Sure Flow Equipment Inc.

Temporary Strainers and Custom Screens

www.sureflowequipment.com

2010

INTERTEK ISO 9001:2008

Contents Commitment to Quality

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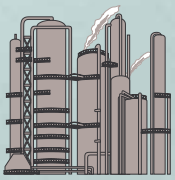

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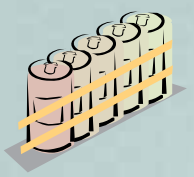

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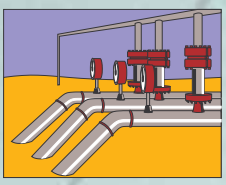

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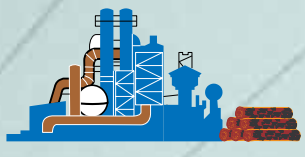


Pulp and Paper

Commitment to Quality

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 SECTION VIII, DIV 1, Current Edition. ASME "U" Code Stamp and ASME "UM" Code Stamp are available on certain products as specified in this brochure.

The Sure Flow Equipment Inc. list of Certifications includes:

ISO 9001:2008 Certificate of Registration

ASME "U" Code Stamp Certificate of Authorization and ASME "UM" Code Stamp Certificate of Authorization (ASME Boiler and Pressure Vessel Code; ASME Section VIII, Div 1, Current Edition);

National Board Certified and authorized to apply the "NB" Mark for pressure vessels and/or pressure retaining items manufactured in accordance with ASME "U" Code Stamp and ASME "UM" Code Stamp;

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

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

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

Member of FCI (Fluid Controls Institute) and Vice Chairman of Pipeline Strainer Section

Custom Strainer Screens

Custom Engineered Strainers, Screens and Baskets

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 Equipment we are well equipped to design a strainer that will meet your specific needs and can offer countless options for your custom filter, custom screen or custom strainer. Just give us a drawing or your working conditions and we will produce a design and manufacture to your requirements.

Quad Reverse Cone Strainer

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.

Production Capabilities and Engineering Expertise

Head Office and Production Facility

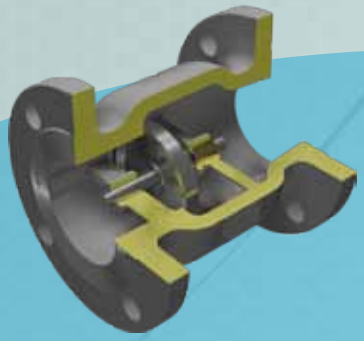
- 100,000 Square foot facility
- Central distribution centre
- All finished products
- Complete machine shop, lathe, vertical and horizontal boring
- 12 Welding stations with Jib cranes
- Fully equipped with overhead cranes
- 40 Foot drive in dock, dock height door and service door
- 20 Foot paint booth

Welding Capabilities

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

Additional Services

- Heat Tracing and Treatment
- Full Material Traceability
- Stress Relieving
- Oxygen Service Cleaning and Degreasing
- Machining
- Steel Painting includes Tank Linings, Protective Coatings, Chemical Corrosion Resistance
- Sand Blasting
- Plasma Cutting
- Water Jet Cutting (Carbon Steel, Stainless Steel and Aluminum thickness up to 1")
- Contour Beveling



Testing

- RT, UT, MT, LP
- 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 five seconds we can provide a full traceability of any alloy; plus download the analysis to provide a Material Test Report (MTR). We can readily supply in-house Material Test Reports for castings, welding rod, wire and all piping components, etc., to validate material composition.

Engineering Expertise

- 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.

Sure Flow Equipment Inc.

Toll Free: 1-800-263-8251 Toll Free Fax: 1-800-876-1164
International: 1-905-335-1350 International Fax: 1-905-332-4993
Email: info@sureflowequipment.com www.sureflowequipment.com

Temporary Cone and Basket Strainers

Features

Sure Flow Temporary Strainers are used for start-up of new or revamped piping systems. They will prevent construction debris from causing damage to downstream equipment. The screen cone is tig welded around the entire circumference of the flange ring to provide strength and prevent unwanted bypass.

Size: Range in sizes from 1/4" to 60" nominal pipe size as standard.

Open Area: Range in open area of strainer to cross section area of the pipe from 100% to 300% as standard

Material Thickness: Gauge of strainer material ranges between 22 to 11 depending on hole size.

Perforation: Perforation hole sizes range from 1/16" to 1/4" as standard.

Type of Material: Materials include carbon steel, various grades of stainless steel and alloys.

Flange/Facings: Strainer support rings can be constructed to accommodate raised face flanges, ring type joint flanges or any other standard flange facing.

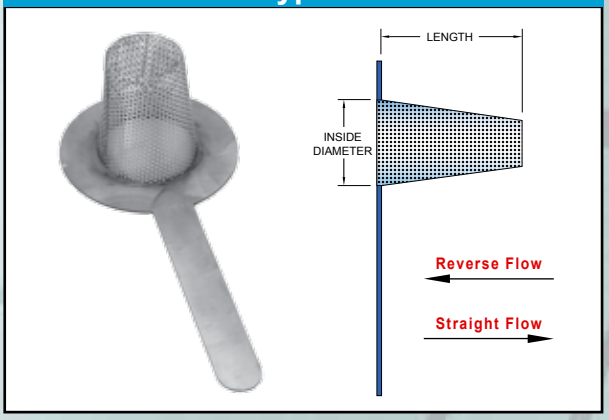
Welding: Resistance welding, TIG and Oxyacetylene.

Liners/Covers: Available for small particle removal 200 through 10 mesh carbon steel; stainless steel, etc.

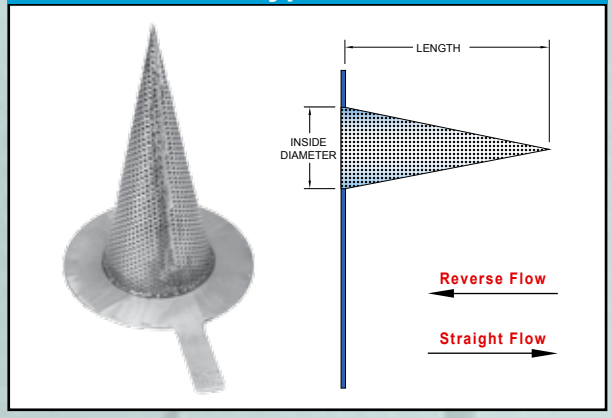
Straight Flow - mesh on inside

Reverse Flow - mesh on outside

Basket Type Strainer



Cone Type Strainer



Ordering Information

Example: Include full description

Size (Prefix)	Type & Material	Length	Screen Opening
0400	CS150SS	M	125

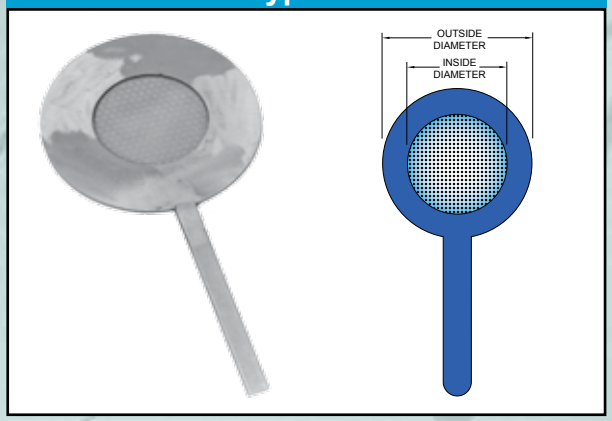
S = Standard M = 150% L = 200%

4" Temporary Cone Strainer, Stainless Steel, ASME Class 150, 150% Open Area and 1/8" Perf. Screen

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

Plate Type Strainer



Notes:

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

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International: 1-905-335-1350 International Fax: 1-905-332-4993
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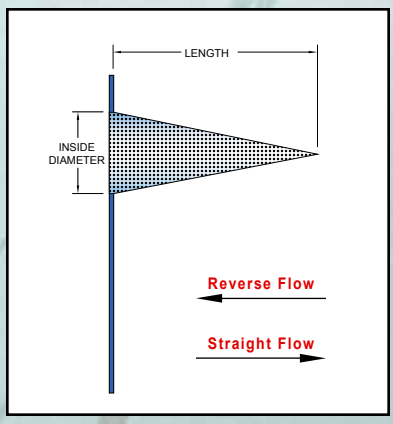
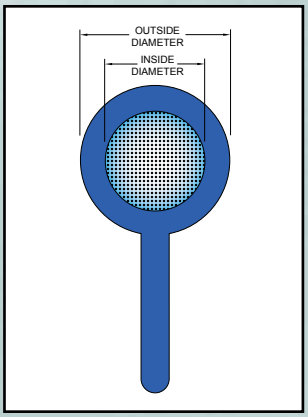
Temporary Cone and Basket Strainers

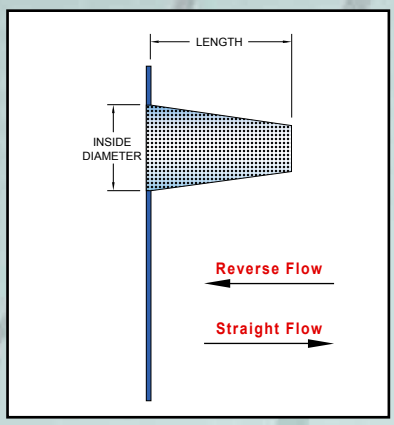
Dimensional Data

Flange Dimensions (Inches)						
Nominal Pipe Size	Inside Diameter	Outside Diameter (ASME Class 150 - 1500)				
		150 / 300	300	600	900	1500
3/4	5/8	2 1/8	2 1/2	2 1/2	2 5/8	2 5/8
1	3/4	2 1/2	2 3/4	2 3/4	3	3
1 1/2	1 1/4	3 1/4	3 5/8	3 5/8	3 3/4	3 3/4
2	1 3/4	4	4 1/4	4 1/4	5 1/2	5 1/2
2 1/2	2 1/4	4 3/4	5	5	6 3/8	6 3/8
3	2 3/4	5 1/4	5 3/4	5 3/4	6 1/2	6 3/4
4	3 3/4	6 3/4	7	7 1/2	8	8 1/8
5	4 5/8	7 5/8	8 1/4	9 3/8	9 5/8	9 7/8
6	5 1/2	8 5/8	9 3/4	10 3/8	11 1/4	11
8	7 3/8	10 7/8	12	12 1/2	14	13 3/4
10	9 3/8	13 1/4	14 1/8	15 5/8	17	17
12	11	16	16 1/2	17 7/8	19 1/2	20 3/8
14	12 1/4	17 3/8	18 7/8	19	20 3/8	22 5/8
16	14	20 1/8	21	21 7/8	22 1/2	25 1/8
18	15 3/4	21 1/4	23 1/4	23 3/4	25	27 5/8
20	17 1/2	23 1/2	25 1/2	26 5/8	27 3/8	29 5/8
24	21 1/4	27 7/8	30 1/4	30 7/8	32 7/8	35 3/8
* 30	27 1/4	34 3/8	37 1/8	37 7/8	39 3/8	-
* 36	33	40 7/8	43 5/8	44 1/8	46 7/8	-

** NOTE: Dimensions based on ASME B16.47 Series A flanges.*







Cone Strainer Length (Inches)				
Nominal Pipe Size	Open Area of Screen			
	100%	150%	200%	300%
3/4	3	4	5	6
1	3	4	5	6
1 1/2	3 1/2	4 1/2	6	6
2	4	6	8	11
2 1/2	4	6	8	11
3	5	7	9	13
4	8	10	12	18
5	8	11	14	22
6	9	13	18	25
8	12	17	23	33
10	14	21	28	41
12	16	25	34	49
14	18	27	36	53
16	21	31	40	61
18	24	35	46	68
20	26	38	51	76
24	31	45	61	90
30	38	57	76	114
36	46	68	91	130

Basket Strainer Length (Inches)				
Nominal Pipe Size	Open Area of Screen			
	100%	150%	200%	300%
3/4	1 1/2	2	3	4
1	1 1/2	2	3	4
1 1/2	2	2 1/2	3 1/2	5
2	2 1/2	3	4	6
2 1/2	2 1/2	3	4 1/2	6
3	3	4 1/2	6	8
4	4	5	7	11
5	4 1/2	7	9	14
6	5 1/2	8	11	17
8	7	11	14	21
10	8	13	17	26
12	10	15	20	31
14	10	16	22	33
16	12	19	24	37
18	14	21	27	41
20	16	24	31	48
24	18	28	37	57
30	22	34	46	71
36	27	42	58	85

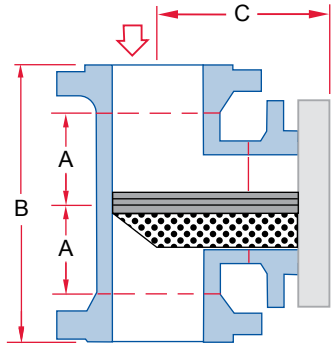
Fabricated Tee Type Strainers

Construction

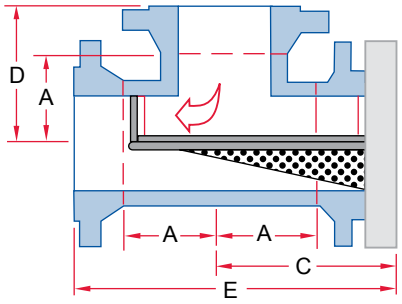
The Sure Flow Tee Strainer is a custom fabricated compact strainer designed to remove foreign pipeline particles from pipelines. This provides the ultimate protection for pumps, valves and other related equipment. The Sure Flow Tee Strainer is fabricated to your specification.

The standard Sure Flow Tee Strainer is constructed of carbon or stainless steel material. Sure Flow has fabricated numerous assemblies of chrome moly. Optional materials, end connections and accessories are available.

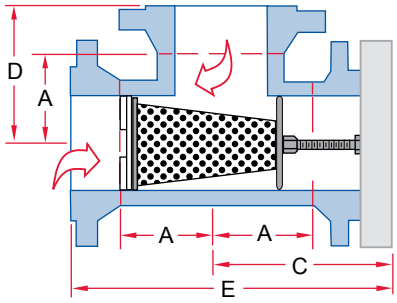
Tee Type Strainer Bodies



Tee Straight Flow Type



Tee Angled Flow Type



Tee Angled Flow Modified “TAM”

Tee Type Strainer Inserts

Dimensions (Inches)																					
Pipe Size	A	B					C					D					E				
		150	300	600	900	1500	150	300	600	900	1500	150	300	600	900	1500	150	300	600	900	1500
2	2 1/2	10	10 1/2	11 1/4	13 1/2	13 1/2	5 7/8	6 1/4	7	8 5/8	8 5/8	5	5 1/4	5 5/8	6 3/4	6 3/4	10 7/8	11 1/2	12 5/8	15 3/8	15 3/8
2 1/2	3	11 1/2	12	12 3/4	14 3/4	14 3/4	6 3/4	7 1/8	7 7/8	9 3/8	9 3/8	5 3/4	6	6 3/8	7 3/8	7 3/8	12 1/2	13 1/8	14 3/4	16 3/4	16 3/4
3	3 3/8	12 1/4	13	13 3/4	15 1/4	16 1/2	7 3/16	7 3/4	8 1/2	9 1/2	10 1/2	6 1/8	6 1/2	6 7/8	7 5/8	8 1/4	13 5/16	14 1/4	15 3/8	17 1/8	18 3/4
4	4 1/8	14 1/4	15	16 3/4	17 3/4	18 1/2	8 3/16	8 7/8	10 1/4	11	11 3/4	7 1/8	7 1/2	8 3/8	8 7/8	9 1/4	15 5/16	16 3/8	18 5/8	19 7/8	21
5	4 7/8	16 3/4	17 1/2	19 1/4	20 1/4	22 1/2	9 7/16	10 1/4	11 3/4	12 1/2	14 1/2	8 3/8	8 3/4	9 5/8	10 1/8	11 1/4	17 13/16	19	21 3/8	22 5/8	25 3/4
6	5 5/8	18 3/4	19	21	22 3/4	25 1/4	10 1/4	11 1/16	12 3/4	13 15/16	16 1/4	9 3/8	9 1/2	10 1/2	11 3/8	12 5/8	19 3/8	20 9/16	23 1/4	25 5/16	28 7/8
8	7	22	22 3/4	25	27 1/4	31 1/4	12 1/4	13 1/8	15 1/16	16 1/2	19 5/8	11	11 3/8	12 1/2	13 5/8	15 5/8	23 1/4	24 1/2	27 9/16	30 1/8	35 1/4
10	8 1/2	25	26 1/4	29 1/2	32	37 1/2	13 13/16	15 1/8	17 5/8	19 1/8	23 3/8	12 1/2	13 1/8	14 3/4	16	18 3/4	26 5/16	28 1/4	32 3/8	35 1/8	42 1/8
12	10	29	30 1/4	32 3/4	36 1/4	42 3/4	15 7/8	17 1/4	19 3/8	21 5/8	26 5/8	14 1/2	15 1/8	16 3/8	18 1/8	21 3/8	30 3/8	32 3/8	35 3/4	39 3/4	48
14	11	32	33 1/4	35 1/2	39 1/4	46	17 1/2	18 7/8	20 7/8	23 3/8	28 5/8	16	16 5/8	17 3/4	19 5/8	23	33 1/2	35 1/2	38 5/8	43	51 5/8
16	12	34	35 1/2	38 1/2	41 1/2	49	18 9/16	20 1/8	22 5/8	24 5/8	30 5/8	17	17 3/4	19 1/4	20 3/4	24 1/2	35 9/16	37 7/8	41 7/8	45 3/8	55 1/8
18	13 1/2	38	39 1/2	42	45 1/2	53 1/4	20 11/16	22 1/4	24 5/8	27 1/8	33 3/8	19	19 3/4	21	22 3/4	26 5/8	39 11/16	42	45 5/8	49 7/8	60
20	15	41 3/8	42 3/4	45 1/2	50	58 1/2	22 9/16	24	26 5/8	29 5/8	36 5/8	20 11/16	21 3/8	22 3/4	25	29 1/4	43 3/16	45 3/8	49 3/8	54 5/8	65 7/8
24	17	46	47 1/4	50 1/2	57 1/2	66 1/2	25	26 1/2	29 5/8	34 5/8	41 5/8	23	23 5/8	25 1/4	28 3/4	33 1/4	48	50 1/8	54 7/8	63 3/8	74 7/8

When ordering specify:

- Type - Straight Flow, Angled Flow, Angled Modified
- Nominal Pipe Size
- Flange Rating and Facing
- Pressure Rating and Facing
- Corrosion Conditions, if any (type of material
- Perforation (particle retention)

Notes:

Flanges and bodies are designed to meet Section 1 of American Standard Code for Pressure Piping, ASA B31.1 .

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

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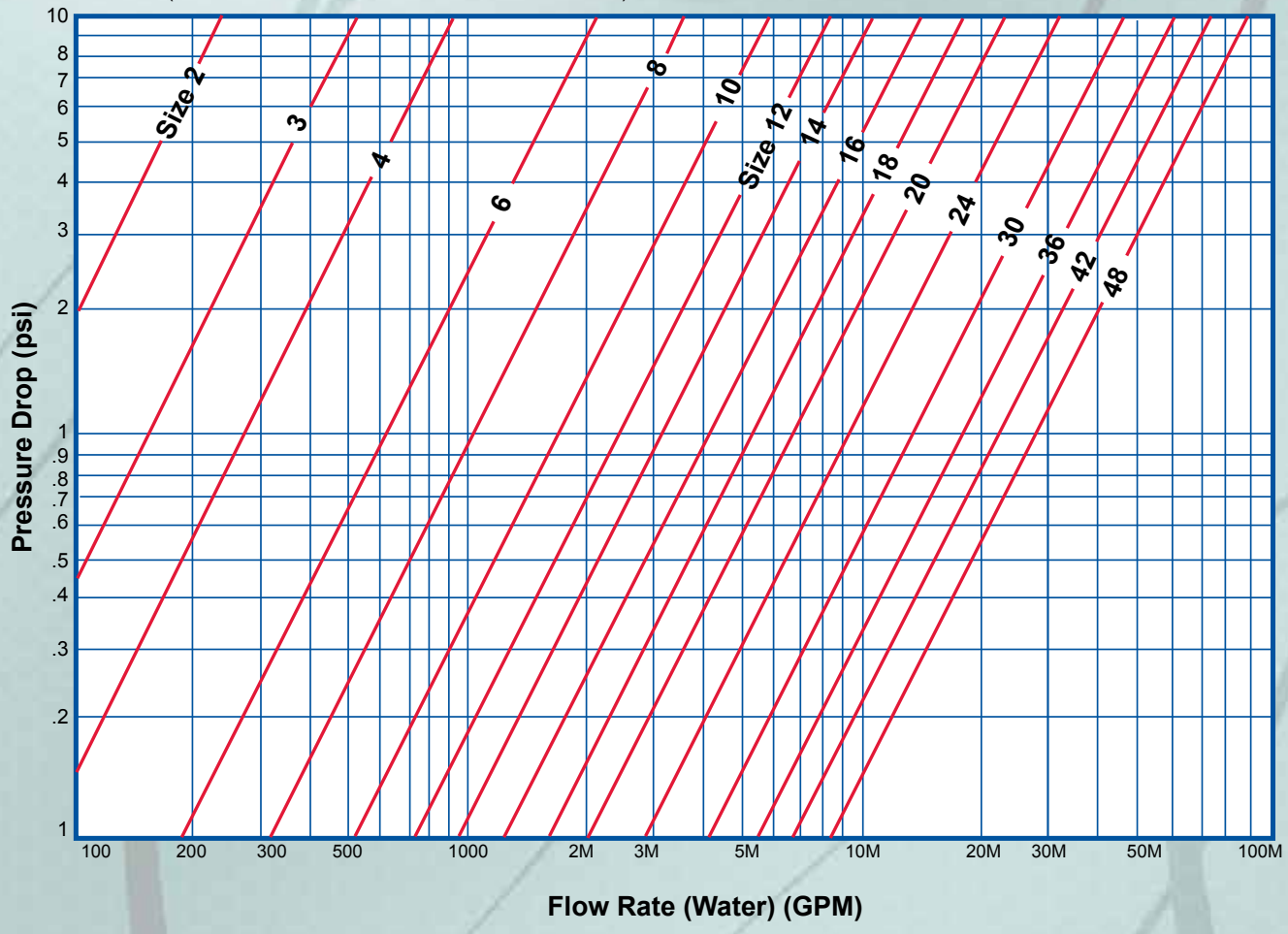
Fabricated Tee Type Strainers

Flow Rate Vs. Pressure Drop (Clean Screen)

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

Correction Factors				
Viscosity (SSU)	Perforated (1/8" Holes)	Perforated with Wire Cloth		
		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

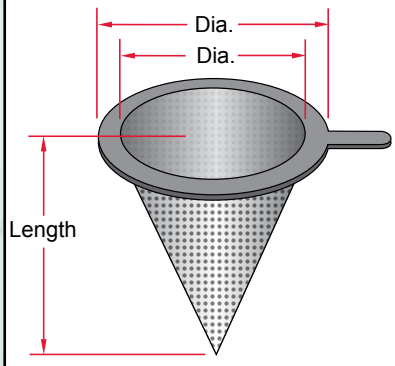
(Perforated basket 1/8" dia. holes on 3/16" centers)



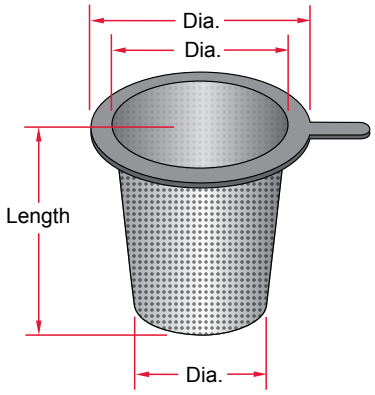
Note: These charts are for theoretical calculations **ONLY**.
Please contact our office with your exact specifications and you will be provided with factory calculations.

Custom Strainer Styles

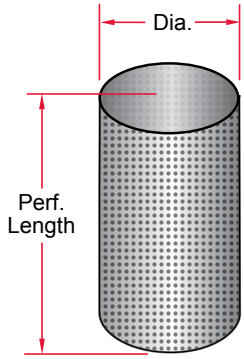
Style "B" Cone Type Strainer



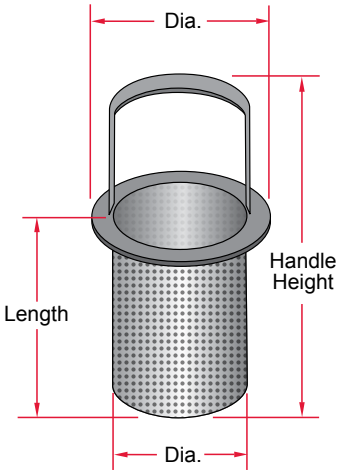
Style "C" Cone Type Basket Strainer



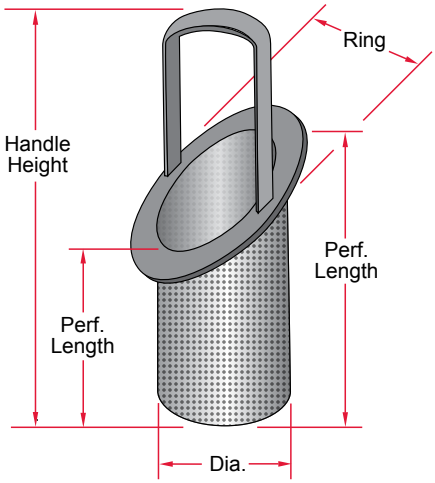
Style "D" Cylindrical Screen



Style "E" Basket Strainer



Style "F" Basket Strainer



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

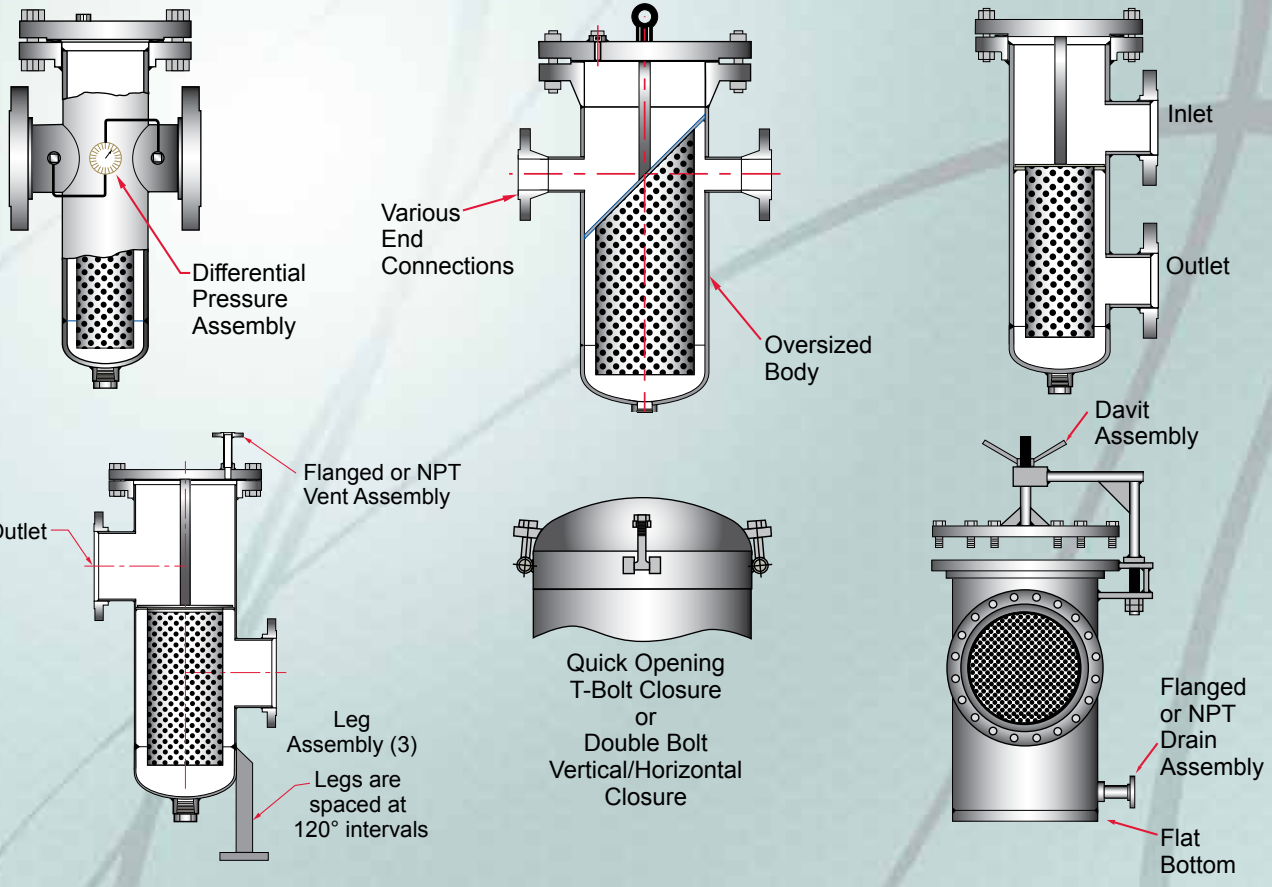
We manufacture Strainer Baskets, Screens, Tubes, Cones and Tee Strainers in Stainless Steel, Monel, Titanium and other exotic metals. Sure Flow Equipment Inc. can customize baskets to fit your unique requirements.

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

Fabricated Basket Strainers

Custom Strainer Options



Optional Features

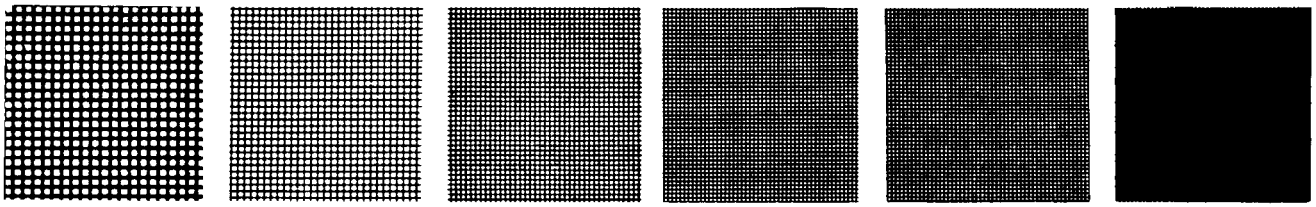
- Quick opening covers
- Body materials of Stainless Steel or special alloys
- Custom Baskets of 316SS, Monel, and special alloys
- Davit Assembly
- Various end connections available including Weld Neck Flanges, Socket Weld and Ring Type Joint connections
- Larger sizes available
- Single or multiple 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

Perforated Material and Mesh

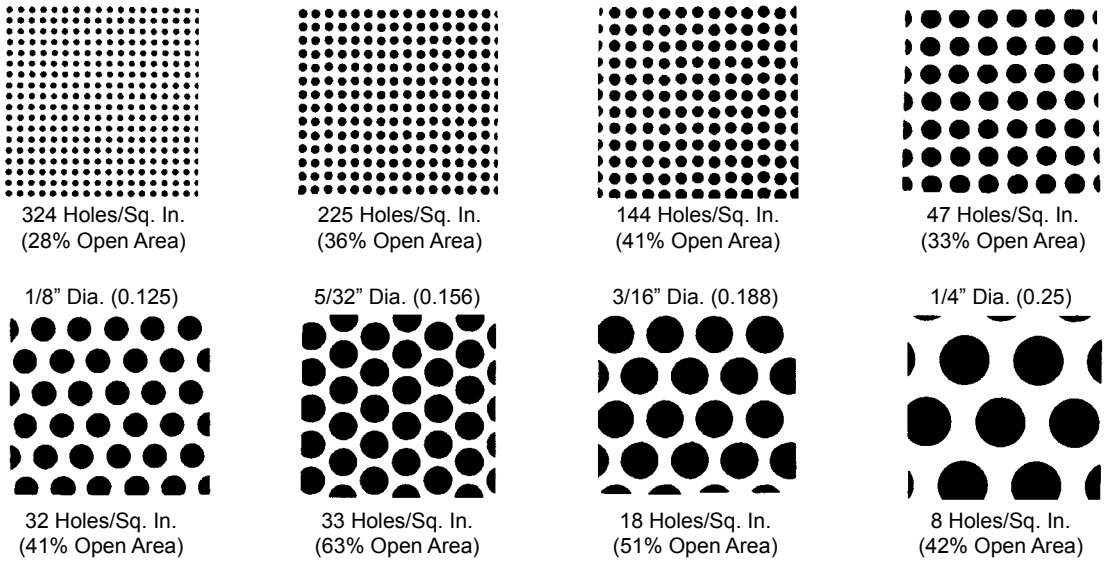
Mesh (Available In All Materials)



1/32" Openings	1/50" Openings	1/64" Openings	0.009" Openings	0.007" Openings	0.005" Openings
20 Mesh (46% Open Area)	30 Mesh (41% Open Area)	40 Mesh (36% Open Area)	60 Mesh (31% Open Area)	80 Mesh (31% Open Area)	100 Mesh (30% Open Area)

Mesh sizes other than shown - available on request

Perforated Plate (Available In All Materials)



1/32" Dia. (0.032)	3/64" Dia. (0.045)	1/16" Dia. (0.062)	3/32" Dia. (0.094)
324 Holes/Sq. In. (28% Open Area)	225 Holes/Sq. In. (36% Open Area)	144 Holes/Sq. In. (41% Open Area)	47 Holes/Sq. In. (33% Open Area)
1/8" Dia. (0.125)	**5/32" Dia. (0.156)**	**3/16" Dia. (0.188)**	**1/4" Dia. (0.25)**
32 Holes/Sq. In. (41% Open Area)	33 Holes/Sq. In. (63% Open Area)	18 Holes/Sq. In. (51% Open Area)	8 Holes/Sq. In. (42% Open Area)

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

www.sureflowequipment.com

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:

(a) 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.**

(b) 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.

CANCELLATIONS: **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.

MINIMUM BILLING: $100.00 NET

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).**

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

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INTERTEK ISO 9001:2008

June 2010