## LENNTECH

**Y** Strainer

# Model 85

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

## Features

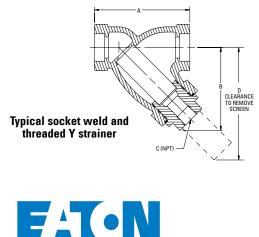
- Compact design
- Bolted or threaded covers
- Standard stainless steel screens
- Horizontal or vertical installation

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

## Options

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

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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 85Y strainers are manufactured with a precisionmachined screen seat on the body of the strainer and highquality 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)	
<sup>1</sup> /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)					

@ 100 °F (38 °C)

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

	•				
Size	А	В	C (Nom.)	D	Wt (lb / kg)
1/4	3.00 / <mark>76</mark>	3.00 / <mark>76</mark>	3⁄8	4.00 / 102	2 / 0.9
3⁄8	3.00 / <mark>76</mark>	3.00 / <mark>76</mark>	3⁄8	4.00 / 102	2 / 0.9
1/2	3.00 / <mark>76</mark>	3.00 / <mark>76</mark>	3⁄8	4.00 / 102	2 / 0.9
3⁄4	3.75 / <mark>95</mark>	3.50 / <mark>89</mark>	3⁄8	4.75 / <mark>121</mark>	4 / 1.8
1	4.63 / 118	4.00 / 102	1/2	5.75 / 1 <mark>46</mark>	6 / 2.7
1-1⁄4	5.00 / <mark>127</mark>	4.63 / <mark>118</mark>	3⁄4	6.50 / 1 <mark>65</mark>	8 / <mark>3.6</mark>
1-1⁄2	5.63 / <mark>143</mark>	5.25 / <mark>133</mark>	3⁄4	7.50 / <mark>19</mark> 1	10 / <mark>4.5</mark>
2	7.00 / 178	5.75 / 1 <mark>46</mark>	1	8.75 / 222	15 / <mark>6.8</mark>

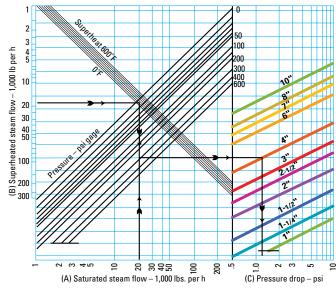
Consult Eaton for 12" and larger size dimensions. Dimensions and weights are for references only. Contact Eaton for certified drawings.

## Model 85Y Strainer

Flanged car	rbon steel o	r stainless ste	el – 150#	# (in/mm)
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Size	Α	В	C (Nom.)	D	Wt (lb / kg)
1/2	5.00 / 127	2.75 / <mark>70</mark>	3⁄8	3.50 / <mark>89</mark>	5 / <mark>2.3</mark>
3⁄4	5.63 / <mark>143</mark>	3.00 / <mark>76</mark>	3⁄8	4.00 / 102	7 / 3.2
1	6.38 / <mark>162</mark>	3.64 / <mark>92</mark>	1⁄2	5.00 / <mark>127</mark>	9 / 4.1
1-1⁄4	7.25 / 184	4.25 / <mark>108</mark>	3⁄4	5.75 / <mark>146</mark>	14 / <mark>6.3</mark>
1-1/2	8.88 / 226	5.75 / <mark>146</mark>	3⁄4	6.50 /1 <mark>65</mark>	18 / <mark>8.2</mark>
2	7.88 / <mark>200</mark>	6.00 / <mark>152</mark>	1	8.25 / <mark>210</mark>	16 / <mark>7.3</mark>
2-1/2	9.75 / <mark>248</mark>	6.50 / <mark>165</mark>	1	9.25 / <mark>235</mark>	25 / <mark>11.4</mark>
3	10.00 / <mark>254</mark>	7.25 / <mark>184</mark>	1-1⁄4	10.50 / <mark>267</mark>	35 / <mark>16</mark>
4	12.13 / <mark>308</mark>	9.75 / <mark>248</mark>	1-1/2	14.75 / <mark>375</mark>	70 / <mark>32</mark>
6	18.50 / <mark>470</mark>	14.25 / <mark>362</mark>	2	21.00 / 533	130 / <mark>59</mark>
8	21.63 / <mark>549</mark>	18.00 / <mark>457</mark>	2	26.75 / <mark>679</mark>	240 / 109
10	26.00 / <mark>660</mark>	22.50 / <mark>565</mark>	2	33.75 / <mark>857</mark>	300 / <mark>136</mark>

### Steam pressure drops



#### Calculating saturated steam pressure drop

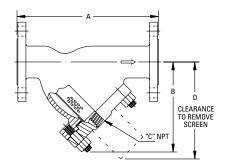
Example: Pressure = 300 psig (20 bar) Flow rate = 20,000 lb/h (55,000 kg/h) Strainer size = 4 inches

- 1. Locate steam flow on Scale A.
- Follow vertical line to required pressure.
  Follow begins the straight line to required pressure.
- Follow horizontal line to strainer size.
  Follow vertical line downward and
- Fullow 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
- Locate steam flow on Scale B.
  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.

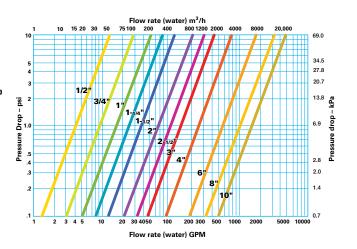
**Typical flanged Y strainer** 



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

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

## Flow rates



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