SECTION VIII

STRAINERS

"Y" Strainers

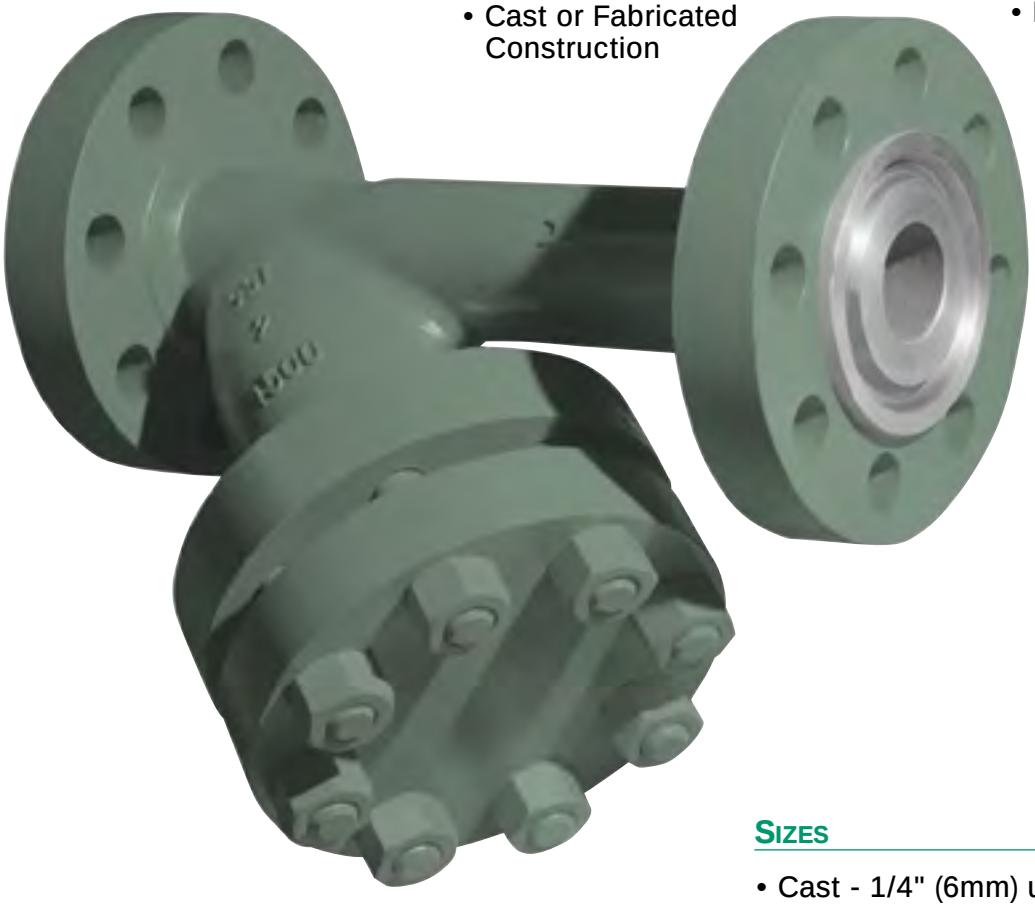
Pressures to 3705 PSIG
Temperatures to 800ºF

Applications

- Process Industry
- Power Industry
- Chemical Industry
- Oil and Gas
- Metals and Mining
- Water and Waste
- Pulp and Paper

Features

- Low pressure drop streamlined design
- Large strainer screens
- Compact end to end dimension
- Cast or Fabricated Construction



End Connections

- Flat Faced
- Raised Face
- RTJ Flanged
- Buttweld
- Threaded (NPT)
- Socketweld
- Sweat

Materials

- Cast Iron
- Ductile Iron
- Bronze
- Carbon Steel
- Low Temp Steel
- Chrome Molly
- Stainless Steel
- Other Materials Upon Request

Ratings

- ANSI 125 psig
- ANSI 150 psig
- ANSI 300 psig
- ANSI 600 psig
- ANSI 900 psig
- ANSI 1500 psig
- ANSI 2500 psig

Sizes

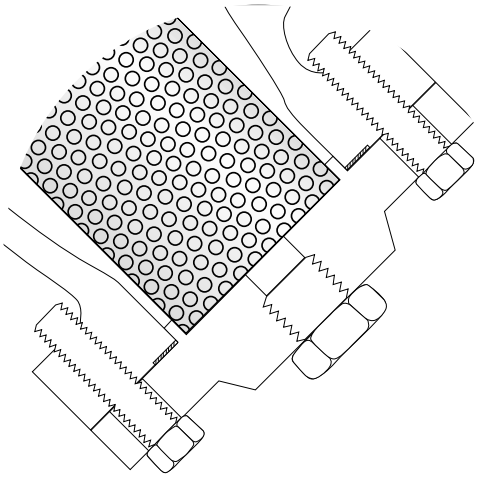
- Cast - 1/4" (6mm) up to 16" (400mm)
- Fabricated - Custom sizes to meet any requirements

Y STRAINER DESIGN FEATURES

Body-Cover Flanged Joints

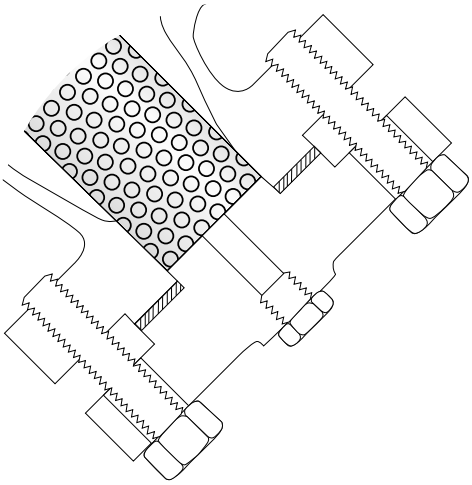
Flanged body-cover joints are designed to meet the requirements of ASME Section VIII, Div. 1 and/or ASME B16.5.

For Series 150Y2 and 300Y2 strainers, the body-cover joint is designed using the equations found in Appendix II of the ASME Pressure Vessel Code. Calculations are performed using standard gaskets and with the existence of a edge moment. The gasket cavity is fully enclosed ensuring proper gasket alignment while preventing unwinding of spiral wound gaskets if used.



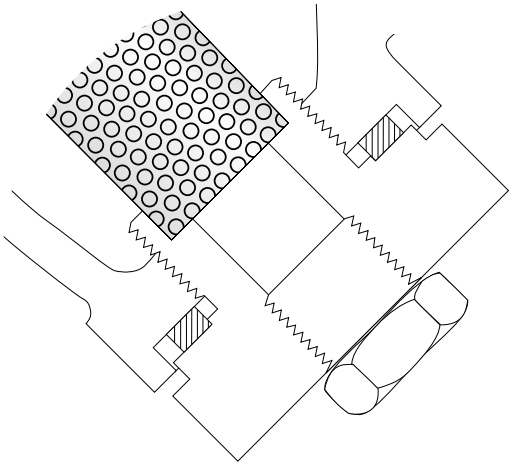
Exclusive

Series 600Y2, 900Y2 and 1500Y2 strainers incorporate a body-cover joint that is in dimensional accordance with the flange dimensions specified in ASME B16.5. Among the advantages of this strong leak-proof design is the convenience of using gaskets that are in accordance with ASME B16.20 and ASME B16.21. This feature eliminates the need for dimensionally special gaskets when maintenance is performed.



Body-Cover Threaded Joints

The design of a strong threaded body-cover joint is dependent on many factors. When designing these joints for strainers, calculations are performed taking into account thread shear (ASME B16.34), cover thickness and operating/gasket seating loads (ASME Sect. VIII, Div. 1). Basic dimensions such as wall thickness and band diameters are in accordance with ASME codes.



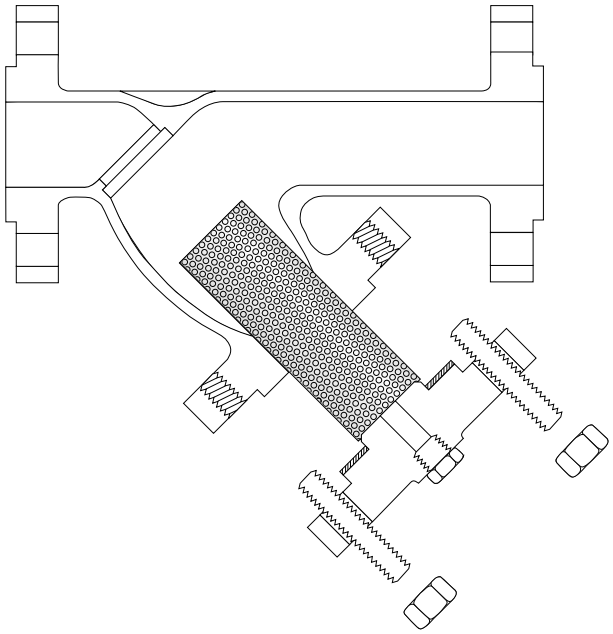
Y STRAINER DESIGN FEATURES

Screen Seating

All Spence Y-Strainers are manufactured with both upper and lower machined seats. This feature eliminates debris by-pass while also acts to securely hold the screen in position when in service.

For assembly and disassembly purposes, Spence Y-Strainers are designed so that the screen is securely slid over or into a machined lip on the cover bonnet. This allows the screen to be easily guided into the upper machined seat during assembly.

In particular, for Series 600Y2, 900Y2 and 1500Y2 strainers, where the cover flange tends to be heavy and difficult to maneuver, the screen is also guided around it's circumference by the strainer body. This feature eliminates the possibility of misaligning the strainer screen during assembly while providing additional support to the screen when in service. This circumferential support reduces maintenance time and costs since the strainer can be assembled quicker and safer than with other designs.



Strainer Screens

All Spence Y-Strainers are equipped with screens that have an open flow area many times greater than the pipe nominal cross-sectional area. This is important in order to reduce initial pressure drop and decrease the rate in which the pressure drop increases as the strainer screen becomes clogged. As shown in the figure the larger the screen area the lower the rate of increase in pressure drop.

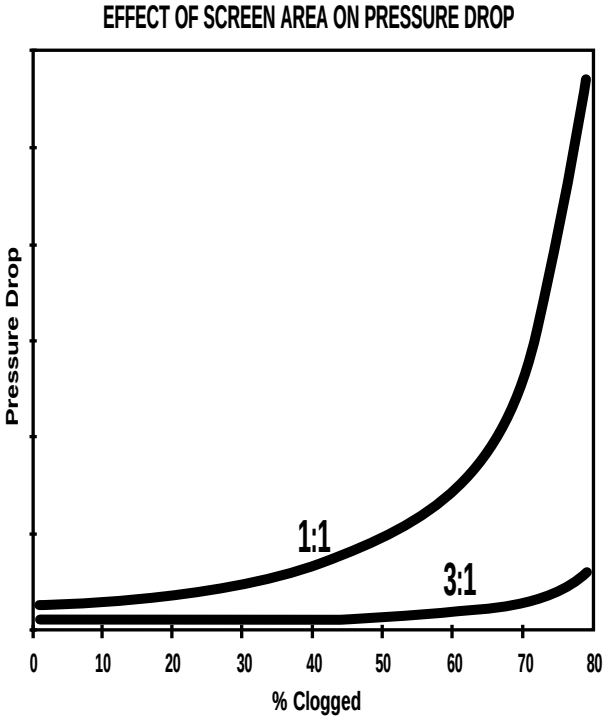
A Y-Strainer screen must be strong enough to handle the resulting differential pressure that occurs when in service. In general all Spence strainer screens are designed to handle a minimum burst pressure of 50 psid. Spence calculates the burst pressure of screens using the formula:

$$P = \frac{St}{R - 0.4t}$$

P = Burst Pressure
S = Reduced allowable stress
t = Thickness of screen material
R = Outside radius of screen

SOURCE: ASME Section VIII, Div. 1, Appendix 1.

Using the above formula, Spence can design and manufacture any strainer screen to suit your specific strength requirements.



Note: Curves are for different ratios of free area to pipe area.

125Y SERIES

BRONZE, CAST IRON Y STRAINERS NPT, SWEAT ENDS, FLANGED

PRESSURES TO 200 PSIG (13.8 BARG)
TEMPERATURES TO 450°F (232°C)

- **ANSI 125# rated strainers**
- **NPT, SE and FF flanges in accordance with ASME 16.1 and 16.15**
- **One piece cast body**
- **Upper and lower machined seats**
- **Generous screen area and properly proportioned straining chamber to minimize intial pressure drop while maximizing time between cleanings.**

APPLICATIONS

- Steam, liquid, gas and oil service
- Power industry
- Pulp and paper
- Chemical industry
- Metal & Mining
- Water & Waste

OPTIONS

- Other perforated screens and mesh liners
- Other drain connections and gasket materials
- Oxygen cleaning
- Special internal/external coatings and linings
- Contact factory for other options

APPLICABLE CODES

- ANSI B16.1
- ANSI B16.15

Canadian Registration OEO591.9C for CI 125Y2F

MODELS

- 125Y1T - Bronze, NPT, Threaded Cover
- 125Y1E - Bronze, Sweat Ends, Threaded Cover
- 125Y2F - Cast Iron, Flanged, Bolted Cover

125Y Series Ordering Code

Inlet Size				Dash	Model						Body Material	Dash	Perf	Mesh	Add'l Requirements
0	1	0	0	-	1	2	5	Y	1	T	B	-	A	2	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
- 0038 - ⅜"
- 0050 - ½"
- 0075 - ¾"
- 0100 - 1"
- 0125 - 1¼"
- 0150 - 1½"
- 0200 - 2"
- 0250 - 2½"
- 0300 - 3"
- 0400 - 4"
- 0500 - 5"
- 0600 - 6"
- 0800 - 8"
- 1000 - 10"
- 1200 - 12"
- 1400 - 14"
- 1600 - 16"

Dash - Position 5

Model - Position 6 - 11
- 125Y1T
- 125Y1E
- 125Y2F

Body Material - Position 12
- I - Cast Iron
- B - Bronze

Dash - Position 13

Perf[1] - Position 14
304 SS Material[2]
- A - No Perf
- 1 - 1/32"
- B - 3/64"
- 4 - 1/8"
- 5 - 3/32"
- 6 - 3/16"
- 7 - 7/32"
- 8 - 1/4"
- 9 - 3/8"

Mesh[1, 2] - Position 15
Leave Blank If Not Required (std Y2F)
- 1 - 10
- 2 - 20
- 3 - 30
- 4 - 40
- 5 - 50
- 6 - 60
- 7 - 80
- 8 - 100
- 9 - 120

Add'l Requirements - Position 16
Leave Blank If not Required
- D - Special Drain Size
- F - Silicon Free
- G - Special Gaskets
- T - Special Testing
- X - Oxygen Cleaning
- Y - Other and / or Multiple Specials

Indicate Specials Clearly On the Order

1. Standard Screens: Y1T, Y1E—20 mesh, Y2F< 3"—3/64" perf, Y2F>3"—1/8" perf
2. For other screen materials contact factory.

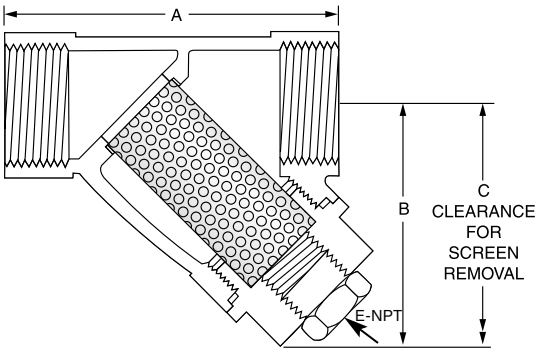
125Y1 SERIES
BRONZE Y STRAINERS
NPT, SWEAT ENDS

SPECIFICATION

Y Strainer shall be straight flow design with NPT or Sweat Ends inlet/outlet connections. The strainer shall be rated to ANSI 125 PSIG rating in accordance with ANSI B16.15. The Strainer shall be bronze body and the screen shall be size _____ mesh 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 125Y1 Series.

MATERIALS OF CONSTRUCTION

Body .....Bronze B584
Cover .....Bronze B584
Screen[1] .....304 SS Mesh
Plug .....Bronze B584
Gasket[1] .....Garlock 2900
1. Recommended Spare Parts



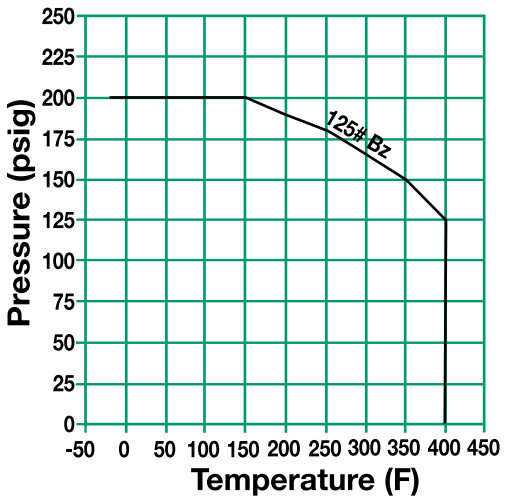
Connections:
3/8" – 3" NPT or Sweat Ends

Note: For Buttweld sizes please indicate pipe schedule on the order.

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
3/8" – 3"	20 Mesh	304 SS

PRESSURE/TEMPERATURE CHART
ANSI B16.15



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	E	WEIGHT
⅜ (10)	3¼ (82)	2⅛ (55)	3½ (89)	⅜ (10)	.8 (.36)
½ (15)	3¼ (82)	2⅛ (55)	3½ (89)	⅜ (10)	1.0 (.25)
¾ (20)	4 (100)	2¾ (70)	4½ (114)	⅜ (10)	1.2 (.60)
1 (25)	4½ (115)	3 (75)	5 (127)	½ (15)	1.6 (.73)
1¼ (32)	5⅜ (136)	3 9/16 (90)	5¾ (146)	½ (15)	2.5 (1.1)
1½ (40)	6 5/16 (160)	3⅞ (98)	6⅜ (162)	½ (15)	3.4 (1.6)
2 (50)	7½ (191)	5 7/16 (138)	9 1/16 (230)	½ (15)	5.8 (2.6)
2½ (65)	9 1/16 (230)	5 15/16 (151)	10 (254)	½ (15)	10.2 (4.6)
3 (80)	10 3/16 (259)	6 5/16 (160)	10⅜ (264)	½ (15)	13.7 (6.2)

Dimensions shown are subject to change. Consult factory for certified drawings when required.

125Y2 SERIES
CAST IRON Y STRAINERS FLANGED

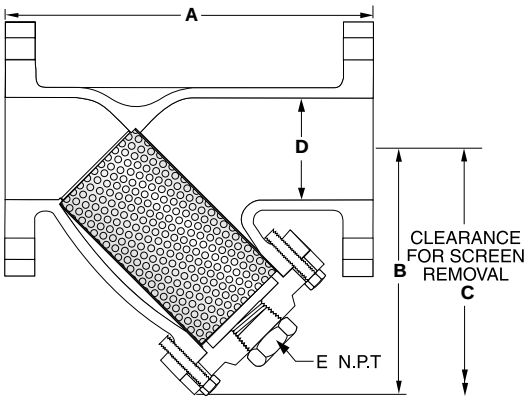
SPECIFICATION

Y Strainer shall be straight flow design with FF Flanged inlet/outlet connections. The strainer shall be rated to ANSI 125 PSIG rating in accordance with ANSI B16.1. The Strainer shall be Cast Iron body and the screen shall be size _____ perforated 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 125Y2 Series.

MATERIALS OF CONSTRUCTION

Body .....Cast Iron A126-B
Cover .....Cast Iron A126-B
Screen[1] .....304 SS
Plug .....Cast Iron A126-B
Gasket[1] .....Graphite
Bolt/Stud[2] A307-B
Nut[2] A563

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

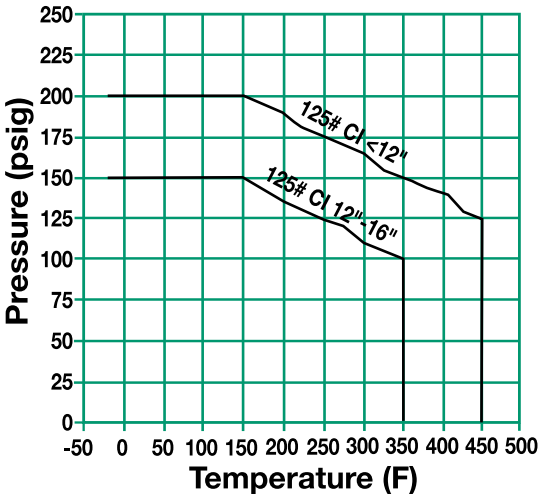


Connections:
2" – 16" FF Flanged

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" – 3"	3/64" Perf	304 SS
4" – 16"	1/8" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ASME B16.1



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
2 (50)	8⅞ (226)	6⅛ (156)	8½ (216)	2 (51)	½ (15)	22 (10)
2½ (65)	10¾ (273)	8 1/16 (205)	11¼ (286)	2½ (64)	1 (25)	35 (16)
3 (80)	11⅝ (295)	8½ (216)	12¼ (311)	3 (76)	1 (25)	43 (20)
4 (100)	13⅞ (353)	9⅝ (245)	13⅜ (340)	4 (102)	1 (25)	75 (34)
5 (125)	16⅜ (416)	11⅝ (295)	16⅛ (410)	5 (127)	1¼ (32)	115 (52)
6 (150)	18½ (470)	12⅝ (321)	17 1/16 (449)	6 (152)	1½ (40)	154 (70)
8 (200)	21⅜ (543)	16⅜ (416)	23 (584)	8 (203)	1½ (40)	243 (110)
10 (250)	26 (660)	19⅛ (486)	26 1/16 (678)	10 (254)	2 (50)	390 (117)
12 (300)	30 (762)	22 1/16 (559)	31 (787)	12 (305)	2 (50)	650 (295)
14 (350)	37⅜ (949)	30 1/16 (780)	41 (1041)	14 (356)	2 (50)	815 (370)
16 (400)	42½ (1080)	33 1/16 (840)	46 (1168)	16 (406)	2 (50)	1224 (555)

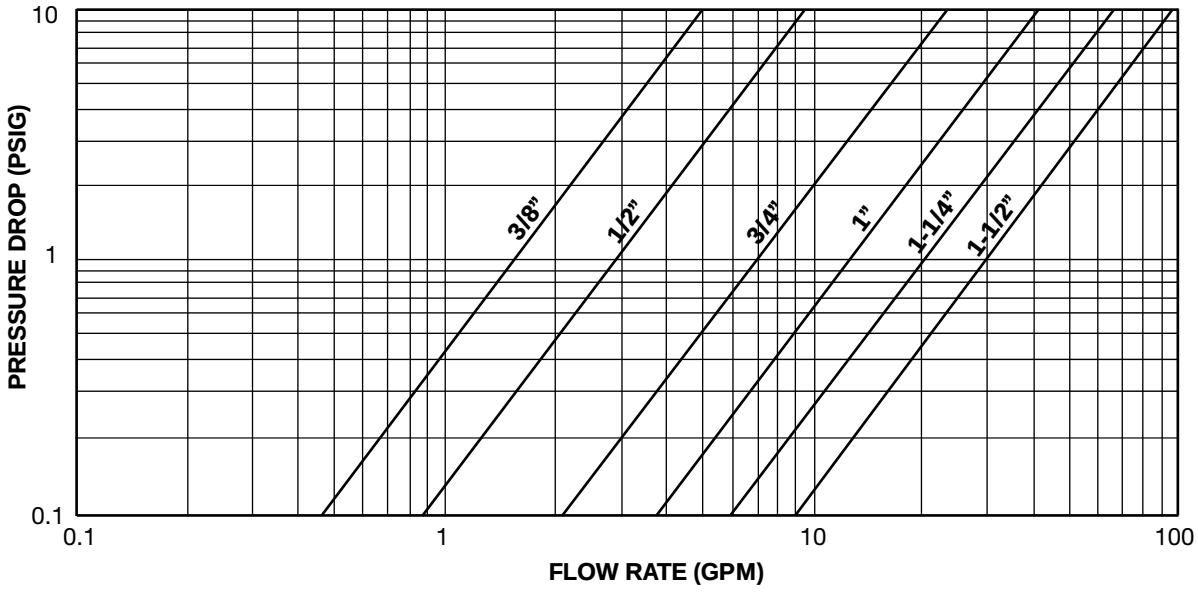
Dimensions shown are subject to change. Consult factory for certified drawings when required.

125Y SERIES BRONZE, CAST IRON

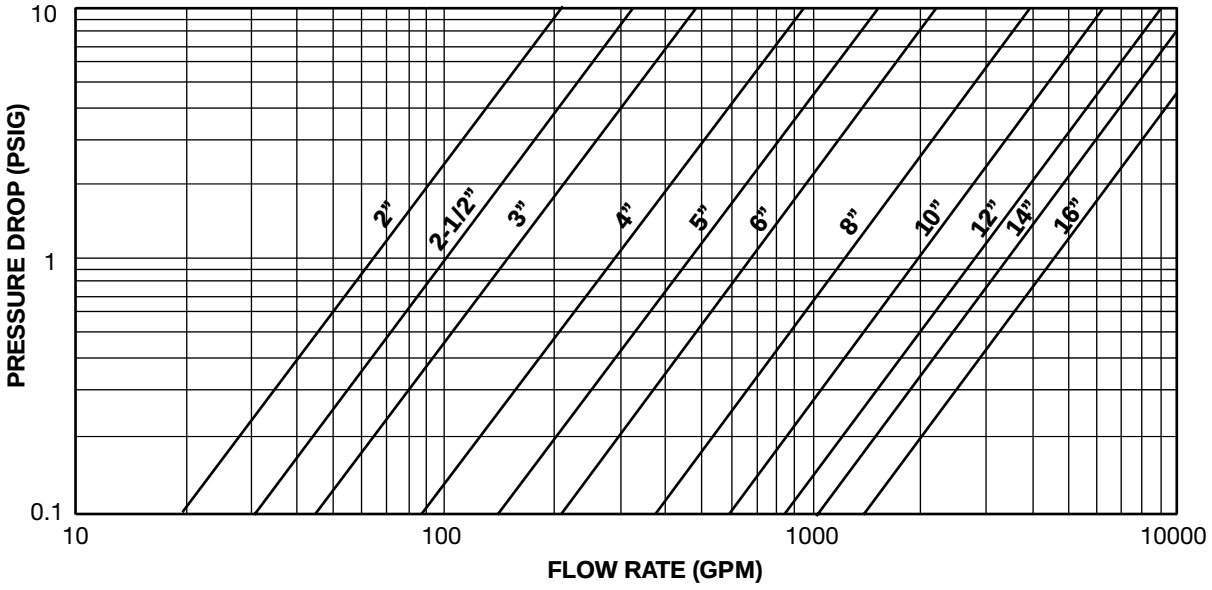
PRESSURE DROP VS FLOW RATE

Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*

(Sizes ⅜" - 1½")



(Sizes 2" - 16")



* For Gas, Steam or Air service, consult factory.

Steam Service Pressure Drop Page 433

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 432

Correction Factors for Clogged Screens Page 432

125Y SERIES BRONZE, CAST IRON Y STRAINERS

OPEN AREA RATIOS

with Standard Perforated Screen

BRONZE

Size	Mesh	Opening %	Std Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
⅜	20	49	0.19	3.8	1.88	9.9
½	20	49	0.30	3.8	1.88	6.2
¾	20	49	0.53	5.5	2.71	5.1
1	20	49	0.86	7.0	3.45	4.0
1¼	20	49	1.50	11.1	5.42	3.6
1½	20	49	2.04	15.2	7.46	3.7
2	20	49	3.36	26.1	12.81	3.8
2½	20	49	4.79	36.6	17.95	3.7
3	20	49	7.39	49.0	24.00	3.2

CAST IRON

Size	Perf. Diameter (in.)	Opening %	Flange Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	3/64	36	3.14	29.4	10.58	3.4
2½	3/64	36	4.91	46.0	16.56	3.4
3	3/64	36	7.07	57.0	20.51	2.9
4	1/8	40	12.57	99.0	39.59	3.2
5	1/8	40	19.63	146.5	58.58	3.0
6	1/8	40	28.27	174.0	69.60	2.5
8	1/8	40	50.27	327.3	130.91	2.6
10	1/8	40	78.54	495.2	198.08	2.5
12	1/8	40	113.10	645.0	257.99	2.3
14	1/8	40	153.94	1149.9	459.94	3.0
16	1/8	40	201.06	1431.9	572.75	2.8

OAR = Free Screen Area / Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

Other Screen Openings Page 430

Basket Burst Pressure Page 435

150Y SERIES
CARBON STEEL, STAINLESS STEEL, BRONZE Y STRAINERS FLANGED, BUTTWELD

PRESSURES TO 285 PSIG (19.7 BARG)
TEMPERATURES TO 750°F (390°C)

- **ANSI 150 PSIG rated strainers**
- **RF Flanges, FF Flanges (Bronze only) and Buttweld in accordance with ANSI 16.5, 16.24, and 16.25**
- **All sizes complete with Bolted Cover**
- **Cover flange (CS, SS) in accordance with ASME Section VIII, Div 1 Appendix II and/or ANSI 16.5.**
- **One piece cast body**
- **Upper and lower machined seats**
- **Generous screen area and properly proportioned straining chamber to minimize initial pressure drop while maximizing time between cleanings**
- **Drain/Blow-off connection furnished with plug**

APPLICATIONS
- Steam, liquid, gas and oil service
- Power Industry
- Pulp & Paper
- Process Equipment
- Chemical Industry
- Metal & Mining
- Water & Waste

OPTIONS
- Other perforated screens and mesh liners
- Other drain connections and gasket materials
- Oxygen cleaning
- Special internal / external coatings and linings
- Contact Factory for other Options

APPLICABLE CODES
- ANSI B16.5
- ANSI B16.25
- ANSI B16.24
- ANSI B16.34

MODELS
- 150Y2F – Carbon, Stainless or Bronze Flanged with Bolted Cover
- 150Y2B – Carbon or Stainless Buttweld with Bolted Cover

150Y Series Ordering Code

Inlet Size				Dash	Model					Body Material	Dash	Perf	Mesh	Add'l Requirements
0	2	0	0	-	1	5	0	Y	2	F	T	-	B	__	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
0050 - ½"
0075 - ¾"
0100 - 1"
0125 - 1¼"
0150 - 1½"
0200 - 2"
0250 - 2½"
0300 - 3"
0400 - 4"
0500 - 5"
0600 - 6"
0800 - 8"
1000 -10"
1200 -12"

Dash - Position 5

Model - Position 6 - 11
150Y2F
150Y2B[1]

Body Material - Position 12
C - CS
T - SS
B - BZ

Dash - Position 13

1. For Buttweld connections please specify mating pipe schedule.

Perf[2] - Position 14
304SS Material[3]
A - No Perf
1 - 1/32"
B - 3/64
4 - 1/8"
2 - 1/16"
3 - 3/32"
5 - 5/32"
6 - 3/16"
7 - 7/32"
8 - 1/4"
9 - 3/8"

Mesh[3] - Position 15
Leave Blank If not Required (std ALL)
1 - 10
2 - 20
3 - 30
4 - 40
5 - 50
6 - 60
7 - 80
8 - 100
9 - 120

Add'l Requirements - Position 16
Leave Blank If not Required
D - Special Drain Size
F - Silicon Free
G - Special Gaskets
N - Nace MR01-75
T - Special Testing
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

2. Standard Screens: ALL 1/2"-11/2"—1/32" perf, ALL 2"-3"—3/64" perf, ALL >3"—1/8" perf .
3. For other screen material, contact factory.

150Y2 SERIES
CARBON STEEL, STAINLESS STEEL Y STRAINERS FLANGED, BUTTWELD

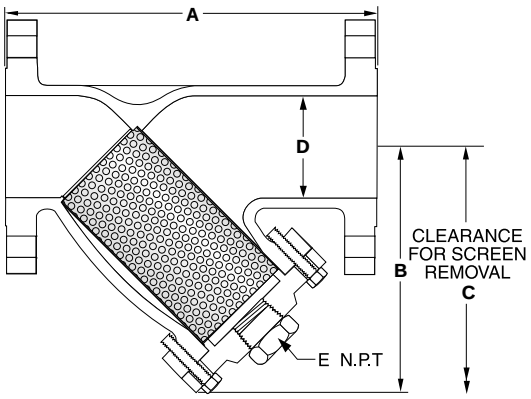
SPECIFICATION

Y Strainer shall be straight flow design with RF Flanged or Buttweld inlet/outlet connections. The strainer shall be rated to ANSI 150 PSIG rating in accordance with ANSI B16.5 or ANSI B16.25. The Strainer shall be Cast Carbon Steel or Stainless Steel body and the screen shall be size _____ perf 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 150Y2 Series.

MATERIALS OF CONSTRUCTION

Part	Carbon Steel	Stainless Steel
Body	A216-WCB	A351-CF8M
Cover	A216-WCB	A351-CF8M
Screen[1]	304 Stainless Steel	304 Stainless Steel
Plug[2]	A105	A182-316
Gasket[1]	Teflon/Spiral Wound 304/GR[3]	Teflon/Spiral Wound 304/GR[3]
Stud	A193-B7	A193-B8-1
Nut[2]	A194-2H	A194-8

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted
3. Teflon gasket for sizes 4" and below only.



Connections: CS - ½" to 12"
RF Flanged or Buttweld

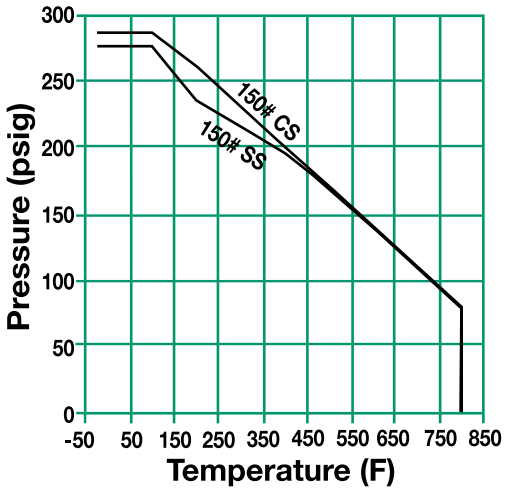
SS – ½" to 12"
RF Flanged or Buttweld[4]

4. For Buttweld connections please specify mating pipe schedule.

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
½" – 1½"	1/32" Perf	304 SS
2" – 3"	3/64" Perf	304 SS
4" – 12"	1/8" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ASME B16.34



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
½ (15)	6 (152)	3⅞ (99)	4¾ (121)	½ (13)	¼ (8)	5.5 (2.5)
¾ (20)	7 (178)	4¼ (108)	5¾ (146)	¾ (19)	⅜ (10)	8 (3.7)
1 (25)	7½ (191)	4¾ (121)	6⅜ (162)	1 (25)	½ (15)	10 (4.6)
1¼ (32)	8¾ (222)	5⁹⁄₁₆ (141)	8 (203)	1¼ (32)	½ (15)	16 (7.3)
1½ (40)	9 (229)	5⅝ (143)	9 (229)	1½ (38)	½ (15)	18 (8.2)
2 (50)	8⅝ (219)	5⅞ (149)	7½ (191)	2 (51)	½ (15)	20 (9.1)
2½ (65)	10¼ (260)	7½ (191)	10½ (267)	2½ (64)	¾ (20)	27 (12.3)
3 (80)	11⅝ (295)	7¹¹⁄₁₆ (195)	10⅞ (276)	3 (76)	1 (25)	41 (18.6)
4 (100)	14⅜ (365)	9⅛ (232)	13 (330)	4 (102)	1½ (40)	63 (28.6)
5 (125)	17⅝ (448)	11 (279)	17 (432)	5 (127)	2 (50)	99 (45)
6 (150)	18⅝ (473)	13 (330)	18⅜ (467)	6 (152)	2 (50)	133 (60.5)
8 (200)	24⅜ (619)	15⁵⁄₁₆ (389)	21⅝ (549)	8 (203)	2 (50)	222 (100.9)
10 (250)	26⅛ (662)	19⅛ (486)	27 (686)	10 (254)	2 (50)	409 (185.9)
12 (300)	30-3/8 (772)	22 (559)	31 (787)	12 (305)	2 (50)	605 (275)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

150Y2 SERIES
BRONZE Y STRAINERS FLANGED

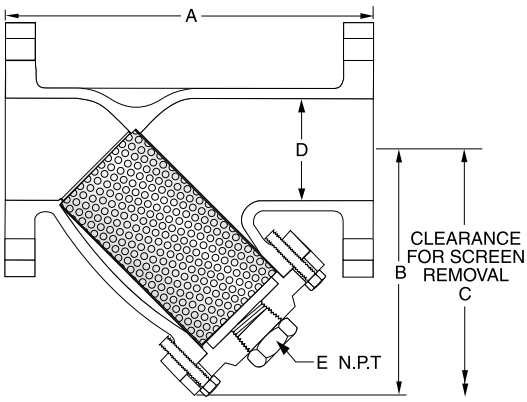
SPECIFICATION

Y Strainer shall be straight flow design with FF Flanged inlet/outlet connections. The strainer shall be rated to ANSI 150 PSIG rating in accordance with ANSI B16.24. The Strainer shall be Cast Bronze body and the screen shall be size _____ perf 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 150Y2 Series.

MATERIALS OF CONSTRUCTION

Body .....Bronze B62
Cover .....Bronze B62
Screen[1].....304 Stainless Steel
Plug[2] .....Bronze B62
Gasket[1] .....Teflon
Bolt/Stud[2] B16
Nut[2] B16

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

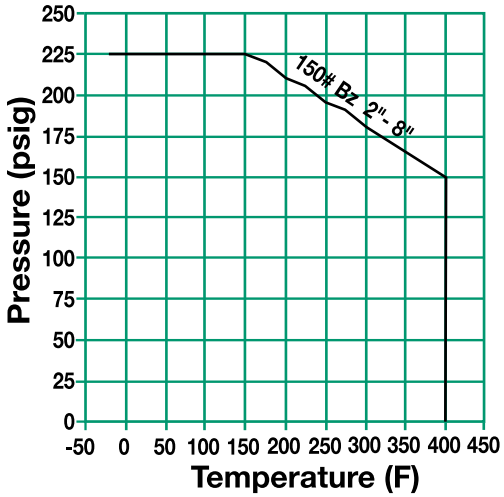


Connections:
BZ - 2" to 8" FF Flanged

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" – 3"	3/64" Perf	304 SS
4" – 8"	1/8" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ANSI B16.24



DIMENSIONS inches (mm) AND WEIGHTS
pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
2 (50)	8⅝ (219)	4⅞ (124)	7½ (191)	2 (51)	½ (15)	20 (9)
2½ (65)	10¼ (260)	7½ (191)	10½ (267)	2½ (64)	1 (25)	32 (15)
3 (80)	11⅝ (295)	7¾ (197)	10⅞ (276)	3 (76)	1 (25	36 (16)
4 (100)	14⅜ (365)	9⅛ (232)	13 (330)	4 (102)	1 (25)	61 (28)
5 (125)	17⅝ (448)	11 (279)	17 (432)	5 (127)	1¼ (32)	110 (50)
6 (150)	18⅝ (473)	13⅜ (340)	18⅜ (467)	6 (152)	1½ (40)	160 (73)
8 (200)	24⅜ (619)	14⅝ (389)	21⅝ (549)	8 (203)	1½ (40)	210 (95)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

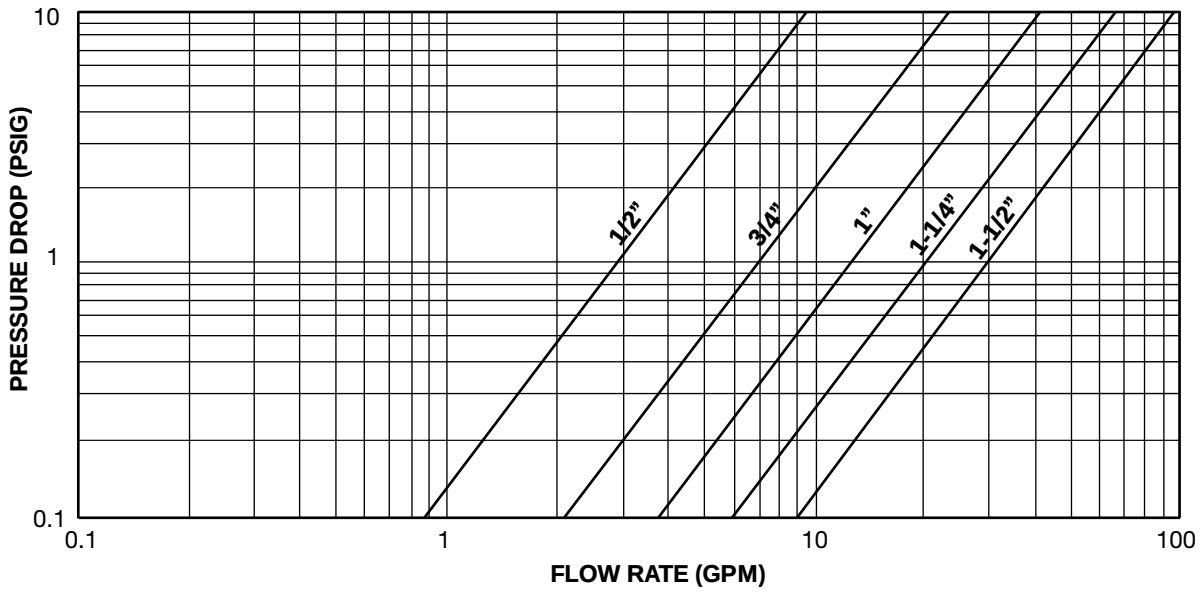
150Y SERIES

CARBON STEEL, STAINLESS STEEL, BRONZE

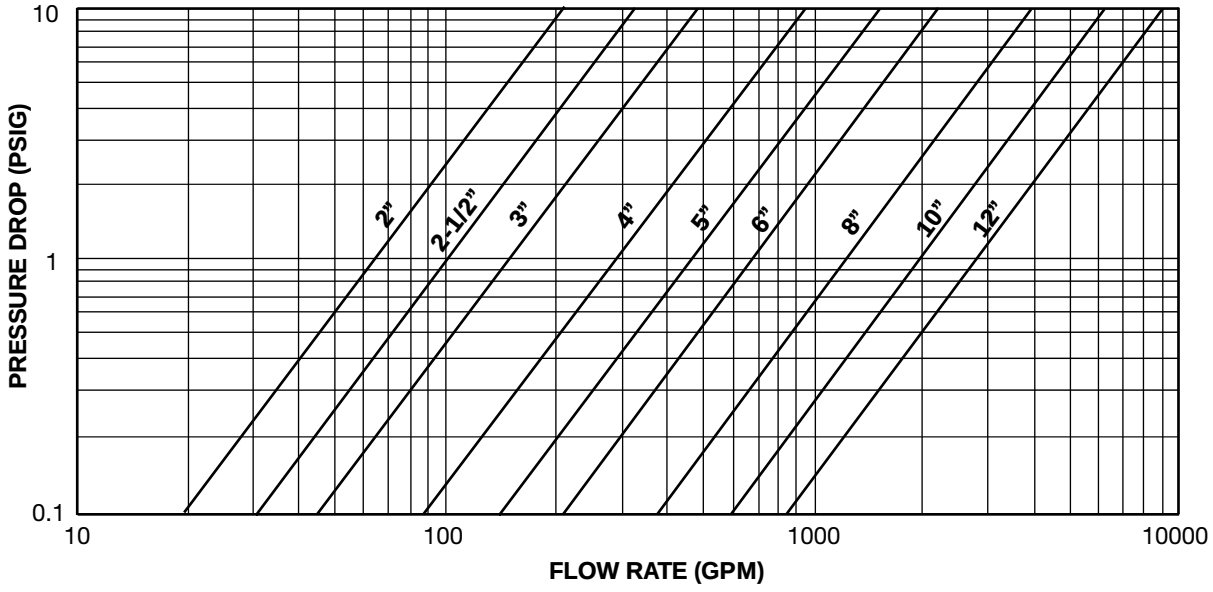
PRESSURE DROP VS FLOW RATE

Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*

(Sizes ½" - 1½")



(Sizes 2" - 12")



* For Gas, Steam or Air service, consult factory.

Steam Service Pressure Drop Page 433

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 432

Correction Factors for Clogged Screens Page 432

150Y SERIES

CARBON STEEL, STAINLESS STEEL, BRONZE

OPEN AREA RATIOS

with Standard Perforated Screen*

BRONZE

Size	Perf. Diameter	Opening %	Std Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	3/64	36	3.14	21.1	7.60	2.4
2½	3/64	36	4.91	52.3	18.83	3.8
3	3/64	36	7.07	56.2	20.24	2.9
4	1/8	40	12.57	100.1	40.03	3.2
5	1/8	40	19.63	*	*	*
6	1/8	40	28.27	199.6	79.86	2.8
8	1/8	40	50.27	306.4	122.58	2.4

CARBON & STAINLESS STEEL

Size	Perf. Diameter	Opening %	Std Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
½	1/32	28	0.20	5.4	1.52	7.7
¾	1/32	28	0.44	8.5	2.37	5.4
1	1/32	28	0.79	12.4	3.47	4.4
1¼	1/32	28	1.23	22.8	6.39	5.2
1½	1/32	28	1.77	22.8	6.39	3.6
2	3/64	36	3.14	27.1	9.75	3.1
2½	3/64	36	4.91	50.5	18.17	3.7
3	3/64	36	7.07	65.9	23.71	3.4
4	1/8	40	12.57	86.9	34.74	2.8
5	1/8	40	19.63	148.7	59.47	3.0
6	1/8	40	28.27	214.4	85.74	3.0
8	1/8	40	50.27	329.3	131.71	2.6
10	1/8	40	78.54	489.9	195.96	2.5
12	1/8	40	113.10	710.9	284.36	2.5

OAR = Free Screen Area / Nominal Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

* Consult Factory.

Other Screen Openings Page 430

Basket Burst Pressure Page 435

250Y SERIES
CAST IRON, BRONZE, DUCTILE IRON Y STRAINERS NPT, FLANGED

PRESSURES TO 500 PSIG (34.5 BARG)
TEMPERATURES TO 450°F (232°C)

- **ANSI 250 PSIG rated strainers**
- **NPT and FF Flanges in accordance with ANSI 16.1, 16.15 and 16.4**
- **One piece cast body**
- **Upper and lower machined seats**
- **Generous screen area and properly proportioned straining chamber to minimize initial pressure drop while maximizing time between cleanings**
- **Drain/Blow-off connection furnished with plug**

APPLICATIONS
- Steam, liquid, gas and oil service
- Power Industry
- Pulp & Paper
- Process Equipment
- Chemical Industry
- Metal & Mining
- Water & Waste

OPTIONS
- Other perforated screens and mesh liners
- Other drain connections and gasket materials
- Oxygen cleaning
- Special internal / external coatings and linings
- Contact Factory for other Options

APPLICABLE CODES
- ANSI B16.1
- ANSI B16.4
- ANSI B16.15

Canadian Registration OEO591.9C BRZ & CI 250Y1 CI

MODELS
- 250Y1T – Bronze or Cast Iron, NPT, Threaded Cover
- 250Y2F - Ductile Iron, Flanged, Bolted Cover

250Y Series Ordering Code

Inlet Size					Model						Body Material	Dash	Perf	Mesh	Add'l Requirements
0	4	0	0	-	2	5	0	Y	2	F	D	-	4	__	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
0038 - 3/8"
0050 - 1/2"
0075 - 3/4"
0100 - 1"
0125 - 1¼"
0150 - 1½"
0200 - 2"
0250 - 2½"
0300 - 3"
0400 - 4"
0500 - 5"
0600 - 6"
0800 - 8"
1000 - 10"
1200 - 12"
1400 - 14"
1600 - 16"

Dash - Position 5

Model - Position 6 - 11
250Y1T
250Y2F

Body Material - Position 12
I - Cast Iron
B - Bronze
D - Ductile Iron

Dash - Position 13

Perf[1] - Position 14
304SS Material[2]
A - No Perf (std Y1T Bz All - std Y1T CI <=2")
1 - 1/32"
B - 3/64"
4 - 1/8"
2 - 1/16"
3 - 3/32"
5 - 5/32"
6 - 3/16"
7 - 7/32"
8 - 1/4"
9 - 3/8"

Mesh[1, 2] - Position 15
Leave Blank If not Required (std Y2F)
1 - 10
2 - 20
3 - 30
4 - 40
5 - 50
6 - 60
7 - 80
8 - 100
9 - 120

Add'l Requirements - Position 16
Leave Blank If not Required
D - Special Drain Size
F - Silicon Free
G - Special Gaskets
T - Special Testing
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

Indicate Specials Clearly On the Order

1. Standard Screens: Y1 Cast Iron 1/4"-2"—20 mesh, Y1 Cast Iron 2½"-3"—3/64" perf, Y1 Bronze 1/2"-1"—30 mesh, Y1 Bronze 1¼"-3"—20 mesh, Y2 Ductile Iron 2"-3"—3/64" perf, Y2 Ductile Iron 4"-12"—1/8" perf.
2. For other screen material, consult factory.

250Y1 SERIES
CAST IRON Y STRAINERS NPT

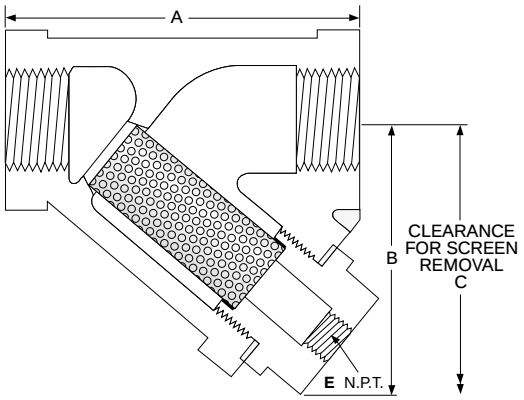
SPECIFICATION

Y Strainer shall be straight flow design with NPT inlet/outlet connections. The strainer shall be rated to ANSI 250 PSIG rating in accordance with ANSI B16.4. The Strainer shall be cast iron body and the screen shall be size _____ perf / mesh 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 250Y1 Series.

MATERIALS OF CONSTRUCTION

Body A126-B
Cap/Cover A126-B
Screen[1] .....304 SS
Plug[2] A126-B
Gasket[1] .....Graphite

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

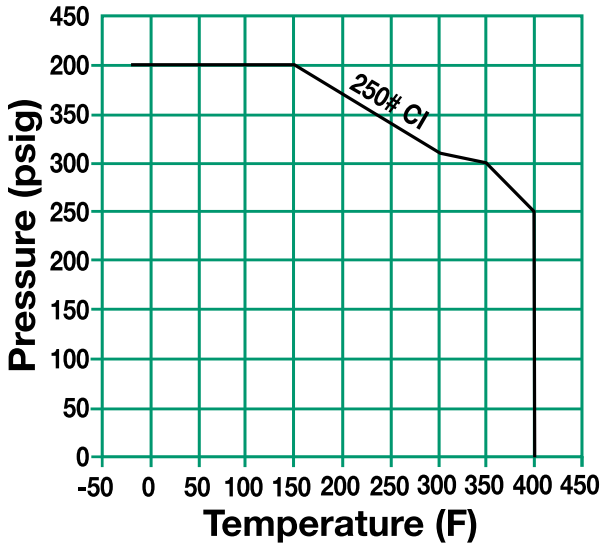


Connections: 1/4" – 3" NPT

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
1/4"- 2"	20 Mesh	304 SS
2½"- 3"	3/64" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ASME B16.4

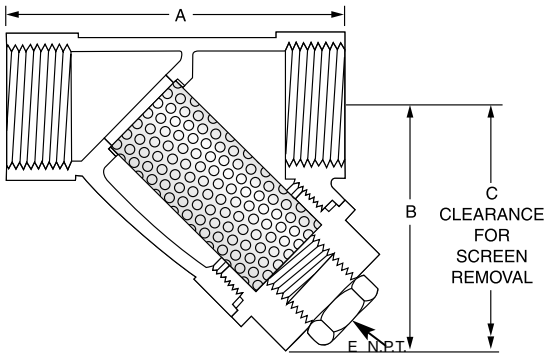


DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	E	WEIGHT
¼ (8)	3 3/16 (81)	2 (50)	3⅛ (80)	¼ (8)	1.50 (.70)
⅜ (10)	3³⁄₁₆ (81)	2 (50)	3⅛ (80)	¼ (8)	1.50 (.70)
½ (15)	3³⁄₁₆ (81)	2 (50)	3⅛ (80)	¼ (8)	1.50 (.70)
¾ (20)	3¾ (95)	2¹¹⁄₁₆ (68)	3¹¹⁄₁₆ (94)	⅜ (10)	2.50 (.50)
1 (25)	4 (102)	3 (62)	3¹¹⁄₁₆ (94)	⅜ (10)	3.00 (1.4)
1¼ (32)	5 (127)	3⅜ (87)	5⅛ (129)	¾ (20)	6.00 (1.4)
1½ (40)	5¾ (146)	3²⁵⁄₃₂ (96)	5¾ (146)	¾ (20)	8.00 (3.6)
2 (50)	7 (178)	4¹¹⁄₃₂ (110)	7¼ (184)	1 (25)	14.00 (3.6)
2½ (65)	9¼ (235)	6³⁄₃₂ (155)	8¾ (222)	1½ (40)	29.0 (10)
3 (80)	10 (254)	7¹³⁄₃₂ (188)	9 (2.29)	1½ (40)	38.0 (13.6)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

250Y1 SERIES
BRONZE Y STRAINERS NPT



SPECIFICATION

Y Strainer shall be straight flow design with NPT inlet/outlet connections. The strainer shall be rated to ANSI 250 PSIG rating in accordance with ANSI B16.15. The Strainer shall be bronze body and the screen shall be size _____ mesh 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 250Y1 Series.

MATERIALS OF CONSTRUCTION

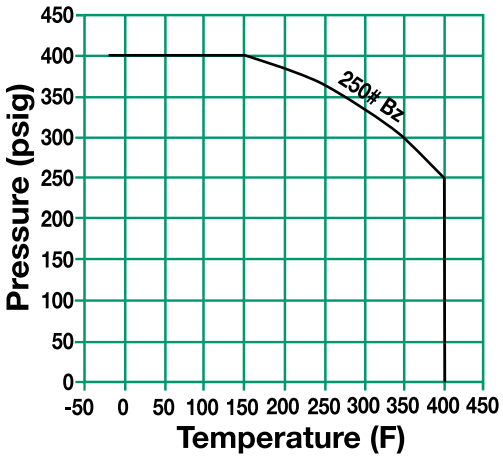
Body B584
Cap B584
Screen[1] .....304 SS
Plug B584
Gasket[1] .....Silicone
1. Recommended Spare Parts

Connections: 1/2" – 3" NPT

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
½" - 1"	30 Mesh	304 SS
1¼" – 3"	20 Mesh	304 SS

PRESSURE/TEMPERATURE CHART
ANSI B16.15



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	E	WEIGHT
½ (15)	2 15/16 (75)	2⅛ (54)	3½ (89)	⅜ (10)	.9 (0.4)
¾ (20)	3⅜ (86)	2⅜ (60)	4½ (114)	⅜ (10)	1.3 (0.6)
1 (25)	4 1/16 (103)	3 (76)	5 (127)	¾ (20)	2.1 (1.0)
1¼ (32)	4 15/16 (125)	3 7/16 (87)	5¾ (146)	¾ (20)	3.0 (1.4)
1½ (40)	5¾ (146)	3 13/16 (97)	6⅜ (162)	¾ (20)	4.0 (1.8)
2 (50)	6 11/16 (170)	4 9/16 (116)	9 1/16 (230)	¾ (20)	7.1 (3.2)
2½ (64)	7½ (191)	4⅞ (124)	10 (254)	1¼ (32)	10.1 (4.6)
3 (76)	8½ (216)	5½ (140)	10⅜ (264)	1¼ (32)	13.3 (6.1)

* Consult factory for dimensions.
Dimensions shown are subject to change.
Contact factory for certified prints when required.

250Y2 SERIES
DUCTILE IRON Y STRAINERS FLANGED

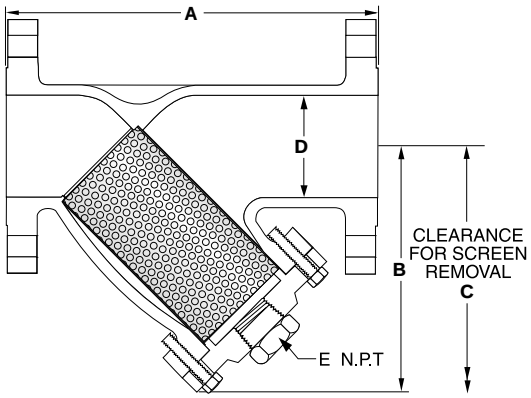
SPECIFICATION

Y Strainer shall be straight flow design with RF Flanged inlet/outlet connections. The strainer shall be rated to ANSI 250 PSIG rating in accordance with ANSI B16.1. The Strainer shall be Ductile Iron and the screen shall be size _____ perf 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 250Y2 Series.

MATERIALS OF CONSTRUCTION

Body .....Ductile Iron A536
Cap.....Ductile Iron A536
Screen[1] .....304 SS
Plug.....A126-B
Gasket[1] .....Graphite
Bolt/Stud[2] A307-B
Nut[2] A563

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

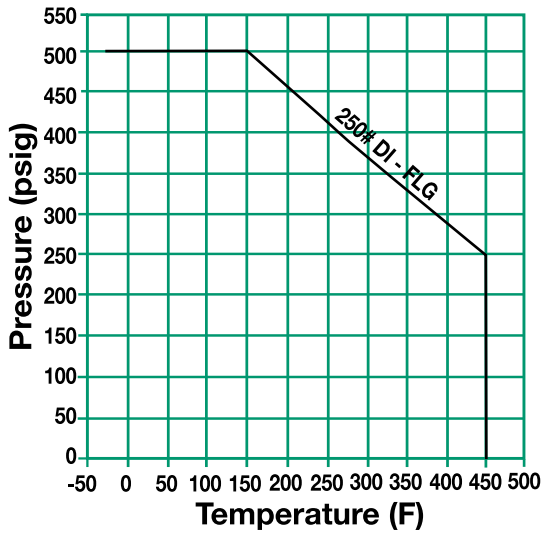


Connections: 2" – 12" RF Flanges

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" - 3"	3/64" Perf.	304 SS
4" – 12"	1/8" Perf.	304 SS

PRESSURE/TEMPERATURE CHART
ANSI B16.1



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
2 (50)	8⅞ (226)	6⅛ (156)	9⅛ (232)	2 (51)	½ (15)	28 (13)
2½ (65)	10¾ (273)	8 1/16 (205)	9⅞ (251)	2½ (64)	1 (25)	38 (17)
3 (80)	11⅝ (295)	8 7/16 (214)	11¼ (286)	3 (76)	1 (25)	54 (24)
4 (100)	13⅞ (353)	9⅝ (245)	15 (381)	4 (102)	1 (25)	110 (50)
5 (125)	16⅜ (416)	11⅝ (295)	19 (483)	5 (127)	1¼ (32)	160 (73)
6 (150)	18½ (470)	12⅝ (321)	22¾ (578)	6 (152)	1½ (40)	224 (102)
8 (200)	21⅜ (543)	16⅜ (416)	27¾ (692)	8 (203)	1½ (40)	468 (212)
10 (250)	26 (660)	19⅛ (486)	29¾ (756)	10 (254)	2 (50)	590 (268)
12 (300)	30 (762)	22 1/16 (560)	35 (889)	12 (305)	2 (50)	890 (404)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

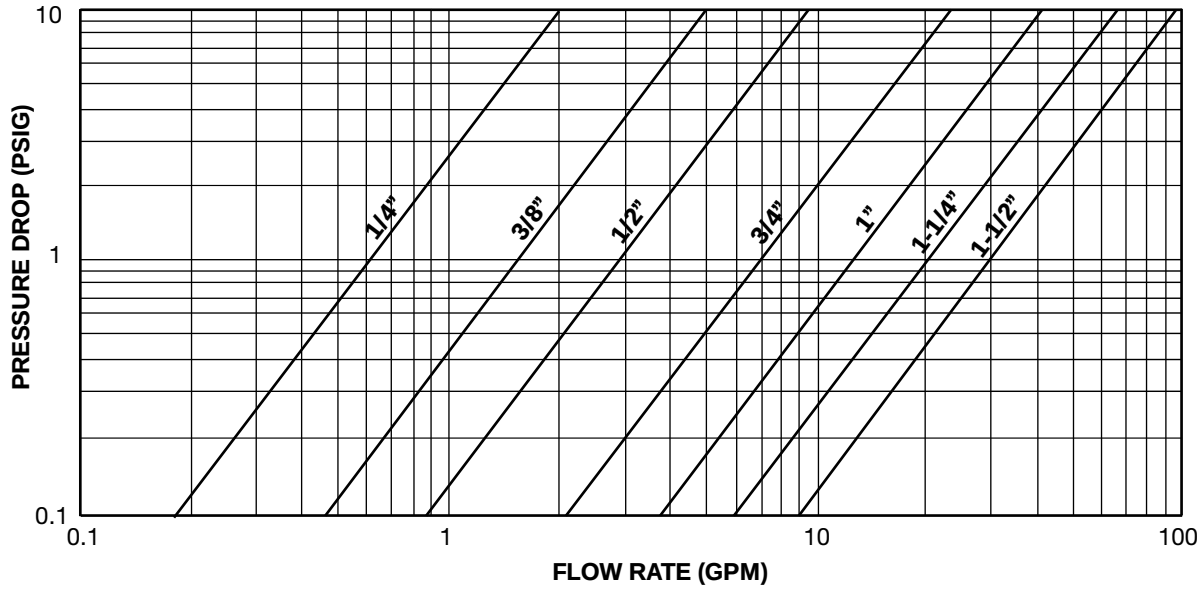
250Y SERIES

CAST IRON, BRONZE, DUCTILE IRON

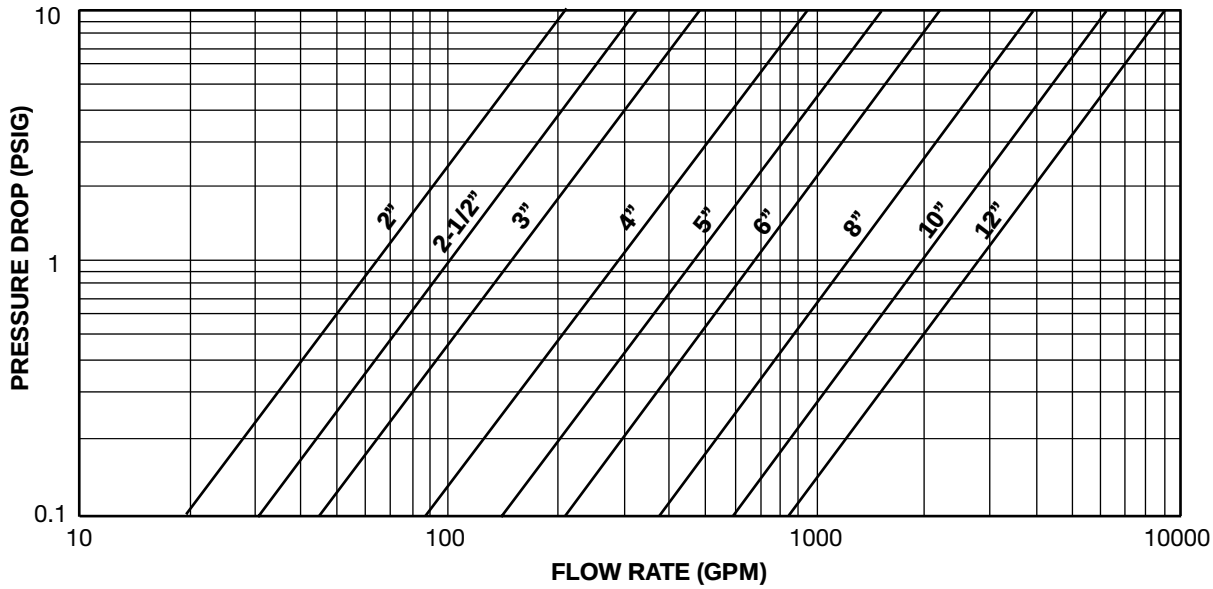
PRESSURE DROP VS FLOW RATE

Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*

(Sizes ¼" - 1½")



(Sizes 2" - 12")



* For Gas, Steam or Air service, consult factory.

Steam Service Pressure Drop Page 433

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 432

Correction Factors for Clogged Screens Page 432

250Y SERIES
CAST IRON, BRONZE, DUCTILE IRON
OPEN AREA RATIOS
with Standard Perforated Screen

BRONZE

Size	Mesh	Opening %	Std Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
½	30	45	0.30	2.9	1.28	4.2
¾	30	45	0.53	5.6	2.52	4.7
1	30	45	0.86	9.0	4.03	4.7
1¼	20	49	1.50	15.1	7.38	4.9
1½	20	49	2.04	21.7	10.64	5.2
2	20	49	3.36	29.2	14.31	4.3
2½	20	49	4.79	35.9	17.61	3.7
3	20	49	7.39	49.9	24.45	3.3

CAST IRON

Size	Perf/Mesh Diameter	Opening %	Std Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
¼	20	49	0.30	3.7	1.80	5.9
⅜	20	49	0.30	3.7	1.80	5.9
½	20	49	0.30	3.6	1.74	5.7
¾	20	49	0.53	6.3	3.11	5.8
1	20	49	0.86	7.9	3.85	4.5
1¼	20	49	1.50	13.0	6.35	4.2
1½	20	49	2.04	16.6	8.13	4.0
2	20	49	3.36	28.3	13.85	4.1
2½	3/64	36	4.79	44.7	16.08	3.4
3	3/64	36	7.39	43.2	15.55	2.1

DUCTILE IRON

Size	Perf. Diameter (inches)	Opening %	Flange Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	3/64	36	3.14	29.4	10.58	3.4
2½	3/64	36	4.91	46.0	16.56	3.4
3	3/64	36	7.07	57.0	20.51	2.9
4	1/8	40	12.57	99.0	39.59	3.2
5	1/8	40	19.63	146.5	58.58	3.0
6	1/8	40	28.27	174.0	69.60	2.5
8	1/8	40	50.27	327.3	130.91	2.6
10	1/8	40	78.54	495.2	198.08	2.5
12	1/8	40	113.10	645.0	257.99	2.3

OAR = Free Screen Area / Nominal Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

Other Screen Openings Page 430
Basket Burst Pressure Page 435

SECTION VIII

STRAINERS

"Y" Strainers

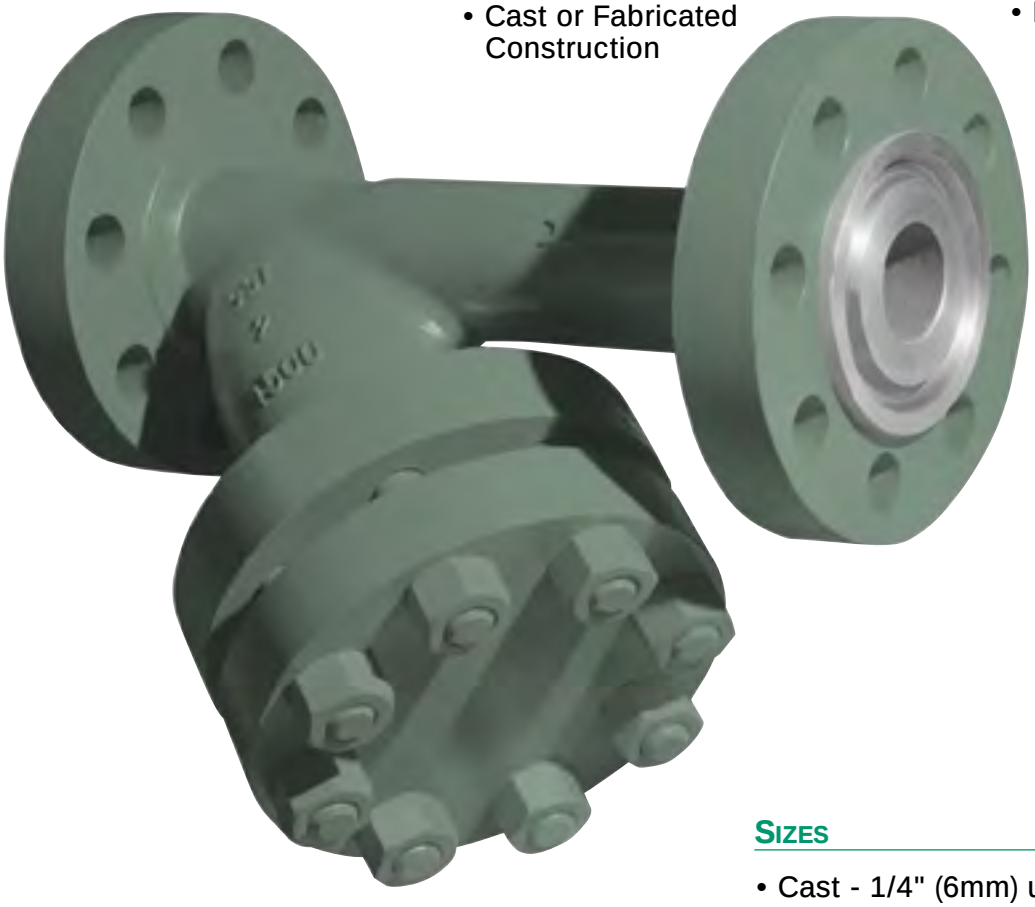
Pressures to 3705 PSIG
Temperatures to 800ºF

Applications

- Process Industry
- Power Industry
- Chemical Industry
- Oil and Gas
- Metals and Mining
- Water and Waste
- Pulp and Paper

Features

- Low pressure drop streamlined design
- Large strainer screens
- Compact end to end dimension
- Cast or Fabricated Construction



End Connections

- Flat Faced
- Raised Face
- RTJ Flanged
- Buttweld
- Threaded (NPT)
- Socketweld
- Sweat

Materials

- Cast Iron
- Ductile Iron
- Bronze
- Carbon Steel
- Low Temp Steel
- Chrome Molly
- Stainless Steel
- Other Materials Upon Request

Ratings

- ANSI 125 psig
- ANSI 150 psig
- ANSI 300 psig
- ANSI 600 psig
- ANSI 900 psig
- ANSI 1500 psig
- ANSI 2500 psig

Sizes

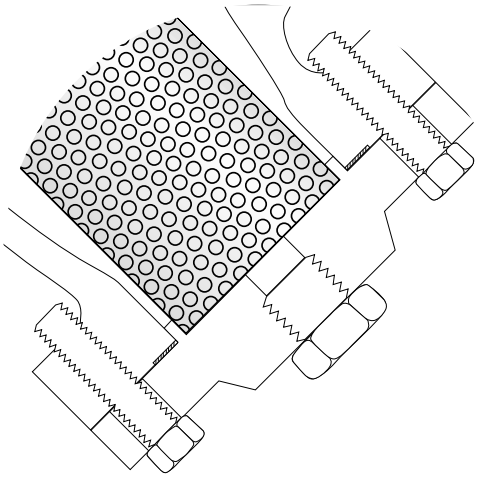
- Cast - 1/4" (6mm) up to 16" (400mm)
- Fabricated - Custom sizes to meet any requirements

Y STRAINER DESIGN FEATURES

Body-Cover Flanged Joints

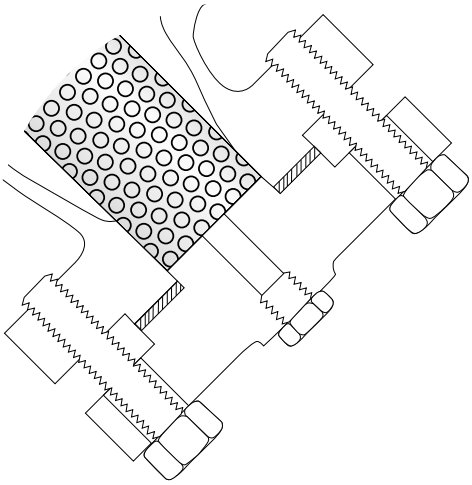
Flanged body-cover joints are designed to meet the requirements of ASME Section VIII, Div. 1 and/or ASME B16.5.

For Series 150Y2 and 300Y2 strainers, the body-cover joint is designed using the equations found in Appendix II of the ASME Pressure Vessel Code. Calculations are performed using standard gaskets and with the existence of a edge moment. The gasket cavity is fully enclosed ensuring proper gasket alignment while preventing unwinding of spiral wound gaskets if used.



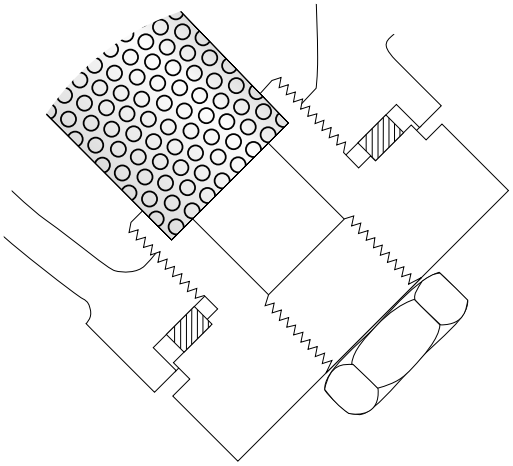
Exclusive

Series 600Y2, 900Y2 and 1500Y2 strainers incorporate a body-cover joint that is in dimensional accordance with the flange dimensions specified in ASME B16.5. Among the advantages of this strong leak-proof design is the convenience of using gaskets that are in accordance with ASME B16.20 and ASME B16.21. This feature eliminates the need for dimensionally special gaskets when maintenance is performed.



Body-Cover Threaded Joints

The design of a strong threaded body-cover joint is dependent on many factors. When designing these joints for strainers, calculations are performed taking into account thread shear (ASME B16.34), cover thickness and operating/gasket seating loads (ASME Sect. VIII, Div. 1). Basic dimensions such as wall thickness and band diameters are in accordance with ASME codes.



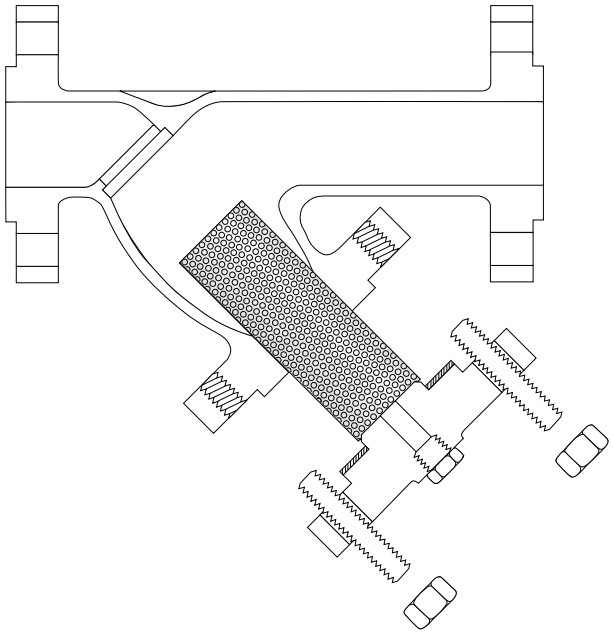
Y STRAINER DESIGN FEATURES

Screen Seating

All Spence Y-Strainers are manufactured with both upper and lower machined seats. This feature eliminates debris by-pass while also acts to securely hold the screen in position when in service.

For assembly and disassembly purposes, Spence Y-Strainers are designed so that the screen is securely slid over or into a machined lip on the cover bonnet. This allows the screen to be easily guided into the upper machined seat during assembly.

In particular, for Series 600Y2, 900Y2 and 1500Y2 strainers, where the cover flange tends to be heavy and difficult to maneuver, the screen is also guided around it's circumference by the strainer body. This feature eliminates the possibility of misaligning the strainer screen during assembly while providing additional support to the screen when in service. This circumferential support reduces maintenance time and costs since the strainer can be assembled quicker and safer than with other designs.



Strainer Screens

All Spence Y-Strainers are equipped with screens that have an open flow area many times greater than the pipe nominal cross-sectional area. This is important in order to reduce initial pressure drop and decrease the rate in which the pressure drop increases as the strainer screen becomes clogged. As shown in the figure the larger the screen area the lower the rate of increase in pressure drop.

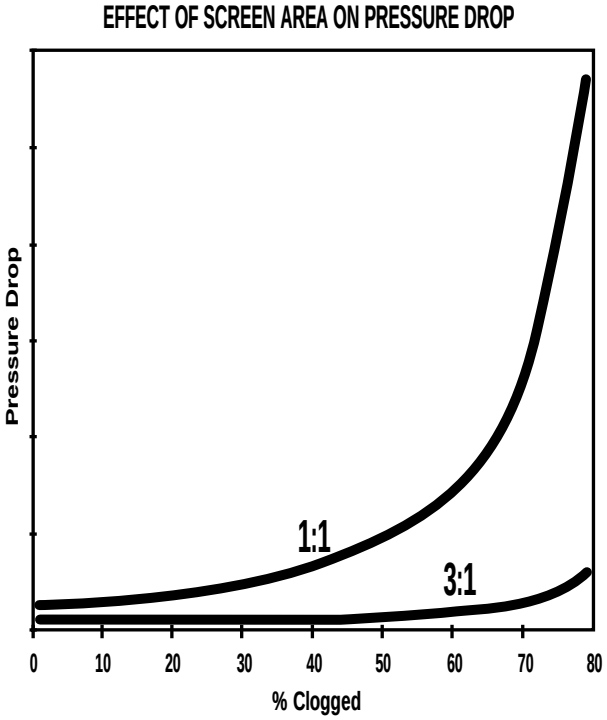
A Y-Strainer screen must be strong enough to handle the resulting differential pressure that occurs when in service. In general all Spence strainer screens are designed to handle a minimum burst pressure of 50 psid. Spence calculates the burst pressure of screens using the formula:

$$P = \frac{St}{R - 0.4t}$$

P = Burst Pressure
S = Reduced allowable stress
t = Thickness of screen material
R = Outside radius of screen

SOURCE: ASME Section VIII, Div. 1, Appendix 1.

Using the above formula, Spence can design and manufacture any strainer screen to suit your specific strength requirements.



Note: Curves are for different ratios of free area to pipe area.

125Y SERIES

BRONZE, CAST IRON Y STRAINERS NPT, SWEAT ENDS, FLANGED

PRESSURES TO 200 PSIG (13.8 BARG)
TEMPERATURES TO 450°F (232°C)

- **ANSI 125# rated strainers**
- **NPT, SE and FF flanges in accordance with ASME 16.1 and 16.15**
- **One piece cast body**
- **Upper and lower machined seats**
- **Generous screen area and properly proportioned straining chamber to minimize intial pressure drop while maximizing time between cleanings.**

APPLICATIONS

- Steam, liquid, gas and oil service
- Power industry
- Pulp and paper
- Chemical industry
- Metal & Mining
- Water & Waste

OPTIONS

- Other perforated screens and mesh liners
- Other drain connections and gasket materials
- Oxygen cleaning
- Special internal/external coatings and linings
- Contact factory for other options

APPLICABLE CODES

- ANSI B16.1
- ANSI B16.15

Canadian Registration OEO591.9C for CI 125Y2F

MODELS

- 125Y1T - Bronze, NPT, Threaded Cover
- 125Y1E - Bronze, Sweat Ends, Threaded Cover
- 125Y2F - Cast Iron, Flanged, Bolted Cover

125Y Series Ordering Code

Inlet Size				Dash	Model						Body Material	Dash	Perf	Mesh	Add'l Requirements
0	1	0	0	-	1	2	5	Y	1	T	B	-	A	2	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
- 0038 - ⅜"
- 0050 - ½"
- 0075 - ¾"
- 0100 - 1"
- 0125 - 1¼"
- 0150 - 1½"
- 0200 - 2"
- 0250 - 2½"
- 0300 - 3"
- 0400 - 4"
- 0500 - 5"
- 0600 - 6"
- 0800 - 8"
- 1000 - 10"
- 1200 - 12"
- 1400 - 14"
- 1600 - 16"

Dash - Position 5

Model - Position 6 - 11
- 125Y1T
- 125Y1E
- 125Y2F

Body Material - Position 12
- I - Cast Iron
- B - Bronze

Dash - Position 13

Perf[1] - Position 14
304 SS Material[2]
- A - No Perf
- 1 - 1/32"
- B - 3/64"
- 4 - 1/8"
- 5 - 3/32"
- 6 - 3/16"
- 7 - 7/32"
- 8 - 1/4"
- 9 - 3/8"

Mesh[1, 2] - Position 15
Leave Blank If Not Required (std Y2F)
- 1 - 10
- 2 - 20
- 3 - 30
- 4 - 40
- 5 - 50
- 6 - 60
- 7 - 80
- 8 - 100
- 9 - 120

Add'l Requirements - Position 16
Leave Blank If not Required
- D - Special Drain Size
- F - Silicon Free
- G - Special Gaskets
- T - Special Testing
- X - Oxygen Cleaning
- Y - Other and / or Multiple Specials

Indicate Specials Clearly On the Order

1. Standard Screens: Y1T, Y1E—20 mesh, Y2F< 3"—3/64" perf, Y2F>3"—1/8" perf
2. For other screen materials contact factory.

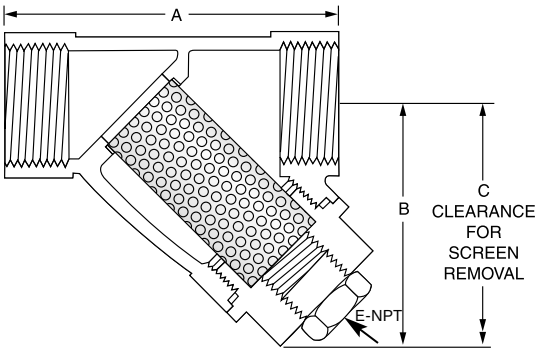
125Y1 SERIES
BRONZE Y STRAINERS
NPT, SWEAT ENDS

SPECIFICATION

Y Strainer shall be straight flow design with NPT or Sweat Ends inlet/outlet connections. The strainer shall be rated to ANSI 125 PSIG rating in accordance with ANSI B16.15. The Strainer shall be bronze body and the screen shall be size _____ mesh 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 125Y1 Series.

MATERIALS OF CONSTRUCTION

Body .....Bronze B584
Cover .....Bronze B584
Screen[1] .....304 SS Mesh
Plug .....Bronze B584
Gasket[1] .....Garlock 2900
1. Recommended Spare Parts



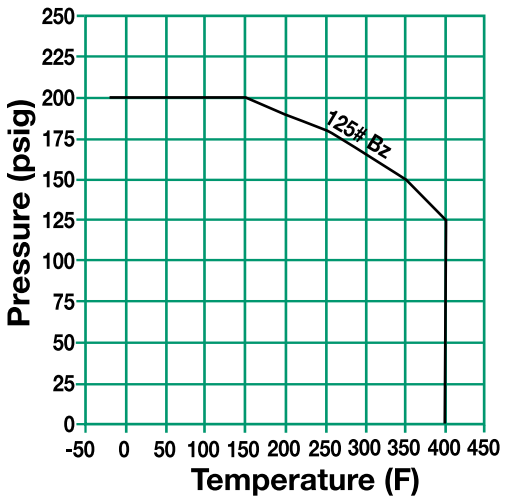
Connections:
3/8" – 3" NPT or Sweat Ends

Note: For Buttweld sizes please indicate pipe schedule on the order.

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
3/8" – 3"	20 Mesh	304 SS

PRESSURE/TEMPERATURE CHART
ANSI B16.15



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	E	WEIGHT
⅜ (10)	3¼ (82)	2⅛ (55)	3½ (89)	⅜ (10)	.8 (.36)
½ (15)	3¼ (82)	2⅛ (55)	3½ (89)	⅜ (10)	1.0 (.25)
¾ (20)	4 (100)	2¾ (70)	4½ (114)	⅜ (10)	1.2 (.60)
1 (25)	4½ (115)	3 (75)	5 (127)	½ (15)	1.6 (.73)
1¼ (32)	5⅜ (136)	3 9/16 (90)	5¾ (146)	½ (15)	2.5 (1.1)
1½ (40)	6 5/16 (160)	3⅞ (98)	6⅜ (162)	½ (15)	3.4 (1.6)
2 (50)	7½ (191)	5 7/16 (138)	9 1/16 (230)	½ (15)	5.8 (2.6)
2½ (65)	9 1/16 (230)	5 15/16 (151)	10 (254)	½ (15)	10.2 (4.6)
3 (80)	10 3/16 (259)	6 5/16 (160)	10⅜ (264)	½ (15)	13.7 (6.2)

Dimensions shown are subject to change. Consult factory for certified drawings when required.

125Y2 SERIES
CAST IRON Y STRAINERS FLANGED

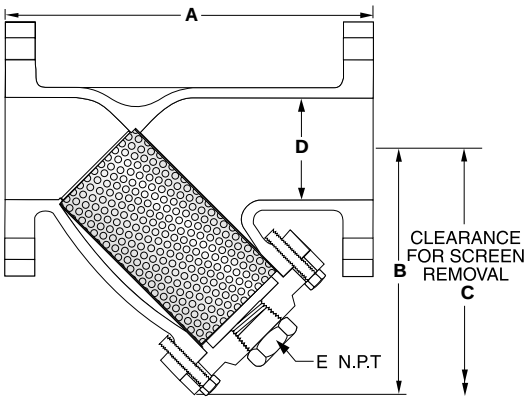
SPECIFICATION

Y Strainer shall be straight flow design with FF Flanged inlet/outlet connections. The strainer shall be rated to ANSI 125 PSIG rating in accordance with ANSI B16.1. The Strainer shall be Cast Iron body and the screen shall be size _____ perforated 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 125Y2 Series.

MATERIALS OF CONSTRUCTION

Body .....Cast Iron A126-B
Cover .....Cast Iron A126-B
Screen[1] .....304 SS
Plug .....Cast Iron A126-B
Gasket[1] .....Graphite
Bolt/Stud[2] A307-B
Nut[2] A563

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

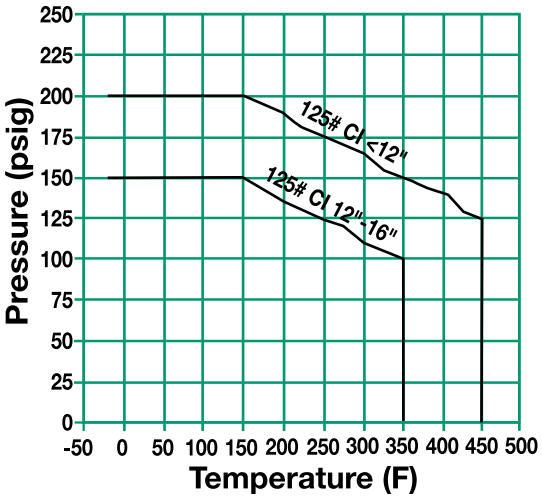


Connections:
2" – 16" FF Flanged

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" – 3"	3/64" Perf	304 SS
4" – 16"	1/8" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ASME B16.1



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
2 (50)	8⅞ (226)	6⅛ (156)	8½ (216)	2 (51)	½ (15)	22 (10)
2½ (65)	10¾ (273)	8 1/16 (205)	11¼ (286)	2½ (64)	1 (25)	35 (16)
3 (80)	11⅝ (295)	8½ (216)	12¼ (311)	3 (76)	1 (25)	43 (20)
4 (100)	13⅞ (353)	9⅝ (245)	13⅜ (340)	4 (102)	1 (25)	75 (34)
5 (125)	16⅜ (416)	11⅝ (295)	16⅛ (410)	5 (127)	1¼ (32)	115 (52)
6 (150)	18½ (470)	12⅝ (321)	17 1/16 (449)	6 (152)	1½ (40)	154 (70)
8 (200)	21⅜ (543)	16⅜ (416)	23 (584)	8 (203)	1½ (40)	243 (110)
10 (250)	26 (660)	19⅛ (486)	26 1/16 (678)	10 (254)	2 (50)	390 (117)
12 (300)	30 (762)	22 1/16 (559)	31 (787)	12 (305)	2 (50)	650 (295)
14 (350)	37⅜ (949)	30 1/16 (780)	41 (1041)	14 (356)	2 (50)	815 (370)
16 (400)	42½ (1080)	33 1/16 (840)	46 (1168)	16 (406)	2 (50)	1224 (555)

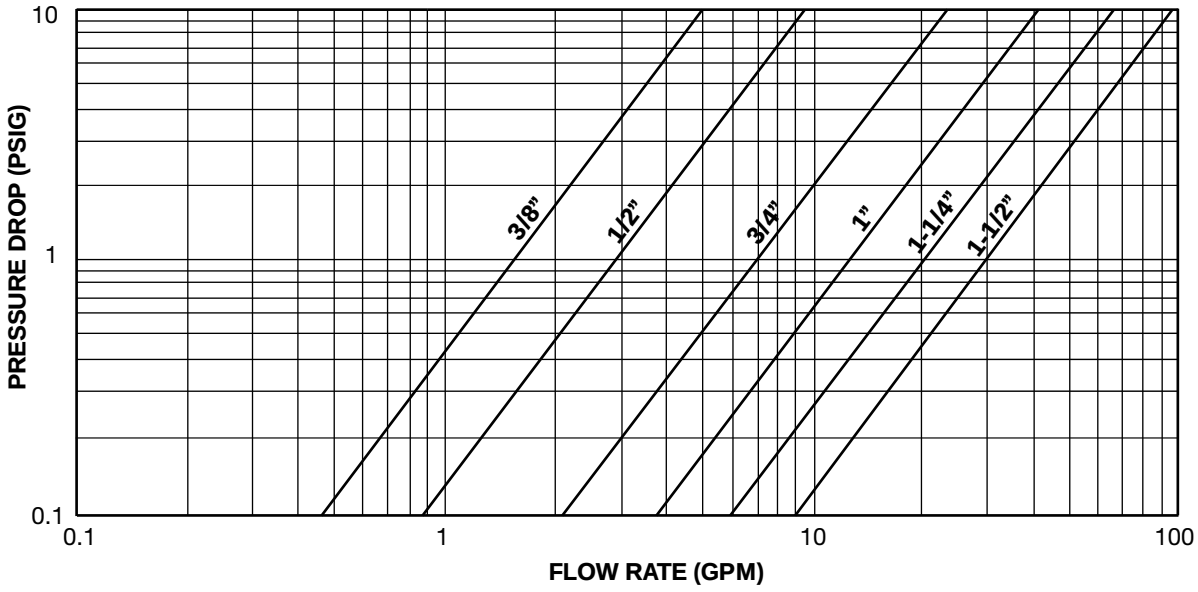
Dimensions shown are subject to change. Consult factory for certified drawings when required.

125Y SERIES BRONZE, CAST IRON

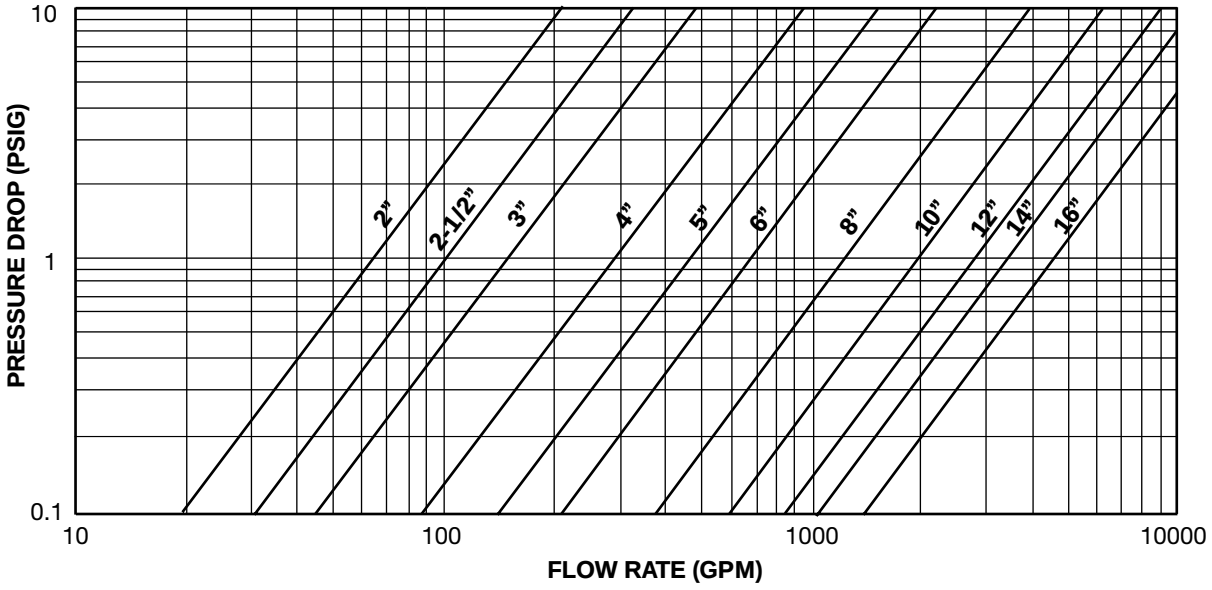
PRESSURE DROP VS FLOW RATE

Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*

(Sizes ⅜" - 1½")



(Sizes 2" - 16")



* For Gas, Steam or Air service, consult factory.

Steam Service Pressure Drop Page 433

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 432

Correction Factors for Clogged Screens Page 432

125Y SERIES BRONZE, CAST IRON Y STRAINERS

OPEN AREA RATIOS

with Standard Perforated Screen

BRONZE

Size	Mesh	Opening %	Std Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
⅜	20	49	0.19	3.8	1.88	9.9
½	20	49	0.30	3.8	1.88	6.2
¾	20	49	0.53	5.5	2.71	5.1
1	20	49	0.86	7.0	3.45	4.0
1¼	20	49	1.50	11.1	5.42	3.6
1½	20	49	2.04	15.2	7.46	3.7
2	20	49	3.36	26.1	12.81	3.8
2½	20	49	4.79	36.6	17.95	3.7
3	20	49	7.39	49.0	24.00	3.2

CAST IRON

Size	Perf. Diameter (in.)	Opening %	Flange Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	3/64	36	3.14	29.4	10.58	3.4
2½	3/64	36	4.91	46.0	16.56	3.4
3	3/64	36	7.07	57.0	20.51	2.9
4	1/8	40	12.57	99.0	39.59	3.2
5	1/8	40	19.63	146.5	58.58	3.0
6	1/8	40	28.27	174.0	69.60	2.5
8	1/8	40	50.27	327.3	130.91	2.6
10	1/8	40	78.54	495.2	198.08	2.5
12	1/8	40	113.10	645.0	257.99	2.3
14	1/8	40	153.94	1149.9	459.94	3.0
16	1/8	40	201.06	1431.9	572.75	2.8

OAR = Free Screen Area / Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

Other Screen Openings Page 430

Basket Burst Pressure Page 435

150Y SERIES
CARBON STEEL, STAINLESS STEEL, BRONZE Y STRAINERS FLANGED, BUTTWELD

PRESSURES TO 285 PSIG (19.7 BARG)
TEMPERATURES TO 750°F (390°C)

- **ANSI 150 PSIG rated strainers**
- **RF Flanges, FF Flanges (Bronze only) and Buttweld in accordance with ANSI 16.5, 16.24, and 16.25**
- **All sizes complete with Bolted Cover**
- **Cover flange (CS, SS) in accordance with ASME Section VIII, Div 1 Appendix II and/or ANSI 16.5.**
- **One piece cast body**
- **Upper and lower machined seats**
- **Generous screen area and properly proportioned straining chamber to minimize initial pressure drop while maximizing time between cleanings**
- **Drain/Blow-off connection furnished with plug**

APPLICATIONS
- Steam, liquid, gas and oil service
- Power Industry
- Pulp & Paper
- Process Equipment
- Chemical Industry
- Metal & Mining
- Water & Waste

OPTIONS
- Other perforated screens and mesh liners
- Other drain connections and gasket materials
- Oxygen cleaning
- Special internal / external coatings and linings
- Contact Factory for other Options

APPLICABLE CODES
- ANSI B16.5
- ANSI B16.25
- ANSI B16.24
- ANSI B16.34

MODELS
- 150Y2F – Carbon, Stainless or Bronze Flanged with Bolted Cover
- 150Y2B – Carbon or Stainless Buttweld with Bolted Cover

150Y Series Ordering Code

Inlet Size				Dash	Model					Body Material	Dash	Perf	Mesh	Add'l Requirements
0	2	0	0	-	1	5	0	Y	2	F	T	-	B	__	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
0050 - ½"
0075 - ¾"
0100 - 1"
0125 - 1¼"
0150 - 1½"
0200 - 2"
0250 - 2½"
0300 - 3"
0400 - 4"
0500 - 5"
0600 - 6"
0800 - 8"
1000 -10"
1200 -12"

Dash - Position 5

Model - Position 6 - 11
150Y2F
150Y2B[1]

Body Material - Position 12
C - CS
T - SS
B - BZ

Dash - Position 13

1. For Buttweld connections please specify mating pipe schedule.

Perf[2] - Position 14
304SS Material[3]
A - No Perf
1 - 1/32"
B - 3/64
4 - 1/8"
2 - 1/16"
3 - 3/32"
5 - 5/32"
6 - 3/16"
7 - 7/32"
8 - 1/4"
9 - 3/8"

Mesh[3] - Position 15
Leave Blank If not Required (std ALL)
1 - 10
2 - 20
3 - 30
4 - 40
5 - 50
6 - 60
7 - 80
8 - 100
9 - 120

Add'l Requirements - Position 16
Leave Blank If not Required
D - Special Drain Size
F - Silicon Free
G - Special Gaskets
N - Nace MR01-75
T - Special Testing
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

2. Standard Screens: ALL 1/2"-11/2"—1/32" perf, ALL 2"-3"—3/64" perf, ALL >3"—1/8" perf .
3. For other screen material, contact factory.

150Y2 SERIES
CARBON STEEL, STAINLESS STEEL Y STRAINERS FLANGED, BUTTWELD

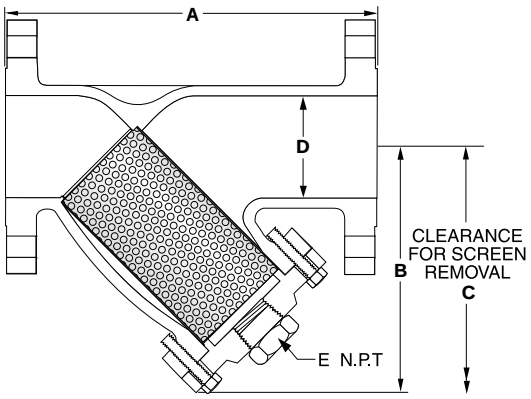
SPECIFICATION

Y Strainer shall be straight flow design with RF Flanged or Buttweld inlet/outlet connections. The strainer shall be rated to ANSI 150 PSIG rating in accordance with ANSI B16.5 or ANSI B16.25. The Strainer shall be Cast Carbon Steel or Stainless Steel body and the screen shall be size _____ perf 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 150Y2 Series.

MATERIALS OF CONSTRUCTION

Part	Carbon Steel	Stainless Steel
Body	A216-WCB	A351-CF8M
Cover	A216-WCB	A351-CF8M
Screen[1]	304 Stainless Steel	304 Stainless Steel
Plug[2]	A105	A182-316
Gasket[1]	Teflon/Spiral Wound 304/GR[3]	Teflon/Spiral Wound 304/GR[3]
Stud	A193-B7	A193-B8-1
Nut[2]	A194-2H	A194-8

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted
3. Teflon gasket for sizes 4" and below only.



Connections: CS - ½" to 12"
RF Flanged or Buttweld

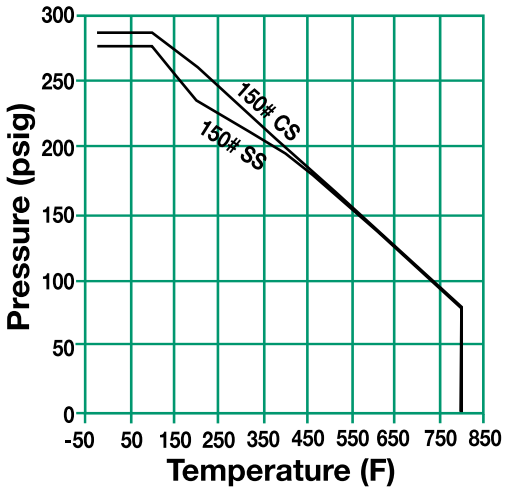
SS – ½" to 12"
RF Flanged or Buttweld[4]

4. For Buttweld connections please specify mating pipe schedule.

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
½" – 1½"	1/32" Perf	304 SS
2" – 3"	3/64" Perf	304 SS
4" – 12"	1/8" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ASME B16.34



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
½ (15)	6 (152)	3⅞ (99)	4¾ (121)	½ (13)	¼ (8)	5.5 (2.5)
¾ (20)	7 (178)	4¼ (108)	5¾ (146)	¾ (19)	⅜ (10)	8 (3.7)
1 (25)	7½ (191)	4¾ (121)	6⅜ (162)	1 (25)	½ (15)	10 (4.6)
1¼ (32)	8¾ (222)	5⁹⁄₁₆ (141)	8 (203)	1¼ (32)	½ (15)	16 (7.3)
1½ (40)	9 (229)	5⅝ (143)	9 (229)	1½ (38)	½ (15)	18 (8.2)
2 (50)	8⅝ (219)	5⅞ (149)	7½ (191)	2 (51)	½ (15)	20 (9.1)
2½ (65)	10¼ (260)	7½ (191)	10½ (267)	2½ (64)	¾ (20)	27 (12.3)
3 (80)	11⅝ (295)	7¹¹⁄₁₆ (195)	10⅞ (276)	3 (76)	1 (25)	41 (18.6)
4 (100)	14⅜ (365)	9⅛ (232)	13 (330)	4 (102)	1½ (40)	63 (28.6)
5 (125)	17⅝ (448)	11 (279)	17 (432)	5 (127)	2 (50)	99 (45)
6 (150)	18⅝ (473)	13 (330)	18⅜ (467)	6 (152)	2 (50)	133 (60.5)
8 (200)	24⅜ (619)	15⁵⁄₁₆ (389)	21⅝ (549)	8 (203)	2 (50)	222 (100.9)
10 (250)	26⅛ (662)	19⅛ (486)	27 (686)	10 (254)	2 (50)	409 (185.9)
12 (300)	30-3/8 (772)	22 (559)	31 (787)	12 (305)	2 (50)	605 (275)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

150Y2 SERIES
BRONZE Y STRAINERS FLANGED

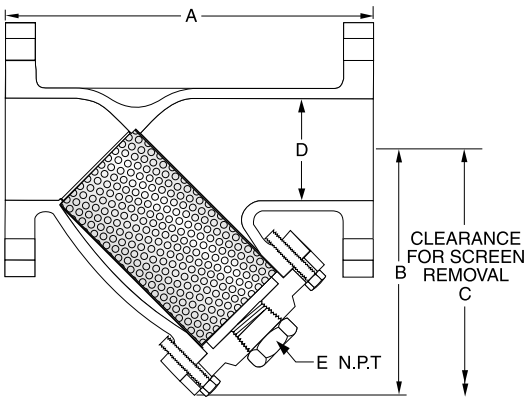
SPECIFICATION

Y Strainer shall be straight flow design with FF Flanged inlet/outlet connections. The strainer shall be rated to ANSI 150 PSIG rating in accordance with ANSI B16.24. The Strainer shall be Cast Bronze body and the screen shall be size _____ perf 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 150Y2 Series.

MATERIALS OF CONSTRUCTION

Body .....Bronze B62
Cover .....Bronze B62
Screen[1].....304 Stainless Steel
Plug[2] .....Bronze B62
Gasket[1] .....Teflon
Bolt/Stud[2] B16
Nut[2] B16

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

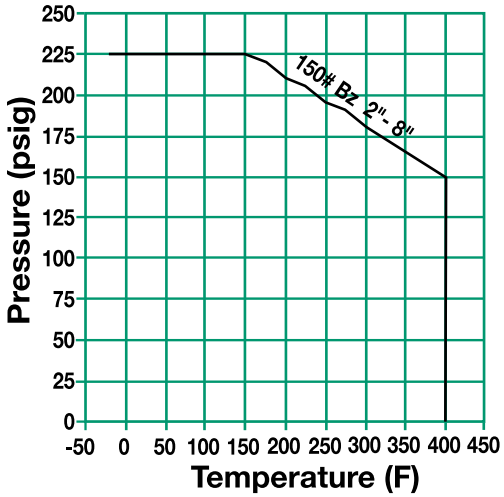


Connections:
BZ - 2" to 8" FF Flanged

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" – 3"	3/64" Perf	304 SS
4" – 8"	1/8" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ANSI B16.24



DIMENSIONS inches (mm) AND WEIGHTS
pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
2 (50)	8⅝ (219)	4⅞ (124)	7½ (191)	2 (51)	½ (15)	20 (9)
2½ (65)	10¼ (260)	7½ (191)	10½ (267)	2½ (64)	1 (25)	32 (15)
3 (80)	11⅝ (295)	7¾ (197)	10⅞ (276)	3 (76)	1 (25	36 (16)
4 (100)	14⅜ (365)	9⅛ (232)	13 (330)	4 (102)	1 (25)	61 (28)
5 (125)	17⅝ (448)	11 (279)	17 (432)	5 (127)	1¼ (32)	110 (50)
6 (150)	18⅝ (473)	13⅜ (340)	18⅜ (467)	6 (152)	1½ (40)	160 (73)
8 (200)	24⅜ (619)	14⅝ (389)	21⅝ (549)	8 (203)	1½ (40)	210 (95)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

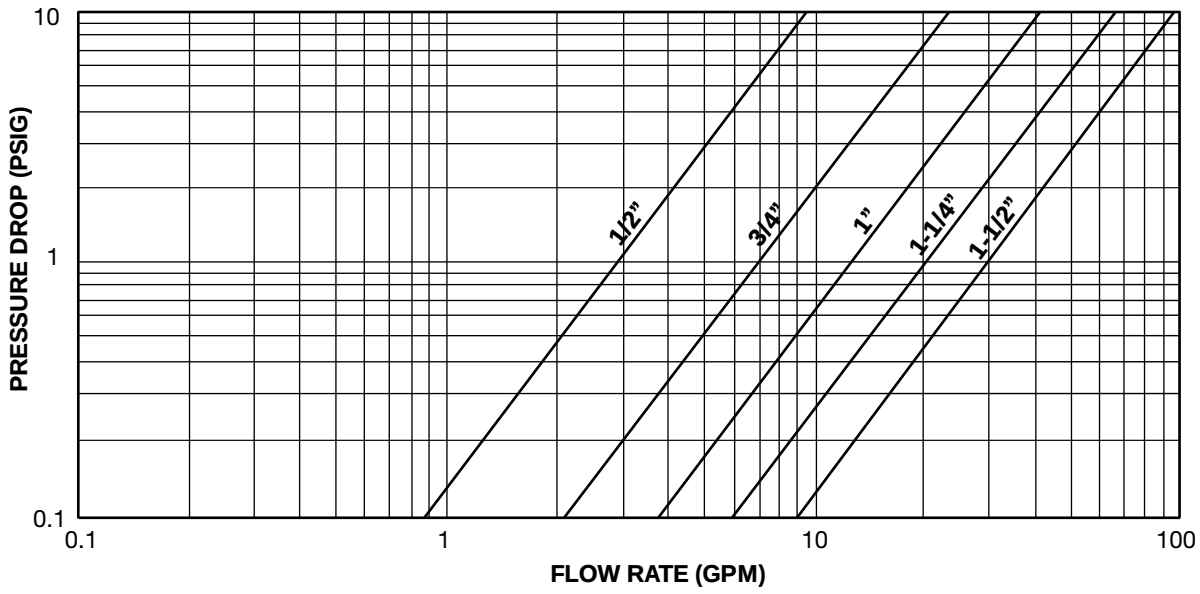
150Y SERIES

CARBON STEEL, STAINLESS STEEL, BRONZE

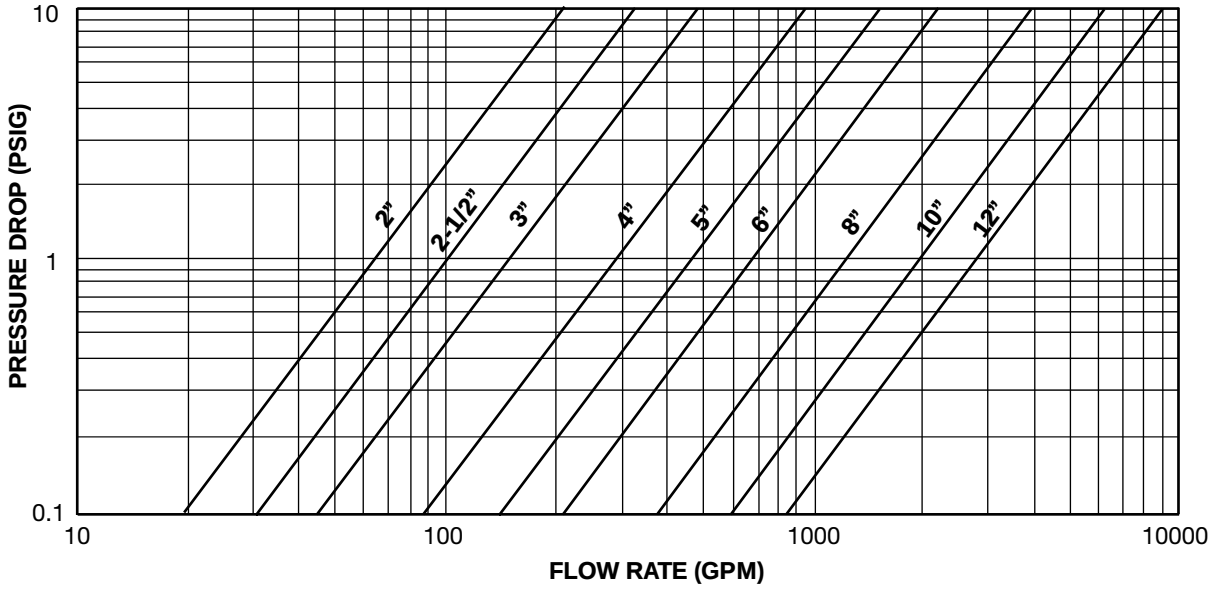
PRESSURE DROP VS FLOW RATE

Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*

(Sizes ½" - 1½")



(Sizes 2" - 12")



* For Gas, Steam or Air service, consult factory.

Steam Service Pressure Drop Page 433

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 432

Correction Factors for Clogged Screens Page 432

150Y SERIES

CARBON STEEL, STAINLESS STEEL, BRONZE

OPEN AREA RATIOS

with Standard Perforated Screen*

BRONZE

Size	Perf. Diameter	Opening %	Std Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	3/64	36	3.14	21.1	7.60	2.4
2½	3/64	36	4.91	52.3	18.83	3.8
3	3/64	36	7.07	56.2	20.24	2.9
4	1/8	40	12.57	100.1	40.03	3.2
5	1/8	40	19.63	*	*	*
6	1/8	40	28.27	199.6	79.86	2.8
8	1/8	40	50.27	306.4	122.58	2.4

CARBON & STAINLESS STEEL

Size	Perf. Diameter	Opening %	Std Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
½	1/32	28	0.20	5.4	1.52	7.7
¾	1/32	28	0.44	8.5	2.37	5.4
1	1/32	28	0.79	12.4	3.47	4.4
1¼	1/32	28	1.23	22.8	6.39	5.2
1½	1/32	28	1.77	22.8	6.39	3.6
2	3/64	36	3.14	27.1	9.75	3.1
2½	3/64	36	4.91	50.5	18.17	3.7
3	3/64	36	7.07	65.9	23.71	3.4
4	1/8	40	12.57	86.9	34.74	2.8
5	1/8	40	19.63	148.7	59.47	3.0
6	1/8	40	28.27	214.4	85.74	3.0
8	1/8	40	50.27	329.3	131.71	2.6
10	1/8	40	78.54	489.9	195.96	2.5
12	1/8	40	113.10	710.9	284.36	2.5

OAR = Free Screen Area / Nominal Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

* Consult Factory.

Other Screen Openings Page 430

Basket Burst Pressure Page 435

250Y SERIES
CAST IRON, BRONZE, DUCTILE IRON Y STRAINERS NPT, FLANGED

PRESSURES TO 500 PSIG (34.5 BARG)
TEMPERATURES TO 450°F (232°C)

- **ANSI 250 PSIG rated strainers**
- **NPT and FF Flanges in accordance with ANSI 16.1, 16.15 and 16.4**
- **One piece cast body**
- **Upper and lower machined seats**
- **Generous screen area and properly proportioned straining chamber to minimize initial pressure drop while maximizing time between cleanings**
- **Drain/Blow-off connection furnished with plug**

APPLICATIONS
- Steam, liquid, gas and oil service
- Power Industry
- Pulp & Paper
- Process Equipment
- Chemical Industry
- Metal & Mining
- Water & Waste

OPTIONS
- Other perforated screens and mesh liners
- Other drain connections and gasket materials
- Oxygen cleaning
- Special internal / external coatings and linings
- Contact Factory for other Options

APPLICABLE CODES
- ANSI B16.1
- ANSI B16.4
- ANSI B16.15

Canadian Registration OEO591.9C BRZ & CI 250Y1 CI

MODELS
- 250Y1T – Bronze or Cast Iron, NPT, Threaded Cover
- 250Y2F - Ductile Iron, Flanged, Bolted Cover

250Y Series Ordering Code

Inlet Size					Model						Body Material	Dash	Perf	Mesh	Add'l Requirements
0	4	0	0	-	2	5	0	Y	2	F	D	-	4	__	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
0038 - 3/8"
0050 - 1/2"
0075 - 3/4"
0100 - 1"
0125 - 1¼"
0150 - 1½"
0200 - 2"
0250 - 2½"
0300 - 3"
0400 - 4"
0500 - 5"
0600 - 6"
0800 - 8"
1000 - 10"
1200 - 12"
1400 - 14"
1600 - 16"

Dash - Position 5

Model - Position 6 - 11
250Y1T
250Y2F

Body Material - Position 12
I - Cast Iron
B - Bronze
D - Ductile Iron

Dash - Position 13

Perf[1] - Position 14
304SS Material[2]
A - No Perf (std Y1T Bz All - std Y1T CI <=2")
1 - 1/32"
B - 3/64"
4 - 1/8"
2 - 1/16"
3 - 3/32"
5 - 5/32"
6 - 3/16"
7 - 7/32"
8 - 1/4"
9 - 3/8"

Mesh[1, 2] - Position 15
Leave Blank If not Required (std Y2F)
1 - 10
2 - 20
3 - 30
4 - 40
5 - 50
6 - 60
7 - 80
8 - 100
9 - 120

Add'l Requirements - Position 16
Leave Blank If not Required
D - Special Drain Size
F - Silicon Free
G - Special Gaskets
T - Special Testing
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

Indicate Specials Clearly On the Order

1. Standard Screens: Y1 Cast Iron 1/4"-2"—20 mesh, Y1 Cast Iron 2½"-3"—3/64" perf, Y1 Bronze 1/2"-1"—30 mesh, Y1 Bronze 1¼"-3"—20 mesh, Y2 Ductile Iron 2"-3"—3/64" perf, Y2 Ductile Iron 4"-12"—1/8" perf.
2. For other screen material, consult factory.

SECTION VIII

STRAINERS

"Y" Strainers

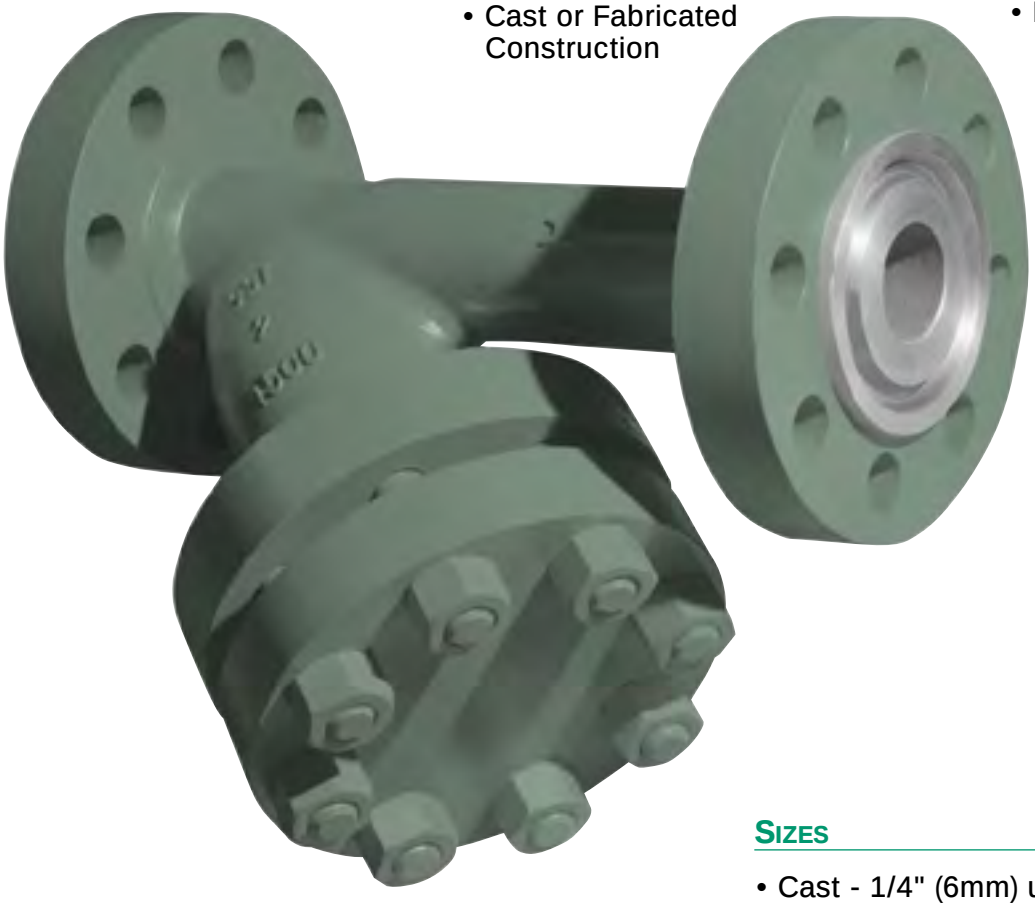
Pressures to 3705 PSIG
Temperatures to 800ºF

Applications

- Process Industry
- Power Industry
- Chemical Industry
- Oil and Gas
- Metals and Mining
- Water and Waste
- Pulp and Paper

Features

- Low pressure drop streamlined design
- Large strainer screens
- Compact end to end dimension
- Cast or Fabricated Construction



End Connections

- Flat Faced
- Raised Face
- RTJ Flanged
- Buttweld
- Threaded (NPT)
- Socketweld
- Sweat

Materials

- Cast Iron
- Ductile Iron
- Bronze
- Carbon Steel
- Low Temp Steel
- Chrome Molly
- Stainless Steel
- Other Materials Upon Request

Ratings

- ANSI 125 psig
- ANSI 150 psig
- ANSI 300 psig
- ANSI 600 psig
- ANSI 900 psig
- ANSI 1500 psig
- ANSI 2500 psig

Sizes

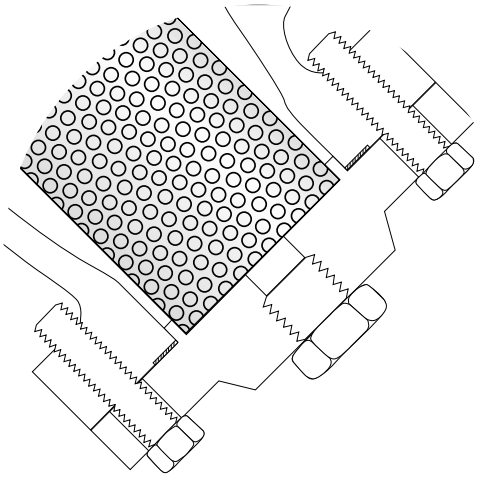
- Cast - 1/4" (6mm) up to 16" (400mm)
- Fabricated - Custom sizes to meet any requirements

Y STRAINER DESIGN FEATURES

Body-Cover Flanged Joints

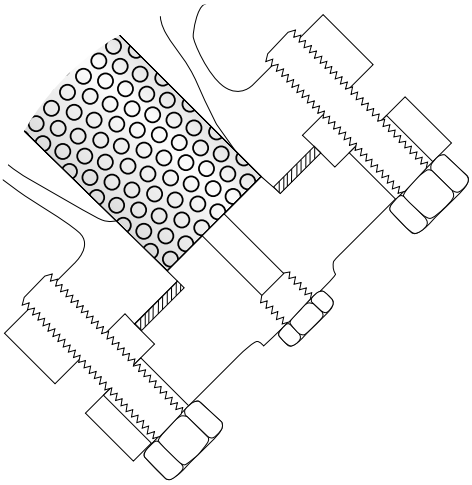
Flanged body-cover joints are designed to meet the requirements of ASME Section VIII, Div. 1 and/or ASME B16.5.

For Series 150Y2 and 300Y2 strainers, the body-cover joint is designed using the equations found in Appendix II of the ASME Pressure Vessel Code. Calculations are performed using standard gaskets and with the existence of a edge moment. The gasket cavity is fully enclosed ensuring proper gasket alignment while preventing unwinding of spiral wound gaskets if used.



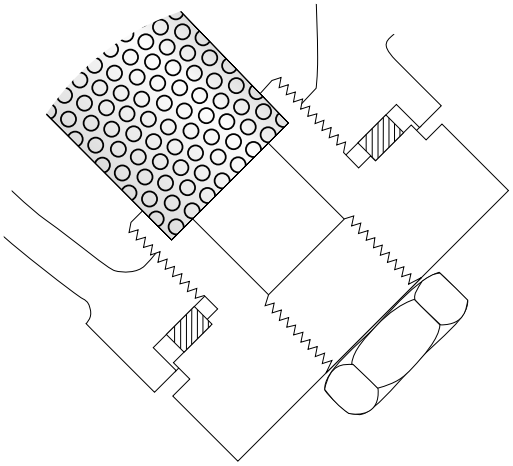
Exclusive

Series 600Y2, 900Y2 and 1500Y2 strainers incorporate a body-cover joint that is in dimensional accordance with the flange dimensions specified in ASME B16.5. Among the advantages of this strong leak-proof design is the convenience of using gaskets that are in accordance with ASME B16.20 and ASME B16.21. This feature eliminates the need for dimensionally special gaskets when maintenance is performed.



Body-Cover Threaded Joints

The design of a strong threaded body-cover joint is dependent on many factors. When designing these joints for strainers, calculations are performed taking into account thread shear (ASME B16.34), cover thickness and operating/gasket seating loads (ASME Sect. VIII, Div. 1). Basic dimensions such as wall thickness and band diameters are in accordance with ASME codes.



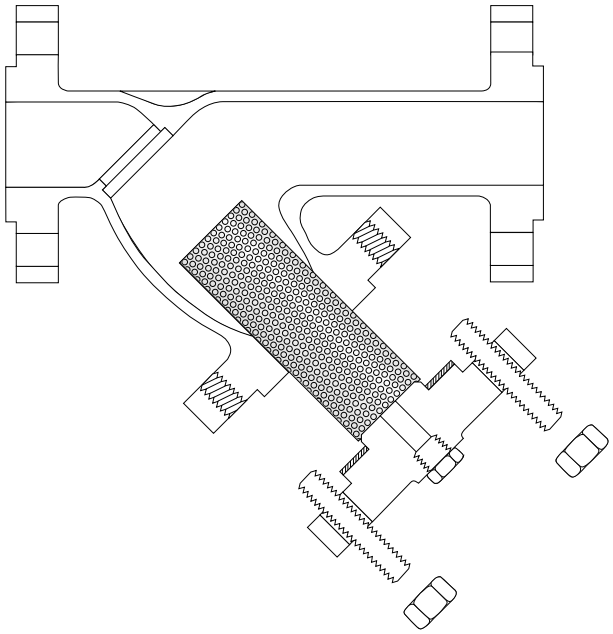
Y STRAINER DESIGN FEATURES

Screen Seating

All Spence Y-Strainers are manufactured with both upper and lower machined seats. This feature eliminates debris by-pass while also acts to securely hold the screen in position when in service.

For assembly and disassembly purposes, Spence Y-Strainers are designed so that the screen is securely slid over or into a machined lip on the cover bonnet. This allows the screen to be easily guided into the upper machined seat during assembly.

In particular, for Series 600Y2, 900Y2 and 1500Y2 strainers, where the cover flange tends to be heavy and difficult to maneuver, the screen is also guided around it's circumference by the strainer body. This feature eliminates the possibility of misaligning the strainer screen during assembly while providing additional support to the screen when in service. This circumferential support reduces maintenance time and costs since the strainer can be assembled quicker and safer than with other designs.



Strainer Screens

All Spence Y-Strainers are equipped with screens that have an open flow area many times greater than the pipe nominal cross-sectional area. This is important in order to reduce initial pressure drop and decrease the rate in which the pressure drop increases as the strainer screen becomes clogged. As shown in the figure the larger the screen area the lower the rate of increase in pressure drop.

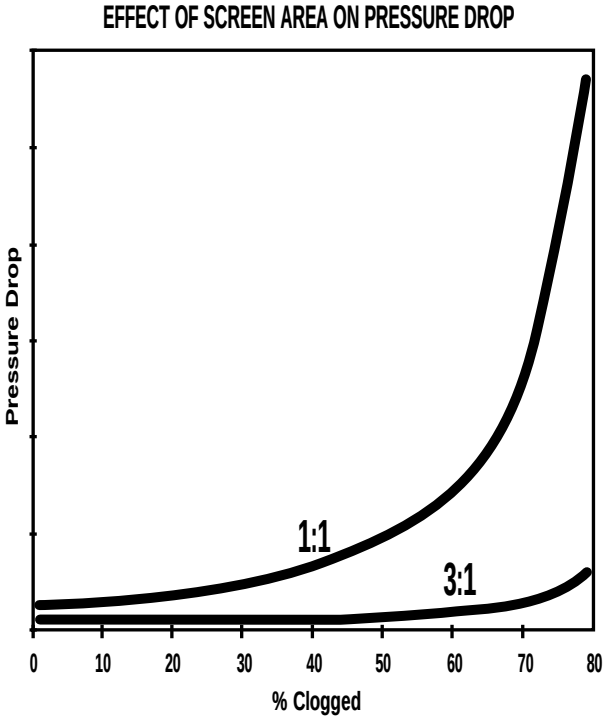
A Y-Strainer screen must be strong enough to handle the resulting differential pressure that occurs when in service. In general all Spence strainer screens are designed to handle a minimum burst pressure of 50 psid. Spence calculates the burst pressure of screens using the formula:

$$P = \frac{St}{R - 0.4t}$$

P = Burst Pressure
S = Reduced allowable stress
t = Thickness of screen material
R = Outside radius of screen

SOURCE: ASME Section VIII, Div. 1, Appendix 1.

Using the above formula, Spence can design and manufacture any strainer screen to suit your specific strength requirements.



Note: Curves are for different ratios of free area to pipe area.

125Y SERIES

BRONZE, CAST IRON Y STRAINERS NPT, SWEAT ENDS, FLANGED

PRESSURES TO 200 PSIG (13.8 BARG)
TEMPERATURES TO 450°F (232°C)

- **ANSI 125# rated strainers**
- **NPT, SE and FF flanges in accordance with ASME 16.1 and 16.15**
- **One piece cast body**
- **Upper and lower machined seats**
- **Generous screen area and properly proportioned straining chamber to minimize intial pressure drop while maximizing time between cleanings.**

APPLICATIONS

- Steam, liquid, gas and oil service
- Power industry
- Pulp and paper
- Chemical industry
- Metal & Mining
- Water & Waste

OPTIONS

- Other perforated screens and mesh liners
- Other drain connections and gasket materials
- Oxygen cleaning
- Special internal/external coatings and linings
- Contact factory for other options

APPLICABLE CODES

- ANSI B16.1
- ANSI B16.15

Canadian Registration OEO591.9C for CI 125Y2F

MODELS

- 125Y1T - Bronze, NPT, Threaded Cover
- 125Y1E - Bronze, Sweat Ends, Threaded Cover
- 125Y2F - Cast Iron, Flanged, Bolted Cover

125Y Series Ordering Code

Inlet Size				Dash	Model						Body Material	Dash	Perf	Mesh	Add'l Requirements
0	1	0	0	-	1	2	5	Y	1	T	B	-	A	2	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
- 0038 - ⅜"
- 0050 - ½"
- 0075 - ¾"
- 0100 - 1"
- 0125 - 1¼"
- 0150 - 1½"
- 0200 - 2"
- 0250 - 2½"
- 0300 - 3"
- 0400 - 4"
- 0500 - 5"
- 0600 - 6"
- 0800 - 8"
- 1000 - 10"
- 1200 - 12"
- 1400 - 14"
- 1600 - 16"

Dash - Position 5

Model - Position 6 - 11
- 125Y1T
- 125Y1E
- 125Y2F

Body Material - Position 12
- I - Cast Iron
- B - Bronze

Dash - Position 13

Perf[1] - Position 14
304 SS Material[2]
- A - No Perf
- 1 - 1/32"
- B - 3/64"
- 4 - 1/8"
- 5 - 3/32"
- 6 - 3/16"
- 7 - 7/32"
- 8 - 1/4"
- 9 - 3/8"

Mesh[1, 2] - Position 15
Leave Blank If Not Required (std Y2F)
- 1 - 10
- 2 - 20
- 3 - 30
- 4 - 40
- 5 - 50
- 6 - 60
- 7 - 80
- 8 - 100
- 9 - 120

Add'l Requirements - Position 16
Leave Blank If not Required
- D - Special Drain Size
- F - Silicon Free
- G - Special Gaskets
- T - Special Testing
- X - Oxygen Cleaning
- Y - Other and / or Multiple Specials

Indicate Specials Clearly On the Order

1. Standard Screens: Y1T, Y1E—20 mesh, Y2F< 3"—3/64" perf, Y2F>3"—1/8" perf
2. For other screen materials contact factory.

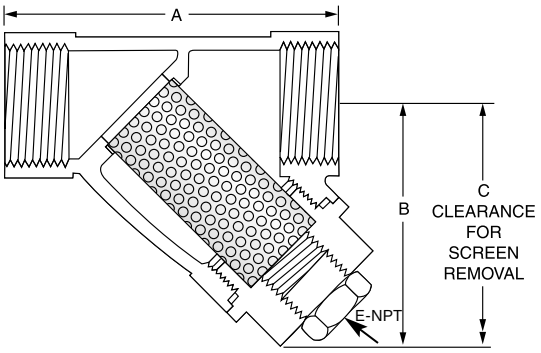
125Y1 SERIES
BRONZE Y STRAINERS
NPT, SWEAT ENDS

SPECIFICATION

Y Strainer shall be straight flow design with NPT or Sweat Ends inlet/outlet connections. The strainer shall be rated to ANSI 125 PSIG rating in accordance with ANSI B16.15. The Strainer shall be bronze body and the screen shall be size _____ mesh 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 125Y1 Series.

MATERIALS OF CONSTRUCTION

Body .....Bronze B584
Cover .....Bronze B584
Screen[1] .....304 SS Mesh
Plug .....Bronze B584
Gasket[1] .....Garlock 2900
1. Recommended Spare Parts



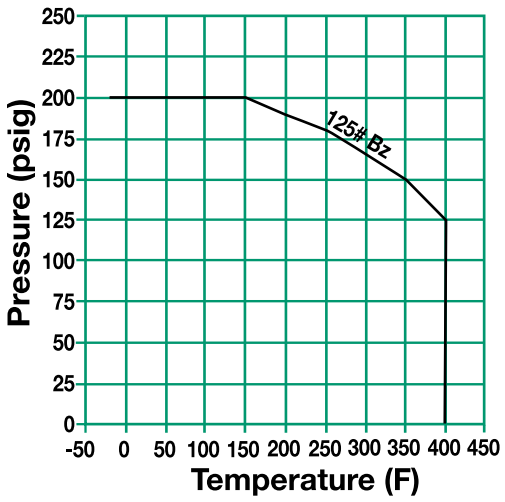
Connections:
3/8" – 3" NPT or Sweat Ends

Note: For Buttweld sizes please indicate pipe schedule on the order.

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
3/8" – 3"	20 Mesh	304 SS

PRESSURE/TEMPERATURE CHART
ANSI B16.15



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	E	WEIGHT
⅜ (10)	3¼ (82)	2⅛ (55)	3½ (89)	⅜ (10)	.8 (.36)
½ (15)	3¼ (82)	2⅛ (55)	3½ (89)	⅜ (10)	1.0 (.25)
¾ (20)	4 (100)	2¾ (70)	4½ (114)	⅜ (10)	1.2 (.60)
1 (25)	4½ (115)	3 (75)	5 (127)	½ (15)	1.6 (.73)
1¼ (32)	5⅜ (136)	3 9/16 (90)	5¾ (146)	½ (15)	2.5 (1.1)
1½ (40)	6 5/16 (160)	3⅞ (98)	6⅜ (162)	½ (15)	3.4 (1.6)
2 (50)	7½ (191)	5 7/16 (138)	9 1/16 (230)	½ (15)	5.8 (2.6)
2½ (65)	9 1/16 (230)	5 15/16 (151)	10 (254)	½ (15)	10.2 (4.6)
3 (80)	10 3/16 (259)	6 5/16 (160)	10⅜ (264)	½ (15)	13.7 (6.2)

Dimensions shown are subject to change. Consult factory for certified drawings when required.

125Y2 SERIES
CAST IRON Y STRAINERS FLANGED

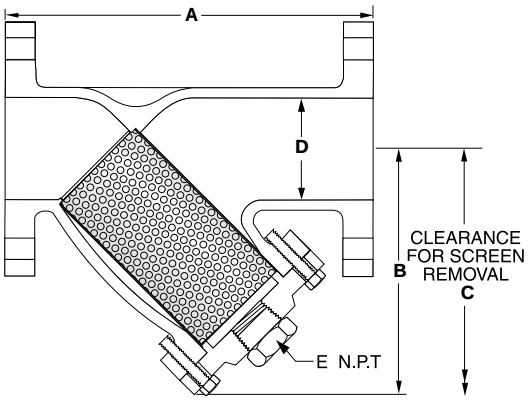
SPECIFICATION

Y Strainer shall be straight flow design with FF Flanged inlet/outlet connections. The strainer shall be rated to ANSI 125 PSIG rating in accordance with ANSI B16.1. The Strainer shall be Cast Iron body and the screen shall be size _____ perforated 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 125Y2 Series.

MATERIALS OF CONSTRUCTION

Body .....Cast Iron A126-B
Cover .....Cast Iron A126-B
Screen[1] .....304 SS
Plug .....Cast Iron A126-B
Gasket[1] .....Graphite
Bolt/Stud[2] A307-B
Nut[2] A563

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

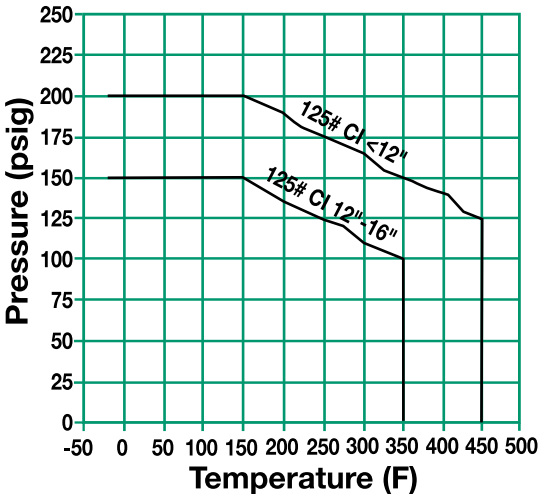


Connections:
2" – 16" FF Flanged

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" – 3"	3/64" Perf	304 SS
4" – 16"	1/8" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ASME B16.1



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
2 (50)	8⅞ (226)	6⅛ (156)	8½ (216)	2 (51)	½ (15)	22 (10)
2½ (65)	10¾ (273)	8 1/16 (205)	11¼ (286)	2½ (64)	1 (25)	35 (16)
3 (80)	11⅝ (295)	8½ (216)	12¼ (311)	3 (76)	1 (25)	43 (20)
4 (100)	13⅞ (353)	9⅝ (245)	13⅜ (340)	4 (102)	1 (25)	75 (34)
5 (125)	16⅜ (416)	11⅝ (295)	16⅛ (410)	5 (127)	1¼ (32)	115 (52)
6 (150)	18½ (470)	12⅝ (321)	17 1/16 (449)	6 (152)	1½ (40)	154 (70)
8 (200)	21⅜ (543)	16⅜ (416)	23 (584)	8 (203)	1½ (40)	243 (110)
10 (250)	26 (660)	19⅛ (486)	26 1/16 (678)	10 (254)	2 (50)	390 (117)
12 (300)	30 (762)	22 1/16 (559)	31 (787)	12 (305)	2 (50)	650 (295)
14 (350)	37⅜ (949)	30 1/16 (780)	41 (1041)	14 (356)	2 (50)	815 (370)
16 (400)	42½ (1080)	33 1/16 (840)	46 (1168)	16 (406)	2 (50)	1224 (555)

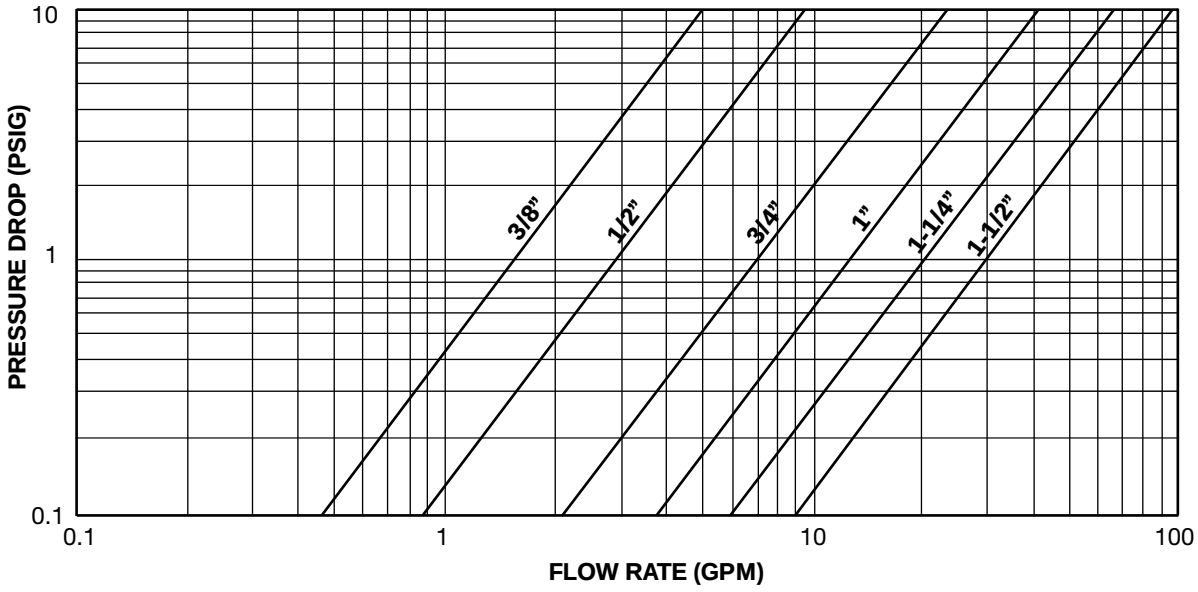
Dimensions shown are subject to change. Consult factory for certified drawings when required.

125Y SERIES BRONZE, CAST IRON

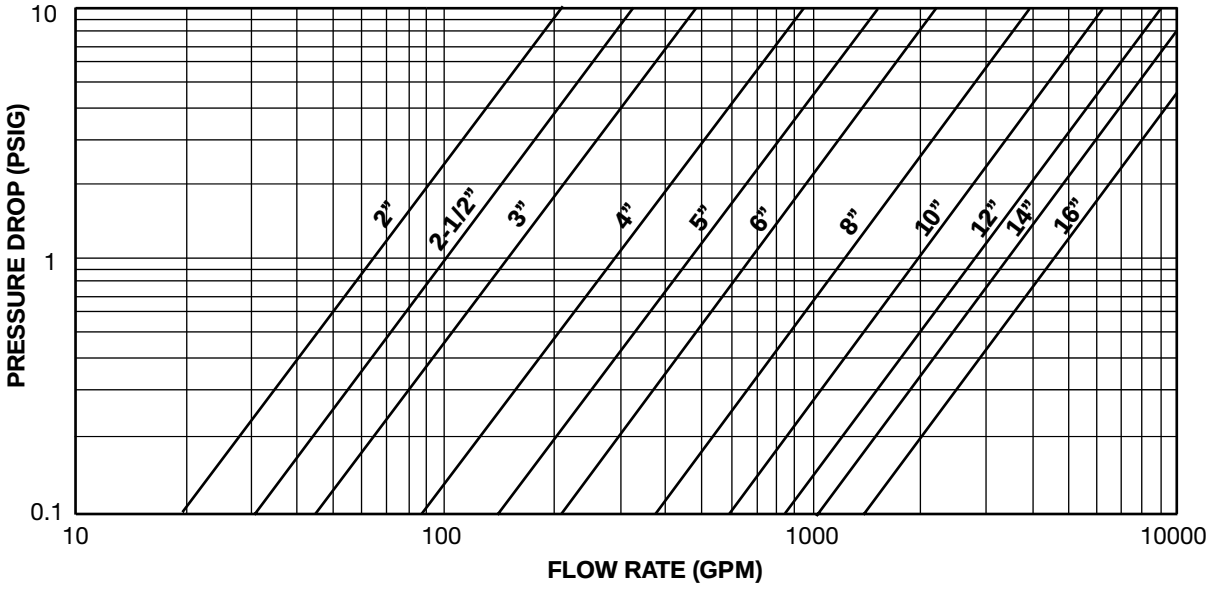
PRESSURE DROP VS FLOW RATE

Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*

(Sizes ⅜" - 1½")



(Sizes 2" - 16")



* For Gas, Steam or Air service, consult factory.

Steam Service Pressure Drop Page 433

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 432

Correction Factors for Clogged Screens Page 432

125Y SERIES BRONZE, CAST IRON Y STRAINERS

OPEN AREA RATIOS

with Standard Perforated Screen

BRONZE

Size	Mesh	Opening %	Std Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
⅜	20	49	0.19	3.8	1.88	9.9
½	20	49	0.30	3.8	1.88	6.2
¾	20	49	0.53	5.5	2.71	5.1
1	20	49	0.86	7.0	3.45	4.0
1¼	20	49	1.50	11.1	5.42	3.6
1½	20	49	2.04	15.2	7.46	3.7
2	20	49	3.36	26.1	12.81	3.8
2½	20	49	4.79	36.6	17.95	3.7
3	20	49	7.39	49.0	24.00	3.2

CAST IRON

Size	Perf. Diameter (in.)	Opening %	Flange Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	3/64	36	3.14	29.4	10.58	3.4
2½	3/64	36	4.91	46.0	16.56	3.4
3	3/64	36	7.07	57.0	20.51	2.9
4	1/8	40	12.57	99.0	39.59	3.2
5	1/8	40	19.63	146.5	58.58	3.0
6	1/8	40	28.27	174.0	69.60	2.5
8	1/8	40	50.27	327.3	130.91	2.6
10	1/8	40	78.54	495.2	198.08	2.5
12	1/8	40	113.10	645.0	257.99	2.3
14	1/8	40	153.94	1149.9	459.94	3.0
16	1/8	40	201.06	1431.9	572.75	2.8

OAR = Free Screen Area / Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

Other Screen Openings Page 430

Basket Burst Pressure Page 435

150Y SERIES
CARBON STEEL, STAINLESS STEEL, BRONZE Y STRAINERS FLANGED, BUTTWELD

PRESSURES TO 285 PSIG (19.7 BARG)
TEMPERATURES TO 750°F (390°C)

- **ANSI 150 PSIG rated strainers**
- **RF Flanges, FF Flanges (Bronze only) and Buttweld in accordance with ANSI 16.5, 16.24, and 16.25**
- **All sizes complete with Bolted Cover**
- **Cover flange (CS, SS) in accordance with ASME Section VIII, Div 1 Appendix II and/or ANSI 16.5.**
- **One piece cast body**
- **Upper and lower machined seats**
- **Generous screen area and properly proportioned straining chamber to minimize initial pressure drop while maximizing time between cleanings**
- **Drain/Blow-off connection furnished with plug**

APPLICATIONS
- Steam, liquid, gas and oil service
- Power Industry
- Pulp & Paper
- Process Equipment
- Chemical Industry
- Metal & Mining
- Water & Waste

OPTIONS
- Other perforated screens and mesh liners
- Other drain connections and gasket materials
- Oxygen cleaning
- Special internal / external coatings and linings
- Contact Factory for other Options

APPLICABLE CODES
- ANSI B16.5
- ANSI B16.25
- ANSI B16.24
- ANSI B16.34

MODELS
- 150Y2F – Carbon, Stainless or Bronze Flanged with Bolted Cover
- 150Y2B – Carbon or Stainless Buttweld with Bolted Cover

150Y Series Ordering Code

Inlet Size				Dash	Model					Body Material	Dash	Perf	Mesh	Add'l Requirements
0	2	0	0	-	1	5	0	Y	2	F	T	-	B	__	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
0050 - ½"
0075 - ¾"
0100 - 1"
0125 - 1¼"
0150 - 1½"
0200 - 2"
0250 - 2½"
0300 - 3"
0400 - 4"
0500 - 5"
0600 - 6"
0800 - 8"
1000 -10"
1200 -12"

Dash - Position 5

Model - Position 6 - 11
150Y2F
150Y2B[1]

Body Material - Position 12
C - CS
T - SS
B - BZ

Dash - Position 13

1. For Buttweld connections please specify mating pipe schedule.

Perf[2] - Position 14
304SS Material[3]
A - No Perf
1 - 1/32"
B - 3/64
4 - 1/8"
2 - 1/16"
3 - 3/32"
5 - 5/32"
6 - 3/16"
7 - 7/32"
8 - 1/4"
9 - 3/8"

Mesh[3] - Position 15
Leave Blank If not Required (std ALL)
1 - 10
2 - 20
3 - 30
4 - 40
5 - 50
6 - 60
7 - 80
8 - 100
9 - 120

Add'l Requirements - Position 16
Leave Blank If not Required
D - Special Drain Size
F - Silicon Free
G - Special Gaskets
N - Nace MR01-75
T - Special Testing
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

2. Standard Screens: ALL 1/2"-11/2"—1/32" perf, ALL 2"-3"—3/64" perf, ALL >3"—1/8" perf .
3. For other screen material, contact factory.

150Y2 SERIES
CARBON STEEL, STAINLESS STEEL Y STRAINERS FLANGED, BUTTWELD

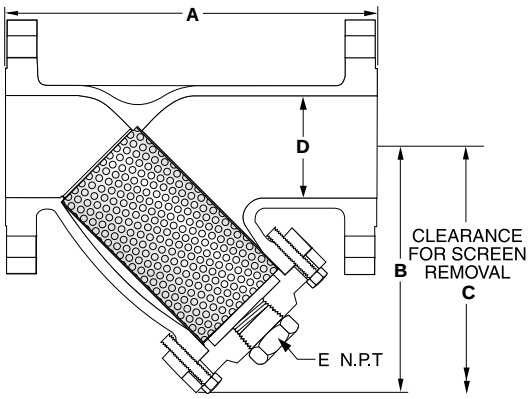
SPECIFICATION

Y Strainer shall be straight flow design with RF Flanged or Buttweld inlet/outlet connections. The strainer shall be rated to ANSI 150 PSIG rating in accordance with ANSI B16.5 or ANSI B16.25. The Strainer shall be Cast Carbon Steel or Stainless Steel body and the screen shall be size _____ perf 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 150Y2 Series.

MATERIALS OF CONSTRUCTION

Part	Carbon Steel	Stainless Steel
Body	A216-WCB	A351-CF8M
Cover	A216-WCB	A351-CF8M
Screen[1]	304 Stainless Steel	304 Stainless Steel
Plug[2]	A105	A182-316
Gasket[1]	Teflon/Spiral Wound 304/GR[3]	Teflon/Spiral Wound 304/GR[3]
Stud	A193-B7	A193-B8-1
Nut[2]	A194-2H	A194-8

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted
3. Teflon gasket for sizes 4" and below only.



Connections: CS - ½" to 12"
RF Flanged or Buttweld

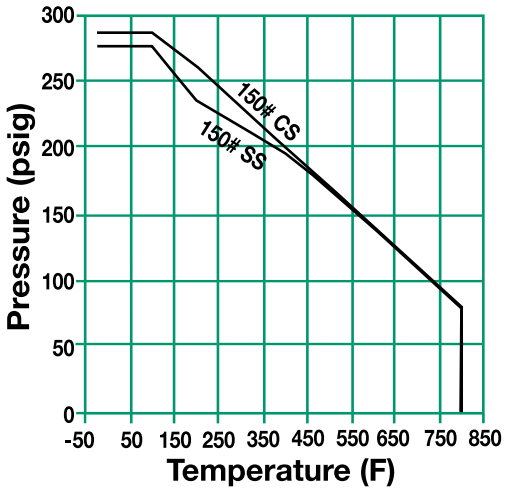
SS – ½" to 12"
RF Flanged or Buttweld[4]

4. For Buttweld connections please specify mating pipe schedule.

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
½" – 1½"	1/32" Perf	304 SS
2" – 3"	3/64" Perf	304 SS
4" – 12"	1/8" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ASME B16.34



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
½ (15)	6 (152)	3⅞ (99)	4¾ (121)	½ (13)	¼ (8)	5.5 (2.5)
¾ (20)	7 (178)	4¼ (108)	5¾ (146)	¾ (19)	⅜ (10)	8 (3.7)
1 (25)	7½ (191)	4¾ (121)	6⅜ (162)	1 (25)	½ (15)	10 (4.6)
1¼ (32)	8¾ (222)	5⁹⁄₁₆ (141)	8 (203)	1¼ (32)	½ (15)	16 (7.3)
1½ (40)	9 (229)	5⅝ (143)	9 (229)	1½ (38)	½ (15)	18 (8.2)
2 (50)	8⅝ (219)	5⅞ (149)	7½ (191)	2 (51)	½ (15)	20 (9.1)
2½ (65)	10¼ (260)	7½ (191)	10½ (267)	2½ (64)	¾ (20)	27 (12.3)
3 (80)	11⅝ (295)	7¹¹⁄₁₆ (195)	10⅞ (276)	3 (76)	1 (25)	41 (18.6)
4 (100)	14⅜ (365)	9⅛ (232)	13 (330)	4 (102)	1½ (40)	63 (28.6)
5 (125)	17⅝ (448)	11 (279)	17 (432)	5 (127)	2 (50)	99 (45)
6 (150)	18⅝ (473)	13 (330)	18⅜ (467)	6 (152)	2 (50)	133 (60.5)
8 (200)	24⅜ (619)	15⁵⁄₁₆ (389)	21⅝ (549)	8 (203)	2 (50)	222 (100.9)
10 (250)	26⅛ (662)	19⅛ (486)	27 (686)	10 (254)	2 (50)	409 (185.9)
12 (300)	30-3/8 (772)	22 (559)	31 (787)	12 (305)	2 (50)	605 (275)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

150Y2 SERIES
BRONZE Y STRAINERS FLANGED

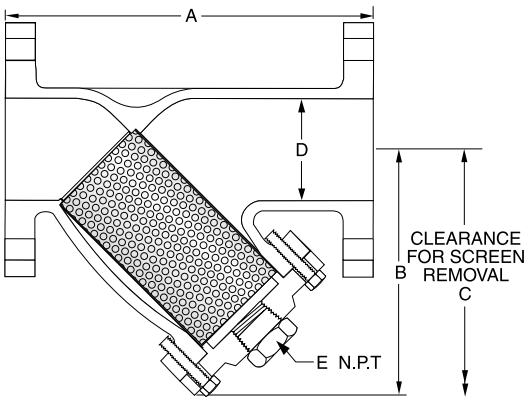
SPECIFICATION

Y Strainer shall be straight flow design with FF Flanged inlet/outlet connections. The strainer shall be rated to ANSI 150 PSIG rating in accordance with ANSI B16.24. The Strainer shall be Cast Bronze body and the screen shall be size _____ perf 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 150Y2 Series.

MATERIALS OF CONSTRUCTION

Body .....Bronze B62
Cover .....Bronze B62
Screen[1].....304 Stainless Steel
Plug[2] .....Bronze B62
Gasket[1] .....Teflon
Bolt/Stud[2] B16
Nut[2] B16

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

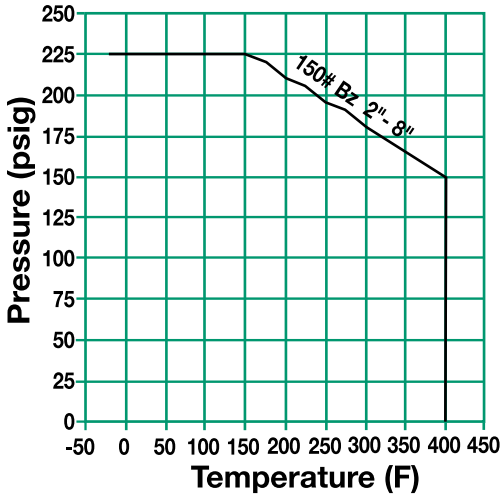


Connections:
BZ - 2" to 8" FF Flanged

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" – 3"	3/64" Perf	304 SS
4" – 8"	1/8" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ANSI B16.24



DIMENSIONS inches (mm) AND WEIGHTS
pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
2 (50)	8⅝ (219)	4⅞ (124)	7½ (191)	2 (51)	½ (15)	20 (9)
2½ (65)	10¼ (260)	7½ (191)	10½ (267)	2½ (64)	1 (25)	32 (15)
3 (80)	11⅝ (295)	7¾ (197)	10⅞ (276)	3 (76)	1 (25	36 (16)
4 (100)	14⅜ (365)	9⅛ (232)	13 (330)	4 (102)	1 (25)	61 (28)
5 (125)	17⅝ (448)	11 (279)	17 (432)	5 (127)	1¼ (32)	110 (50)
6 (150)	18⅝ (473)	13⅜ (340)	18⅜ (467)	6 (152)	1½ (40)	160 (73)
8 (200)	24⅜ (619)	14⅝ (389)	21⅝ (549)	8 (203)	1½ (40)	210 (95)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

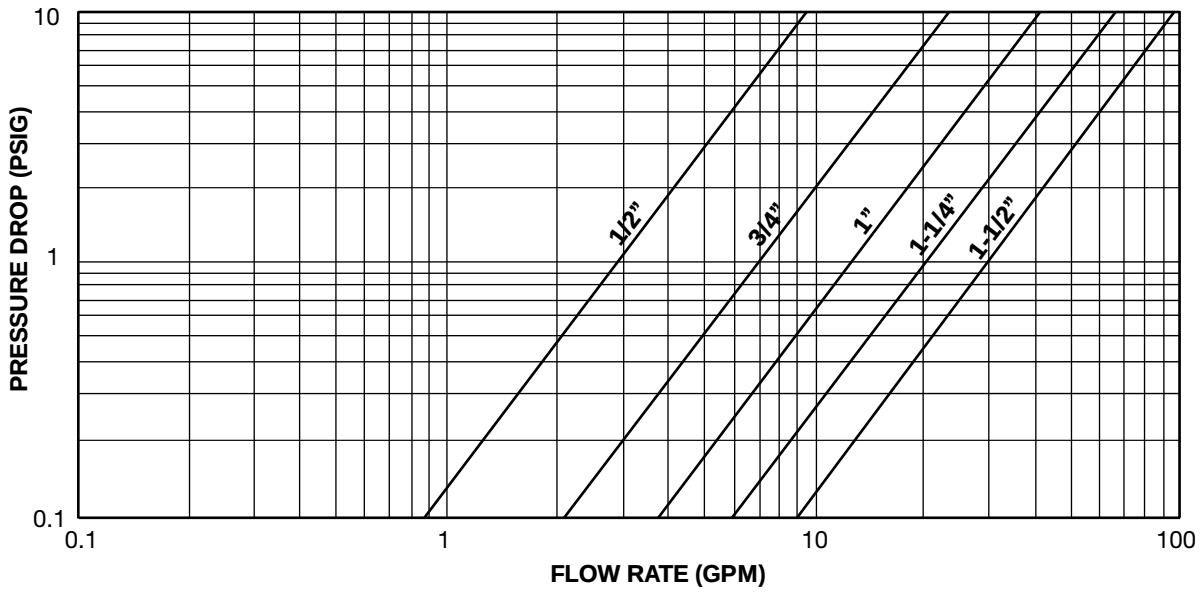
150Y SERIES

CARBON STEEL, STAINLESS STEEL, BRONZE

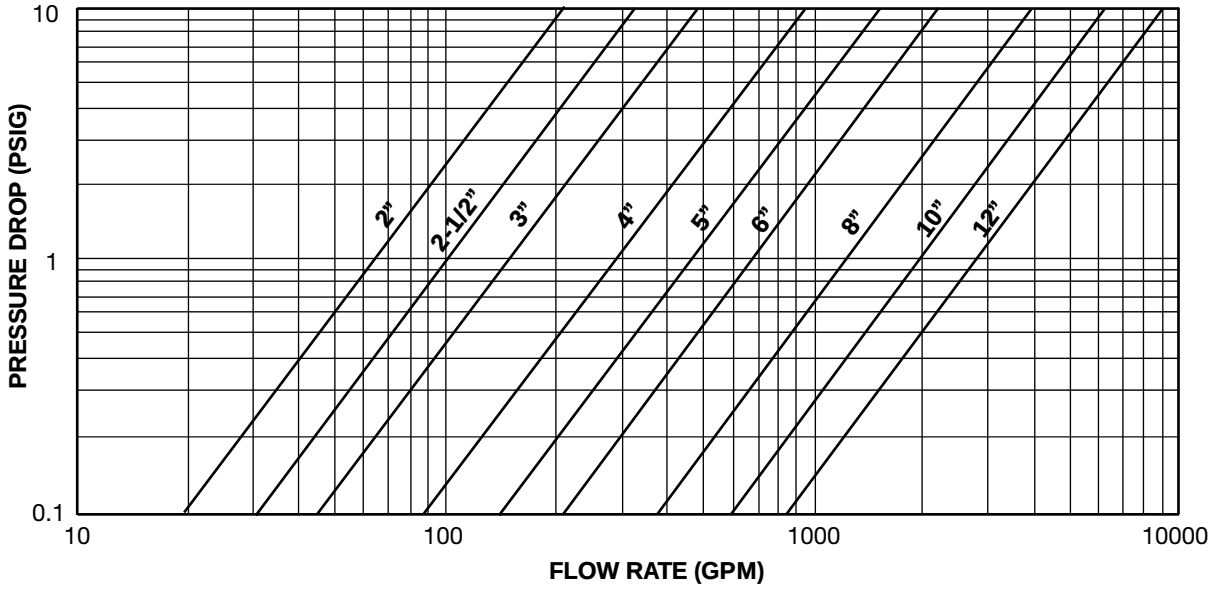
PRESSURE DROP VS FLOW RATE

Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*

(Sizes ½" - 1½")



(Sizes 2" - 12")



* For Gas, Steam or Air service, consult factory.

Steam Service Pressure Drop Page 433

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 432

Correction Factors for Clogged Screens Page 432

150Y SERIES

CARBON STEEL, STAINLESS STEEL, BRONZE

OPEN AREA RATIOS

with Standard Perforated Screen*

BRONZE

Size	Perf. Diameter	Opening %	Std Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	3/64	36	3.14	21.1	7.60	2.4
2½	3/64	36	4.91	52.3	18.83	3.8
3	3/64	36	7.07	56.2	20.24	2.9
4	1/8	40	12.57	100.1	40.03	3.2
5	1/8	40	19.63	*	*	*
6	1/8	40	28.27	199.6	79.86	2.8
8	1/8	40	50.27	306.4	122.58	2.4

CARBON & STAINLESS STEEL

Size	Perf. Diameter	Opening %	Std Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
½	1/32	28	0.20	5.4	1.52	7.7
¾	1/32	28	0.44	8.5	2.37	5.4
1	1/32	28	0.79	12.4	3.47	4.4
1¼	1/32	28	1.23	22.8	6.39	5.2
1½	1/32	28	1.77	22.8	6.39	3.6
2	3/64	36	3.14	27.1	9.75	3.1
2½	3/64	36	4.91	50.5	18.17	3.7
3	3/64	36	7.07	65.9	23.71	3.4
4	1/8	40	12.57	86.9	34.74	2.8
5	1/8	40	19.63	148.7	59.47	3.0
6	1/8	40	28.27	214.4	85.74	3.0
8	1/8	40	50.27	329.3	131.71	2.6
10	1/8	40	78.54	489.9	195.96	2.5
12	1/8	40	113.10	710.9	284.36	2.5

OAR = Free Screen Area / Nominal Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

* Consult Factory.

Other Screen Openings Page 430

Basket Burst Pressure Page 435

250Y SERIES
CAST IRON, BRONZE, DUCTILE IRON Y STRAINERS NPT, FLANGED

PRESSURES TO 500 PSIG (34.5 BARG)
TEMPERATURES TO 450°F (232°C)

- **ANSI 250 PSIG rated strainers**
- **NPT and FF Flanges in accordance with ANSI 16.1, 16.15 and 16.4**
- **One piece cast body**
- **Upper and lower machined seats**
- **Generous screen area and properly proportioned straining chamber to minimize initial pressure drop while maximizing time between cleanings**
- **Drain/Blow-off connection furnished with plug**

APPLICATIONS
- Steam, liquid, gas and oil service
- Power Industry
- Pulp & Paper
- Process Equipment
- Chemical Industry
- Metal & Mining
- Water & Waste

OPTIONS
- Other perforated screens and mesh liners
- Other drain connections and gasket materials
- Oxygen cleaning
- Special internal / external coatings and linings
- Contact Factory for other Options

APPLICABLE CODES
- ANSI B16.1
- ANSI B16.4
- ANSI B16.15

Canadian Registration OEO591.9C BRZ & CI 250Y1 CI

MODELS
- 250Y1T – Bronze or Cast Iron, NPT, Threaded Cover
- 250Y2F - Ductile Iron, Flanged, Bolted Cover

250Y Series Ordering Code

Inlet Size					Model						Body Material	Dash	Perf	Mesh	Add'l Requirements
0	4	0	0	-	2	5	0	Y	2	F	D	-	4	__	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
0038 - 3/8"
0050 - 1/2"
0075 - 3/4"
0100 - 1"
0125 - 1¼"
0150 - 1½"
0200 - 2"
0250 - 2½"
0300 - 3"
0400 - 4"
0500 - 5"
0600 - 6"
0800 - 8"
1000 - 10"
1200 - 12"
1400 - 14"
1600 - 16"

Dash - Position 5

Model - Position 6 - 11
250Y1T
250Y2F

Body Material - Position 12
I - Cast Iron
B - Bronze
D - Ductile Iron

Dash - Position 13

Perf[1] - Position 14
304SS Material[2]
A - No Perf (std Y1T Bz All - std Y1T CI <=2")
1 - 1/32"
B - 3/64"
4 - 1/8"
2 - 1/16"
3 - 3/32"
5 - 5/32"
6 - 3/16"
7 - 7/32"
8 - 1/4"
9 - 3/8"

Mesh[1, 2] - Position 15
Leave Blank If not Required (std Y2F)
1 - 10
2 - 20
3 - 30
4 - 40
5 - 50
6 - 60
7 - 80
8 - 100
9 - 120

Add'l Requirements - Position 16
Leave Blank If not Required
D - Special Drain Size
F - Silicon Free
G - Special Gaskets
T - Special Testing
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

Indicate Specials Clearly On the Order

1. Standard Screens: Y1 Cast Iron 1/4"-2"—20 mesh, Y1 Cast Iron 2½"-3"—3/64" perf, Y1 Bronze 1/2"-1"—30 mesh, Y1 Bronze 1¼"-3"—20 mesh, Y2 Ductile Iron 2"-3"—3/64" perf, Y2 Ductile Iron 4"-12"—1/8" perf.
2. For other screen material, consult factory.

250Y1 SERIES
CAST IRON Y STRAINERS NPT

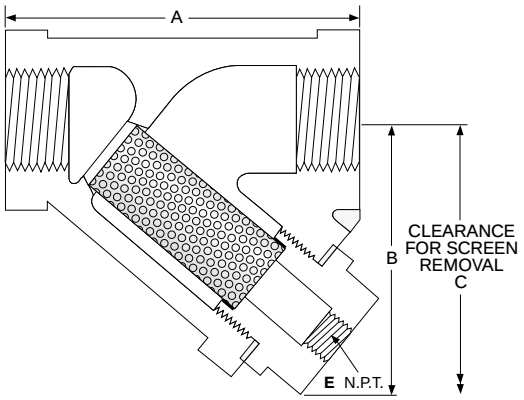
SPECIFICATION

Y Strainer shall be straight flow design with NPT inlet/outlet connections. The strainer shall be rated to ANSI 250 PSIG rating in accordance with ANSI B16.4. The Strainer shall be cast iron body and the screen shall be size _____ perf / mesh 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 250Y1 Series.

MATERIALS OF CONSTRUCTION

Body A126-B
Cap/Cover A126-B
Screen[1] .....304 SS
Plug[2] A126-B
Gasket[1] .....Graphite

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

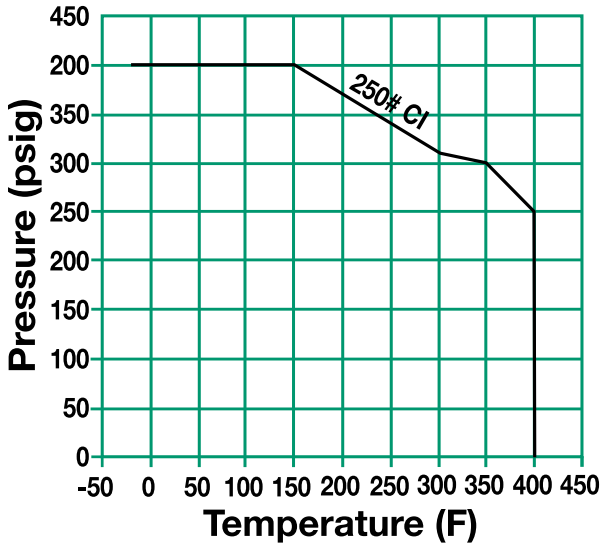


Connections: 1/4" – 3" NPT

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
1/4"- 2"	20 Mesh	304 SS
2½"- 3"	3/64" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ASME B16.4



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	E	WEIGHT
¼ (8)	3 3/16 (81)	2 (50)	3⅛ (80)	¼ (8)	1.50 (.70)
⅜ (10)	3³⁄₁₆ (81)	2 (50)	3⅛ (80)	¼ (8)	1.50 (.70)
½ (15)	3³⁄₁₆ (81)	2 (50)	3⅛ (80)	¼ (8)	1.50 (.70)
¾ (20)	3¾ (95)	2¹¹⁄₁₆ (68)	3¹¹⁄₁₆ (94)	⅜ (10)	2.50 (.50)
1 (25)	4 (102)	3 (62)	3¹¹⁄₁₆ (94)	⅜ (10)	3.00 (1.4)
1¼ (32)	5 (127)	3⅜ (87)	5⅛ (129)	¾ (20)	6.00 (1.4)
1½ (40)	5¾ (146)	3²⁵⁄₃₂ (96)	5¾ (146)	¾ (20)	8.00 (3.6)
2 (50)	7 (178)	4¹¹⁄₃₂ (110)	7¼ (184)	1 (25)	14.00 (3.6)
2½ (65)	9¼ (235)	6³⁄₃₂ (155)	8¾ (222)	1½ (40)	29.0 (10)
3 (80)	10 (254)	7¹³⁄₃₂ (188)	9 (2.29)	1½ (40)	38.0 (13.6)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

250Y1 SERIES
CAST IRON Y STRAINERS NPT

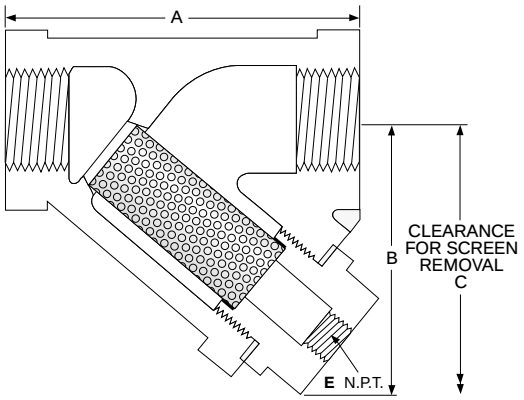
SPECIFICATION

Y Strainer shall be straight flow design with NPT inlet/outlet connections. The strainer shall be rated to ANSI 250 PSIG rating in accordance with ANSI B16.4. The Strainer shall be cast iron body and the screen shall be size _____ perf / mesh 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 250Y1 Series.

MATERIALS OF CONSTRUCTION

Body A126-B
Cap/Cover A126-B
Screen[1] .....304 SS
Plug[2] A126-B
Gasket[1] .....Graphite

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

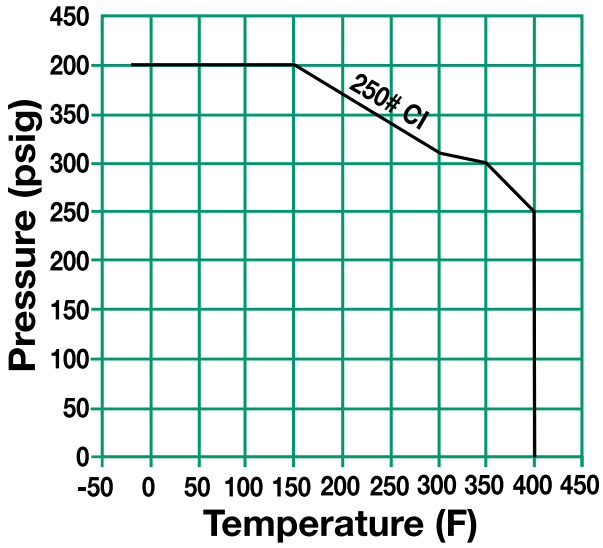


Connections: 1/4" – 3" NPT

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
1/4"- 2"	20 Mesh	304 SS
2½"- 3"	3/64" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ASME B16.4

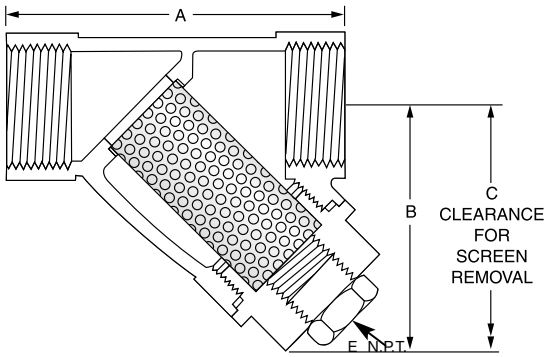


DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	E	WEIGHT
¼ (8)	3 3/16 (81)	2 (50)	3⅛ (80)	¼ (8)	1.50 (.70)
⅜ (10)	3³⁄₁₆ (81)	2 (50)	3⅛ (80)	¼ (8)	1.50 (.70)
½ (15)	3³⁄₁₆ (81)	2 (50)	3⅛ (80)	¼ (8)	1.50 (.70)
¾ (20)	3¾ (95)	2¹¹⁄₁₆ (68)	3¹¹⁄₁₆ (94)	⅜ (10)	2.50 (.50)
1 (25)	4 (102)	3 (62)	3¹¹⁄₁₆ (94)	⅜ (10)	3.00 (1.4)
1¼ (32)	5 (127)	3⅜ (87)	5⅛ (129)	¾ (20)	6.00 (1.4)
1½ (40)	5¾ (146)	3²⁵⁄₃₂ (96)	5¾ (146)	¾ (20)	8.00 (3.6)
2 (50)	7 (178)	4¹¹⁄₃₂ (110)	7¼ (184)	1 (25)	14.00 (3.6)
2½ (65)	9¼ (235)	6³⁄₃₂ (155)	8¾ (222)	1½ (40)	29.0 (10)
3 (80)	10 (254)	7¹³⁄₃₂ (188)	9 (2.29)	1½ (40)	38.0 (13.6)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

250Y1 SERIES
BRONZE Y STRAINERS NPT



SPECIFICATION

Y Strainer shall be straight flow design with NPT inlet/outlet connections. The strainer shall be rated to ANSI 250 PSIG rating in accordance with ANSI B16.15. The Strainer shall be bronze body and the screen shall be size _____ mesh 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 250Y1 Series.

MATERIALS OF CONSTRUCTION

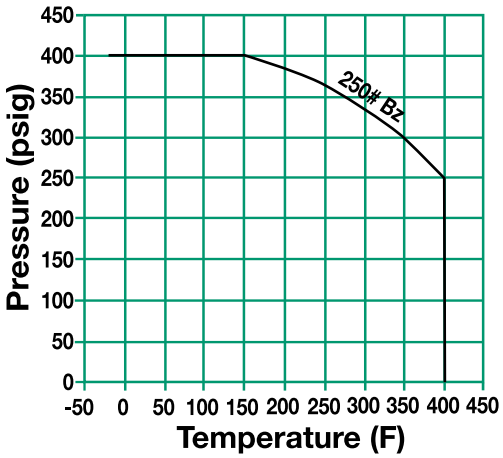
Body B584
Cap B584
Screen[1] .....304 SS
Plug B584
Gasket[1] .....Silicone
1. Recommended Spare Parts

Connections: 1/2" – 3" NPT

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
½" - 1"	30 Mesh	304 SS
1¼" – 3"	20 Mesh	304 SS

PRESSURE/TEMPERATURE CHART
ANSI B16.15



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	E	WEIGHT
½ (15)	2 15/16 (75)	2⅛ (54)	3½ (89)	⅜ (10)	.9 (0.4)
¾ (20)	3⅜ (86)	2⅜ (60)	4½ (114)	⅜ (10)	1.3 (0.6)
1 (25)	4 1/16 (103)	3 (76)	5 (127)	¾ (20)	2.1 (1.0)
1¼ (32)	4 15/16 (125)	3 7/16 (87)	5¾ (146)	¾ (20)	3.0 (1.4)
1½ (40)	5¾ (146)	3 13/16 (97)	6⅜ (162)	¾ (20)	4.0 (1.8)
2 (50)	6 11/16 (170)	4 9/16 (116)	9 1/16 (230)	¾ (20)	7.1 (3.2)
2½ (64)	7½ (191)	4⅞ (124)	10 (254)	1¼ (32)	10.1 (4.6)
3 (76)	8½ (216)	5½ (140)	10⅜ (264)	1¼ (32)	13.3 (6.1)

* Consult factory for dimensions.
Dimensions shown are subject to change.
Contact factory for certified prints when required.

250Y2 SERIES
DUCTILE IRON Y STRAINERS FLANGED

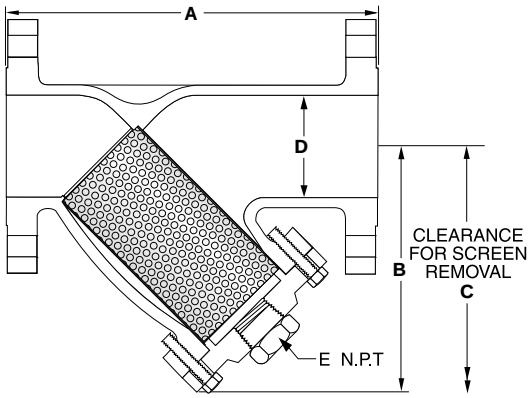
SPECIFICATION

Y Strainer shall be straight flow design with RF Flanged inlet/outlet connections. The strainer shall be rated to ANSI 250 PSIG rating in accordance with ANSI B16.1. The Strainer shall be Ductile Iron and the screen shall be size _____ perf 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 250Y2 Series.

MATERIALS OF CONSTRUCTION

Body .....Ductile Iron A536
Cap.....Ductile Iron A536
Screen[1] .....304 SS
Plug.....A126-B
Gasket[1] .....Graphite
Bolt/Stud[2] A307-B
Nut[2] A563

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

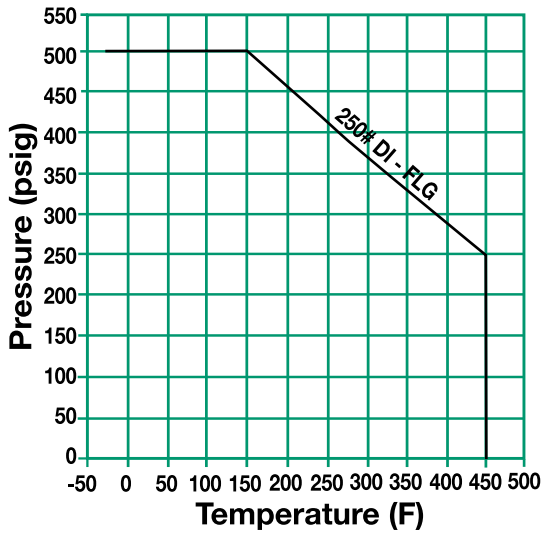


Connections: 2" – 12" RF Flanges

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" - 3"	3/64" Perf.	304 SS
4" – 12"	1/8" Perf.	304 SS

PRESSURE/TEMPERATURE CHART
ANSI B16.1



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
2 (50)	8⅞ (226)	6⅛ (156)	9⅛ (232)	2 (51)	½ (15)	28 (13)
2½ (65)	10¾ (273)	8 1/16 (205)	9⅞ (251)	2½ (64)	1 (25)	38 (17)
3 (80)	11⅝ (295)	8 7/16 (214)	11¼ (286)	3 (76)	1 (25)	54 (24)
4 (100)	13⅞ (353)	9⅝ (245)	15 (381)	4 (102)	1 (25)	110 (50)
5 (125)	16⅜ (416)	11⅝ (295)	19 (483)	5 (127)	1¼ (32)	160 (73)
6 (150)	18½ (470)	12⅝ (321)	22¾ (578)	6 (152)	1½ (40)	224 (102)
8 (200)	21⅜ (543)	16⅜ (416)	27¾ (692)	8 (203)	1½ (40)	468 (212)
10 (250)	26 (660)	19⅛ (486)	29¾ (756)	10 (254)	2 (50)	590 (268)
12 (300)	30 (762)	22 1/16 (560)	35 (889)	12 (305)	2 (50)	890 (404)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

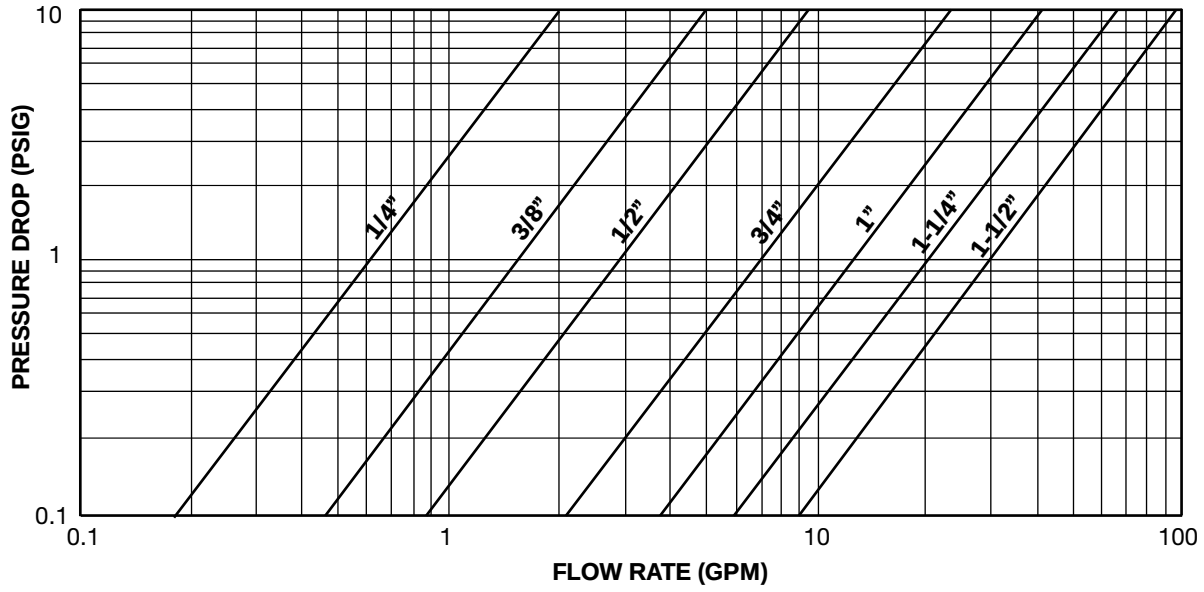
250Y SERIES

CAST IRON, BRONZE, DUCTILE IRON

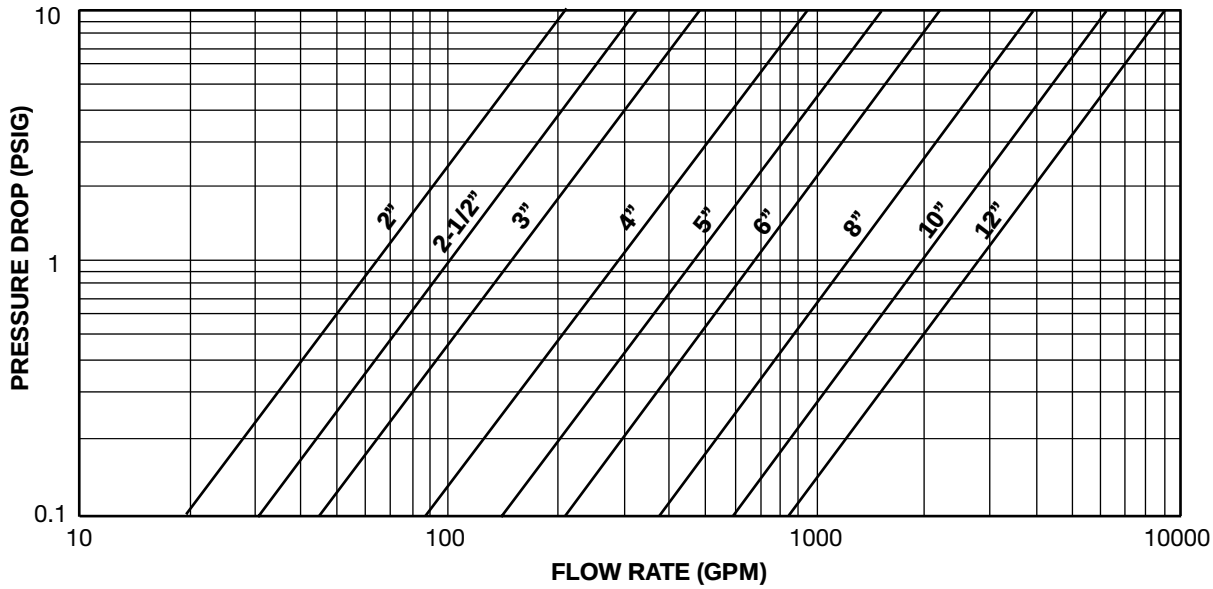
PRESSURE DROP VS FLOW RATE

Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*

(Sizes ¼" - 1½")



(Sizes 2" - 12")



* For Gas, Steam or Air service, consult factory.

Steam Service Pressure Drop Page 433

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 432

Correction Factors for Clogged Screens Page 432

250Y SERIES
CAST IRON, BRONZE, DUCTILE IRON
OPEN AREA RATIOS
with Standard Perforated Screen

BRONZE

Size	Mesh	Opening %	Std Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
½	30	45	0.30	2.9	1.28	4.2
¾	30	45	0.53	5.6	2.52	4.7
1	30	45	0.86	9.0	4.03	4.7
1¼	20	49	1.50	15.1	7.38	4.9
1½	20	49	2.04	21.7	10.64	5.2
2	20	49	3.36	29.2	14.31	4.3
2½	20	49	4.79	35.9	17.61	3.7
3	20	49	7.39	49.9	24.45	3.3

CAST IRON

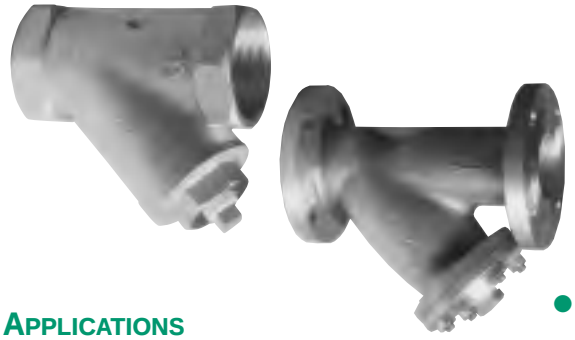
Size	Perf/Mesh Diameter	Opening %	Std Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
¼	20	49	0.30	3.7	1.80	5.9
⅜	20	49	0.30	3.7	1.80	5.9
½	20	49	0.30	3.6	1.74	5.7
¾	20	49	0.53	6.3	3.11	5.8
1	20	49	0.86	7.9	3.85	4.5
1¼	20	49	1.50	13.0	6.35	4.2
1½	20	49	2.04	16.6	8.13	4.0
2	20	49	3.36	28.3	13.85	4.1
2½	3/64	36	4.79	44.7	16.08	3.4
3	3/64	36	7.39	43.2	15.55	2.1

DUCTILE IRON

Size	Perf. Diameter (inches)	Opening %	Flange Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	3/64	36	3.14	29.4	10.58	3.4
2½	3/64	36	4.91	46.0	16.56	3.4
3	3/64	36	7.07	57.0	20.51	2.9
4	1/8	40	12.57	99.0	39.59	3.2
5	1/8	40	19.63	146.5	58.58	3.0
6	1/8	40	28.27	174.0	69.60	2.5
8	1/8	40	50.27	327.3	130.91	2.6
10	1/8	40	78.54	495.2	198.08	2.5
12	1/8	40	113.10	645.0	257.99	2.3

OAR = Free Screen Area / Nominal Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

Other Screen Openings Page 430
Basket Burst Pressure Page 435



300Y SERIES
CARBON STEEL, STAINLESS STEEL Y STRAINERS NPT, FLANGED, SOCKETWELD, BUTTWELD

PRESSURES TO 740 PSIG (51 BARG)
TEMPERATURES TO 800°F (427°C)

- **ANSI 300 PSIG rated strainers**
- **NPT, RF Flanges, Socketweld and Buttweld in accordance with ANSI 16.5, and 16.25**
- **All Flanged connections complete with Bolted Cover**
- **Cover flange (CS, SS) in accordance with ASME Section VIII, Div 1 Appendix II and/or ANSI 16.5.**
- **One piece cast body – Investment cast on NPT and socketweld versions.**
- **Upper and lower machined seats**
- **Generous screen area and properly proportioned straining chamber to minimize initial pressure drop while maximizing time between cleanings**
- **Drain/Blow-off connection furnished with plug**

APPLICATIONS
- Steam, liquid, gas and oil service
- Power industry
- Pulp and paper
- Chemical industry
- Process Equipment
- Metal & Mining
- Water & Waste

OPTIONS
- Other perforated screens and mesh liners
- Other drain connections and gasket materials
- Oxygen cleaning
- Special internal/external coatings and linings
- Contact factory for other options

APPLICABLE CODES
- ANSI B16.5
- ANSI B16.25
- ANSI B16.34

Canadian Registration
OEO447-902517 - 300YI Carbon Steel
OEO591.9C - 300YI Stainless Steel

MODELS
- 300Y1T – Carbon or Stainless Steel, NPT with Threaded Cover
- 300Y1W – Carbon or Stainless Steel, Socketweld with Threaded Cover
- 300Y2F – Carbon or Stainless Steel, Flanged with Bolted Cover
- 300Y2B – Carbon or Stainless Steel, Buttweld with Bolted Cover

300Y Series Ordering Code

Inlet Size					Model						Body Material	Dash	Perf	Mesh	Add'l Require-ments
0	2	0	0	-	3	0	0	Y	1	W	C	-	6	__	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
0050 - ½"
0075 - ¾"
0100 - 1"
0125 - 1¼"
0150 - 1½"
0200 - 2"
0250 - 2½"
0300 - 3"
0400 - 4"
0600 - 6"
0800 - 8"
1000 - 10"
1200 - 12"

Dash - Position 5
Model - Position 6 - 11
300Y1T
300Y1W
300Y2F
300Y2B[1]
Body Material - Position 12
C - Carbon Steel
T - Stainless Steel
Dash - Position 13

1. For Buttweld connections please specify mating pipe schedule.

Perf[2] - Position 14
304SS Material[3]
A -No Perf
1 - 1/32"
B - 3/64"
4 - 1/8"
2 - 1/16"
3 - 3/32"
5 - 5/32"
6 - 3/16"
7 - 7/32"
8 - 1/4"
9 - 3/8"

2. Standard Screens:
Y1<2"—1/32" perf,
Y1 >2"—3/64" perf,
Y2<1½"—1/32" perf,
Y2 2"-3"—3/64" perf,
Y2 >3"—1/8" perf

Mesh[3] - Position 15
Leave Blank If not Required (std ALL)
1 - 10
2 - 20
3 - 30
4 - 40
5 - 50
6 - 60
7 - 80
8 - 100
9 - 120

3. For other screen material, contact factory.

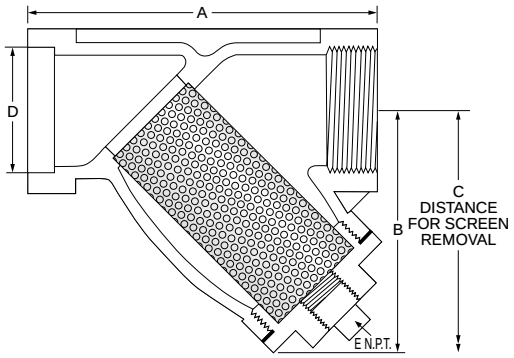
Add'l Requirements - Position 16
Leave Blank If not Required
D - Special Drain Size
F - Silicon Free
G - Special Gaskets
N - Nace MR01-75
T - Special Testing
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

Indicate Specials Clearly On the Order

300Y1 SERIES
CARBON STEEL, STAINLESS STEEL Y STRAINERS NPT, SOCKETWELD

SPECIFICATION

Y Strainer shall be straight flow design with NPT or Socketweld inlet/outlet connections. The strainer shall be rated to ANSI 300 PSIG . The Strainer shall be Investment Cast Carbon Steel or Stainless Steel body and the screen shall be size _____ perf 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 300Y1 Series.



Connections:
CS – 1/2" to 3" NPT or SW
SS – 1/2" to 3" NPT or S

MATERIALS OF CONSTRUCTION

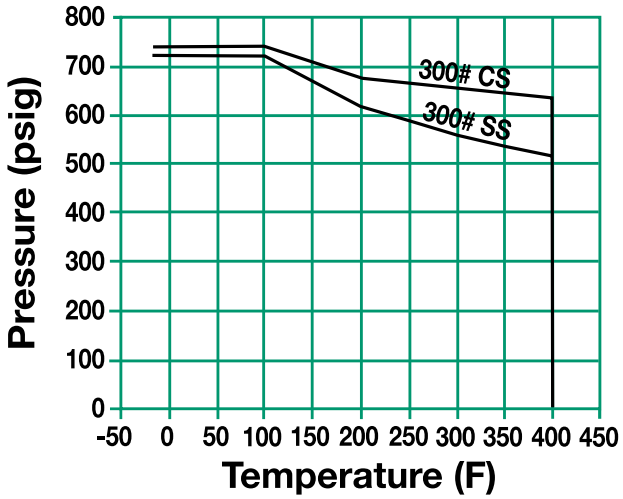
Part	Carbon Steel	Stainless Steel
Body	A216-WCB	A351-CF8M
Cap	A216-WCB	A351-CF8M
Screen[1]	304 SS	304 SS
Plug	A105	A182-316
Gasket[1]	Teflon	Teflon

1. Recommended Spare Parts

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
½" – 2"	1/32" Perf	304 SS
2½" – 3"	3/64" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ANSI B16.34



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
½ (15)	2 17/32 (59)	1⅝ (41)	2⅜ (60)	0.855 (21.72)	⅜ (10)	.50 (.22)
3/4 (20)	3 3/16 (80)	2 (51)	3 3/16 (81)	1.065 (27.05)	⅜ (10)	.82 (.37)
1 (25)	3 5/16 (84)	2⅜ (60)	4 (102)	1.330 (33.78)	½ (15)	1.50 (.68)
1¼ (32)	4⅛ (105)	2⅞ (73)	4½ (114)	1.675 (42.55)	½ (15)	2.0 (.90)
1½ (40)	4¾ (119)	3¼ (83)	4¾ (121)	1.915 (48.64)	½ (15)	2.8 (1.27)
2 (50)	5½ (1.38)	3⅞ (97)	5¾ (146)	2.406 (61.11)	½ (15)	4.3 (1.95)
2½ (65)	7¼ (183)	4 13/16 (124)	7¼ (184)	2.906 (73.81)	½ (15)	10 (4.54)
3 (80)	8 1/16 (205)	5 7/16 (138)	7½ (191)	3.535 (89.79)	½ (15)	14 (6.35)

Dimensions shown are subject to change.
Consult factory for certified drawings when required.

300Y2 SERIES
CARBON STEEL, STAINLESS STEEL Y STRAINERS FLANGED, BUTTWELD

SPECIFICATION

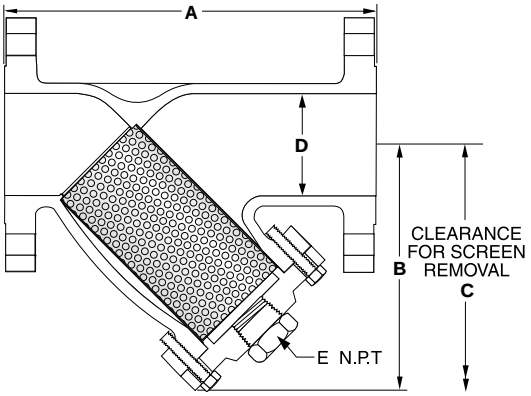
Y Strainer shall be straight flow design with RF Flanged or Buttweld inlet/outlet connections. The strainer shall be rated to ANSI 300 PSIG rating in accordance with ANSI B16.5 or ANSI B16.25. The Strainer shall be Cast Carbon Steel or Stainless Steel body and the screen shall be size _____ perf 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 300Y2 Series.

MATERIALS OF CONSTRUCTION*

Part	Carbon Steel	Stainless Steel
Body	A216-WCB	A351-CF8M
Cover	A216-WCB	A351-CF8M
Screen[1]	304 SS	304 SS
Plug[2]	A105	A182-316
Gasket[1]	304 SS Spiral Wound	304 SS Spiral Wound
Stud	A193-B7	A193-B8-1
Nut[2]	A194-2H	A194-8

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

* Low Carbon Steel Available on request. Consult Factory



Connections:
CS - ½" to 12"
RF Flanged or Buttweld[3]

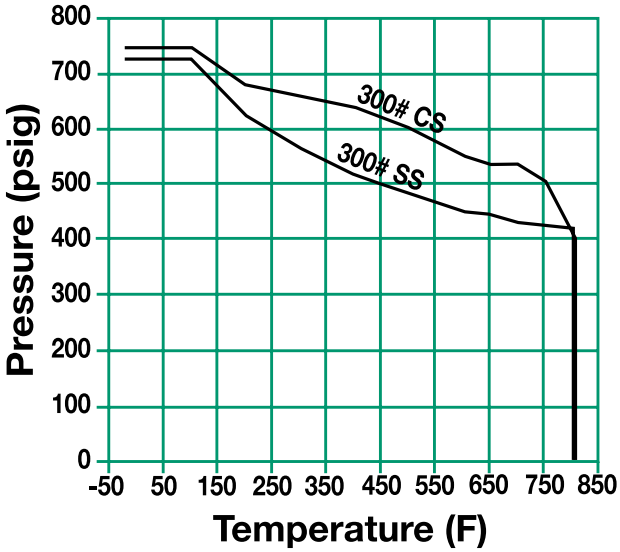
SS – ½" to 12"
RF Flanged or Buttweld[3]

3. For Buttweld connections please specify pipe schedule.

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
½" – 1½"	1/32" Perf	304 SS
2" - 3"	3/64" Perf	304 SS
4" - 12"	1/8" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ANSI B16.34



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
½ (15)	6½ (165)	4¼ (108)	5¾ (146)	½ (13)	¼ (8)	8 (3.6)
¾ (20)	7¾ (197)	5 (127)	6¾ (171)	¾ (19)	⅜ (10)	14 (6.4)
1 (25)	7⅞ (200)	5½ (140)	8⅛ (206)	1 (25)	½ (15)	15 (6.8)
1½ (40)	10½ (267)	7 (178)	10¼ 9260)	1½ (38)	½ (15)	32 (15)
2 (50)	9 (229)	5 1/16 (145)	8 (203)	2 (51)	½ (15)	25 (11.4)
2½ (65)	10⅞ (276)	7 3/16 (183)	10¼ (260)	2½ (64)	1 (25)	38 (17.3)
3 (80)	12⅝ (320)	8½ (207)	11½ (292)	3 (76)	1 (25)	56 (25.5)
4 (100)	14⅝ (372)	9⅝ (245)	13⅝ (346)	4 (102)	1½ (40)	90 (40.9)
5 (125)	18½ (470)	15⅜ (391)	21½ (546)	5 (127)	2 (50)	180 (82)
6 (150)	19¾ (502)	15 (381)	21½ (546)	6 (152)	2 (50)	203 (92.3)
8 (200)	25 (635)	16½ (419)	22 (559)	8 (203)	2 (50)	323 (146.8)
10 (250)	27⅝ (702)	21 3/16 (538)	30 (762)	10 (254)	2 (50)	571 (259.6)
12 (300)	32⅞ (835)	24 5/16 (617)	34⅜ (873)	12 (305)	2 (50)	893 (405.9)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

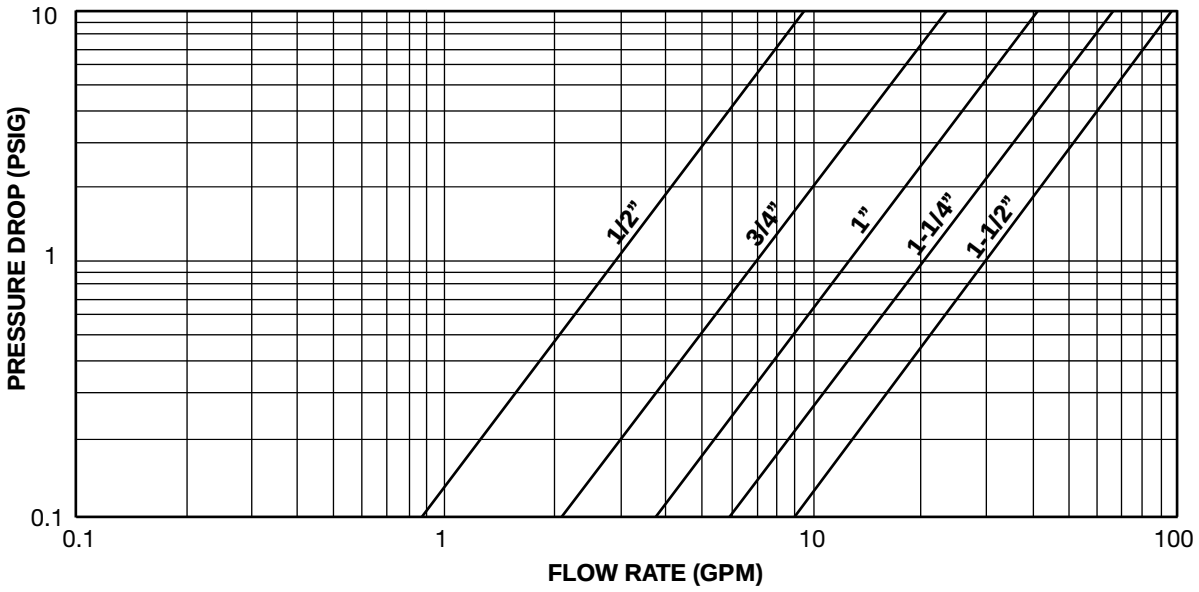
300Y SERIES

CARBON STEEL, STAINLESS STEEL

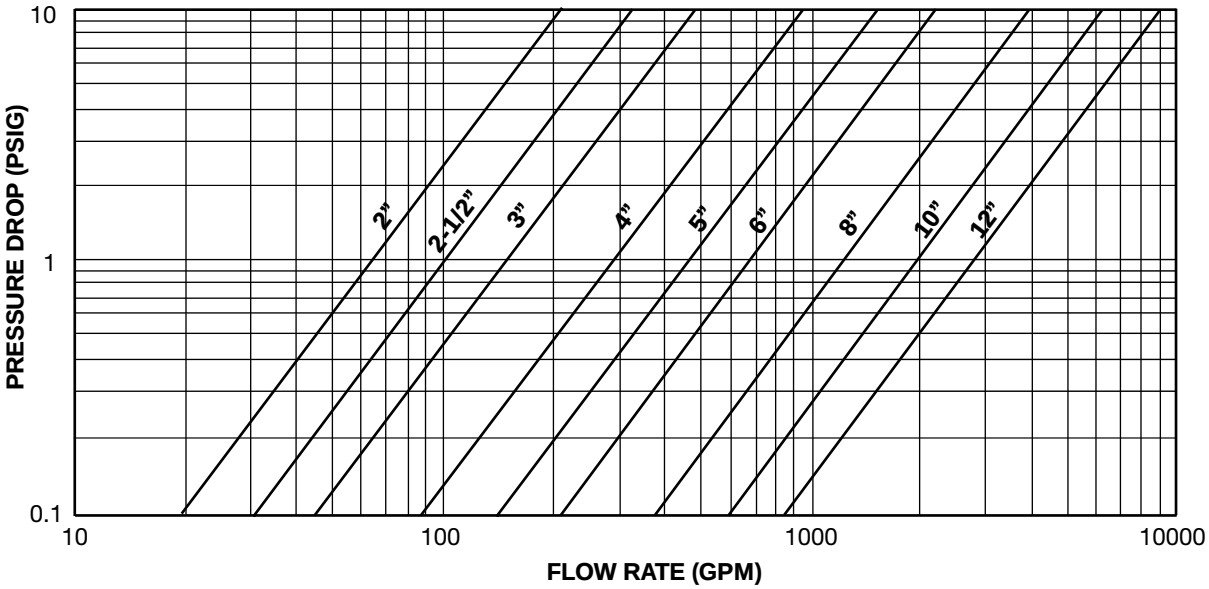
PRESSURE DROP VS FLOW RATE

Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*

(Sizes ½" - 1½")



(Sizes 2" - 12")



* For Gas, Steam or Air service, consult factory.

Steam Service Pressure Drop Page 433

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 432

Correction Factors for Clogged Screens Page 432

300Y SERIES
CARBON STEEL, STAINLESS STEEL
OPEN AREA RATIOS
with Standard Perforated Screen

300Y1 Carbon Steel, Stainless Steel

Size	Perf. Diameter (mm²)	Opening %	Std Pipe Inlet Area (in²)	Gross Screen Area (in²)	Free Screen Area (in²)	Open Area Ratio (OAR)
½	1/32	28	0.30	3.2	1.13	3.7
¾	1/32	28	0.53	5.1	1.80	3.4
1	1/32	28	0.86	8.1	2.82	3.3
1¼	1/32	28	1.50	10.2	3.56	2.4
1½	1/32	28	2.04	14.6	5.10	2.5
2	1/32	28	3.36	21.2	7.41	2.2
2½	3/64	36	4.79	37.0	12.94	2.7
3	3/64	36	7.39	47.6	16.66	2.3

300Y2 Carbon Steel, Stainless Steel

Size	Perf. Diameter (inches)	Opening %	Flange Inlet Area (in²)	Gross Screen Area (in²)	Free Screen Area (in²)	Open Area Ratio (OAR)
½	1/32	28	0.20	6.8	1.91	9.7
¾	1/32	28	0.44	10.4	2.92	6.6
1	1/32	28	0.79	15.3	4.27	5.4
1½	1/32	28	1.77	32.5	9.11	5.2
2	3/64	36	3.14	28.7	10.35	3.3
2½	3/64	36	4.91	48.1	17.32	3.5
3	3/64	36	7.07	71.2	25.62	3.6
4	1/8	40	12.57	106.3	42.54	3.4
6	1/8	40	28.27	233.2	93.29	3.3
8	1/8	40	50.27	340.3	136.14	2.7
10	1/8	40	78.54	489.9	195.96	2.5
12	1/8	40	113.10	710.9	284.36	2.5

OAR = Free Screen Area / Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

Other Screen Openings Page 430
Basket Burst Pressure Page 435

600Y SERIES

CARBON STEEL, STAINLESS STEEL, LOW CARBON STEEL, ALLOY 20 Y STRAINERS NPT, FLANGED, RING JOINT, SOCKETWELD, BUTTWELD

PRESSURES TO 1480 PSIG (102 BARG)
TEMPERATURES TO 800°F (427°C)

- **ANSI 600 PSIG rated strainers**
- **NPT, RF or RTJ Flanges, Socketweld and Buttweld in accordance with ANSI 16.34 and 16.5**
- **SSI Exclusive – Body blow down flange and cover flange dimensions are in dimensional accordance with ANSI B16.5**
- **All Flanged connections complete with Bolted Cover**
- **One piece cast body**
- **Upper and lower machined seats**
- **Generous screen area and properly proportioned straining chamber to minimize initial pressure drop while maximizing time between cleanings**
- **Drain/Blow-off connection furnished with plug**

APPLICATIONS

- Steam, liquid, gas and oil service
- Power industry
- Pulp and paper
- Chemical industry
- Process Equipment
- Metal & Mining
- Water & Waste

OPTIONS

- Low Carbon Steel and Alloy 20 bodies available on Y1T and Y1W models
- Other perforated screens and mesh liners
- Other drain connections and gasket materials
- Oxygen cleaning
- Special internal / external coatings and linings
- Contact Factory for other Options

APPLICABLE CODES

- ANSI B16.5
- ANSI B16.34

Canadian Registration
OEO447.902517 - 600Y1
OE1972.2987 - 600Y2

MODELS

- 600Y1T* – NPT with Threaded Cover
- 600Y1W* – Socketweld with Threaded Cover
- 600Y2F* – Flanged with Bolted Cover
- 600Y2J* – Ring Joint with Bolted Cover
- 600Y2B* – Buttweld with Bolted Cover

*Carbon Steel, Stainless Steel, Low Carbon Steel or Alloy 20

600Y Series Ordering Code

Inlet Size					Model						Body	Dash	Perf	Mesh	Add'l Requirements
0	3	0	0	-	6	0	0	Y	1	W	C	-	B	__	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
0050 - ½"
0075 - ¾"
0100 - 1"
0125 - 1¼"
0150 - 1½"
0200 - 2"
0250 - 2½"
0300 - 3"
0400 - 4"
0500 - 5"
0600 - 6"
0800 - 8"
1000 - 10"
1200 - 12"

Dash - Position 5

Model - Position 6 - 11
600Y1T
600Y1W
600Y2F[1]
600Y2J[1]
600Y2B[1,2]

Body - Position 12
C - CS
T - SS
L - LCS
A - A20

Dash - Position 13

1. CS available 2" - 12", SS available 2" - 6".
2. For Buttweld connections please specify mating pipe schedule.

Perf[3] - Position 14
304SS Material[4]
A - No Perf
1 - 1/32"
B - 3/64"
4 - 1/8"
2 - 1/16"
3 - 3/32"
5 - 5/32"
6 - 3/16"
7 - 7/32"
8 - 1/4"
9 - 3/8"

3. Standard Screens:
All ½"-1½"—1/32" perf,
All 2"-3"—3/64" perf,
All >3"—1/8" perf.

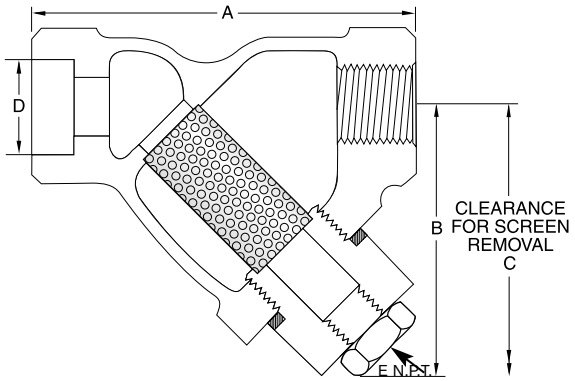
Mesh[4] - Position 15
Leave Blank If not Required (std ALL)
1 - 10
2 - 20
3 - 30
4 - 40
5 - 50
6 - 60
7 - 80
8 - 100
9 - 120

4. For other screen material, contact factory.

Add'l Requirements - Position 16
Leave Blank If not Required
D - Special Drain Size
F - Silicon Free
G - Special Gaskets
N - Nace MR01-75
T - Special Testing
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

Indicate Specials Clearly On the Order

600Y1 SERIES
CARBON STEEL, STAINLESS STEEL, LOW CARBON STEEL, ALLOY 20 Y STRAINERS NPT, SOCKETWELD



SPECIFICATION

Y Strainer shall be straight flow design with NPT or Socketweld inlet/outlet connections. The strainer shall be rated to ANSI 600 PSIG . The Strainer shall be Cast Carbon Steel, Stainless Steel Low Carbon Steel or Alloy 20 body and the screen shall be size _____ perf 304 SS or Alloy 20. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 600Y1 Series

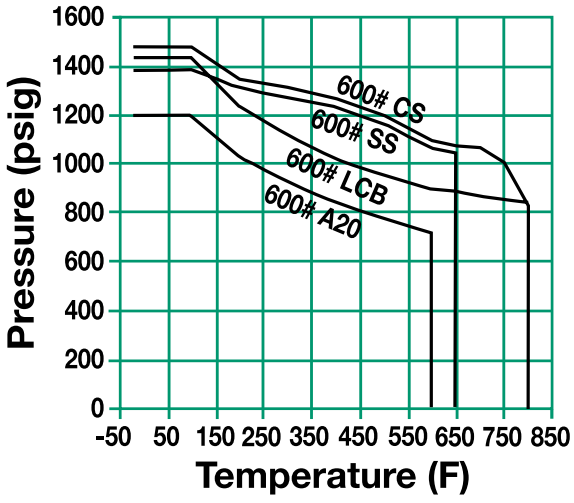
Connections:
CS – ½" to 2" NPT or SW
SS – ½" to 2" NPT or SW
LCS – ½" to 2" NPT or SW
A20 – ½" to 2" NPT or SW

MATERIALS OF CONSTRUCTION

Part	Carbon Steel	Stainless Steel	Low Carbon Steel	Alloy 20
Body	A216-WCB	A351-CF8M	A352-LCB	A351-CN7M
Cap[2]	A216-WCB	A351-CF8M	A351-CF8M	A351-CN7M
Screen[1]	304 SS	304 SS	304 SS	304 SS
Plug[2]	A105	304 SS	304 SS	B462
Gasket[1]	304 SS Spiral Wound	304 SS Spiral Wound	304 SS Spiral Wound	304 SS Spiral Wound

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

PRESSURE/TEMPERATURE CHART
ANSI B16.34



SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
½" – 1½"	1/32" Perf	304 SS/Alloy 20
2"	3/64" Perf	304 SS/Alloy 20

DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
½ (15)	3 (76)	2 7/16 (62)	3⅛ (80)	0.855 (21.72)	¼ (8)	1.4 (0.6
¾ (20)	3¾ (95)	2 15/16 (75)	3 9/16 (90)	1.065 (27.05)	⅜ (10)	2.2 (1.0)
1 (25)	4⅝ (118)	3¾ (95)	3 15/16 (100)	1.330 (33.78)	⅜ (10)	4.1 (1.9)
1¼ (32)	5 (127)	4 (102)	4¼ (108)	1.675 (42.55)	¾ (20)	5.3 (2.4)
1½ (40)	5⅝ (143)	4 13/16 (122)	4⅝ (118)	1.915 (48.64)	¾ (20)	8.4 (3.8)
2 (50)	7 (178)	6⅛ (156)	6¾ (171)	2.406 (61.11)	1 (25)	12.6 (5.7)

Dimensions shown are subject to change.
Consult factory for certified drawings when required.

600Y2 SERIES
CARBON STEEL, STAINLESS STEEL Y STRAINERS FLANGED, RING JOINT, BUTTWELD

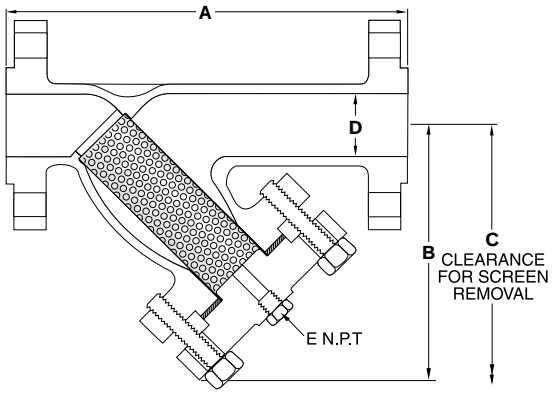
SPECIFICATION

Y Strainer shall be straight flow design with RF Flanged, Ring Joint or Buttweld inlet/outlet connections. The strainer shall be rated to ANSI 600 PSIG rating in accordance with ANSI B16.5 or B16.34. The Strainer shall be Cast Carbon Steel or Stainless Steel body and the screen shall be size _____ perf 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 600Y2 Series.

MATERIALS OF CONSTRUCTION

Part	Carbon Steel	Stainless Steel
Body	A216-WCB	A351-CF8M
Cover	A216-WCB	A351-CF8M
Screen[1]	304 SS	304 SS
Plug[2]	A105	304 SS
Gasket[1]	304 SS Spiral Wound	304 SS Spiral Wound
Stud	A193-B7	A320-B8
Nut[2]	A194-2H	A194-8

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted



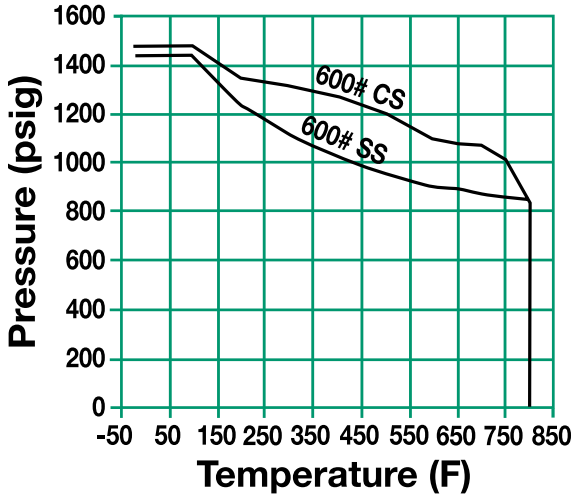
Connections:
CS - 2" to 12" RF Flanged, RTJ or Buttweld[3]
SS – 2" to 6" RF Flanged, RTJ or Buttweld[3]

3. For Buttweld connections please specify mating pipe schedule.

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2"- 3"	3/64" Perf	304 SS
4" – 12"	1/8" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ANSI B16.34



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE[4]	A	B	C	D	E	WEIGHT
2 (50)	12½ (318)	8 (203)	9¼ (235)	2 (51)	½ (15)	46 (20.9)
3 (80)	15⅝ (397)	10⅛ (257)	11⅜ (289)	3 (76)	1¼ (32)	93 (42.2)
4 (100)	20 (508)	13 (330)	14¼ (362)	4 (102)	1½ (40)	187 (85.0)
6 (150)	25½ (648)	17 (432)	18¼ (463)	6 (152)	2 (50)	403 (183.2)
8 (200)	30 (330)	21⅜ (543)	22 1/16 (576)	8 (203)	2 (50)	660 (300.0)
10 (250)	37⅝ (956)	24¾ (629)	26 (660)	10 (254)	2 (50)	1428 (649.1)
12 (300)	42 (1067)	30 (762)	31¼ (794)	12 (305)	2 (50)	1608 (730.9)

Dimensions shown are subject to change.
Consult factory for certified drawings when required.

4. CS available 2" - 12",
SS available 2" - 6".

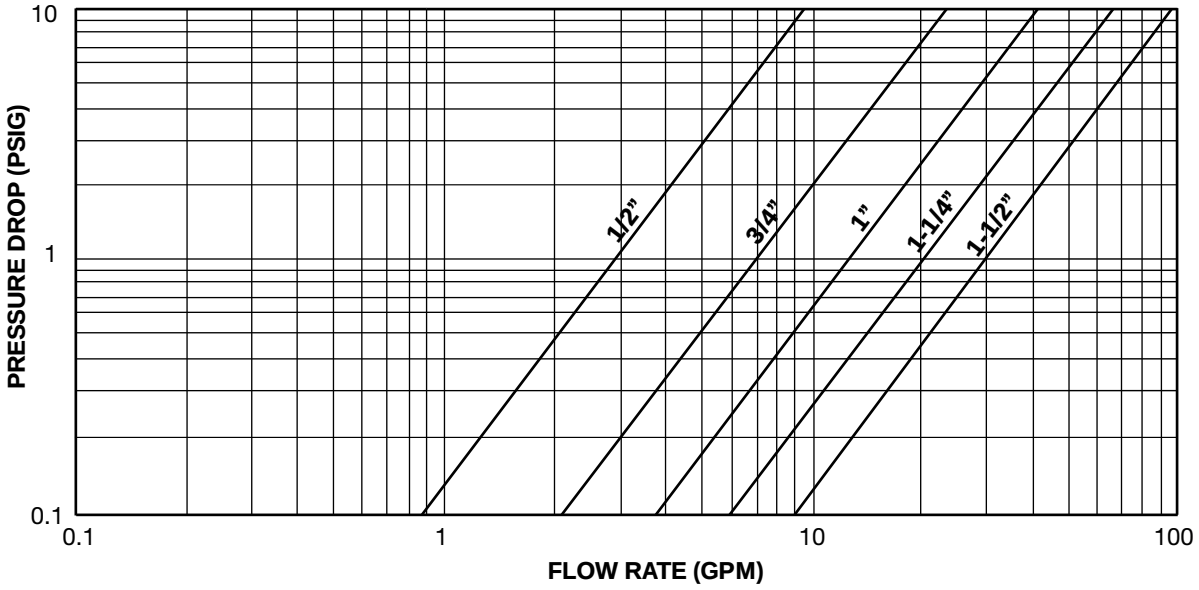
600Y SERIES

CARBON STEEL, STAINLESS STEEL, LOW CARBON STEEL, ALLOY 20

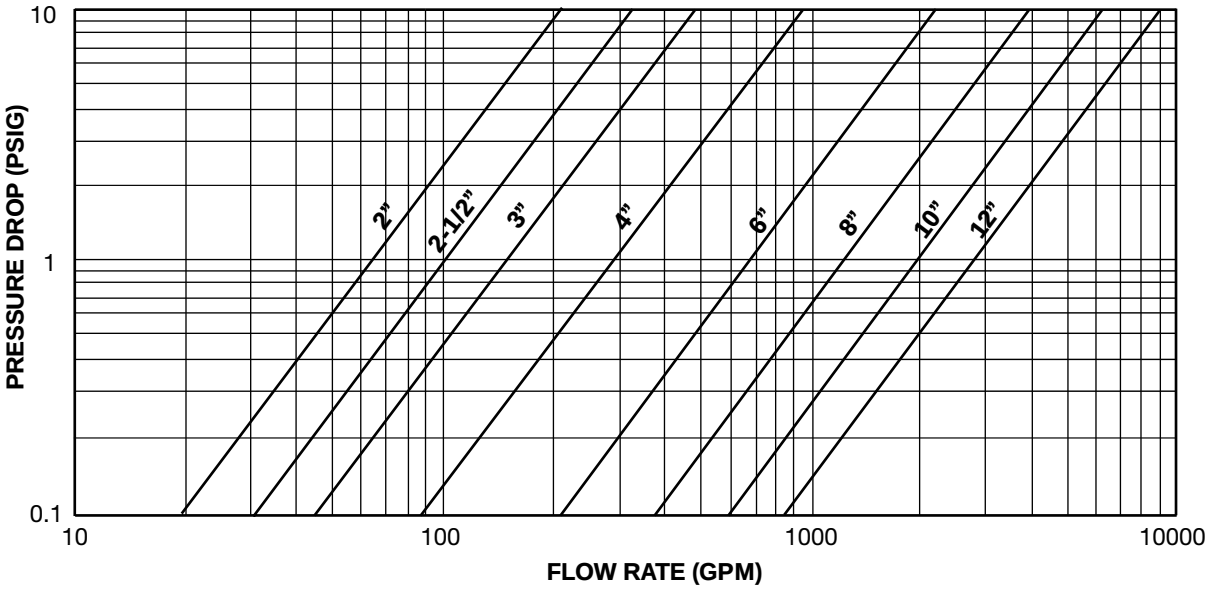
PRESSURE DROP VS FLOW RATE

Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*

(Sizes ½" - 1½")



(Sizes 2" - 12")



* For Gas, Steam or Air service, consult factory.

600Y SERIES STRAINERS

Steam Service Pressure Drop Page 433

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 432

Correction Factors for Clogged Screens Page 432

600Y SERIES

CARBON STEEL, STAINLESS STEEL, LOW CARBON STEEL, ALLOY 20

OPEN AREA RATIOS

with Standard Perforated Screen

600Y1 - Threaded & Socketweld

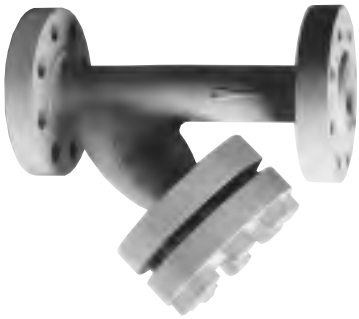
Size	Perf. Diameter (inches)	Opening %	XH Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
½	1/32	28	0.23	2.7	0.76	3.3
¾	1/32	28	0.43	4.6	1.28	3.0
1	1/32	28	0.72	8.5	2.38	3.3
1¼	1/32	28	1.28	12.8	3.58	2.8
1½	1/32	28	1.77	16.5	4.61	2.6
2	3/64	36	2.95	27.8	19	3.4

600Y2 - Flanged, Ring Joint Flanged & Buttweld

Size	Perf. Diameter (inches)	Opening %	Flange Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	3/64	36	3.14	38.4	13.82	4.4
3	3/64	36	7.07	74.2	26.72	3.8
4	1/8	40	12.57	127.6	51.06	4.1
6	1/8	40	28.27	261.2	104.49	3.7
8	1/8	40	50.27	408.5	163.42	3.3
10	1/8	40	78.54	598.9	239.57	3.1
12	1/8	40	113.10	817.7	327.08	2.9

OAR = Free Screen Area / Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

Other Screen Openings Page 430 | **Basket Burst Pressure** Page 435



900Y SERIES
CARBON STEEL, STAINLESS STEEL Y STRAINERS FLANGED, RING JOINT, BUTTWELD

PRESSURES TO 2220 PSIG (153 BARG)
TEMPERATURES TO 800°F (427°C)

- **ANSI 900 PSIG rated strainers**
- **RF or RTJ Flanges, and Buttweld in accordance with ANSI 16.34 and 16.5**
- **SSI Exclusive – Body blow down flange and cover flange dimensions are in dimensional accordance with ANSI B16.5.**
- **All Flanged connections complete with Bolted Cover**
- **One piece cast body**
- **Upper and lower machined seats**
- **Generous screen area and properly proportioned straining chamber to minimize initial pressure drop while maximizing time between cleanings**
- **Drain/Blow-off connection furnished with plug**

APPLICATIONS
- Steam, liquid, gas and oil service
- Power industry
- Pulp and paper
- Chemical industry
- Process Equipment
- Metal & Mining
- Water & Waste

OPTIONS
- Other perforated screens and mesh liners
- Drain connections and other gasket materials
- Oxygen cleaning
- Special internal / external coatings and linings
- Contact Factory for other Options

APPLICABLE CODES
- ANSI B16.5
- ANSI B16.34

Canadian Registration OE A72.2 6"900Y2

MODELS
- 900Y2F – Carbon or Stainless Steel Flanged with Bolted Cover
- 900Y2J – Carbon or Stainless Steel Ring Joint with Bolted Cover

For Buttweld connections see FY Series on page 424

NOTE: 900# flanges are the same as 1500# flanges in sizes 1/2" - 2½".

900Y Series Ordering Code

Inlet Size				Dash	Model					Body Material	Dash	Perf	Mesh	Add'l Require-ments
0	8	0	0	-	9	0	0	Y	2	B	C	-	4	__	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
0200 - 2"
0250 - 2½"
0300 - 3"
0400 - 4"
0600 - 6"
0800 - 8"

Dash - Position 5

Model - Position 6 - 11
900Y2F
900Y2J

Body Material - Position 12
C - CS
T - SS

Dash - Position 13

Perf[1] - Position 14
304SS Material[2]
A - No Perf
1 - 1/32"
B - 3/64"
4 - 1/8"
2 - 1/16"
3 - 3/32"
5 - 5/32"
6 - 3/16"
7 - 7/32"
8 - 1/4"
9 - 3/8"

1. Standard Screens: All <3"—3/64" perf, All >3"—1/8" perf.

Mesh[2] - Position 15
Leave Blank If not Required (std ALL)
1 - 10
2 - 20
3 - 30
4 - 40
5 - 50
6 - 60
7 - 80
8 - 100
9 - 120

2. For other screen material, contact factory.

Add'l Requirements - Position 16
Leave Blank If not Required
D - Special Drain Size
F - Silicon Free
G - Special Gaskets
N - Nace MR01-75
T - Special Testing
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

Indicate Specials Clearly On the Order

900Y2 SERIES
CARBON STEEL, STAINLESS STEEL Y STRAINERS FLANGED, RING JOINT, BUTTWELD

SPECIFICATION

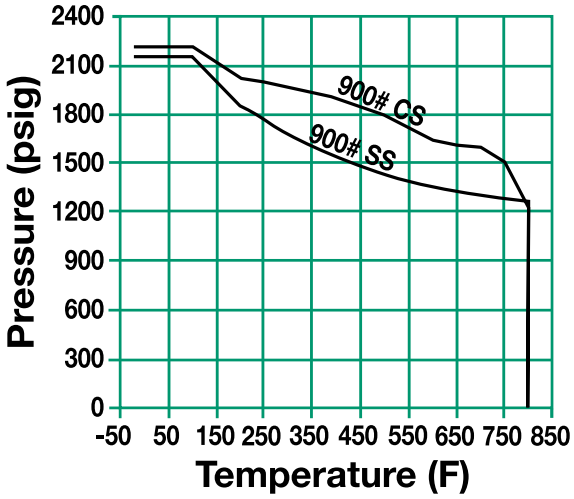
Y Strainer shall be straight flow design with RF Flanged, Ring Joint or Buttweld inlet/outlet connections. The strainer shall be rated to ANSI 900 PSIG rating in accordance with ANSI B16.5 or B16.34. The Strainer shall be Cast Carbon Steel or Stainless Steel body and the screen shall be size _____ perf 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 900Y2 Series.

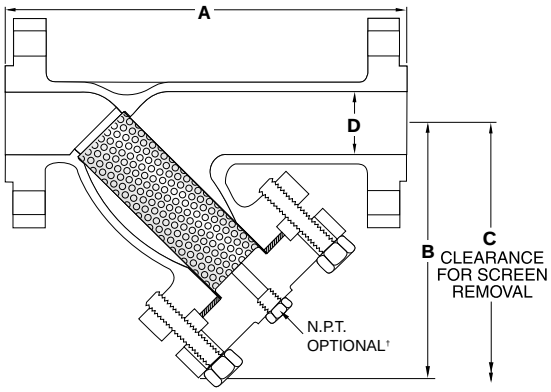
MATERIALS OF CONSTRUCTION

Part	Carbon Steel	Stainless Steel
Body	A216-WCB	A351-CF8M
Cover	A216-WCB	A351-CF8M
Screen[1]	304 SS	304 SS
Plug[2]	A105	304 SS
Gasket[1]	304 SS Spiral Wound	304 SS Spiral Wound
Stud	A193-B7	A320-B8
Nut[2]	A194-2H	A194-8

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

PRESSURE/TEMPERATURE CHART
ASME B16.34





† SSI Series 900Y strainers are not furnished with a drain/blow-down connection. Consult factory if required.

Connections:
CS - 2" to 8" RF Flanged or RTJ
SS – 2" to 8" RF Flanged, RTJ

For Buttweld connection use FY Series on page 424

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" – 3"	3/64" Perf	304 SS
4" – 8"	1/8" Perf	304 SS

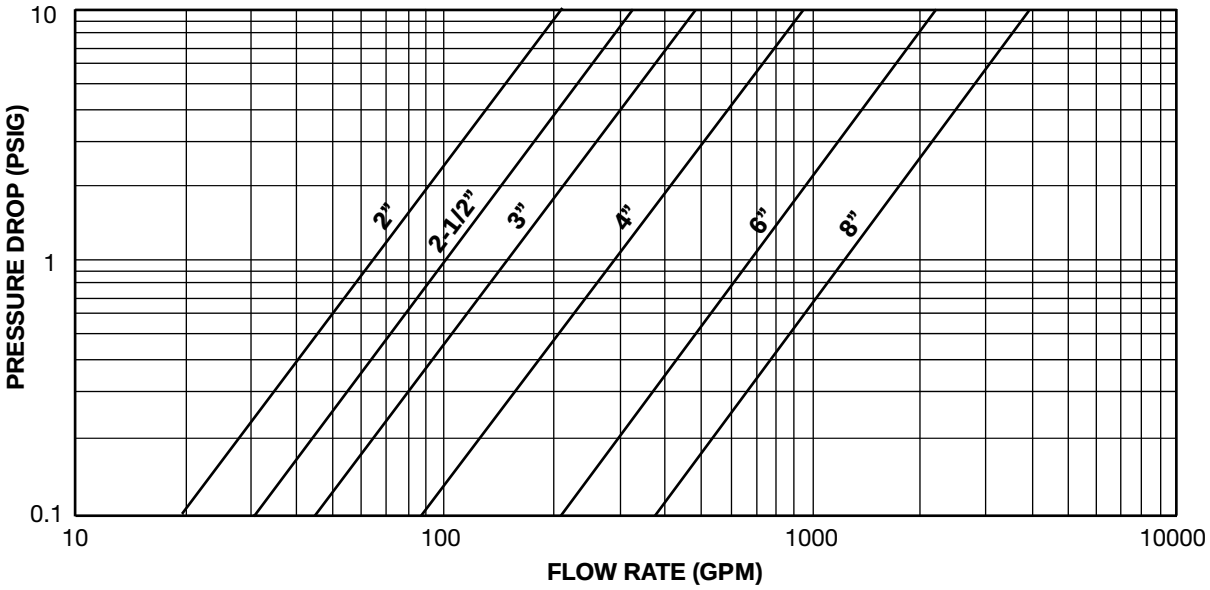
DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D	WEIGHT
2 (50)	16¼ (413)	10½ (268)	14⅞ (378)	1.87 (48)	125 (57)
3 (80)	20¼ (514)	12¾ (324)	18 (457)	2.87 (73)	163 (74)
4 (100)	23¼ (541)	15 (381)	21¼ (539)	3.87 (98)	253 (115)
6 (150)	27¾ (705)	18⅞ (480)	26⅜ (667)	5.75 (146)	580 (263.6)
8 (200)	34½ (876)	22⅝ (575)	32 (813)	7.50 (191)	1080 (490.9)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

900Y SERIES
CARBON STEEL, STAINLESS STEEL
PRESSURE DROP VS FLOW RATE
Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*

(Sizes 2" - 8")



* For Gas, Steam or Air service, consult factory.

Steam Service Pressure Drop Page 433

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 432

Correction Factors for Clogged Screens Page 432

900Y SERIES
CARBON STEEL, STAINLESS STEEL
OPEN AREA RATIOS
with Standard Perforated Screen

900Y2 Carbon Steel, Stainless Steel

Size	Perf. Diameter (mm²)	Opening %	Flange Inlet Area (in²)	Gross Screen Area (in²)	Free Screen Area (in²)	Open Area Ratio (OAR)
2	3/64	36	3.14	48.9	17.61	5.6
3	3/64	36	7.07	99.5	35.83	5.1
4	1/8	40	12.57	161.6	64.62	5.1
6	1/8	40	28.27	290.7	116.28	4.1
8	1/8	40	50.27	440.2	176.08	3.5

OAR = Free Screen Area / Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

Other Screen Openings Page 430

Basket Burst Pressure Page 435

1500Y SERIES

CARBON STEEL, STAINLESS STEEL, CHROME MOLY Y STRAINERS NPT, FLANGED, RING JOINT, SOCKETWELD, BUTTWELD

PRESSURES TO 3705 PSIG (258.5 BARG)
TEMPERATURES TO 800°F (426°C)

- **ANSI 1500 PSIG rated strainers**
- **NPT, RF or RTJ Flanges, Socketweld and Buttweld in accordance with ANSI 16.34 and 16.5**
- **SSI Exclusive – Body blow down flange and cover flange dimensions are in dimensional accordance with ANSI B16.5.**
- **All Flanged connections complete with Bolted Cover**
- **One piece cast body**
- **Upper and lower machined seats**
- **Generous screen area and properly proportioned straining chamber to minimize initial pressure drop while maximizing time between cleanings**
- **Drain/Blow-off connection furnished with plug**

APPLICATIONS

- Steam, liquid, gas and oil service
- Power industry
- Pulp and paper
- Chemical industry
- Process Equipment
- Metal & Mining
- Water & Waste

OPTIONS

- Chrome Moly bodies available on Y2T and Y2W models
- Other perforated screens and mesh liners
- Drain connections and other gasket materials
- Oxygen cleaning
- Special internal / external coatings and linings
- Contact Factory for other Options

APPLICABLE CODES

- ANSI B16.5
- ANSI B16.34

Canadian Registration:
OE0495.90-1500 Y1T, Y2TC
OE1972.2-1500 Y2TC
OE5779.5-1500 Y2T

MODELS

- 1500Y1T – Carbon or Stainless NPT with Threaded Cover
- 1500Y1W – Carbon or Stainless Socketweld with Threaded Cover
- 1500Y2T – Carbon, Stainless or Chrome Moly NPT with Bolted Cover
- 1500Y2W – Carbon, Stainless or Chrome Moly Socketweld with Bolted Cover
- 1500Y2F – Carbon or Stainless Flanged with Bolted Cover
- 1500Y2J – Carbon or Stainless Ring Joint with Bolted Cover

For Buttweld connections see FY Series on page 424

1500Y Series Ordering Code

Inlet Size				Dash	Model							Body Material	Dash	Perf	Mesh	Add'l Requirements
0	1	5	0	-	1	5	0	0	Y	2	T	R	-	3	__	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

Inlet Size - Position 1 - 4
0200 - 2"
0250 - 2½"
0300 - 3"
0400 - 4"
0600 - 6"

Dash - Position 5

Model - Position 6 - 12
1500Y1T
1500Y1W
1500Y2T
1500Y1W
1500Y2F
1500Y2J

Body Material - Position 13
C - CS
T - SS
R - CM

Dash - Position 14

Perf[1] - Position 15
304SS Material[2]
A - No Perf
1 - 1/32"
B - 3/64"
4 - 1/8"
2 - 1/16"
3 - 3/32"
5 - 5/32"
6 - 3/16"
7 - 7/32"
8 - 1/4"
9 - 3/8"

1. Standard Screens: Y1T and Y2T ½"-1½"—1/32" perf, Y2 2"-6"— 1/8" perf.

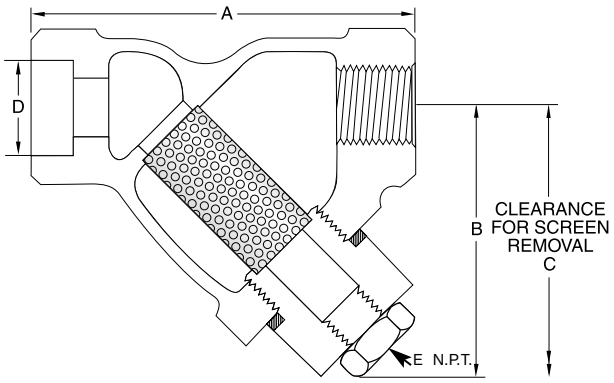
Mesh[2] - Position 16
Leave Blank If not Required (std ALL)
1 - 10
2 - 20
3 - 30
4 - 40
5 - 50
6 - 60
7 - 80
8 - 100
9 - 120

2. For other screen materials, contact factory.

Add'l Requirements - Position 17
Leave Blank If not Required
D - Special Drain Size
F - Silicon Free
G - Special Gaskets
N - Nace MR01-75
T - Special Testing
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

Indicate Specials Clearly On the Order

1500Y1 SERIES
CARBON STEEL, STAINLESS STEEL Y STRAINERS NPT, SOCKETWELD



SPECIFICATION

Y Strainer shall be straight flow design with NPT or Socketweld inlet/outlet connections. The strainer shall be rated to ANSI 1500 PSIG . The Strainer shall be Cast Carbon Steel or Stainless Steel body and the screen shall be size _____ perf 304 SS. The strainer shall have a threaded cover. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 1500Y1 Series.

MATERIALS OF CONSTRUCTION

Part	Carbon Steel	Stainless Steel
Body	A216-WCB	A351-CF8M
Cap[2]	A216-WCB	A351-CF8M
Screen[1]	304 SS	304 SS
Plug[2]	A105	A182-316
Gasket[1]	304 SS Spiral Wound	304 SS Spiral Wound

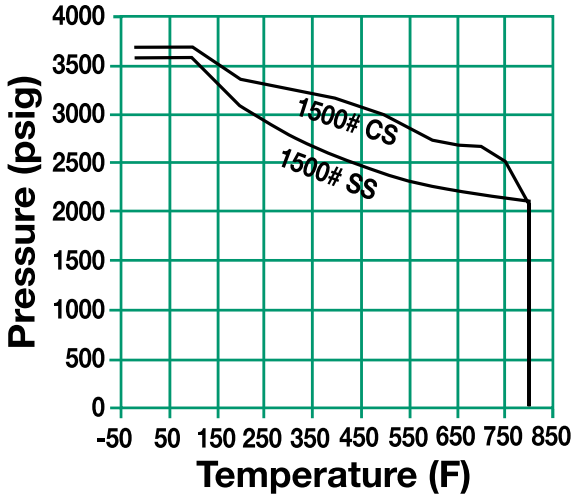
1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

Connections:
CS - ½" to 1" NPT or Socketweld
SS – ½" to 1" NPT or Socketweld

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
½" – 1"	1/32" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ASME B16.34

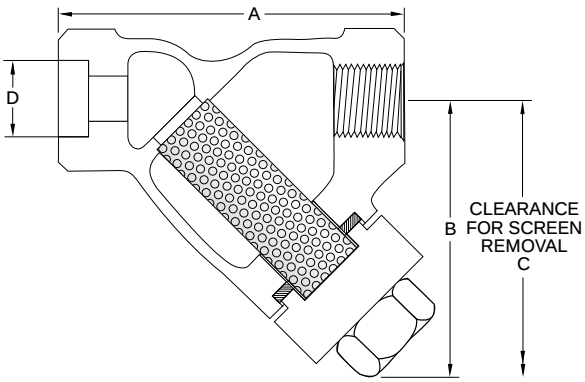


DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D	E	WEIGHT
½ (15)	3 15/16 (100)	3 9/16 (90)	5 5/16 (135)	7/8 (22.23)	¼ (8)	2.4 (1.1)
¾ (20)	4¼ (108)	3 15/16 (100)	5 (127)	1 1/16 (27.05)	⅜ (10)	3.3 (1.5)
1 (25)	5 (127)	4 23/32 (120)	7½ (178)	1⅓ (33.78)	½ (15)	6.0 (2.7)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

1500Y2 SERIES
CARBON STEEL, STAINLESS STEEL CHROME MOLY Y STRAINERS NPT, SOCKETWELD



1500Y2 NPT/SW strainers are not furnished with a drain/blow down connection. If required consult factory.

SPECIFICATION

Y Strainer shall be straight flow design with NPT or Socketweld inlet/outlet connections. The strainer shall be rated to ANSI 1500 PSIG . The Strainer shall be Cast Carbon Steel or Stainless Steel body and the screen shall be size _____ perf 304 SS. The strainer shall have a bolted cover. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 1500Y2 Series.

MATERIALS OF CONSTRUCTION

Part	Cabon Steel	Stainless Steel	Chrome Moly
Body	A216-WCB	A351-CF8M	A217-WC6
Cover[2]	A216-WCB	A351-CF8M	A217-WC6
Screen[1]	304 SS	304 SS	304 SS
Gasket[1]	304 SS Spiral Wound	304 SS Spiral Wound	304 SS Spiral Wound
Stud	A193-B7	A193-B8-1	*
Nut	A194-2H	A194-8	*

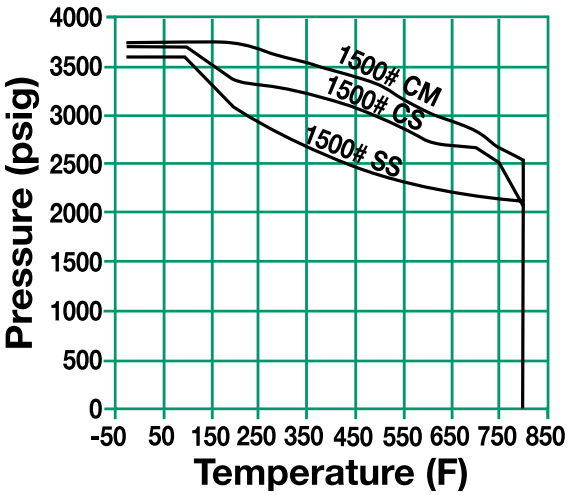
* For Chrome Moly materials of construction contact factory.
1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

Connections:
CS – 1/2" to 2" NPT or Socketweld
SS – 1/2" to 2" NPT or Socketweld
CM –1/2" to 2" NPT or Socketweld

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
½" – 1½"	1/32" Perf	304 SS
2"	3/64" Perf	304 SS

PRESSURE/TEMPERATURE CHART
ASME B16.34



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D	WEIGHT
½ (15)	3 15/16 (100)	5⅛ (130)	6½ (165)	⅞ (22)	7 (3.2)
¾ (20)	4¼ (108)	5 29/32 (150)	7 3/32 (180)	1⅛ (29)	11 (5)
1 (25)	5 (127)	6 11/16 (170)	8 15/32 (215)	1 5/16 (33)	15 (6.8)
1¼ (32)	8⅜ (213)	7 1/16 (179)	8⅝ (219)	1 11/16 (43)	22 (10)
1½ (40)	8⅜ (213)	7 1/16 (179)	8⅝ (219)	1 15/16 (49)	22 (10)
2 (50)	9⅜ (238)	7⅞ (200)	10 (254)	2 7/16 (62)	26 (11.8)

Dimensions shown are subject to change.
Contact factory for certified prints when required.

1500Y2 SERIES
CARBON STEEL, STAINLESS STEEL Y STRAINERS FLANGED, RING JOINT, BUTTWELD

SPECIFICATION

Y Strainer shall be straight flow design with RF Flanged, Ring Joint or Buttweld inlet/outlet connections. The strainer shall be rated to ANSI 1500 PSIG rating in accordance with ANSI B16.5 or B16.34. The Strainer shall be Cast Carbon Steel or Stainless Steel body and the screen shall be size _____ perf 304 SS. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The Y Strainer shall be SSI 1500Y2 Series.

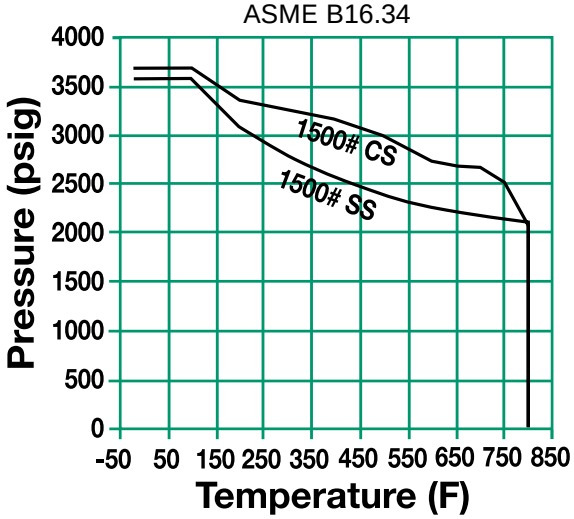
MATERIALS OF CONSTRUCTION

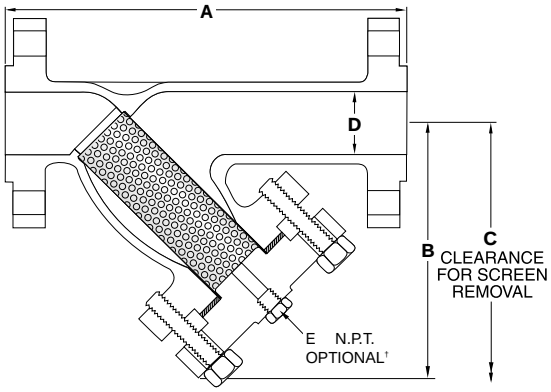
Part	Carbon Steel	Stainless Steel
Body	A216-WCB	A351-CF8M
Cover	A216-WCB	A351-CF8M
Screen[1]	304 SS	304 SS
Plug[2]	A105	304 SS
Gasket[1]	304 SS Spiral Wound	304 SS Spiral Wound
Stud	A193-B7	A320-B8
Nut[2]	A194-2H	A194-8

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

PRESSURE/TEMPERATURE CHART

ASME B16.34





† 1500Y2 strainers are not furnished with a drain/blowdown connection. If required consult factory.

Connections:
CS - 2" to 6" RF Flanged or RTJ
SS – 2" to 6" RF Flanged or RTJ

For Buttweld connection use FY Series on page 424

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" – 3"	3/64" Perf	304 SS
4" – 6"	1/8" Perf	304 SS

DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

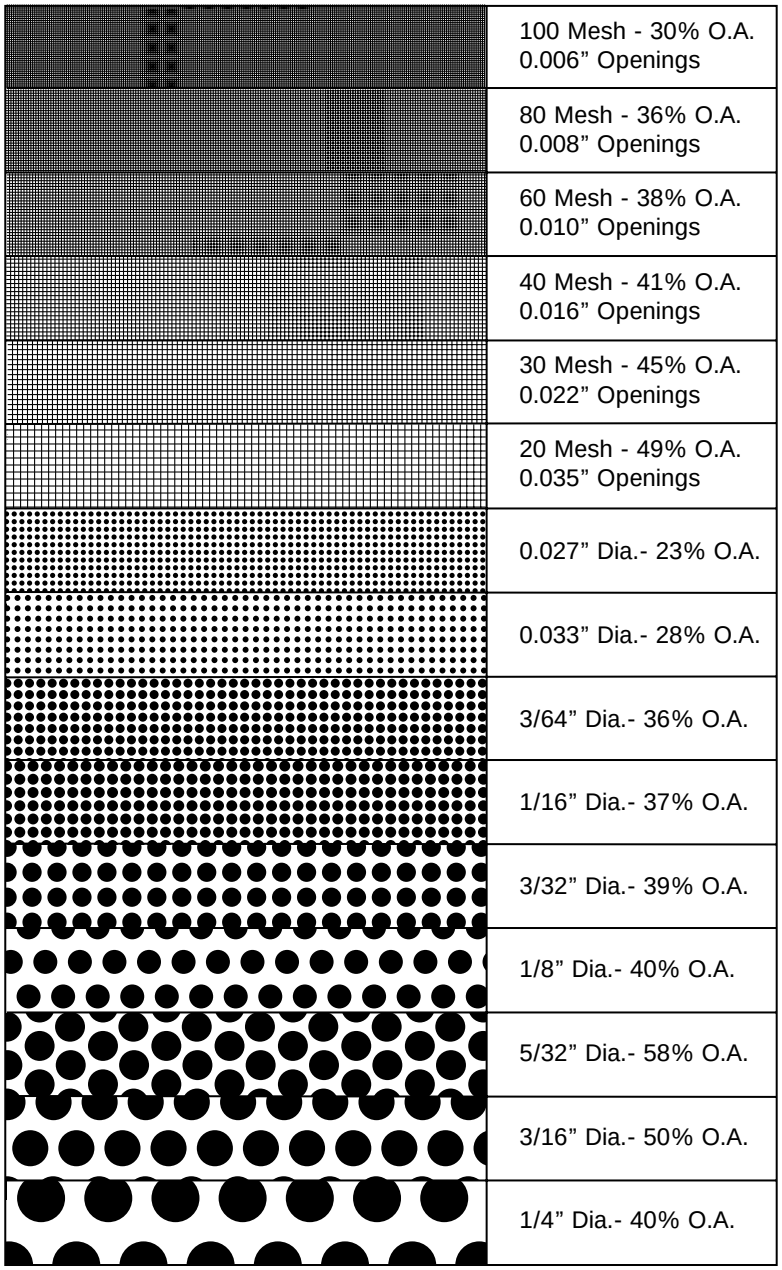
SIZE	A	B	C	D	WEIGHT
2 (50)	16¼ (413)	10½ (268)	14⅞ (378)	1⅞ (48)	125 (56.7)
2½ (65)	19⅜ (492)	13⅜ (340)	14½ (368)	2¼ (57)	142 (64.6)
3 (80)	22¼ (565)	14½ (368)	20½ (521)	2¾ (73)	243 (110.2)
4 (100)	25¼ (641)	16⅜ (416)	23 (584)	3⅝ (92)	388 (176)
6 (150)	32 (813)	21¾ (551)	30½ (775)	5⅜ (137)	817 (370.6)

* Consult factory for dimensions

Dimensions shown are subject to change.
Contact factory for certified prints when required.

Y-Strainer Technical Information

SCREEN OPENINGS



FACTORS TO CONSIDER

1 Purpose

If the strainer is being used for protection rather than direct filtration, standard screens will suffice in most applications.

2 Service

With services that require extremely sturdy screens, such as high pressure/temperature applications or services with high viscosities, perforated screens without mesh liners are recommended. If a mesh liner is required to obtain a certain level of filtration, then a trapped perf/mesh/perf combination is recommended.

3 Filtration Level

When choosing a perf. or a mesh/perf. combination, attention should be given to ensure overstraining does not occur. As a general rule, the specified level of filtration should be no smaller than half the size of the particle to be removed. If too fine a filtration is specified, the pressure drop through the strainer will increase very rapidly, possibly causing damage to the screen.

Screen openings other than those shown above are readily available. Various mesh sizes as fine as 5 micron and perforated plate as coarse as 1/2” Dia. are in inventory.

Screens are available in a wide range of materials. Screens of carbon steel, stainless steel (304, 316), alloy 20, monel 400, hastelloy C and titanium grade 2 are in inventory.

Custom manufactured screens are available upon request. Please consult factory.

Y STRAINER

REPLACEMENT CYLINDRICAL SCREENS

Spence has screens and baskets for all makes of Y, basket and duplex strainers. The range of materials and size of units is unlimited.

Spence provides baskets manufactured from:

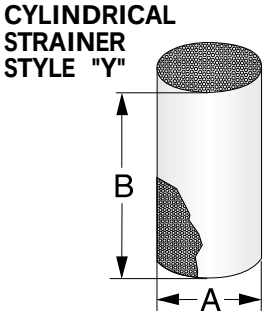
- **Perforated Plate**
- **Mesh or Mesh/Perf. combination**
- **Wedge Wire**
- **Electron Beam Small Hole Perforated Plate**

Using the above processes or combination thereof, Spence can provide screens and baskets suitable for a wide range of applications.

SCREEN/BASKET CHECKLIST

Kindly photocopy this page and fill out the pertinent information.

Performance Requirements



Description	Customers Requirement
Required Level of Filtration =	
Material of Construction =	
Minimum Specified Burst Pressure =	
Flow Direction =	
Other =	

Dimensional Requirements

Description		Customers Requirement
Style	Y	
Screen Outer Diameter	A =	
Screen Height	B =	

STRAINERS

Y STRAINER

PRESSURE DROP CORRECTION FACTORS

Mesh Lined Baskets and/or Fluids with a Viscosity other than Water

Centistokes	SSU	Unlined Perforated Basket	20 Mesh Lined Basket	40 Mesh Lined Basket	60 Mesh Lined Basket	80 Mesh Lined Basket	100 Mesh Lined Basket	200 Mesh Lined Basket
2	30 (water)	1	1.05	1.2	1.4	1.6	1.7	2
100	500	1.6	1.7	1.9	2.1	2.4	2.6	3.1
216	1000	1.7	2	2.2	2.4	2.6	2.8	3.3
433	2000	1.9	2.2	2.4	2.7	2.9	3.2	3.8
650	3000	2	2.3	2.6	2.9	3.2	3.5	4.1
1083	5000	2.2	2.6	3	3.5	4	4.5	5.3
2200	10000	2.5	3	3.5	4.2	5	6	7.1

1) Obtain water pressure drop from graphs on appropiate product page.

2) Multiply the pressure drop obtained from (1) by the specific gravity of the liquid.

3) Multiply the pressure drop from (2) by the appropiate correction factor for the mesh liner and/or viscosity.

Example

Model: **150Y2**
Size: **4"**
Body: **Carbon Steel**
Filtration: **1/8" perforated screen 40 Mesh lines**
Flow rate: **200 GPM**
Fluid: **Water**
SG: **1**
Viscosity: **30 SSI**

Answer

A) From Pressure Drop Chart *on page 393* pressure drop of water is .48 psid

B) Multiply by specific gravity; .48 x 1 = .48 psid

C) From chart above, multiply answer from B) by correction factor .48 x 1.2 (correction factor) =.576 psid

CORRECTION FACTORS FOR CLOGGED SCREENS

% Clogged	Ratio of Free Screen Area to Pipe Area						
	10:1	8:1	6:1	4:1	3:1	2:1	1:1
10							3.15
20						1.15	3.9
30						1.4	5
40						1.8	6.65
50					1.25	2.5	9.45
60				1.15	1.8	3.7	14.5
70				1.75	2.95	6.4	26
80		1.1	1.75	3.6	6.25	14	58
90	2.3	3.45	6	13.5	24	55	

* Multiply values obtained from Pressure Drop Charts by the appropriate values shown below.

Example

Strainer Size: **6"**
Model: **150Y2**
Body: **Carbon Steel**
Filtration: **1/8" Perf.**
Flow rate: **1000 GPM**
Service: **Water**
% Clogged: **60%**

Answer

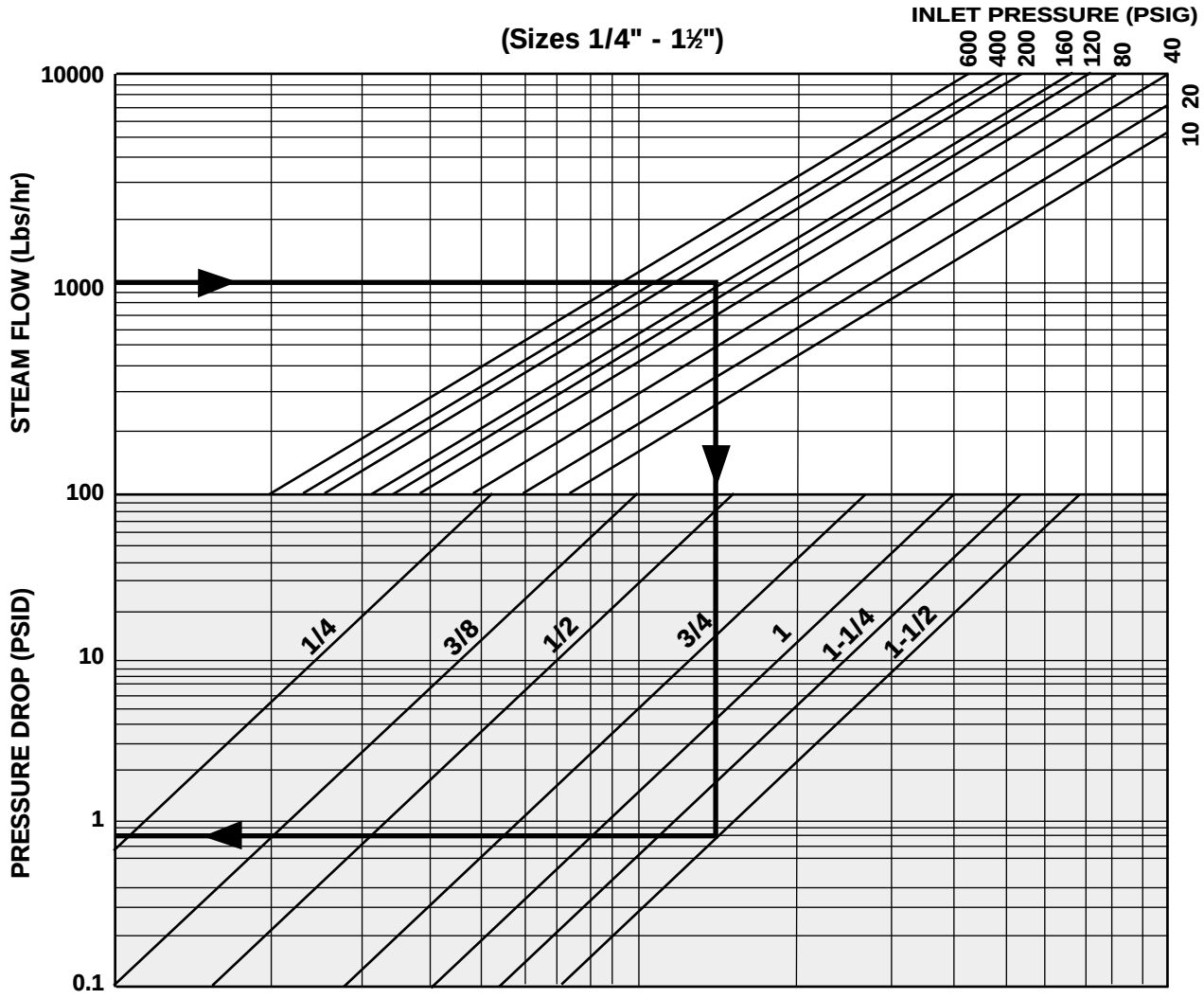
A) The Pressure Drop Chart *on page 393* indicates a drop of 2.2 psid with standard screen.

B) The Effective Area Chart indicates a ratio of 3.0 free area to pipe area.

C) Using Chart above we read the correction factor of 3:1 to be 1.8 at 60% clogged.

D) Total pressure drop equals 2.2 x 1.8 = 3.96 psid.

Y STRAINER
PRESSURE DROP
SATURATED STEAM



Notes: 1. Pressure drop curve is based on saturated steam flow with standard screens.
See page 432 for correction factors to be used with other fluids and/or screen openings.
2. Chart can be used for air and gas by using the following formula:

$$Qs = 0.138Qg\sqrt{(460+t)\ s.g.} \quad \left\{\frac{DP}{P_2}<1.0\right\}_{\text{FOR NON-CRITICAL FLOW}}$$

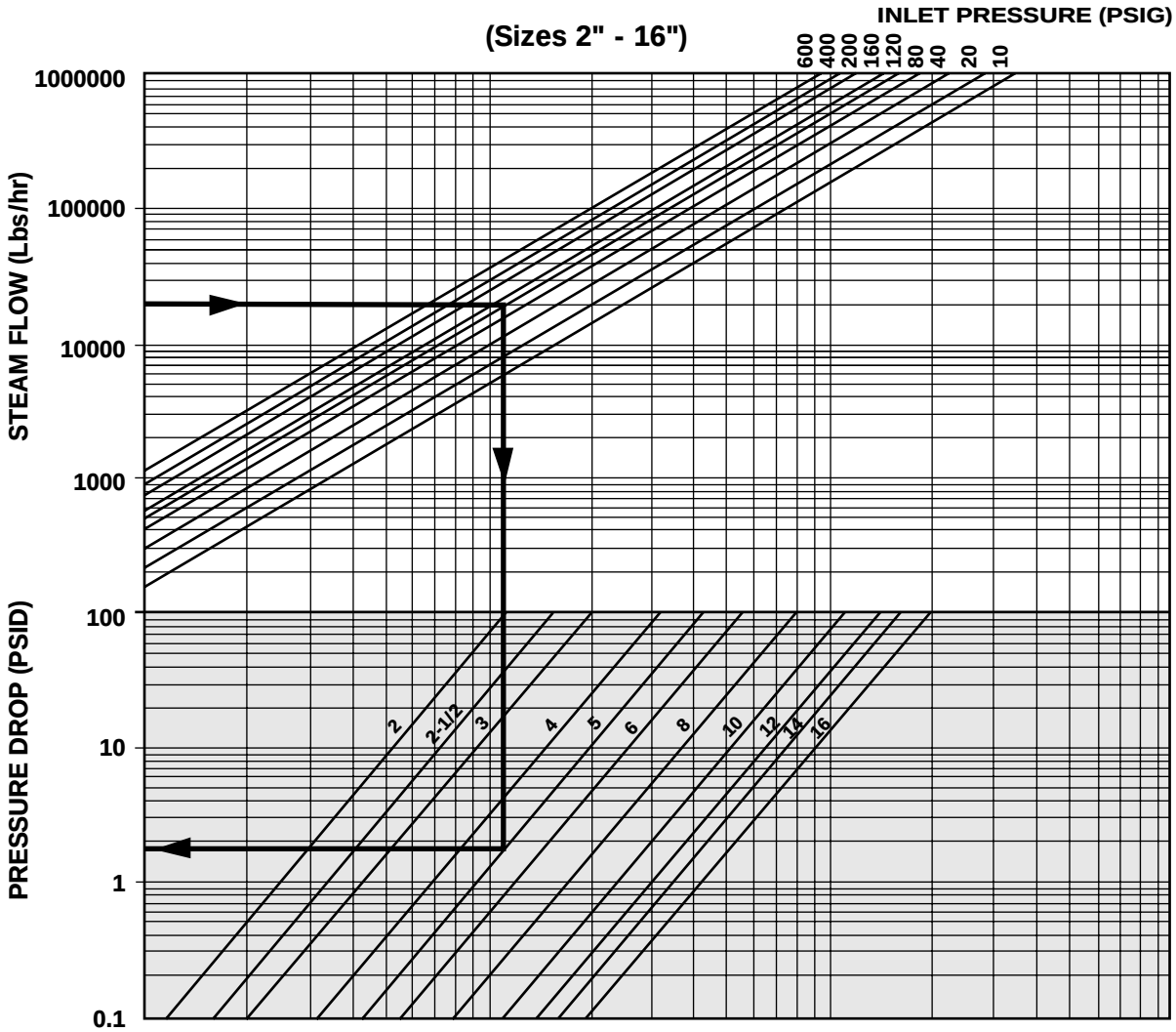
where;
Qs = Equivalent Steam Flow, lbs./hr.
Qg = Air or gas flow, SCFM.
t = Temperature, °F.
s.g. = Specific gravity (s.g. = 1 for air.)
DP = Pressure Drop, psid
P_2 = Outlet Pressure

Example:
Service: Saturated Steam Flow
Pressure: 160 psig
Steam Flow: 1000 Lbs/hr
Size: 1-1/2”

- Locate steam flow
- Follow horizontal line to required pressure.
- Follow vertical line downwards to required strainer size.
- Follow horizontal line to read pressure drop.
- Pressure drop equals 0.8 psid.

Y STRAINER

PRESSURE DROP
SATURATED STEAM



Notes: 1. Pressure drop curve is based on saturated steam flow with standard screens.
See page 432 for correction factors to be used with other screen openings.
2. Chart can be used for air and gas by using the following formula:

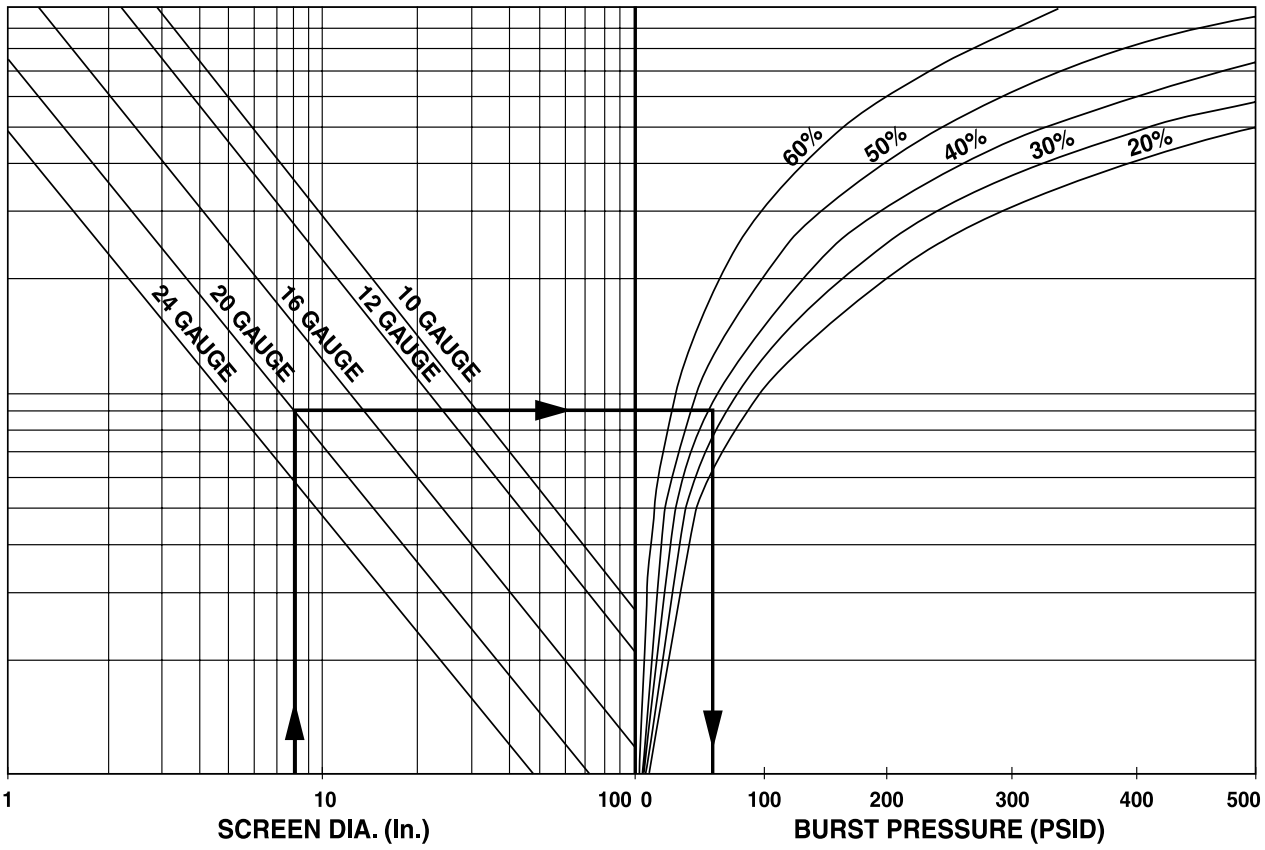
$$Qs = 0.138Qg\sqrt{(460+t)\ s.g.} \quad \left\{\frac{DP}{P2}<1.0\right\}_{\text{FOR NON-CRITICAL FLOW}}$$

where;
Qs = Equivalent Steam Flow, lbs./hr.
Qg = Air or gas flow, SCFM.
t = Temperature, °F.
s.g. = Specific gravity (s.g. = 1 for air.)
DP = Pressure Drop, psid
P2 = Outlet Pressure

Example:	
Service:	Saturated Steam Flow
Pressure:	120 psig
Steam Flow:	20,000 Lbs/hr
Size:	5”

- Locate steam flow
- Follow horizontal line to required pressure.
- Follow vertical line downwards to required strainer size.
- Follow horizontal line to read pressure drop.
- Pressure drop equals 1.8 psid.

Y STRAINER
SCREEN BURST PRESSURE



Notes:

(1) The above chart is for use with perforated plate and based on the formula:

$$P = \frac{St}{R - 0.4t}$$

SOURCE: ASME Section VIII, Div. 1, Appendix 1.

P = Burst pressure, psid
S = Reduced allowable stress, psi
t = Thickness of perforated plate, in.
R = Outside radius of screen, in.

(2) The above chart is based on a screen material of stainless steel and is valid for operating temperatures up to 100°F The chart may be used for higher temperatures however it will result in a safety factor reduction. (At 100°F the charts safety factor is approximately four (4), at 1000°F the chart safety factor is reduced to approximately two (2). It is the responsibility of the user to determine an acceptable safety factor.

(3) The chart may be used for carbon steel at an approximate 25% reduction in safety factor.

(4) See Screen Openings Chart for % Open Area's of inventoried perforated plate.

Example:

Strainer Size: **8"**
Screen Thickness: **20 Gauge**
Screen Perforations: **0.125" (40% O.A.)**

A) Locate screen diameter (assume a 8" diameter screen)
B) Follow vertical line to gauge thickness.
C) Follow horizontal line to required perforation open area.
D) Follow vertical line downward to read burst pressure.
E) Burst pressure equals 60 psid approx.

Y STRAINER

STRAINER CHECKLIST

Please take the factors listed below into account when selecting a strainer. Kindly photocopy this page and fill out the pertinent information, to your best ability, so that we can recommend a Strainer to suit your specific requirements.

1. Fluid to be strained _____
2. Flow rate _____
3. Density of fluid _____
4. Viscosity of fluid _____
5. Fluid working pressure _____

   Maximum pressure _____
6. Fluid Working Temp. _____

   Maximum Temp. _____
7. Preferred material of strainer construction _____
8. Present Pipeline size & material _____
9. Nature of solids to be strained out _____
10. Size of solids to be strained out _____

    Size of mesh or Perf. Req. _____
11. Clearance Limitation Above _____ Below _____

    Left side facing inlet _____ Right side facing inlet _____
12. Maximum pressure drop with clean screen _____
13. Expected cleaning frequency _____
14. Any other information deemed relevant _____

_____

_____

Name _____

Company _____

Address _____

City/Town _____

State _____ Zip Code _____

Telephone (_____) _____

Fax (_____) _____

Y STRAINER
INSTALLATION AND MAINTENANCE INSTRUCTIONS

Strainer Installation Instructions

- Ensure all machined surfaces are free of defects and that the inside of the strainer is free of foreign objects.
- For horizontal and vertical pipelines, the strainer should be installed so that the blow-down drain connection is pointed downward.
- For flanged end strainers, the flange bolting should be tightened gradually in a back and forth clockwise motion. Threaded end strainers should use an appropriate sealant.
- Once installed, increase line pressure gradually and check for leakage around joints.
- If the strainer is supplied with a start-up screen, monitor pressure drop carefully.

Screen Removal Instructions

- Drain piping.
- Vent line to relieve pressure.
- Loosen cover and open to access screen.
- Remove, clean and replace screen in original position (Note: In some instances, a high pressure water jet or steam may be required for effective cleaning)
- Inspect cover gasket for damage. If necessary, replace. (Note: If spiral wound gaskets have been used, they must be replaced and can not be used again).
- Tighten cover. The strainer is ready for line start-up.

CAUTION SHOULD BE TAKEN DUE TO POSSIBLE EMISSION OF PROCESS MATERIAL FROM PIPING. ALWAYS ENSURE NO LINE PRESSURE EXISTS WHEN OPENING COVER.

Maintenance Instructions

For maximum efficiency, determine the length of time it takes for the pressure drop to double that in the clean condition. Once the pressure drop reaches an unacceptable value, shut down line and follow the “Screen Removal Instructions” above. A pressure gauge installed before and after the strainer in-line will indicate pressure loss due to clogging and may be used to determine when cleaning is required.

Trouble Shooting Guides and Diagnostic Techniques

- After pressurizing, inspect cover and other joints for leakage. Gasket replacement or cover tightening is necessary if leakage occurs.
- If the required filtration is not taking place, ensure the screen is installed in the correct position, that being flush to the screen seating surfaces.

NOTES:

Basket Strainers

Pressures to 3705 PSIG
Temperatures to 800ºF

Applications

- Process Industry
- Power Industry
- Chemical Industry
- Oil and Gas
- Metals and Mining
- Water and Waste
- Pulp and Paper

Features

- Cast or Fabricated construction
- Filtration down to 40 microns
- Large strainer baskets
- Both compact and high capacity units are available

Materials of Construction

- Cast Iron
- Bronze
- Carbon Steel
- Stainless Steel
- Other materials upon request

End Connections

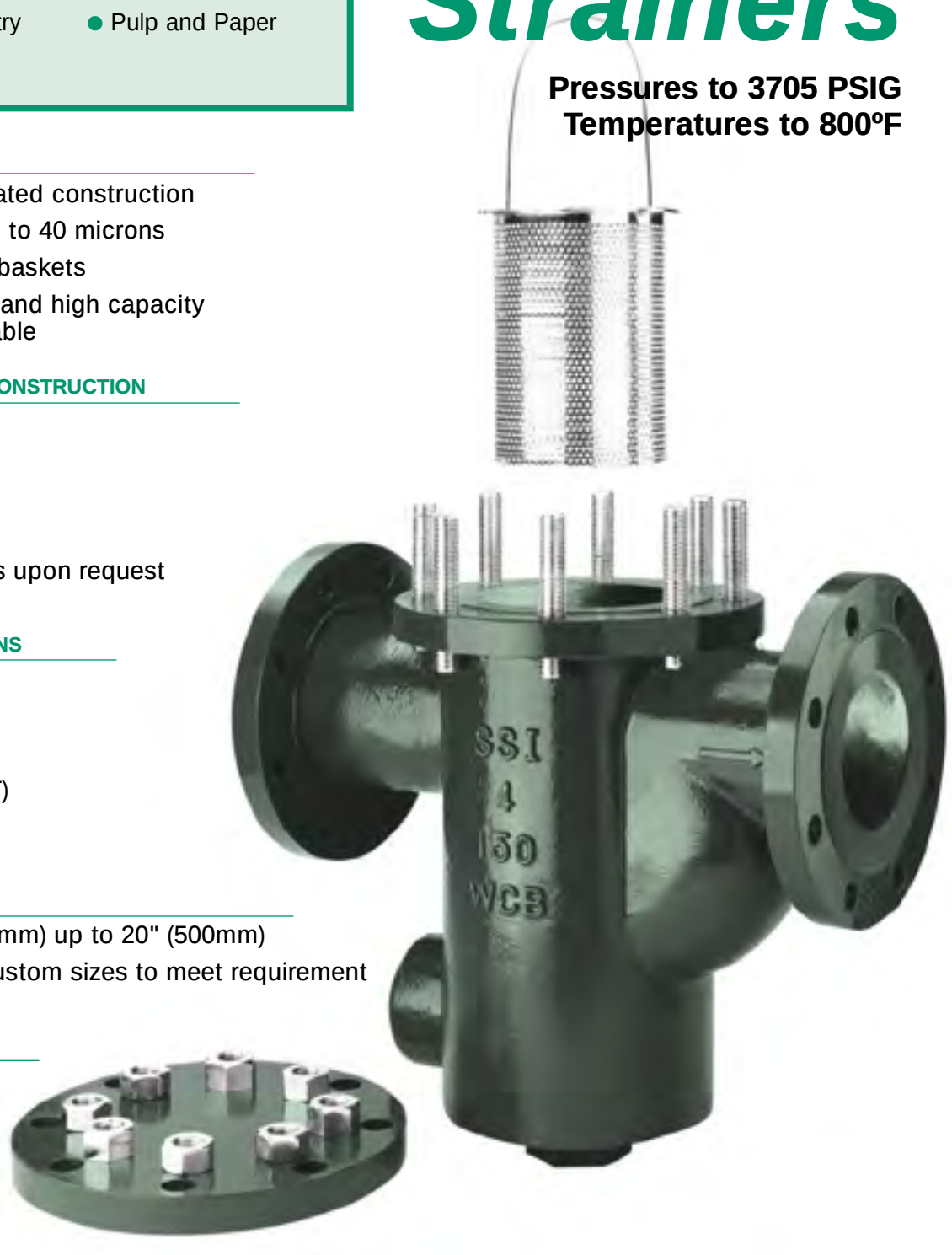
- Flat Faced
- Raised Face
- Buttweld
- Threaded (NPT)
- Socketweld

Sizes

- Cast - 1/2" (15mm) up to 20" (500mm)
- Fabricated - custom sizes to meet requirement

Ratings

- ANSI 125 psig
- ANSI 150 psig
- ANSI 300 psig
- ANSI 600 psig
- ANSI 900 psig
- ANSI 1500 psig



125B SERIES
CAST IRON
FLANGED BASKET STRAINERS

PRESSURES TO 200 PSIG (13.8 BARG)
TEMPERATURES TO 450°F (232°C)

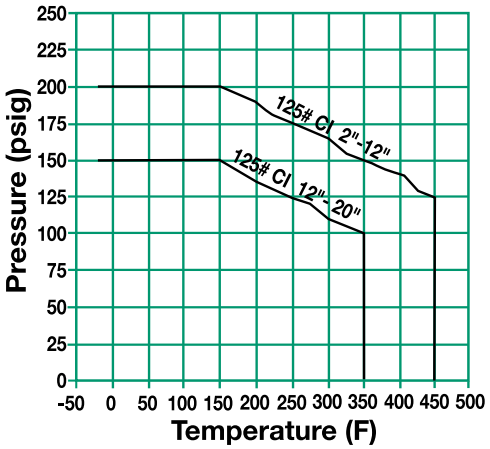
- **FF flanges in accordance with ASME B16.1**
- **Angular basket for straight through flow**
- **Stainless steel perforated basket is standard**
- **Recommended minimum straining level is 250 microns**
- **NPT drain connection furnished with plug as standard**

APPLICATIONS

- Water, Oil Systems
- Other Liquid Systems
- Protection of Pumps, Meters, Valves and Similar Equipment

PRESSURE/TEMPERATURE CHART

ASME B16.1



For Quick Opening Covers Ratings, *see page 467.*

MODELS

- 125B1F - Straight Flow

OPTIONS

- Other screen perforations and mesh liners
- Quick Opening Covers - *See page 467*

APPLICABLE CODES

- ASME B16.1

Canadian Registration OE 6331.5-125B1FI 10" & 12"

125B1 Series Ordering Code

Inlet Size					Model						Body Material	Dash	Perf	Mesh	Add'l Requirements
0	8	0	0	-	1	2	5	B	1	F	I	-	4	__	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
0200 - 2"
0250 - 2½"
0300 - 3"
0400 - 4"
0500 - 5"
0600 - 6"
0800 - 8"
1000 - 10"
1200 - 12"
1400 - 14"
1600 - 16"
1800 - 18"
2000 - 20"

For any variations, use the part numbering system above but clearly indicate the additional requirement.

Dash - Position 5

Model - Position 6 - 11
125B1F - Straight Flow

Body Material - Position 12
I - Cast Iron

Dash - Position 13

Perf[1] - Position 14
304 SS Material[2]
B - 3/64" (std < 4")
4 - 1/8" (std => 4")
A - None
1 - 1/32"
2 - 1/16"
3 - 3/32"
5 - 5/32"
6 - 3/16"
7 - 7/32"
8 - 1/4"
9 - 3/8"
Z - Other

1. Standard screens
All 2"-3"—3/64" perf,
All 4"-20"— 1/8" perf.

Mesh[2] - Position 15
Leave Blank If not Required (Std. All)
1 - 10
2 - 20
3 - 30
4 - 40
5 - 50
6 - 60
7 - 80
8 - 100
9 - 120
Z - Other

2. For other screen material, contact factory.

Add'l Requirements - Position 16
Leave Blank If not Required
D - Special Drain Size
E1 - 1/4" Vent
E2 - 3/8" Vent
E3 - 1/2" Vent
F - Silicon Free
G - Special Gaskets
T - Special Testing
V1- Clamp Cover
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

Indicate Specials Clearly On the Order

125B SERIES
CAST IRON
FLANGED BASKET STRAINERS

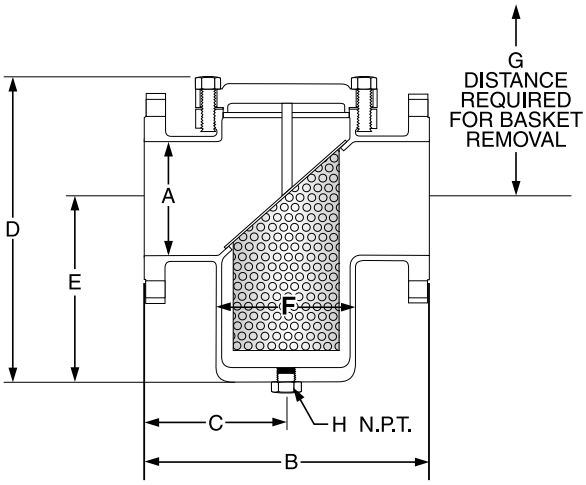
SPECIFICATION

Basket Strainer shall have straight flow with an angular basket. The Basket Strainer shall be cast iron with 125 PSIG ANSI rated FF flanges. The screen shall be size _____ perforated stainless steel. The Strainer shall have an inlet size of _____ and open area ratio of _____. The Basket Strainer shall be SSI 125B Series.

MATERIALS OF CONSTRUCTION

Body .....Cast Iron A126-B
Cover .....Cast Iron A126-B
Screen[1].....304 SS
Plug[2] .....Cast Iron A126-B
Gasket[1] .....Graphite[3]
Bolt/Stud[2] A307-B
Nut[2] A563

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted
3. Gasket for bolted cover. *For Quick Opening Covers,* *see page 467*



Connections: 2"– 20" FF Flanged

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" – 3"	3/64 Perf.	304 SS
4" - 20"	1/8 Perf.	304 SS

DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D*	E	F	G	H**	WEIGHT	
									Cover	Unit
2 (50)	2 (51)	8⅜ (206)	4 1/16 (103)	9 1/16 (230)	5 (127)	2 15/16 (75)	11¾ (298)	½ (15)	5 (2.3)	23 (10)
2½ (65)	2½ (64)	8¾ (210)	4⅛ (106)	10 5/16 (262)	6¼ (159)	4 (102)	13¼ (337)	¾ (20)	7 (3.2)	33 (15)
3 (80)	3 (76)	9⅞ (251)	4 15/16 (125)	12 3/16 (310)	7⅛ (181)	5 (127)	15⅜ (391)	¾ (20)	9 (4)	44 (20)
4 (100)	4 (102)	11½ (292)	5¾ (146)	13⅝ (346)	8 (203)	5 13/16 (148)	17¾ (451)	1 (25)	13 (6)	67 (30)
5 (125)	5 (127)	13⅜ (333)	6 9/16 (167)	14 9/16 (370)	8½ (216)	7 1/16 (179)	20½ (521)	1 (25)	20 (9)	88 (40)
6 (150)	6 (152)	14⅞ (378)	7 1/16 (189)	15¾ (400)	9 (229)	7 15/16 (202)	23 (584)	1 (25)	26 (12)	120 (54)
8 (200)	8 (203)	18 11/16 (475)	9⅜ (238)	19 15/16 (506)	12 (305)	9 27/32 (250)	30 (762)	1½ (40)	45 (20)	220 (100)
10 (250)	10 (254)	20⅛ (511)	10 (254)	26 (660)	14 (356)	12 5/16 (313)	35½ (902)	1½ (40)	70 (32)	353 (160)
12 (300)	12 (305)	26¾ (679)	13⅜ (340)	30⅛ (765)	17 (432)	15 11/32 (390)	42½ (1080)	2 (50)	110 (50)	523 (237)
14 (350)	14 (356)	30¼ (768)	15⅛ (384)	37½ (953)	22 (559)	18 (457)	53 (1346)	1½ (40)	140 (64)	815 (370)
16 (400)	16 (406)	33⅛ (841)	16⅝ (422)	39¼ (997)	22⅞ (581)	20¾ (527)	55⅝ (1413)	2 (50)	180 (82)	1041 (472)
18 (450)	18 (457)	38½ (978)	19¼ (489)	40 (1016)	19 (483)	24¼ (616)	61 (1549)	2 (50)	220 (100)	1446 (656)
20 (500)	20 (508)	41⅜ (1051)	20 1/16 (525)	46¼ (1175)	23¾ (591)	26½ (673)	69¼ (1759)	2 (50)	285 (129)	1980 (898)

* For models with Quick Opening Cover, consult factory. For sizes 2"-6", allow clearance for bottom drain bolt removal.

** Side drain is standard on sizes 8" and larger. Bottom drain is optional.

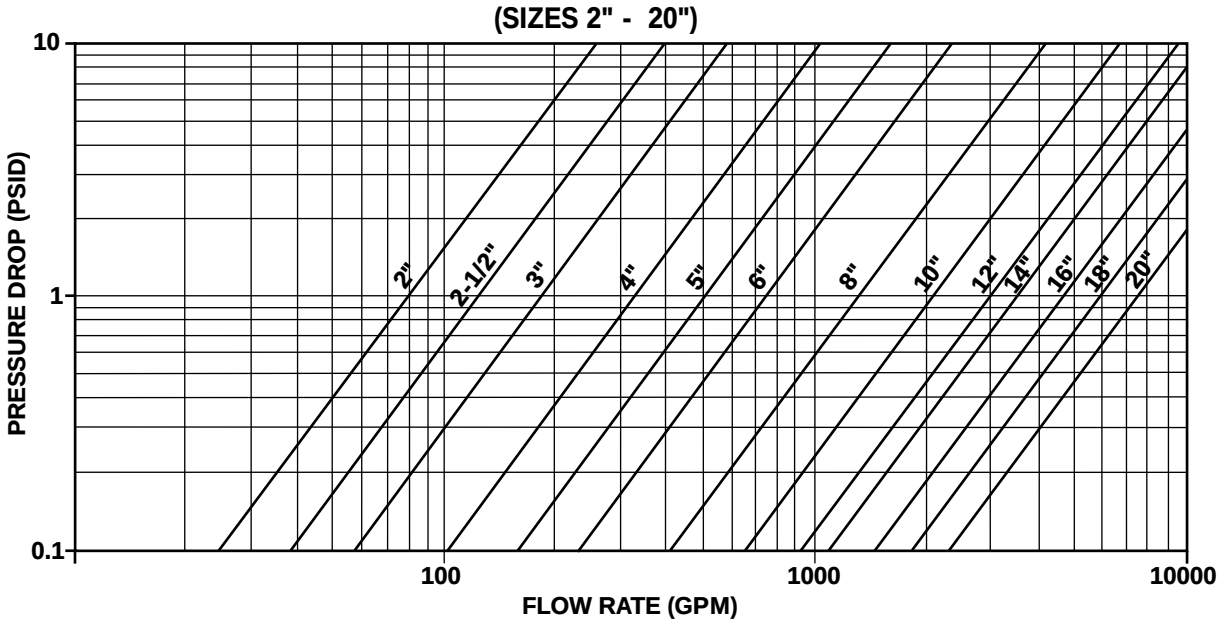
Dimensions shown are subject to change. Consult factory for certified drawings.

125B SERIES

CAST IRON FLANGED BASKET STRAINERS

PRESSURE DROP VS FLOW RATE

Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*



* For Gas, Steam or Air service, consult factory.

125B SERIES

CAST IRON FLANGED BASKET STRAINERS

OPEN AREA RATIOS

with Standard Perforated Screen

Size	Opening diameter (in)	Opening %	Nominal Outlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	3/64	36	3.14	29.4	10.6	3.5
2½	3/64	36	4.91	43.6	15.7	3.3
3	3/64	36	7.07	75.0	27.0	3.9
4	1/8	40	12.57	104.4	41.8	3.3
6	1/8	40	28.27	177.3	70.9	2.5
8	1/8	40	50.27	307.0	122.8	2.4
10	1/8	40	78.54	450.0	180.0	2.3
12	1/8	40	113.1	688.5	275.4	2.4
14	1/8	40	153.94	1019.1	407.6	2.6
16	1/8	40	201.06	1248.6	499.4	2.5

OAR = Free Screen Area / Nominal Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

Other Screen Openings Page 466

Basket Burst Pressure Page 472

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 471

Correction Factors for Clogged Screens Page 471

NOTES:

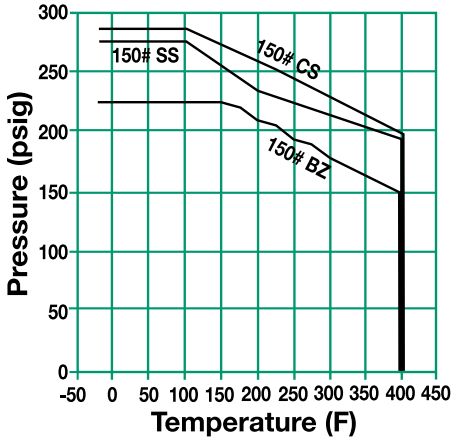
150B1 SERIES
CAST BRONZE, CARBON STEEL, STAINLESS STEEL FLANGED BASKET STRAINERS

PRESSURES TO 285 PSIG (19.7 BARG)
TEMPERATURES TO 406°F (207°C)

- **RF or FF flanges in accordance with ASME B16.5 or B16.24**
- **Cover flange in accordance with ASME Section VIII, Div 1 Appendix II and ASME 16.5**
- **Angular basket for straight through flow**
- **Stainless steel perforated basket is standard**
- **Recommended minimum straining level is 250 microns**
- **NPT drain connection furnished with plug as standard**

APPLICATIONS
- Water, Oil Systems
- Other Liquid Systems
- Protection of Pumps, Meters, Valves and Similar Equipment

PRESSURE/TEMPERATURE CHART
ASME B16.34, ASME B16.24



For Quick Opening Covers Ratings see page 467.

MODELS
- 150B1F – Straight Flow

OPTIONS
- Other screen perforations and mesh liners
- Quick Opening Covers - *See page 467*

APPLICABLE CODES
- ASME B16.5, B16.24, B16.34

Canadian Registration OE 1972.23-150B1F

150B1 Series Ordering Code

Inlet Size				Dash	Model					Body Material	Dash	Perf	Mesh	Add'l Require-ments
0	6	0	0	-	1	5	0	B	1	F	C	-	4	__	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
0200 - 2"
0250 - 2½"
0300 - 3"
0400 - 4"
0500 - 5"
0600 - 6"
0800 - 8"
1000 - 10"
1200 - 12"

Dash - Position 5

Model - Position 6 - 11
150B1F - Straight Flow

Body Material - Position 12
B - Bronze
C - Carbon Steel
T - Stainless Steel

Dash - Position 13

Perf[1] - Position 14
304 SS Material[2]
B - 3/64"
4 - 1/8"
A - None
1 - 1/32"
2 - 1/16"
3 - 3/32"
5 - 5/32"
6 - 3/16"
7 - 7/32"
8 - 1/4"
9 - 3/8"
Z - Other

Mesh[2] - Position 15
Leave Blank If not Required (Std all)
1 - 10
2 - 20
3 - 30
4 - 40
5 - 50
6 - 60
7 - 80
8 - 100
9 - 120
Z - Other

Add'l Requirements - Position 16
Leave Blank If not Required
D - Special Drain Size
E1 - 1/4" Vent
E2 - 3/8" Vent
E3 - 1/2" Vent
F - Silicon Free
G - Special Gaskets
N - Nace MR01-75
T - Special Testing
V1- Clamp Cover
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

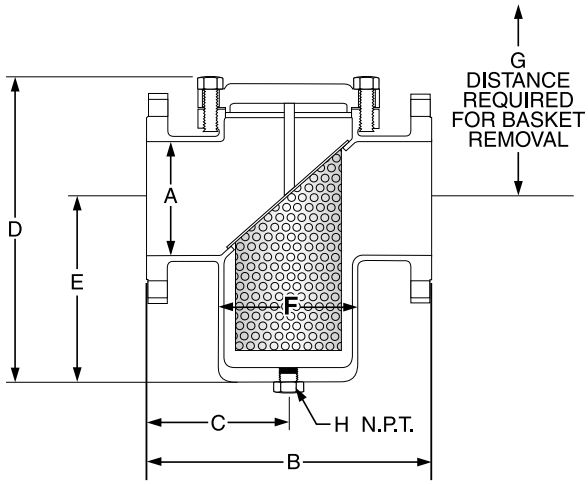
Indicate Specials Clearly On the Order

For any variations, use the part numbering system above but clearly indicate the additional requirement.

1. Standard Screens:
All 2"-3"— 3/64" perf,
All 4"-12" — 1/8" perf.

2. For other screen material, contact factory.

150B1 SERIES
CAST BRONZE, CARBON STEEL, STAINLESS STEEL FLANGED BASKET STRAINERS



SPECIFICATION

Basket Strainer shall have straight flow with an angular basket. The Basket Strainer shall be _____ body material with 150 PSIG ANSI rated ____ flanges. The screen shall be size _____ perforated stainless steel. The Strainer shall have an inlet size of _____ and open area ratio of _____. The Basket Strainer shall be SSI 150B1 Series.

MATERIALS OF CONSTRUCTION

	Bronze	Carbon Steel	Stainless Steel
Body	Bronze B62	A216-WCB	A351-CF8M
Cover	Bronze B62	A216-WCB	A351-CF8M
Screen[1]	304 SS	304 SS	304 SS
Plug[2]	Bronze B16	A105	A182-316
Gasket[1]	Teflon[3]	Teflon[3]	Teflon[3]
Bolt/Stud[2]	Bronze B16	A193-B7	A193-B8-1
Nut[2]	Nonferrous	A194-2H	A194-B

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted.
3. Gasket for bolted cover. *For Quick Opening Covers Ratings see page 467.*

Connections
BZ: 2"– 6" FF Flanged
CS, SS: 2"–12" RF Flanged

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" – 3"	3/64 Perf.	304 SS
4" - 12"	1/8 Perf.	304 SS

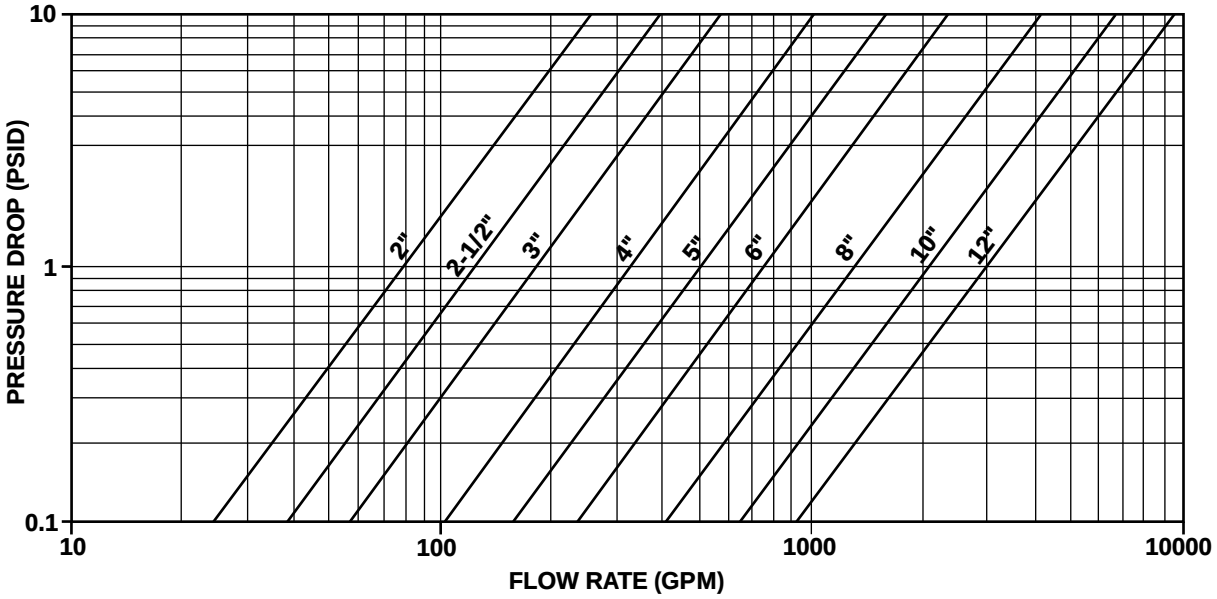
DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C		D*		E		F		G		H		WEIGHT	
			Stl.	Bz.	Stl.	Bz.	Stl.	Bz.	Stl.	Bz.	Stl.	Bz.	Stl.	Bz.	Cover	Unit
2 (50)	2 (51)	8⅛ (206)	4 1/16 (103)	4 1/16 (103)	9 9/16 (243)	8 9/16 (218)	5⅝ (143)	5 (127)	3¼ (83)	2⅞ (73)	12½ (318)	11¾ (298)	1 (25)	1/2 (13)	5 (2.3)	29 (13)
2½ (65)	2½ (64)	8¾ (222)	4⅜ (111)	4⅜ (111)	10 13/16 (275)	8 15/16 (227)	5 15/16 (152)	6¼ (159)	3⅜ (86)	3⅞ (98)	14 (356)	13¾ (349)	1 (25)	3/4 (19)	7 (3.2)	33 (15)
3 (80)	3 (76)	9⅞ (251)	4 15/16 (125)	4 15/16 (125)	12 7/16 (316)	11¼ (286)	7 9/16 (192)	7⅛ (181)	3 9/16 (90)	4¾ (121)	15⅜ (391)	15⅜ (391)	1 (25)	3/4 (19)	9 (4.1)	48 (21.8)
4 (100)	4 (102)	11½ (292)	5¾ (146)	5¾ (146)	16 (406)	13 3/16 (335)	10⅛ (257)	8 (203)	4⅝ (118)	5 11/16 (145)	21¼ (540)	17¾ (451)	1 (25)	1 (25)	13 (5.9)	69 (31.4)
5 (125)	5 (127)	13⅜ (333)	6 9/16 (167)	6 9/16 (167)	15 7/8 (403)	14½ (368)	9½ (241)	8½ (216)	7½ (191)	6 15/16 (176)	22¼ (565)	20½ (521)	1 (25)	1 (25)	20 (9.1)	105 (48)
6 (150)	6 (152)	14⅞ (378)	7 1/16 (189)	7 1/16 (189)	17 3/16 (437)	15 (381)	10 5/16 (241)	9 (229)	6⅜ (162)	7 15/16 (202)	22½ (572)	23 (584)	1 (25)	1 (25)	26 (12)	121 (55)
8 (200)	8 (203)	18¾ (476)	9⅜ (238)	—	21 15/16 (559)	—	13 1/16 (332)	—	8⅞ (226)	—	29⅜ (746)	—	1 (25)	—	45 (20)	214 (97.3)
10 (250)	10 (254)	20⅛ (511)	10 1/16 (256)	—	25 (629)	—	13⅜ (340)	—	10⅝ (270)	—	35 (889)	—	1 (25)	—	70 (32)	309 (140.5)
12 (300)	12 (305)	26¼ (667)	13⅛ (333)	—	30 11/16 (780)	—	17 (432)	—	14⅞ (378)	—	42½ (1080)	—	2 (50)	—	110 (50)	476 (216.4)

*For models with Quick Opening Cover, consult factory. Allow clearance for bottom drain bolt removal.
Dimensions shown are subject to change. Consult factory for certified drawings.

150B1 SERIES
CAST BRONZE, CARBON STEEL, STAINLESS STEEL
PRESSURE DROP VS FLOW RATE
Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*

(Sizes 2" - 12")



* For Gas, Steam or Air service, consult factory.

150B1 SERIES
CAST BRONZE, CARBON STEEL, STAINLESS STEEL
OPEN AREA RATIOS
with Standard Perforated Screen

BRONZE ONLY

Size	Opening diameter (in)	Opening %	Flange Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	3/64	36	3.14	29.4	10.9	3.5
2½	3/64	36	4.91	44.3	16.4	3.3
3	3/64	36	7.07	66.7	24.7	3.5
4	1/8	40	12.57	97.2	38.9	3.1
5	1/8	40	28.27	170.1	68.0	2.4
6	1/8	40	50.27	318.6	127.5	2.5

CARBON STEEL & STAINLESS STEEL ONLY

Size	Opening diameter (in)	Opening %	Nominal Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	3/64	36	3.14	38.1	13.7	4.4
2½	3/64	36	4.91	41.6	15.0	3.0
3	3/64	36	7.07	59.6	21.5	3.0
4	1/8	40	12.57	119.9	48.0	3.8
6	1/8	40	28.27	177.4	71.0	2.5
8	1/8	40	50.27	296.5	118.6	2.4
10	1/8	40	78.54	413.5	165.4	2.1
12	1/8	40	113.10	730.3	292.1	2.6

OAR = Free Screen Area / Nominal Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

Other Screen Openings Page 466
Basket Burst Pressure Page 472
Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 471
Correction Factors for Clogged Screens Page 471

NOTES:

150B2 SERIES
CAST CARBON STEEL, STAINLESS STEEL FLANGED BASKET STRAINERS

PRESSURES TO 285 PSIG (19.7 BARG)
TEMPERATURES TO 800°F (427°C)

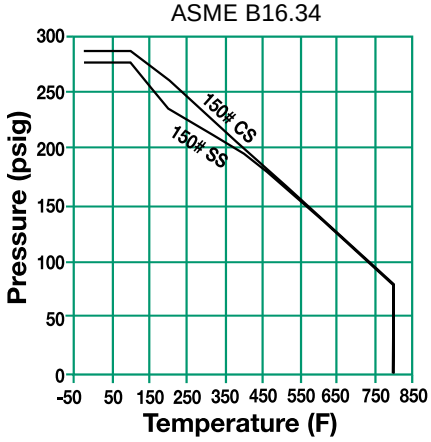
- **SSI Exclusive - Cover flange is in dimensional accordance with ASME B16.5**
- **Over the top flow and machined basket seat eliminate any chance of dirty fluid bypass**
- **Large screen area minimizes pressure drop and cleaning intervals**
- **RF flanges in accordance with ASME B16.5**
- **Stainless steel perforated baskets are standard**
- **Recommended minimum straining level is 40 microns**
- **NPT drain connection furnished with plug as standard**

APPLICATIONS

- Water, Oil Systems
- Other Liquid Systems
- Protection of Pumps, Meters, Valves and Similar Equipment

PRESSURE/TEMPERATURE CHART

ASME B16.34



For Quick Opening Covers Ratings See page 467

MODELS

- 150B2F - Over the top flow

OPTIONS

- Other screen perforations and mesh liners
- Quick Opening Covers - *See page 467*

APPLICABLE CODES

- ASME B16.5, B16.34

Canadian Registration OE 1972.23-150B2F

150B2 Series Ordering Code

Inlet Size				Dash	Model					Body Material	Dash	Perf	Mesh	Add'l Requirements
0	4	0	0	-	1	5	0	B	2	F	C	-	4	__	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
0150 - 1½"
0200 - 2"
0300 - 3"
0400 - 4"
0600 - 6"
0800 - 8"

Dash - Position 5

Model - Position 6 - 11
150B2F - Straight Flow

Body Material - Position 12
C - Carbon Steel
T - Stainless Steel

Dash - Position 13

Perf[1] - Position 14
304 SS Material[2]
B - 3/64"
4 - 1/8"
A - None
1 - 1/32"
2 - 1/16"
3 - 3/32"
5 - 5/32"
6 - 3/16"
7 - 7/32"
8 - 1/4"
9 - 3/8"
Z - Other

Mesh[2] - Position 15
Leave Blank If not Required (Std. all)
1 - 10
2 - 20
3 - 30
4 - 40
5 - 50
6 - 60
7 - 80
8 - 100
9 - 120
Z - Other

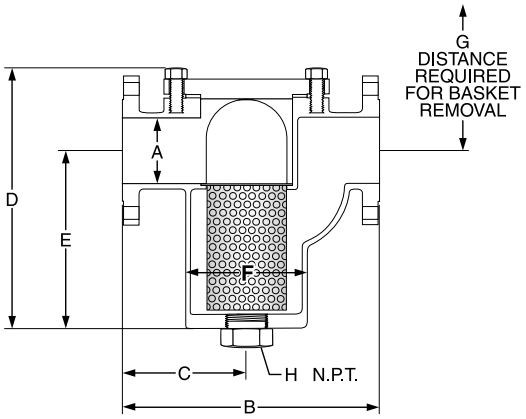
Add'l Requirements - Position 16
Leave Blank If not Required
D - Special Drain Size
E1 - 1/4" Vent
E2 - 3/8" Vent
E3 - 1/2" Vent
F - Silicon Free
G - Special Gaskets
N - Nace MR01-75
T - Special Testing
V1- Clamp Cover
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

Indicate Specials Clearly On the Order

1. Standard screens All 1½"— 1/32" perf, All 2"-3"—3/64" perf, All 4"-8" — 1/8" perf.
2. For other screen material, contact factory.

For any variations, use the part numbering system above but clearly indicate the additional requirement.

150B2 SERIES
CAST CARBON STEEL, STAINLESS STEEL FLANGED BASKET STRAINERS



SPECIFICATION

Basket Strainer shall have over the top flow with a machined basket seat. The Basket Strainer shall be cast steel or stainless steel with 150 PSIG ANSI rated RF flanges. The cover flange dimensions shall be in dimensional accordance with ASME B16.5. The screen shall be size _____ perforated stainless steel. The Strainer shall have an inlet size of _____ and open area ratio of _____. The Basket Strainer shall be SSI 150B2 Series.

MATERIALS OF CONSTRUCTION

Item	Carbon Steel	Stainless Steel
Body	A216-WCB	A351-CF8M
Cover	A216-WCB	A351-CF8M
Screen[1]	304 SS	304 SS
Plug[2]	A105	304 SS
Gasket[1]	304 SS Spiral Wound[3]	304 SS Spiral Wound[3]
Bolt/Stud[2]	A193-B7	A320-B8
Nut[2]	A194-2H	A194-8

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted.
3. Gasket for bolted cover. *For Quick Opening Covers, see page 467*

Connections: 1½"- 8" RF Flanged

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
1½"	1/32 Perf.	304 SS
2" - 3"	3/64 Perf.	304 SS
4" - 8"	1/8 Perf.	304 SS

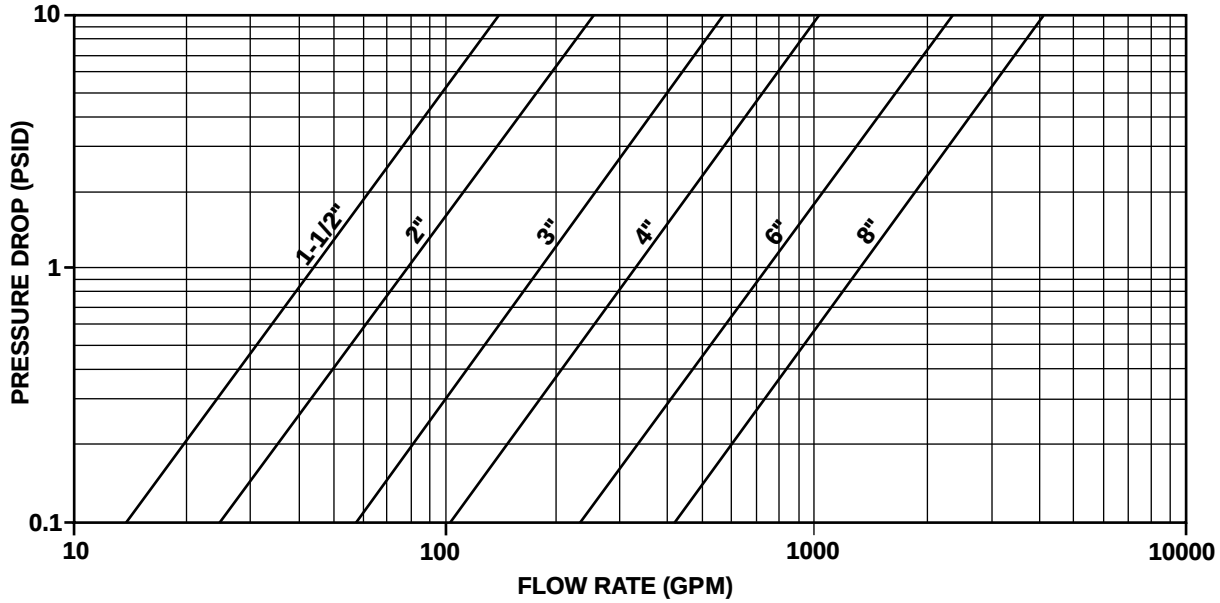
DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	D*	E	F	G	H NPT	WEIGHT Cover	WEIGHT Unit
1½ (40)	1½ (38)	9½ (241)	4¾ (121)	10¼ (260)	6⅞ (175)	3⁷⁄₁₆ (87)	13½ (343)	½ (15)	5 (2.3)	30 (13.6)
2 (50)	2 (51)	10½ (267)	5¼ (133)	11¹³⁄₁₆ (300)	8³⁄₁₆ (208)	4⅛ (105)	15⅝ (397)	¾ (20)	7 (3.2)	46 (20.9)
3 (80)	3 (76)	13⅛ (333)	6⁹⁄₁₆ (167)	15⁹⁄₁₆ (395)	11³⁄₁₆ (284)	5⅜ (137)	19¾ (502)	1 (25)	17 (7.7)	78 (35.5)
4 (100)	4 (102)	17¼ (438)	8⅞ (225)	16⅛ (410)	11⁷⁄₁₆ (291)	6¹¹⁄₁₆ (170)	20¾ (527)	2 (50)	20 (9.1)	114 (51.8)
6 (150)	6 (152)	19⅝ (498)	10⅞ (276)	25⁹⁄₁₆ (649)	19⁵⁄₁₆ (491)	10 (254)	31⅛ (791)	2 (50)	45 (20.5)	241 (109.5)
8 (200)	8 (203)	27 (686)	14⅝ (371)	35⁷⁄₁₆ (900)	27¹⁵⁄₁₆ (710)	12⁵⁄₁₆ (313)	42¼ (1073)	2 (50)	70 (31.8)	432 (196.4)

*For models with Quick Opening Cover, consult factory. Allow clearance for bottom drain bolt removal.

Dimensions shown are subject to change. Consult factory for certified drawings.

150B2 SERIES
CAST CARBON STEEL, STAINLESS STEEL
PRESSURE DROP VS FLOW RATE
Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*
(Sizes 1½" - 8")



* For Gas, Steam or Air service, consult factory.

150B2 SERIES
CAST CARBON STEEL, STAINLESS STEEL
OPEN AREA RATIOS
with Standard Perforated Screen

Size	Opening diameter (in)	Opening %	Nominal Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
1½	1/32	28	1.77	29.1	8.2	4.6
2	3/64	36	3.13	42.8	15.4	4.9
3	3/64	36	7.07	101.0	36.4	5.1
4	1/8	40	12.57	118.1	47.2	3.8
6	1/8	40	28.27	365.7	146.3	5.2
8	1/8	40	50.27	675.4	270.1	5.4

OAR = Free Screen Area / Nominal Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

Other Screen Openings Page 466
Basket Burst Pressure Page 472
Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 471
Correction Factors for Clogged Screens Page 471

NOTES:

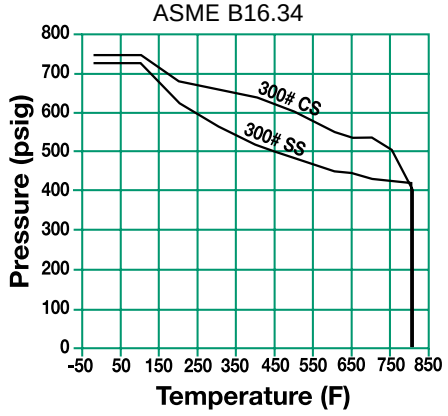
300B SERIES
CAST CARBON STEEL, STAINLESS STEEL THREADED BASKET STRAINERS

PRESSURES TO 740 PSIG (51 BARG)
TEMPERATURES TO 800°F (427°C)

- **SSI Exclusive – Cover flange is in dimensional accordance with ASME B16.5**
- **Over the top flow and machined basket seat eliminate any chance of dirty fluid by-pass**
- **Large screen area minimizes pressure drop and cleaning intervals**
- **Threaded or socketweld connections**
- **Stainless steel perforated baskets are standard**
- **Recommended minimum straining level is 40 microns**
- **NPT drain connection furnished with plug as standard**

APPLICATIONS
- Water, oil systems
- Other liquid systems
- Protection of pumps, meters, valves and similar equipment

PRESSURE/TEMPERATURE CHART
ASME B16.34



For Quick Opening Covers Ratings, *see page 467*

MODELS
- 300B2T – Threaded over the top flow
- 300B2W – Socketweld over the top flow

OPTIONS
- Other screen perforations and mesh liners
- Quick Opening Covers - *See page 467*
- Socketweld Connections

APPLICABLE CODES
- ASME B16.5, B16.34

300B2 Series Ordering Code

Inlet Size					Model					Con-nection	Body Material	Dash	Perf	Mesh	Add'l Require-ments
0	1	5	0	-	3	0	0	B	2	T	T	-	1	__	__
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Inlet Size - Position 1 - 4
0050 - 1/2"
0075 - 3/4"
0100 - 1"
0125 - 1¼"
0150 - 1½"
0200 - 2"

Dash - Position 5

Model - Position 6 - 10
300B2 - Straight Flow

Connection - Position 11
T - Threaded
W - Socketweld

Body Material - Position 12
C - Carbon Steel
T - Stainless Steel

Dash - Position 13

Perf[1] - Position 14
304 SS Material[2]
1 - 1/32"
B - 3/64"
A - None
2 - 1/16"
3 - 3/32"
4 - 1/8"
5 - 5/32"
6 - 3/16"
7 - 7/32"
8 - 1/4"
9 - 3/8"
Z - Other

Mesh[2] - Position 15
Leave Blank If not Required (Std. all)
1 - 10
2 - 20
3 - 30
4 - 40
5 - 50
6 - 60
7 - 80
8 - 100
9 - 120
Z - Other

Add'l Requirements - Position 16
Leave Blank If not Required
D - Special Drain Size
F - Silicon Free
G - Special Gaskets
N - Nace MR01-75
T - Special Testing
V1- Clamp Cover
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

Indicate Specials Clearly On the Order

1. Standard screens All 1/2" - 1½"—1/32" perf, All 2"—3/64" perf.
2. For other screen materials, contact factory.

For any variations, use the part numbering system above but clearly indicate the additional requirement.

300B SERIES
CAST CARBON STEEL, STAINLESS STEEL THREADED BASKET STRAINERS

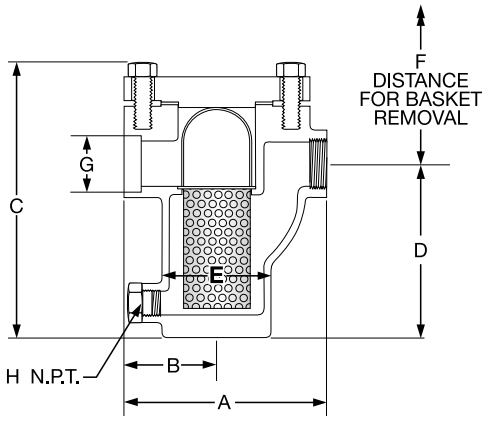
SPECIFICATION

Basket Strainer shall have over the top flow with a machined basket seat. The Basket Strainer shall be cast steel or stainless steel with 300 PSIG A rated threaded socketweld connections. The cover flange dimensions shall be in accordance with ASME B16.5. The screen shall be size _____ perforated stainless steel. The Strainer shall have an inlet size of _____ and open area ratio of _____. The Basket Strainer shall be SSI 300B2 Series.

MATERIALS OF CONSTRUCTION

Part	Carbon Steel	Stainless Steel
Body	A216-WCB	A351-CF8M
Cover	A216-WCB	A351-CF8M
Screen[1]	304SS	304SS
Plug[2]	A105	A182-316
Gasket[1]	304SS Spiral Wound[3]	304SS Spiral Wound[3]
Bolt/Stud[2]	A193-B7	A193-B8-1
Nut[2]	A194-2H	A194-8

1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted.
3. Gasket for bolted cover. *For Quick Opening Covers, see page 467*



Connections: 1/2"– 2"
NPT or Socketweld

SCREEN OPENINGS

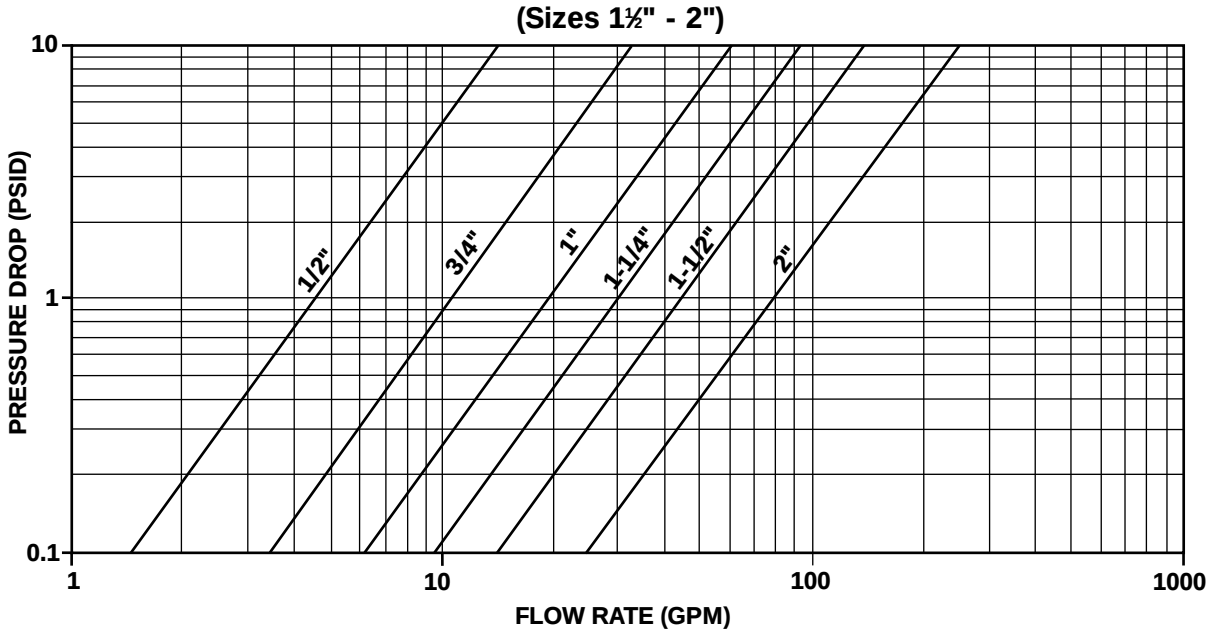
SIZE	STANDARD SCREEN	MATERIALS
1/2" – 1 1/2"	1/32 Perf.	304 SS
2"	3/64 Perf.	304 SS

DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C*	D	E	F	H	WEIGHT Cover	WEIGHT Unit
½ (15)	6⅛ (156)	3⅜ (80)	6 5/16 (179)	4 (102)	2⅛ (54)	5¾ (146)	⅜ (10)	6 (2.7)	20 (9.1)
¾ (20)	6¾ (171)	3 7/16 (87)	8⅜ (213)	5 (127)	2½ (64)	7 7/16 (189)	⅜ (10)	8 (3.6)	25 (11.4)
1 (25)	6¾ (171)	3 7/16 (87)	8⅜ (213)	5 (127)	2½ (64)	7 7/16 (189)	½ (15)	8 (3.6)	25 (11.4)
1¼ (32)	8⅛ (206)	4 5/16 (109)	11 15/16 (303)	7¾ (197)	3 7/16 (87)	11 1/16 (281)	¾ (20)	12 (5.4)	46 (20.9)
1½ (40)	8⅛ (206)	4 5/16 (109)	11 15/16 (303)	7¾ (197)	3 7/16 (87)	11 1/16 (281)	¾ (20)	12 (5.4)	46 (20.9)
2 (50)	9 (229)	4 13/16 (122)	12 7/16 (316)	7¾ (197)	4¼ (108)	11 11/16 (297)	1 (25)	16 (7.3)	61 (27.8)

*For models with Quick Opening Cover, consult factory.
Dimensions shown are subject to change. Consult factory for certified drawings.

300B SERIES
CAST CARBON STEEL, STAINLESS STEEL
PRESSURE DROP VS FLOW RATE
Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*



* For Gas, Steam or Air service, consult factory.

300B SERIES
CAST CARBON STEEL, STAINLESS STEEL
OPEN AREA RATIOS
with Standard Perforated Screen

Size	Opening Diameter (in)	Opening %	Nominal Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
½	1/32	28	0.30	14.1	4.0	13.0
¾	1/32	28	0.53	22.3	6.2	11.7
1	1/32	28	0.86	22.3	6.2	7.2
1¼	1/32	28	1.50	46.9	13.1	8.8
1½	1/32	28	2.04	46.9	13.1	6.4
2	3/64	36	3.36	57.1	20.6	6.1

OAR = Free Screen Area / Nominal Inlet Area
Free Screen Area = Opening % x Gross Screen Area

Other Screen Openings Page 466
Basket Burst Pressure Page 472
Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 471
Correction Factors for Clogged Screens Page 471

NOTES:

FB SERIES
FABRICATED BASKET STRAINERS

PRESSURES TO 3705 PSIG (255 BARG)
TEMPERATURES TO 800°F (427°C)

- **Multiple and custom body configurations for tight installation, performance and economy**
- **Multi-baskets minimize downtime**
- **Stainless steel perforated baskets are standard**
- **Cover lifting lug standard on sizes 10" and larger**
- **Bottom/blowdown outlet is standard**
- **Drain connection with plug furnished as standard**

APPLICATIONS

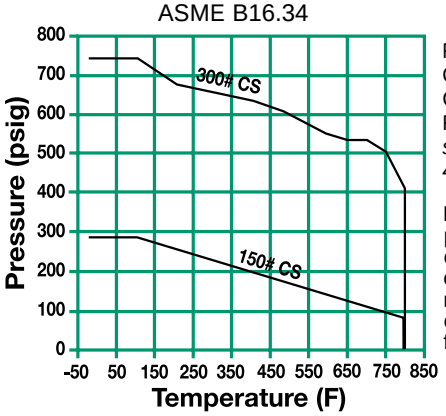
- Water, Oil Systems
- Other Liquid Systems
- Protection of Pumps, Meters, Valves, etc.

MODELS

- FB1 - Standard Body
- FB2 - Undersized Body
- FB3 - Oversized Body
- FB4 - Low Profile Body w/Pleated Bskt
- FB5 - Low Profile Body w/Multiple Bskts

PRESSURE/TEMPERATURE CHART

ASME B16.34



For Quick Opening Covers Ratings, *see page 468*

For higher pressure classes and other materials, consult factory.

APPLICABLE CODES

- Designed/Manufactured to meet ANSI B31.1, ANSI B31.3 or ANSI B31.4 and/or ASME Section VIII, Div. I.
- CRN available in all provinces
- Welders Certified to ASME Section IX

OPTIONS

- Other materials, sizes and/or configurations
- Quick Opening Covers - *See page 468*
- Other screen, mesh or wedgewire - *See page 466*
- Vent and/or differential pressure connections
- "U" stamped vessels
- Steam jacketing
- Backflush or backwash
- NACE MR010-75 Certification
- External/internal coatings
- Offset inlet/outlet Nozzles
- 600# flanges and higher
- Pleated Baskets for higher Open Area Ratios
- Consult factory for other options

FB Series Ordering Code

Model			Material	Inlet Size	Class	Con-nection	Dash	Cover Type	Perf	Mesh
F	B	1	C	H	1	R	-	B	2	3
1	2	3	4	5	6	7	8	9	10	11

Model - Position 1 - 3
- FB1 - Standard Body
- FB2 - Undersized Body
- FB3 - Oversized Body
- FB4 - Low Profile Body w/Pleated Bskt
- FB5 - Low Profile Body w/Multiple Bskts
- FBZ - Custom Configuration

Material - Position 4
- C - Carbon Steel
- L - Low Temp CS
- V - 304 SS
- T - 316 SS
- M - Monel
- H - Hastelloy
- Z - Other

Inlet Size - Position 5
- H - 2
- J - 2½
- K - 3
- M - 4
- N - 5
- P - 6
- Q - 8
- R - 10
- S - 12
- T - 14
- U - 16
- V - 18
- W - 20
- X - 22
- Y - 24
- 1 - 28
- 2 - 30
- 3 - 36
- 4 - 40
- Z - Other

Class - Position 6
- 1 - 150
- 3 - 300
- 4 - 600
- 5 - 900
- Z - Other

Connection - Position 7
- B - Buttweld[1]
- F - Flat Face Flg
- N - NPT
- J - Ring Joint Flg
- R - Raised Face Flg
- K - Socketweld
- Z - Other

Dash - Position 8

1. For Buttweld connections please specify mating pipe schedule

Cover Type - Position 9
- B - Bolted
- C - Bolted w/C-Clamp
- D - Bolted w/Davit
- J - Bolted w/Hinge
- H - T - Bolt Hinged
- T - Threaded Hinged
- Y - Yoke Hinged
- Z - Other

For any variations, use the part numbering system above but clearly indicate the additional requirements.

Perf - Position 10
304 SS Material[2]
- A - None
- B - 3/64"
- 1 - 1/32"
- 2 - 1/16"
- 3 - 3/32"
- 4 - 1/8"
- 5 - 5/32"
- 6 - 3/16"
- 7 - 7/32"
- 8 - 1/4"
- 9 - 3/8"
- Z - Other

Mesh[2] - Position 11
- A - None
- 1 - 10
- 2 - 20
- 3 - 30
- 4 - 40
- 5 - 50
- 6 - 60
- 7 - 80
- 8 - 100
- 9 - 120
- Z - Other

2. For other screen material, contact factory.

FB SERIES – FB1
FABRICATED BASKET STRAINERS

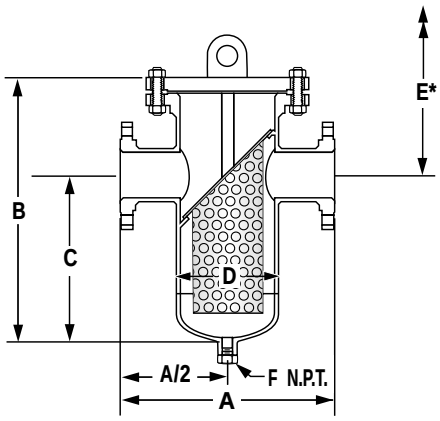
SPECIFICATION

Strainer shall be designed and manufactured to meet ANSI B31.1, ANSI B31.3 or ANSI B31.4 and/or ASME Section VIII Div. I. The Strainer body shall be fabricated steel or other specified material and inlet/outlet connections shall be in line. The Strainer shall have a single basket with a slant top. The Strainer shall have a bottom blowdown outlet. The screen shall be size _____ perforated stainless steel. The Strainer shall have an inlet size of _____ and open area ratio of _____. The Basket Strainer shall be SSI FB _____.

MATERIALS OF CONSTRUCTION (Carbon Steel Shown†)

Body.....A53E/B or A106-B
Nozzles .....A53E/B or A106-B
Flanges A105
Heads .....A234-WPB or A516-70
Reinforcement Pads[2] A516-70
Couplings A105
Plug A105
Basket[1].....304 SS
Gasket[1] .....304 SS Spiral Wound
Stud A193-B7
Nut.....A194-2H

† Other Materials Available. Consult factory.
1. Recommended Spare Parts.
2. When required.
Material specification will change when NACE MR01-75 is specified.



Standard cover is bolted.
Cover lifting lug standard on 10" sizes and larger.
Class 150# and 300# flanges are standard.
Class 600# and higher available on request.
*Distance required for basket removal.

Connections*: 2"– 24"
RF, FF, RTJ Flanged or Buttweld

*Larger sizes available. Consult Factory.

For Buttweld connection please specify mating pipe schedule.

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" – 12"	1/8 Perf.	304 SS
14" – 24"	3/16 Perf.	304 SS

FB1 DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

For 600#. 900# and 1500# dimensions and weights contact factory.

Inlet/ Outlet	Body	A		B		C		D	E		F	Weight			
		Class 150	Class 300	Class 150	Class 300	Class 150	Class 300		Class 150	Class 300		Class 150		Class 300	
												Cover[1]	Unit	Cover[1]	Unit
2 (50)	6 (150)	12 (305)	14 7/8 (378)	18 5/8 (473)	22 (559)	11 1/8 (283)	12 (305)	6 5/8 (168)	25 (635)	28 (711)	1/2 (15)	26 (12)	85 (39)	50 (23)	195 (88)
3 (80)	8 (200)	14 (356)	16 1/2 (419)	20 1/2 (521)	25 (635)	12 1/2 (318)	15 3/4 (400)	8 5/8 (219)	28 1/2 (724)	34 1/4 (870)	3/4 (20)	45 (20)	140 (64)	81 (37)	250 (113)
4 (100)	8 (200)	16 (406)	18 5/8 (473)	22 1/4 (565)	26 (660)	14 (356)	15 7/8 (403)	8 5/8 (219)	30 1/2 (775)	36 1/8 (918)	1 (25)	45 (20)	145 (66)	81 (37)	300 (136)
5 (125)	10 (250)	18 (457)	20 1/4 (514)	24 1/4 (616)	28 (711)	17 (432)	17 1/8 (435)	10 3/4 (273)	30 1/2 (775)	38 7/8 (988)	1 (25)	70 (32)	160 (73)	125 (57)	400 (181)
6 (150)	10 (250)	20 (508)	24 1/2 (622)	27 (686)	30 3/4 (781)	17 (432)	19 1/8 (486)	10 3/4 (273)	36 (914)	42 3/8 (1076)	1 (25)	70 (32)	205 (93)	125 (57)	480 (218)
8 (200)	12 (300)	22 (559)	24 7/8 (632)	32 (813)	35 1/2 (902)	21 (533)	22 (559)	12 3/4 (324)	43 (1092)	55 3/4 (1416)	1 1/2 (40)	110 (50)	420 (191)	185 (84)	681 (309)
10 (250)	16 (400)	32 (813)	35 3/8 (899)	41 1/2 (1054)	42 1/2 (1080)	25 (635)	27 1/4 (692)	16 (406)	58 (1473)	57 1/4 (1454)	1 1/2 (40)	180 (82)	650 (295)	295 (134)	1100 (499)
12 (300)	18 (450)	35 (889)	39 3/8 (1000)	44 3/4 (1137)	47 3/4 (1213)	28 (711)	30 3/8 (772)	18 (457)	61 1/2 (1562)	65 1/8 (1654)	1 1/2 (40)	220 (100)	1205 (547)	395 (179)	1650 (748)
14 (350)	20 (500)	37 (940)	41 1/2 (1054)	48 3/4 (1238)	49 5/8 (1260)	33 (838)	33 (838)	20 (508)	64 1/2 (1638)	72 (1829)	2 (50)	285 (129)	1600 (726)	505 (229)	2600 (1179)
16 (400)	24 (600)	42 (1067)	47 1/2 (1207)	54 1/4 (1378)	60 (1524)	36 (914)	38 7/8 (988)	24 (610)	72 1/2 (1842)	81 1/8 (2061)	2 (50)	430 (195)	1965 (891)	790 (358)	2750 (1247)
18 (450)	24 (600)	46.5 (1181)	*	60 (1524)	*	40 (1016)	*	24 (610)	80 (2032)	*	2 (50)	430 (195)	2200 (998)	*	*
20 (500)	30 (750)	52 (1321)	*	68 (1727)	*	46 (1168)	*	30 (762)	90 (2286)	*	2 (50)	965 (438)	3200 (1452)	*	*
24 (600)	36 (900)	64 (1626)	*	82 3/4 (2102)	*	55 (1397)	*	36 (914)	110 1/2 (2807)	*	2 (50)	1540 (699)	4500 (2041)	*	*

Dimensions shown are for reference only. Consult factory for certified prints when required.
* Consult factory.
1. Weight and dimension with Bolted Cover.

FB SERIES – FB2
FABRICATED BASKET STRAINERS

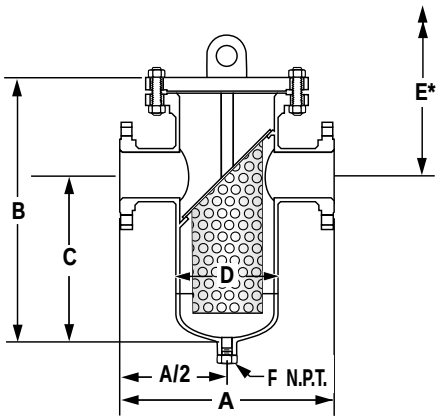
SPECIFICATION

Strainer shall be designed and manufactured to meet ANSI B31.1, ANSI B31.3 or ANSI B31.4 and/or ASME Section VIII Div. I. The Strainer body shall be fabricated steel or other specified material and inlet/outlet connections shall be in line. The Strainer shall have a single basket with a slant top. The Strainer shall have a bottom blowdown outlet. The screen shall be size _____ perforated stainless steel. The Strainer shall have an inlet size of _____ and open area ratio of _____. The Basket Strainer shall be SSI FB _____.

MATERIALS OF CONSTRUCTION (Carbon Steel Shown†)

Body.....A53E/B or A106-B
Nozzles .....A53E/B or A106-B
Flanges A105
Heads .....A234-WPB or A516-70
Reinforcement Pads[2] A516-70
Couplings A105
Plug A105
Basket[1].....304 SS
Gasket[1] .....304 SS Spiral Wound
Stud A193-B7
Nut.....A194-2H

† Other Materials Available. Consult factory.
1. Recommended Spare Parts.
2. When required.
Material specification will change when NACE MR01-75 is specified.



Standard cover is bolted.
Cover lifting lug standard on 10" sizes and larger.
Class 150# and 300# flanges are standard.
Class 600# and higher available on request.
*Distance required for basket removal.

Connections*: 2"– 24"
RF, FF, RTJ Flanged or Buttweld

*Larger sizes available. Consult Factory. For Buttweld connection please specify mating pipe schedule.

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" – 12"	1/8 Perf.	304 SS
14" – 24"	3/16 Perf.	304 SS

FB2 DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

For 600#. 900# and 1500# dimensions and weights contact factory.

Inlet/ Outlet	Body	A		B		C		D	E		F	Weight-150#		Weight-300#	
		150	300	150	300	150	300		150	300		Cover[1]	Unit	Cover[1]	Unit
2	4	10 (254)	12¾ (324)	14⅞ (378)	20 (508)	8⅞ (226)	12 (305)	4½ (114)	22⅛ (562)	26 (660)	½ (13)	17 (7.7)	34 (15.4)	28 (12.7)	50 (22.7)
3	6	13½ (343)	11½ (292)	19⅛ (486)	18⅞ (480)	11⅝ (295)	9 (229)	6⅝ (168)	20¾ (527)	21¾ (552)	½ (13)	26 (11.8)	106 (48.1)	50 (22.7)	160 (72.6)
4	6	14 (356)	12⅛ (308)	17⅞ (454)	19 (483)	10⅝ (270)	11 5/16 (287)	6⅝ (168)	21⅛ (536)	21⅜ (543)	½ (13)	26 (11.8)	114 (51.7)	50 (22.7)	175 (79.4)
6	8	14⅞ (378)	15⅞ (403)	22⅛ (562)	23⅜ (607)	12½ (318)	12½ (318)	8⅝ (219)	27¼ (692)	29 1/16 (754)	3/4 (19)	45 (20.4)	140 (63.5)	81 (36.7)	225 (102.0)
8	10	18 (457)	24½ (622)	30 7/16 (773)	30¾ (781)	19½ (495)	19⅛ (486)	10¾ (273)	36⅛ (917)	35¾ (908)	1 (25)	70 (31.7)	350 (158.7)	125 (56.7)	480 (217.7)
10	12	20 (508)	25¾ (654)	36½ (927)	36⅞ (937)	21 (533)	21 (533)	12¾ (324)	32¼ (819)	45⅜ (1153)	1½ (38)	110 (49.9)	400 (181.4)	185 (83.9)	800 (362.8)
12	14	26¼ (667)	27⅝ (702)	37⅝ (956)	39¾ (1010)	22 (559)	21 (533)	14 (356)	46⅞ (1191)	50 7/16 (1281)	1½ (38)	139 (63.0)	595 (269.8)	241 (109.3)	930 (421.8)
14	16	30 (762)	* *	41⅝ (1057)	* *	26 (660)	* *	16 (406)	46⅜ (1178)	* *	1½ (38)	180 (81.6)	1208 (547.8)	295 (133.8)	* *
16	20	34 (864)	* *	45¾ (1162)	* *	30 (762)	* *	20 (508)	55 (1397)	* *	2 (51)	285 (129.3)	1900 (861.7)	505 (229.0)	* *
18	20	38⅜ (975)	* *	48.12 (1222)	* *	28 (711)	* *	20 (508)	59¾ (1518)	* *	2 (51)	285 (129.3)	1965 (891.2)	505 (229.0)	* *
20	24	40¾ (1035)	* *	55.63 (1413)	* *	32 (813)	* *	24 (610)	66½ (1689)	* *	2 (51)	430 (195.0)	2600 (1179.1)	790 (358.3)	* *
24	30	45¼ (1149)	* *	62.88 (1597)	* *	38 (965)	* *	30 (762)	79 (2007)	* *	2 (51)	965 (437.6)	4000 (1814.1)	* *	* *

Dimensions shown are for reference only. Consult factory for certified prints when required.
* Consult factory.
1. Weight and dimensions with Bolted Cover.

FB SERIES – FB3
FABRICATED BASKET STRAINERS

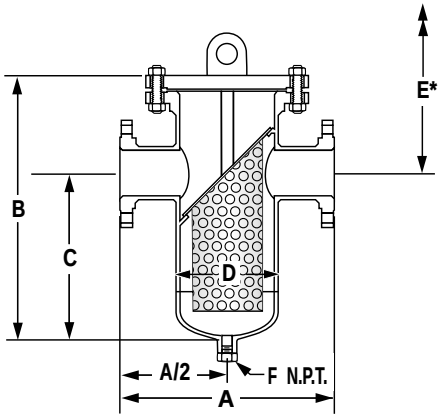
SPECIFICATION

Strainer shall be designed and manufactured to meet ANSI B31.1, ANSI B31.3 or ANSI B31.4 and/or ASME Section VIII Div. I. The Strainer body shall be fabricated steel or other specified material and inlet/outlet connections shall be in line. The Strainer shall have a single basket with a slant top. The Strainer shall have a bottom blowdown outlet. The screen shall be size _____ perforated stainless steel. The Strainer shall have an inlet size of _____ and open area ratio of _____. The Basket Strainer shall be SSI FB _____.

MATERIALS OF CONSTRUCTION (Carbon Steel Shown†)

Body.....A53E/B or A106-B
Nozzles .....A53E/B or A106-B
Flanges A105
Heads .....A234-WPB or A516-70
Reinforcement Pads[2] A516-70
Couplings A105
Plug A105
Basket[1].....304 SS
Gasket[1] .....304 SS Spiral Wound
Stud A193-B7
Nut.....A194-2H

† Other Materials Available. Consult factory.
1. Recommended Spare Parts.
2. When required.
Material specification will change when NACE MR01-75 is specified.



Standard cover is bolted.
Cover lifting lug standard on 10" sizes and larger.
Class 150# and 300# flanges are standard.
Class 600# and higher available on request.
*Distance required for basket removal.

Connections[3]: 2"– 20"
RF, FF, RTJ Flanged or Buttweld

3. Larger sizes available. Consult Factory. For Buttweld connection please specify mating pipe schedule.

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2" – 12"	1/8 Perf.	304 SS
14" – 24"	3/16 Perf.	304 SS

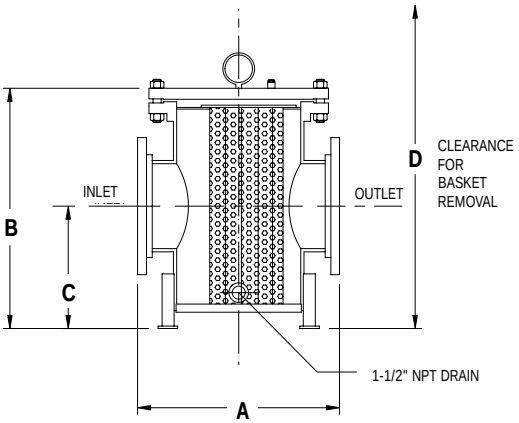
FB3 DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

For 300#, 600#, 900# and 1500# dimensions and weights contact factory.

Inlet	Body	A	B[4]	C	D	E	F	Weight-150#	
								Cover	Unit
2	8	15 (381)	22¼ (565)	14 (356)	8⅝ (219)	25 15⁄16 (659)	½ (13)	45 (20)	135 (61)
3	10	22⅝ (575)	26⅞ (683)	15⅞ (403)	10¾ (273)	32⅝ (829)	½ (13)	70 (32)	150 (68)
4	10	22⅝ (575)	26⅞ (683)	15⅞ (403)	10¾ (273)	32⅝ (829)	½ (13)	70 (32)	160 (73)
6	12	25 (635)	32 (813)	21 (533)	12¾ (324)	37⅛ (943)	¾ (19)	110 (50)	300 (136)
8	14	28 (711)	37 (940)	23 (584)	14 (356)	44 9⁄16 (1132)	1 (25)	139 (63)	520 (236)
10	18	36 (914)	47⅛ (1197)	30⅜ (772)	18 (457)	53 11⁄16 (1364)	1½ (38)	220 (100)	1150 (523)
12	20	37 (940)	46¼ (1175)	31 (787)	20 (508)	52⅞ (1343)	1½ (38)	285 (129)	1500 (682)
14	24	42 (1067)	56⅛ (1426)	34½ (876)	24 (610)	66⅜ (1686)	1½ (38)	430 (195)	1850 (841)
16	30	52 (1321)	72½ (1842)	49 (1245)	30 (762)	82½ (2096)	2 (51)	965 (438)	2800 (1273)
18	30	52 (1321)	72½ (1842)	49 (1245)	30 (762)	82½ (2096)	2 (51)	965 (438)	3050 (1386)
20	36	64 (1626)	88⅝ (2251)	60 (1524)	36 (914)	99¾ (2534)	2 (51)	1540 (699)	4000 (1909)

Dimensions shown are for reference only. Consult factory for certified prints when required.
* Consult factory.
4. Weight and dimensions with Bolted Cover.

FB SERIES – FB4
FABRICATED BASKET STRAINERS



Standard Cover is bolted. Quick Opening Cover is available on request.

Cover lifting lug standard on bolted covers.

Class 125#/150# flanges standard.
Other Classes available on request.

Connections: 10"– 18" Flanged

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
10" – 12"	1/8 Perf. Pleated	304 SS
14" – 18"	3/16 Perf. Pleated	304 SS

SPECIFICATION

Strainer shall be designed and manufactured to meet ANSI B31.1, ANSI B31.3 or ANSI B31.4 and/or ASME Section VIII Div.1. The Strainer body shall be fabricated steel or other specified material and inlet/outlet connections shall be in line. The Strainer shall have a single pleated basket. The screen shall be size _____ perforated stainless steel. The Strainer shall have an inlet size of _____ and open area ratio of _____. The Basket Strainer shall be SSI FB4.

MATERIALS OF CONSTRUCTION (Carbon Steel Shown†)

Body.....A53E/B or A106-B
Nozzles.....A53E/B or A106-B
Flanges.....A105
Heads.....A234-WPB or A516-70
Couplings.....A105
Plug.....A105
Basket[1].....304 SS
Gasket[1].....304 SS Spiral Wound
Stud.....A193-B7
Nut.....A194-2H

† Other Materials Available. Consult factory.
1. Recommended Spare Parts.
Material specification will change when NACE MR01-75 is specified.

FB4 DIMENSIONS inches (mm) and WEIGHTS pounds (kg)

For pressure classes greater than 150# consult factory.

Inlet/ Outlet	A	B	C	D	Weight	
					Cover[1]	Unit
10 (250)	23 (584)	29 (737)	12.19 (310)	47 (1194)	180 (82)	600 (272)
12 (300)	27 (686)	38 (965)	16.75 (425)	67 (1702)	220 (100)	1100 (499)
14 (350)	31 (787)	45 (1143)	18.75 (476)	77 (1956)	285 (129)	1300 (590)
16 (400)	31 (787)	45 (1143)	18.75 (476)	77 (1956)	430 (195)	1600 (726)
18 (450)	31 (787)	45 (1143)	18.75 (476)	77 (1956)	430 (195)	1800 (816)

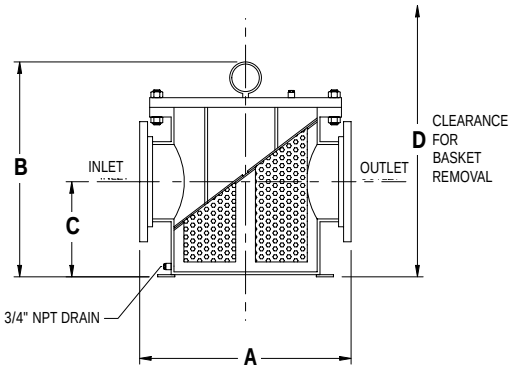
Dimensions shown are for reference only. Consult factory for certified prints when required.

1. Weight and dimensions with Bolted Cover.

FB SERIES – FB5
FABRICATED BASKET STRAINERS

SPECIFICATION

Strainer shall be designed and manufactured to meet ANSI B31.1, ANSI B31.3 or ANSI B31.4 and/or ASME Section VIII Div.1. The Strainer body shall be fabricated steel or other specified material and inlet/outlet connections shall be in line. The Strainer shall have four independent baskets. The screen shall be size _____ perforated stainless steel. The Strainer shall have an inlet size of _____ and open area ratio of _____. The Basket Strainer shall be SSI FB5.



MATERIALS OF CONSTRUCTION (Carbon Steel Shown†)

Body.....A53E/B or A106-B
Nozzles .....A53E/B or A106-B
Flanges A105
Heads .....A234-WPB or A516-70
Couplings A105
Plug A105
Basket[1].....304 SS
Gasket[1].....Non Asbestos
Stud A193-B7
Nut.....A194-2H

† Other Materials Available. Consult factory.
1. Recommended Spare Parts.
Material specification will change when NACE MR01-75 is specified.

Standard cover is bolted.
Cover lifting lug standard on bolted covers.
Class 125#/150# flanges standard. Class 300# available on request.

Connections: 8"– 36" Flanged

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
8" – 12"	1/8 Perf.-multi basket	304 SS
14" – 36"	3/16 Perf.-multi basket	304 SS

FB5 DIMENSIONS inches (mm) and WEIGHTS pounds (kg)

For pressure classes greater than 150# consult factory.

Inlet/ Outlet	A	B	C	D	Weight	
					Cover[1]	Unit
8 (200)	23.35 (593)	20.13 (511)	9.13 (232)	38 (965)	180 (82)	750 (340)
10 (250)	26.13 (664)	23.75 (603)	11.38 (289)	44 (1118)	220 (100)	1100 (499)
12 (300)	29 (737)	28.38 (721)	14.63 (372)	52 (1321)	285 (129)	1500 (680)
14 (350)	30.5 (775)	31.25 (794)	16.75 (425)	60 (1524)	430 (195)	1900 (862)
16 (400)	33.5 (851)	35.5 (902)	19.13 (486)	66 (1676)	965 (438)	2400 (1089)
20 (500)	44.75 (1137)	46.25 (1175)	28.5 (724)	88 (2235)	1540 (699)	4500 (2041)
24 (600)	44.38 (1127)	52.25 (1327)	31.5 (800)	98 (2489)	1820 (826)	5900 (2676)
30 (750)	61.5 (1562)	66.5 (1689)	41.63 (1057)	125 (3175)	2240 (1016)	12100 (5489)
36 (900)	62 (1575)	66.5 (1689)	41.63 (1057)	125 (3175)	2240 (1016)	12400 (5625)

Dimensions shown are for reference only. Consult factory for certified prints when required.
1. Weight and dimensions with Bolted Cover.

FB SERIES

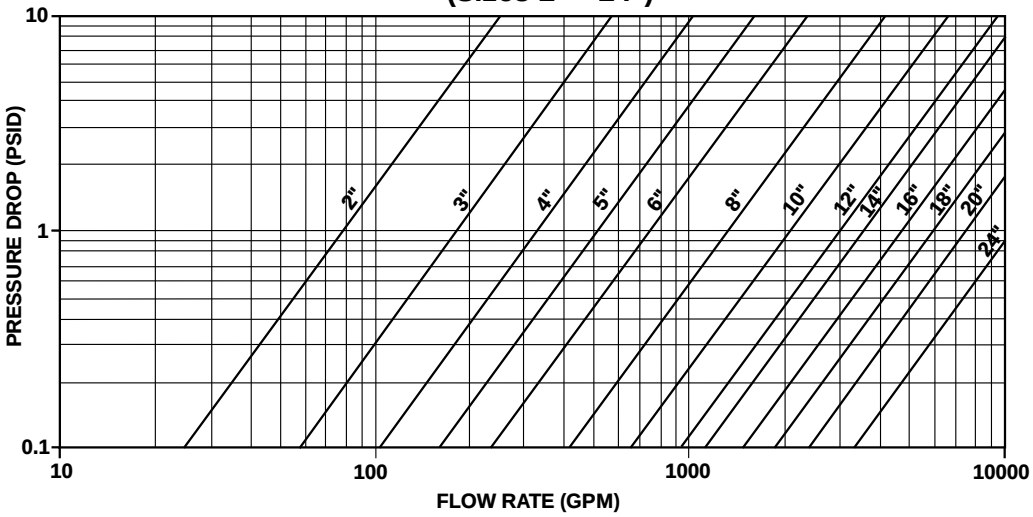
FABRICATED BASKET STRAINERS

PRESSURE DROP VS FLOW RATE

Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*

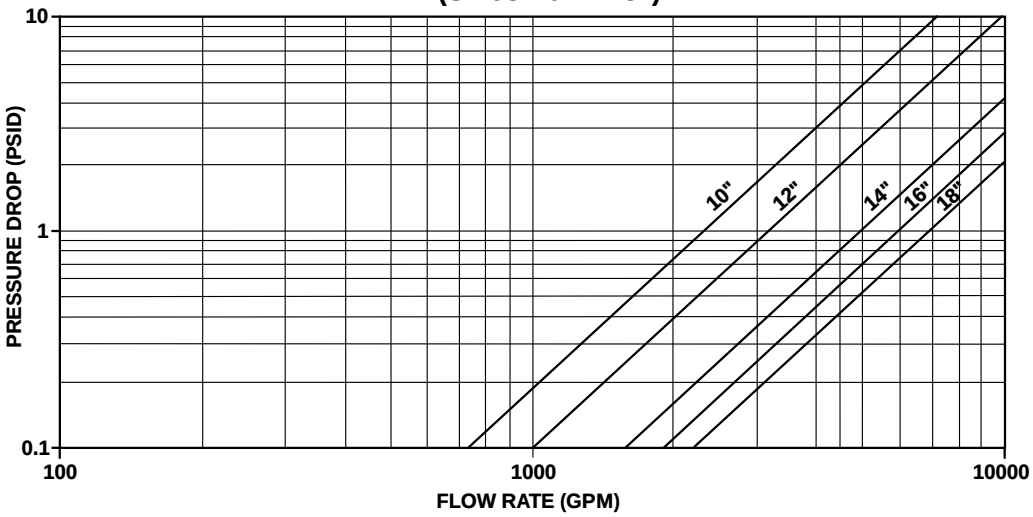
FB1
FB2
FB3

(Sizes 2" - 24")



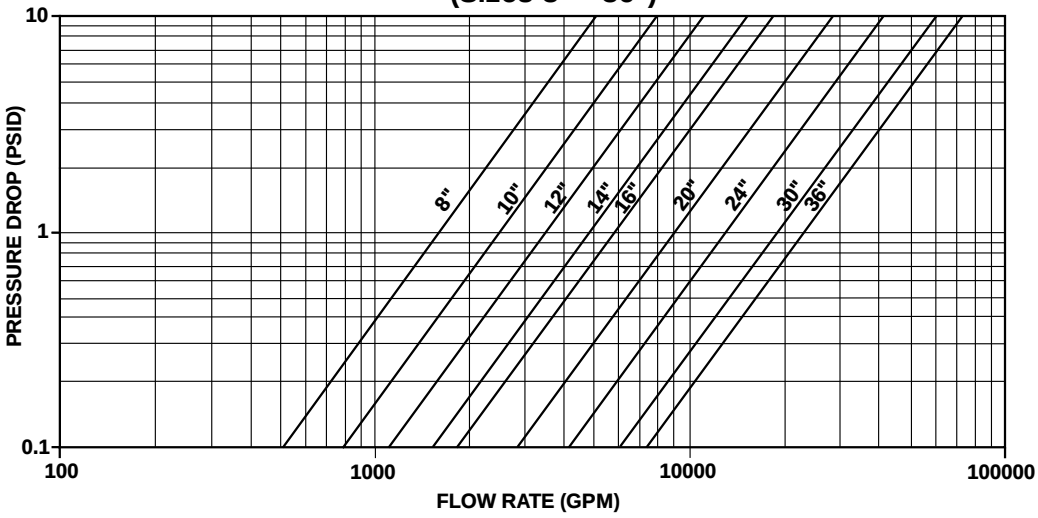
FB4

(Sizes 10" - 18")



FB5

(Sizes 8" - 36")



* For Gas, Steam or Air service, consult factory.

FB SERIES
FABRICATED BASKET STRAINERS
OPEN AREA RATIOS

FB1

Size	Opening diameter (in)	Opening %	Nominal Outlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	1/8	40%	3.36	171	68	20.3
3	1/8	40%	7.39	266	106	14.4
4	1/8	40%	12.73	266	106	8.4
6	1/8	40%	28.9	377	151	5.2
8	1/8	40%	50.0	562	225	4.5
10	1/8	40%	78.9	938	375	4.8
12	1/8	40%	113.1	1179	472	4.2
14	3/16	50%	137.9	1429	715	5.2
16	3/16	50%	176.7	1940	970	5.5
18	3/16	50%	227.0	2166	1083	4.8
20	3/16	50%	277.9	3393	1696	6.1
24	3/16	50%	402.0	5150	2575	6.4

FB2

Size	Opening diameter (in)	Opening %	Nominal Outlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	1/8	40%	3.4	78	31	9.3
3	1/8	40%	7.4	133	53	7.2
4	1/8	40%	12.7	133	53	4.2
6	1/8	40%	28.9	266	106	3.7
8	1/8	40%	50.0	451	180	3.6
10	1/8	40%	78.9	562	225	2.9
12	1/8	40%	113.1	703	281	2.5
14	3/16	50%	137.9	938	469	3.4
16	3/16	50%	182.7	1204	602	3.3
18	3/16	50%	227.0	1429	715	3.1
20	3/16	50%	291.0	1916	958	3.3
24	3/16	50%	402.0	3393	1696	4.2

FB3

Size	Opening diameter (in)	Opening %	Nominal Outlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	1/8	40%	3.4	266	106	31.7
3	1/8	40%	7.4	350	140	19.0
4	1/8	40%	12.7	350	140	11.0
6	1/8	40%	28.9	562	225	7.8
8	1/8	40%	50.0	762	305	6.1
10	1/8	40%	78.9	1179	472	6.0
12	1/8	40%	113.1	1338	535	4.7
14	3/16	50%	137.9	1916	958	6.9
16	3/16	50%	176.7	3393	1696	9.6
18	3/16	50%	227.0	3393	1696	7.5
20	3/16	50%	265.2	5150	2575	9.7

FB4

Size	Opening diameter (in)	Opening %	Nominal Outlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
10	1/8	40	78.85	800	320	4.1
12	1/8	40	113.1	1200	480	4.2
14	3/16	50	140.5	2000	1000	7.1
16	3/16	50	185.66	2000	1000	5.4
18	3/16	50	237.1	2000	1000	4.2

OAR = Free Screen Area / Nominal Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

Open Area Ratios can be larger with custom basket designs. Contact factory when required.

For FB5 Open Area Ratios, consult factory.

Other Screen Openings Page 466

Basket Burst Pressure Page 472

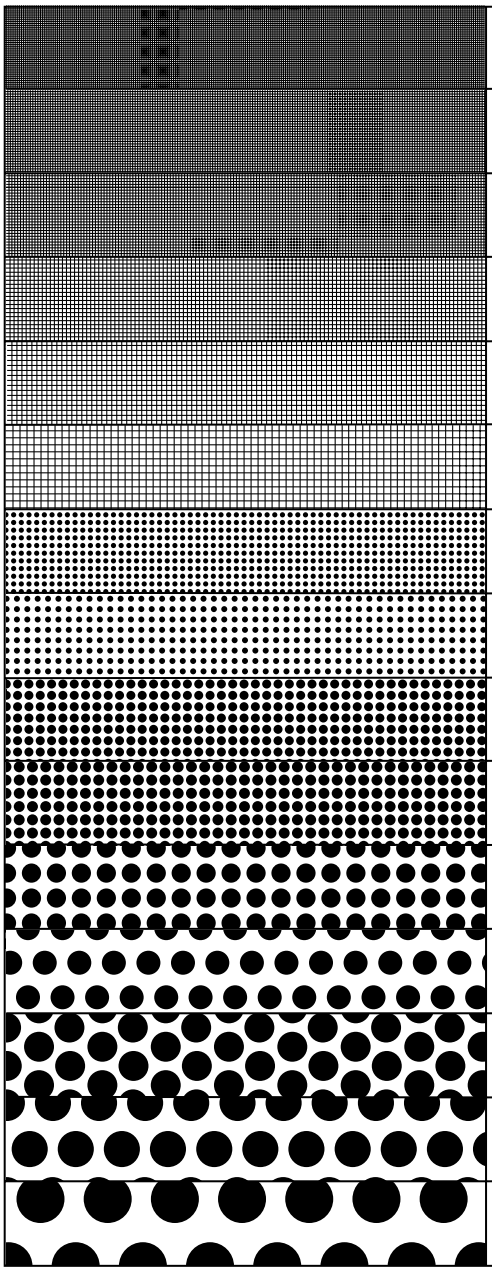
Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 471

Correction Factors for Clogged Screens Page 471

NOTES:

BASKET STRAINER TECHNICAL INFORMATION

SCREEN OPENINGS



100 Mesh - 30% O.A. 0.006” Openings
80 Mesh - 36% O.A. 0.008” Openings
60 Mesh - 38% O.A. 0.010” Openings
40 Mesh - 41% O.A. 0.016” Openings
30 Mesh - 45% O.A. 0.022” Openings
20 Mesh - 49% O.A. 0.035” Openings
0.027” Dia.- 23% O.A.
0.033” Dia.- 28% O.A.
3/64” Dia.- 36% O.A.
1/16” Dia.- 37% O.A.
3/32” Dia.- 39% O.A.
1/8” Dia.- 40% O.A.
5/32” Dia.- 58% O.A.
3/16” Dia.- 50% O.A.
1/4” Dia.- 40% O.A.

FACTORS TO CONSIDER

1 Purpose

If the strainer is being used for protection rather than direct filtration, standard screens will suffice in most applications.

2 Service

With services that require extremely sturdy screens, such as high pressure/temperature applications or services with high viscosities, perforated screens without mesh liners are recommended. If a mesh liner is required to obtain a certain level of filtration, then a trapped perf/mesh/perf combination is recommended.

3 Filtration Level

When choosing a perf. or a mesh/perf. combination, attention should be given to ensure overstraining does not occur. As a general rule, the specified level of filtration should be no smaller than half the size of the particle to be removed. If too fine a filtration is specified, the pressure drop through the strainer will increase very rapidly, possibly causing damage to the screen.

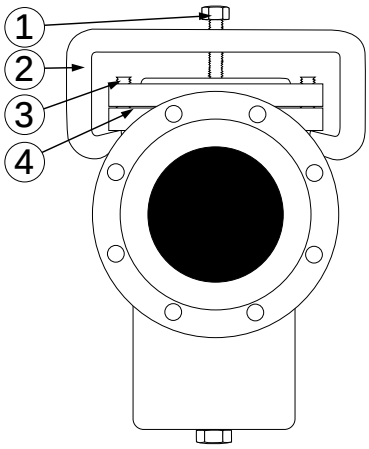
Screen openings other than those shown above are readily available. Various mesh sizes as fine as 5 micron and perforated plate as coarse as 1/2” Dia. are in inventory.

Screens are available in a wide range of materials. Screens of carbon steel, stainless steel (304, 316), alloy 20, monel 400, hastelloy C and titanium grade 2 are in inventory.

Custom manufactured screens are available upon request. Please consult factory.

CAST BASKET STRAINERS

QUICK OPENING COVERS



COVER TYPE C - QUICK OPENING C-CLAMP

COVER TYPE C - QUICK OPENING C-CLAMP

- **Ideal for low pressure applications.**
- **Allows for extremely quick access to strainer basket.**
- **To be used on non-lethal liquid service only.**

AVAILABILITY

1/2" - 12"

UPPER PRESSURE LIMITS (NON-SHOCK)

M.A.W.P psig (bar)	Maximum Allowable Working Temp. °F (°C)
50 (3.44)*	100 (37.8)

* Through 5" inlet consult factory for larger sizes.

MATERIALS OF CONSTRUCTION

Item #	Description	Specifications
1	Clamp Bolt (2)	A449 Grade 5
2	Clamp	A516-70 Carbon Steel
3	Anti-rotating Stud (2)	A307-B
4	Gasket - 1/2" - 6"	Flat Rubber (Non-asbestos)
	Gasket - 8" - 12"	Buna-N O-ring (Groove in Cover)

CAUTION: This type of closure does not meet the requirements of Section UG-35.2 of ASME Section VIII, Div. 1.

Use caution when utilizing this type of device.

FB SERIES
FABRICATED STRAINERS
QUICK OPENING COVERS AND COVER REMOVAL AIDS

The quick release covers and cover removal aids available on fabricated strainers are distinguished by their compact size and functional design. Materials of construction are in accordance with ASME specifications and manufacturing complies with the applicable rules of the ASME Code for Pressure Piping and with the ASME Boiler and Pressure Vessel Code.

COVER REMOVAL AID

Cover Type D - Bolted with Davit Assembly

The Davit Assembly permits the user to swing the cover away to facilitate basket or screen removal for cleaning. It is used primarily for larger strainers where cover removal is difficult. The Davit Assembly is an inexpensive alternative to quick release covers, especially when operating conditions require a bolted cover.

QUICK OPENING COVERS

Cover Type H - T-Bolt Hinged Cover

The T-bolt Hinged Cover is the most economical quick opening closure we offer on fabricated strainers for nominal pressure applications. The T-bolt Hinged Cover utilizes an O-ring seal. It opens quickly and easily by loosening the T-bolts until they clear the holding lugs and swinging the head open on its hinge. Camlock and Break-over Wrench Assemblies that eliminate the need for a wrench are also available.

FB SERIES
FABRICATED STRAINERS
QUICK OPENING COVERS AND COVER REMOVAL AIDS

Cover Type Y - Yoke Hinged Cover

The Yoke Hinged Cover is a true ANSI rated closure that utilizes an O-ring seal. The Yoke Hinged Cover is used primarily on high pressure applications and is available with 150#, 300#, 600#, 900#, and 1500# ANSI ratings with a wide range of operating aids, ranging from a single lever chain and sprocket drive to completely automated.

Cover Type T - Threaded Hinged Cover

The Quick Opening Threaded Cover consists of a cap fastened to a hub welded to the strainer body. The female cap is threaded onto the male hub with an O-ring seal. This O-ring prevents corrosion of the closure threads, providing long, trouble free service. The Threaded Cover is for both nominal and high pressure applications.

GENERAL COMPARISON OF DIFFERENT CLOSURE TYPES

Comparison Item	Closure Type				
	Bolted Type B	w/Davit Type D	T-Bolt Type H	Bolted Yoke Type Y	Threaded Type T
Cost	Lowest	Low	Moderate	High	High
Quick Opening Ability	Poor	Fair	Good	Best	Best
Low Pressure Applications	X	X	X	—	—
Nominal Pressure Applications	X	X	X	X	X
High Pressure Applications	X	X	—	X	X

BASKET STRAINERS
REPLACEMENT BASKET SCREENS

We have screens and baskets for all makes of Y, basket and duplex strainers. The range of materials and size of units is unlimited.

We provide baskets manufactured from:

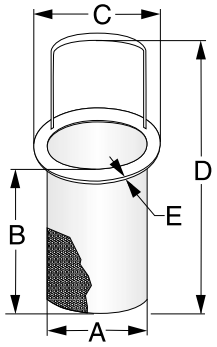
- **Perforated Plate**
- **Mesh or Mesh/Perf. Combination**
- **Wedge Wire**
- **Laser Beam Small Hole Perforated Plate**

Using the above processes or combination thereof, we can provide screens and baskets suitable for a wide range of applications.

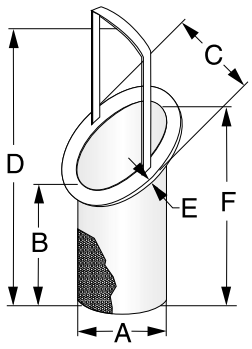
SCREEN/BASKET CHECKLIST

Kindly photocopy this page and fill out the pertinent information.

BASKET STRAINER STYLE "D"



BASKET STRAINER STYLE "B"



Performance Requirements

Description	Customers Requirement
Required Level of Filtration =	
Material of Construction =	
Minimum Specified Burst Pressure =	
Flow Direction =	
Other =	

Dimensional Requirements

Description		Customers Requirement
Style	B or D	
Basket Outer Diameter	A =	
Basket Height	B =	
Ring OD	C =	
Overall Height	D =	
Ring Thickness	E =	
Basket Long Height	F =	

BASKET STRAINER

PRESSURE DROP CORRECTION FACTORS

Mesh Lined Baskets and/or Fluids with a Viscosity other than Water

Centistokes	SSU	Unlined Perforated Basket	20 Mesh Lined Basket	40 Mesh Lined Basket	60 Mesh Lined Basket	80 Mesh Lined Basket	100 Mesh Lined Basket	200 Mesh Lined Basket
2	30 (water)	1	1.05	1.2	1.4	1.6	1.7	2
100	500	1.6	1.7	1.9	2.1	2.4	2.6	3.1
216	1000	1.7	2	2.2	2.4	2.6	2.8	3.3
433	2000	1.9	2.2	2.4	2.7	2.9	3.2	3.8
650	3000	2	2.3	2.6	2.9	3.2	3.5	4.1
1083	5000	2.2	2.6	3	3.5	4	4.5	5.3
2200	10000	2.5	3	3.5	4.2	5	6	7.1

1) Obtain water pressure drop from graphs on appropiate product page.

2) Multiply the pressure drop obtained from (1) by the specific gravity of the liquid.

3) Multiply the pressure drop from (2) by the appropiate correction factor for the mesh liner and/or viscosity.

Example

Model: **150B1**
Size: **4"**
Filtration: **1/8" perforated screen**
40 Mesh lines
Flow rate: **200 GPM**
Fluid: **Water**
SG: **1**
Viscosity: **30 SSI**

Answer

A) From Pressure Drop Chart, pressure drop of water is .38 psid

B) Multiply by specific gravity; .38 x 1 = .38 psid

C) From chart above, multiply .38 x 1.2 (correction factor) =.456 psid

STRAINERS

CORRECTION FACTORS FOR CLOGGED SCREENS

% Clogged	Ratio of Free Screen Area to Pipe Area						
	10:1	8:1	6:1	4:1	3:1	2:1	1:1
10							3.15
20						1.15	3.9
30						1.4	5
40						1.8	6.65
50					1.25	2.5	9.45
60				1.15	1.8	3.7	14.5
70				1.75	2.95	6.4	26
80		1.1	1.75	3.6	6.25	14	58
90	2.3	3.45	6	13.5	24	55	

* Multiply values obtained from Pressure Drop Charts by the appropriate values shown below.

Example

Strainer Size: **6"**
Model: **150B1**
Body: **Carbon Steel**
Filtration: **1/8" Perf.**
Flow rate: **1000 GPM**
Service: **Water**
% Clogged: **60%**

Answer

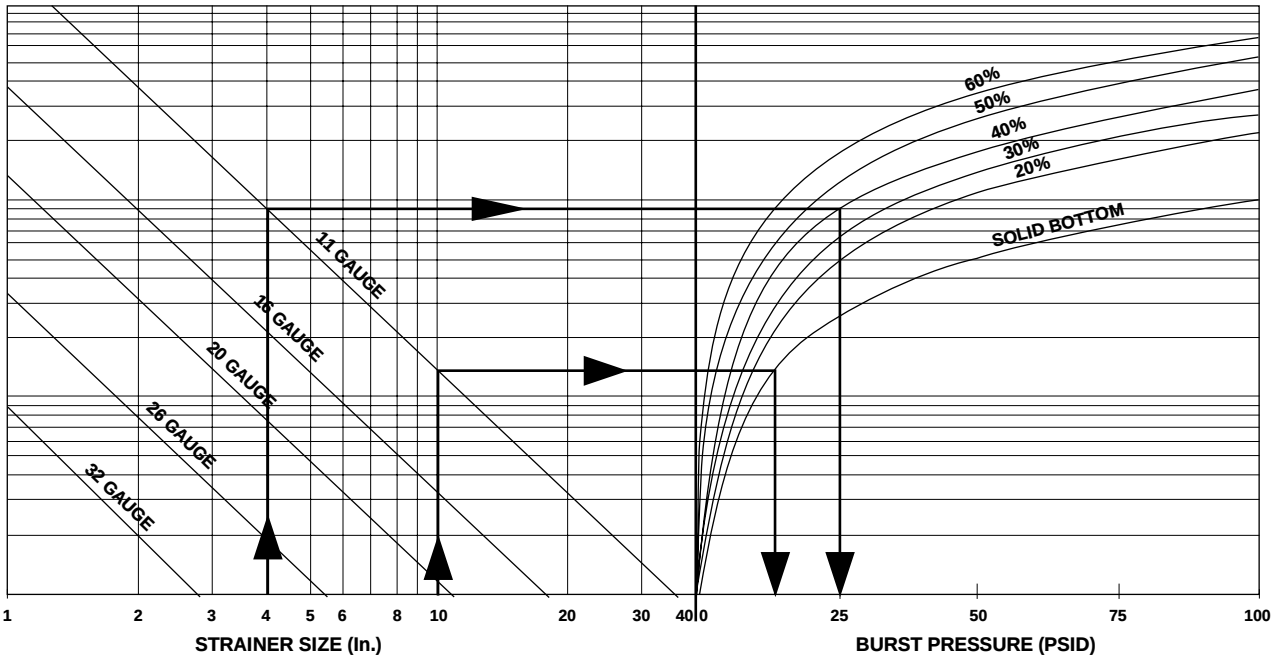
A) The Pressure Drop Chart indicates a drop of 1.50 psid with standard screen.

B) The Effective Area Chart indicates a ratio of 2.5:1 free area to pipe area.

C) Using Chart above we read the correction factor of 2.5:1 (2:1 approx.) to be 3.7 at 60% clogged.

D) Total pressure drop equals 1.50 x 3.7 = 5.55 psid.

BASKET STRAINER
BURST PRESSURE



Baskets with perforated bottoms are standard.

Chart is based on standard dimensions. Higher burst pressure ratings are available. Please consult factory.

Chart is based on stainless steel screen material. No safety factor is incorporated. It is the responsibility of the user to determine an acceptable safety factor.

Example

Strainer Size: 10"

Basket Type: Perforated screen with 11 gauge solid flat bottom

Screen Material Open Area: 20% - 60%

Answer

A) Locate Strainer size.
B) Follow vertical line to solid thickness.
C) Follow horizontal line to solid bottom curve.
D) Follow vertical line downward to read burst pressure.
E) Burst pressure equals 15 psid.

Source: ASME Section VIII, Div. 1, UG-34

BASKET STRAINERS

CHECKLIST

Please take the factors listed below into account when selecting a strainer. Kindly photocopy this page and fill out the pertinent information, to your best ability, so that we can recommend a Strainer to suit your specific requirements.

1. Fluid to be strained _____
2. Flow rate _____
3. Density of fluid _____
4. Viscosity of fluid _____
5. Fluid working pressure _____

   Maximum pressure _____
6. Fluid Working Temp. _____

   Maximum Temp. _____
7. Preferred material of strainer construction _____
8. Present Pipeline size & material _____
9. Nature of solids to be strained out _____
10. Size of solids to be strained out _____

    Size of mesh or Perf. Req. _____
11. Clearance Limitation Above _____ Below _____

    Left side facing inlet _____ Right side facing inlet _____
12. Maximum pressure drop with clean screen _____
13. Expected cleaning frequency _____
14. Any other information deemed relevant _____

_____

_____

Name _____

Company _____

Address _____

City/Town _____

State _____ Zip Code _____

Telephone (_____) _____

Fax (_____) _____

STRAINER CHECKLIST

BASKET STRAINER
INSTALLATION AND MAINTENANCE INSTRUCTIONS

Strainer Installation Instructions

- Ensure all machined surfaces are free of defects and that the inside of the strainer is free of foreign objects.
- For horizontal and vertical pipelines, the strainer should be installed so that the blow-down drain connection is pointed downward.
- For flanged end strainers, the flange bolting should be tightened gradually in a back and forth clockwise motion. Threaded end strainers should use an appropriate sealant.
- Once installed, increase line pressure gradually and check for leakage around joints.
- If the strainer is supplied with a start-up screen, monitor pressure drop carefully.

Screen Removal Instructions

- Drain piping. (For Duplex Strainers, isolate required chamber).
- Vent line to relieve pressure.
- Loosen cover and open to access screen.
- Remove, clean and replace screen in original position (Note: In some instances, a high pressure water jet or steam may be required for effective cleaning)
- Inspect cover gasket for damage. If necessary, replace. (Note: If spiral wound gaskets have been used, they must be replaced and can not be used again).
- Tighten cover. The strainer is ready for line start-up.

CAUTION SHOULD BE TAKEN DUE TO POSSIBLE EMISSION OF PROCESS MATERIAL FROM PIPING. ALWAYS ENSURE NO LINE PRESSURE EXISTS WHEN OPENING COVER.

Maintenance Instructions

For maximum efficiency, determine the length of time it takes for the pressure drop to double that in the clean condition. Once the pressure drop reaches an unacceptable value, shut down line and follow the “Screen Removal Instructions” above. A pressure gauge installed before and after the strainer in-line will indicate pressure loss due to clogging and may be used to determine when cleaning is required.

Trouble Shooting Guides and Diagnostic Techniques

- After pressurizing, inspect cover and other joints for leakage. Gasket replacement or cover tightening is necessary if leakage occurs.
- If the required filtration is not taking place, ensure the screen is installed in the correct position, that being flush to the screen seating surfaces.

T-Strainers

Pressures to 3705 PSIG
Temperatures to 800ºF

Applications

- Steam, Liquid, Gas and Oil Service
- Process Equipment
- Power Industry
- Chemical Industry
- Water and Waste
- Pulp and Paper
- Metals and Mining

Features

- Horizontal or Vertical Installations
- Stainless Steel Perforated Screens
- Thru Bolt Cover is Standard

Materials

- Stainless Steel
- Carbon Steel
- Other materials upon request

End Connections

- Buttweld End
- RTJ or RF Flanges

Sizes

- 2" (50mm) up to 24" (600mm) as standard
- Large sizes upon request

Ratings

- ANSI 150 psig
- ANSI 300 psig
- ANSI 600 psig
- ANSI 900 psig
- ANSI 1500 psig

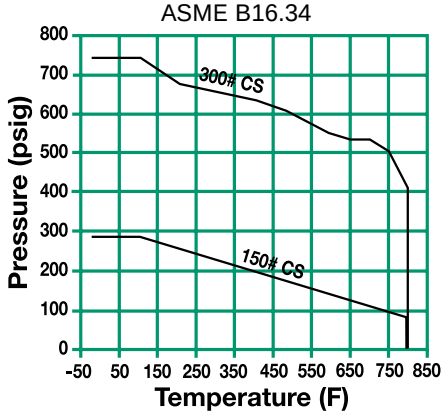
Higher Pressure Classes on Request

FT SERIES
FABRICATED T-STRAINERS
PRESSURES TO 3705 PSIG (255 BARG)
TEMPERATURES TO 800ºF (427ºC)

- **Custom engineered and fabricated T strainers**
- **RF or RTJ Flanges or Buttweld end connections in accordance with ASME 16.34 and 16.5**
- **Standard thru bolt cover design.**
- **Installaion in horizontal or vertical pipelines.**
- **Three flow configurations available.**
- **Stainless steel perforated screens are standard**
- **Cover lifting lug standard on sizes 10" and larger**

APPLICATIONS
- Steam, liquid, gas and oil service
- Power Industry
- Pulp & Paper
- Process Equipment
- Chemical Industry
- Metal & Mining
- Water & Waste
- Metal & Mining

PRESSURE/TEMPERATURE CHART
ASME B16.34



For higher pressure classes & other materials, consult factory.
For Quick Opening Covers see page 468

MODELS
- FT1 – Inline, straight through flow
- FT2 – 90 degree angle flow – top to side
- FT3 – 90 degree angle flow – side to top
- FTZ – Custom Configuration

OPTIONS
- Other materials, sizes and/or configurations
- Quick Opening covers – *See page 468*
- Other screen, mesh or wedgewire – *See page 484*
- Vent, Drain and/or differential pressure connections
- "U" stamped vessels
- NACE MRO10-75 Certification
- External/Internal coatings
- 600# flanges and higher
- Oxygen cleaning
- Contact Factory for other Options

APPLICABLE CODES
- Designed/Manufactured to meet ASME B31.1, ASME B31.3, or ASME B31.4 and/or ASME Section VIII, Div. 1.
- Canadian Registration Numbers (CRN)
- Welders certified to ASME Section IX

FT Series Ordering Code

	Model			Material	Inlet Size	Class	Connec-tion	Dash	Cover	Perf	Mesh
F	**T**	**2**	**V**	**P**	**4**	**R**	**-**	**B**	**4**	**A**
1	2	3	4	5	6	7	8	9	10	11

Model - Position 1 - 3
- FT1 - Inline Flow
- FT2 - 90 degree angle flow - Top to Side
- FT3 - 90 degree angle flow - Side to Top
- FTZ - Custom Configurations

Material - Position 4
- C - Carbon Steel
- L - Low Temp CS
- V - 304 SS
- T - 316 SS
- M - Monel
- Z - Other

For any variations, use the part numbering system above but clearly indicate the additional requirements.

Inlet Size - Position 5

H - 2	U - 16
J - 2½	V - 18
K - 3	W - 20
M - 4	X - 22
N - 5	Y - 24
P - 6	1 - 28
Q - 8	2 - 30
R - 10	3 - 36
S - 12	4 - 40
T - 14	Z - Other

Class - Position 6
- 1 - 150
- 2 - 250
- 3 - 300
- 4 - 600
- 5 - 900
- 6 - 1500
- Z - Other

Connection - Position 7
- B - Butt Weld[1]
- F - Flat Face Flange
- J - Ring Joint Flange
- R - Raised Face Flange
- Z - Other

Dash - Position 8

Cover - Position 9
- B - Bolted
- C - Bolted w/C-Clamp
- D - Bolted w/Davit
- J - Bolted w/Hinge
- H - T - Bolt Hinged
- T - Threaded Hinged
- Y - Yoke Hinged
- Z - Other

Perf - Position 10
304 SS Material[2]
- B - 3/64"
- 1 - 1/32"
- 2 - 1/16"
- 3 - 3/32"
- 4 - 1/8"
- 5 - 5/32"
- 6 - 3/16"
- 7 - 7/32"
- 8 - 1/4"
- 9 - 3/8"
- Z - Other

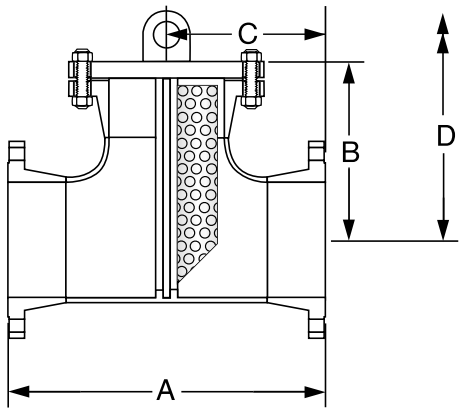
Mesh[2] - Position 11
- A - None
- 1 - 10
- 2 - 20
- 3 - 30
- 4 - 40
- 5 - 50
- 6 - 60
- 7 - 80
- 8 - 100
- 9 - 120
- Z - Other

1. For Buttweld connections please specify mating pipe schedule.
2. For other screen material, contact factory.

FT1 SERIES
FABRICATED T-STRAINERS

SPECIFICATION

T Strainer shall be designed and manufactured to meet ASME B31.1, ASME B31.3 or ANSI B31.4 and/or ASME Section VIII Div. 1. The strainer shall be straight flow design with vertical screen supports. The screen shall be size _____ perf Stainless Steel. The strainer shall have a bolted cover furnished. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The T Strainer shall be SSI FT1 Series.



Connections: 2-24"
RF, RTJ or Buttweld[2]

2. For Buttweld connection please specify mating pipe shedule.

MATERIALS OF CONSTRUCTION (CARBON STEEL SHOWN*)

Part	Carbon Steel
Body	A234-WPB
Flanges	A105
Screen[1]	304 SS
Internal support ribs	Carbon Steel
Coupling / threadolets	A105
Gasket[1]	304 SS Spiral Wound
Stud	A193-B7
Nut	A194-2H

* Other material available - consult factory

1. Recommended Spare Parts

Materials specification will change when NACE MR01-75 is specified.

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2"- 12"	1/8" Perf.	304SS
14"- 24"	3/16" Perf.	304SS

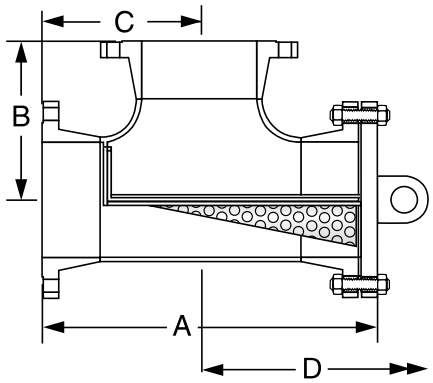
DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

(For 600#, 900# and 1500# dimensions and weights - contact factory)

Size	A				B		C				D		Approx. Weights					
	Flanged		Buttweld		Flanged/ Buttweld		Flanged		Buttweld		Flanged/ Buttweld		Cover		Unit (Flanged)		Unit (Buttweld)	
	CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS	
	150	300	150	300	150	300	150	300	150	300	150	300	150	300	150	300	150	300
2 (50)	10 (254)	10½ (267)	5 (127)	5 (127)	5⅞ (149)	6¼ (159)	5 (127)	5¼ (133)	2½ (63)	2½ (63)	11 (279)	11½ (292)	5 (2.3)	8 (3.6)	28 (12.7)	42 (19.1)	16 (7.3)	24 (10.9)
2½ (65)	11½ (292)	12 (305)	6 (152)	6 (152)	6⅝ (168)	7 (178)	5¾ (146)	6 (152)	3 (76)	3 (76)	12 15/16 (329)	13 7/16 (341)	7 (3.2)	14 (6.4)	40 (18.1)	55 (24.9)	25 (11.3)	30 (13.6)
3 (80)	12¼ (311)	13 (330)	6¾ (172)	6¾ (172)	7 3/16 (182)	7¾ (197)	6⅛ (155)	6½ (165)	3⅜ (86)	3⅜ (86)	13¾ (349)	14½ (368)	9 (4.1)	16 (7.3)	52 (23.6)	72 (32.7)	32 (14.5)	42 (19.1)
4 (100)	14¼ (362)	15 (381)	8¼ (210)	8¼ (210)	8 3/16 (208)	8⅞ (225)	7⅛ (181)	7½ (190)	4⅛ (105)	4⅛ (105)	16¼ (413)	17 (432)	17 (7.7)	27 (12.2)	79 (35.8)	125 (56.7)	49 (22.2)	75 (34)
5 (125)	16¾ (425)	17½ (445)	9¾ (248)	9¾ (248)	9 7/16 (240)	10¼ (260)	8 3/8 (212)	8¾ (222)	4⅞ (124)	4⅞ (124)	19¼ (489)	20 (508)	20 (9.1)	35 (15.9)	105 (47.6)	160 (72.6)	67 (30.4)	96 (43.5)
6 (150)	18¼ (464)	19 (483)	11¼ (286)	11¼ (286)	10¼ (260)	11 (281)	9⅛ (232)	9½ (241)	5⅝ (143)	5⅝ (143)	21¼ (540)	22 (559)	26 (11.8)	50 (22.7)	140 (63.5)	225 (102.1)	92 (41.7)	141 (64)
8 (200)	22 (559)	22¾ (578)	14 (356)	14 (356)	12¼ (311)	13⅛ (333)	11 (279)	11⅜ (289)	7 (178)	7 (178)	26 (660)	26¾ (679)	45 (20.4)	81 (36.7)	230 (104.3)	350 (158.8)	152 (68.9)	216 (98)
10 (250)	25 (635)	26¼ (667)	17 (432)	17 (432)	13 13/16 (351)	15⅛ (384)	12½ (317)	13⅛ (333)	8½ (216)	8½ (216)	30 (762)	31¼ (794)	70 (31.8)	124 (56.2)	325 (147.4)	495 (224.5)	221 (100.2)	313 (142)
12 (300)	29 (737)	30¼ (768)	20 (508)	20 (508)	15⅞ (403)	17¼ (438)	14½ (368)	15⅛ (384)	10 (254)	10 (254)	35 (889)	36¼ (921)	110 (49.9)	185 (83.9)	500 (226.8)	765 (347)	340 (154.2)	485 (220)
14 (350)	32 (813)	33¼ (845)	22 (559)	22 (559)	17½ (444)	18⅞ (479)	16 (406)	16⅝ (422)	11 (279)	11 (279)	39 (991)	40¼ (1022)	140 (63.5)	250 (113.4)	710 (322.1)	1025 (464.9)	490 (222.3)	665 (301.6)
16 (400)	34 (864)	35½ (902)	24 (610)	24 (610)	18 9/16 (471)	20⅛ (511)	17 (432)	17¾ (451)	12 (305)	12 (305)	42 (1067)	43½ (1105)	180 (81.6)	295 (133.8)	860 (390.1)	1320 (598.8)	580 (263.1)	820 (372)
18 (450)	38 (965)	39½ (1003)	27 (686)	27 (686)	20 11/16 (525)	22¼ (565)	19 (482)	19¾ (502)	13½ (343)	13½ (343)	47 (1194)	48½ (1232)	220 (99.8)	395 (179.2)	1025 (464.9)	1700 (771.1)	725 (328.9)	1060 (480.8)
20 (500)	41⅜ (1051)	42¾ (1085)	30 (762)	30 (762)	22½ (571)	24 (609)	20 11/16 (525)	21⅜ (542)	15 (381)	15 (381)	51⅜ (1305)	52¾ (1340)	285 (129.3)	505 (229.1)	1350 (612.4)	2250 (1020.6)	990 (449.1)	1450 (657.7)
24 (600)	46 (1168)	47¼ (1200)	34 (864)	34 (864)	25 (635)	26½ (673)	23 (584)	23⅝ (600)	17 (432)	17 (432)	58 (1473)	59¼ (1505)	430 (195)	790 (358.3)	2100 (952.6)	2340 (1061.4)	1580 (716.7)	2240 (1016.1)

Note: Cover lifting lugs standard on sizes 10 and larger. Lifting lug dimensions are not included above.
Dimensions shown are subject to change. Contact factory for certified prints when required.

FT2 SERIES
FABRICATED T-STRAINERS



SPECIFICATION

T Strainer shall be designed and manufactured to meet ASME B31.1, ASME B31.3 or ANSI B31.4 and/or ASME Section VIII Div. 1. The strainer shall be 90 degree angle flow design with horizontal screen supports. The flow shall be top to side. The screen shall be size _____ perf Stainless Steel. The strainer shall have a bolted cover furnished. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The T Strainer shall be SSI FT2 Series.

MATERIALS OF CONSTRUCTION (CARBON STEEL SHOWN*)

Part.....Carbon Steel
Body A234-WPB
Flanges A105
Screen[1] .....304 SS
Internal support ribs .....Carbon Steel
Coupling / threadolets A105
Gasket[1] .....304 SS Spiral Wound
Stud A193-B7
Nut.....A194-2H

* Other material available - consult factory

1. Recommended Spare Parts

Materials specification will change when NACE MR01-75 is specified.

Connections: 2-24"
RF, RTJ or Buttweld[2]

2. For Buttweld connection please specify mating pipe shedule.

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2"- 12"	1/8" Perf.	304SS
14"- 24"	3/16" Perf.	304SS

DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

(For 600#, 900# and 1500# dimensions and weights - contact factory)

Size	A				B				C				D		Approx. Weights					
	Flanged		Buttweld		Flanged		Buttweld		Flanged		Buttweld		Flanged/ Buttweld		Cover		Unit (Flanged)		Unit (Buttweld)	
	CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS	
	150	300	150	300	150	300	150	300	150	300	150	300	150	300	150	300	150	300	150	300
2 (50)	10¾ (273)	11⅜ (289)	8¼ (209)	8⅝ (219)	5 (127)	5¼ (133)	2½ (63)	2½ (63)	5 (127)	5¼ (133)	2½ (63)	2½ (63)	12½ (318)	13 (330)	5 (2.3)	8 (3.6)	28 (12.7)	42 (19.1)	16 (7.3)	24 (10.9)
2½ (65)	12⅜ (314)	13 (330)	9⅝ (244)	10 (254)	5¾ (146)	6 (152)	3 (76)	3 (76)	5¾ (146)	6 (152)	3 (76)	3 (76)	14¾ (375)	15½ (394)	7 (3.2)	14 (6.4)	40 (18.1)	55 (24.9)	25 (11.3)	30 (13.6)
3 (80)	13 3/16 (335)	14⅛ (359)	10 7/16 (265)	11 (280)	6⅛ (155)	6½ (165)	3⅜ (86)	3⅜ (86)	6⅛ (155)	6½ (165)	3⅜ (86)	3⅜ (86)	15¼ (387)	16 (406)	9 (4.1)	16 (7.3)	52 (23.6)	72 (32.7)	32 (14.5)	42 (19.1)
4 (100)	15 3/16 (386)	16¼ (412)	12 3/16 (310)	12⅞ (327)	7⅛ (181)	7½ (190)	4⅛ (105)	4⅛ (105)	7⅛ (181)	7½ (190)	4⅛ (105)	4⅛ (105)	18⅜ (467)	19⅛ (486)	17 (7.7)	27 (12.2)	79 (35.8)	125 (56.7)	49 (22.2)	75 (34)
5 (125)	17 11/16 (449)	18⅞ (479)	14 3/16 (361)	15 (381)	8⅜ (212)	8¾ (222)	4⅞ (124)	4⅞ (124)	8⅜ (212)	8¾ (222)	4⅞ (124)	4⅞ (124)	21⅝ (549)	22⅜ (568)	20 (9.1)	35 (15.9)	105 (47.6)	160 (72.6)	67 (30.4)	96 (43.5)
6 (150)	19¼ (489)	20 7/16 (519)	15¾ (400)	16 9/16 (421)	9⅛ (232)	9½ (241)	5⅝ (143)	5⅝ (143)	9 1/8 (232)	9½ (241)	5⅝ (143)	5⅝ (143)	23 11/16 (606)	24⅝ (625)	26 (11.8)	50 (22.7)	140 (63.5)	225 (102.1)	92 (41.7)	141 (64)
8 (200)	23⅛ (588)	24⅜ (619)	19⅛ (486)	20 (508)	11 (279)	11⅜ (289)	7 (178)	7 (178)	11 (279)	11⅜ (289)	7 (178)	7 (178)	29 (737)	29¾ (756)	45 (20.4)	81 (36.7)	230 (104.3)	350 (158.8)	152 (68.9)	216 (98)
10 (250)	26 3/16 (665)	28⅛ (714)	22 3/16 (564)	23½ (597)	12½ (317)	13⅛ (333)	8½ (216)	8½ (216)	12½ (317)	13⅛ (333)	8½ (216)	8½ (216)	33½ (851)	34¾ (883)	70 (31.8)	124 (56.2)	325 (147.4)	495 (224.5)	221 (100.2)	313 (142)
12 (300)	30¼ (768)	32¼ (819)	25¾ (654)	27⅛ (689)	14½ (368)	15⅛ (384)	10 (254)	10 (254)	14½ (368)	15⅛ (384)	10 (254)	10 (254)	39 (991)	40¼ (1022)	110 (49.9)	185 (83.9)	500 (226.8)	765 (347)	340 (154.2)	485 (220)
14 (350)	33⅜ (848)	35⅜ (898)	28⅜ (720)	29¾ (755)	16 (406)	16⅝ (422)	11 (279)	11 (279)	16 (406)	16⅝ (422)	11 (279)	11 (279)	43 (1092)	44¼ (1124)	140 (63.5)	250 (113.4)	710 (322.1)	1025 (464.9)	490 (222.3)	665 (301.6)
16 (400)	35 7/16 (900)	37¾ (959)	30 7/16 (773)	32 (813)	17 (432)	17¾ (451)	12 (305)	12 (305)	17 (432)	17¾ (451)	12 (305)	12 (305)	46 (1168)	47½ (1207)	180 (81.6)	295 (133.8)	860 (390.1)	1320 (598.8)	580 (263.1)	820 (372)
18 (450)	39 9/16 (1005)	41⅞ (1063)	34 (865)	35⅝ (905)	19 (482)	19¾ (501)	13½ (343)	13½ (343)	19 (482)	19¾ (501)	13½ (343)	13½ (343)	51½ (1308)	53 (1346)	220 (99.8)	395 (179.2)	1025 (464.9)	1700 (771.1)	725 (328.9)	1060 (480.8)
20 (500)	43 (1094)	45¼ (1149)	37⅜ (949)	38⅞ (987)	20 11/16 (525)	21⅜ (543)	15 (381)	15 (381)	20 11/16 (525)	21⅜ (543)	15 (381)	15 (381)	59 11/16 (1516)	62¾ (1594)	285 (129.3)	505 (229.1)	1350 (612.4)	2250 (1020.6)	990 (449.1)	1450 (657.7)
24 (600)	47⅞ (1216)	50 (1270)	41⅞ (1064)	43⅜ (1102)	23 (584)	23⅝ (600)	17 (432)	17 (432)	23 (584)	23⅝ (600)	17 (432)	17 (432)	63 (1600)	64¼ (1632)	430 (195)	790 (358.3)	2100 (952.6)	2340 (1061.4)	1580 (716.7)	2240 (1016.1)

Note: Cover lifting lugs standard on sizes 10 and larger. Lifting lug dimensions are not included above.
Dimensions shown are subject to change. Contact factory for certified prints when required.

FT3 SERIES
FABRICATED T-STRAINERS

SPECIFICATION

T Strainer shall be designed and manufactured to meet ASME B31.1, ASME B31.3 or ANSI B31.4 and/or ASME Section VIII Div. 1. The strainer shall be 90 degree angle flow design. The flow shall be side to top. The screen shall be size _____ perf Stainless Steel. The strainer shall have a bolted cover furnished. The strainer shall be have an inlet size of _____ and Open Area Ratio of _____. The T Strainer shall be SSI FT3 Series.

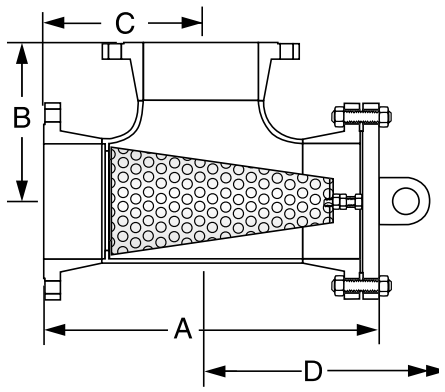
MATERIALS OF CONSTRUCTION (CARBON STEEL SHOWN*)

Part.....Carbon Steel
Body A234-WPB
Flanges A105
Screen[1] .....304 SS
Internal support ribs .....Carbon Steel
Coupling / threadolets A105
Gasket[1] .....304 SS Spiral Wound
Stud A193-B7
Nut.....A194-2H

* Other material available - consult factory

1. Recommended Spare Parts

Materials specification will change when NACE MR01-75 is specified.



Connections: 2-24"
RF, RTJ or Buttweld[2]

2. For Buttweld connection please specify mating pipe shedule.

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
2"- 12"	1/8" Perf.	304SS
14"- 24"	3/16" Perf.	304SS

DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

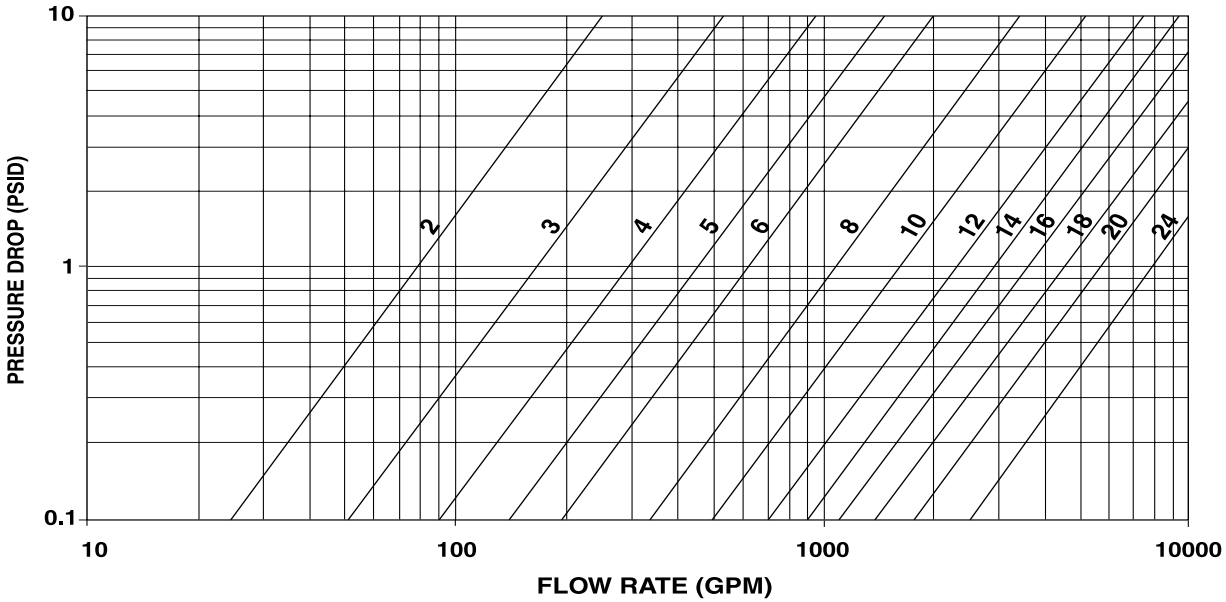
(For 600#, 900# and 1500# dimensions and weights - contact factory)

Size	A				B				C				D		Approx. Weights					
	Flanged		Buttweld		Flanged		Buttweld		Flanged		Buttweld		Flanged/ Buttweld		Cover		Unit (Flanged)		Unit (Buttweld)	
	CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS	
	150	300	150	300	150	300	150	300	150	300	150	300	150	300	150	300	150	300	150	300
2 (50)	10¾ (273)	11⅜ (289)	8¼ (209)	8⅝ (219)	5 (127)	5¼ (133)	2½ (63)	2½ (63)	5 (127)	5¼ (133)	2½ (63)	2½ (63)	12½ (318)	13 (330)	5 (2.3)	8 (3.6)	28 (12.7)	42 (19.1)	16 (7.3)	24 (10.9)
2½ (65)	12⅜ (314)	13 (330)	9⅝ (244)	10 (254)	5¾ (146)	6 (152)	3 (76)	3 (76)	5¾ (146)	6 (152)	3 (76)	3 (76)	14¾ (375)	15½ (394)	7 (3.2)	14 (6.4)	40 (18.1)	55 (24.9)	25 (11.3)	30 (13.6)
3 (80)	13 3/16 (335)	14⅛ (359)	10 7/16 (265)	11 (280)	6⅛ (155)	6½ (165)	3⅜ (86)	3⅜ (86)	6⅛ (155)	6½ (165)	3⅜ (86)	3⅜ (86)	15¼ (387)	16 (406)	9 (4.1)	16 (7.3)	52 (23.6)	72 (32.7)	32 (14.5)	42 (19.1)
4 (100)	15 3/16 (386)	16¼ (412)	12 3/16 (310)	12⅞ (327)	7⅛ (181)	7½ (190)	4⅛ (105)	4⅛ (105)	7⅛ (181)	7½ (190)	4⅛ (105)	4⅛ (105)	18⅜ (467)	19⅛ (486)	17 (7.7)	27 (12.2)	79 (35.8)	125 (56.7)	49 (22.2)	75 (34)
5 (125)	17 11/16 (449)	18⅞ (479)	14 3/16 (361)	15 (381)	8⅜ (212)	8¾ (222)	4⅞ (124)	4⅞ (124)	8⅜ (212)	8¾ (222)	4⅞ (124)	4⅞ (124)	21⅝ (549)	22⅜ (568)	20 (9.1)	35 (15.9)	105 (47.6)	160 (72.6)	67 (30.4)	96 (43.5)
6 (150)	19¼ (489)	20 7/16 (519)	15¾ (400)	16 9/16 (421)	9⅛ (232)	9½ (241)	5⅝ (143)	5⅝ (143)	9 1/8 (232)	9½ (241)	5⅝ (143)	5⅝ (143)	23 11/16 (606)	24⅝ (625)	26 (11.8)	50 (22.7)	140 (63.5)	225 (102.1)	92 (41.7)	141 (64)
8 (200)	23⅛ (588)	24⅜ (619)	19⅛ (486)	20 (508)	11 (279)	11⅜ (289)	7 (178)	7 (178)	11 (279)	11⅜ (289)	7 (178)	7 (178)	29 (737)	29¾ (756)	45 (20.4)	81 (36.7)	230 (104.3)	350 (158.8)	152 (68.9)	216 (98)
10 (250)	26 3/16 (665)	28⅛ (714)	22 3/16 (564)	23½ (597)	12½ (317)	13⅛ (333)	8½ (216)	8½ (216)	12½ (317)	13⅛ (333)	8½ (216)	8½ (216)	33½ (851)	34¾ (883)	70 (31.8)	124 (56.2)	325 (147.4)	495 (224.5)	221 (100.2)	313 (142)
12 (300)	30¼ (768)	32¼ (819)	25¾ (654)	27⅛ (689)	14½ (368)	15⅛ (384)	10 (254)	10 (254)	14½ (368)	15⅛ (384)	10 (254)	10 (254)	39 (991)	40¼ (1022)	110 (49.9)	185 (83.9)	500 (226.8)	765 (347)	340 (154.2)	485 (220)
14 (350)	33⅜ (848)	35⅜ (898)	28⅜ (720)	29¾ (755)	16 (406)	16⅝ (422)	11 (279)	11 (279)	16 (406)	16⅝ (422)	11 (279)	11 (279)	43 (1092)	44¼ (1124)	140 (63.5)	250 (113.4)	710 (322.1)	1025 (464.9)	490 (222.3)	665 (301.6)
16 (400)	35 7/16 (900)	37¾ (959)	30 7/16 (773)	32 (813)	17 (432)	17¾ (451)	12 (305)	12 (305)	17 (432)	17¾ (451)	12 (305)	12 (305)	46 (1168)	47½ (1207)	180 (81.6)	295 (133.8)	860 (390.1)	1320 (598.8)	580 (263.1)	820 (372)
18 (450)	39 9/16 (1005)	41⅞ (1063)	34 (865)	35⅝ (905)	19 (482)	19¾ (501)	13½ (343)	13½ (343)	19 (482)	19¾ (501)	13½ (343)	13½ (343)	51½ (1308)	53 (1346)	220 (99.8)	395 (179.2)	1025 (464.9)	1700 (771.1)	725 (328.9)	1060 (480.8)
20 (500)	43 (1094)	45¼ (1149)	37⅜ (949)	38⅞ (987)	20 11/16 (525)	21⅜ (543)	15 (381)	15 (381)	20 11/16 (525)	21⅜ (543)	15 (381)	15 (381)	59 11/16 (1516)	62¾ (1594)	285 (129.3)	505 (229.1)	1350 (612.4)	2250 (1020.6)	990 (449.1)	1450 (657.7)
24 (600)	47⅞ (1216)	50 (1270)	41⅞ (1064)	43⅜ (1102)	23 (584)	23⅝ (600)	17 (432)	17 (432)	23 (584)	23⅝ (600)	17 (432)	17 (432)	63 (1600)	64¼ (1632)	430 (195)	790 (358.3)	2100 (952.6)	2340 (1061.4)	1580 (716.7)	2240 (1016.1)

Note: Cover lifting lugs standard on sizes 10 and larger. Lifting lug dimensions are not included above.
Dimensions shown are subject to change. Contact factory for certified prints when required.

FT1 SERIES†
FABRICATED T-STRAINER
PRESSURE DROP - LIQUIDS
Water Service, Clean Basket, 1/32" - 1/4" Perforated Screen*

(SIZES 2" - 24")



Notes:

(1) Pressure drop curves are based on water flow with standard screens. See Screen Correction Factor Chart for correction factors to be used with other fluids and/or screen openings.

* For Gas or Air service, consult Factory

† FT2 and FT3 - For Pressure Drop contact Factory.

Correction Factors for Clogged Screens Consult Factory	**Steam Service Pressure Drop** Consult Factory	**Correction Factors for Other Viscous Liquids and/or Mesh Liners** Consult Factory

FT1 SERIES†
FABRICATED T-STRAINER
OPEN AREA RATIOS
with Standard Perforated Screen

For FT2, FT3 Open Area Ratios please contact SSI.

Size	Perf. Diameter (inches)	Opening %	XH Pipe Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	1/8	40%	3.36	22	9	2.7
2½	1/8	40%	4.79	25	10	2.1
3	1/8	40%	7.39	40	16	2.2
4	1/8	40%	12.73	58	23	1.8
5	1/8	40%	20.01	82	33	1.6
6	1/8	40%	28.89	105	42	1.5
8	1/8	40%	50.03	167	67	1.3
10	1/8	40%	78.85	235	94	1.2
12	1/8	40%	113.10	330	132	1.2
14	3/16	50%	140.50	420	210	1.5
16	3/16	50%	185.66	510	255	1.4
18	3/16	50%	237.10	640	320	1.3
20	3/16	50%	294.83	780	390	1.3
24	3/16	50%	429.13	1,060	530	1.2

OAR = Free Screen Area / Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

† FT2 and FT3 - For Open Area Ratios contact Factory.

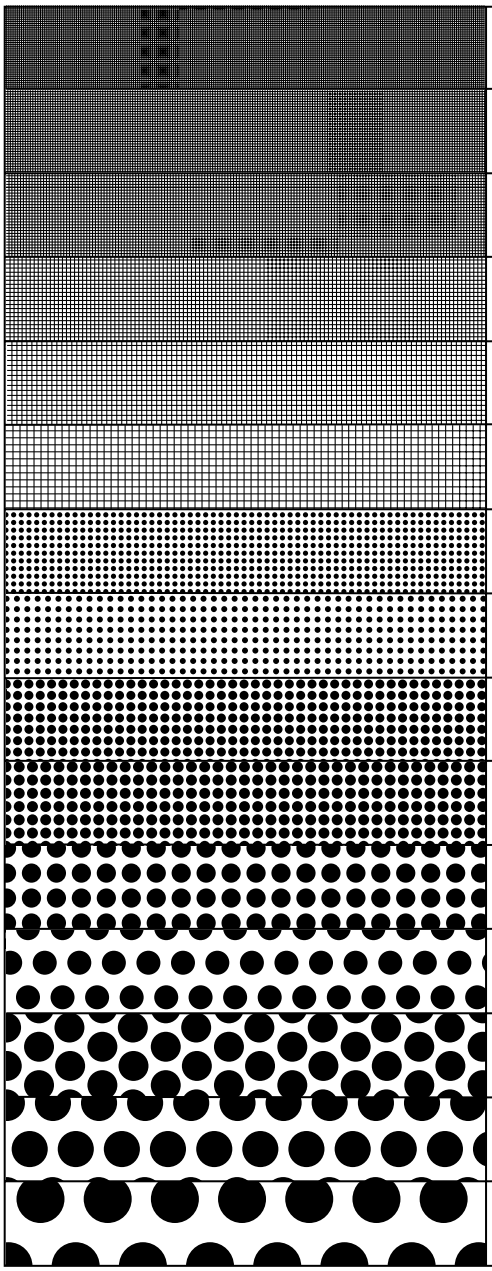
Other Screen Openings
Page 484

Basket Burst Pressure
Page 485

NOTES:

T-STRAINER TECHNICAL INFORMATION

SCREEN OPENINGS



100 Mesh - 30% O.A. 0.006” Openings
80 Mesh - 36% O.A. 0.008” Openings
60 Mesh - 38% O.A. 0.010” Openings
40 Mesh - 41% O.A. 0.016” Openings
30 Mesh - 45% O.A. 0.022” Openings
20 Mesh - 49% O.A. 0.035” Openings
0.027” Dia.- 23% O.A.
0.033” Dia.- 28% O.A.
3/64” Dia.- 36% O.A.
1/16” Dia.- 37% O.A.
3/32” Dia.- 39% O.A.
1/8” Dia.- 40% O.A.
5/32” Dia.- 58% O.A.
3/16” Dia.- 50% O.A.
1/4” Dia.- 40% O.A.

FACTORS TO CONSIDER

1 Purpose

If the strainer is being used for protection rather than direct filtration, standard screens will suffice in most applications.

2 Service

With services that require extremely sturdy screens, such as high pressure/temperature applications or services with high viscosities, perforated screens without mesh liners are recommended. If a mesh liner is required to obtain a certain level of filtration, then a trapped perf/mesh/perf combination is recommended.

3 Filtration Level

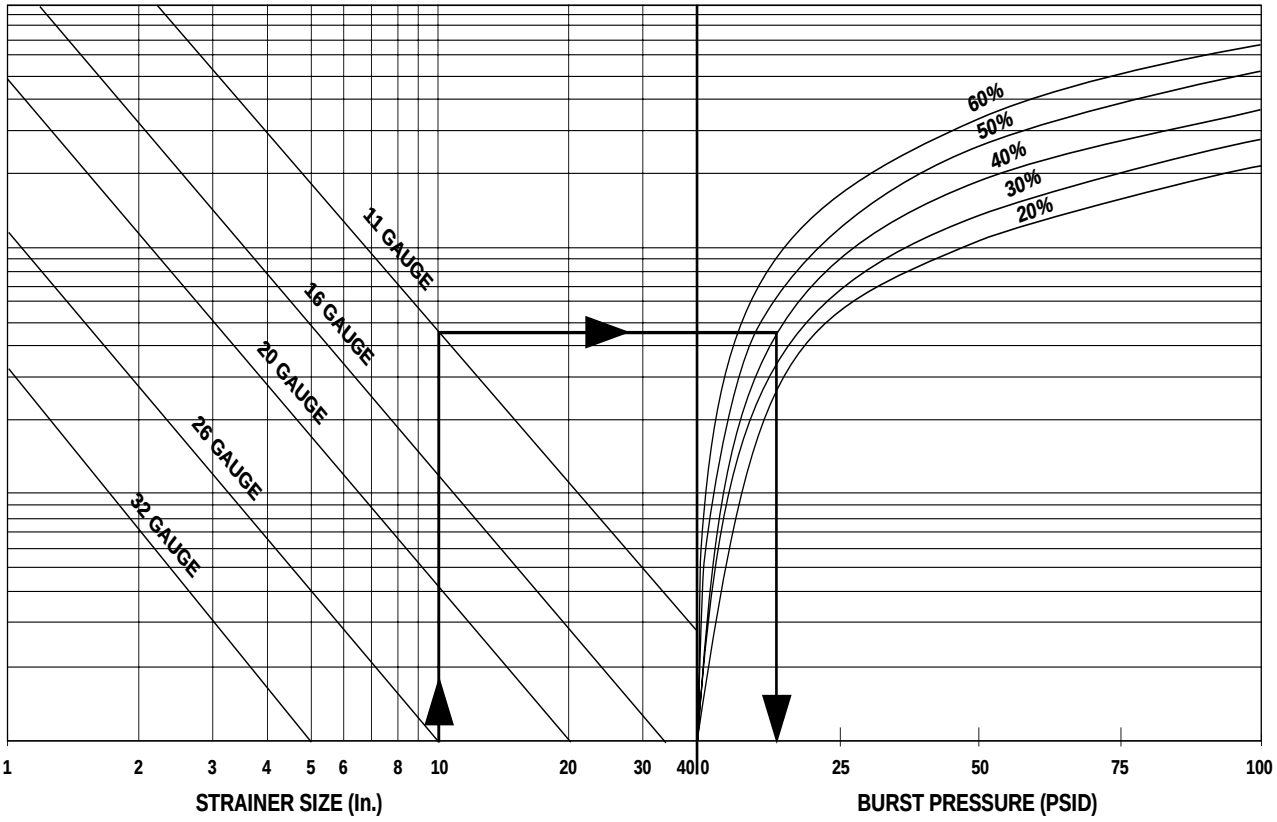
When choosing a perf. or a mesh/perf. combination, attention should be given to ensure overstraining does not occur. As a general rule, the specified level of filtration should be no smaller than half the size of the particle to be removed. If too fine a filtration is specified, the pressure drop through the strainer will increase very rapidly, possibly causing damage to the screen.

Screen openings other than those shown above are readily available. Various mesh sizes as fine as 5 micron and perforated plate as coarse as 1/2” Dia. are in inventory.

Screens are available in a wide range of materials. Screens of carbon steel, stainless steel (304, 316), alloy 20, monel 400, hastelloy C and titanium grade 2 are in inventory.

Custom manufactured screens are available upon request. Please consult factory.

T-STRAINER
SCREEN BURST PRESSURE



Notes:
(1) The above chart is to be used for strainers manufactured from perforated plate and is based on the formula:

$$t = d\sqrt{\frac{0.3P}{S}}$$

SOURCE: ASME Section VIII, Div. 1., UG-34.

t = Thickness of perforated plate, in.
d = Basket Diameter, in.
P = Burst Pressure, psi
S = Reduced allowable stress, psi

3. The above chart is based on standard dimensions. Higher burst pressure ratings are available. Please contact factory.
4. The above chart is based on a screen material of stainless steel. No safety factor is incorporated. It is the responsibility of the user to determine an acceptable safety factor.

(4) See Screen Openings Chart for % Open Area's of inventoried perforated plate.

Example:

Strainer Size:	**10"**
Screen Thickness:	**11 gauge**
Screen Material Open Area:	**40%**

A) Locate Strainer size.
B) Follow vertical line to gauge thickness.
C) Follow horizontal line to required perforation open area.
D) Follow vertical line downward to read burst pressure.
E) Burst pressure equals 13 psid.

T-STRAINER
CHECKLIST

Please take the factors listed below into account when selecting a strainer. Kindly photocopy this page and fill out the pertinent information, to your best ability, so that we can recommend a Strainer to suit your specific requirements.

1. Fluid to be strained _____
2. Flow rate _____
3. Density of fluid _____
4. Viscosity of fluid _____
5. Fluid working pressure _____

   Maximum pressure _____
6. Fluid Working Temp. _____

   Maximum Temp. _____
7. Preferred material of strainer construction _____
8. Present Pipeline size & material _____
9. Nature of solids to be strained out _____
10. Size of solids to be strained out _____

    Size of mesh or Perf. Req. _____
11. Clearance Limitation Above _____ Below _____

    Left side facing inlet _____ Right side facing inlet _____
12. Maximum pressure drop with clean screen _____
13. Expected cleaning frequency _____
14. Any other information deemed relevant _____

_____

_____

Name _____

Company _____

Address _____

City/Town _____

State _____ Zip Code _____

Telephone (_____) _____

Fax (_____) _____

T-STRAINER

INSTALLATION AND MAINTENANCE INSTRUCTIONS

Strainer Installation Instructions

- Ensure all machined surfaces are free of defects and that the inside of the strainer is free of foreign objects.
- For horizontal and vertical pipelines, the strainer should be installed so that the blow-down drain connection is pointed downward.
- For flanged end strainers, the flange bolting should be tightened gradually in a back and forth clockwise motion. Threaded end strainers should use an appropriate sealant.
- Once installed, increase line pressure gradually and check for leakage around joints.
- If the strainer is supplied with a start-up screen, monitor pressure drop carefully.

Screen Removal Instructions

- Drain piping
- Vent line to relieve pressure.
- Loosen cover and open to access screen.
- Remove, clean and replace screen in original position (Note: In some instances, a high pressure water jet or steam may be required for effective cleaning)
- Inspect cover gasket for damage. If necessary, replace. (Note: If spiral wound gaskets have been used, they must be replaced and can not be used again).
- Tighten cover. The strainer is ready for line start-up.

CAUTION SHOULD BE TAKEN DUE TO POSSIBLE EMISSION OF PROCESS MATERIAL FROM PIPING. ALWAYS ENSURE NO LINE PRESSURE EXISTS WHEN OPENING COVER.

Maintenance Instructions

For maximum efficiency, determine the length of time it takes for the pressure drop to double that in the clean condition. Once the pressure drop reaches an unacceptable value, shut down line and follow the "Screen Removal Instructions" above. A pressure gauge installed before and after the strainer in-line will indicate pressure loss due to clogging and may be used to determine when cleaning is required.

Trouble Shooting Guides and Diagnostic Techniques

- After pressurizing, inspect cover and other joints for leakage. Gasket replacement or cover tightening is necessary if leakage occurs.
- If the required filtration is not taking place, ensure the screen is installed in the correct position, that being flush to the screen seating surfaces.

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 the limitations below: If the purchaser believes a product defective, the purchaser shall: (a) Notify the manufacturer, state the alleged defect and request permission to return the product. (b) If permission is given, return the product with transportation prepaid. 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 refund the purchase price. Other than to repair, replace or refund described above, the purchaser agrees that the manufacturer shall not be liable for any losses, costs, expenses or damages of any kind arising out of the product, its use, installation or replacement, labeling, instructions, information or technical data of any kind, description of product use, sample or model, warnings or lack of foregoing. No other warranties, written or oral, expressed or implied, including the warranties of fitness for a particular purpose and merchantability, are made or authorized. No affirmation of fact, promise, description of product use or sample or model shall create any warranty from the manufacturer, unless signed by the president. These products are not manufactured, sold or intended for personal, family or household purposes.