

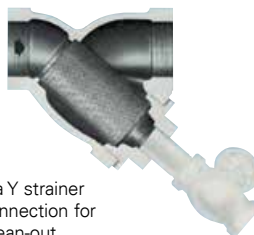
# Model 85



- 1/4" to 10"
- Carbon steel and stainless steel
- Threaded, flanged or socket weld connections

### Features

- Compact design
- Bolted or threaded covers
- Standard stainless steel screens
- Horizontal or vertical installation

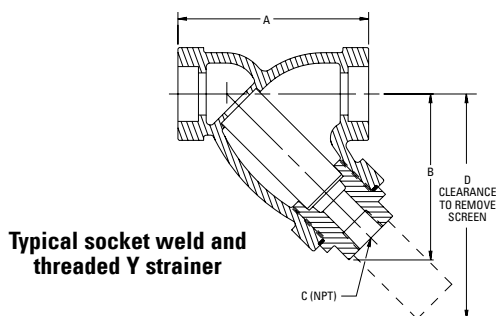


Cross-section of a Y strainer with "blow-off" connection for quick and easy clean-out.

### Options

- Basket perforations from 1/32" to 1/2"
- Basket mesh from 20 to 400
- MONEL® screens

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Typical socket weld and threaded Y strainer



Powering Business Worldwide

Eaton Model 85 Y strainers are engineered to withstand aggressive industrial and commercial applications. Y strainers protect downstream process system components by mechanically removing unwanted solids from liquid, gas or steam lines by means of a perforated or wire mesh straining element.

To protect against any bypass, the Model 85 Y strainers are manufactured with a precision-machined screen seat on the body of the strainer and high-quality stainless steel screens fabricated to fit the strainer body perfectly. Model 85 Y strainers are available in carbon steel or stainless steel

for pipeline sizes from 1/4" to 10" with threaded, flanged or socket weld connections.

For cost-effective straining solutions, Y strainers work well in applications in which the amount of material to be removed from the flow is relatively small—resulting in long intervals between screen cleanings. The strainer screen is manually cleaned by shutting down the line and removing the strainer cap.

For applications with heavier dirt loading, Y strainers fitted with a "blow-off" connection permit cleaning of the screen without removing it from the strainer body.

### Eaton Model 85 Y strainers 1/4" to 10" carbon or stainless steel-threaded, socket weld or flanged

| Size        | Material        | End connection               | Cover    | Rating (WOG) non-shock* |
|-------------|-----------------|------------------------------|----------|-------------------------|
| 1/4" to 2"  | Carbon steel    | Threaded or socket weld 600# | Threaded | 1480 psi (102 bar)      |
| 1/4" to 2"  | Stainless steel | Threaded or socket weld 600# | Threaded | 1440 psi (99 bar)       |
| 1/2" to 10" | Carbon steel    | Flanged 150#                 | Bolted   | 285 psi (20 bar)        |
| 1/2" to 10" | Carbon steel    | Flanged 300#                 | Bolted   | 740 psi (51 bar)        |
| 1/2" to 10" | Stainless steel | Flanged 150#                 | Bolted   | 275 psi (19 bar)        |
| 1/2" to 10" | Stainless steel | Flanged 300#                 | Bolted   | 720 psi (50 bar)        |

\* @ 100 °F (38 °C)

### Socket weld, threaded carbon steel or stainless steel – 600# (in/mm)

| Size  | A          | B          | C (Nom.) | D          | Wt (lb / kg) |
|-------|------------|------------|----------|------------|--------------|
| 1/4   | 3.00 / 76  | 3.00 / 76  | 3/8      | 4.00 / 102 | 2 / 0.9      |
| 3/8   | 3.00 / 76  | 3.00 / 76  | 3/8      | 4.00 / 102 | 2 / 0.9      |
| 1/2   | 3.00 / 76  | 3.00 / 76  | 3/8      | 4.00 / 102 | 2 / 0.9      |
| 3/4   | 3.75 / 95  | 3.50 / 89  | 3/8      | 4.75 / 121 | 4 / 1.8      |
| 1     | 4.63 / 118 | 4.00 / 102 | 1/2      | 5.75 / 146 | 6 / 2.7      |
| 1-1/4 | 5.00 / 127 | 4.63 / 118 | 3/4      | 6.50 / 165 | 8 / 3.6      |
| 1-1/2 | 5.63 / 143 | 5.25 / 133 | 3/4      | 7.50 / 191 | 10 / 4.5     |
| 2     | 7.00 / 178 | 5.75 / 146 | 1        | 8.75 / 222 | 15 / 6.8     |

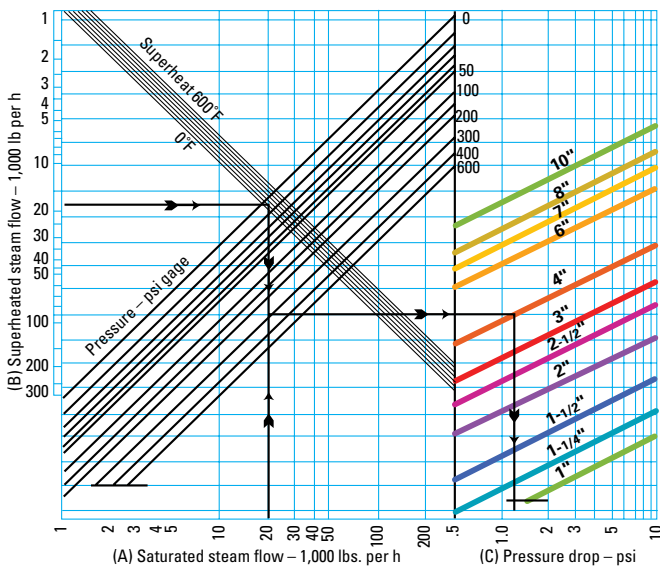
Consult Eaton for 12" and larger size dimensions. Dimensions and weights are for references only. Contact Eaton for certified drawings.

# Model 85Y Strainer

## Flanged carbon steel or stainless steel – 150# (in/mm)

| Size  | A           | B           | C (Nom.) | D           | Wt (lb / kg) |
|-------|-------------|-------------|----------|-------------|--------------|
| 1/2   | 5.00 / 127  | 2.75 / 70   | 3/8      | 3.50 / 89   | 5 / 2.3      |
| 3/4   | 5.63 / 143  | 3.00 / 76   | 3/8      | 4.00 / 102  | 7 / 3.2      |
| 1     | 6.38 / 162  | 3.64 / 92   | 1/2      | 5.00 / 127  | 9 / 4.1      |
| 1-1/4 | 7.25 / 184  | 4.25 / 108  | 3/4      | 5.75 / 146  | 14 / 6.3     |
| 1-1/2 | 8.88 / 226  | 5.75 / 146  | 3/4      | 6.50 / 165  | 18 / 8.2     |
| 2     | 7.88 / 200  | 6.00 / 152  | 1        | 8.25 / 210  | 16 / 7.3     |
| 2-1/2 | 9.75 / 248  | 6.50 / 165  | 1        | 9.25 / 235  | 25 / 11.4    |
| 3     | 10.00 / 254 | 7.25 / 184  | 1-1/4    | 10.50 / 267 | 35 / 16      |
| 4     | 12.13 / 308 | 9.75 / 248  | 1-1/2    | 14.75 / 375 | 70 / 32      |
| 6     | 18.50 / 470 | 14.25 / 362 | 2        | 21.00 / 533 | 130 / 59     |
| 8     | 21.63 / 549 | 18.00 / 457 | 2        | 26.75 / 679 | 240 / 109    |
| 10    | 26.00 / 660 | 22.50 / 565 | 2        | 33.75 / 857 | 300 / 136    |

## Steam pressure drops



### Calculating saturated steam pressure drop

Example: Pressure = 300 psig (20 bar)  
Flow rate = 20,000 lb/h (55,000 kg/h)  
Strainer size = 4 inches

1. Locate steam flow on Scale A.
2. Follow vertical line to required pressure.
3. Follow horizontal line to strainer size.
4. Follow vertical line downward and read pressure drop on Scale C.
5. Pressure drop equals 1.25 psi (114 bar).

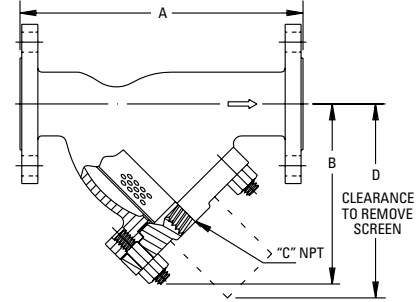
### Calculating superheated steam pressure drop

Example: Pressure = 300 psig (20 bar)  
Flow rate = 18,000 lb/h (40,000 kg/h)  
Strainer size = 4 inches

1. Locate steam flow on Scale B.
2. Follow horizontal line to superheat.
3. Follow vertical line to pressure.
4. Follow horizontal line to strainer size.
5. Follow vertical line and read pressure drop on Scale C.
6. Pressure drop equals 1.25 psi (114 bar).

Note: Use the superheat temperature value above the saturated steam temperature to obtain the point on this graph.

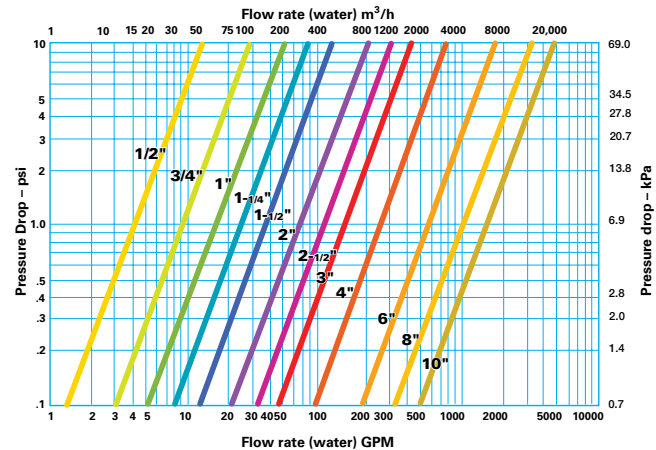
## Typical flanged Y strainer



## Flanged carbon steel or stainless steel – 300# (in/mm)

| Size  | A           | B           | C (Nom.) | D           | Wt (lb / kg) |
|-------|-------------|-------------|----------|-------------|--------------|
| 1/2   | 5.25 / 133  | 2.75 / 70   | 3/8      | 3.50 / 89   | 6 / 2.7      |
| 3/4   | 6.00 / 152  | 3.00 / 76   | 3/8      | 4.00 / 102  | 9 / 4.1      |
| 1     | 6.88 / 175  | 3.63 / 92   | 1/2      | 5.00 / 127  | 13 / 6.0     |
| 1-1/4 | 7.75 / 197  | 4.25 / 108  | 3/4      | 5.75 / 146  | 18 / 8.2     |
| 1-1/2 | 9.38 / 238  | 5.75 / 146  | 3/4      | 6.50 / 165  | 24 / 11      |
| 2     | 8.63 / 219  | 6.25 / 159  | 1        | 8.25 / 210  | 30 / 13.6    |
| 2-1/2 | 10.63 / 270 | 7.00 / 178  | 1        | 9.25 / 235  | 40 / 18.2    |
| 3     | 12.00 / 305 | 7.75 / 197  | 1-1/4    | 10.50 / 267 | 55 / 25      |
| 4     | 14.50 / 368 | 10.50 / 267 | 1-1/2    | 14.75 / 375 | 105 / 48     |
| 6     | 20.00 / 508 | 14.75 / 375 | 2        | 21.00 / 533 | 200 / 91     |
| 8     | 23.38 / 594 | 18.75 / 476 | 2        | 27.00 / 686 | 360 / 164    |
| 10    | 27.38 / 695 | 22.75 / 578 | 2        | 34.50 / 876 | 430 / 195    |

## Flow rates



US  
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