

TEE-TYPE STRAINERS



Model 91 with quick open cover.



Model 91 with bolted cover.

The Model 91 Fabricated Tee Strainer is available in carbon steel or stainless steel with ANSI Class 150, 300, or 600 flanges or butt weld piping connections. Sizes are available for pipelines from 2" up to 48". This type of tee strainer is typically used for pump protection or other low solids applications.

The Eaton Model 91 Tee Strainer offers several advantages over other strainer designs. The strainer is very compact, important in applications where space is restricted. Unlike most other strainers the Model 91 can be used in both vertical or horizontal installations. A real time saving feature of the Model 91 Tee Strainer is that the strainer screen can be cleaned without draining the strainer vessel.

In many applications the most important feature of the Model 91 is its very low pressure drop as compared to other types of strainers. The combination of a convoluted strainer screen

and unrestricted flow path results in very low pressure losses. This low pressure drop makes it ideal for applications such as condensate and boiler feed pump suction where water quality is good and pressure drop is critical.

Two different types of covers are available for the Model 91. The simplest type is the bolted cover which is cost effective and works well in applications where basket changing is infrequent. A davit assembly can also be specified for larger strainers with heavy covers. This makes it possible for a single person to remove the cover of the strainer.

If the strainer will be opened frequently for basket cleaning, a bolted cover is less effective because of the time needed to remove and then tighten the bolts. For these applications, there is a special, hinged, quick-opening cover that is secured by swing bolts. This type of quick-opening cover can even be adapted for higher pressure applications.

Basket & Screen Effective Area

Strainer Model	Pipe Size in.	Perforation Size - in.	Nominal Area of Pipe (sq in)	Gross Screen Area (sq in)	Free Area (sq in)	Ratio Free Area to Pipe Area
91	2	5/32	3.35	23	14.26	4.26
91	3	5/32	7.39	41	25.42	3.44
91	4	5/32	12.73	58	35.96	2.82
91	5	5/32	20.00	82	50.84	2.54
91	6	5/32	28.90	105	65.10	2.25
91	8	5/32	50.02	167	103.54	2.07
91	10	5/32	78.85	234	145.08	1.84
91	12	5/32	111.93	322	199.64	1.78
91	14	5/32	135.28	419	259.78	1.92
91	16	5/32	176.71	511	316.82	1.72
91	18	5/32	223.68	639	398.18	1.77
91	20	5/32	277.95	781	484.22	1.74
91	24	5/32	402.00	1057	655.34	1.63

*Contact Eaton for larger sizes

MODEL 91

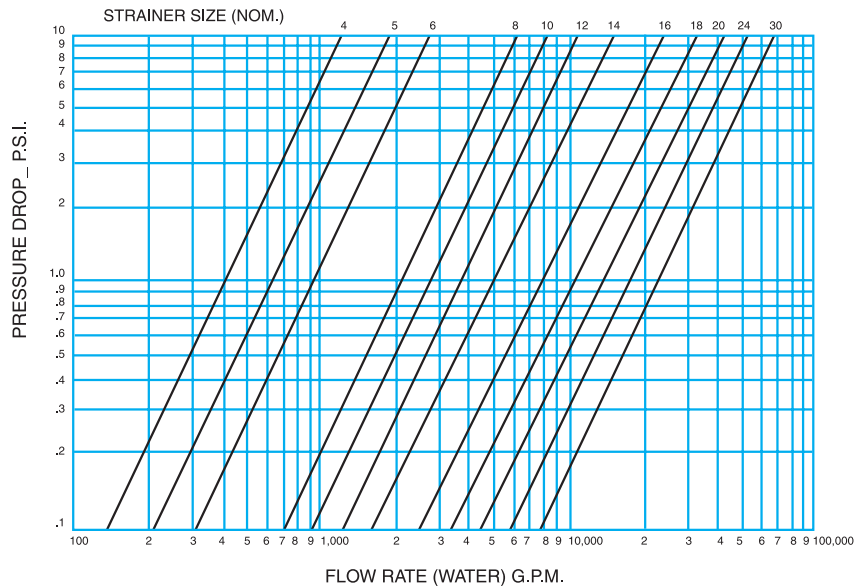
Strainer screens for the Model 91 are made of stainless steel – although almost any type of material can be specified. Screen perforations from 1/16" up to 1/2" are available and mesh linings in sizes from 20 to 60 mesh for fine straining applications can be specified. The unique convoluted design of the strainer screen doubles the screen area and completely changes the dirt accumulation pattern on the screen. This makes more effective use of the screen's straining area and increases the time between screen cleanings.

In larger sizes, because of greater screen area, the Model 91 can be an economical and functionally better choice than the traditional Y strainer.

The Eaton Model 91 Fabricated Tee Strainer will meet the requirements of most tee strainer applications. For those that it doesn't, it is also easy to customize the strainer to meet special application requirements. The strainer can be designed to meet very tight dimensional restrictions. The Model 91 can also be adapted for straight through or right angle flow, making it ideal for retrofit situations in which strainers were initially omitted.

Steam jacketing is another option available for fabricated tee strainers. Steam jacketing is used to maintain critical fluid temperatures through the strainer. High temperatures are often required to process and transport highly viscous fluids. This modification is designed and effected without any impact on the function or normal maintenance of the strainer. Steam jacketing is available in either carbon steel or Type 316 stainless steel for services of up to 450°F.

The Eaton Model 91 Strainers can be designed and fabricated to ASME section VIII and ANSI B31.1 codes.



Quick opening spin off cover with davit.



Model 91 with hinged cover.

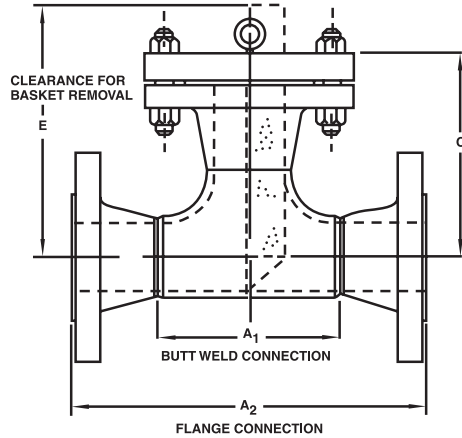
TEE-TYPE STRAINERS

- Sizes from 2" to 24" - As Standard
- Larger Sizes up to 48" - Available on request
- Available in Carbon Steel - Stainless Steel
- Flanged ANSI Class 150 and 300 - As Standard
- Flanged Class 600 - Available on request

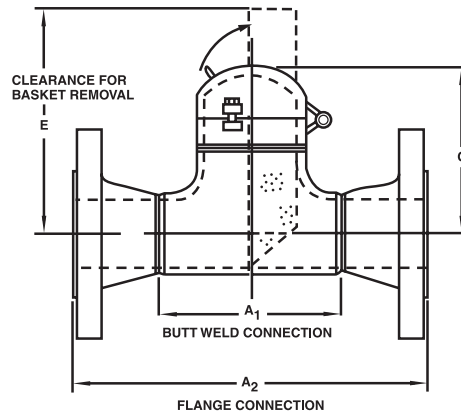
Advantages include:

- Compact design
- Vertical or horizontal installation
- Basket can be cleaned without draining
- Convolved element design doubles the screen area and completely changes dirt accumulation pattern.

Bolted Cover



Quick-Opening Hinged Cover



Nom Size	Dimensions								Net Weight (lb.)				
	Butt Weld Connections				Flanged Connections				E	Class 150		Class 300	
	Class 150		Class 300		Class 150		Class 300			Cover	Unit	Cover	Unit
	A ₁	C	A ₁	C	A ₂	C	A ₂	C					
2	5	5 1/4	5	6 1/8	10	5 3/4	10 1/2	6 1/8	13	4	25	8	38
3	6 3/4	7 1/8	6 3/4	7 7/8	12 1/4	7 1/8	13	7 7/8	14	9	50	16	69
4	8 1/4	8 1/8	8 1/4	8 3/4	14 1/4	8 1/8	15	8 3/4	16	17	75	27	115
5	9 3/4	9 3/8	9 3/4	10 1/8	16 3/4	9 3/8	17 1/2	10 1/8	19	20	80	35	151
6	11 1/4	10 1/8	11 1/4	11	18 1/4	10 1/8	19	11	22	26	110	50	206
8	14	12 1/8	14	13	22	12 1/8	22 3/4	13	25	45	185	81	336
10	17	13 3/4	17	15	25	13 3/4	26 1/4	15	29	70	324	127	491
12	20	15 3/4	20	17 1/8	29	15 3/4	30 1/4	17 1/8	31	110	410	184	730
14	22	17 3/8	22	18 3/4	32	17 3/8	33 1/4	18 3/4	38	131	615	236	966
16	24	18 1/2	24	20	34	18 1/2	35 1/2	20	41	170	776	307	1264
18	27	20 3/8	27	22 1/8	38	20 3/8	39 1/2	22 1/8	46	209	920	390	1587
20	30	22 3/8	30	23 7/8	41 3/8	22 3/8	42 3/4	23 7/8	51	272	1180	492	1980
24	34	24 7/8	34	26 3/8	46	24 7/8	47 1/4	26 3/8	56	411	2190	594	2722

Dimensions are in inches
These dimensions are for reference only. For installation purposes, request certified drawings.

Nom Size	Dimensions								Net Weight (lb.)				
	Butt Weld Connections				Flanged Connections				E	Class 150		Class 300	
	Class 150		Class 300		Class 150		Class 300			Cover**	Unit	Cover**	Unit
	A ₁	C	A ₁	C	A ₂	C	A ₂	C					
2"	-	-	-	-	-	-	-	-	-	-	-	-	-
3"	-	-	-	-	-	-	-	-	-	-	-	-	-
4"	-	-	-	-	-	-	-	-	-	-	-	-	-
5"	-	-	-	-	-	-	-	-	-	-	-	-	-
6	11 1/4	9 1/4	11 1/4	9 1/4	18 1/4	9 1/4	19	9 1/4	22	5	108	5	142
8	14	11 1/8	14	11 1/8	22	11 1/8	22 3/4	11 1/8	25	9	156	9	208
10	17	13 1/2	17	13 1/2	25	13 1/2	26 1/4	13 1/2	29	12	231	12	330
12	20	15 5/8	20	15 5/8	29	15 5/8	30 1/4	15 5/8	31	15	342	15	458
14	22	17 1/8	22	17 1/8	32	17 1/8	33 1/4	17 1/8	38	20	435	20	610
16	24	18 3/8	24	18 3/8	34	18 3/8	35 1/2	18 3/8	41	26	540	26	781
18	27	21 1/8	27	21 1/8	38	21 1/8	39 1/2	21 1/8	46	32	660	32	990
20	30	23 3/8	30	23 3/8	41 3/8	23 3/8	42 3/4	23 3/8	51	40	806	40	1222
24	34	27 1/8	34	27 1/8	46	27 1/8	47 1/4	27 1/8	56	58	1085	58	1755

Dimensions are in inches
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Contact Eaton for larger sizes