Y Strainers

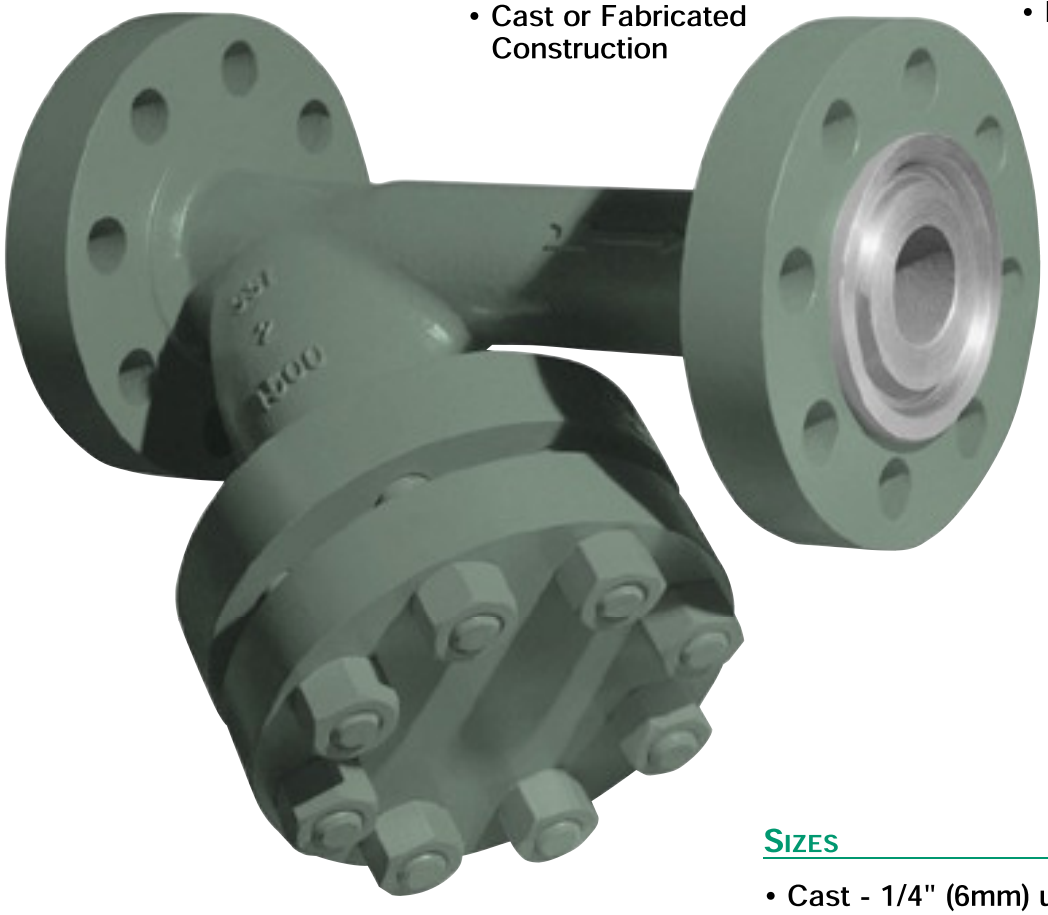
Pressures to 3705 PSIG
Temperatures to 800ºF

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

- ASME Class 125
- ASME Class 150
- ASME Class 300
- ASME Class 600
- ASME Class 900
- ASME Class 1500
- ASME Class 2500

Sizes

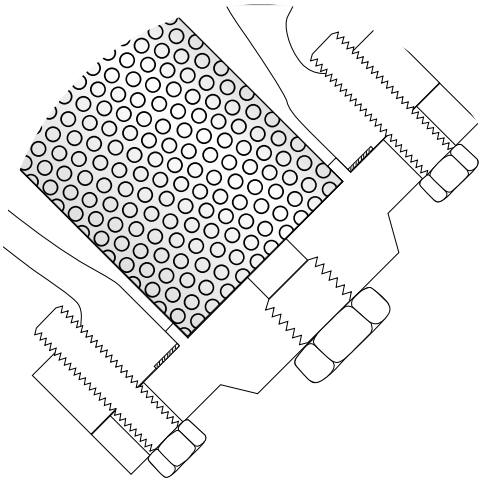
- Cast - 1/4" (6mm) up to 16" (400mm)
- Fabricated - Custom sizes to meet any requirements

Y STRAINER DESIGN FEATURES

Body-Cover Flanged Joints

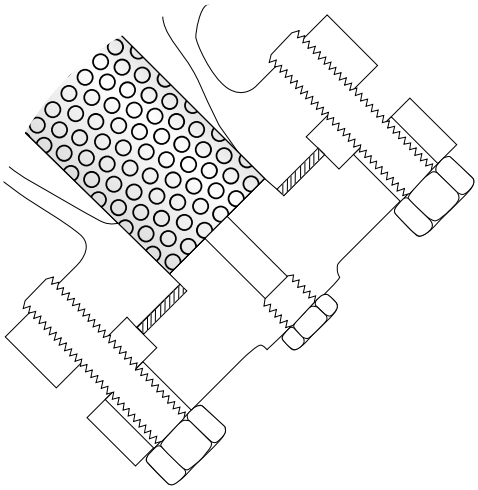
Flanged body-cover joints are designed to meet the requirements of ASME Section VIII, Div. 1 and/or ASME B16.5.

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.



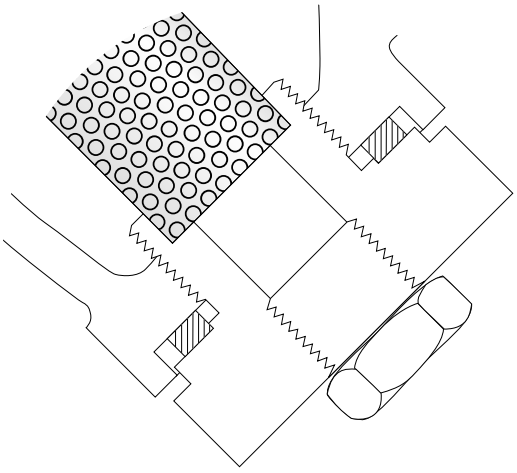
Exclusive

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.



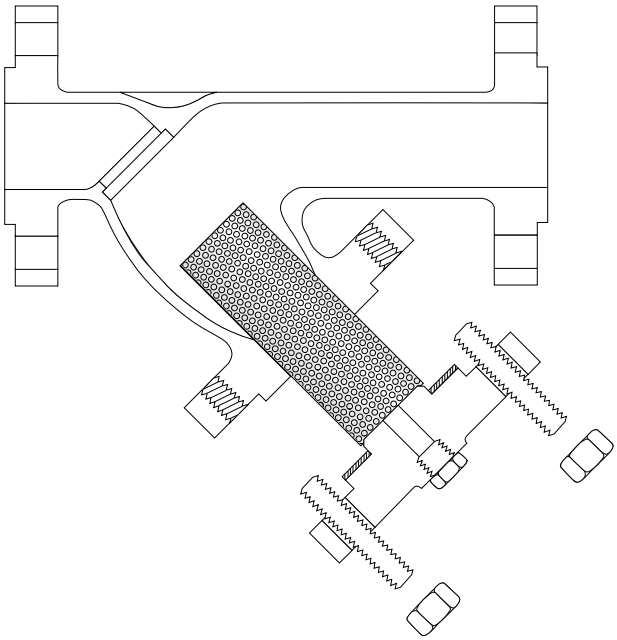
Y STRAINER DESIGN FEATURES

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:

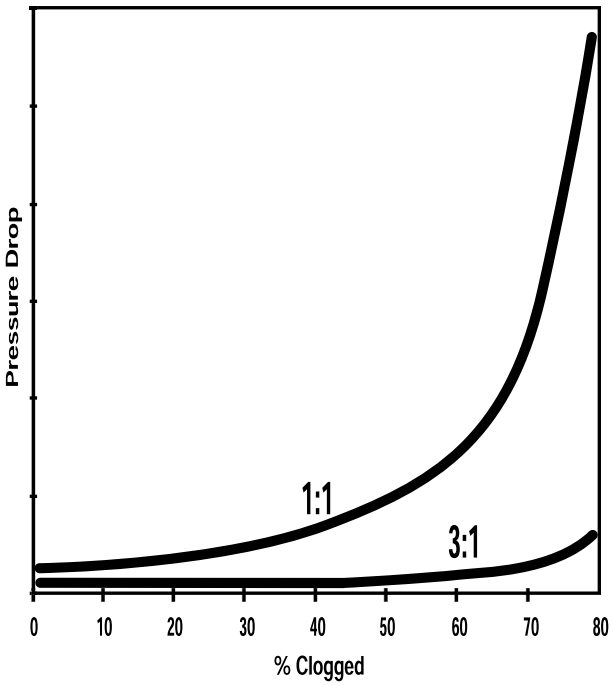
$$P = \frac{St}{R - 0.4t}$$

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.

EFFECT OF SCREEN AREA ON PRESSURE DROP



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)

- **ASME Class 125 rated strainers**
- **NPT, SE and FF connections designed in accordance with ASME B16.15, B16.18 and B16.1**
- **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 (Designed in accordance with)

- ASME B16.1
- ASME B16.15
- ASME B16.18

Canadian Registration - See appropriate Model pages

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 Require-ments
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"
- 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: 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

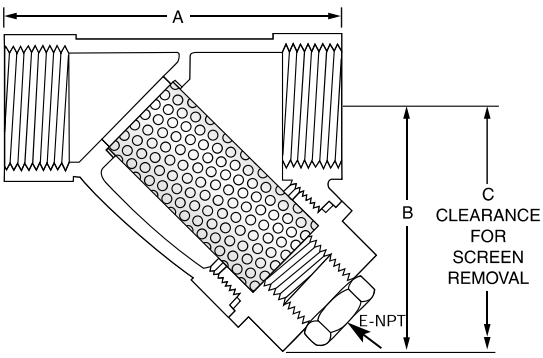
Y Strainer shall be straight flow design with NPT or Sweat Ends inlet/outlet connections. The strainer shall be rated to ASME Class 125 designed in accordance with ASME B16.15 and/or B16.18. The Strainer shall be bronze body and the screen shall be size _____ mesh 304 SS. The strainer shall be have an 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

Canadian Registration OE10274.5C



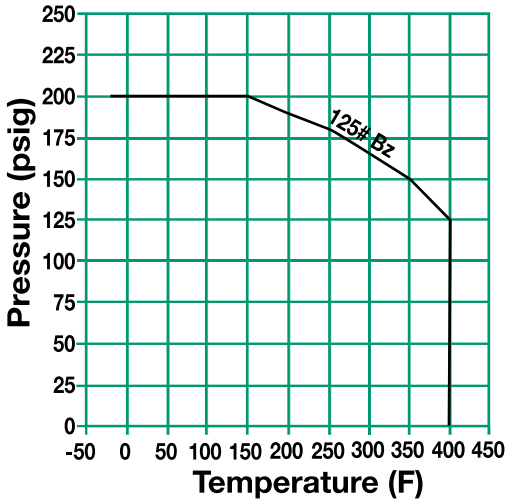
Connections:
3/8" – 3" NPT or Sweat Ends

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
ASME B16.15



DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

SIZE	A	B	C	E	WEIGHT
3/8 (10)	3 1/4 (82)	2 1/8 (55)	3 1/2 (89)	3/8 (10)	.8 (.36)
1/2 (15)	3 1/4 (82)	2 1/8 (55)	3 1/2 (89)	3/8 (10)	1.0 (.25)
3/4 (20)	4 (100)	2 3/4 (70)	4 1/2 (114)	3/8 (10)	1.2 (.60)
1 (25)	4 1/2 (115)	3 (75)	5 (127)	1/2 (15)	1.6 (.73)
1 1/4 (32)	5 3/8 (136)	3 9/16 (90)	5 3/4 (146)	1/2 (15)	2.5 (1.1)
1 1/2 (40)	6 5/16 (160)	3 7/8 (98)	6 3/8 (162)	1/2 (15)	3.4 (1.6)
2 (50)	7 1/2 (191)	5 7/16 (138)	9 1/16 (230)	1/2 (15)	5.8 (2.6)
2 1/2 (65)	9 1/16 (230)	5 15/16 (151)	10 (254)	1/2 (15)	10.2 (4.6)
3 (80)	10 3/16 (259)	6 5/16 (160)	10 3/8 (264)	1/2 (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

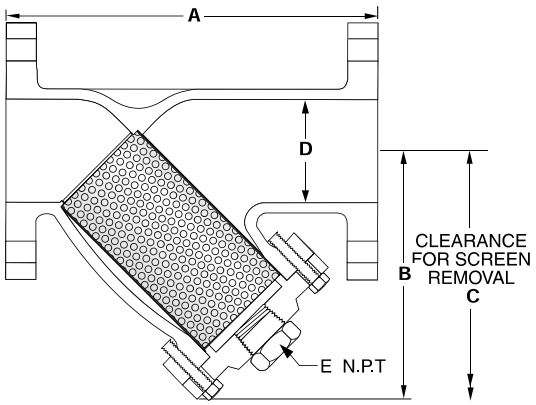
Y Strainer shall be straight flow design with FF Flanged inlet/outlet connections. The strainer shall be rated to ASME Class 125 designed in accordance with ASME B16.1. The Strainer shall be Cast Iron body and the screen shall be size _____ perforated 304 SS. The strainer shall be have an inlet size 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

Canadian Registration OE0591.9C

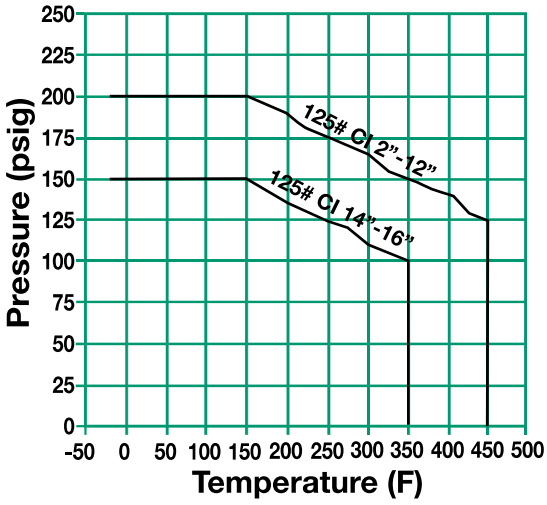


Connections:
2" – 16" FF Flanged

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 11/16 (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 11/16 (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 11/16 (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)

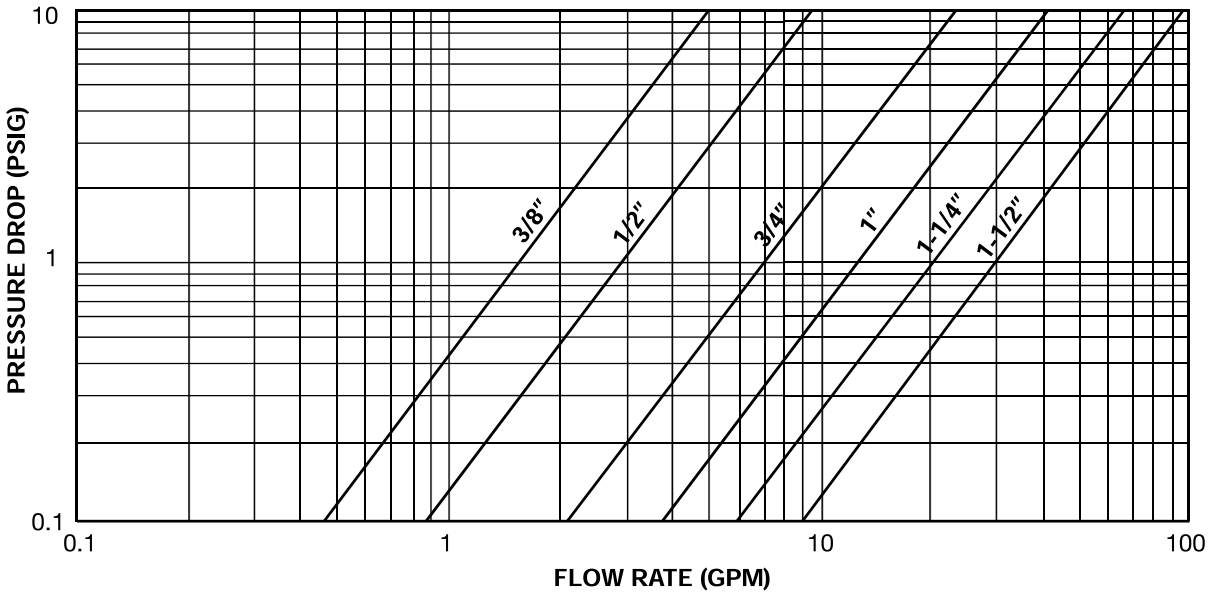
Dimensions shown are subject to change. Consult factory for certified drawings when required.

125Y SERIES BRONZE, CAST IRON

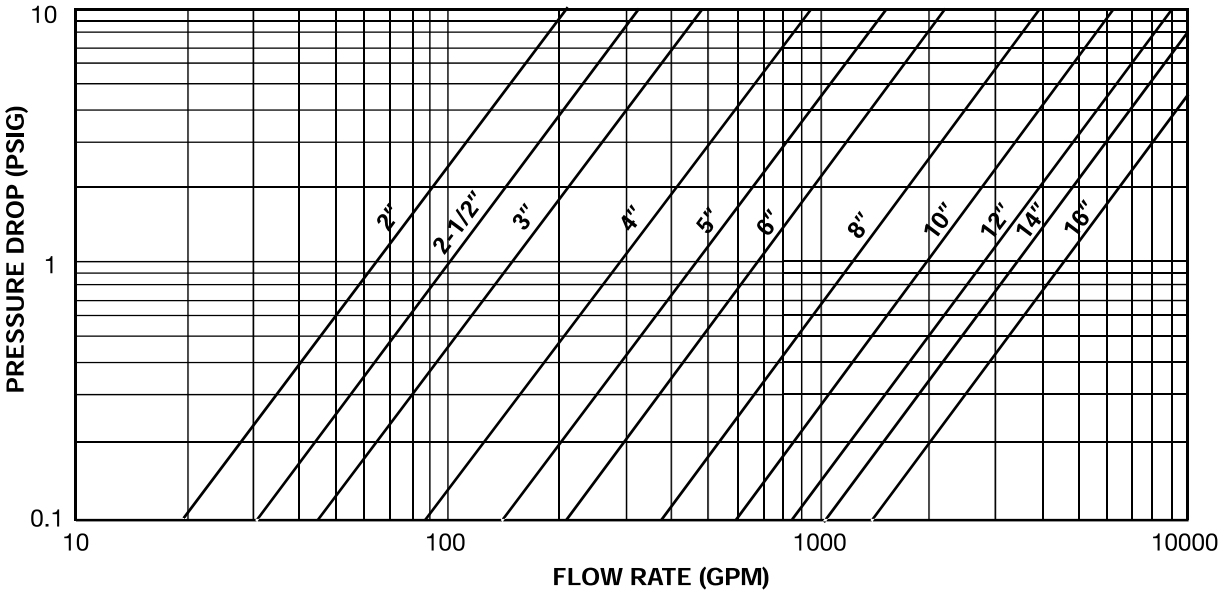
PRESSURE DROP VS FLOW RATE

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

(Sizes 3/8" - 1 1/2")



(Sizes 2" - 16")



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

Steam Service Pressure Drop Page 57

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 56

Correction Factors for Clogged Screens Page 56

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 54

Basket Burst Pressure Page 59

NOTES:

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

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

- **ASME Class 150 rated strainers**
- **RF, FF (Bronze only) and Buttweld connections designed in accordance with ASME B16.5, B16.24, B16.25 and B16.34**
- **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 (Designed in accordance with)
- ASME B16.5
- ASME B16.25
- ASME B16.24
- ASME B16.34

Canadian Registration OE10274.5C

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

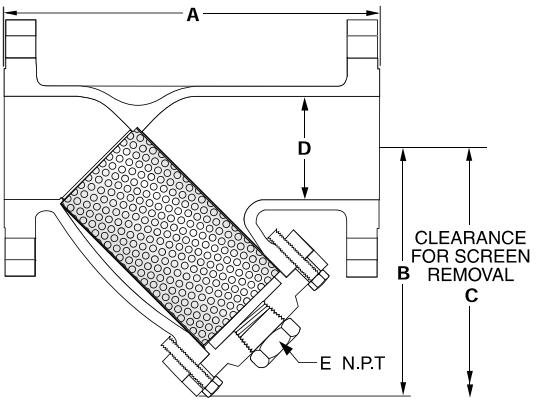
SPECIFICATION

Y Strainer shall be straight flow design with RF Flanged or Buttweld inlet/outlet connections. The strainer shall be rated to ASME Class 150 designed in accordance with ASME B16.5 and/or 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.



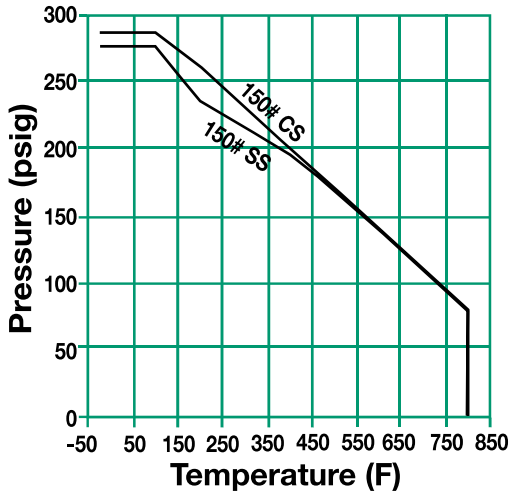
Connections: CS - ½" to 12"
RF Flanged or Buttweld
SS – ½" to 12"
RF Flanged or Buttweld[4]

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

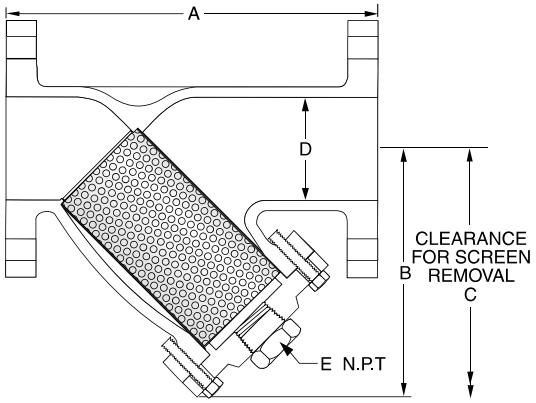
SPECIFICATION

Y Strainer shall be straight flow design with FF Flanged inlet/outlet connections. The strainer shall be rated to ASME Class 150 designed in accordance with ASME 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

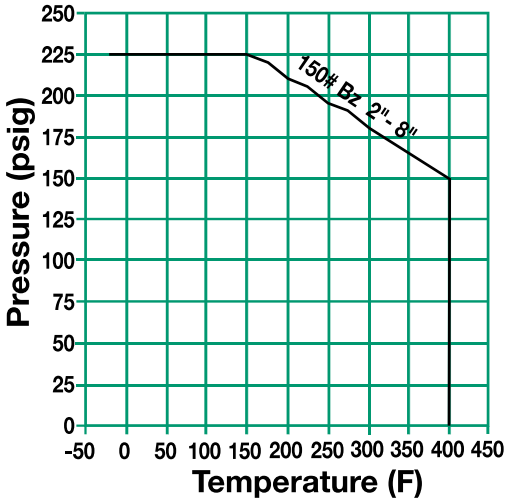


Connections:
BZ - 2" to 8" FF Flanged

SCREEN OPENINGS

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

PRESSURE/TEMPERATURE CHART
ASME 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.

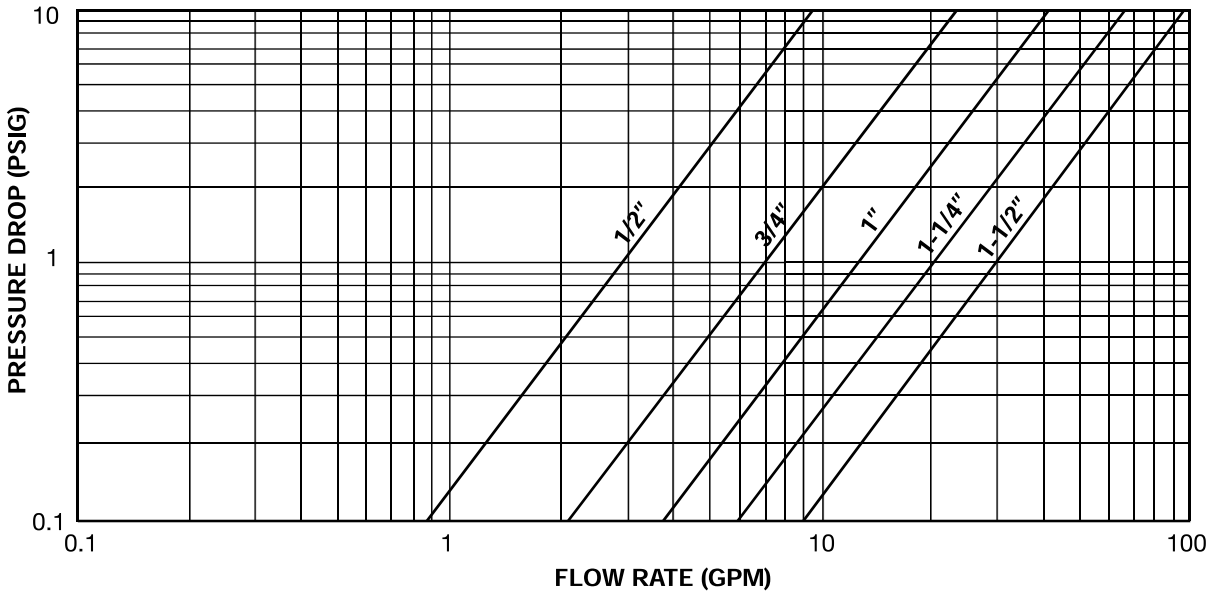
150Y SERIES

CARBON STEEL, STAINLESS STEEL, BRONZE

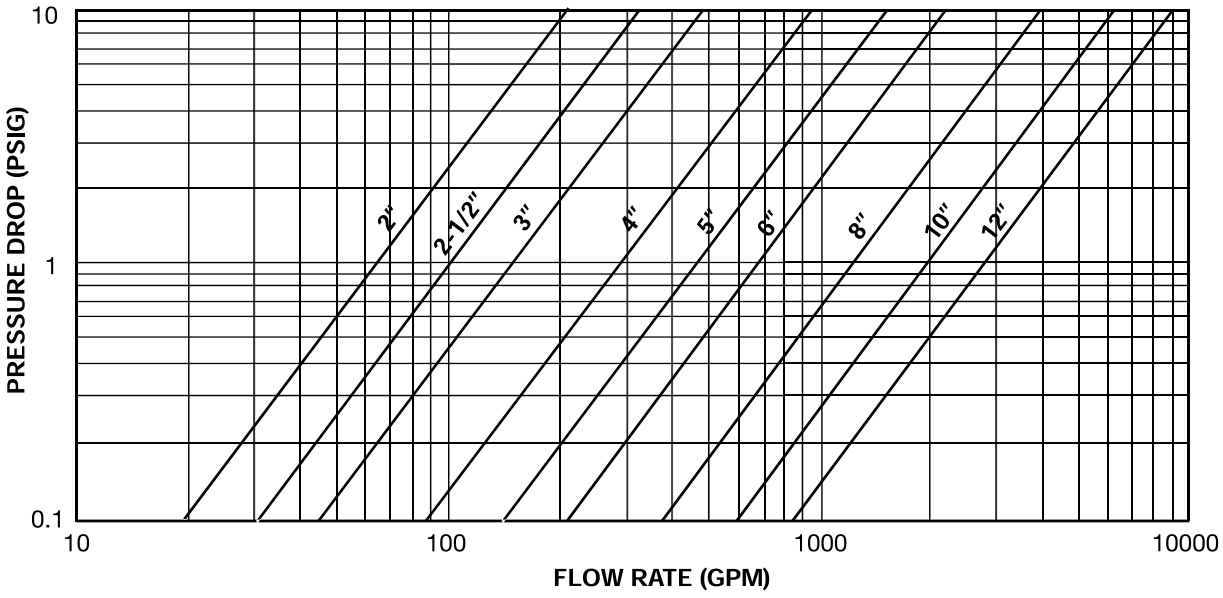
PRESSURE DROP VS FLOW RATE

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 57

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 56

Correction Factors for Clogged Screens Page 56

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 54

Basket Burst Pressure
Page 59

NOTES:

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

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

- **ASME Class 250 rated strainers**
- **NPT and FF connections designed in accordance with ASME B16.1, B16.15 and B16.4**
- **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 (Designed in accordance with)

- ASME B16.1
- ASME B16.4
- ASME B16.15

Canadian Registration - See appropriate Model pages

MODELS

- 250Y1T - Bronze or Cast Iron, NPT, Threaded Cover
- 250Y1P - Bronze or Cast Iron, BSPT, 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
250Y1P
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 ASME Class 250 designed in accordance with ASME 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.

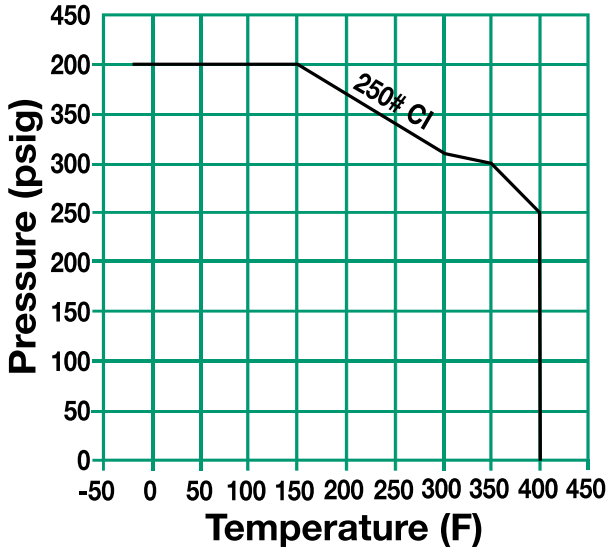
MATERIALS OF CONSTRUCTION

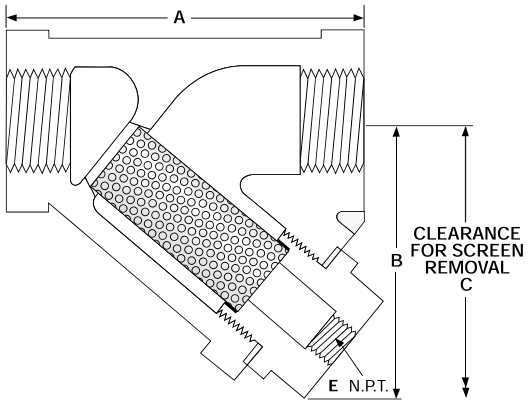
Body.....A126-B
Cap/Cover A126-B
Screen[1].....304 SS
Plug[2] A126-B
Gasket[1] .....Graphite

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

Canadian Registration - OE0591.9C

PRESSURE/TEMPERATURE CHART
ASME B16.4





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

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)	3 3/16 (81)	2 (50)	3⅛ (80)	¼ (8)	1.50 (.70)
½ (15)	3 3/16 (81)	2 (50)	3⅛ (80)	¼ (8)	1.50 (.70)
¾ (20)	3¾ (95)	2 11/16 (68)	3 11/16 (94)	⅜ (10)	2.50 (.50)
1 (25)	4 (102)	3 (62)	3 11/16 (94)	⅜ (10)	3.00 (1.4)
1¼ (32)	5 (127)	3 7/16 (87)	5 1/16 (129)	¾ (20)	6.00 (1.4)
1½ (40)	5¾ (146)	3 25/32 (96)	5¾ (146)	¾ (20)	8.00 (3.6)
2 (50)	7 (178)	4 11/32 (110)	7¼ (184)	1 (25)	14.00 (3.6)
2½ (65)	9¼ (235)	6 3/32 (155)	8¾ (222)	1½ (40)	29.0 (10)
3 (80)	10 (254)	7 13/32 (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

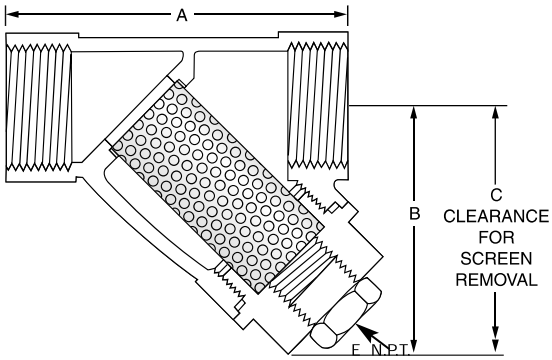
Y Strainer shall be straight flow design with NPT inlet/outlet connections. The strainer shall be rated to ASME Class 250 designed in accordance with ASME B16.15. The Strainer shall be bronze body and the screen shall be size _____ mesh 304 SS. The strainer shall be have an inlet size of _____ and Open 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

Canadian Registration - OE0591.9C

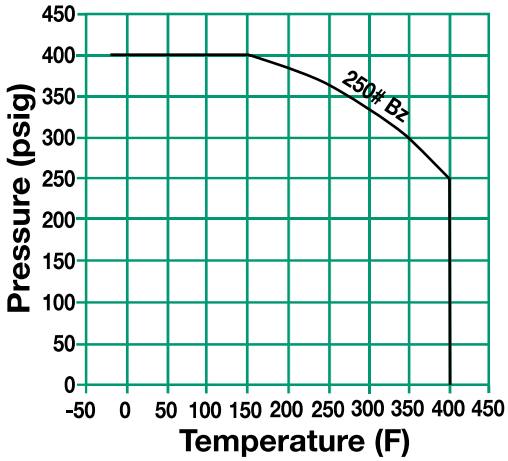


Connections: 1/2" – 3" NPT

SCREEN OPENINGS

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

PRESSURE/TEMPERATURE CHART
ASME 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

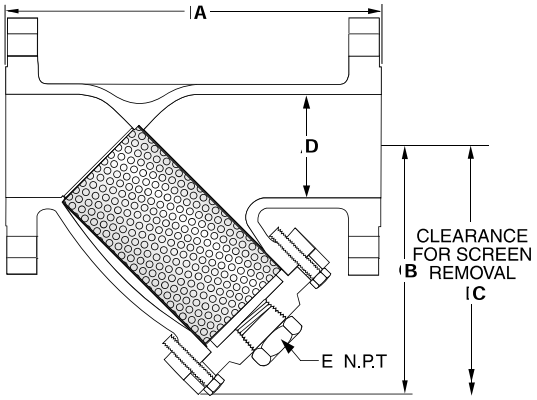
SPECIFICATION

Y Strainer shall be straight flow design with RF Flanged inlet/outlet connections. The strainer shall be rated to ASME Class 250 designed in accordance with ASME 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

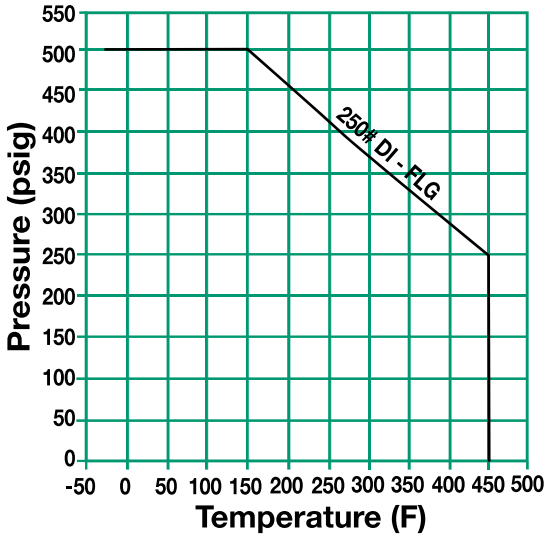


Connections: 2" – 12" RF Flanges

SCREEN OPENINGS

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

PRESSURE/TEMPERATURE CHART
ASME 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.

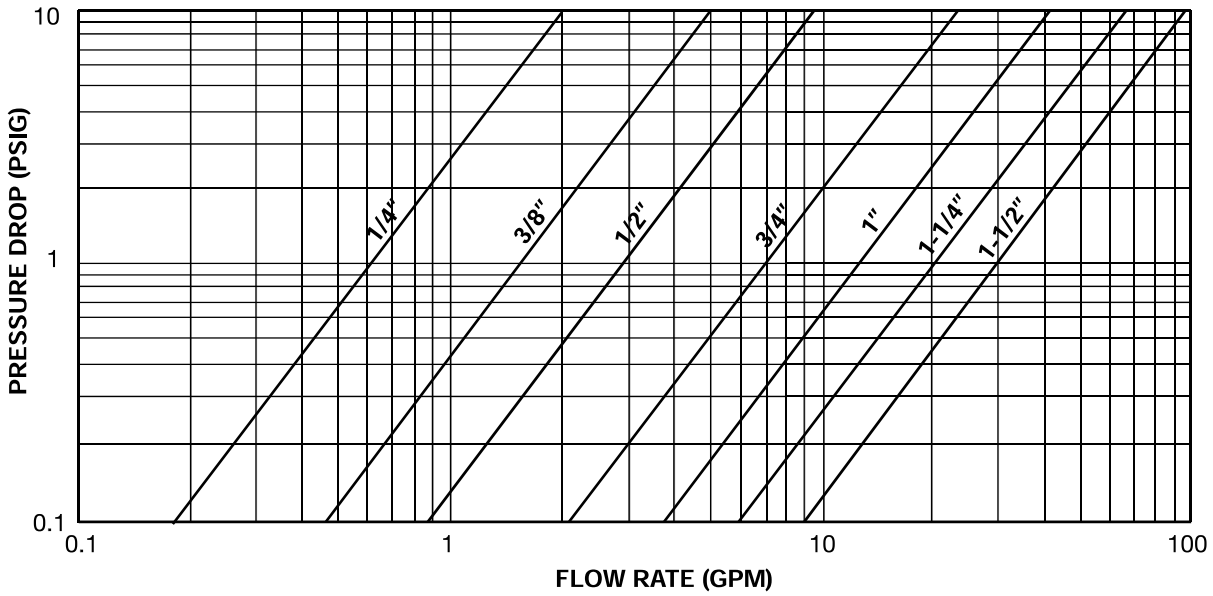
250Y SERIES

CAST IRON, BRONZE, DUCTILE IRON

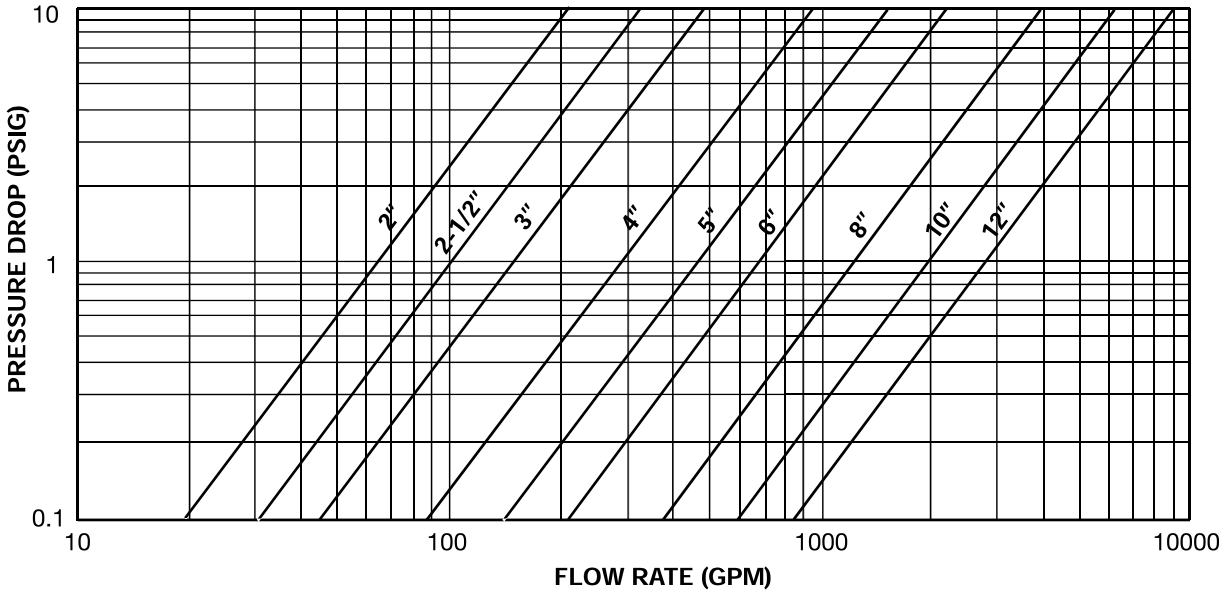
PRESSURE DROP VS FLOW RATE

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 57 | **Correction Factors for Other Viscous Liquids and/or Mesh Liners** Page 56 | **Correction Factors for Clogged Screens** Page 56

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

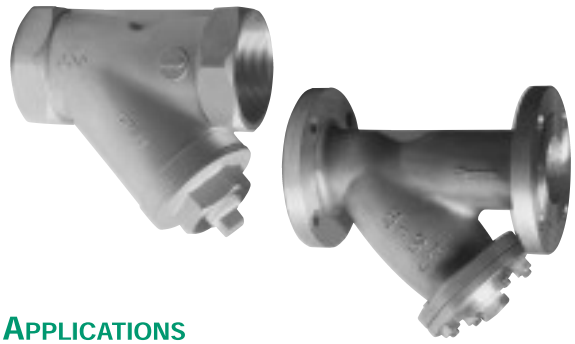
DUCTILE IRON

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 54

Basket Burst Pressure Page 59



300Y SERIES

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

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

- **ASME Class 300 rated strainers**
- **NPT, RF, Socketweld and Buttweld connections designed in accordance with ASME B16.5, B16.25, B16.11 and B16.34**
- **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 (Designed in accordance with)

- ASME B16.11
- ASME B16.5
- ASME B16.25
- ASME B16.34

Canadian Registration - See appropriate Model pages

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 Requirements
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

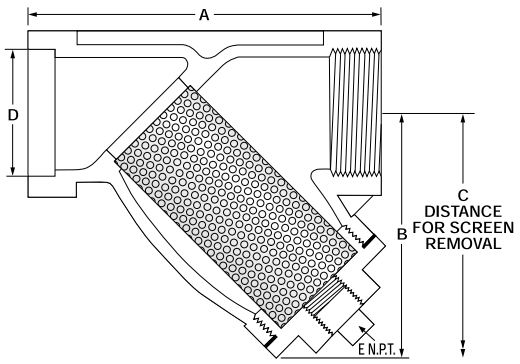
Y Strainer shall be straight flow design with NPT or Socketweld inlet/outlet connections. The strainer shall be rated to ASME Class 300. The Strainer shall be Investment Cast Carbon Steel or Stainless Steel body and the screen shall be size _____ perf 304 SS. The strainer shall be have an inlet size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

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

Canadian Registration - Carbon Steel <3" OE10274.5C
- Stainless Steel OE0591.9C

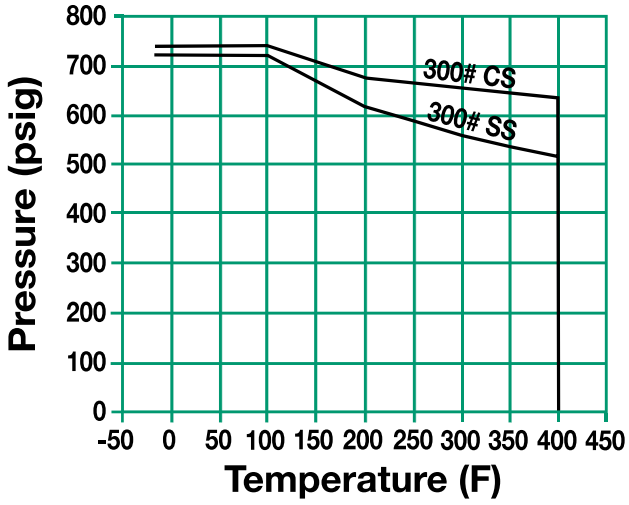


Connections:
CS – 1/2" to 3" NPT or SW
SS – 1/2" to 3" NPT or S

SCREEN OPENINGS

SIZE	STANDARD SCREEN	MATERIALS
½" – 2"	1/32" Perf	304 SS
2½" – 3"	3/64" 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)	2 17/32 (59)	1 5/8 (41)	2 3/8 (60)	0.855 (21.72)	3/8 (10)	.50 (.22)
3/4 (20)	3 3/16 (80)	2 (51)	3 3/16 (81)	1.065 (27.05)	3/8 (10)	.82 (.37)
1 (25)	3 9/16 (84)	2 3/8 (60)	4 (102)	1.330 (33.78)	½ (15)	1.50 (.68)
1¼ (32)	4 1/8 (105)	2 7/8 (73)	4½ (114)	1.675 (42.55)	½ (15)	2.0 (.90)
1½ (40)	4 3/4 (119)	3 1/4 (83)	4 3/4 (121)	1.915 (48.64)	½ (15)	2.8 (1.27)
2 (50)	5½ (1.38)	3 7/8 (97)	5 3/4 (146)	2.406 (61.11)	½ (15)	4.3 (1.95)
2½ (65)	7 1/4 (183)	4 13/16 (124)	7 1/4 (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 ASME Class 300 designed in accordance with ASME B16.5, B16.34 and/or ASME 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*

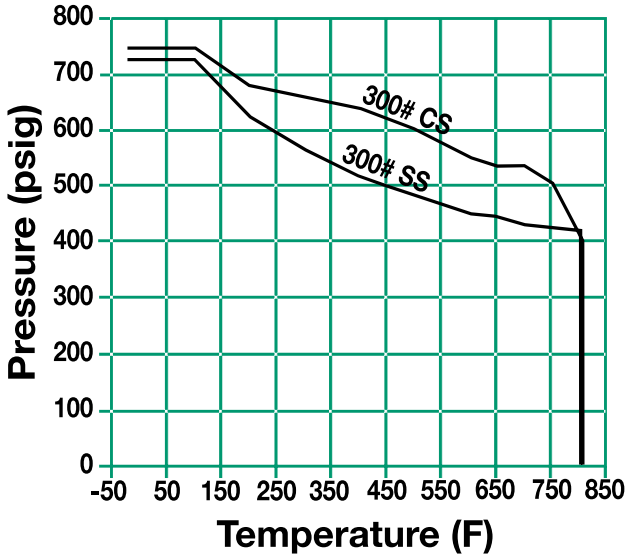
Part	Carbon Steel	Stainless Steel
Body	A216-WCB	A351-CF8M
Cover	A216-WCB	A351-CF8M
Screen[1]	304 SS	304 SS
Plug[2]	A105	A182-316
Gasket[1]	304 SS Spiral Wound	304 SS Spiral Wound
Stud	A193-B7	A193-B8-1
Nut[2]	A194-2H	A194-8

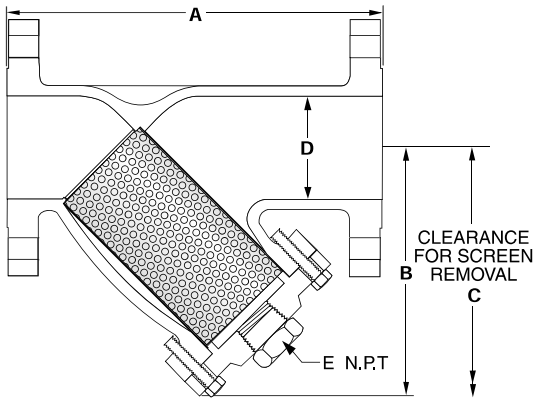
1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

* Low Carbon Steel Available on request. Consult Factory

Canadian Registration - Carbon Steel OE10274.5C
- Stainless Steel OE0591.9C

PRESSURE/TEMPERATURE CHART
ASME B16.34





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

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 11/16 (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.

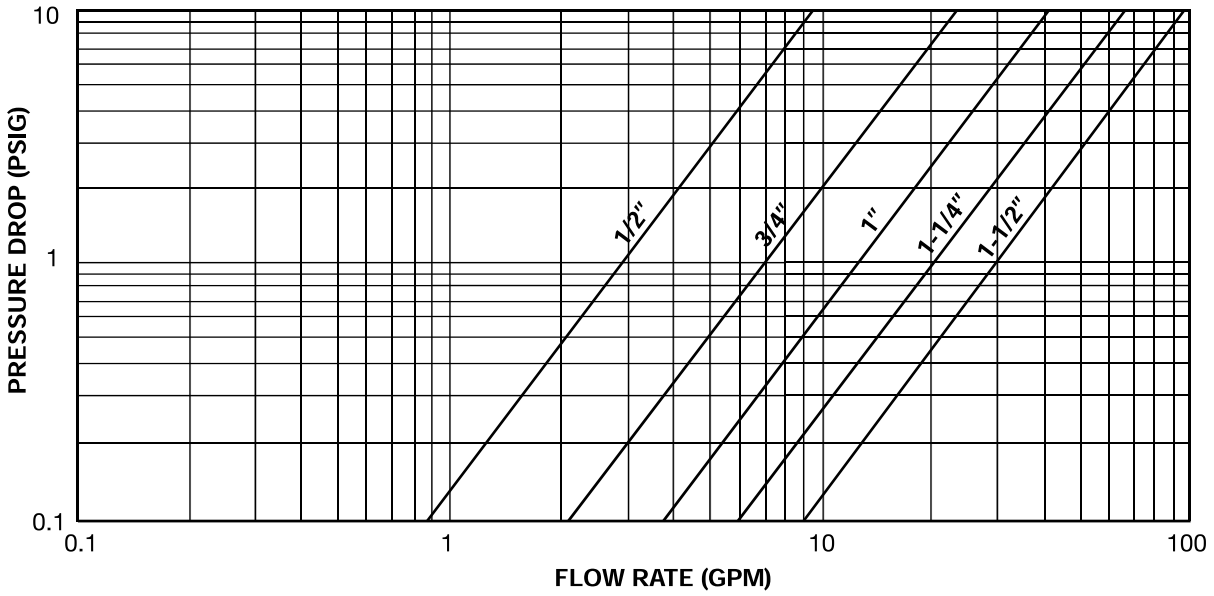
300Y SERIES

CARBON STEEL, STAINLESS STEEL

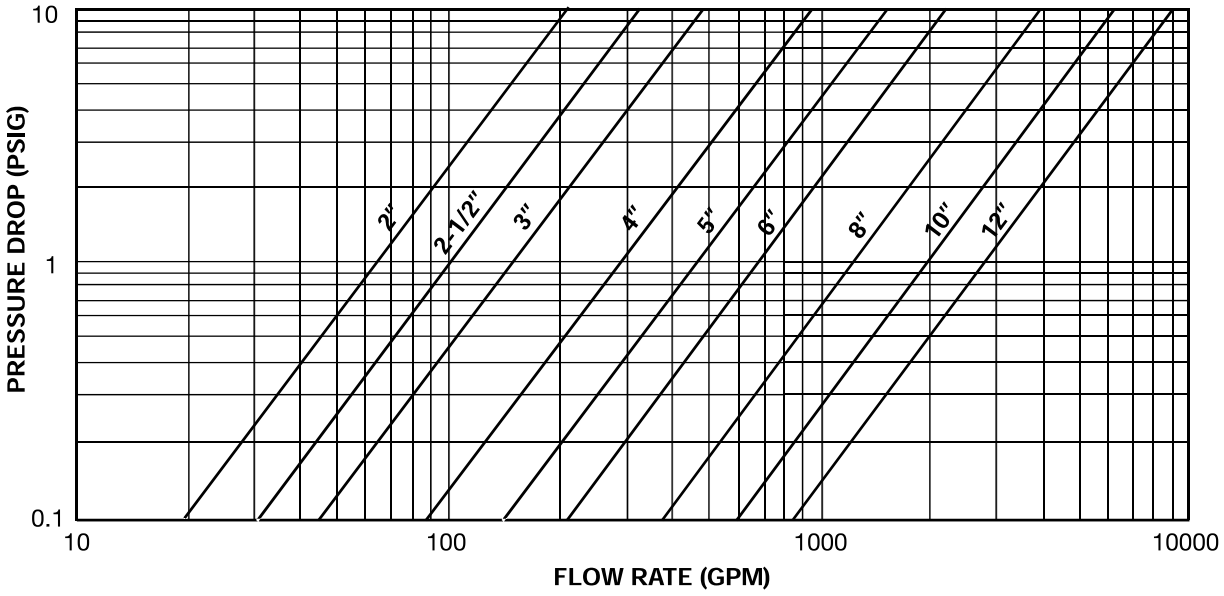
PRESSURE DROP VS FLOW RATE

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 57

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 56

Correction Factors for Clogged Screens Page 56

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 54

Basket Burst Pressure Page 59

NOTES:

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)

- **ASME Class 600 rated strainers**
- **NPT, RF or RTJ, Socketweld and Buttweld connections designed in accordance with ASME B16.11, B16.25, B16.34 and B16.5**
- **SSI Exclusive – Body blow down flange and cover flange dimensions are in dimensional accordance with ASME 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 (Designed in accordance with)

- ASME B16.11
- ASME B16.5
- ASME B16.34
- ASME B16.25

Canadian Registration - OE10274.5C

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.

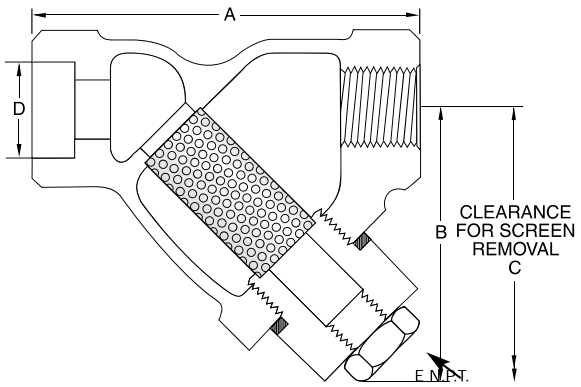
Add'l Requirements - Position 16
Leave Blank If not Required
D - Special Drain Size
F - Silicon Free
G - Special Gaskets
N - Nace MR01-75
T - Special Testing
X - Oxygen Cleaning
Y - Other and / or Multiple Specials

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 ASME Class 600 designed in accordance with B16.34 and/or B16.11. 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.



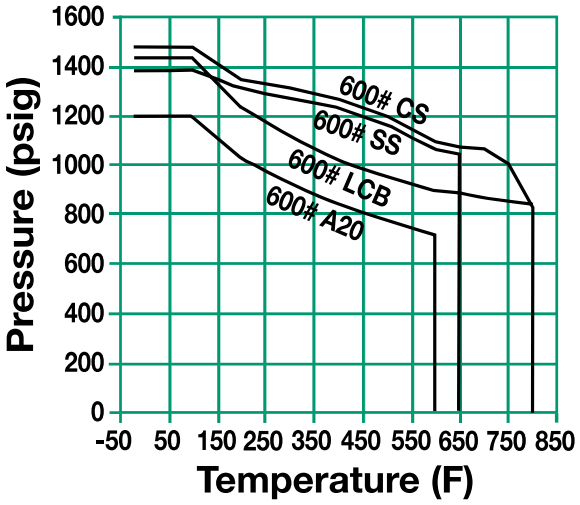
Connections:
CS – ½" to 2" NPT or SW
SS – ½" to 2" NPT or SW
LCS – ½" to 2" NPT or SW
A20 – ½" to 2" NPT or SW

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
ASME 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)	3 1/8 (80)	0.855 (21.72)	¼ (8)	1.4 (0.6
¾ (20)	3 ¾ (95)	2 15/16 (75)	3 9/16 (90)	1.065 (27.05)	⅜ (10)	2.2 (1.0)
1 (25)	4 ⅝ (118)	3 ¾ (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

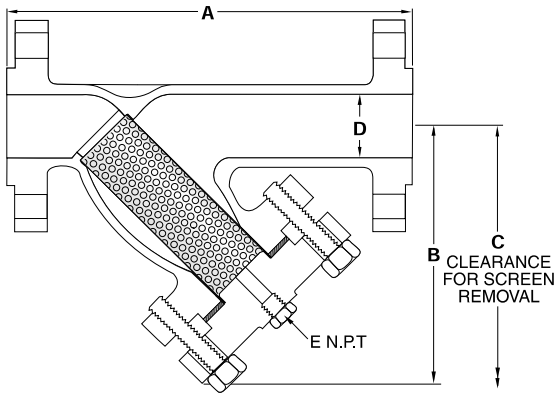
SPECIFICATION

Y Strainer shall be straight flow design with RF Flanged, Ring Joint or Buttweld inlet/outlet connections. The strainer shall be rated to ASME Class 600 designed in accordance with ASME B16.5 and/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



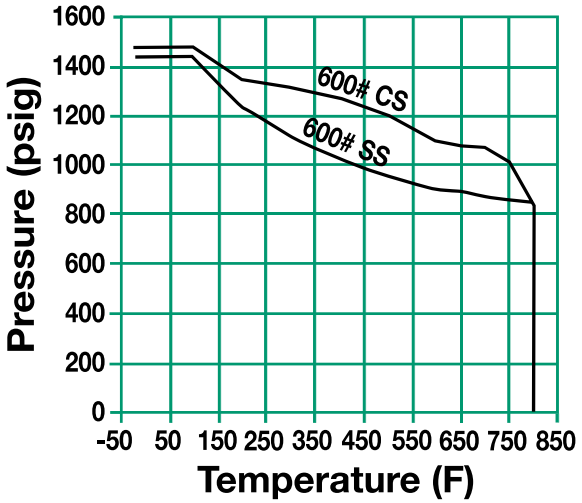
Connections:
CS - 2" to 12" RF Flanged, RTJ or Buttweld[3]
SS – 2" to 6" RF Flanged, RTJ or Buttweld[3]

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
ASME 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 11/16 (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".

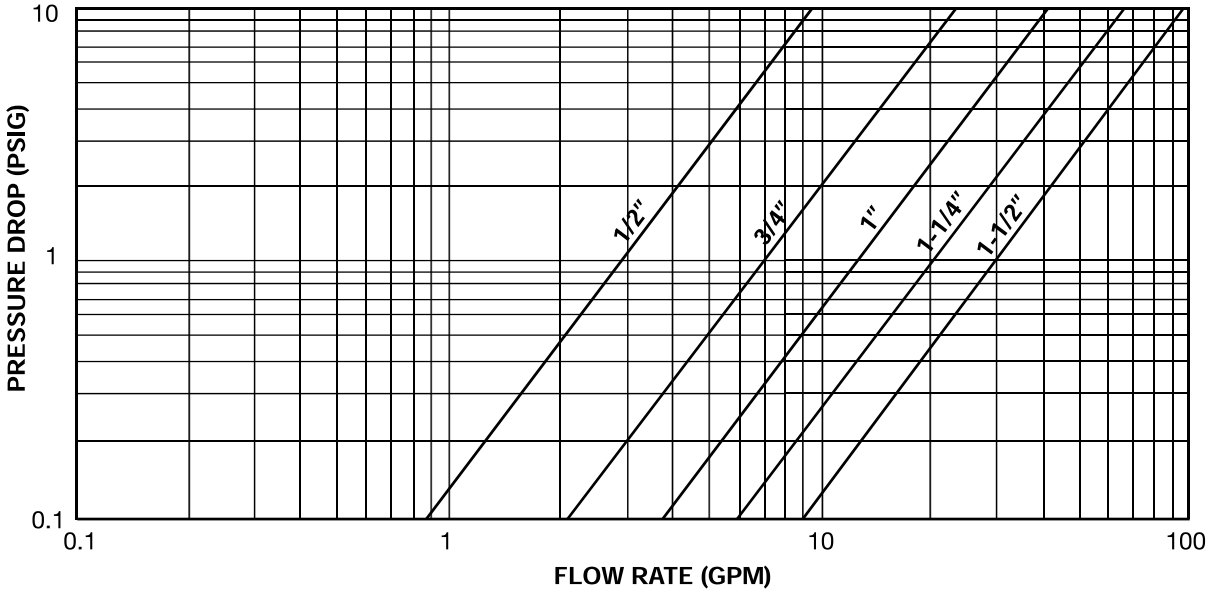
600Y SERIES

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

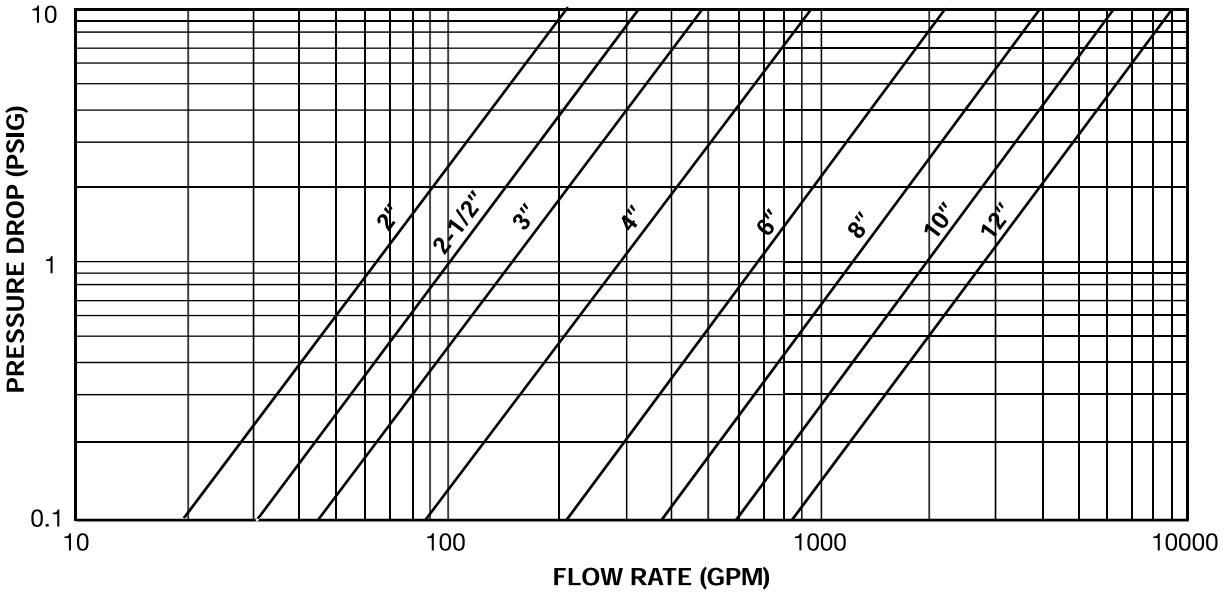
PRESSURE DROP VS FLOW RATE

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

(Sizes ½" - 1½")



(Sizes 2" - 12")



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

Steam Service Pressure Drop Page 57

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 56

Correction Factors for Clogged Screens Page 56

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 54 | **Basket Burst Pressure** Page 59

NOTES:

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

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

- **ASME Class 900 rated strainers**
- **RF or RTJ, and Buttweld connections designed in accordance with ASME B16.34, B16.5 and B16.25**
- **SSI Exclusive – Body blow down flange and cover flange dimensions are in dimensional accordance with ASME 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 (Designed in accordance with)
- ASME B16.5
- ASME B16.34
- ASME B16.25

Canadian Registration OE10274.5C

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 48

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 Requirements
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

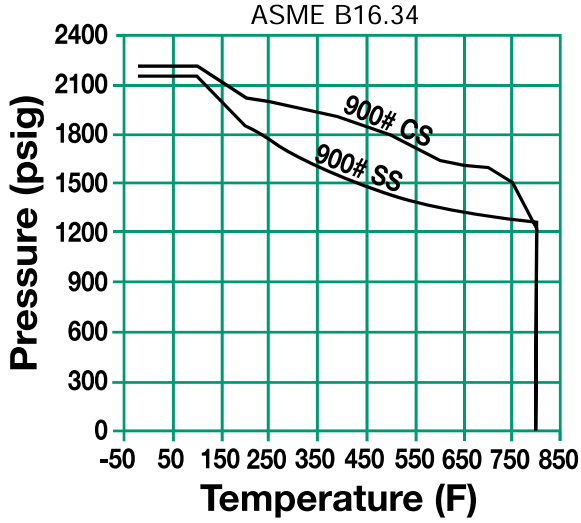
Y Strainer shall be straight flow design with RF Flanged, Ring Joint or Buttweld inlet/outlet connections. The strainer shall be rated to ASME Class 900 designed in accordance with ASME B16.5 and/or B16.34. The Strainer shall be Cast Carbon Steel or Stainless Steel body and the screen shall be size _____ 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.

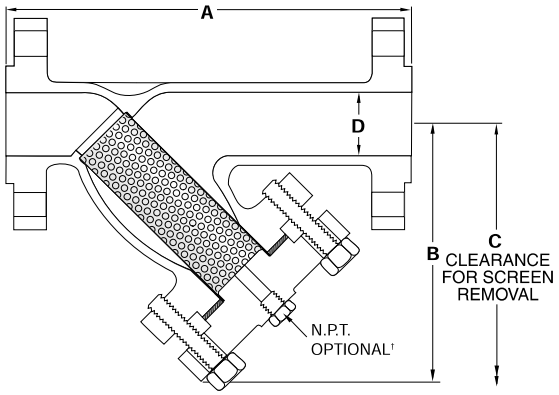
MATERIALS OF CONSTRUCTION

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 48

SCREEN OPENINGS

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

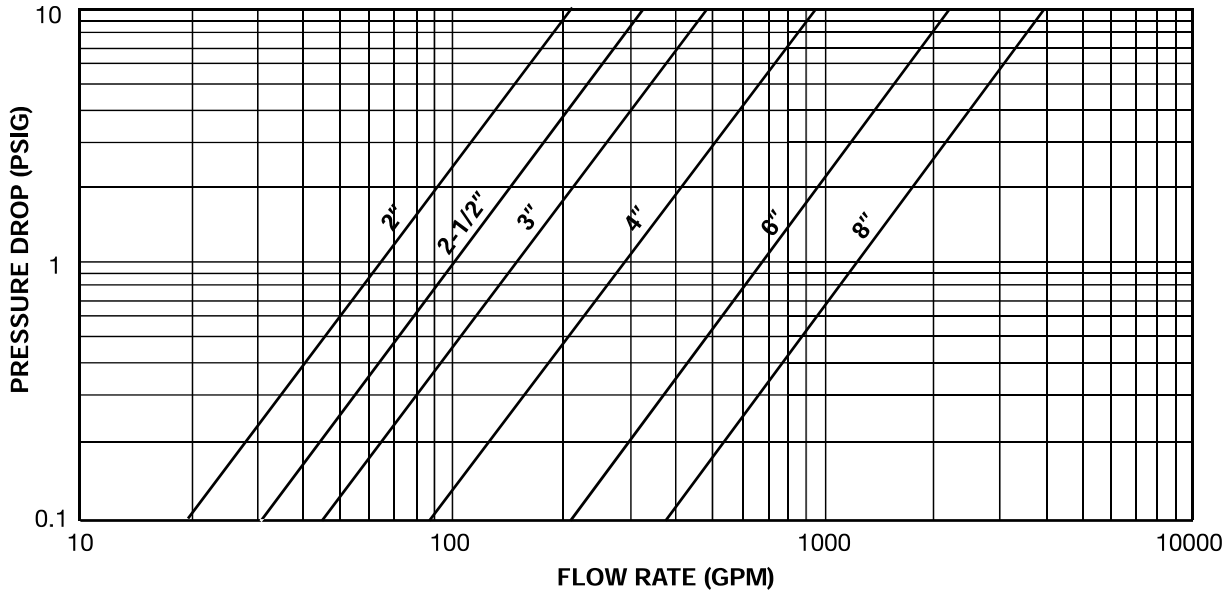
DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

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)	26⅝ (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 57

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 56

Correction Factors for Clogged Screens Page 56

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 54

Basket Burst Pressure Page 59

NOTES:

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)

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 (Designed in accordance with)

- ASME B16.11
- ASME B16.5
- ASME B16.34
- ASME B16.25

Canadian Registration - OE10274.5C

- **ASME Class 1500 rated strainers**
- **NPT, RF or RTJ, Socketweld and Buttweld connections designed in accordance with ASME B16.34, B16.5, B16.25 and B16.11**
- **SSI Exclusive – Body blow down flange and cover flange dimensions are in dimensional accordance with ASME 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**

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 48

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

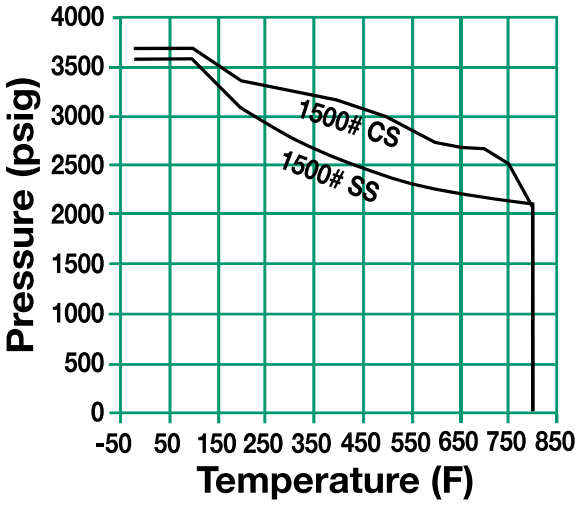
Y Strainer shall be straight flow design with NPT or Socketweld inlet/outlet connections. The strainer shall be rated to ASME Class 1500 designed in accordance with ASME B16.34 and/or B16.11. The Strainer shall be Cast Carbon Steel or Stainless Steel body and the screen shall be size _____ perf 304 SS. 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.

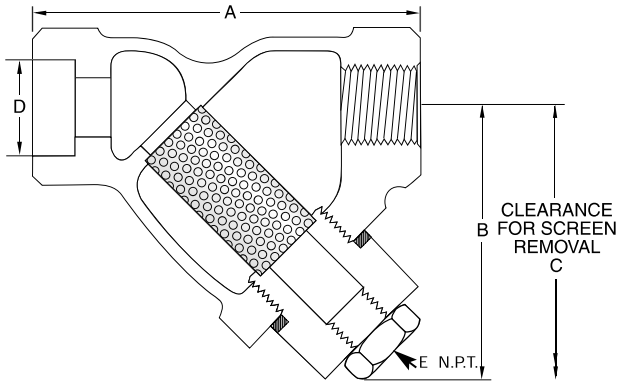
MATERIALS OF CONSTRUCTION

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

PRESSURE/TEMPERATURE CHART
ASME B16.34





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

DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

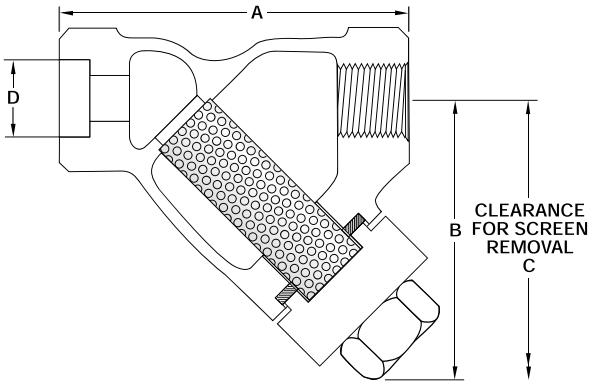
SIZE	A	B	C	D	E	WEIGHT
½ (15)	3 15/16 (100)	3 9/16 (90)	5 5/16 (135)	7/8 (22.23)	¼ (8)	2.4 (1.1)
¾ (20)	4¼ (108)	3 15/16 (100)	5 (127)	1 1/16 (27.05)	⅜ (10)	3.3 (1.5)
1 (25)	5 (127)	4 23/32 (120)	7½ (178)	1 1/3 (33.78)	½ (15)	6.0 (2.7)

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

SPECIFICATION

Y Strainer shall be straight flow design with NPT or Socketweld inlet/outlet connections. The strainer shall be rated to ASME Class 1500designed in accordance with ASME B16.34 and/or B16.11. 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.



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

MATERIALS OF CONSTRUCTION

Part	Carbon 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	*

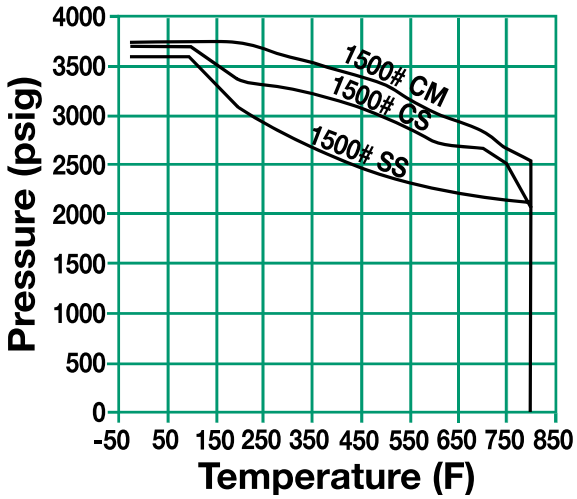
* For Chrome Moly materials of construction contact factory.
1. Recommended Spare Parts
2. Materials of equivalent strength may be substituted

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)	5 1/8 (130)	6½ (165)	7/8 (22)	7 (3.2)
¾ (20)	4 1/4 (108)	5 29/32 (150)	7 3/32 (180)	1 1/8 (29)	11 (5)
1 (25)	5 (127)	6 11/16 (170)	8 15/32 (215)	1 5/16 (33)	15 (6.8)
1¼ (32)	8 3/8 (213)	7 1/16 (179)	8 5/8 (219)	1 11/16 (43)	22 (10)
1½ (40)	8 3/8 (213)	7 1/16 (179)	8 5/8 (219)	1 15/16 (49)	22 (10)
2 (50)	9 3/8 (238)	7 7/8 (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

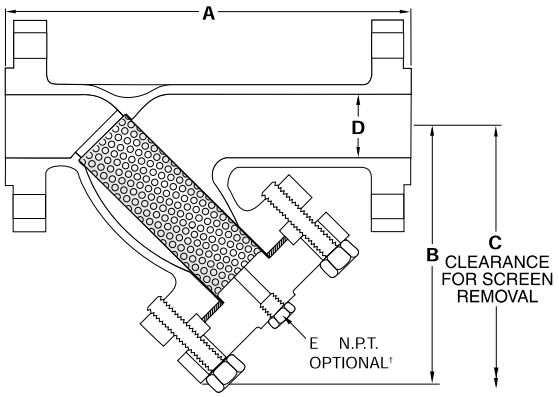
SPECIFICATION

Y Strainer shall be straight flow design with RF Flanged, Ring Joint or Buttweld inlet/outlet connections. The strainer shall be rated to ASME Class 1500 designed in accordance with ASME B16.5 and/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



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

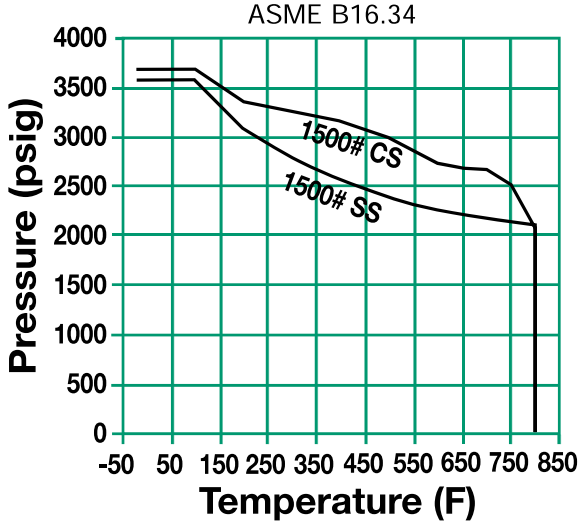
Connections:
CS - 2" to 6" RF Flanged or RTJ
SS – 2" to 6" RF Flanged or RTJ

For Buttweld connection use FY Series on page 48

SCREEN OPENINGS

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

PRESSURE/TEMPERATURE CHART
ASME B16.34



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.

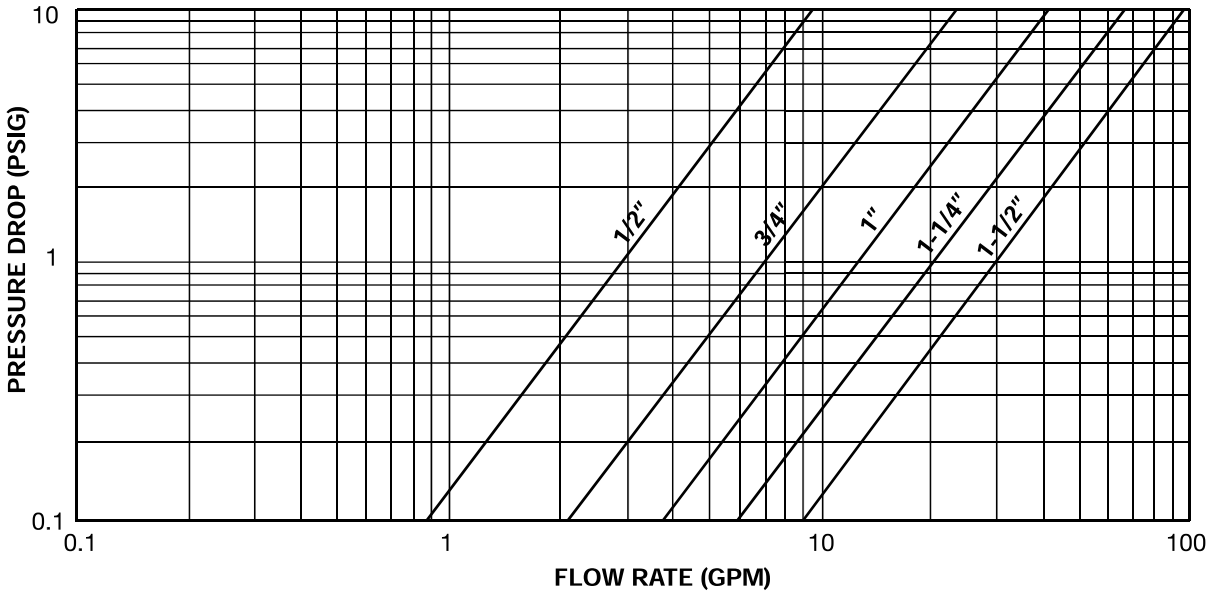
1500Y SERIES

CARBON STEEL, STAINLESS STEEL, CHROME MOLY

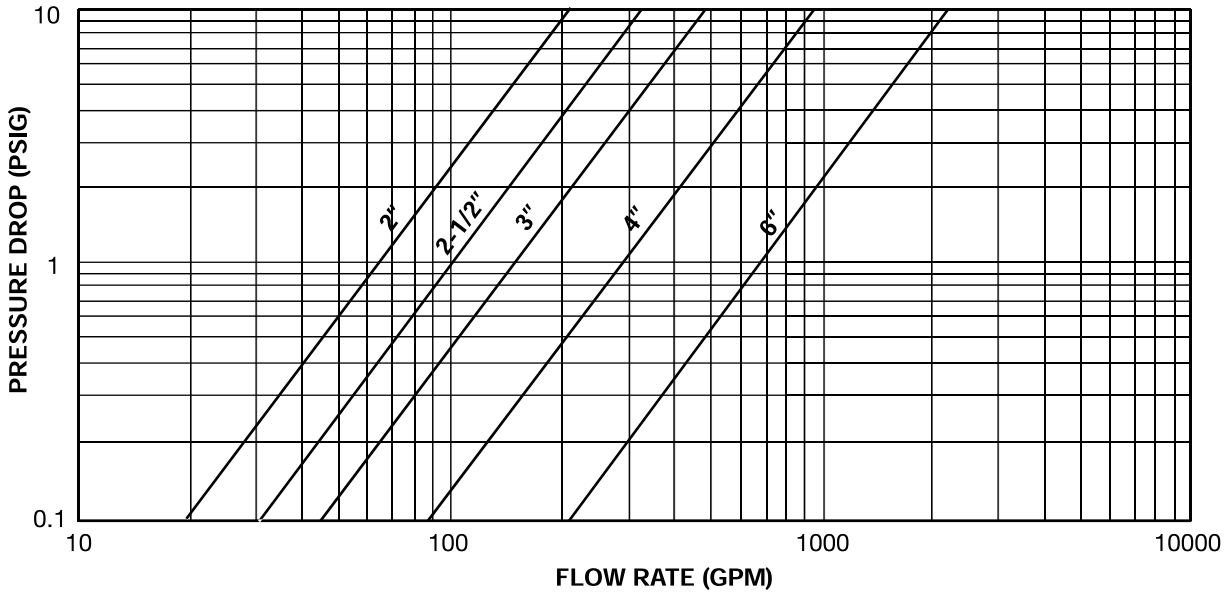
PRESSURE DROP VS FLOW RATE

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

(SIZES ½" - 1½")



(Sizes 2" - 6")



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

Steam Service Pressure Drop Page 57

Correction Factors for Other Viscous Liquids and/or Mesh Liners Page 56

Correction Factors for Clogged Screens Page 56

1500Y SERIES

CARBON STEEL, STAINLESS STEEL, CHROME MOLY

OPEN AREA RATIOS

with Standard Perforated Screen

1500Y1
Threaded Connections -Threaded Cover

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	5.0	1.4	6.0
¾	1/32	28	0.43	6.6	1.8	4.3
1	1/32	28	0.72	10.6	3.0	4.1

1500Y2
Threaded Connections - Bolted Cover

Size	Perf. Diameter (inches)	Opening %	XH Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
½	1/32	36	0.23	6.2	1.7	7.5
¾	1/32	36	0.43	8.3	2.3	5.4
1	1/32	36	0.72	13.7	3.8	5.4
1¼	1/32	28	1.23	24.9	7.0	5.7
1½	1/32	36	1.77	24.9	6.9	4.0
2	3/64	36	2.95	31.4	11.31	8.6

1500Y2
Flanged

Size	Perf. Diameter (inches)	Opening %	Flanged Inlet Area (in^2)	Gross Screen Area (in^2)	Free Screen Area (in^2)	Open Area Ratio (OAR)
2	3/64	36	3.14	48.9	17.61	5.6
2½	3/64	36	4.91	83.4	30.02	6.1
3	3/64	36	7.07	109.9	39.56	5.6
4	1/8	40	12.57	165.0	66.01	5.3
6	1/8	40	28.27	314.5	125.78	4.4

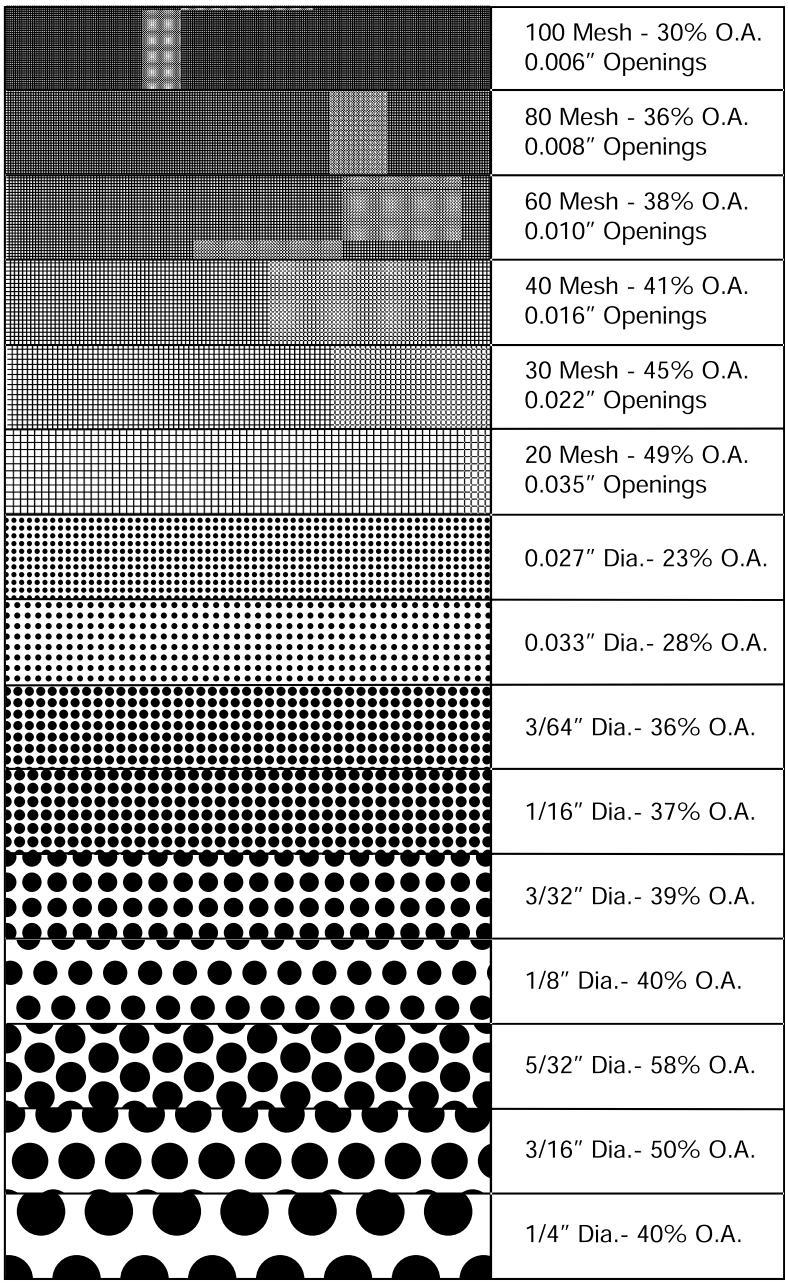
OAR = Free Screen Area / Nominal Inlet Area
Free Screen Area = Opening % x Gross Screen Area
Values shown are approximate. Consult factory for exact ratios.

Other Screen Openings Page 54

Basket Burst Pressure Page 59

Y-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.

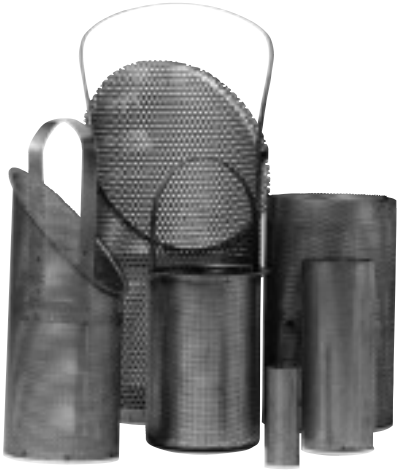
Screen openings other than those shown above are readily available. Various mesh sizes as fine as 5 micron and perforated plate as coarse as 1/2″ Dia. are in inventory.

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.

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.

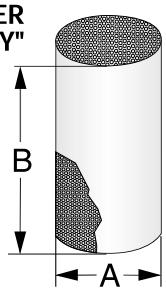
SCREEN/BASKET CHECKLIST

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 =	

CYLINDRICAL STRAINER STYLE "Y"



Dimensional Requirements

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

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 17* 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 17* indicates a drop of 2.2 psid with standard screen.

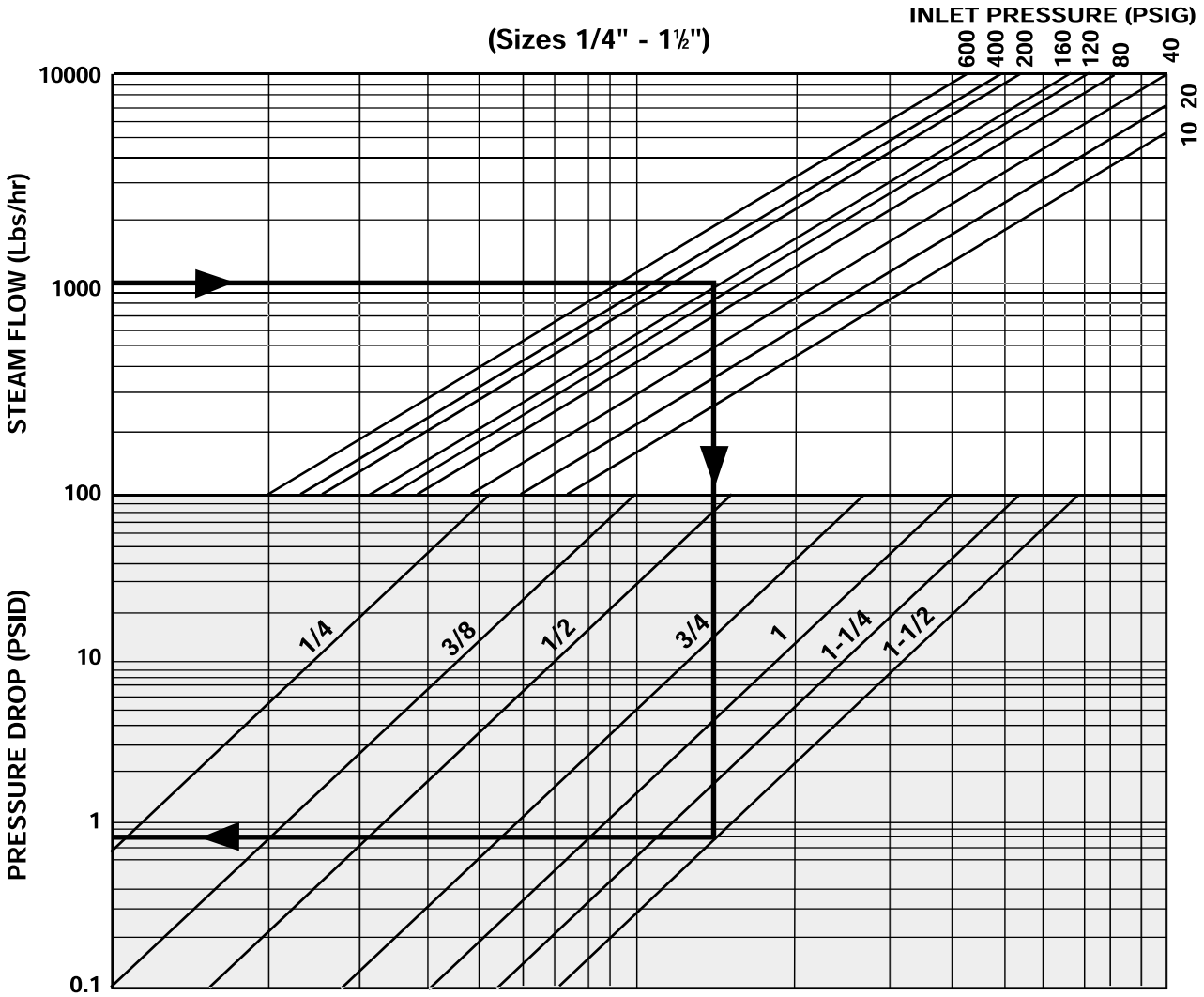
B) The Effective Area Chart indicates a ratio of 3.0 free area to pipe area.

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

(Sizes 1/4" - 1½")



Notes: 1. Pressure drop curve is based on saturated steam flow with standard screens.
See page 56 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:

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

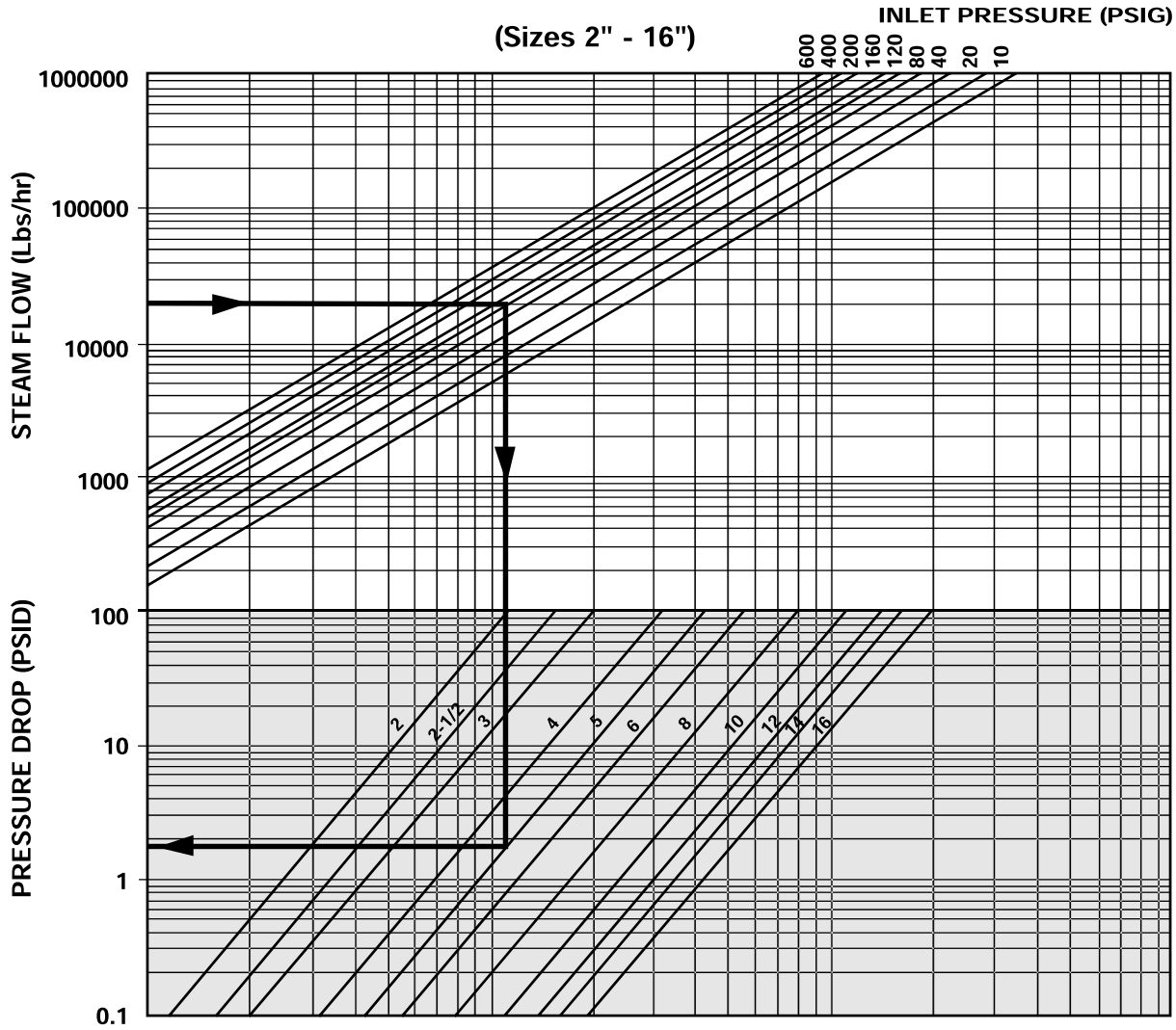
where;
Qs = Equivalent Steam Flow, lbs./hr.
Qg = Air or gas flow, SCFM.
t = Temperature, °F.
s.g. = Specific gravity (s.g. = 1 for air.)
DP = Pressure Drop, psid
P_2 = Outlet Pressure

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 56 for correction factors to be used with other screen openings.
2. Chart can be used for air and gas by using the following formula:

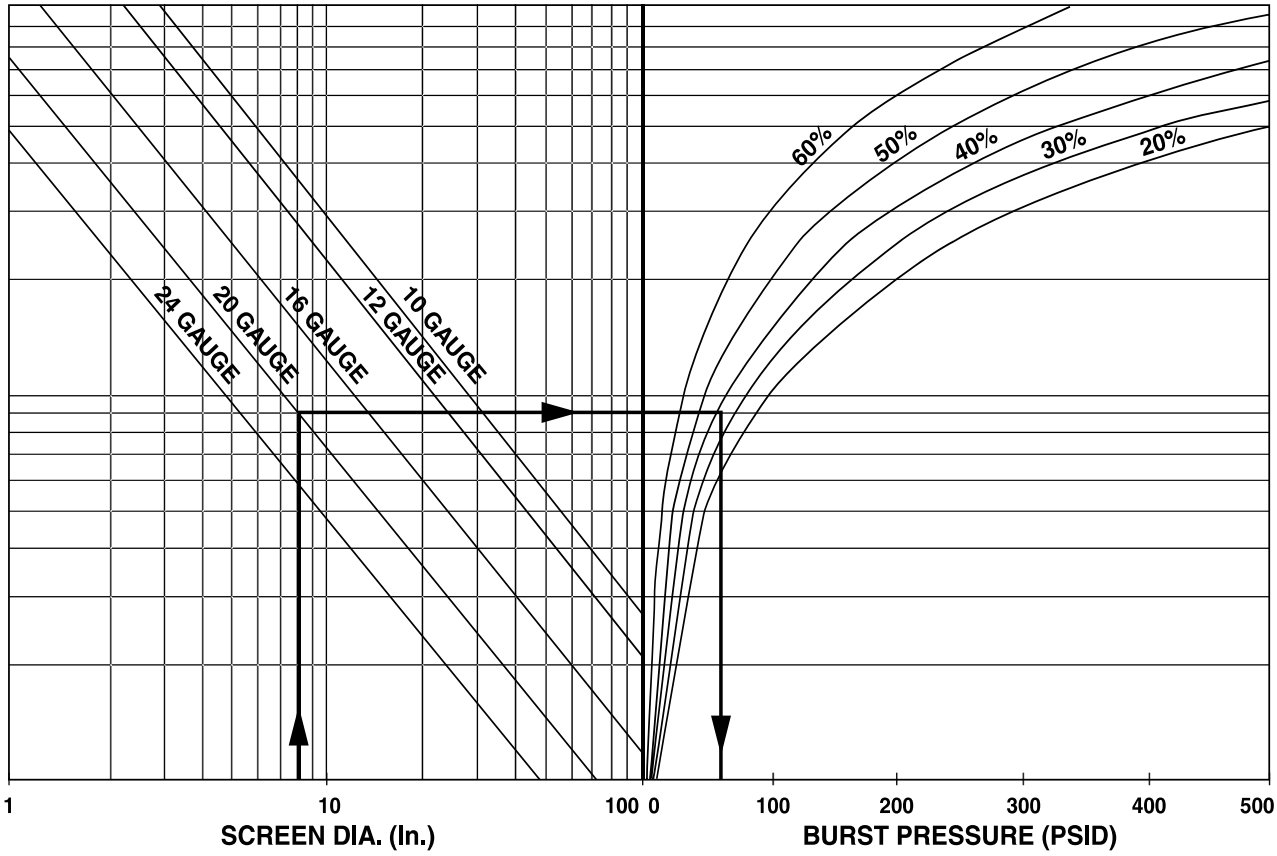
$$Qs = 0.138Qg\sqrt{(460+t)\ s.g.} \quad \left\{\frac{DP}{P2}<1.0\right\}_{\text{FOR NON-CRITICAL FLOW}}$$

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.

WARNING: *This product operates in pipelines or with equipment that carries fluids and/or gasses at elevated temperatures and pressures. Caution should be taken to make sure that this equipment is installed correctly and inspected regularly. Caution should also be taken to protect personnel from fluid or gas leakage.*

NOTES: