

# spirax/sarco®

## Sizing Formulas for Spirax Sarco Strainers for Water, Steam, Air, and Other Gases

### STEAM FORMULAS

$$\text{Steam Flow \#/h} = 3.2 \times C_v \times \sqrt{(P_1 - P_2) \times P_2}$$

Non-critical  
 $P_2 > 1/2 P_1$

Required  $C_v$

Non-critical  
 $P_2 > 1/2 P_1$

$$C_v = \frac{\text{\#/h}}{3.2 \times \sqrt{(P_1 - P_2) \times P_2}}$$

$$\text{Pressure Drop} = P_1 - P_2$$

(Any kind of steam)

$$P_2 = \frac{P_1 + \sqrt{P_1^2 - 4K}}{2}$$

$$K = \left( \frac{\text{\#/h}}{3.2 \times C_v} \right)^2$$

**Note:** All Pressures are absolute.

### AIR AND GAS FORMULAS

$$\text{Pressure Drop} = P_1 - P_2$$

Any Flow

$$P_2 = \frac{P_1 + \sqrt{P_1^2 - K}}{2}$$

Non-critical flow

$$\text{SCFH} = \frac{1391 \times C_v \times \sqrt{(P_1 - P_2) \times P_2}}{\sqrt{460 + ^\circ\text{F}} \times \sqrt{\text{Specific Gravity}}}$$

$$K = \left( \frac{\text{SCFH} \times \sqrt{460 + ^\circ\text{F}} \times \sqrt{\text{Specific Gravity}}}{695 \times C_v} \right)^2$$

P1 = Inlet Pressure

P2 = Outlet Pressure

**Note:** All Pressures are absolute.

### WATER FORMULAS

$$\text{GPM} = C_v \times \sqrt{\text{Pressure Drop PSI}}$$

$$C_v = \frac{\text{GPM}}{\sqrt{\text{Pressure Drop PSI}}}$$

$$\text{Pressure Drop PSI} = \frac{\text{GPM}^2}{C_v^2}$$

**Consult factory for other Liquid Specific Gravities and Viscosities.**

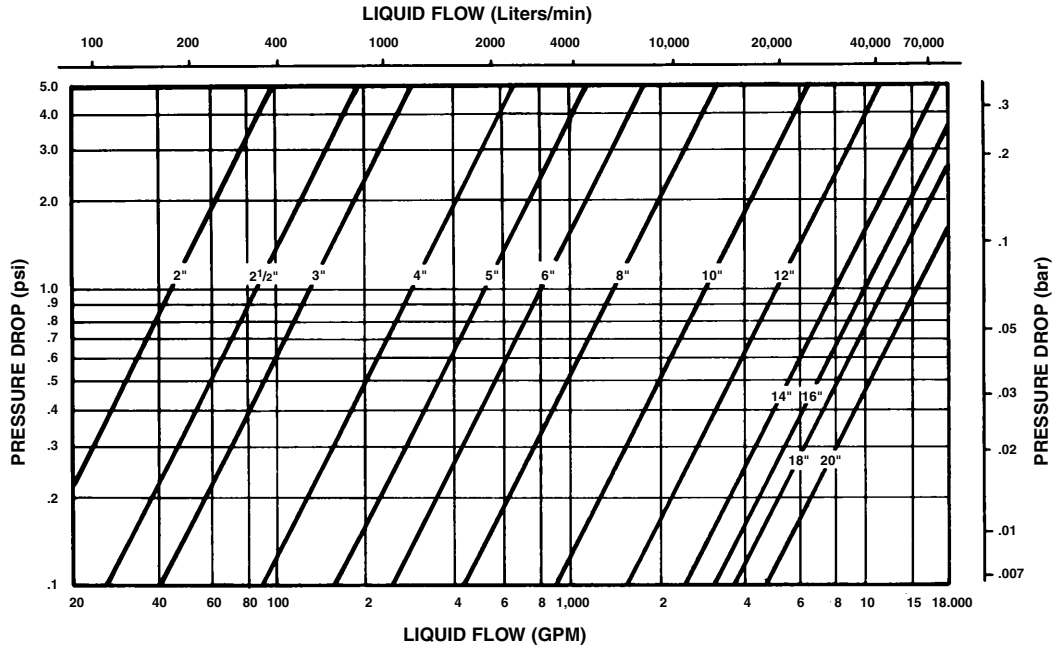
### Y TYPE PIPELINE AND BASKET STRAINERS

Size	Screwed Strainers IT, BT		Flanged Strainers Fig. 36 SLF		Flanged Strainers F, CI, CSS	Basket Strainers
	CT	SSY				
3/8"	3.5	-	-	-		
1/2"	6.5	4.4	5.4	4		
3/4"	11.5	10	9.6	10		
1"	20	15	15.6	13		
1-1/4"	28	22.5	25.2	-		
1-1/2"	38	30	34	31		
2"	70	54	54	49	70	45
2-1/2"	100			74	110	90
3"	160			160	165	130
4"				330	280	290
5"				-	450	500
6"				600	650	800
8"				1226	1,100	1,500
10"				1850	1,650	3,200
12"				2780	2,400	5,000
14"					3,500	8,000
16"					5,000	10,000
18"					5,500	12,000
20"					-	15,500

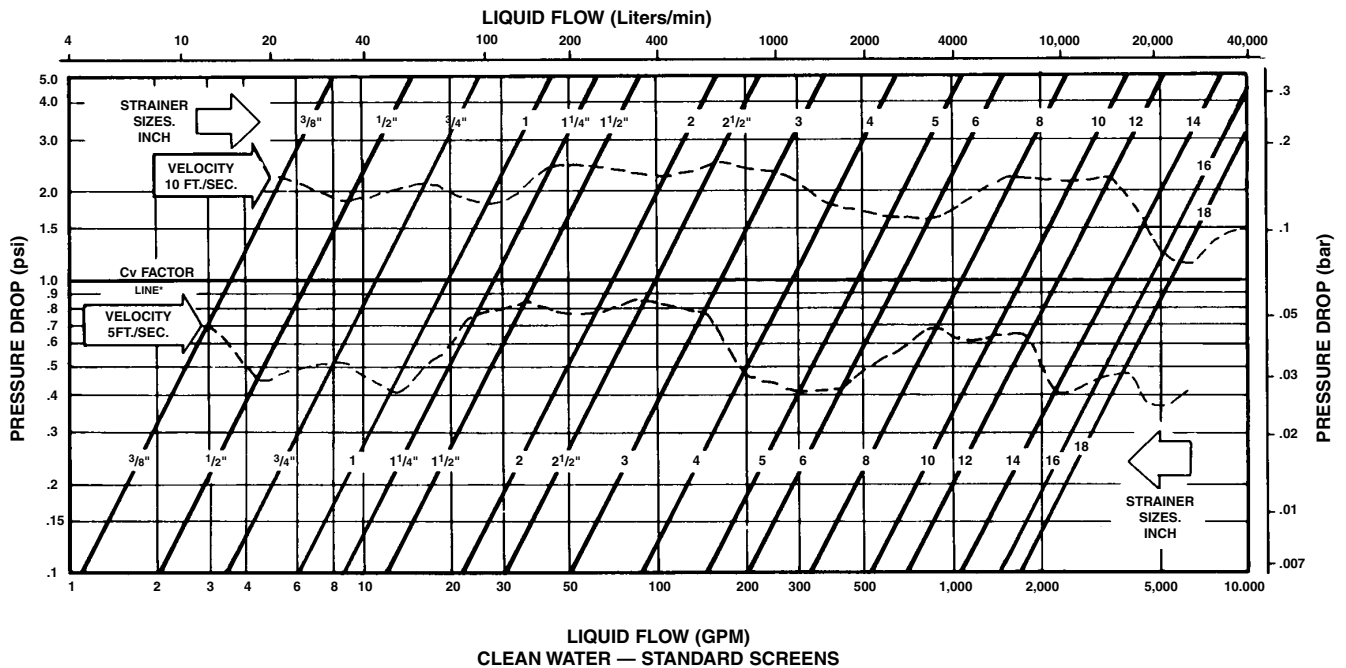
Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only.  
 In the interests of development and improvement of the product, we reserve the right to change the specification.

# Water Capacities of Spirax Sarco Strainers

## 733, 733L, 734, 736 BASKET STRAINERS CAPACITY CHART



## STRAINER TYPES IT, BT, CT, CI, CAPACITY CHART



\*Note:  $C_v$  Factor is Flow in GPM at 1 psi pressure drop

Fluid velocities shown are based on ASHRAE Fundamentals Handbook, Fluid Flow Recommendations.

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