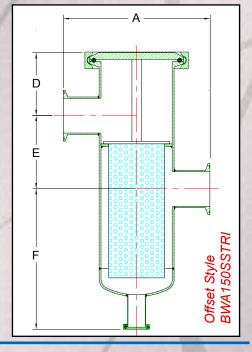
#### **Ordering Information**

Example: Include full description

Size Model Screen (Prefix) Number Opening **BW150SSTRI** 125 0200

Basket Strainer, Stainless Steel, 2" Sanitary Try Clamp with 1/8" Perforated basket.







# **Fabricated Sanitary Duplex Strainers**

#### Model - DB150SSTRI

The Sure Flow Equipment Try Clamp Duplex Strainer performs the same function as an industrial Duplex Strainer. The configuration can be changed to meet the specific application requirements.



Dimensions (Inches)					
Size			В		
Inches	Prefix	А	D		
1/2	0050	24	6		
3/4	0075	25	6		
1	0100	27	6		
1 1/2	0150	29	6		
2	0200	32	6		
2 1/2	0250	34	6		
3	0300	38	11		

Larger sizes available.

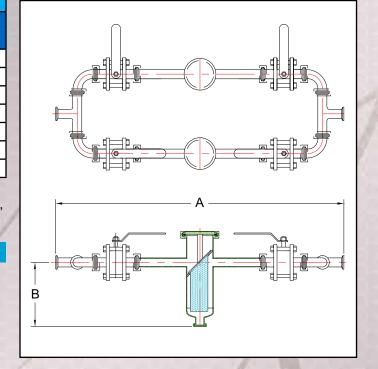
Manufacturer reserves the right to modify dimensions, materials, or design. Contact factory for certification.

#### **Ordering Information**

Example: Include full description

Size Model Screen
(Prefix) Number Opening
0250 DB150SSTRI 125

Dual Basket Strainer, Stainless Steel, 2 1/2" Sanitary Try Clamp with 1/8" Perforated basket.





## **Custom Strainer Screens**

#### **Overview**

Sure Flow Equipment offers a wide assortment of screen types to meet all your filtration or screening needs. Over the course of the last two decades we have manufactured Cone/Conical Strainers, Basket/Hat Strainers, Reverse/Straight Flow Strainers, Plate Strainers, Media Retention Nozzles, Resin

Traps, Submerged Intake Screens, Foot Valve Screens, Wedge Wire Screens, Multiple Layer Screens and many more custom styles.

The woven screen can be supplied in a perforated material, or for finer filtration, in a mesh material. These choices include Stainless Steel, Alloy 20, Titanium, Hastelloy, Monel or any other exotic material.

Not all applications are suitable for off the shelf items. At Sure Flow



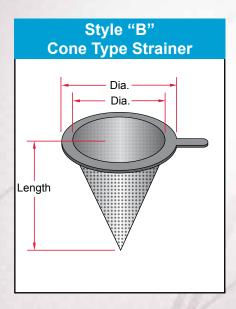


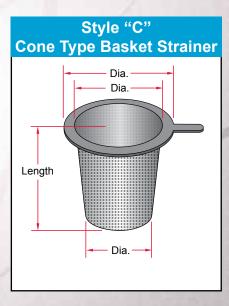
This Custom Engineered Strainer accomplishes fine mesh filtration by compressing the effective flow area of a 20 foot long Cone Strainer into a compact 4 foot Strainer. The Quad Reverse Cone Strainer is simple to clean, conserves space and with an open area of 300% this Stainless Steel Strainer provides exceptional flow filtration design and functionality.

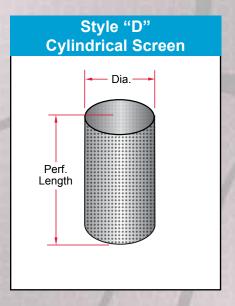


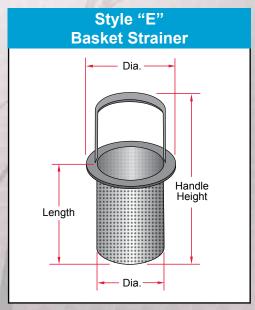


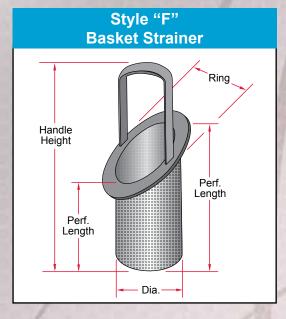
## **Custom Strainer Screens**











#### When ordering specify:

- Pipe Size
- Pressure Rating/Flange Rating
- · Perforation or Mesh size
- Material
- Style Cone, Basket, etc.
- Direction of flow Straight or Reverse
- · Percentage of open area or length

We manufacture Strainer Baskets, Screens, Tubes, Cones and Tee Strainers in Stainless Steel, Monel, Titanium and other exotic metals. Sure Flow Equipment Inc. can customize baskets to fit your unique requirements.

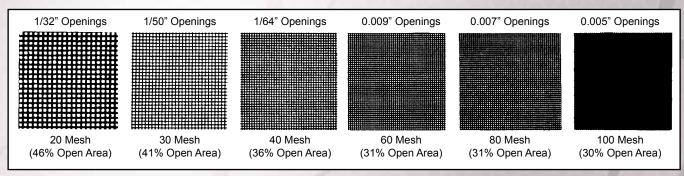
Please send us your prints, samples or simply give us your requirements and specifications and let us design the strainer for you.

Custom product not subject to return, credit or refund



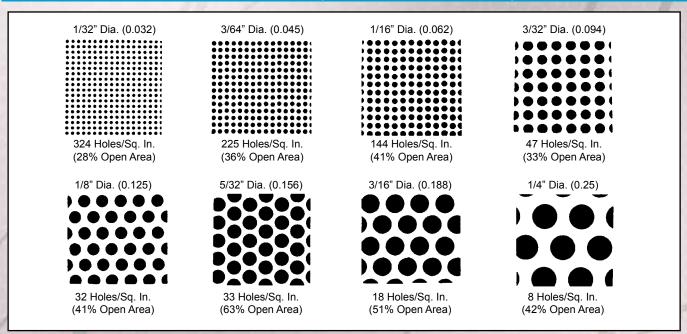
### **Perforated Material and Mesh**

#### Mesh (Available In All Materials)



Mesh sizes other than shown - available on request

#### Perforated Plate (Available In All Materials)



#### **Mesh to Inch to Micron Conversion Chart**

Meshes/Lineal Inch US and ASTM	Actual Opening		
Std. Sieve No.	Inches	Microns	
10	.075	1905	
12	.060	1524	
14	.051	1295	
16	.045	1143	
18	.039	991	
20	.034	864	
24	.028	711	
30	.020	508	
35	.018	457	
40	.015	381	
50	.011	279	

Meshes/Lineal Inch US and ASTM	Actual Opening			
Std. Sieve No.	Inches	Microns		
60	.009	229		
70	.008	203		
80	.007	178		
100	.006	152		
120	.0046	117		
130	.0043	109		
140	.0042	107		
150	.0041	104		
160	.0038	97		
170	.0035	89		
180	.0033	84		

Meshes/Lineal Inch US and ASTM	Actual Opening				
Std. Sieve No.	Inches	Microns			
200	.0029	74			
250	.0024	61			
300	.0018	46			
400	.0015	38			
120 x 400	.0016	40			
80 x 700	.0012	30			
200 x 600	.0010	25			
165 x 1400	.0007	17			
200 x 1400	.0004	10			
325 x 2300	.0002	5			



# **Tri Ball Duplex Strainer**

Cast Iron, Ductile Iron, Cast Steel and Cast 316SS, Cast Bronze
Threaded (T) and Flanged (F) ● Sizes 3/4" to 4"

Type D125TCIC & D125FCIC Cast Iron; D150TDIC & D150FDIC Ductile Iron; D150TCSC & D150FCSC Cast Steel; D150TSSC & D150FSSC Cast 316SS; D150TBZC & D150FBZC Cast Bronze



The duplex strainer has two separate strainer basket chambers. These chambers are put into service independently. When operating basket chamber shows a high pressure drop the flow is switched to the other one. The clogged basket chamber is then cleaned or replaced, ready for use again. Thus the duplex strainer can provide uninterrupted operation.

Sure Flow Tri Ball Duplex Strainers serve to remove dirt and debris from pipelines and protect sensitive system components. The Tri Ball Duplex keeps the out of service chamber empty during operation. Thus you have enough time to clean or replace the strainer basket without ever having to worry about leakage and overflow.

A unique flow diverter ball valve system isolates the two strainer basket chambers. One is operating when the other is idle or its basket is being replaced. An easy-to-turn handle diverts the system flow from one chamber to the other so 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 operation.

No special tools are needed to access the strainer basket for cleaning. The chamber is first drained, then the castle nuts loosened, then the cover is lifted and swung clear of the chamber opening.

The diverter system consists of high quality stainless steel balls and teflon seats to ensure exceptionally long seat life and positive sealing.

For basket servicing there is a drain plug for each strainer chamber and a vent valve on top of each strainer chamber.

Should service of diverter components become necessary, it's easy to accomplish. There is no need to remove it from the line.

All kinds of strainer baskets are available for every application. They include perf with 1/32" - 1/2" hole size and 10 to 400 mesh liners.





# **Tri Ball Duplex Strainer**

Tri Ball Duplex Selection Table									
Body and Cartridge	Connections		Sizes	Rating	Seat/	Diverter			
Material	Connections	Inches	Prefix	Rating	Seals	Balls			
Cost Iron (CI)	Threaded (T)	3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2	0075, 0100, 0125, 0150, 0200, 0250	ASME CL.125		Stainless Steel			
Cast Iron (CI)	Flanged (F)	1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 4	0100, 0125, 0150, 0200, 0250, 0300, 0400	200 psig @ 150 °F	Teflon/				
Ductile Iron (DI) Bronze (BZ)	Threaded (T)	3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2	0075, 0100, 0125, 0150, 0200, 0250	ASME CL.150	Buna N*				
Carbon Steel (CS) Stainless Steel (SS)	Flanged (F)	1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 4	0100, 0125, 0150, 0200, 0250, 0300, 0400	200 psig @ 150 °F					

\* Viton® standard for stainless steel.

#### **Ordering Information**

Example: Include full description

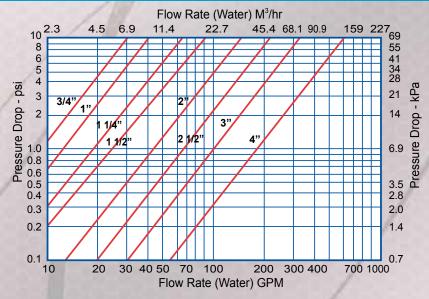
Size Model Screen
(Prefix) Number Opening
0400 D125FCIC 156

4" Flanged Duplex Strainer, Cast Iron, ASME CL.125 Flanges, with 5/32" perf. basket

#### Notes:

Manufacturer reserves the right to modify dimensions, materials, or design. Please contact Sure Flow Equipment Inc. for certifications.

#### **Pressure Drop**



#### Notes.

Pressure drop curves are based on water flow with standard screens. For other fluids and/or screen openings, the figure shall be multiplied by the following correction factors.

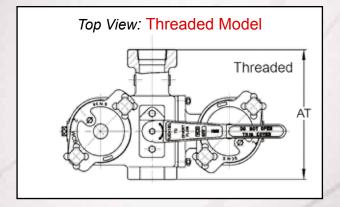
These charts are for theoretical calculations **ONLY**.

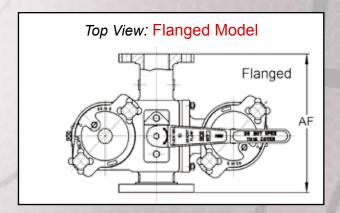
Please contact our office with your exact specifications and you will be provided with factory calculations.

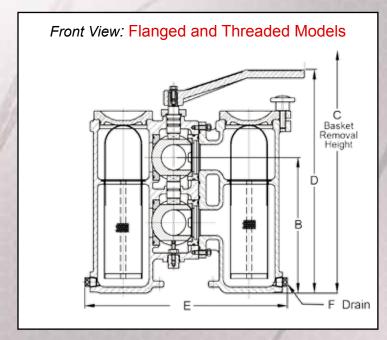
	Correction Factors for Mesh-Lined Baskets									
Viscosity (SSU)	Unlined Perforated Basket	40 Mesh Lined Basket	60 Mesh Lined Basket	80 Mesh Lined Basket	100 Mesh Lined Basket	200 Mesh Lined Basket	325 Mesh Lined Basket			
30 (Water)	0	1.2	1.4	1.6	1.7	2.0	2.5			
500	1.6	1.9	2.1	2.4	2.6	3.1	3.6			
1000	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			



# **Tri Ball Duplex Strainer**







	Dimensional Data (Inches)													
e:	Size			С					:	Shipping \	Weight (lbs.	)		
31	ize	AF	AT	В	Basket Removal	D	Е	F Drain F	' Cast Iron		Bronze		Carbon & SS	
Inches	Prefix				Height				Flanged	Threaded	Flanged	Threaded	Flanged	Threaded
3/4	0075	-	5 1/2	5 7/8	15 3/8	11	11 1/8	1/4	-	16	-	17	-	17
1	0100	6 7/8	5 1/2	5 7/8	15 3/8	11	11 1/8	1/4	17	16	18	17	18	17
1 1/4	0125	9 3/8	7 1/2	8 1/8	21 3/8	13 3/4	13 5/8	1/4	30	28	32	30	32	30
1 1/2	0150	9 3/8	7 1/2	8 1/8	21 3/8	13 3/4	13 5/8	1/4	30	28	32	30	32	30
2	0200	10 5/8	10	10 3/4	26 3/8	17 3/4	16 1/2	1/2	51	49	56	54	56	54
2 1/2	0250	13 1/2	11 1/2	13 3/4	35	22	20 7/8	1/2	103	98	106	100	106	100
3	0300	13 1/2	-	13 3/4	35	22	20 7/8	1/2	103	-	106	-	106	-
4	0400	16	-	15 7/8	41	25 1/4	24 3/8	1/2	165	-	170	-	170	-

1/8" NPT cover vent taps are standard on all strainers.

Dimensions and weights are for reference only. Please contact Sure Flow Equipment Inc. for certified drawings.



# **Plug Duplex Strainer**

Cast Iron, Cast Steel and Cast 316SS, Cast Bronze Flanged (F) ● Sizes 5", 6", 8"

#### Type DF125CI Cast Iron; DF150CS Cast Steel; DF150SS Cast 316SS; DF150BZ Cast Bronze

The Plug Type Duplex Strainer is a simple, economical, and trouble free design that has been 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 it 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 prevents debris from building up under the plug and making it difficult to reseat.

Other important features of the plug type Duplex Basket Strainers include 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. All sizes are provided with mounting legs to bolt the strainer to the floor for a rock solid installation.

The Plug Type 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.

	Plug Duplex Selection Table									
	Body Material	Connections	S	Sizes	Plug Material	Seals	Rating			
	Body Malerial	Connections	Inches Prefix		Flug Material	Seals	Rating			
1	Iron (CI)	Flanged CL.125	5, 6, 8	0500, 0600, 0800	Iron (CI)		200 psig			
	Bronze (BZ)	Flanged CL.150	5, 6, 8	0500, 0600, 0800	or Bronze (BZ)	Buna N	@ 100 °F 5" and 6"			
	Carbon Steel (CS)	Flanged CL.150	9 1 6 8 11		Bronze (BZ) or Stainless Steel (SS)		sizes 150 psig @ 100 °F			
	Stainless Steel (SS)	Flanged CL.150	6, 8	0600, 0800	Stainless Steel (SS)	Viton®	8" size			

Cv Factors*						
Size	Value					
5"	300					
6"	420					
8"	900					

- \* For water with clean perforated basket.
- For Liquid Service 5/32" SS perf basket standard for all sizes.

#### **Ordering Information**

Example: Include full description

Size Model Screen
(Prefix) Number Opening
0600 DF125CI 156

#### Notes

Manufacturer reserves the right to modify dimensions, materials, or design. Please contact Sure Flow Equipment Inc. for certifications.

6" Flanged Duplex Strainer, Cast Iron, ASME CL.125 Flanges, with 5/32" perf. basket



# **Plug Duplex Strainer**

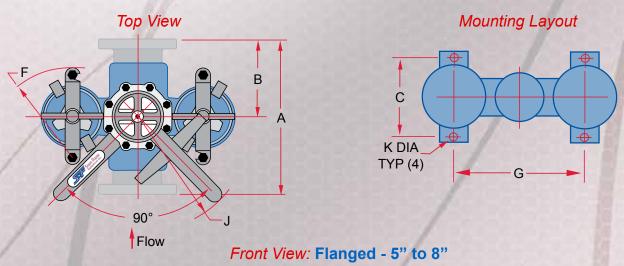
#### **Options**

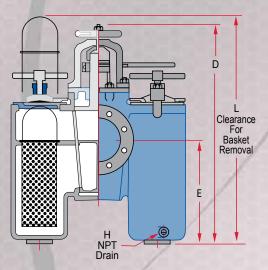
- ▲ Ductile iron construction
- ▲ Basket perforations from 1/32" to 1/2"
- Basket mesh from 10 to 400
- Monel baskets
- ▲ Viton<sup>®</sup>, PTFE, or EPDM seals
- Vent valves

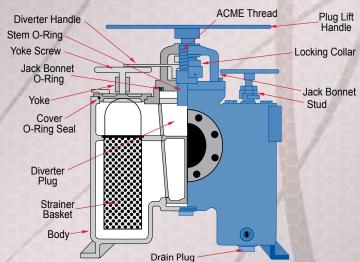
- ▲ Drain valves
- ▲ 1/4" NPT taps
- Magnetic basket inserts
- ▲ Pressure differential gauge and switch connections
- ▲ Steam jacket

	Dimensional Data (Inches)															
Si	ze													Shipping	Weight (I	bs.)
Inches	Prefix	Α	В	С	D	Е	F	G	Ξ	J	K	L	Cast Iron	Bronze	Carbon Steel	Stainless Steel
5	0500	18 3/8	9	9 3/4	33 1/4	14 3/4	10 1/4	17 3/16	3/8	19 3/4	9/16	41	463	473	-	-
6	0600	22	12 7/8	12 1/2	36 1/4	19 1/2	11 3/4	20 3/4	3/8	19 3/4	5/8	42	575	699	690	738
8	0800	25	14	17	50 5/8	23 1/16	-	30 3/4	1/2	28	15/16	56	1725	2070	1851	1920

Dimensions and weights are for reference only. Please contact Sure Flow Equipment Inc. for certified drawings.









# The Web Automatic Self-Cleaning Strainers

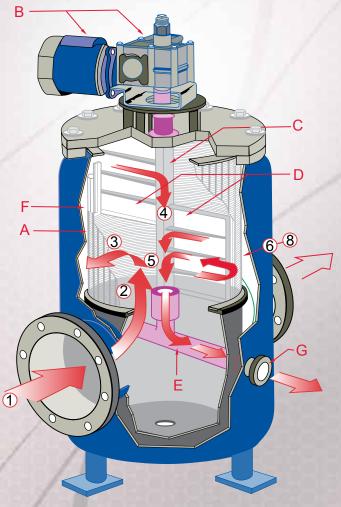
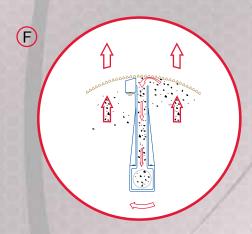


Figure 1 - Cut-away of Web showing fluid flow during operation



Port/straining element interface during backwashing cycle.

#### The Web

The Web, Motorized, Automatic, Self-Cleaning Strainer, provides continuous debris removal from fluid piping systems that demand full time uninterrupted flow.

The Web is particularly effective in fluid applications where unattended service, high solids loading and/or uninterrupted flow requirements deem a basket strainer and its attendant maintenance problems impractical.

Any of the Model SFA Strainers, applied correctly, will prove efficient and cost effective compared to simplex/duplex strainers or other automatic straining systems.

#### **Sequence of Operation**

- 1. Debris laden fluid enters through inlet to inner chamber. (Fig. 1)
- 2. Dirty fluid flows upward and outward through the strainer element (A).
- Debris is retained on the flat face of the strainer element, while strained fluid continues to outer chamber and exits through strainer outlet. (See inset)
- During backwash or cleaning cycle, the motor/ gear reducer (B) is engaged and drives the hollow drive shaft (C) and hollow port (D) around the inner circumference of the strainer element.
- 5. The backwash assembly C, D, and E are opened to atmospheric pressure by opening the backwash control valve (not shown).
- Flow reversal occurs at the port/straining element (F) interface because of the pressure differential described in 5. (See Inset)
- 7. Debris is effectively vacuumed from the full length of the straining element by a vigorous reverse fluid flow and into the hollow port; down the hollow drive shaft and out the backwash outlet (G).
- 8. The hollow port continues to sweep the full length of the strainer element until the cleaning cycle has ended.
- 9. The strainer will provide continuous uninterrupted fluid flow during the cleaning operation.
- 10. The cleaning cycle can be set for continuous or intermittent backwash.



# The Web Automatic Self-Cleaning Strainers



#### **Application**

The Web is part of a line of Motorized, Automatic Self-Cleaning Strainers. The Web allows for continuous uninterrupted and unattended debris removal

The Web's unique strainer element design permits installation in virtually any piping system operating at a positive pressure.

The Web can operate through a wide range of operating pressures (5 psig minimum) and solids loading with effective debris removal and backwashing across the entire pressure range. Additionally, only one drain/backwash connection is required for installation, effectively eliminating the expense of a separate backwash pressure connection.

Strainers are used to protect equipment such as valves, pumps, meters, heat exchangers or spray nozzles, as well as in-feed water and process water applications or virtually any similar application.

The Web Model SFA Automatic Self-Cleaning Strainers are fabricated in pipe sizes ranging from 1" to 48" to suit most application requirements.

#### **Proven Features Include:**

- Patented rugged screen and mechanical assist backwash mechanism extends useful service life.
- Unique clog-resistant straining element reduces maintenance downtime.
- Unique adjustable accelerator plate aids cleaning in difficult applications.
- All internal replacement parts supplied in corrosion resistant material.
- Efficient new design reduces maintenance requirements; requires fewer parts.
- Flats for manual operation in case of power failure
- Low rpm backwash mechanism provides more efficient cleaning, less wear of internals.

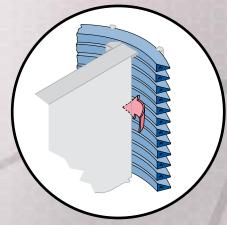


Figure 2 - Wedge Wire Straining Element Cross-Section

#### **Straining Element**

The Webs feature a revolutionary reverse rolled wedge-wire straining element (Fig. 2) that is extremely rugged and more clog-resistant than conventional strainer elements that use perforated plate or wire mesh screens.

This proven state-of-the-art straining media is fabricated by wrapping vertical rods with wedge shaped profile wire. Each intersection of rod and wire is welded to produce an extremely rugged one-piece element. This forms a continuous slot that allows only two point contact with debris particles to reduce clogging.

The wedge shaped profile wire reduces the possibility of retaining debris smaller than the screen opening which historically has been the cause of premature clogging or failure of competitive screen designs.

#### **Advantages of Wedge Wire Straining Element**

- Maximum effective flow area and maximum operating efficiency are maintained throughout service life.
- Maintenance costs are reduced drastically due to reduced clogging and stapling of fibrous material.
- Long-lived straining element provides reduced operating costs over entire service life.
- Rigid element prevents flexing which can cause premature element failure.
- Efficient, effective debris collection at media/screen interface.





# **Straining Element Selection/Model Information**



Figure 3 - Wedge-Wire Straining Elements

#### **Straining Element Selection**

The Model SFA Straining Element (Fig. 3) is an extremely rugged, single-piece unit available in a variety of standard and custom openings and materials.

Screen opening should be selected based on the amount of protection necessary, and not on the smallest opening available. By specifying a smaller opening than needed, more debris will be retained and subsequently result in longer cleaning durations and increased backwash fluid loss. Also, smaller than necessary screen openings will reduce open screen area and increase pressure loss.

The screen opening should be approximately one-third (1/3) to one half (1/2) the largest size particle that can safely pass downstream. Example: A strainer protecting spray nozzles with a 1/16" orifice would be supplied with a 1/32" screen opening.

#### **Straining Element Selection Guide**

		Standard		
Slot Opening (inches)	Fraction Equivalent inches (mm)	Mesh Equivalent	Micron Equivalent	% Open Area
0.003	(80.0)	200	75	9
0.006	(0.15)	100	149	16.5
0.010	(0.25)	50	250	17.5
0.015	1/64 (0.4)	40	385	24
0.020	(0.5)	35	500	30
0.032	1/32 (0.8)	20	795	40
0.062	1/16 (1.6)	10	1590	51
0.125	1/8 (3.2)	6	3205	67
0.187	3/16 (4.8)	4	4795	72
0.250	1/4 (6.4)	3	6410	78

Other slot openings are available upon request.

Standard screen material is 304 Stainless Steel. 316 Stainless Steel, 316L Stainless Steel, Monel and other materials are available upon request.

#### **Model Information**

The WEB Base Unit						
Model	Body Material	Size Range				
SFA10	Cast Iron	2" - 10"				
SFA20	Carbon Steel	1" - 10"				
SFA30	Carbon Steel	10" - 36"				

The WEB With Spyder-Clean						
Model	Model Body Material					
SFA11	Cast Iron	2" - 10"				
SFA31	Carbon Steel	1 1/2" - 36"				



# **The Spyder-Clean Advantage**

### The Spyder-Clean

The Spyder-Clean is part of a line of Motorized, Automatic Self-Cleaning Strainers. The Spyder-Clean provides continuous uninterrupted and unattended debris removal making it ideal for fluid piping systems which demand added cleaning abilities. It is very effective in system applications where operating pressure is low (under 5 psig) or where the debris is difficult to remove. Like all our Automatic Strainers, the Model SFA11 and SFA31 Strainers provide unattended service. The addition of external backwash on the Model SFA11 and SFA31 results in superior self-cleaning attributes compared to other automatic strainers.

#### **Application**

The Spyder-Clean's unique backwash system permits installation in a broad range of applications. It is well suited for applications with a relatively low pressure as well as those with a very high pressure and from coarse, easily removed debris to fine, sticky debris.

In a low pressure mode (such as on the suction side of a pumping system), the Spyder-Clean system is mounted on the leading edge of the strainer backwash arm. External fluid is directed at an incident angle over the inside surface of the straining element through the high pressure nozzle assembly. The high velocity of this spray assists in cleaning of the wedge-wire straining element. External source backwash pressure must be a minimum of 30 psi over operating pressure.

Spyder-Clean Strainers are used to protect equipment such as pumps, motors, heat exchangers or spray nozzles They are also useful in process applications such as cooling towers or virtually any similar application.

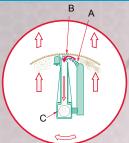
The Model SFA31 Spyder-Clean Self-Cleaning Strainer is fabricated in pipe sizes ranging from 1" through 36" enabling it to suit the requirements of many applications. The Spyder-Clean system is an economical choice that can be easily retrofitted to any Sure Flow Equipment Self-Cleaning Strainer (size 6" and larger) currently in service.

### The Unique Spyder-Clean Advantage

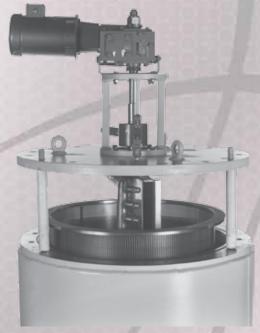
The external source of backwash fluid is introduced by opening the control valve (not shown) connecting the spray nozzles (A) at the leading edge (B) of the backwash assembly.

A"Jet" spray action occurs at the straining element inside surface (see insert) in addition to the flow reversal at the port/straining element interface.

Debris is effectively removed from the full-length of the straining element by a vigorous "Spyder-Clean" fluid flow into the hollow port, down the hollow drive shaft and out the backwash outlet.



Cross-Sectional View of Port/Straining Element During Backwash Cycle



The innovative internals of the Spyder-Clean showing ease of maintenance.

#### **Proven Features Include**

- A unique patented spray assisted/ mechanical backwash mechanism for extended service life.
- A clog-resistant straining element (wedge-wire configuration) to reduce maintenance downtime and operator assisted attention.
- All internal replacement parts supplied in corrosion resistant materials (special material available on request).
- An efficient, effective cleaning mechanism which reduces annual maintenance, requiring fewer parts.
- A low rpm backwash cycle provides more efficient cleaning, less wear (no contact between rotating parts) and longer duty cycle on motors and speed reducers.
- Any existing Sure Flow Equipment Self-Cleaning Strainer (6" and up) can be converted to Spyder-Clean.

The WEB c/w The Spyder-Clean Model SFA31 Automatic Self-Cleaning Strainer Typical Backwash Flow and External Source Requirement														
Strainer Size 1", 1-1/2" 4" 6" 8" 10/12" 14/16" 18/20" 24" 30" 36"														
Backwash Line Size	1"	1"	1-1/2"	1-1/2"	2"	3"	3"	4"	4"	6"				
Backwash Flow in GPM	8-12	15-20	30-40	60-75	110-150	170-210	250-310	400-490	550-700	750-900				
External Backwash Source GPM	External Backwash Source GPM 10-15 10-15 10-15 25-35 40-50 50-60 60-70 85-95 115-125													
External Line Size	3/4"	3/4"	3/4"	1"	1"	1"	1-1/4"	1-1/2"	1-1/2"	2"				

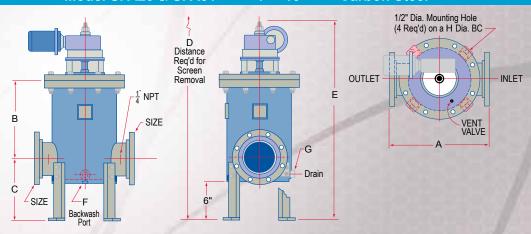


# **Specifications / Dimensions / Weights**

# Model SFA20 & SFA31

### 1" - 10"

### **Carbon Steel**



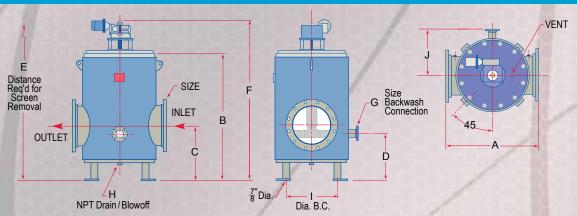
Madal Na	Model No. Size A		В	С	D	Е	F	G	Н	Approx	. Wts. (Li	os.)	Motor H.P.
Model No.	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	Dry	Wet	Cov.	H.P.
0100-SFA20	1-150	16 1/2	14 1/4	10	59	36 1/2	1 NPT	1 NPT	11 7/8	295	440	130	1/4
0150-SFA20	1 1/2-150	16 1/2	14 1/4	10	59	36 1/2	1 NPT	1 NPT	11 7/8	300	445	130	1/4
0200-SFA20	2-150	16 1/2	14 1/4	10	59	36 1/2	1 NPT	1 NPT	11 7/8	305	450	130	1/4
0250-SFA20	2 1/2-150	16 1/2	14 1/4	10	59	36 1/2	1 NPT	1 NPT	11 7/8	310	455	130	1/4
0300-SFA20	3-150	16 1/2	14 1/4	10	59	36 1/2	1 NPT	1 NPT	11 7/8	315	460	130	1/4
0400-SFA20	4-150	16 1/2	14 1/4	10	59	36 1/2	1 NPT	1 NPT	11 7/8	325	470	130	1/4
0600-SFA20/31	6-150	20	15 5/8	11	65	38	1 1/2 NPT	1 NPT	16	560	750	170	1/4
0800-SFA20/31	8-150	28	18	16	74	46 1/2	1 1/2 NPT	1 NPT	21 1/4	825	1065	180	1/4
1000-SFA20/31	10-150	28	18	16	74	46 1/2	1 1/2 NPT	1 NPT	21 1/4	840	1080	180	1/4

Threaded (NPT) Inlet/Outlet connections available.

### Model SFA30 & SFA31

#### 10" - 20"

### **Carbon Steel**

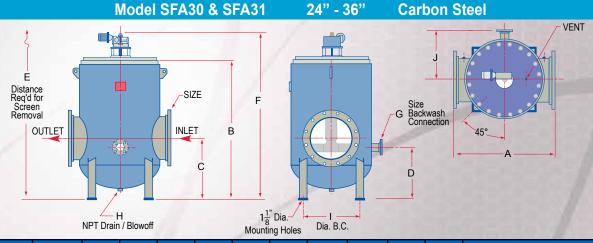


Model No.	Size	Α	В		, υ	Е	F	G	Н	1	J	Appro	ox. Wts.	(Lbs.)	Motor
woder No.	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	Dry	Wet	Cov.	H.P.
1000-SFA30/31	10-150	36	43	17 1/2	14 1/2	75	55 1/2	2 NPT	1 1/2 NPT	26	14 3/4	1595	2245	285	1/4
1200-SFA30/31	12-150	36	43	17 1/2	14 1/2	75	55 1/2	2 NPT	1 1/2 NPT	26	14 3/4	1650	2305	285	1/4
1400-SFA30/31	14-150	44	51 1/2	19 1/2	15 1/2	94	69	3-150	1 1/2 NPT	32	21 3/4	2525	3800	510	1/4
1600-SFA30/31	16-150	44	51 1/2	19 1/2	15 1/2	94	69	3-150	1 1/2 NPT	32	21 3/4	2620	3895	510	1/4
1800-SFA30/31	18-150	48	66	24	20 7/8	113	87	3-150	2 NPT	38	25 1/4	3225	5470	700	1/4
2000-SFA30/31	20-150	48	66	24	20 7/8	113	87	3-150	2 NPT	38	25 1/4	3295	5545	700	1/4

Dimensions subject to change without notice. Contact factory for certified drawings.



# **Specifications / Dimensions / Weights**

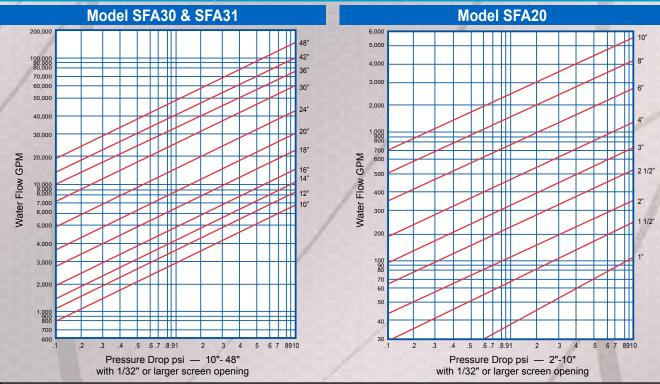


Model No.					Е			G H		J	Appro	ox. Wts. (I	_bs.)	Motor	
Model No.	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	Dry	Wet	Cov.	H.P.
2400-SFA30/31	24-150	56	77	33	28	122	98	4-150	2 NPT	44	28	4,500	8,475	610	1/3
3000-SFA30/31	30-150	66	94	39	34 1/4	150	115	4-150	2 NPT	54	33	6,525	13,625	1,275	1/3
3600-SFA30/31	36-150	86	120	48	40 1/2	210	132	6-150	2 NPT	72	43	12,050	26,975	1,650	1/2

Larger sizes available upon request. Dimensions subject to change without notice. Contact factory for certified drawings.

Typical Backwash Flow Requirement													
Model SFA10 / SFA20 (1" - 8") Model SFA30 (10" - 36")													
Strainer Size	1", 1-1/2" 2" or 3"	4"	6"	8"	10/12"	14/16"	18/20"	24"	30"	36"			
Backwash Line Size	Backwash Line Size 1" 1" 1-1/2" 1-1/2" 2" 3" 3" 4" 4" 6"												
Backwash Flow in GPM 8-12 15-20 30-40 60-75 110-150 170-210 250-310 400-490 550-700 750-900													

# **Specifications - Pressure Drop Charts**



NOTE: These charts are for theoretical calculations ONLY. Please contact our office with your exact specifications and you will be provided with factory calculations.



# **Specifications and Options**

### **Typical Strainer Specifications**

The strainer shall be Model SFA20/SFA30/ SFA31 Self-Cleaning, Motorized Type. (Fig. 4)

The body and cover shall be fabricated (carbon steel), designed, manufactured and tested generally to ASME Section VIII Standards, using qualified ASME Section IX welders.

Housing to be suitable for a design pressure of 150 psig. Inlet and outlet connections shall be flanged and conform to ASME B16.5 standards. The strainer shall have a single backwash connection and drain connections. Unit to be complete with factory supplied steel support legs for bolting to concrete or steel base.

Strainer shall be \_\_\_\_\_ size capable of gpm of fluid at handling psig pressure loss with clean straining elements.

The straining element will be manufactured from corrosion resistant (304 Stainless Steel) reverse rolled slotted wedge wire screen designed with inch openings. The wide or flat cross section of the wedge wire shall face the direction of flow providing for a continuous smooth flat surface to trap debris. The straining media shall be free of pockets, tubes, collector bars, etc. that accumulate and trap debris permanently.

All internal parts will be of corrosion resistant (304 Stainless Steel). The strainer shall be provided with drive shaft and hollow port assembly fitted with all necessary bearings and seals.

The drive arm and hollow port assembly including the adjustable accelerator plate will be free running at a maximum speed of two (2) rpm and not contact with screen surface. Port assembly shall be factory and field adjustable for positive effective cleaning and shear capability.

Note: Sizes 1" through 16" have (1) backwash hollow port. Sizes 18" and up will have (2) backwash hollow ports.

Drive shaft will be supported at the top with roller bearings located in a double reduction gear reducer and at the bottom with a water lubricated guide bearing.

The gear reducer shall be driven by a hp, Ph, 50/60 Hz, TEFC motor.



Fig. 4

### **Strainer Options Available**

Cover Lift Assemblies -

Recommended for remote locations.

ASME -

ASME Section VIII, Division 1. 10 CFR 50 Appendix

B. ASME Section II, Class 3.

Materials of

Consult factory for stainless steel, copper,

Construction - nickel, monel, or other requirements.

Control

Control Panel with Nema 4 Enclosure,

Package -

Backwash Valve with Electric Operator, Single Element

Differential Pressure Switch.

Design -

High Pressure applications - Consult factory.

Spyder-Clean -Low Pressure and Special Application.

Skid

All equipment desired, including strainers,

Packages -

valves, controls, wiring, piping and skids may be combined as a complete, custom package. Size of the project has

no limitation.



# The Web Automatic Cast Self-Cleaning Strainers



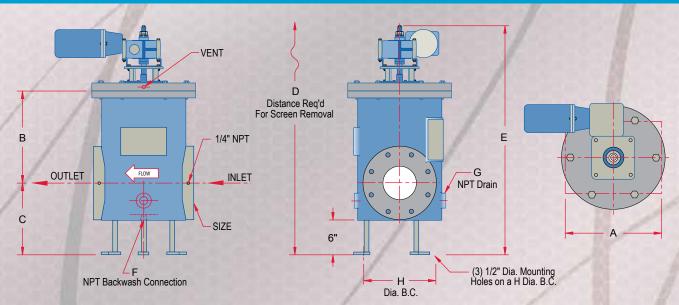
### **Engineered for Excellence**

Sure Flow Equipment places priority on designing products that are both high in quality and that serve to be an economical choice. These principles were kept in mind when creating the Model SFA10 Automatic Cast Self-Cleaning Strainer. This model is an example of Sure Flow Equipment's commitment to meet our customers' constantly evolving requirements.

### Quality

Automatic Self-Cleaning Strainers continue to be meticulously manufactured in order to meet the highest level of quality possible. The Model SFA10 Automatic Self-Cleaning Strainer coheres with Sure Flow Equipment's objective of providing consistent and trouble free service. This strainer model is designed and constructed in compliance with ANSI and ASME Section VIII, Division 1. The ASME Code "U" Stamp is also available on these models.

### Model SFA10 & SFA11 2" - 10" Cast Iron



Model No.	Size	Α	В	С	D	Е	F	G	Н	Approx	imate Wts	s. (Lbs.)	Motor
woder No.	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	Dry	Wet	Cover	H.P.
0200-SFA10/11	2-125/150FF	23 7/8	14	10 1/2	60	37	1 NPT	1 NPT	13 1/4	370	520	130	1/4
0250-SFA10/11	2 1/2-125/150FF	23 7/8	14	10 1/2	60	37	1 NPT	1 NPT	13 1/4	375	530	130	1/4
0300-SFA10/11	3-125/150FF	23 7/8	14	10 1/2	60	37	1 NPT	1 NPT	13 1/4	380	540	130	1/4
0400-SFA10/11	4-125/150FF	11 7/8	14	10 1/2	60	37	1 NPT	1 NPT	13 1/4	300	425	130	1/4
0600-SFA10/11	6-125/150FF	15 7/8	15 7/8	11 1/2	62	39	1 1/2 NPT	1 NPT	16 1/4	590	690	170	1/4
0800-SFA10/11	8-125/150FF	32 5/8	20 3/4	14	75	47 1/2	1 1/2 NPT	1 NPT	21 1/4	1160	1435	180	1/4
1000-SFA10/11	10-125/150FF	20 5/8	20 3/4	14	75	47 1/2	1 1/2 NPT	1 NPT	21 1/4	875	1120	180	1/4

Dimensions subject to change without notice. Contact factory for certified drawings.



# **Sequence Controller**

### **Design and Construction**

The Sequence Controller has been designed with the customers' specific requirements in mind. The Sequence Controller provides an effective automatic backwashing cycle with minimal water loss.

The Sequence Controller has been constructed with state-of-the-art industrial components. This allows for the replacement of individual components without having to replace an entire circuit board. The components are more durable and reliable and adjustments can be made with ease.



- Enclosure Nema 4
- · Adjustable Cycle Timer
- Off-delay Timer
- Motor Starters with Auxiliary Contact and Overload Relay
- · Selector Switch
- · Indicating Lights
- Fuses
- Terminal Block

#### **Modes of Operation**

The Sequence Controller provides two modes of operation; intermittent and continuous. By turning the selector switch, the mode of operation can be selected.

### **Automatic Intermittent Position**

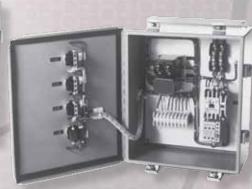
With the selector in the "Auto" position, the drive motor will start and the backwash valve opens as determined by the adjustable cycle timer or by the differential pressure switch.

The differential pressure switch is normally factory set at 1 - 1-1/2 psig over the anticipated clean pressure drop. Should a high differential pressure occur during the timed off period, the differential pressure switch will override the cycle timer and start or continue the backwash until the differential pressure is satisfied.

After the differential pressure has been satisfied, the strainer will continue to backwash for an additional 60 seconds (time delay relay).

The automatic self-cleaning strainer would start a backwash cycle based on the timed sequence selected on the adjustable cycle timer. The timed sequence should be determined by each installation and the conditions experienced. The adjustable cycle timer can be programmed from 15 minutes to a 10-hour cycle (off) and for 1 to 10 minutes duration (on). Adjustments can be made as conditions warrant. The default factory settings for timers are 2 hours OFF and 2 minutes ON.





### **Continuous Operation**

Continuous mode can be achieved by moving the selector switch to the "Manual" position. In continuous mode the backwash valve will be open and the drive motor will be running resulting in continuous backwash. This mode of operation may be necessary if the installation experiences high solid loadings.

In either intermittent of continuous mode of operation the backwash assembly is specifically designed to rotate at 2 rpm to allow for effective backwashing in less time. This decreases the amount of backwash water that is lost

### **Standard Control Package**

The Sequence Controller Control Package consists of:

- · Control Panel with Nema 4 Enclosure
- Backwash Valve with Electric Operator
- Single Element Differential Pressure Switch

#### **Options**

- 230V, 380V, 460V, 575V
- 50 or 60 hertz
- · Dual Element Differential Pressure Switch
- Nema 4X (Fibreglass or Stainless Steel), Nema 7 or 9 (Explosion Proof), Nema 12, Nema 3 Enclosures
- Circuit Breakers, Disconnect Switch, Transformer
- Reset Buttons
- Alarms
- · PLC Interface and/or Pump Interlock
- Extra Contact and Relays
- Backwash Valve can be supplied with Pneumatic Operator
- · Backwash Valve available in numerous materials
- Differential Pressure Switches available with Mercury, Snap Action, Diaphragm or Piston Contacts.

#### Codes / Standards

The Sequence Controller can be manufactured to UL Listings, CSA, JIC, NEMA Standards.



# **FRP Strainers - Series and Materials**

## FRP: Fiberglass Reinforced Plastic

### **P-Series FRP Strainer**

P-Series Strainers are made H-Series Strainers have chemical resistant barrier.

premium resins-Derakane 411 or Hetron 922.

P-Series Strainers are or Hetron 970. recommended for use in a wide corrosion environments.

### **H-Series FRP Strainer**

from a highly corrosion resistant enhanced corrosion resistance pipe system with reinforced for high temp. environments up to 200 deg. F. It has improved resistance to strong acids, Strainers are fabricated with solvents, and oxidizing agents.

> Strainers are fabricated with premium resins- Derakane 470

recommended for concentrated HCl and has been used extensively in mineral process industry applications.

### **A-Series FRP Strainer**

A-Series Strainers have enhanced resistance to erosive slurries and is the standard material used in Flue Gas Desulphurization (FGD) projects worldwide for over 35 years.

The material of construction of these strainers out-perform Standard FRP, Rubber Lined Carbon Steel, and Alloy piping range of moderate to aggressive H-Series Strainers are in fine particle slurries including hot limestone, gypsum, & lime). Strainers are fabricated with premium resins-Derakane 411 or 470, Hetron 922 or 970. Strainers shall have a nominal 110 mil abrasion/corrosion barrier comprised glass in a specially formulated abrasion resistant resin matrix.

#### **Material Features**

- Integral corrosion resistant
- Bisphenol A vinyl ester resin throughout corrosion liner and structure
- 50 to 150 psi rating
- · Joining with Tapered Adhesive, Butt & Wrap, or O-Ring joints
- · U.V. protected
- · Optional fire retardant resins
- Temperature limitation of 180 deg. F (82 deg. C)

### **Material Features**

- Custom designed corrosion barriers
- Elevated temperature performance
- · Enhanced solvent resistance
- · Bisphenol A vinyl ester or epoxy Novolac vinyl ester resin
- 50 to 150 psi rating
- · Joining with Tapered Adhesive or Butt & Wrap joints
- · U.V. protected
- · Optional fire retardant resins
- · Temperature limitation of 220 deg. F (104 deg. C)

### **Material Features**

- Integral abrasion resistant
- · Resistant to chlorides and fluorides
- 50 to 150 psi rating
- Joining with Tapered Adhesive and Butt & Wrap ioints
- U.V. protected
- Optional fire retardant resins
- Temperature limitation of 180 deg. F (82 deg. C)



# **FRP Basket Strainers**

## FRP (Fiberglass Reinforced Plastic) Basket Strainers

All Strainers are manufactured from premium resins and feature 5 part construction:

- Two Chemical Barriers:
   Nominal thickness 10 mils of Nexus veil, 90% resin to 10% reinforcement. (Layers 1 & 4)
- Anti-wicking barrier: 100 mil of chopped strand glass, 75% resin to 25% reinforcement. (Layer 2)
- Structural Layer: Filament wound continuous roving, wind angle 55 deg: 30% resin to 70% reinforcement. (Layer 3)
- Exterior Protection: Polyester resin gel coating: 10 mil thickness. (Layer 5)

This construction offers the finest in chemical and impact resistance. Various resins and matrices are used to achieve different strainer criteria. Please see comparison of P, H and A-Series FRP Strainers for details.

Standard baskets are manufactured of heavy gauge PVDF with 1/4" or 1/8" perforations. Stainless, titanium, monel or hastalloy baskets are also available. Mesh liners are available of PP, PVDF, ETFE, Polyester as well as metallic screens.





# **FRP Strainers - P-Series**

### Specification for Fiberglass Reinforced Plastic P-Series Strainers

### 1.) SCOPE

THIS SPECIFICATION COVERS REQUIREMENTS FOR FRP STRAINERS. Y TYPE, BASKET TYPE AND DUPLEX TYPES ARE INTENDED FOR USE IN CHEMICAL PIPING SYSTEMS WHERE MAXIMUM RESISTANCE TO CORROSION, PRESSURE AND TEMPERATURE IS REQUIRED.

### 2.) STRAINER DESIGN

- 2.1 Strainer shall be flanged basket (or Y) type.
- 2.2 Body configuration shall be 1. in-line, 2. offset, 3. angled offset, 4. boot. (select one)
- 2.3 Basket shall be PVDF, Perforations 1/8" on 3/16" centers (or as required)
- 2.4 Minimum area ratio of pipe to basket shall be 10 to 1.
- 2.5 All strainers shall be furnished with minimum 1/2" flanged drain.
- 2.6 Cover shall be FRP with optional 1/2" vent tap.
- 2.7 Flanges shall be contact molded.
- 2.8 Strainer shall be rated for 150 psi at 180 deg. F
- 2.8 Strainer design shall conform to ASME code for non-metallic pressure vessels.
- 2.8 Vendor shall supply min 5 years service history of applications in similar service.

### 3.) CONSTRUCTION

- 3.1 Strainer body shall be of filament wound construction, for sizes 12" and lower. Larger sizes may be hand lay up construction in accordance with PS-15-669.
- 3.2 Resin shall be Vinyl Ester. Derakane 411 or Hetron 922, or equal.
- 3.3 Body shall contain a chemical barrier, 10 mils nexus, 90 % resin, 10% reinforcement
- 3.4 Anti-wicking barrier, 100 mils chopped strand glass, 70% resin to 30% glass shall be provided.
- 3.5 Structural layer shall be filament wound continuous roving, 30% resin to 70% glass.
- 3.4 Exterior protection is unsaturated polyester resin based high quality gel coat- 10 mils min.

#### 4.) STANDARDS

4.1 All products shall conform to or exceed the specifications as set forth in the following standards.

RTP-1/Sec X

ASTM B31.3/Sec 15

BS1 BS 6464

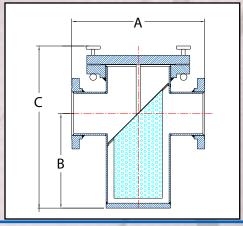
GSB 41-GP-22

#### Notes:

Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

		imensions (Inch) Configuration	
Strainer Size	Α	В	С
2"	11"	10 1/2"	18 1/2"
3"	11"	10 1/2"	18 1/2"
4"	13 3/4"	11 5/8"	21 1/4"
6"	18"	16"	26 1/2"
8"	20"	21 1/2"	34 1/2"
10"	22"	23"	37 1/2"
12"	27 1/2"	31 5/8"	46 3/4"
14"	35"	32 1/2"	49"





# **FRP Y Strainers**

### FRP (Fiberglass Reinforced Plastic) Y Strainers

Sure Flow FRP Y type strainers are available in sizes 2 " and up. The design of the FRP Y Strainer allows for in-line piping in either a vertical or a horizontal orientation. All Y strainers feature a cleanout valve. This eliminates the need for removing the screen when performing routine cleaning.

Sure Flow manufactures FRP Y Strainers to standards that exceed industry standards. These strainers are made for critical applications where high flow rates and high loading potential exists, while low pressure drops are desired.



The lamination construction of FRP Strainers combines the chemical resistance of the particular liner material (thermoplastic) and the structural strength of fiberglass. Sure Flow Y Strainers are also offered in all-FRP construction. Resins can be used for high temperature and abrasive applications

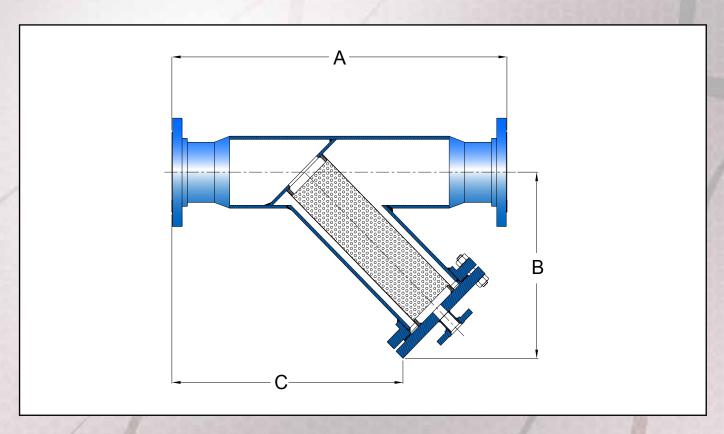
- EPDM lid gasket is standard, but Viton and Teflon are also options.
- Flanged lid with stainless bolts, nuts and washers are standard. T-Handle Design for easy lid removal is an option.
- Screens are 1/4" perforated- made from same material as the strainer (FRP Ys have PVDF Screens). Other perfs/materials are available.
- Pipe connections are Flanges. Threaded, socket, groove latch and couplings are also available.
- Flanged or threaded blowdown ports are provided.
- Custom dimensions and designs are readily available.

### **Pressure Drop**

As with all Sure Flow strainers, the FRP Y Strainer is engineered to offer the lowest practical pressure drop. Pressure drop through the strainers is determined by several factors. These are line size, flow rate, specific gravity, viscosity and percent of open area of the screen. To minimize the pressure drop, the screen open area is at least 4 times the cross sectional area of the inlet pipe. (Through clean screens only).



# FRP Y Strainers - Dimensions & Performance



#### Notes:

### Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

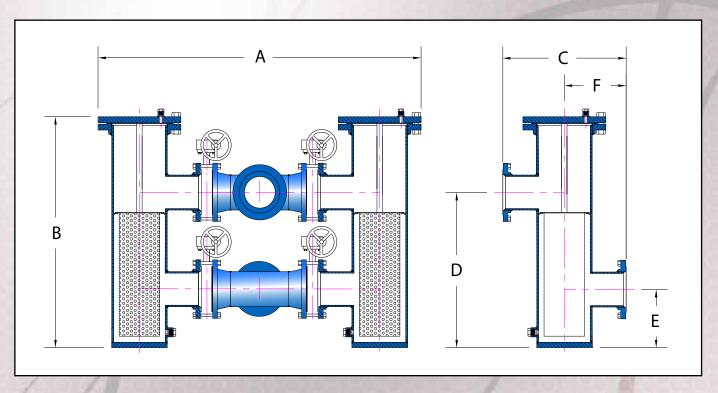
FF	RP Strainer Di For Inline C	mensions (Inconfiguration	ch)		Performance Crite	eria
Flange Size	А	В	С	Basket Surface Area (in²)	Ratio Basket Surface : Pipe	Flow Rate = 1 psid (Clean Basket)
2"	23	12	15 5/8	72.2	23	140 GPM
3"	24	12 1/4	15 1/4	72.2	102	140 GPM
4"	32	16 1/4	21 3/8	207.2	16.5	400 GPM
6"	39	20 7/8	28 1/4	384.3	13.6	790 GPM
8"	48	24 1/4	31 3/4	594.6	11.8	1150 GPM
10"	50	27 5/8	34 7/8	826.6	10.5	1600 GPM
12"	56	32 7/8	41 7/8	1130.4	10	2230 GPM
14"	60	39 1/2	47	1519.8	9.9	3000 GPM



# **FRP Duplex Strainers**

### FRP (Fiberglass Reinforced Plastic) Duplex Strainers

Sure Flow FRP Duplex Basket Strainers are ideal for applications in water environments, water parks, commercial swimming pools and aquariums. They are also an ideal choice for industrial and chemical resistant applications.



#### Notes:

• Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

		[	Dimensions (Inch	)		
Size	А	В	С	D	Е	F
2" & 3"	36	20	10 7/8	26	6	6
4"	38	26	14 1/2	30	10	7 1/4
5"	51 1/2	38	25 1/4	30	10	13
6"	51 1/2	38	25 1/4	30	10	13
8"	60	48	26 1/4	37 1/2	12	14
10"	70 3/4	56	30	42	12	15
12"	75	64	32	48	12	16
14"	89	66	36	50	14	18
16"	107 1/2	68	40	50	14	20



# **FRP Strainers - Specification & Identification**

## **Strainer Specification Tables**

Getting as much information available during the initial stages of a strainer design is critical. We do understand how design criteria changes as projects develop and we are very reactive to these variations.

The information in the tables to the right will most likely not be completely available at the onset of a project, but should be filled out as well as possible for optimal strainer design.

### **Strainer Identification**

All strainers are given a serial number for future reference and this is affixed to each strainer that leaves the factory. Substantial records are kept at the factory for future reference. Therefore, in the event the end user needs assistance, parts or replacement, Sure Flow is able to identify the exact strainer in question by referencing this, including special circumstances of each individual unit.



Orde	ering S	election Gu	ide
	Fluid Cl	haracteristics	
Composition			
Operating Temperature			F
Operating Pressure			PSI
Viscosity			Centipoise
Specific Gravity			SG
Minimum Size to Filter			Mesh, Micron, Inch or MM
Allowable Pressure Drop			PSI - Clean Basket
Flow Rate			GPM
5	Strainer (	Characteristics	
Type of Strainer			
Size			
Designed Flow Rate			
Design Pressure			
Maximum Temperature	<del></del>		
Maximum Pressure			
Housing Material			

Gasket Material

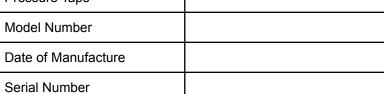
Liner Material

Drain Size/Type

End Connections

Vent Size/Type

Pressure Taps





# **Barred Tees**

# BARTEE150 / BARTEE300 / BARTEE600

SA234 - Carbon Steel / 304 - Stainless Steel / 316 - Stainless Steel

#### **Buttweld End Connections**

Sure Flow Barred Tees are manufactured to specific customer project specifications in a full range of sizes from ASME Class 150 to 2500 and higher. They are fabricated to the highest industry standards and pipeline vessel design codes in Carbon Steel, Stainless

Steel or Alloy materials.

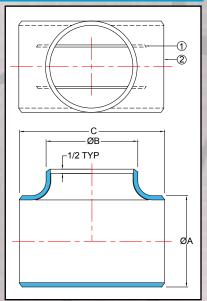
Custom fitted bar sections are welded to the branch of the buttweld Tee. The bars are added to ensure the Pig passes by the branch opening. Bar spacing is designed to prevent damage to the functional elements of the Pig.

Buttweld End Connections are standard. Optional Flanged Connections in raised face or RTJ, as well as extended pup-pieces, are available. Barred Tees are used in a pipeline Launcher/Receiver system and at any branch in the pipeline to ensure safe passage of the Pig.

#### Notes:

- Higher ASME pressure ratings available
- Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.



Construction											
Item	1	2									
Description	Bar	Buttweld Tee									

						Dimer	nsions (In	ches)						
Α							B Brar	nch Size						
Run Size		2	3	4	6	8	10	12	14	16	18	20	24	С
2	0200	1/4												5
3	0300	1/4	1/4											6 3/4
4	0400	1/4	1/4	1/4										8 1/4
6	0600	1/4	1/4	1/4	1/4									11 1/4
8	0800	1/4	1/4	1/4	1/4	1/4								14
10	1000	1/4	1/4	1/4	1/4	1/4	1/4							17
12	1200	1/2	1/2	1/2	1/2	1/2	1/2	1/2						20
14	1400	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2					22
16	1600	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2				24
18	1800	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2			27
20	2000	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2		30
24	2400	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	34
	$\circ$			1 Bar				2 Bars			3 E	Bars		9
			Bar Quantity and Thickness											

### **Ordering Information**

Example: Include full description

Size Model (Prefix) Number

0200 BARTEE150/234

2" Barred Tee, ASME Class 150, Carbon Steel

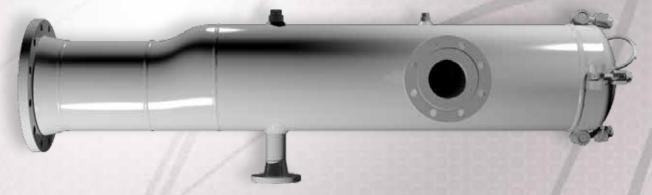
Opera	Operating Pressures and Temperatures									
Туре	Size psi @ Temp Steam		psi @ Temp WOG							
BARTEE150234	2" - 24"	150 @ 366 °F	285 @ 100 °F							
BARTEE150304/316	2 - 24	130 @ 300 F	275 @ 100 °F							
BARTEE300234	2" - 24"	300 @ 422 °F	740 @ 100 °F							
BARTEE300304/316	2 - 24	300 @ 422 F	720 @ 100 °F							
BARTEE600234	2" - 24"	600 @ 489 °F	1480 @ 100 °F							
BARTEE600304/316	2 - 24	000 @ 469 F	1440 @ 100 °F							



# **Launchers and Receivers**

### **General Overview**

Sure Flow Launchers and Receivers are custom designed to your specific application in a full range of sizes from ASME Class 150 to 2500 and higher. They are fabricated to the highest industry standards and pipeline vessel design codes in Carbon Steel, Stainless Steel or Alloy materials.



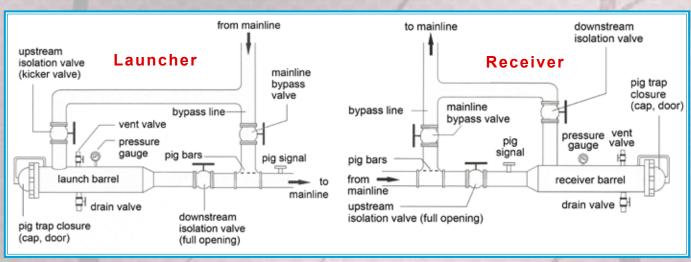
Launchers and Receivers are used in process pipelines to facilitate the activity of Pigging the pipeline.

Pipeline Inspection Gauges or Pigs are tools that are inserted into and move through the pipeline, propelled by the flow of the fluid. Pigs perform many tasks including cleaning, inspection, coating the pipeline interior and separating batches of different fluids.

A Launcher is located at the upstream end of the pipeline to launch the Pig into the pipeline. A Receiver is located at the downstream end of the pipeline to remove the Pig from the pipeline.

The design of the Launcher and Receiver will depend on the Pig and pipeline design conditions. Launchers and Receivers can have many options. Sure Flow will custom design your Launcher or Receiver to work with your conditions and requirements.

# Typical Launcher and Receiver Piping Configuration





# **Launchers and Receivers**

### **Standard and Optional Features**

Sure Flow offers simple barrel Launchers and Receivers through to complete skid mounted units that include Actuated Valves, Instrumentation, Pig Signalers and Control Systems.



- Carbon Steel Body
- NPT Vent, Drain, Pressure Gauge, Pig Signal Connections
- Quick Open T-Bolt Closure with Hinge
- Designed to ASME Section VIII Div 1
- Designed for Operating Pressure of 285 psi at 100 °F

### **Optional Features**

- Stainless Steel or Alloy Materials
- Design Codes available: ASME B31.3 or ASME B31.4 or CSA Z662
- ASME "U" Code Stamp and National Board "NB" Mark Available
- Cam Lock Handles or Breakover Wrench Style Bolts
- Cover Davit
- Pressure Gauge / Switch
- Pig Signaler
- Support Legs or Skirt
- Weld Neck Flanged Connections
- Alternate Elastomer Seals to suit various applications
- Lifting Lugs for Installation
- Additional Ancillary Connections
- Special Coatings

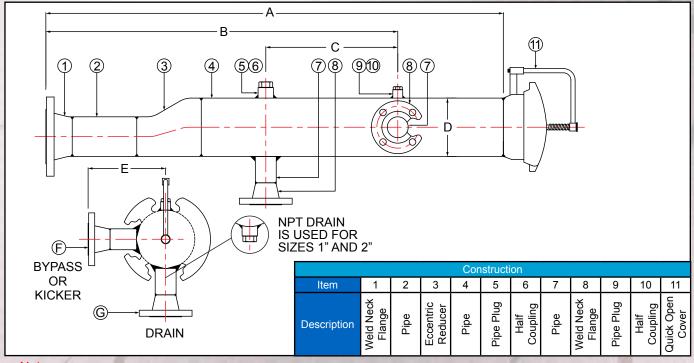




# **Dimensions - Launchers**

LCR150 / LCR300 / LCR600 - Carbon Steel LCR150SS / LCR300SS / LCR600SS - Stainless Steel

ASME Class 150 / 300 / 600 - Flanged Connections



#### Notes:

Higher ASME pressure ratings available
 Larger sizes available
 Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

-	Dimensions (Inches)											
				DII	mensions (Inche	es)						
6	Run Size	Prefix	А	В	С	D	Е	F	G			
	4	0400	52	40	15	6 5/8	11	2	1			
	6	0600	56	42	16	8 5/8	12	3	2			
	8	0800	58	44	18	10 3/4	13	4	2			
ı	10	1000	64	47	18	12 3/4	14	4	2			
1	12	1200	68	49	18	16	16	6	4			
	14	1400	76	54	18	16	16	6	4			
	16	1600	90	64	20	18	17	8	4			
	18	1800	96	66	20	20	20	10	6			
	20	2000	98	66	22	24	21	10	6			
	24	2400	104	70	26	26	23	10	6			
	26	2600	108	72	26	28	24	10	6			
	28	2800	110	74	28	30	26	12	6			
	30	3000	114	76	28	36	28	12	8			
	36	3600	122	82	32	40	32	14	8			

## **Ordering Information**

Example: Include full description

Size Model

(Prefix) Number

3000 LCR150SS

30" Launche	r, ASME (	Class 150,	Stainless	Steel

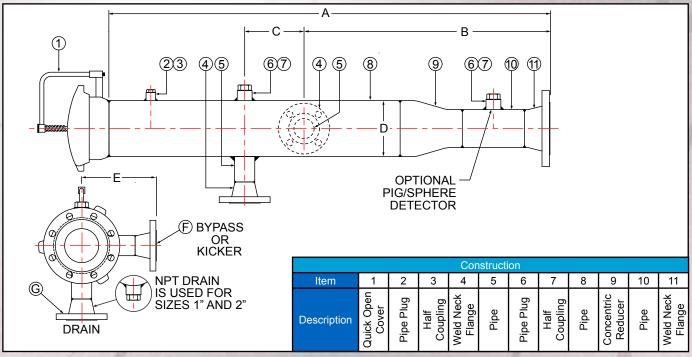
Operating Pressures and Temperatures								
Туре	Size	psi @ Temp Steam	psi @ Temp WOG					
LCR150	4" - 36"	150 @ 266 °F	285 @ 100 °F					
LCR150SS	4 - 30	150 @ 366 °F	275 @ 100 °F					
LCR300	4" - 36"	300 @ 422 °F	740 @ 100 °F					
LCR300SS	4 - 30	300 @ 422 F	720 @ 100 °F					
LCR600	4" - 36"	600 @ 489 °F	1480 @ 100 °F					
LCR600SS	4 - 30	000 W 469 F	1440 @ 100 °F					



# **Dimensions - Receivers**

RCR150 / RCR300 / RCR600 - Carbon Steel RCR150SS / RCR300SS / RCR600SS - Stainless Steel

ASME Class 150 / 300 / 600 - Flanged Connections



#### Notes:

Higher ASME pressure ratings available
 Larger sizes available
 Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

	Dimensions (Inches)											
Run Size	Prefix	Α	В	С	D	Е	F	G				
4	0400	62	29	7	6 5/8	11	2	1				
6	0600	66	31	8	8 5/8	12	3	2				
8	0800	74	34	9	10 3/4	13	4	2				
10	1000	82	36	10	12 3/4	14	4	2				
12	1200	90	38	11	16	16	6	4				
14	1400	112	45	12	16	16	6	4				
16	1600	114	50	14	18	17	8	4				
18	1800	120	55	16	20	20	10	6				
20	2000	124	58	18	24	21	10	6				
24	2400	130	60	18	26	23	10	6				
26	2600	138	64	18	28	24	10	6				
28	2800	148	68	20	30	26	12	6				
30	3000	160	74	22	36	28	12	8				
36	3600	172	80	24	40	32	14	8				

## **Ordering Information**

Example: Include full description

Size Model

(Prefix) Number

1200 RCR300SS

12" Receiver, ASME Class 300, Stainless Steel

Operating Pressures and Temperatures									
Туре	Size	psi @ Temp Steam	psi @ Temp WOG						
RCR150	4" - 36"	150 @ 366 °F	285 @ 100 °F						
RCR150SS	4 - 30	150 @ 500 F	275 @ 100 °F						
RCR300	4" - 36"	300 @ 422 °F	740 @ 100 °F						
RCR300SS	4 - 30	300 @ 422 F	720 @ 100 °F						
RCR600	4" - 36"	600 @ 489 °F	1480 @ 100 °F						
RCR600SS	] 4 - 30	000 @ 469 F	1440 @ 100 °F						



# **Line Blinds - Features & Technical Specs**

# Spectacle Blinds, Paddle Blinds and Paddle Spacers

### **Spectacle Blinds**

The Spectacle Blind is a simple safety device that installs between two pipe flanges. During normal operation the open end is installed as a spacer to allow uninterrupted flow. To stop the flow in the pipeline, the blind end is rotated into place between the flanges. This positively isolates the downstream piping and equipment.

Spectacle Blinds are generally installed as a permanent device. The geometry gives a quick visual indication to its orientation and whether or not it is safe to begin downstream work.



### **Paddle Blinds**

A Paddle Blind is basically the solid half of a Spectacle Blind. A Paddle Blind is often made from one solid metal disc and will usually have a thin length of metal attached to one end to be used as a handle. A finished assembly will resemble the shape of a paddle, hence the name. Generally, these types of blinds are applied in piping systems that do not require constant maintenance. The Paddle Blind is used more as a temporary blocking device to stop flow in a process piping system.

### **Paddle Spacers**

A Paddle Spacer is the open half of a Spectacle Blind. It is often made from one solid metal disc and will usually have a thin length of metal attached to one end to be used as a handle. A finished assembly will resemble the shape of a paddle with an opening through its centre. The Paddle Spacer is used in place of a Paddle Blind when the piping system is to be put back into operation.

### **Technical Specifications**

- Sure Flow Equipment Line Blind thicknesses are based on ASME B16.48 specifications and are designed to withstand any pressure - temperature combination that an ASME flange will withstand.
- For Paddle Spacers, the hole diameter in the handle is 1/2" for 1" wide handles, and 3/4" for 1 1/2" wide handles. ASME B16.48 prohibits the use of indicator or bolt holes in the handles of Paddle Blinds. However, this option is available if required by purchaser.
- One coat of standard shop primer will be applied to all carbon steel Line Blinds unless specified differently.
- Mill finish is standard. Other surface finishes are available. Contact factory for options.
- Standard materials are: SA516 Gr.70

304 Stainless Steel 316 Stainless Steel

Other alloys can be furnished upon request

Sure Flow Equipment Line Blinds are produced in strict accordance with the following codes
of practice: ASME B16.48 • ASME B16.5 • ASME B16.20 • ASME B16.47 (For larger diameter
flanges)



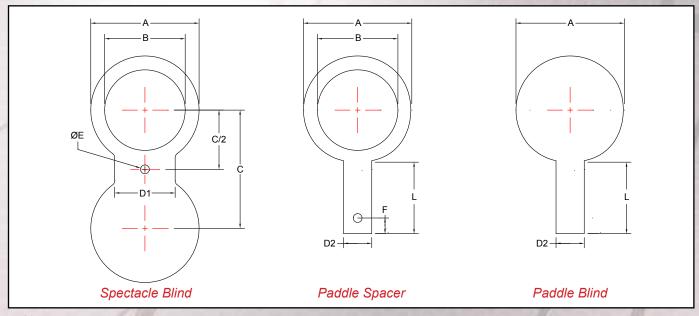


# **Line Blinds - Dimensional Data**

Spectacle Blind SBL150 & SBL150SS

Paddle Spacer PS150 & PS150SS Paddle Blind PB150 & PB150SS

ASME Class 150 - Carbon Steel & ASME Class 150 - Stainless Steel



#### Notes:

- Higher ASME pressure ratings available
- · Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

	Dimensions (Inches)										
	Siz	e	А	В	С	D1	D2	ØE	F		Thickness
Inche	es	Prefix	^	ט	0	<i>D</i> 1	DZ	Ø L			THICKIESS
1		0100	2 1/2	1 1/16	3 1/8	1 1/2	1	5/8	1	4	1/8
1 1/2	2	0150	3 1/4	1 7/8	3 7/8	1 1/2	1	5/8	1	4	1/4
2		0200	4	2 3/8	4 3/4	2	1	3/4	1	4	1/4
3		0300	5 1/4	3 1/2	6	2 1/2	1	3/4	1	4	1/4
4		0400	6 3/4	4 1/2	7 1/2	2 1/2	1	3/4	1	4	3/8
6		0600	8 5/8	6 5/8	9 1/2	3	1	7/8	1	4	1/2
8		0800	10 7/8	8 5/8	11 3/4	3	1	7/8	1	4	1/2
10		1000	13 1/4	10 3/4	14 1/4	4	1	1	1	5	5/8
12		1200	16	12 3/4	17	4	1 1/2	1	1	5	3/4
14		1400	17 5/8	14	18 3/4	4 1/4	1 1/2	1 1/8	1	5	3/4
16		1600	20 1/8	16	21 1/4	4 1/4	1 1/2	1 1/8	1	5	7/8
18		1800	21 1/2	18	22 3/4	4 1/2	1 1/2	1 1/4	1	5	1
20		2000	23 3/4	20	25	4 3/4	1 1/2	1 1/4	1	5	1 1/8
24		2400	28 1/8	24	29 1/2	5 1/2	1 1/2	1 3/8	1	5	1 1/4

### **Ordering Information**

Example: Include full description

 Size
 Model

 (Prefix)
 Number

 0200
 SBL150

2" Spectacle Blind, ASME Class 150, Carbon Steel

Operating Pressures and Temperatures									
Туре	Size	psi @ Temp Steam	psi @ Temp WOG						
SBL150 / PS150 / PB150	1" - 24"	150 @ 366 °F	285 @ 100 °F						
SBL150SS / PS150SS / PB150SS	1" - 24"	150 @ 366 °F	275 @100 °F						

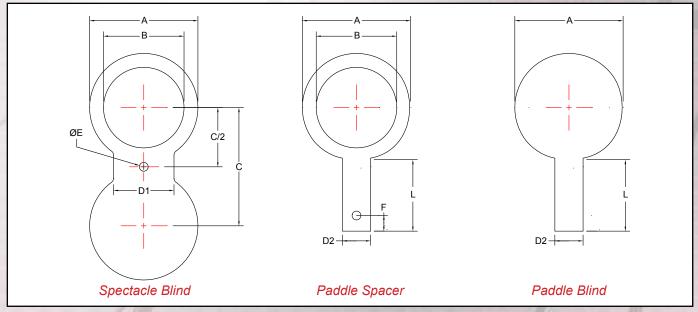


# **Line Blinds - Dimensional Data**

Spectacle Blind SBL300 & SBL300SS

Paddle Spacer PS300 & PS300SS Paddle Blind PB300 & PB300SS

ASME Class 300 - Carbon Steel & ASME Class 300 - Stainless Steel



#### Notes:

- Higher ASME pressure ratings available
- · Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

	Dimensions (Inches)										
S	ize	А	В	С	D1	D2	ØE	F		Thickness	
Inches	Prefix	^	В		Di	DZ	ωL		_	HIICKHESS	
1	0100	2 3/4	1 1/16	3 1/2	1 1/2	1	3/4	1	4	1/4	
1 1/2	0150	3 5/8	1 7/8	4 1/2	1 1/2	1	3/4	1	4	1/4	
2	0200	4 1/4	2 3/8	5	2	1	3/4	1	4	3/8	
3	0300	5 3/4	3 1/2	6 5/8	2 1/2	1	7/8	1	4	3/8	
4	0400	7	4 1/2	7 7/8	2 1/2	1	7/8	1	4	1/2	
6	0600	9 3/4	6 5/8	10 5/8	3	1	7/8	1	4	5/8	
8	0800	12	8 5/8	13	3	1	1	1	4	7/8	
10	1000	14 1/8	10 3/4	15 1/4	4	1	1 1/8	1	5	1	
12	1200	16 1/2	12 3/4	17 3/4	4	1 1/2	1 1/4	1	5	1 1/8	
14	1400	19	14	20 1/4	4 1/4	1 1/2	1 1/4	1	5	1 1/4	
16	1600	21 1/8	16	22 1/2	4 1/4	1 1/2	1 3/8	1	5	1 1/2	
18	1800	23 3/8	18	24 3/4	4 1/2	1 1/2	1 3/8	1	5	1 5/8	
20	2000	25 5/8	20	27	4 3/4	1 1/2	1 3/8	1	6	1 3/4	
24	2400	30 3/8	24	32	5 1/2	1 1/2	1 5/8	1	6	2	

## **Ordering Information**

Example: Include full description

 Size
 Model

 (Prefix)
 Number

 1800
 PS300SS

18" Paddle Spacer, ASME Class 300, Stainless Steel

Operating Pressures and Temperatures								
Туре	Size	psi @ Temp Steam	psi @ Temp WOG					
SBL300 / PS300 / PB300	1" - 24"	300 @ 422 °F	740 @ 100 °F					
SBL300SS / PS300SS / PB300SS	1" - 24"	300 @ 422 °F	720 @100 °F					

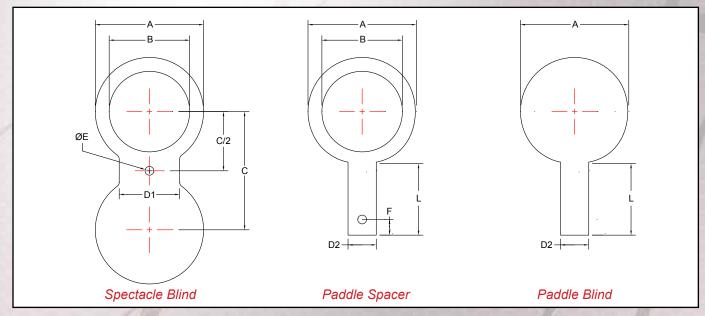


# **Line Blinds - Dimensional Data**

Spectacle Blind SBL600 & SBL600SS

Paddle Spacer PS600 & PS600SS Paddle Blind PB600 & PB600SS

ASME Class 600 - Carbon Steel & ASME Class 600 - Stainless Steel



#### Notes:

- Higher ASME pressure ratings available
- · Larger sizes available

Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

	Dimensions (Inches)										
Si	ze	А	В	С	D1	D2	ØE	F	L	Thickness	
Inches	Prefix		5		Di	02	D L			THICKICSS	
1	0100	2 3/4	1 1/16	3 1/2	2 1/4	1	3/4	1	4	1/4	
1 1/2	0150	3 5/8	1 11/16	4 1/2	2 5/8	1	7/8	1	4	3/8	
2	0200	4 1/4	2 3/16	5	2 1/4	1	3/4	1	4	3/8	
3	0300	5 3/4	3 1/4	6 5/8	2 5/8	1	7/8	1	4	1/2	
4	0400	7 1/2	4 1/4	8 1/2	3	1	1	1	4	5/8	
6	0600	10 3/8	6 3/8	11 1/2	3 3/8	1	1 1/8	1	5	7/8	
8	0800	12 1/2	8 5/16	13 3/4	3 3/4	1	1 1/4	1	5	1 1/8	
10	1000	15 5/8	10 7/16	17	4 1/8	1	1 3/8	1	5	1 3/8	
12	1200	17 7/8	12 3/8	19 1/4	4 1/8	1 1/2	1 3/8	1	5	1 5/8	
14	1400	19 1/4	13 5/8	20 3/4	4 1/2	1 1/2	1 1/2	1	5	1 3/4	
16	1600	22 1/8	15 5/8	23 3/4	4 7/8	1 1/2	1 5/8	1	6	2	
18	1800	24	17 5/8	25 3/4	5 1/4	1 1/2	1 3/4	1	6	2 1/8	
20	2000	26 3/4	19 9/16	28 1/2	5 1/4	1 1/2	1 3/4	1	6	2 1/2	
24	2400	31	23 1/2	33	6	1 1/2	2	1	6	2 7/8	

## **Ordering Information**

Example: Include full description

Size Model
(Prefix) Number
1200 PB600

12" Paddle Blind, ASME Class 600, Carbon Steel

Operating Pressures and Temperatures									
Туре	Size psi @ Temp Steam		psi @ Temp WOG						
SBL600 / PS600 / PB600	1" - 24"	600 @ 489 °F	1480 @ 100 °F						
SBL600SS / PS600SS / PB600SS	1" - 24"	600 @ 489 °F	1440 @100 °F						

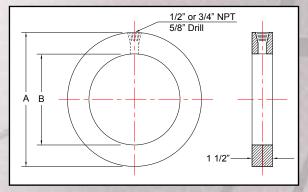


# **Bleed Rings / Flushing Rings**

### BLEED150 / BLEED150SS • BLEED300 / BLEED300SS • BLEED600/BLEED600SS

ASME Class 150 / 300 / 600 - Carbon Steel & Stainless Steel





- Sure Flow Equipment Bleed Rings and Flushing Rings are designed to withstand any pressure temperature combination that an ASME flange will withstand.
- 1/2" or 3/4", threaded or socket-weld taps are standard. Multiple taps can be provided but must be orientated by customer. Thickness of ring may be affected if larger taps are required.
- One coat of standard shop primer will be applied to all carbon steel rings unless specified differently.
- Standard materials are: SA516 Gr.70 304 Stainless Steel 316 Stainless Steel Other alloys can be furnished upon request
- Sure Flow Equipment Bleed Rings and Flushing Rings are produced in strict accordance with the following codes of practice: ASME B16.5 • ASME B16.20 • ASME B16.47 (For larger diameter flanges)

#### Notes:

- Standard with 125-250 AARH Serrated Finish
- Higher ASME pressure ratings available
- Larger sizes available

 Manufacturer reserves the right to modify dimensions, materials, or design. Consult factory for certification.

Dimensions (Inches)						
Size			"A" Dimension			
Inches	Prefix	В	Class 150	Class 300	Class 600	
1	0100	1 5/16	2 1/2	2 3/4	2 3/4	
1 1/2	0150	1 7/8	3 1/4	3 5/8	3 5/8	
2	0200	2 3/8	4	4 1/4	4 1/4	
3	0300	3 1/2	5 1/4	5 3/4	5 3/4	
4	0400	4 1/2	6 3/4	7	7 1/2	
6	0600	6 5/8	8 5/8	9 3/4	10 3/8	
8	0800	8 5/8	10 7/8	12	12 1/2	
10	1000	10 3/4	13 1/4	14 1/8	15 5/8	
12	1200	12 3/4	16	16 1/2	17 3/4	
14	1400	14	17 5/8	19	19 1/8	
16	1600	16	20 1/8	21 1/8	22	
18	1800	18	21 1/2	23 3/8	23 7/8	
20	2000	20	23 3/4	25 5/8	26 5/8	
24	2400	24	28 1/8	30 3/8	30 7/8	

### **Ordering Information**

Example: Include full description

Size (Prefix) 2400 Model
Number
BLEED150SS

24" Bleed Ring, ASME Class 150, Stainless Steel

	Operating Pressures and Temperatures						
	Type	Size	psi @ Temp Steam	psi @ Temp WOG			
-	BLEED150	1" - 24"	150 @ 366 °F	285 @ 100 °F			
	BLEED150SS	1" - 24"	150 @ 366 °F	275 @ 100 °F			
	BLEED300	1" - 24"	300 @ 422 °F	740 @ 100 °F			
5	BLEED300SS	1" - 24"	300 @ 422 °F	720 @100 °F			
	BLEED600	1" - 24"	600 @ 489 °F	1480 @ 100 °F			
	BLEED600SS	1" - 24"	600 @ 489 °F	1440 @100 °F			





# Sure Flow Equipment Inc. – Limited Warranty

All products are warranted to be free of defects in material and workmanship for a period of one year from the date of shipment, subject to below. All custom products are not subject to return, credit or refund. If the purchaser believes a product to be defective, the purchaser shall:

Notify the manufacturer within ten(10) days after receipt of merchandise, state the alleged defect and request permission to return the product. Merchandise will not be accepted for return without a "Return Code" clearly marked on the outside of the package. Contact the office to obtain a return code. Merchandise will not be accepted for return or credit later than six (6) months after invoicing.

If permission is given, return the product with the transportation prepaid. Collect shipments will not be accepted. Goods must be returned prepaid.

If a shipment is received in a damaged or deficient condition, a claim must be filed with the delivering carrier and noted on the freight bill before you accept the merchandise. All other claims must be made in writing and received by Sure Flow Equipment Inc. within ten (10) days after receipt of merchandise

If the product is accepted for return and found to be defective, the manufacturer will, at its discretion, either repair or replace the product, F.O.B. factory, within 60 days of receipt, or issue credit for the purchase price.

Sure Flow Equipment Inc. shall not be liable for failure to deliver or delays in delivering occasioned by acts of God, war, labor difficulties, inability to obtain materials or any other causes whatsoever beyond our control. Other than to repair, replace or credit as described above, purchaser agrees that manufacturer shall not be liable for any loss, costs, expenses, or damages of any kind arising out of the product, its use, installation or replacements, labeling, instructions, information or technical data of any kind, description of product use, sample or model, warnings or lack of any of the foregoing.

NO OTHER WARRANTIES, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, ARE MADE OR AUTHORIZED. NO AFFIRMATION OF ACT, PROMISE, DESCRIPTION OF PRODUCT OR USE OR SAMPLE OR MODEL SHALL CREATE ANY WARRANTY FROM MANUFACTURER, UNLESS SIGNED BY THE PRESIDENT OF MANUFACTURER.

Cancelled orders will be subject to a charge of at least 35%.

Cancelled custom orders will be subject to a charge of 100% of quoted price.

SPECIAL DOCUMENTATION: A charge will apply for non-standard, special documentation requests such as Material Test Reports (MTR's) and Certificates of Conformance (COC's).

MINIMUM BILLING: \$100.00 NET

Product shipping weights are approximate and subject to variances depending on packaging methods/requirements.



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Burlington, ON L7L 5R5 Tel: 905-335-1350 Fax: 905-332-4993



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Tonawanda, NY 14151-0321 Tel: 1-800-263-8251 Toll Free Fax: 1-800-876-1164

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