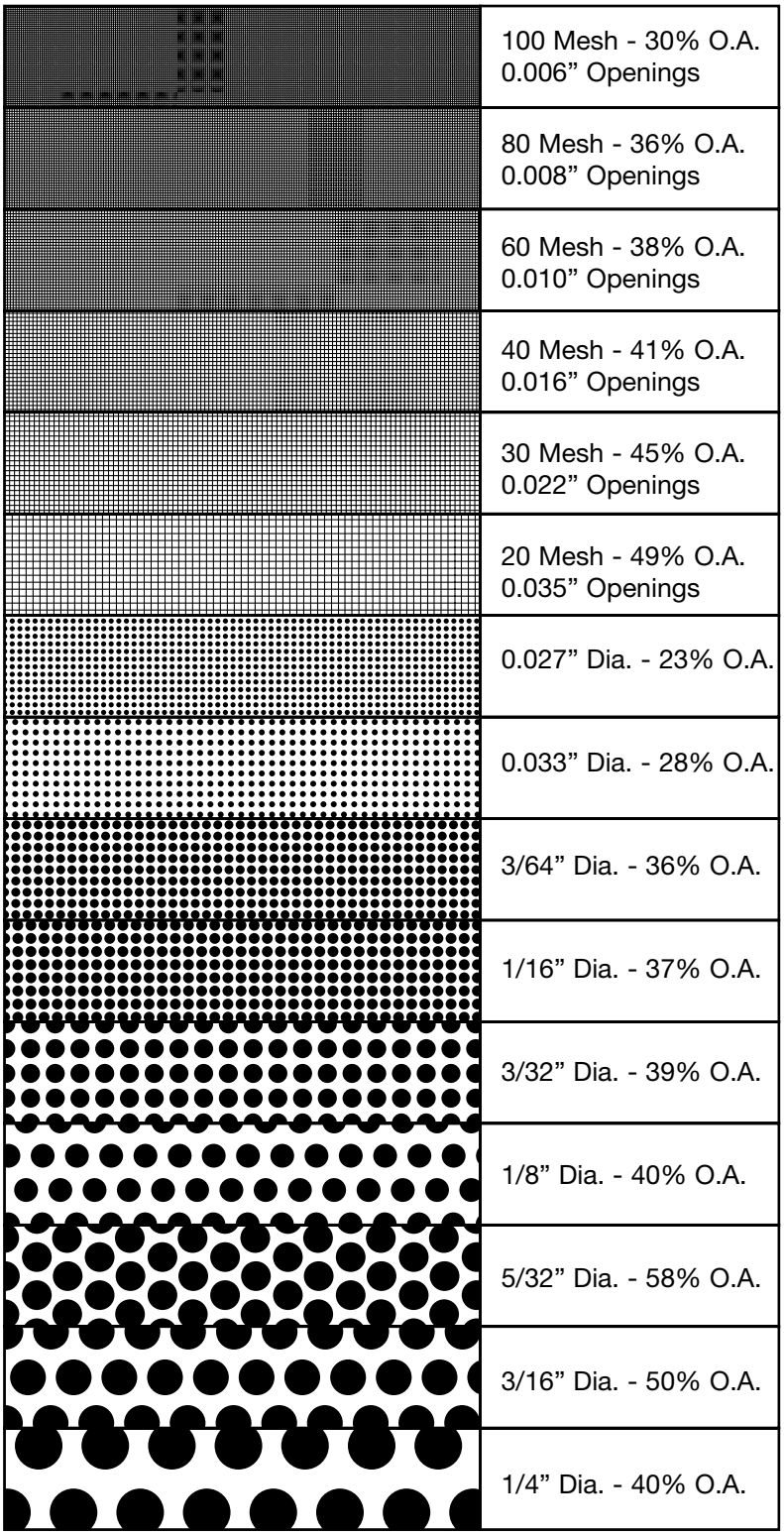
Screen Openings for Strainers



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 mesh 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.

Notes:

1. 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.
2. Screens are available in a wide range of materials. Various screen materials in carbon steel, stainless steel (304, 316), alloy 20, monel 400, hastelloy C and titanium grade 2 are in inventory.
3. Custom manufactured screens are available upon request. Please consult factory.

Screen Correction Factor Chart

For Non-Standard and Mesh Lined Screens

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

CHART #1

Size Range	SCREEN OPENINGS							
	Perforated Plate % Screen Material Open Area					Mesh lined standard screens % Screen Material Open Area		
	60%	50%	40%	30%	20%	50%	40%	30%
1/4" - 1-1/2"	0.45	0.55	0.7	1	1.15	1.05	1.05	1.2
2" - 48"	0.65	0.8	1	1.4	2.15	1.05	1.05	1.2

Notes:

1. See Screen Openings for % Open Area's of inventoried perforated plate.
2. Standard screens for sizes 1/4" to 1-1/2" is approximately a 30% open area screen media.
3. Standard screens for sizes 2" and larger is approximately a 40% open area screen media.

Example:

Strainer Size: 6"
Model: 150BFSBW1
Filtration: 100 Mesh lined 1/8" Perf.
Flow rate: 700 GPM
Service: Water

A) The Pressure Drop Chart for Fabricated Basket Strainers indicates a drop of 0.9 psid with standard screen.
B) The Screen Openings Chart indicates the % Open area of 100 mesh is 30%
C) Using Chart 1 we read the correction factor to be 1.2 for 100 mesh lined 1/8" perf.
D) Total pressure drop equals 0.9 x 1.2 = 1.08 psid clean.

Viscosity and Density Correction Factor Chart

CHART #2

Size Range	Component factor (CF)
1/4" - 1-1/2"	0.25
2" - 48"	0.35

CHART #3

Viscosity Cp	Body Loss Factor (BF)	Screen Loss Factor			
		Perf alone (PF)	20 mesh lined (MF)	30, 40, mesh lined (MF)	60 to 300 Mesh lined (MF)
10	1	1.15	1.3	1.4	1.5
25	1.2	1.25	2	2.2	2.5
100	1.6	1.4	3	4	6.5
200	2.2	1.5	4.5	7	11.5
500	4.4	1.6	10	15	25
1000	8	1.7	15	30	50
2000	15.2	1.9	30	60	100

How to Use:

1) Determine the pressure drop (P1) through the strainer with water flow and standard screens.
2) If non-standard screens (i.e. 40 mesh, etc.) are being used, apply factors in Chart #1 to determine corrected pressure drop (P2).
3) Multiply P1 or P2 (if used) by the specific gravity of the fluid actually flowing through the strainer to get P3.
4) Using Chart #2 multiply P3 by the appropriate Component Factor (CF) to get P4.
5) Let P5 = P3 - P4.
6) Multiply P4 by the appropriate Body Loss Factor (BF) in Chart #3 to get P6.
7) Multiply P5 by the appropriate Screen Loss factor (PF or MF) in Chart #3 to get P7.
8) Total pressure drop P8 = P6 + P7.

Example:

Strainer Size: 6"
Model: 150BFSBW1
Filtration: 100 Mesh lined 1/8" perf.
Flow rate: 700 GPM
Specific Gravity: 1
Viscosity: 100 cP

A) As shown in the above example, the corrected pressure drop (P2) = 1.08 psid
B) Since S.G. = 1, P3 = P2 = 1.08 psid
C) Using Chart #2 P4 = 0.35 x P3 = 0.38 psid
D) P5 = 1.08 - 0.38 = 0.7 psid
E) Using Chart #3 P6 = 0.38 x 1.6 = 0.61 psid
F) Again using Chart #3 P7 = 0.7 x 6.5 = 4.55 psid
G) Total pressure drop P8 = 0.61 + 4.55 = 5.16 psid clean

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Correction Factors For Clogged Screens

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

CHART #4

% 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	

Notes: A) See Effective Area Charts for the ratio of free area to pipe area for Strainers equipped with standard screens.

B) For screens other than standard, use the following formula to calculate the ratio free area to pipe area:

$$R = \frac{Ag \times OA}{100Ap}$$

where; R = Ratio free area to pipe area
Ag = Gross screen area, sq. in. (See Effective Area Charts)
OA = Open area of screen media, % (See Screen Openings Chart, i.e. 1/8" perf. = 40%)
Ap = Nominal area of pipe fitting, sq. in. (See Effective Area Charts)

Example #1

Strainer Size: 12"
Model: 150TFSBW1
Filtration: 1/8" Perf.
Flow rate: 2000 GPM
Service: Water
% Clogged: 20%

A) The Pressure Drop Chart indicates a drop of 0.75 psid with standard screen.
B) The Effective Area Chart indicates a ratio of free area to pipe area for a 12" series T strainer is equal to 1.2:1 (1:1 approx.).
C) Using Chart #4 we read the correction factor to be 3.9 at 20% clogged.
D) Total pressure drop equals 0.75 x 3.9 = 2.9 psid when 20% clogged.

Example #2

Strainer Size: 12"
Model: 150TFSBW1
Filtration: 5/32" Perf.
Flow rate: 2000 GPM
Service: Water
% Clogged: 50%

A) The Pressure Drop Chart indicates a drop of 0.75 psid with standard screen.
B) The Screen Openings Chart indicates the % Open area (OA) of 5/32" Perf. is 58%.
C) Using Chart #1 we read the correction factor to be 0.65 for 5/32" Perf.
D) Total clean pressure drop equals 0.75 x 0.65 = 0.49 psid.
E) Since a non-standard screen is being used, we must calculate the Ratio free area to pipe area.
F) The Effective Area Chart indicated Ag = 330 in2, Ap = 113 in2.
G) The ratio free area to pipe area is calculated as 1.7:1. (2:1 approx.)
H) Using Chart #4 we read the correction factor to be 2.5 at 50% clogged.
I) Total pressure drop equals 0.49 x 2.5 = 1.2 psid when 50% clogged.

Y-Strainer Pressure Drop-Liquids

FIGURE 1

Y-STRAINER PRESSURE DROP - LIQUIDS
(SIZES 1/4" - 1-1/2")

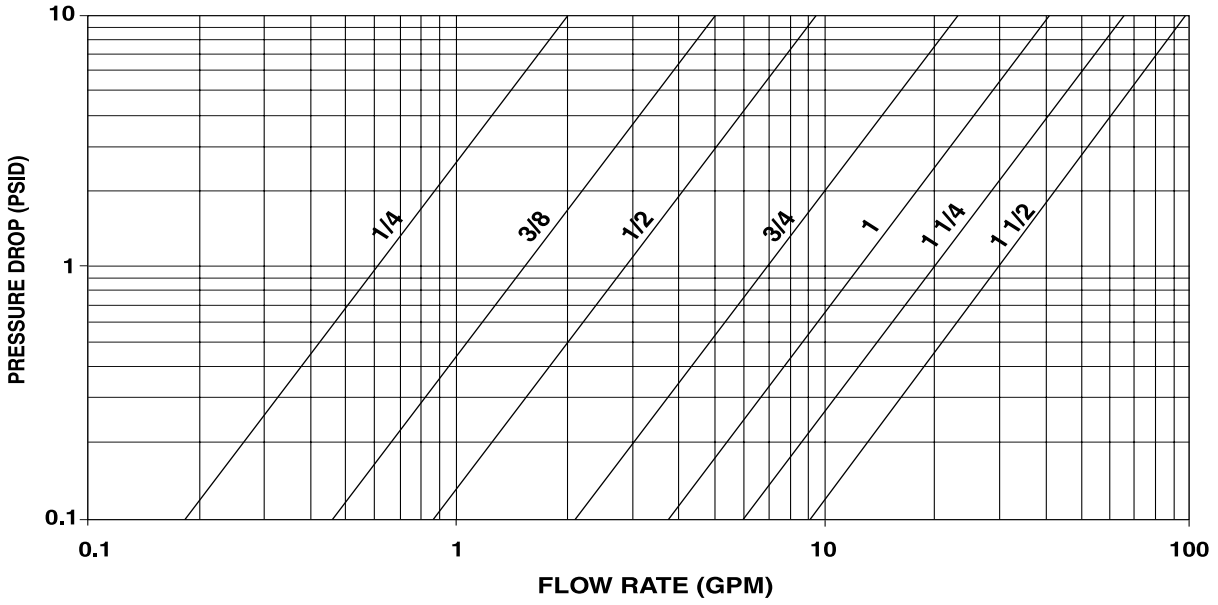
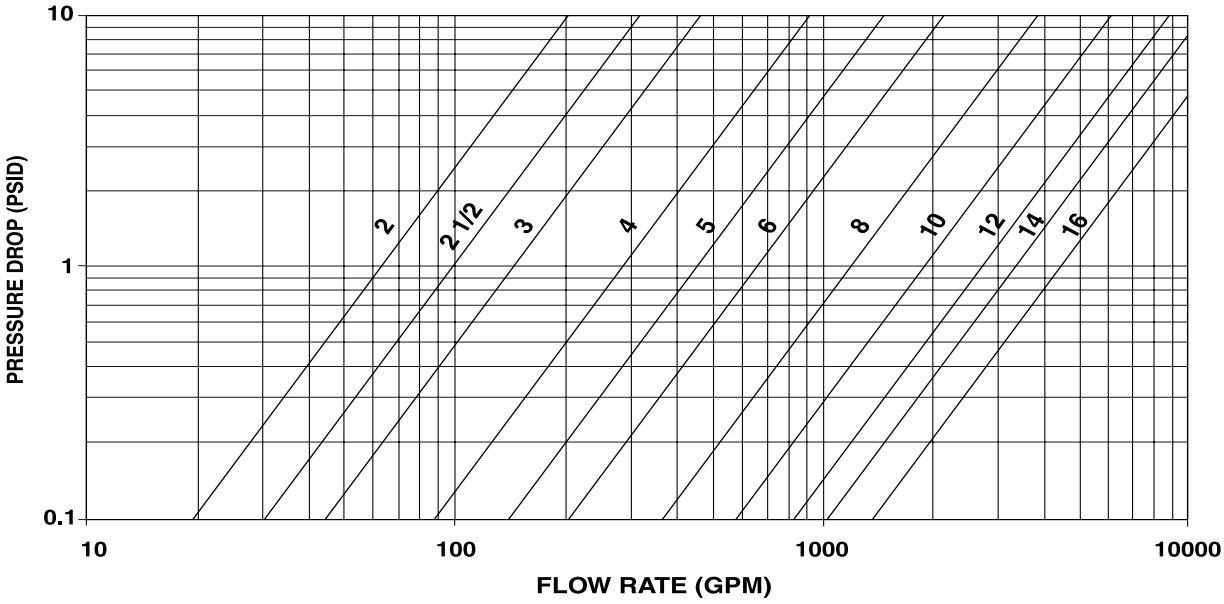


FIGURE 2

Y-STRAINER PRESSURE DROP - LIQUIDS
(SIZES 2" - 16")



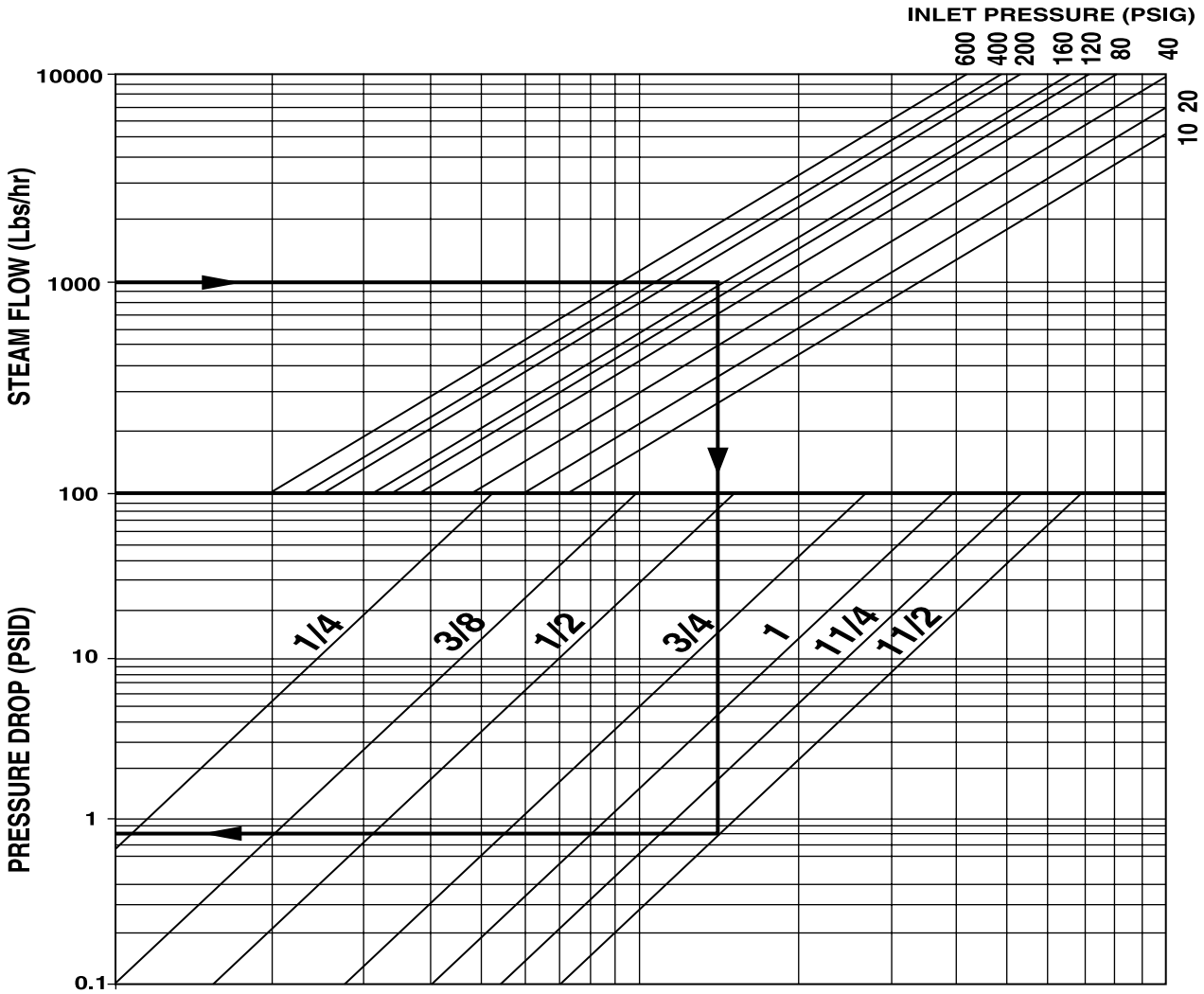
Notes:

(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.

Y-Strainer Pressure Drop - Saturated Steam

(Sizes 1/4” to 1 1/2”)

FIGURE 3



Notes:

(1) Pressure drop curves are based on saturated steam flow with standard screens. See Screen Correction Factor Chart 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
P2 = Outlet Pressure

Example:

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

A) Locate steam flow
B) Follow horizontal line to required pressure.
C) Follow vertical line downward to required strainer size.
D) Follow horizontal line to read pressure drop.
E) Pressure drop equals 0.8 psid.

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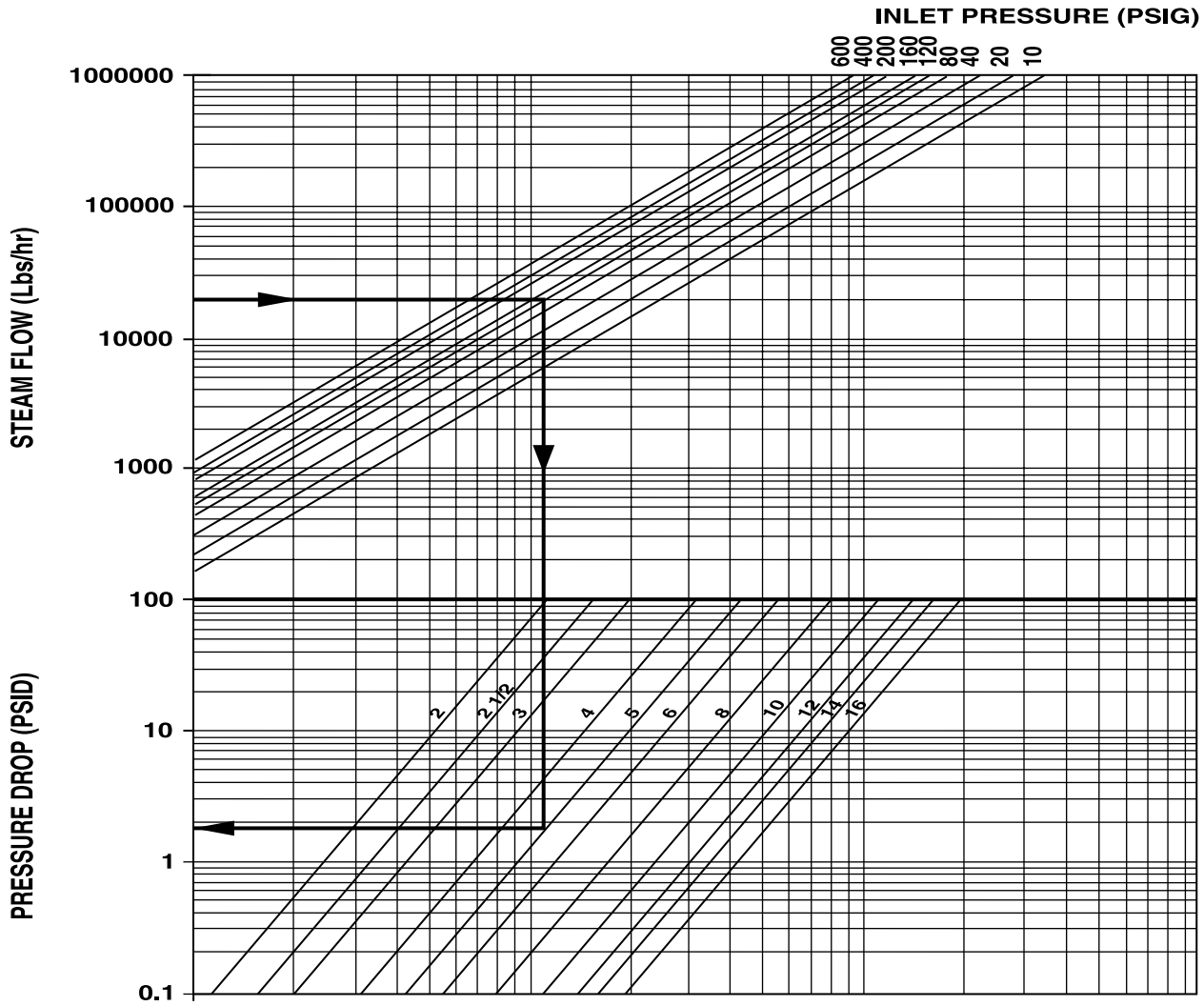
Y-Strainer Pressure Drop - Saturated Steam

(Sizes 2” to 16”)

FIGURE 4



Notes:

(1) Pressure drop curves are based on saturated steam flow with standard screens. See Screen Correction Factor Chart 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:

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

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
P2 = Outlet Pressure

Example:

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

A) Locate steam flow
B) Follow horizontal line to required pressure.
C) Follow vertical line downward to required strainer size.
D) Follow horizontal line to read pressure drop.
E) Pressure drop equals 1.8 psid.

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BASKET STRAINER PRESSURE DROP-LIQUIDS

FIGURE 5

STYLE 2 THREADED BASKET STRAINER PRESSURE DROP - LIQUIDS
(SIZES 1/2" - 1-1/2")

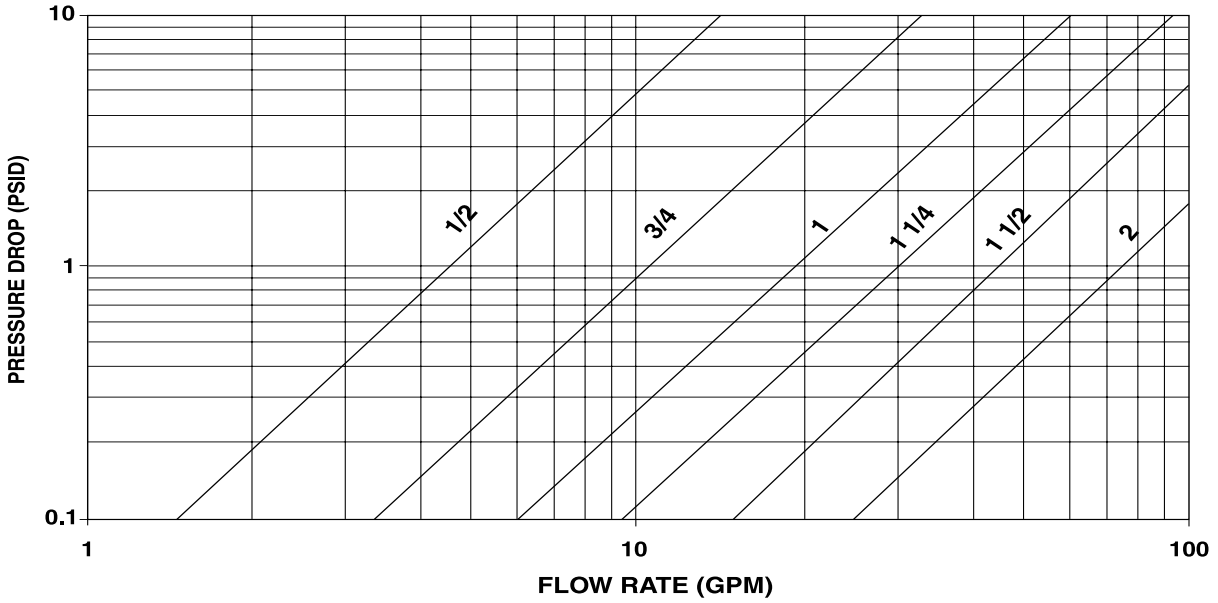
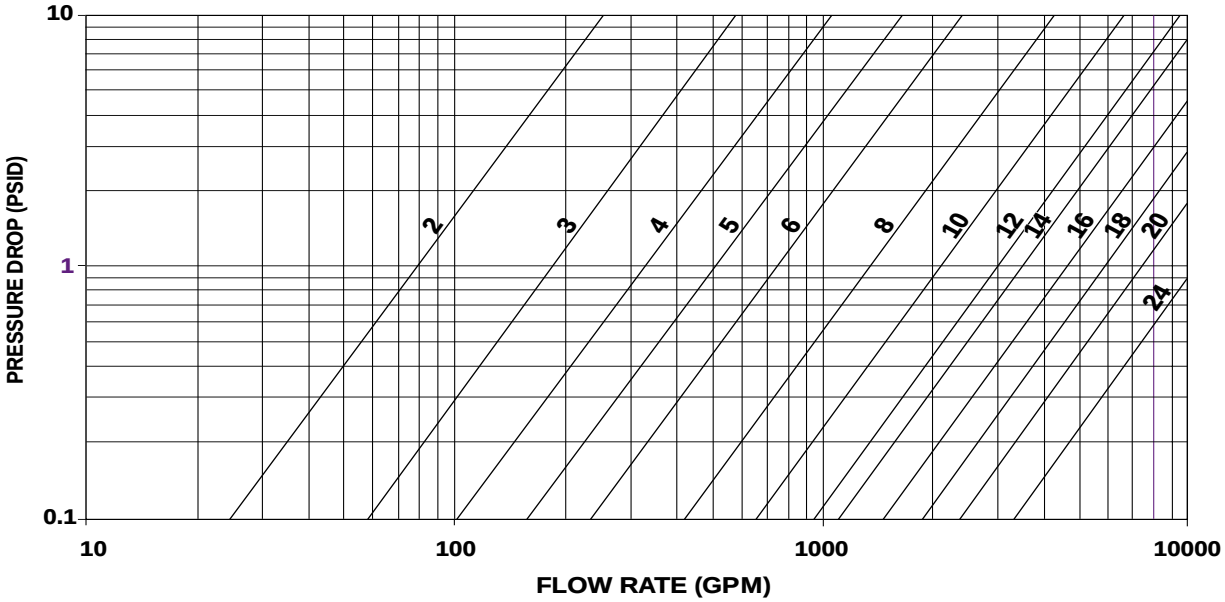


FIGURE 6

STYLE 2 FLANGED BASKET STRAINER PRESSURE DROP - LIQUIDS
(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.

(2) For Style 1 basket strainers, multiply value obtained in figure 2 by 1.15 to obtain clean pressure drop.

TEMPORARY STRAINER PRESSURE DROP - LIQUIDS

FIGURE 7

TEMPORARY STRAINER PRESSURE DROP - LIQUIDS
(SIZES 3/4" - 5")

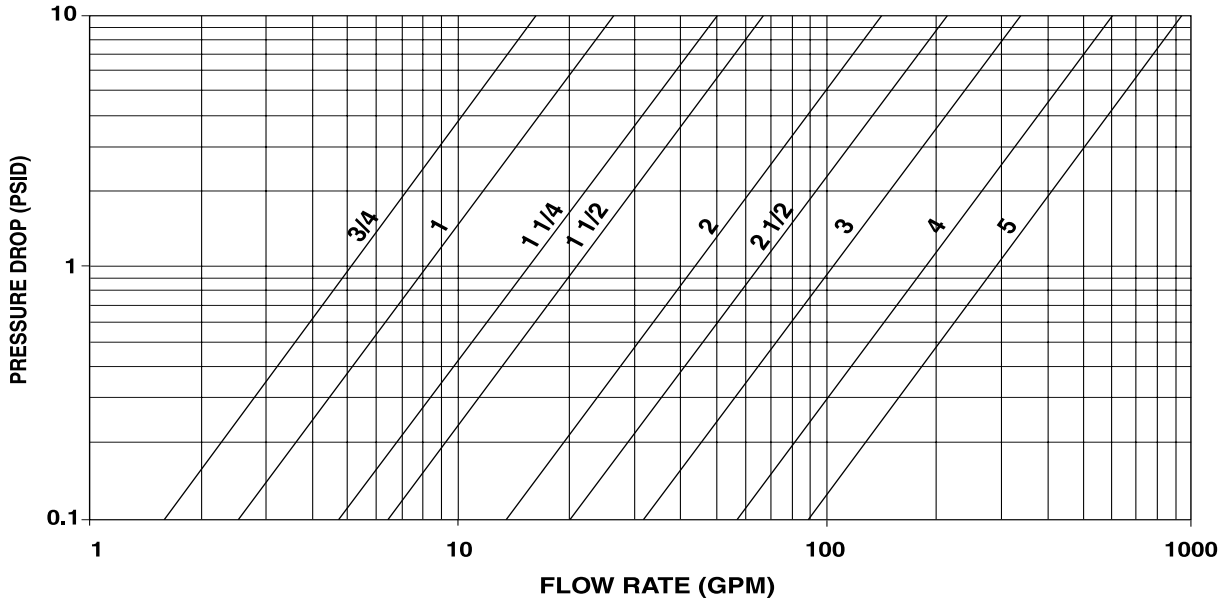
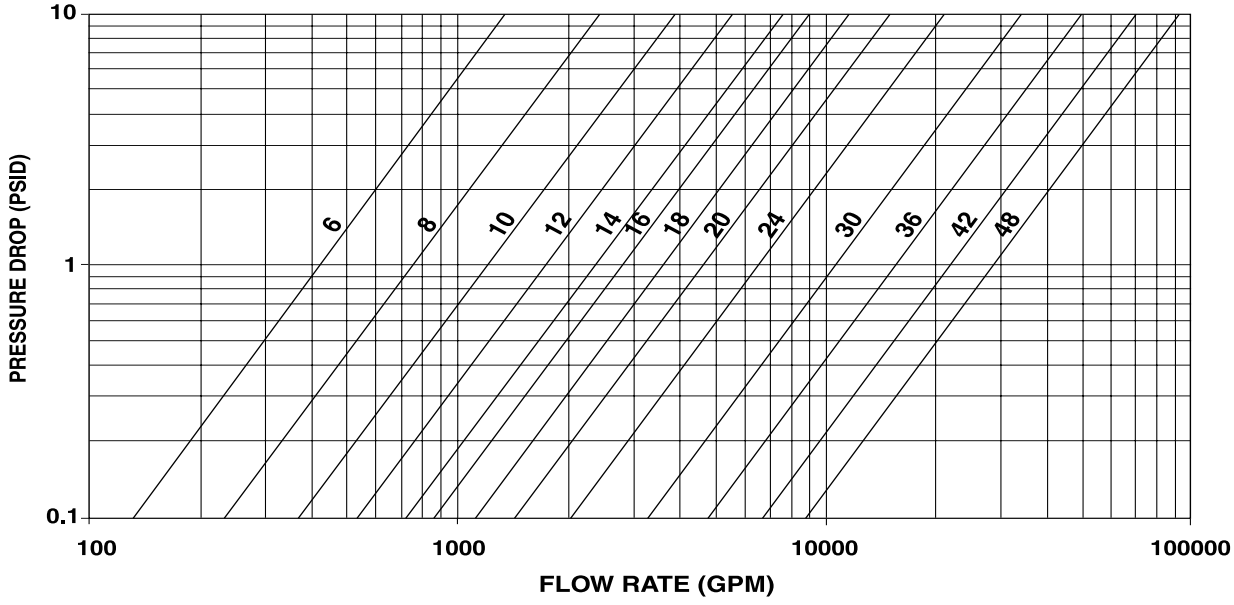


FIGURE 8

TEMPORARY STRAINER PRESSURE DROP - LIQUIDS
(SIZES 6" - 48")



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.

FABRICATED Y & TEE STRAINER PRESSURE DROP - LIQUIDS

FIGURE 9

FABRICATED Y- STRAINER PRESSURE DROP - LIQUIDS
(SIZES 2" - 24")

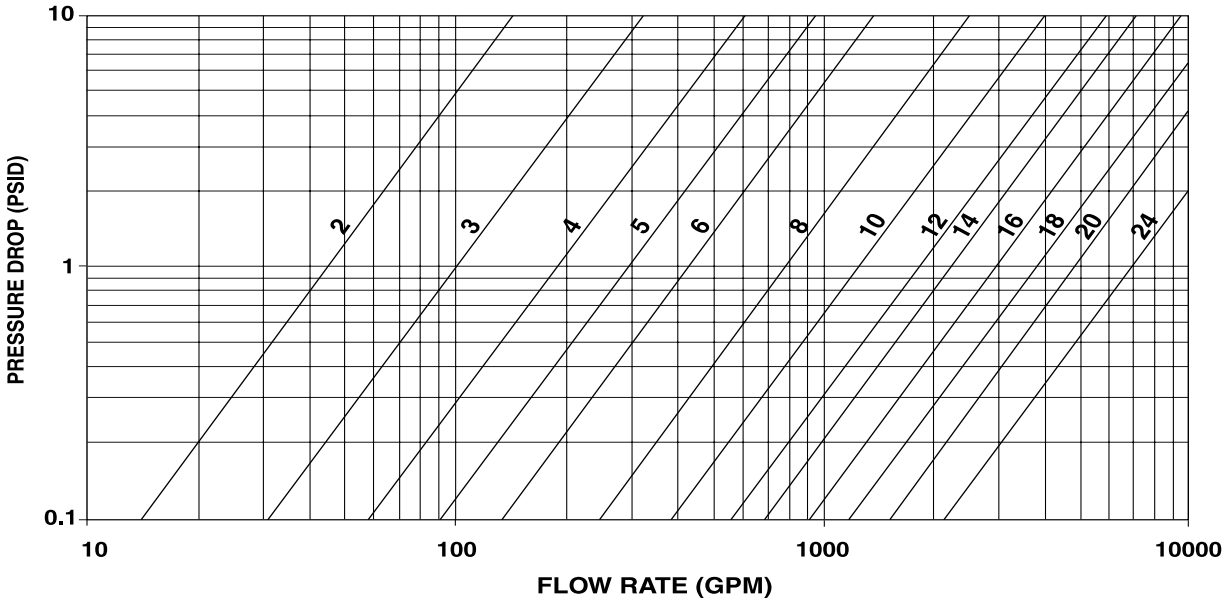
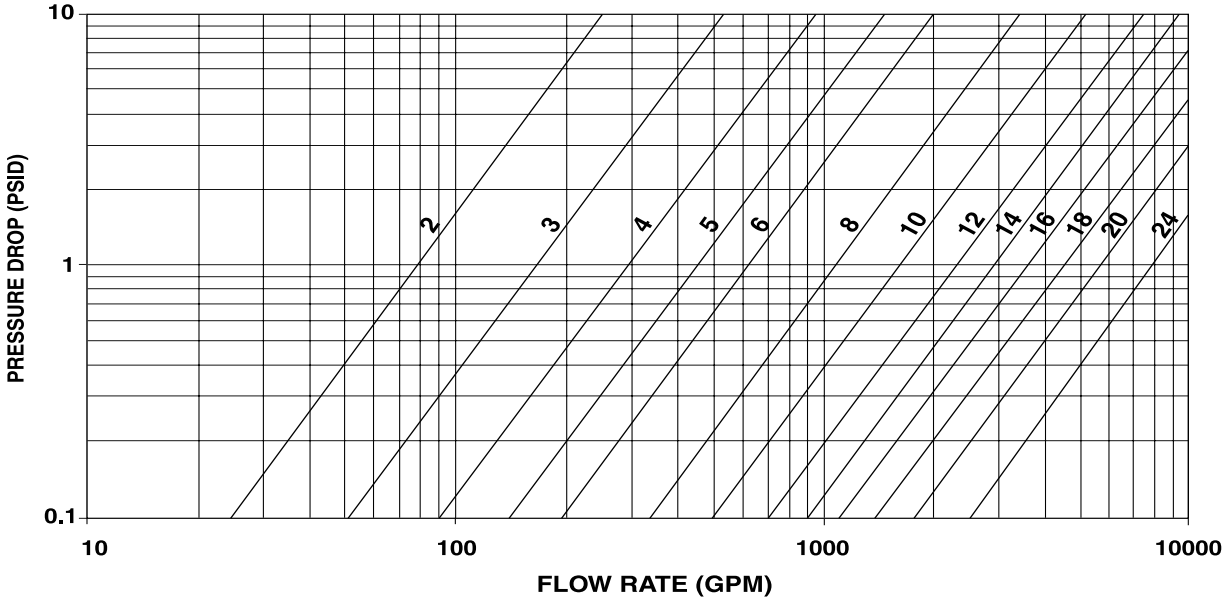


FIGURE 10

TEE STRAINER PRESSURE DROP - LIQUIDS
(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.

Fabricated Basket & Duplex Strainer Pressure Drop - Liquids

FIGURE 11

FABRICATED BASKET STRAINER PRESSURE DROP - LIQUIDS
(SIZES 2" - 24")

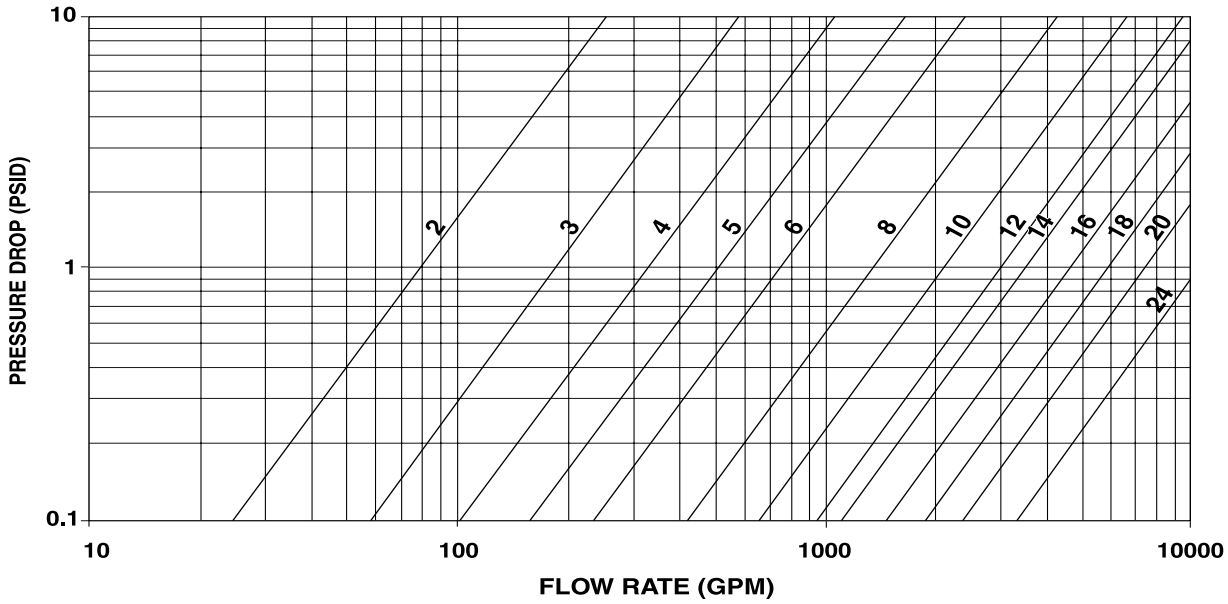
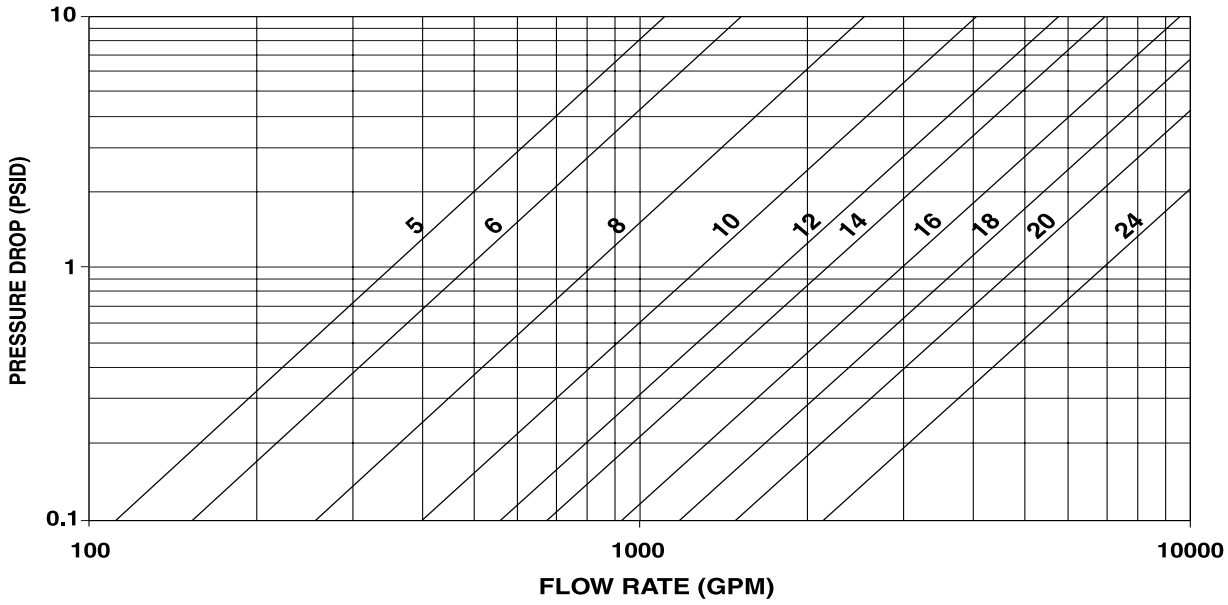


FIGURE 12

FABRICATED DUPLEX STRAINER PRESSURE DROP - LIQUIDS
(SIZES 5" - 24")

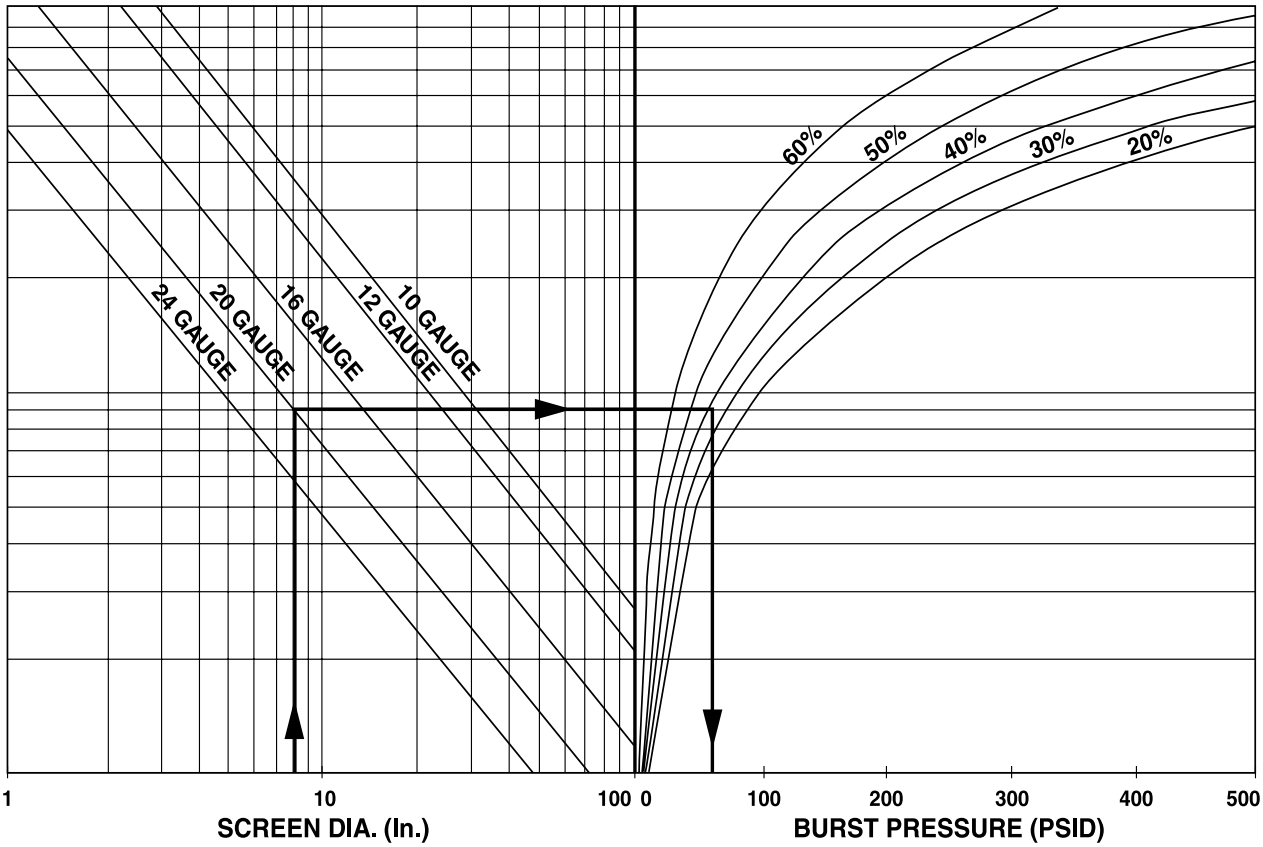


Notes:

(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.

Y-Strainer Screen Burst Pressure

FIGURE 13



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.

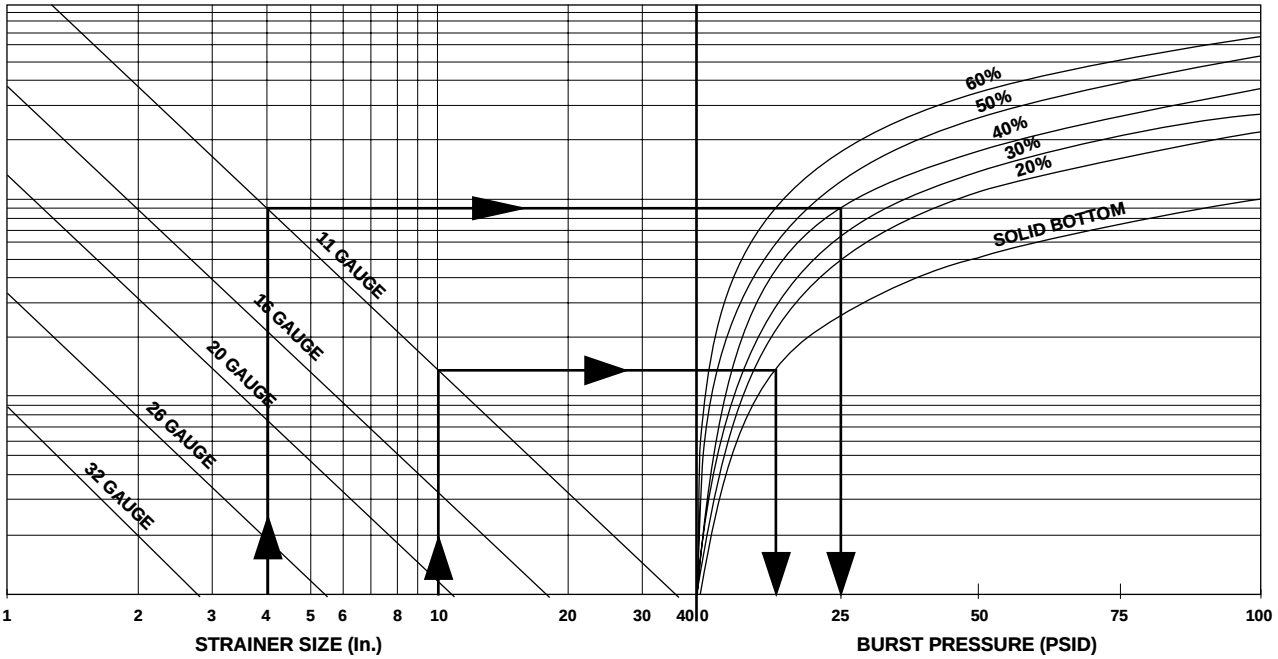
Example:

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.

BASKET & DUPLEX STRAINER BASKET BURST PRESSURE

FIGURE 14



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

2) Baskets with perforated bottoms are supplied as standard.
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 #1

Strainer Size: 10"

Basket Type: Perforated screen with 11 gauge solid flat bottom

Screen Material Open Area: 20% - 60%

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.

Example: #2

Strainer Size: 4"

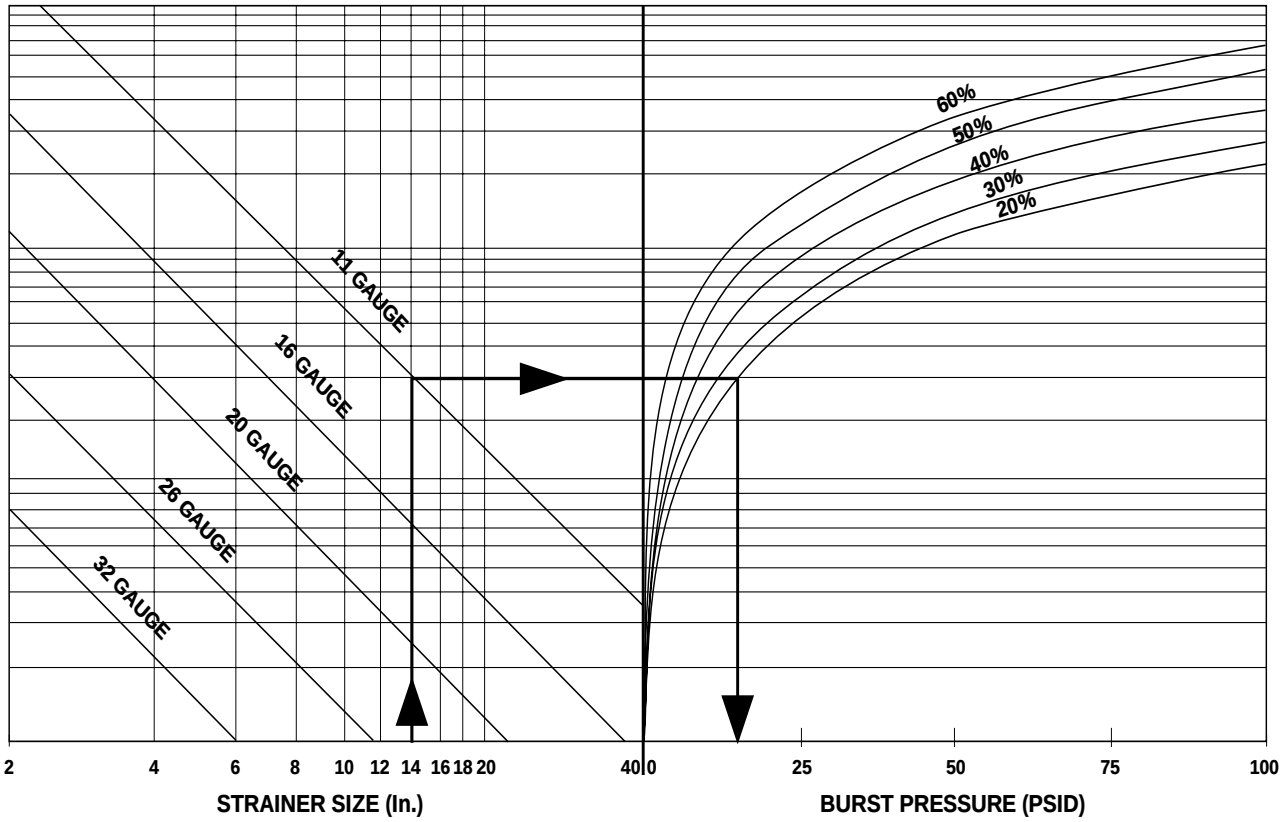
Basket Type: 11 gauge perforated screen with 11 gauge perforated flat bottom.

Screen Material Open Area: 40%

A) Locate Strainer size.
B) Follow vertical line to gauge thickness.
C) Follow horizontal line to 40% Open Area curve.
D) Follow vertical line downward to read burst pressure.
E) Burst pressure equals 25 psid.

SERIES TB STRAINER BURST PRESSURE

FIGURE 15



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 = Dimension B (See page 4), in.
P = Burst Pressure, psi
S = Reduced allowable stress, psi

(2) The above chart is based on standard dimensions. Higher burst pressure ratings are available. Please contact factory.

(3) 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.

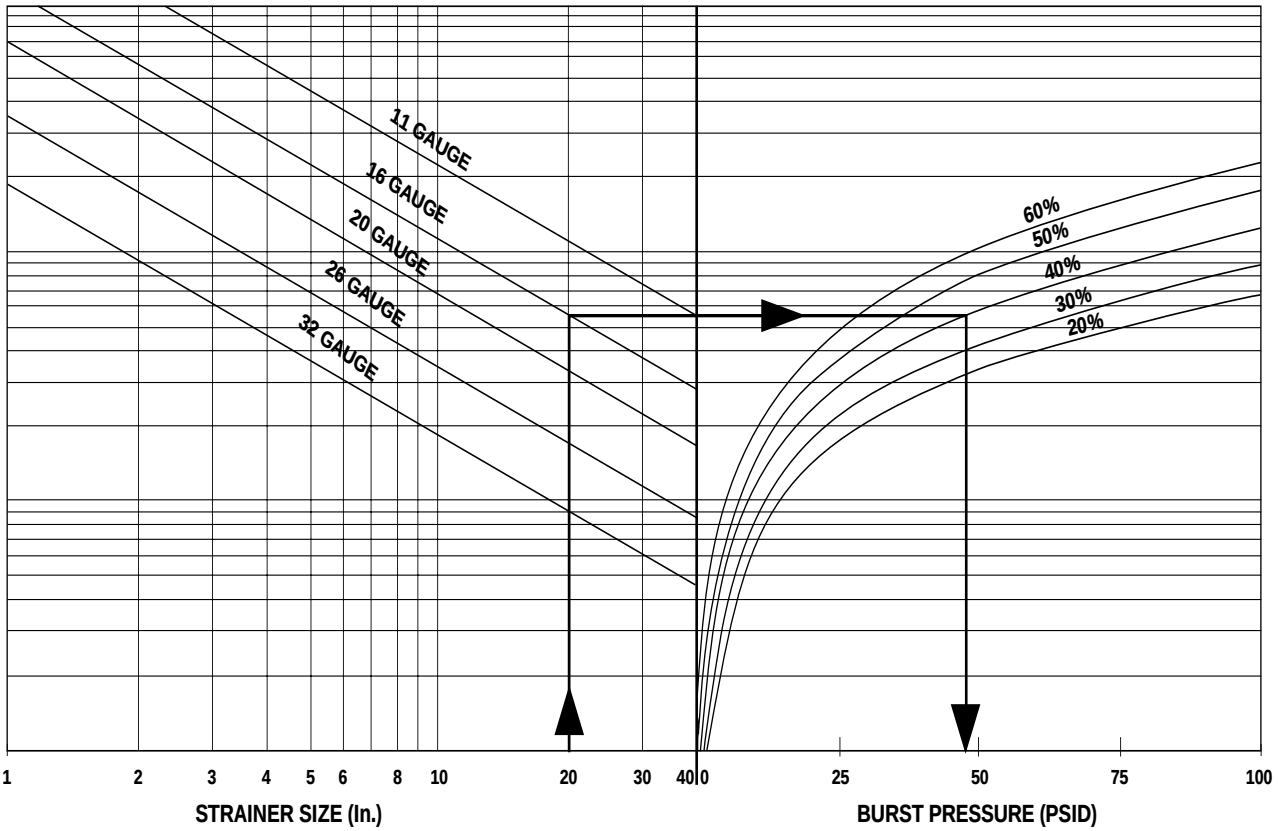
Example:

Strainer Size:	**14"**
Screen Thickness:	**11 gauge**
Screen Material Open Area:	**20%**

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 15 psid.

SERIES TC STRAINER BURST PRESSURE

FIGURE 16



Notes:

(1) The above chart is to be used for strainers manufactured from perforated plate and is based on the formula:

$$P = \frac{2St\cos\theta}{D + 1.2t\cos\theta}$$

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

P = Burst Pressure, psi.
S = Reduced allowable stress
t = Thickness of perforated plate, in.
D = Dimension B (See page 4), in.
θ = 15 degree

(2) The above chart is based on standard dimensions. Higher burst pressure ratings are available. Please contact factory.
(3) 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.

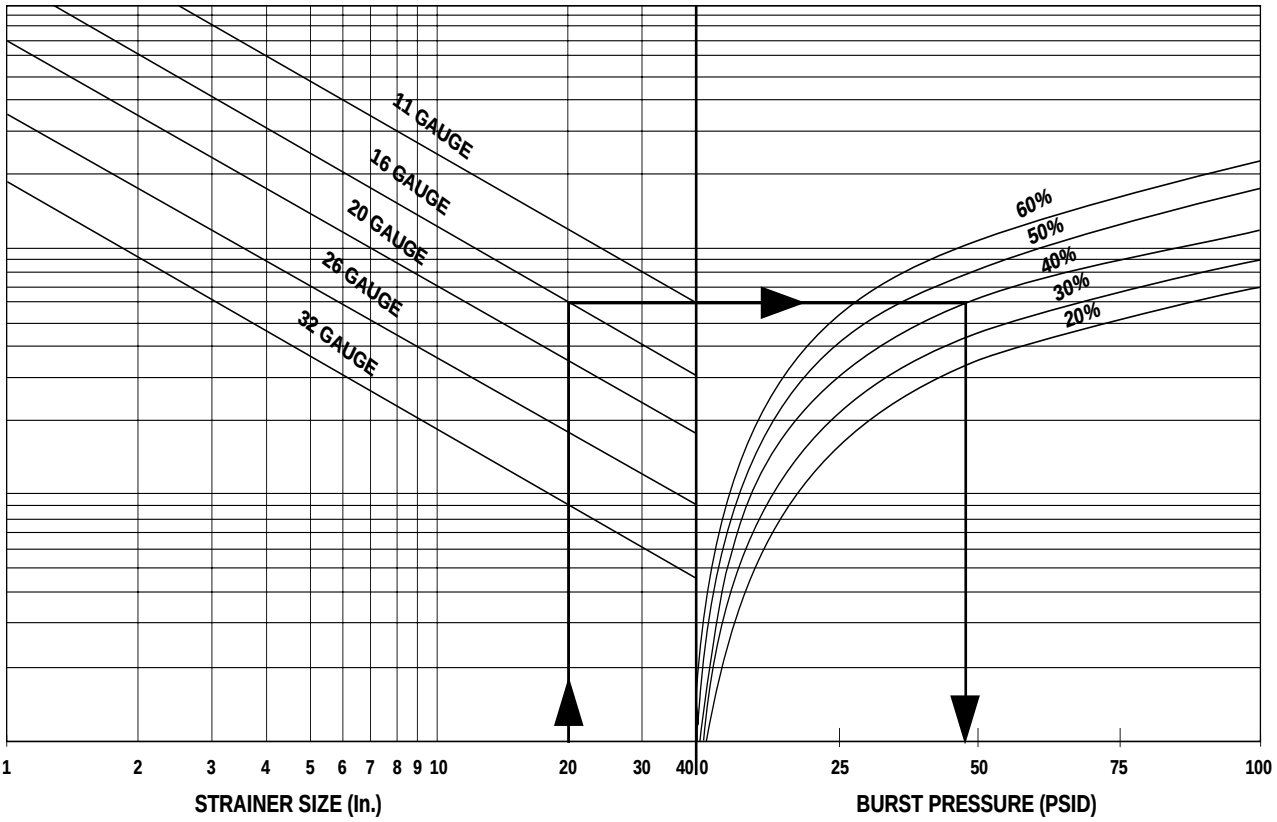
Example:

Strainer Size:	**20"**
Screen Thickness:	**16 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 48 psid.

FABRICATED Y-STRAINER SCREEN BURST PRESSURE

FIGURE 17



Notes:

1. The above chart is to be used for strainers manufactured from perforated plate and is based on the formula:

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

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

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

2. The above chart is based on standard dimensions. Higher burst pressure ratings are available. Please contact factory.
3. 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.

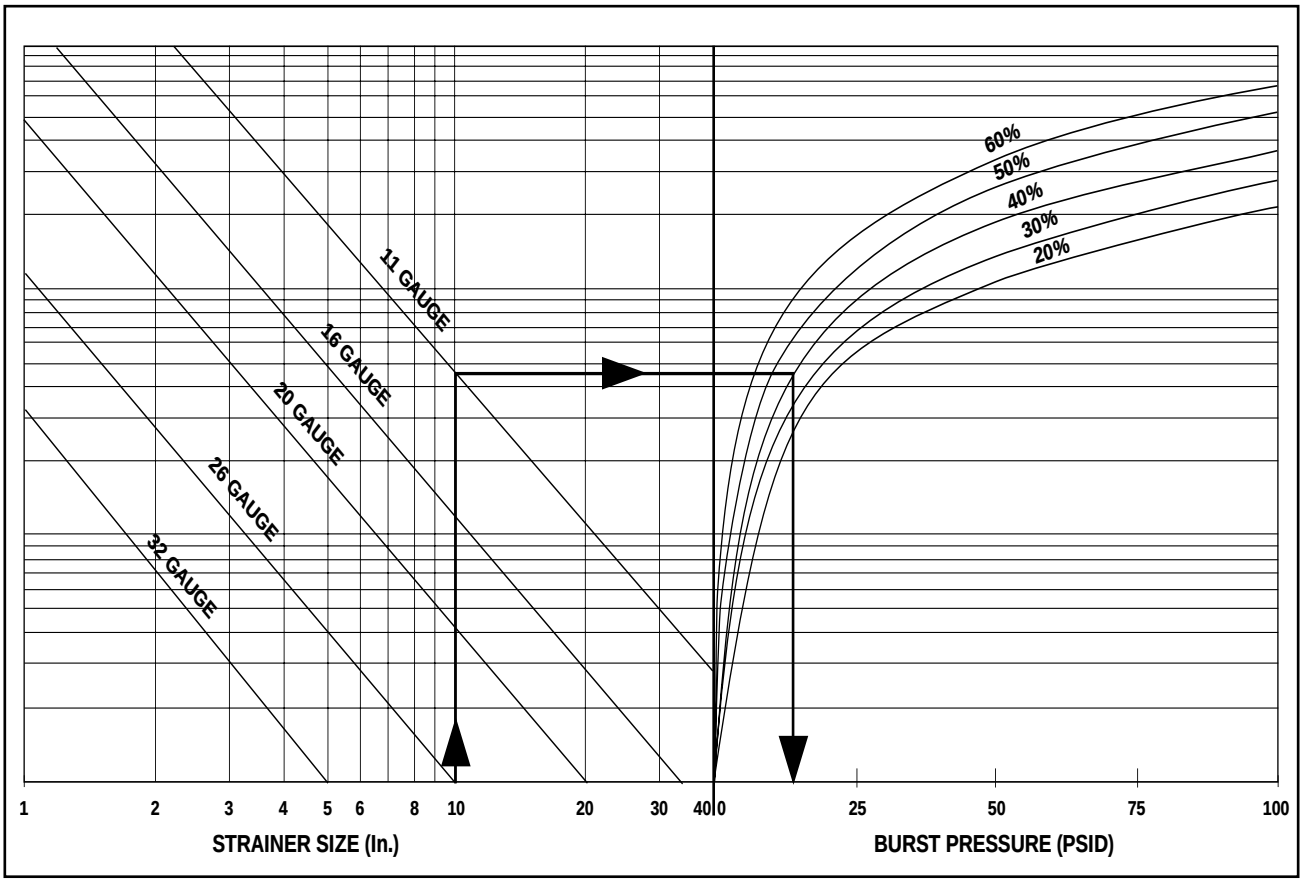
Example:

Strainer Size:	**20"**
Screen Thickness:	**16 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 48 psid.

FABRICATED T-STRAINER SCREEN BURST PRESSURE

FIGURE 18



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.

Y-Strainer Screen Effective Area

Strainer Series	Pipe Size (In.)	Nominal Std. Opening (in.)	Gross Area of Pipe Fitting (Sq. In.)	Screen Area (Sq. In.)	Ratio Free Area (Sq. In.)	Free Area to Pipe Area
250YTI	1/4	0.032	0.05	3.64	1.02	20.79
	3/8	0.032	0.11	3.64	1.02	9.24
	1/2	0.032	0.20	4.05	1.13	5.78
	3/4	0.032	0.44	6.63	1.86	4.20
	1	0.032	0.79	9.06	2.54	3.23
	1-1/4	0.032	1.23	12.14	3.40	2.77
	1-1/2	0.032	1.77	17.87	5.00	2.83
	2	0.032	3.14	30.07	8.42	2.68
	2-1/2	0.045	4.91	45.16	16.26	3.31
	3	0.045	7.07	60.30	21.71	3.07
125YTB	1/4	0.032	0.05	4.71	1.32	26.38
	3/8	0.032	0.11	4.71	1.32	11.99
	1/2	0.032	0.20	4.71	1.32	6.59
	3/4	0.032	0.44	7.22	2.02	4.59
	1	0.032	0.79	9.33	2.61	3.31
	1-1/4	0.032	1.23	13.53	3.79	3.08
	1-1/2	0.032	1.77	19.25	5.39	3.05
	2	0.032	4.14	33.34	9.34	2.25
	2-1/2	0.045	4.91	35.52	12.79	2.60
	3	0.045	7.07	48.55	17.48	2.47
250YTB	1/2	0.032	0.20	2.80	0.78	3.99
	3/4	0.032	0.44	7.81	2.19	4.95
	1	0.032	0.79	8.76	2.45	3.12
	1-1/4	0.032	1.23	14.91	4.18	3.40
	1-1/2	0.032	1.77	20.98	5.88	3.32
	2	0.032	3.14	30.96	8.67	2.76
150Y/300Y	1/2	0.032	0.20	3.11	0.87	4.44
	3/4	0.032	0.44	5.17	1.45	3.28
	1	0.032	0.79	7.85	2.20	2.80
	1-1/4	0.032	1.23	10.01	2.80	2.29
	1-1/2	0.032	1.77	14.28	4.00	2.26
	2	0.032	3.14	21.35	5.98	1.90
600Y	1/2	0.032	0.20	2.82	0.79	4.03
	3/4	0.032	0.44	4.15	1.16	2.63
	1	0.032	0.79	8.14	2.28	2.90
	1-1/4	0.032	1.23	11.85	3.32	2.70
	1-1/2	0.032	1.77	16.59	4.65	2.63
	2	0.045	3.14	27.10	9.75	3.11
1500Y	1/2	0.032	0.20	5.08	1.42	7.25
	3/4	0.032	0.44	7.11	1.99	4.51
	1	0.032	0.79	11.90	3.33	4.24
	1-1/4	0.032	1.23	23.32	6.53	5.32
	1-1/2	0.032	1.77	23.28	6.52	3.69
	2	0.045	3.14	29.85	10.75	3.42
125YF	2	0.045	3.14	30.07	10.82	3.45
	2-1/2	0.045	4.91	44.33	15.96	3.25
	3	0.045	7.07	56.45	20.32	2.88
	4	0.125	12.57	98.91	39.56	3.15
	5	0.125	19.63	147.11	58.85	3.00
	6	0.125	28.27	179.19	71.68	2.54
	8	0.125	50.27	334.38	133.75	2.66
	10	0.125	78.54	505.21	202.08	2.57
	12	0.125	113.10	665.77	266.31	2.35
	14	0.125	137.89	1186.34	474.54	3.44
	16	0.125	182.65	1446.85	578.74	3.17

Strainer Series	Nominal Pipe Size (In.)	Gross Std. Opening (in.)	Area of Pipe Fitting (Sq. In.)	Ratio Screen Area (Sq. In.)	Free Area (Sq. In.)	Free Area to Pipe Area
250YF	2	0.045	3.14	35.64	12.83	4.08
	2-1/2	0.045	4.91	44.33	15.96	3.25
	3	0.045	7.07	56.45	20.32	2.88
	4	0.125	12.57	98.91	39.56	3.15
	5	0.125	19.63	147.11	58.85	3.00
	6	0.125	28.27	197.92	79.17	2.80
	8	0.125	50.27	420.97	168.39	3.35
	10	0.125	78.54	645.99	258.40	3.29
	12	0.125	113.10	876.70	350.68	3.10
	14	0.125	137.89	1186.34	474.54	3.44
150YF	1/2	0.032	0.20	5.91	1.65	8.43
	3/4	0.032	0.44	8.97	2.51	5.69
	1	0.032	0.79	12.71	3.56	4.53
	1-1/2	0.032	1.77	23.01	6.44	3.65
	2	0.045	3.14	28.27	10.18	3.24
	2-1/2	0.045	4.91	50.76	18.27	3.72
	3	0.125	7.07	62.59	25.03	3.54
	4	0.125	12.57	85.34	34.14	2.72
	6	0.125	28.27	210.88	84.35	2.98
	8	0.125	50.27	323.98	129.59	2.58
	10	0.125	78.54	513.21	205.28	2.61
	12	0.125	113.10	690.41	276.17	2.44
300YF	1/2	0.032	0.20	6.75	1.89	9.45
	3/4	0.032	0.44	10.30	2.88	6.55
	1	0.032	0.79	14.99	4.20	5.32
	1-1/2	0.032	1.77	30.42	8.52	4.81
	2	0.045	3.14	29.85	10.74	3.42
	2-1/2	0.045	4.91	48.81	17.57	3.58
	3	0.125	7.07	68.22	27.29	3.86
	4	0.125	12.57	102.90	41.16	3.28
	6	0.125	28.27	230.83	92.33	3.27
	8	0.125	50.27	336.64	134.66	2.68
	10	0.125	78.54	559.50	223.80	2.85
	12	0.125	113.10	753.12	301.25	2.66
600YF	2	0.045	3.14	39.17	14.10	4.49
	2-1/2	0.045	4.91	56.45	20.32	4.14
	3	0.125	7.07	74.96	29.98	4.24
	4	0.125	12.57	128.41	51.37	4.09
	6	0.125	28.27	255.94	102.38	3.62
	8	0.125	48.77	403.57	161.43	3.31
	10	0.125	74.66	602.08	240.83	3.23
	12	0.125	108.43	820.18	328.07	3.03
900YF	2	0.045	2.78	49.06	17.66	6.36
	3	0.125	6.51	107.45	42.98	6.60
	4	0.125	11.82	152.93	61.17	5.17
	6	0.125	25.97	279.99	112.00	4.31
	8	0.125	44.18	454.60	181.84	4.12
1500YF	2	0.045	2.78	49.06	17.66	6.36
	3	0.125	5.94	107.45	42.98	7.24
	4	0.125	10.29	155.17	62.07	6.03
	6	0.125	22.73	307.12	122.85	5.40

NOTES:

(1) Values shown are for strainers with standard screens.

(2) Ratio free area to pipe area may be increased by changing perf. stagger or by using mesh.

(3) In many cases the specified screen burst pressure limits the maximum value for the ratio free area to pipe area.

Basket Strainer Effective Area

Strainer Series	Pipe Size (In.)	Nominal Std. Opening (in.)	Gross Area of Sch. 40 / Std. Pipe (Sq. In.)	Screen Area (Sq. In.)	Ratio Free Area (Sq. In.)	Free Area to Pipe Area
300B (Style #2)	1/2	0.032	0.30	14.73	4.12	13.6
	3/4	0.032	0.53	23.01	6.44	12.1
	1	0.032	0.86	23.01	6.44	7.5
	1-1/4	0.032	1.50	47.80	13.38	8.9
	1-1/2	0.032	2.04	47.80	13.38	6.6
	2	0.045	3.36	58.32	21.00	6.3
125BFI (Style #1)	2	0.045	3.36	29.27	10.54	3.1
	2.5	0.045	4.79	45.11	16.24	3.4
	3	0.045	7.39	78.53	28.27	3.8
	4	0.125	12.73	106.51	42.60	3.3
	5	0.125	20.01	139.27	55.71	2.8
	6	0.125	28.89	176.16	70.46	2.4
	8	0.125	50.03	300.37	120.15	2.4
	10	0.125	78.85	446.39	178.56	2.3
	12	0.125	113.10	654.83	261.93	2.3
	14	0.125	137.89	885.34	354.14	2.6
	16	0.125	182.65	1437.23	574.89	3.1
	18	0.125	233.71	1437.23	574.89	2.5
	20	0.125	291.04	1916.37	766.55	2.6
150BFB (Style #1)	2	0.045	3.36	29.27	10.54	3.1
	2.5	0.045	4.79	45.11	16.24	3.4
	3	0.045	7.39	78.53	28.27	3.8
	4	0.125	12.73	106.51	42.60	3.3
	5	0.125	20.01	139.27	55.71	2.8
	6	0.125	28.89	176.16	70.46	2.4
	2	0.045	3.36	35.20	12.67	3.8
	3	0.045	7.39	57.86	20.83	2.8
	4	0.125	12.73	116.03	46.41	3.6
	6	0.125	28.89	167.33	66.93	2.3
	8	0.125	50.03	303.77	121.51	2.4
	10	0.125	78.85	409.43	163.77	2.1
	12	0.125	113.10	693.85	277.54	2.5
150BFC (Style #2)	1-1/2	0.045	2.04	30.74	11.07	5.4
	2	0.045	3.36	44.07	15.87	4.7
	3	0.045	7.39	105.29	37.90	5.1
	4	0.125	12.73	143.21	57.29	4.5
	6	0.125	28.89	364.56	145.82	5.0
	8	0.125	50.03	666.56	266.62	5.3

NOTES:
(1) Values shown are approximate. Contact factory for exact ratios.
(2) Values shown are for strainers with standard screens.
(3) The ratio free area to pipe area may be increased by changing perf. stagger or by using heavy wire mesh.

Fabricated Strainer Screen Effective Area

Strainer Type	Pipe Size (In.)	Std. Opening (in.)	Nominal Area of Sch. 40/Std. Pipe (Sq. In.)	Gross Screen Area (Sq. In.)	Free Area (Sq. In.)	Ratio Free Area to Pipe Area
Y (Style #1)	2	0.125	3.36	39	16	4.6
	3	0.125	7.39	77	31	4.2
	4	0.125	12.73	135	54	4.2
	5	0.125	20.01	160	64	3.2
	6	0.125	28.89	215	86	3.0
	8	0.125	50.03	375	150	3.0
	10	0.125	78.85	545	218	2.8
	12	0.125	113.10	785	314	2.8
	14	0.188	140.50	900	360	2.6
	16	0.188	185.66	1210	484	2.6
	18	0.188	237.10	1560	624	2.6
	20	0.188	294.83	1950	780	2.6
	24	0.188	429.13	2765	1106	2.6
T (Style #1)	2	0.125	3.36	22	9	2.6
	2.5	0.125	4.79	25	10	2.1
	3	0.125	7.39	40	16	2.2
	4	0.125	12.73	58	23	1.8
	5	0.125	20.01	82	33	1.6
	6	0.125	28.89	105	42	1.5
	8	0.125	50.03	167	67	1.3
	10	0.125	78.85	235	94	1.2
	12	0.125	113.10	330	132	1.2
	14	0.188	140.50	420	168	1.2
	16	0.188	185.66	510	204	1.1
	18	0.188	237.10	640	256	1.1
	20	0.188	294.83	780	312	1.1
	24	0.188	429.13	1060	424	1.0
B (Style #1)	2	0.125	3.36	215	86	25.6
	3	0.125	7.39	265	106	14.3
	4	0.125	12.73	265	106	8.3
	5	0.125	20.01	380	152	7.6
	6	0.125	28.89	560	224	7.8
	8	0.125	50.03	570	228	4.6
	10	0.125	78.85	910	364	4.6
	12	0.125	113.10	1300	520	4.6
	14	0.188	140.50	1600	640	4.6
	16	0.188	185.66	1830	732	3.9
	18	0.188	237.10	2290	916	3.9
	20	0.188	294.83	2800	1120	3.8
	24	0.188	429.13	4090	1636	3.8
DB (Style #1)	2	0.125	3.36	215	86	25.6
	3	0.125	7.39	265	106	14.3
	4	0.125	12.73	265	106	8.3
	5	0.125	20.01	380	152	7.6
	6	0.125	28.89	560	224	7.8
	8	0.125	50.03	570	228	4.6
	10	0.125	78.85	910	364	4.6
	12	0.125	113.10	1300	520	4.6
	14	0.188	140.50	1600	640	4.6
	16	0.188	185.66	1830	732	3.9
	18	0.188	237.10	2290	916	3.9
	20	0.188	294.83	2800	1120	3.8
	24	0.188	429.13	4090	1636	3.8

NOTES:
(1) Values shown are approximate. Contact factory for exact ratios.
(2) Values shown are for strainers with standard screens.
(3) The ratio free area to pipe area may be increased by changing perf. stagger or by using heavy wire mesh.