



Strainers and Accessories



Watts Strainer Screens

All Watts Regulator strainers are shipped from the factory with a standard perforated or wire mesh screen manufactured from stainless steel. The standard perforated or mesh screen for each strainer series is indicated by the letter "S" in the selection chart on the next page. For special applications, most Watts strainers can be provided with optional perforated or mesh screens. For strainers shipped with optional screens, or to order a screen as a replacement part, please consult the factory or your local authorized Watts Agent.

*Perforated
Stainless Steel
Screen*



*Stainless Steel
Wire Mesh Screen*



Wire Mesh Screens: The term "Mesh" applies to woven wire cloth and is not to be confused with perforations, which applies to perforated sheet metal. While mesh screens are satisfactory for smaller sized wye-pattern strainers, they are considered to be unsuitable for larger strainers; unless furnished as a liner for a perforated metal screen. Mesh screens are used primarily for very fine straining, with openings so fine they could not be obtained in perforated metal. Example: 100 mesh means 100 vertical and 100 horizontal strands of wire to the square inch, resulting in 10,000 openings of .005 diameter.

$\frac{1}{32}$ " Openings	$\frac{1}{50}$ " Openings	$\frac{1}{64}$ " Openings	.009 Openings	.007 Openings	.005 Openings
20 MESH (46% Open Area) .016 Wire Dia.	30 MESH (41% Open Area) .012 Wire Dia.	40 MESH (36% Open Area) .010 Wire Dia.	60 MESH (30.5% Open Area) .0075 Wire Dia.	80 MESH (31.4% Open Area) .0055 Wire Dia.	100 MESH (30.3% Open Area) .0045 Wire Dia.

Perforated Screens: Rather than use the light gauge sheet metal which would be necessary to obtain exceptionally small perforations, we suggest using a heavy gauge perforated metal screen with large perforations and lined with wire mesh cloth. This would not apply in the case of smaller sized strainers in which lighter wire mesh screens perform satisfactorily.

.033 Diam. ($\frac{1}{32}$" 324 Holes/sq. in. 28% Open Area	.045 Diam. ($\frac{3}{64}$" 225 Holes/sq. in. 36% Open Area	.062 Diam. ($\frac{1}{16}$" 132 Holes/sq. in. 37% Open Area	.125 Diam. ($\frac{1}{8}$" 32 Holes/sq. in. 40% Open Area	.188 Diam. ($\frac{3}{16}$" 18 Holes/sq. in. 50% Open Area	.250 Diam. ($\frac{1}{4}$" 8 Holes/sq. in. 40% Open Area

Watts Screen Selection Guide

Series	Page No.	Size (in.)	Mesh Screen Sizes								Perforated Screen Sizes					
			20	24	30	40	50	60	80	100	1/32"	3/64"	1/16"	1/8"	3/16"	1/4"
77S	2	1/4" - 2 1/2" 3"	S		✓	✓		✓	✓	✓	✓	S	✓	✓		
77SI	3	1/4" - 2" 2 1/2" - 3"	S									S				
77F-SS 77G-SS	13	2 1/2" - 4" 6" - 8" 10" - 12"											S		S	S
77F-DI-125 77F-DI-FDA-125	4	2" - 5" 6" - 8" 10" - 12" 14" - 16"	✓			✓		✓	✓	✓	✓	✓	S	✓	✓	✓
77F-DI-250	4	2" - 3" 4" - 12"	✓			✓		✓	✓	✓	✓	S	✓	✓	S	✓
77F-BI	7	2" - 3" 4" - 8"										S			S	
77F-CSI	9	1/2" - 1 1/2" 2" - 3" 4" - 12"										S	S		S	
77F-CSSI	12	1/2" - 1 1/2" 2" - 3" 4" - 6"										S	S		S	
777/777S	6	1/4" - 2" 2 1/2" 3" 4"	S		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
S777/S777S	6	1/2" - 2"	S		✓	✓		✓	✓	✓						
777SI	6	3/8" - 3"	S													
S777SI	6	1/2" - 2"	S													
88CSI	8	1/2" - 1 1/2" 2"										S	S			
88S	11	1/4" - 2"	✓			✓		✓	✓	✓	✓	✓	✓	S	✓	
87SI	10	1/2" - 2" 2 1/2" - 3"										S	S			
97FB-CI	14	2" - 3" 4" - 12"										S			S	
97FB-CSSI	15	2" - 3" 4" - 6"										S			S	
97FD-CI	16	5" - 14"													S	
27	18	1/8" 1/4" 3/8", 1/2"	✓			S		✓	✓	✓	✓					
P777-100	18	1/4", 3/8"				✓		✓	✓	S						
745	19	1/2", 3/4"				✓			S							
17	19	3/4", 1"				S		✓	✓	✓						

S = Standard

✓ = Optional

Note: All Watts strainers are shipped with a standard perforated or mesh screen. The standard perforated or mesh screen is denoted by the letter "S" in the table. Optional screens are denoted by a ✓ mark. While the standard (S) mesh screen is satisfactory for use in the noted strainer series, mesh screens are unstable in larger strainers. They should be used as optional liners inside the standard screen. The standard and optional screens may be ordered as replacement parts, or as a complete strainer assembly. Please consult factory for individual or assembly part numbers.

Multiplying Factors for Screens other than Standard

Strainer	% Open Area			Lined
	35 or Over	25-35	20-25	
1/4" - 1"	1.0	1.0	1.15	1.25
1/4" - 2"	1.0	1.0	1.4	1.8
2 1/2" - 6"	1.0	1.2	1.6	2.0
8" - 12"	1.0	1.3	1.8	2.2

To obtain the correct pressure drop for a strainer when selecting a screen other than the standard screen, multiply the pressure drop as determined from the curves of the respective strainer model # by the factor in the above table.

Cast Iron Strainers, Wye-Pattern, Threaded Connections

250 psig WSP / 400 psig WOG, Sizes 1/4" – 3" (8-80mm)

77S-M1 Strainers

The 77S-M1 are threaded, wye-pattern, cast iron strainers manufactured by Watts. They are furnished with a machined seat that allows the screen to be self-aligning to assure a perfect fit. All sizes come with a Garlock® material gasketed, threaded screen retainer cap, tapped blowdown connection, and an easily removable 304SS screen. Blowdown plug is not provided.

Blowdown Connections

Tapped blowdown connections are furnished for blowdown plug or valve for blowing off sediment collected on the screen. See dimension "C" for specific tapped sizes.

Materials of Construction

Body, screen retainer cap, and plug are constructed of ASTM A-126 Class B cast iron. All screens are 304SS. Gasket is Garlock® material.

Maximum Pressures (Non-Shock) & Temperatures

250 psig (17.2 bar) WSP at 406°F (208°C),
400 psig (27.6 bar) WOG at 150°F (66°C).

Complies with MIL-S-16293 Type 1

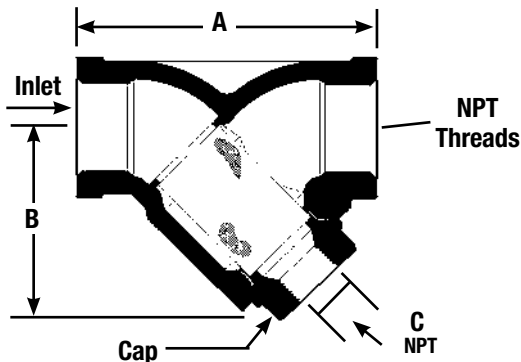
Standard Screens

Size	Screen Openings	Materials
1/4" - 2 1/2" (8-65mm)	20 mesh	304SS
3" (80mm)	3/64" perf	304SS

See page 1 for optional mesh and perforated screens.

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Dimensions - Weights



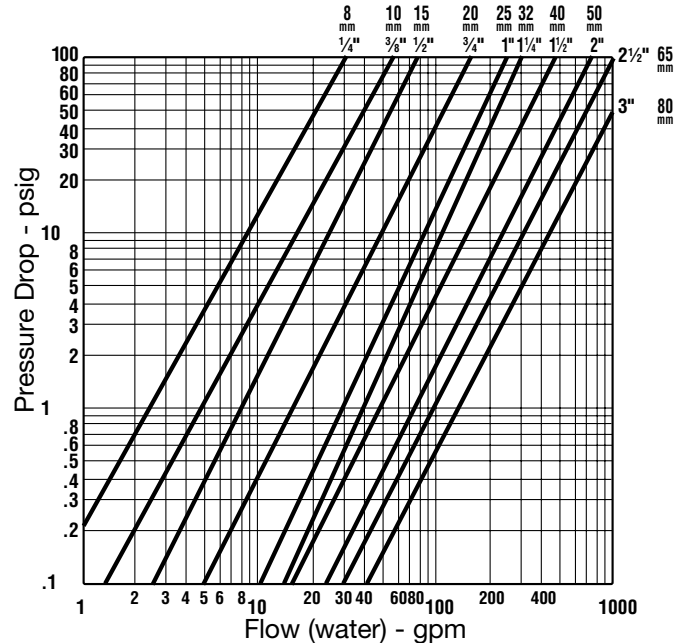
For liquid or steam service



No. 77S-M1

Performance Data

Flow curves show pressure drop (psig) and flows (gpm) for the 77S-M1 using standard screens.



Conversions: For gpm to lpm, multiply by 3.8
For psi to bar, multiply by .069.

Series 77S-M1

Model	Ordering Code	Size (DN)	Dimensions (approx.)			Weights lbs. kgs.
			A in. mm	B in. mm	C (NPT) in. mm	
77S M1	0220201	1/4 8	3 76	2 1/4 57	3/8 10	1.3 .6
77S M1	0220200	3/8 10	3 76	2 1/4 57	3/8 10	1.3 .6
77S M1	0220202	1/2 15	3 76	2 1/4 57	3/8 10	1.3 .6
77S M1	0220203	3/4 20	3 5/16 84	2 7/16 62	1/2 15	1.7 .8
77S M1	0220204	1 25	4 1/2 114	3 76	3/4 20	3.7 1.7
77S M1	0220205	1 1/4 32	5 3/16 132	3 1/4 83	3/4 20	4.6 2.1
77S M1	0220206	1 1/2 40	5 7/8 149	3 3/16 97	3/4 20	6.4 2.9
77S M1	0220208	2 50	6 3/16 157	5 1/4 133	3/4 20	11.6 5.3
77S M1	0220209	2 1/2 65	8 3/16 208	5 7/8 130	1 25	15.5 7.0
77S M1	0220210	3 80	10 3/16 259	6 3/16 157	1 1/2 40	26.0 11.8

For additional information, please call or write for ES-77S-M1 specification sheet.

Cast Iron Strainers, Wye-Pattern, Threaded Connections

250 psig WSP / 400 psig WOG, Sizes 1/4" – 3" (8-80mm)

77SI Strainers

The 77SI are threaded, wye-pattern, cast iron strainers manufactured overseas. They are furnished with a machined seat that allows the screen to be self-aligning to assure a perfect fit. All sizes come with a threaded screen retainer cap, blowdown connection, and an easily removable 304SS screen.

Materials of Construction

Body, screen retainer cap, and plug are constructed of ASTM A-126 Class B cast iron. All screens are 304SS. Gasket is fiber filled NBR

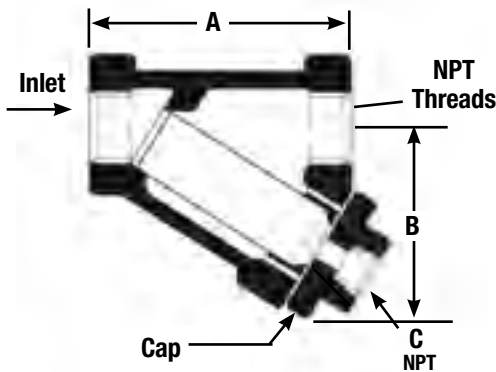
Maximum Pressures (Non-Shock) & Temperatures

250 psig (17.2 bar) WSP at 406°F (208°C),
400 psig (27.6 bar) WOG at 150°F (66°C).

Standard Screens

Size	Screen Openings	Materials
1/4" - 2" (8-50mm)	20 mesh	304SS
2 1/2" - 3" (65-80mm)	3/64" perf	304SS

Dimensions - Weights



Series 77SI

Model	Ordering Code	Size (DN) in. mm	Dimensions (approx.)						Weights	
			A in. mm	B in. mm	C (NPT) in. mm	lbs.	kgs.			
77SI	0220082	1/4" 8	3 3/16 81	2 1/16 52	1/4 8	1.5	.7			
77SI	0220083	3/8" 10	3 3/16 81	2 1/16 52	1/4 8	1.5	.7			
77SI	0220071	1/2" 15	3 3/16 81	2 1/16 52	1/4 8	1.5	.7			
77SI	0220073	3/4" 20	3 3/4 95	2 1/16 62	3/8 15	2.5	1.1			
77SI	0220075	1" 25	4 102	2 1/16 62	3/8 20	3.0	1.4			
77SI	0220077	1 1/4" 32	5 127	3 3/8 86	3/4 20	5.5	2.5			
77SI	0220079	1 1/2" 40	5 3/4 146	3 7/8 98	3/4 20	8.0	3.6			
77SI	0220081	2" 50	7 178	4 3/4 121	1 25	13.0	5.9			
77SI	0220084	2 1/2" 65	9 1/4 235	5 7/8 149	1 25	22.0	10.0			
77SI	0220085	3" 80	10 254	6 152	1 1/4 40	30.0	13.6			

Dimensions shown are subject to change. Contact Watts for exact dimensions when required.

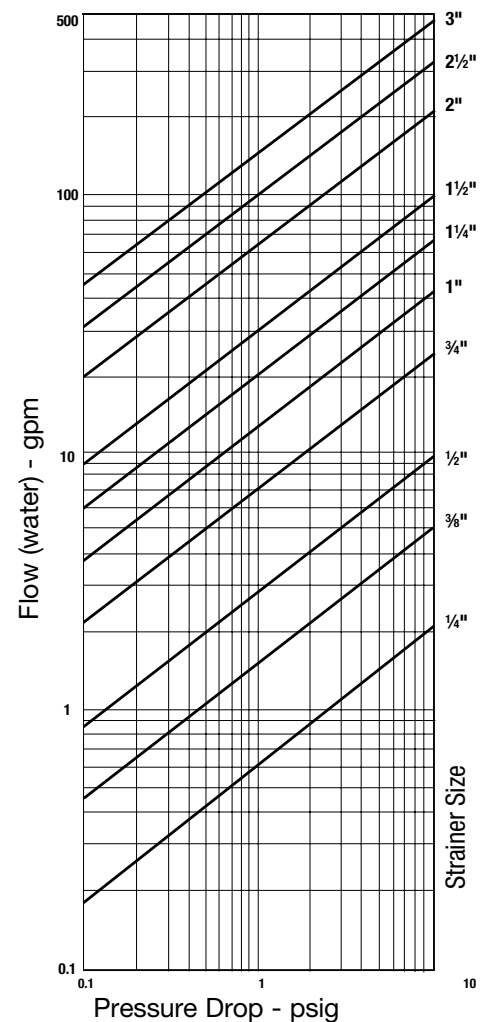
For liquid or steam service



No. 77SI

Performance Data

Table shows flow rates (gpm) at various pressure drops (psig) for 77SI strainers using standard screens.



Conversions: For gpm to lpm, multiply by 3.8
For psi to bar, multiply by .069.

For additional information, please call or write for ES-77SI specification sheet.

Cast Iron Strainers, Wye-Pattern, Flanged Connections

125 psig WSP and 250 psig WSP, Sizes 2" – 16" (50-400mm)

77F-DI-125 and 77F-DI-250 Strainers

The 77F-DI is manufactured of ASTM A-126 Class B cast iron, whereas the 77F-DI-250 is provided in ASTM A-395 ductile iron. Both strainer models are furnished with 304SS perforated screens, bolted covers, graphite gaskets, and tapped screen covers for blowdown plug.

77F-DI-FDA Strainers

Similar to Series 77F-DI, except provided with double coated, electrostatically applied, heat fused epoxy coating on the interior and exterior. FDA approved suitable for potable water and food contact.

Ideal for liquid service where a noncorrosive construction, clean cosmetic appearance is required. The 77F-DI-FDA is to be used in water service only.

Self-Cleaning

Self cleaning is accomplished by opening a blowdown valve or plug to the blowdown outlet.

Blowdown Outlets

Tapped NPT; see dimension "C" for specific sizes.

Maximum Pressures (Non-Shock) & Temperatures

Class 125: 125 psig (8.6 bar) WSP at 353°F (178°C),
200 psig (13.8 bar) WOG at 210°F (99°C).
14" (350mm) and 16" (400mm) rated at 150 psig (10.3 bar) WOG at 150°F (66°C).

Class 250: 250 psig (17.2 bar) WSP @ 406°F (208°C), 500 psig (34.4 bar) WOG @ 150°F (66°C).

Series 77F-DI-FDA-125 is for water service only.

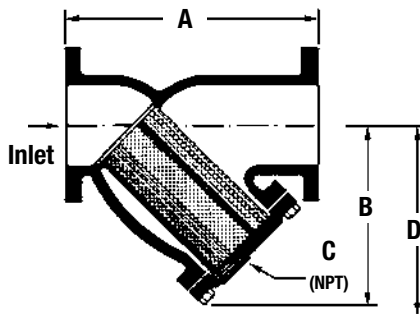
200 psig (13.1 bar) at 140°F (60°C).

Standards Conformance

The dimensions and drilling of end flanges conform to the American cast iron flange standard ANSI B16.1, Class 125 and Class 250.

Complies with MIL-S 16293 Type II.

Dimensions - Weights



*For liquid or steam service,
iron body Class 125 and 250*



No. 77F-DI-125

No. 77F-DI-FDA-125

Standard Screens*

77F-DI/77F-DI-FDA

2" - 5" (50-125mm) 1/16" (2mm) 304SS perforations
6" - 8" (150-200mm) 1/8" (3mm) 304SS perforations
10" - 12" (250-300mm) 3/16" (5mm) 304SS perforations
14" - 16" (350-400mm) 1/8" (3mm) 304SS perforations

77F-DI-250

2" - 3" (50-80mm) 3/64" (1mm) 304SS perforations
4" - 12" (100-300mm) 1/8" (3mm) 304SS perforations

*Standard screens are for Water, Oil, and Gas.

Screens provided for steam service when specified

77F-DI/77F-DI-FDA-125

2" - 10" (50-250mm) 3/64" (1mm) 304SS perforations
12" (300mm) 1/16" (2mm) 304SS perforations
14" - 16" (350-400mm) 1/8" (3mm) 304SS perforations

77F-DI-250

2" - 3" (50-80mm) 3/64" (1mm) 304SS perforations
4" - 12" (100-300mm) 1/8" (3mm) 304SS perforations & 20 mesh screen

See Page 1 for optional perforated and mesh screens.

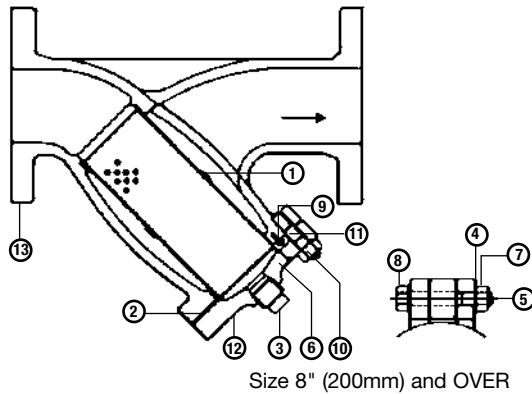
Ordering Code		Size (DN)		Dimensions (approx.)						D Screen Removal		Weights	
77F-DI-125	77F-DI-FDA-125	in.	mm	A in.	A mm	B in.	B mm	C in.	C mm	in.	mm	lbs.	kgs.
0825200	0825209	2	50	7 7/8	200	5 1/4	133	1/2	15	7	178	18	8
0825201	0825210	2 1/2	65	10	254	6 1/2	165	1	25	9 3/4	248	28	13
0825202	0825211	3	80	10 1/8	257	7	178	1	25	10	254	34	15
0825203	0825212	4	100	12 1/8	308	8 1/4	210	1 1/2	40	12	305	60	27
0825204	0825213	5	125	15 5/8	397	11 1/4	286	2	50	17	432	95	43
0825205	0825214	6	150	18 1/2	470	13 1/2	343	2	50	20	508	133	60
0825206	0825215	8	200	21 5/8	549	15 1/2	394	2	50	22 3/4	578	247	112
0825207	0825216	10	250	26	660	18 1/2	470	2	50	28	711	370	168
0825208	0825217	12	300	29 7/8	759	21 3/4	552	2	50	30	762	579	263
0823037	0823205	*14	350	37 3/8	949	29	737	2	50	41	1041	815	370
0823038	0823206	*16	400	42 1/2	1080	33	838	2	50	46	1168	1224	555
77F-DI-250		in.	mm	A in.	A mm	B in.	B mm	C in.	C mm	in.	mm	lbs.	kgs.
0823039		2	50	11 5/8	295	6 1/2	165	1/2	15	9 3/8	232	28	13
0823040		2 1/2	65	11 5/8	295	7	178	1	25	9 3/8	251	38	17
0823041		3	80	12 5/8	321	8	203	1	25	11 1/4	286	54	24
0823042		4	100	15 1/2	394	10 3/4	273	1	25	15	381	110	50
0823043		5	125	18 1/2	470	13 1/2	343	1 1/4	32	19	483	160	73
0823044		6	150	20 1/4	514	16 1/4	413	1 1/2	40	22 3/4	578	224	102
0823045		8	200	22	559	19 1/2	495	1 1/2	40	27 3/4	705	468	212
0823046		10	250	26 3/8	670	21 1/4	540	2	50	29 3/4	756	590	268
0823047		12	300	32 5/8	829	25	635	2	50	35	889	890	404

*Sizes 14" and 16" 77F-DI and 77F-DI-FDA are manufactured of ASTM A-395 ductile iron.

For additional information, please call or write for ES-77F-DI specification sheet.

Cast Iron Strainers, Wye-Pattern, Flanged Connections (continued)

Parts Specifications



No.	Parts	Material
1	Screen	ASTM 304SS
2	Cover Gasket	Graphite
3	Plug	* ASTM A47
4	Washer	ASTM A6
5	Cotter Pin	ASTM A112
6	Plate	* ASTM A6
7	Bolt Nut	ASTM A6
8	Bolt	ASTM A6
9	Set Screw	ASTM A16
10	Cover Bolt Nut	ASTM A6
11	Cover Bolt	ASTM A6
12	Cover	*ASTM A126 Cl.B
13	Body	*ASTM A126 Cl.B

* 77F-DI-FDA Series: epoxy coated.

Screen Cover Fasteners

77F-DI-125/77F-DI-FDA-125

- 2" - 6" stud and nut
- 8" - 12" bolt and nut
- 14" - 16" stud and nut

77F-DI-250

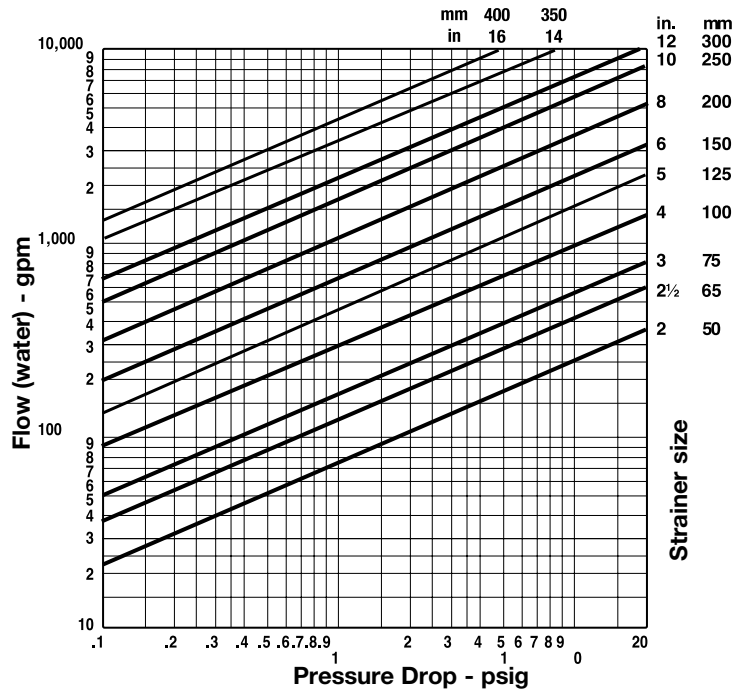
- 2" - 12" stud and nut

Shipping note

Shipped with flange protectors to safeguard flange finish and to keep foreign material from entering the strainer during shipment, and prior to installation.

Performance Data

Table shows flow rates (gpm) and pressure drops (psig) for the 77F strainer series using standard screens.



Conversions: For gpm to lpm, multiply by 3.8.
For psig to bar, multiply by .069.

Flow-coefficient

The flow coefficient (C_v) is the number of gallons per minute of water flowing through a given size restriction at a pressure drop of one psig. To obtain the C_v factor for a given size strainer, read capacity at intersection with the one (1) psig pressure drop.

Multiplying factors for screens other than standard

Strainer	% OPEN AREA			
	35 or Over	25-35	20-25	Lined
2" (50mm)	1.0	1.0	1.4	1.8
2½" - 6" (65-150mm)	1.0	1.2	1.6	2.0
8" - 12" (200-300mm)	1.0	1.3	1.8	2.2

Multiply the pressure drop as determined from curves by factor in table above to obtain correct pressure drop. Consult factory for 14" and 16" (350 and 400mm) % open area using other than standard screens.

For additional information, please call or write for ES-77F-D specification sheet.

Cast Bronze Strainers, Wye-Pattern, Threaded and Solder Connections

125 psig WSP / 400 psig WOG, Sizes 1/4" – 3" (8-80mm)
 125 psig WSP / 300 psig WOG, Sizes 4" (100mm)

777 Strainers, 1/4" – 4" (8-100mm)

These wye-pattern strainers have 20 mesh 304SS screens, (except 3" furnished with 3/64" perf. screen, and 4" with 1/8" perf. screen), cast bronze body, threaded connections, and solid retainer cap with an EPDM O-ring. Not tapped for closure plug.

S777 Strainers, 1/2" – 2" (15-50mm)

Same as 777, except has solder end connections.

777S Strainers, 1/2" – 4" (15-100mm)

Same as the 777 series, except furnished with a tapped retainer cap for a closure plug. Closure plug not provided.

S777S Strainers, 1/2" – 2" (15-50mm)

Same as 777S, except solder end connections.

777SI Strainers, 3/8" – 3" (10-80mm)

Supplied with tapped retainer cap and closure plug.

S777SI Strainers, 1/2" – 2" (15-50mm)

Supplied with tapped retainer cap and closure plug.

Maximum Pressures (Non-Shock) & Temperatures

400psi (27.6 bar) WOG at 210°F (99°C), and 125psi (8.6 bar) WSP @ 353°F (178°C), 4" (100mm) 777/777S 300psi (20.5 bar) WOG; 125psi (8.6 bar) WSP.

†Max. pressure rating for solder end models is 400 psig (27.6 bar) WOG at 150°F (66°C), and requires 95-5 solder (Ref. ANSI B16.18), and are steam rated @15 psig (103 kPa) maximum at 250°F.

Dimensions - Weights

Series 777/777S

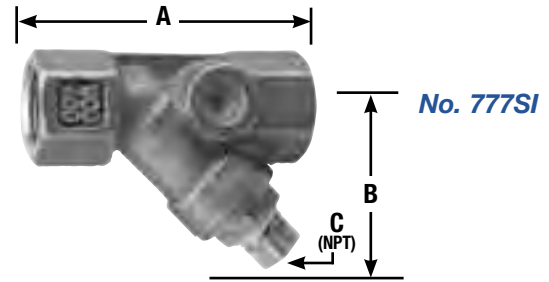
Ordering Code	Size (DN)	Dimensions (approx.)									Weights
		A		B		C* (NPT)					
777	777S	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.
0384363	-	1/4	8	2 1/16	68	1 1/16	43	-	-	1.8	.8
0384364	-	3/8	10	2 1/16	68	1 1/16	43	3/8	10	1.8	.8
0384372	0384373	1/2	15	3	76	2	51	3/8	10	1.8	.8
0384382	0384381	3/4	20	3 9/16	84	2 5/16	59	1/2	15	1.8	.8
0384398	0384397	1	25	4 1/2	114	2 5/16	75	3/4	20	2.8	1.3
0384416	0384417	1 1/4	32	5 1/8	130	3 1/8	79	3/4	20	3.0	1.4
0384432	0384431	1 1/2	40	5 7/8	149	3 3/4	95	1	25	4.0	1.8
0385145	0384007	2	50	6 3/16	157	4 7/8	124	1 1/4	32	7.4	3.4
0384670	0384675	2 1/2	65	8 1/8	206	4 15/16	125	1 1/4	32	12.0	5.4
0384680	0384685	3	80	10 1/8	257	6 1/16	170	1 1/2	40	24.0	10.9
0384776	0384775	4	100	13	330	10 1/2	267	1 1/2	40	41.0	18.6

Series S777/S777S†

Ordering Code	Size (DN)	Dimensions (approx.)									Weights
		A		B		C*(NPT)					
S777	S777S	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.
0384777	0384755	1/2	15	3 3/8	86	2	51	3/8	10	1.5	.7
0384778	0384756	3/4	20	3 3/4	95	2 3/8	60	1/2	15	1.6	.7
0384779	0384757	1	25	5	127	2 5/16	75	3/4	20	2.5	1.1
0384780	0384758	1 1/4	32	5 5/8	143	3 1/8	79	3/4	20	2.8	1.3
0384781	0384759	1 1/2	40	6 3/16	160	3 3/4	95	1	25	4.0	1.8
0384504	0384503	2	50	8	203	5 7/8	149	1 1/4	32	7.4	3.4

*Note: C dimension is for plug tapping.

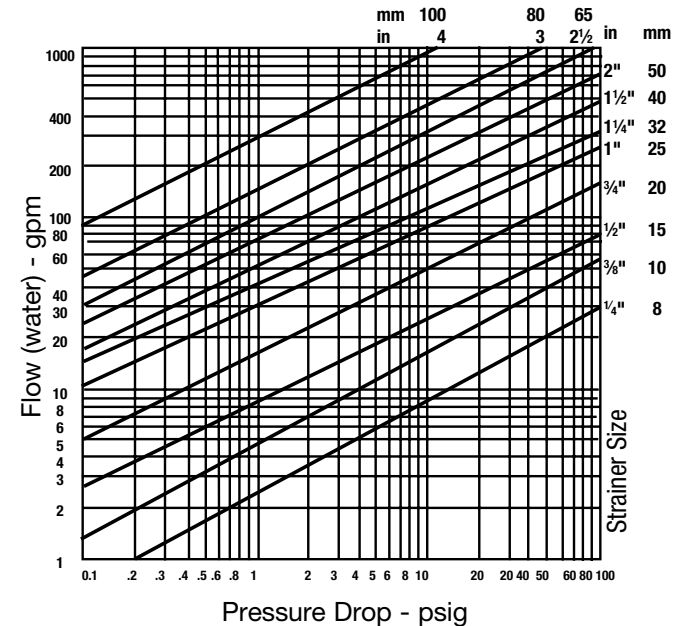
For liquid or steam service



Performance Data

Table shows flow rates (gpm-water) through the domestic 777 strainer series at various pressure drops (psig) using standardly furnished screens.

See Page 1 for standard and optional screens.



Conversions: For gpm to lpm, multiply by 3.8
 For psi to bar, multiply by .069.

† Series 777 solder end strainers are designed to be soft soldered into lines without disassembly, using a low temperature solder (420°F/216°C). Other solders such as 95/5 tin-antimony (460°F/238°C) or 96/4 tin silver (430°F/221°C) can be used. ANSI B16.18 states that the maximum operating pressure of 50/50 tin-lead solder connection is 200 psig (14 bars) at 100°F (38°C) up to 1" (25mm) and decreases with higher temperatures and larger sizes. When soldering, always apply heat with the flame directed AWAY from the center of the strainer body.

Request ES-777SI specification sheet for dimensions and flow data for strainer series 777SI and S777SI.

For additional information, please call or write for ES-777S-M1 and ES-S777-M1 specification sheets.

Cast Bronze Strainers, Wye-Pattern, Flanged Connections

150 psig WSP / 225 psig WOG, Sizes 2" – 8" (50-200mm)

77F-BI Strainers

The 77F-BI Class 150 bronze, wye-pattern strainers are manufactured overseas. These strainers are furnished with blowdown connections and machined seat that allows the screen to be self-aligning and assures a perfect fit. All sizes come with a bolted screen retainer cover and PTFE gasket. The screen retainer cover is N.P.T. tapped for a blowdown plug that is provided. The strainer may be installed in horizontal or vertical pipe with the blowdown connection at the lower end of the screen retainer cover. The 77F-BI is U.L. Listed in sizes 2½" - 4" (50-200mm).

Self-Cleaning

Self cleaning is accomplished by opening the blowdown plug, or a blowdown valve piped to the blowdown outlet.

Blowdown Outlets

Tapped NPT; see dimension "C" for specific sizes. Blowdown plug furnished.

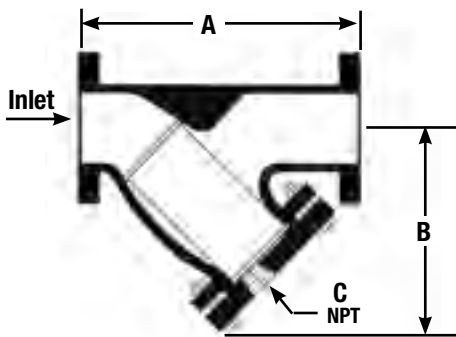
Materials of Construction

Body, screen cover, and plug are constructed of ASTM B-62 cast bronze. Screens are 304SS, gasket is PTFE.

Maximum Pressures (Non-Shock) & Temperatures

Steam: 150WSP (10.3 bar) at 406°F (208°C).
 Water, Oil, Gas: 225 psig (15.5 bar) at 150°F (66°C).

Dimensions - Weights



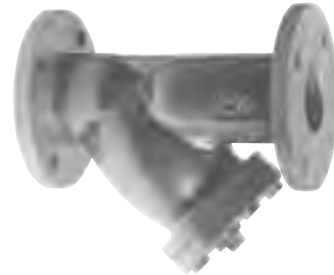
Series 77F-BI

Ordering Code	Size (DN)		Dimensions (approx.)						Weights	
	in.	mm	A		B		C (NPT)		lbs.	kgs.
0823048	*2	50	8½	219	5¼	133	½	15	20	9.0
0823049	*2½	65	10¼	260	7	178	¾	20	32	14.5
0823050	*3	80	11½	295	7⅞	195	1	25	36	16.3
0823051	*4	100	14¾	365	9½	232	1½	40	61	27.6
0823052	6	150	18¾	473	13	330	2	50	160	72.5
0823053	8	200	24¾	619	15⅞	389	2	50	210	95.2

* UL listed.

Dimensions shown are subject to change. Contact Watts for exact dimensions when required.

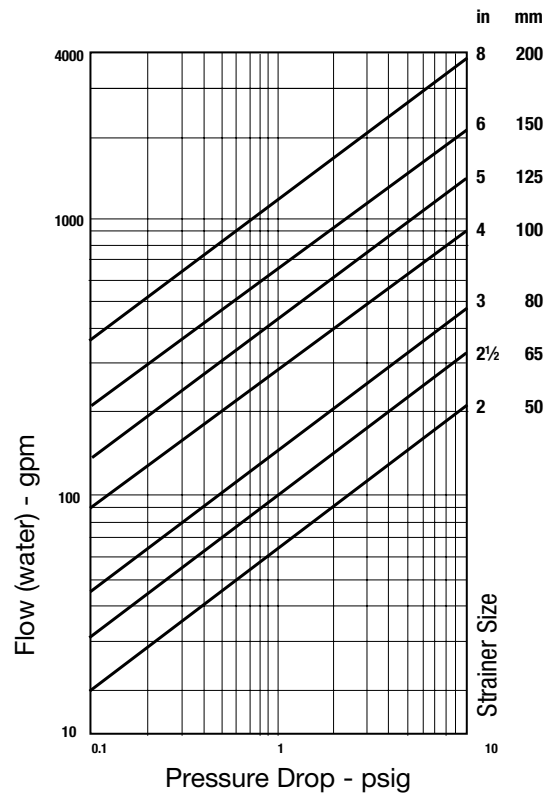
For liquid or steam service



77F-BI

Performance Data

Table shows flow rates (gpm-water) through 77F-BI at various pressure drops (psig) using standard screens.



Conversions: For gpm to lpm, multiply by 3.8
 For psi to bar, multiply by .069.

Standard Screens

Size	Openings	Standard Screens
2" - 3" (50-80mm)	0.045"	¾" 304SS perf.
4" - 8" (100-200mm)	0.125"	1" 304SS perf.

For additional information, please call or write for ES-77F-BI specification sheet.

Cast Steel Strainers, Wye-Pattern, Threaded and Socket Weld Connections

600 psig WSP/ 1480 psig WOG, Sizes 1/2" – 2" (15-50mm)

88CSI Strainers

The 88CSI Class 600 Series strainers are manufactured overseas of cast steel. The 88CSI strainers are furnished with a machined seat that allows the screen to be self-aligning and assures a perfect fit. All sizes come with blowdown connection and an easily removable 304SS screen. Blowdown plug is furnished.

Materials of Construction

Body: ASTM A-216 Grade WCB cast steel
 Retainer Cap: ASTM A-216 WCB cast steel
 Screen: 304SS

Cap Gasket: Graphite-filled 304SS spiral wound

Maximum Pressures (Non-Shock) & Temperatures

600 psig (41.4 bar) WSP at 489°F (254°C)
 1480 psig (102.0 bar) WOG at 100°F (38°C)

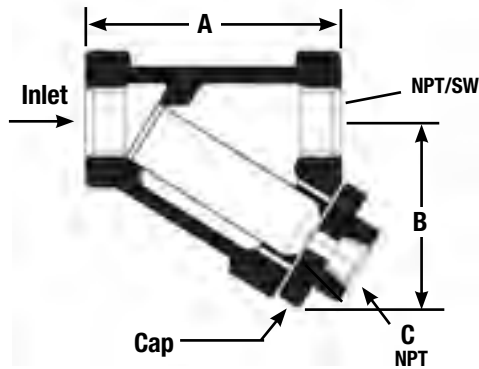
Models

88CSI-T: Threaded
 88CSI-SW: Socket Weld

Standard Screens

Size	Openings	Standard Screens
1/2" - 1 1/2" (15-40mm)	0.032"	1/32" 304SS perf.
2" (50mm)	0.045"	3/64" 304SS perf.

Dimensions - Weights



88CSI-T / 88CSI-SW

Ordering Code	88CSI-SW	Size (DN)	Dimensions (approx.)						Weights		
			in.	mm	A in.	A mm	B in.	B mm	C (NPT) in.	C (NPT) mm	lbs.
0823000	0823008	1/2"	15	2 15/16	75	2 1/4	57	1/4	8	2	.9
0823001	0823009	3/4"	20	3 7/16	87	2 5/16	65	3/8	10	3	1.3
0823002	0823010	1"	25	4 9/16	116	2 13/16	71	3/8	10	5	2.2
0823003	0823011	1 1/4"	32	4 15/16	125	3 1/16	78	3/4	20	7	3.1
0823004	0823012	1 1/2"	40	5 9/16	141	3 3/16	84	3/4	20	10	4.5
0823005	0823013	2"	50	6 15/16	176	4 13/16	122	1	25	15	6.8

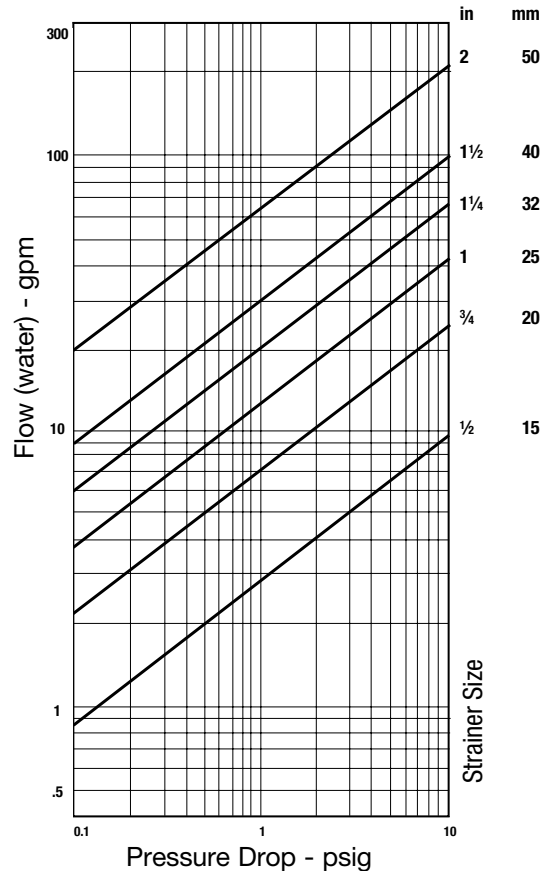
Dimensions shown are subject to change. Contact Watts for exact dimensions when required.

For liquid or steam service



Performance Data

Table shows flows (gpm-water) at various pressure drops (psig) using standard screens.



Conversions: For gpm to lpm, multiply by 3.8.
 For psig to bars, multiply by .069.

Cast Steel Flanged Strainers, Wye-Pattern,

150 psig WSP / 285 psig WOG, Sizes 1/2" – 6" (15-150mm)

77F-CSI Strainers

This Class 150 strainer is manufactured overseas of cast steel. The strainers are furnished with blowdown connections and a machined seat that allows the screen to be self-aligning and assures a perfect fit. All sizes come complete with a bolted screen retainer cover and non-asbestos gasket. These strainers may be installed in horizontal or vertical pipe with the blowdown connection at the lower end of the screen retainer cover.

Blowdown Outlets

Tapped NPT; see dimension "C" for specific sizes. Blowdown plug furnished.

Materials of Construction

Body and screen retainer cover are constructed of ASTM A-216 Grade WCB cast steel. Plug is ASTM A-105. Screens are 304SS, gasket is PTFE.

Maximum Pressures (Non-Shock) & Temperatures

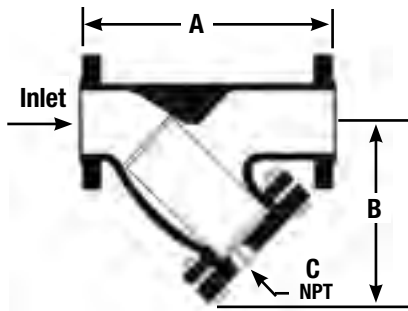
150 psig (10.3 bar) at WSP 400°F (204°C).

285 psig (19.6 bar) at WSP 100°F (38°C).

ANSI Class 300 Cast Steel Strainers

Consult factory for availability of cast steel 300 psig WSP/ 740 psig WOG strainers.

Dimensions - Weights



77F-CSI

Ordering Code	Size (DN)		Dimensions (approx.)						Weights	
	in.	mm	A		B		C (NPT)		lbs.	kgs.
0823016	1/2"	15	6	152	3 7/8	98	1/4	8	6	2.4
0823017	3/4"	20	7	178	4 1/4	108	3/8	10	7	2.9
0823018	1"	25	7 1/2	191	4 3/4	121	1/2	15	9	4.0
0823019	1 1/2"	40	9	229	5 5/8	143	1/2	15	12	5.4
0823020	2"	50	8 5/8	219	5 1/4	133	1/2	15	20	9.0
0823021	2 1/2"	65	10 1/4	260	7 1/2	191	3/4	20	32	14.5
0823022	3"	80	11 5/8	295	7	178	1	25	36	16.3
0823023	4"	100	14 3/8	365	9 5/8	232	1 1/2	40	61	27.6
0823024	5"	125	17 5/8	448	11	279	2	50	110	49.8
0823025	6"	150	18 5/8	473	13	330	2	50	160	72.5

Dimensions shown are subject to change. Contact Watts for exact dimensions when required.

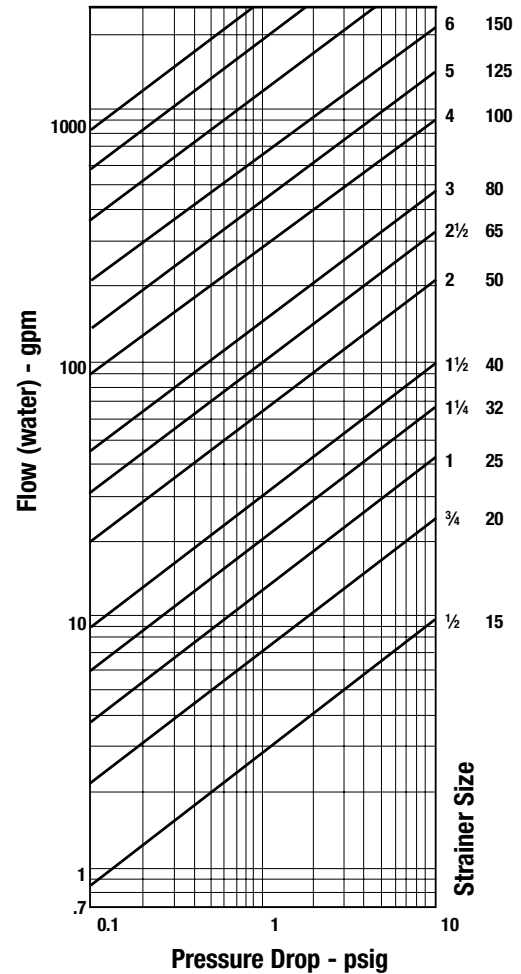
For liquid or steam service



77F-CSI

Performance Data

Table shows flows (gpm-water) at various pressure drops (psig) using standard screens.



Conversions: For gpm to lpm, multiply by 3.8
For psi to bar, multiply by .069.

Standard Screens

Size	Openings	Standard Screens
1/2" - 1 1/2" (15-40mm)	0.032"	1/32" 304 perf.
2" - 3" (50-80mm)	0.045"	3/64" 304 perf.
4" - 12" (100-300mm)	0.125"	1/8" 304 perf.

For additional information, please call or write for ES-77F-CSI specification sheet.

Cast Stainless Steel Strainers, Wye-Pattern, Threaded and Socket Weld Connections

300 psig WSP/ 720 psig WOG, Sizes 1/2" – 3" (8-80mm)

87SI Strainers

The 87SI Class 300 Series strainers are manufactured overseas of cast 316SS. The 88SI strainers are furnished with a machined seat that allows the screen to be self-aligning and assures a perfect fit. All sizes come with blowdown connection and an easily removable 304SS screen. Blowdown plug is furnished.

Materials of Construction

Body : ASTM A-351 Grade CF8M 316SS
 Retainer Cap: ASTM A-351 Grade CF8M 316SS
 Screens: 304SS
 Cap Gasket: PTFE

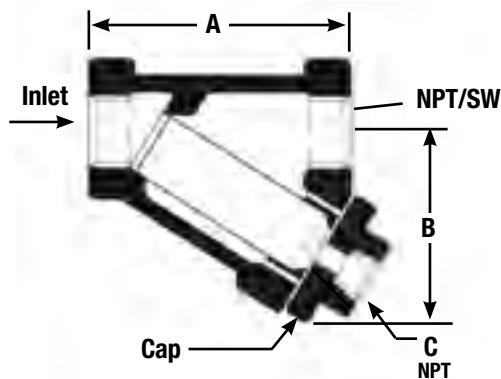
Maximum Pressures (Non-Shock) & Temperatures

300 psig (20.7 bar) WSP at 400°F (204°C)
 720 psig (49.6 bar) WOG at 100°F (38°C)

Models

87SI-T: Threaded
 87SI-SW: Socket Welded

Dimensions - Weights

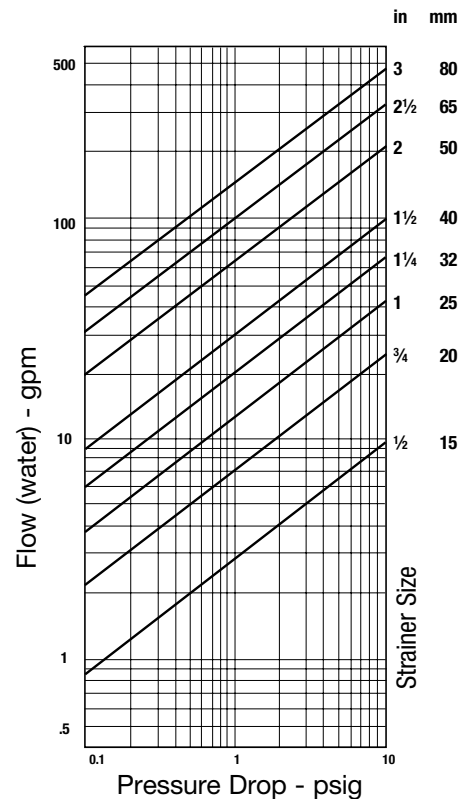


For liquid or steam service



Performance Data

Table shows flow rates (gpm-water) at various pressure drops (psig) for standardly furnished screens.



Conversions: For gpm to lpm, multiply by 3.8
 For psi to bar, multiply by .069.

87SI

Ordering Code	87SI-SW	Size (DN)	Dimensions (approx.)						Weights		
			in.	mm	A	B	C (NPT)	lbs.	kgs.		
0823073	0823081	1/2"	15	25/16	59	19/16	40	3/8	10	0.5	.2
0823074	0823082	3/4"	20	31/8	79	21/8	54	3/8	10	0.8	.3
0823075	0823083	1"	25	33/16	84	25/8	67	1/2	15	1.5	.6
0823076	0823084	1 1/4"	32	41/8	105	3	76	1/2	15	2.0	.9
0823077	0823085	1 1/2"	40	411/16	119	33/16	81	1/2	15	2.8	1.2
0823078	0823086	2"	50	51/8	138	313/16	97	1/2	15	4.3	2.9
0823079	0823087	2 1/2"	65	71/8	200	55/16	135	1 1/4	32	13.0	5.8
0823080	0823088	3"	80	87/8	225	519/16	151	1 1/4	32	18.0	8.1

Dimensions shown are subject to change. Contact Watts for exact dimensions when required.

Standard Screens

Size	Openings	Standard Screens
1/2" - 2" (15-50mm)	0.032"	1/32" 304SS perf.
2 1/2" - 3" (65-80mm)	0.045"	3/64" 304SS perf.

For additional information, please call or write for ES-87SI specification sheet.

Cast Stainless Steel Strainers, Wye-Pattern, Threaded Connections

600 psig WSP / 1440 psig WOG, Sizes 1/4" - 2" (8-50mm)

88S Strainers

These wye-pattern, stainless steel strainers are designed to ensure complete protection to mechanical equipment from the injurious effects of dirt, scale, welding particles, or other foreign objects. They are ruggedly built for long service in corrosive, high pressure, and high temperature applications.

The bottom threaded cap is mated to the body with straight threads and is sealed off from contact with the media flowing through the strainer by a cap gasket. This prevents corrosion of the threads, thus enabling easy servicing and avoiding potential deterioration of the threads after an extended period. The cap is tapped for a closure plug. Closure plug is not provided.

Materials of Construction

Body is constructed of ASTM A-351 Grade CF8M. Bottom Cap 1/4" - 1" (8-25mm) ASTM A-276 CF8M, 1 1/4" - 2" (32-50mm) ASTM A-351 CF8M. Bottom Cap Gasket is graphite.

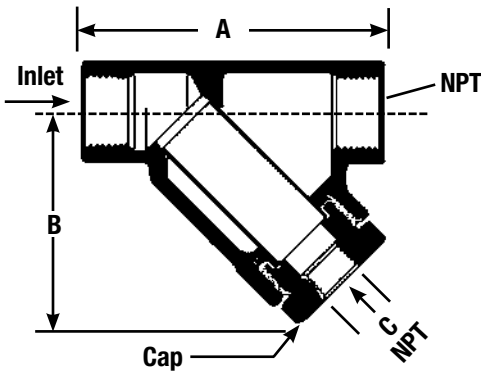
See Page 1 for optional screens.

Pressure-temperature rating in accordance with ANSI B16.34 (Non-Shock)

Steam - 600 psig (41.4) at 489°F (254°C)

Liquids - 1440 psig (99.3 bar) 100°F (38°C)

Dimensions - Weights



88S

Ordering Code	Size (DN)		A		B		C (NPT)		Weights		Cv Rating
	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.	
0701000	1/4	8	3	76	2 1/4	57	1/4	8	1.3	.5	3 1/2
0701002	3/8	10	3	76	2 1/4	57	1/4	8	1.3	.5	6
0701004	1/2	15	3 13/16	97	2 5/8	67	1/4	8	2.1	.9	10 1/2
0701006	3/4	20	4 3/8	111	3 1/16	81	3/8	10	3.0	1.3	17
0701008	1	25	5 3/16	132	3 3/4	95	1/2	15	4.5	2.0	28
0701010	1 1/4	32	5 5/8	143	4 7/8	124	3/4	20	5.8	2.6	45
0701012	1 1/2	40	6 1/4	159	5	127	3/4	20	7.0	3.1	60
0701014	2	50	7 1/2	191	6 3/8	156	1	25	10.0	4.5	100

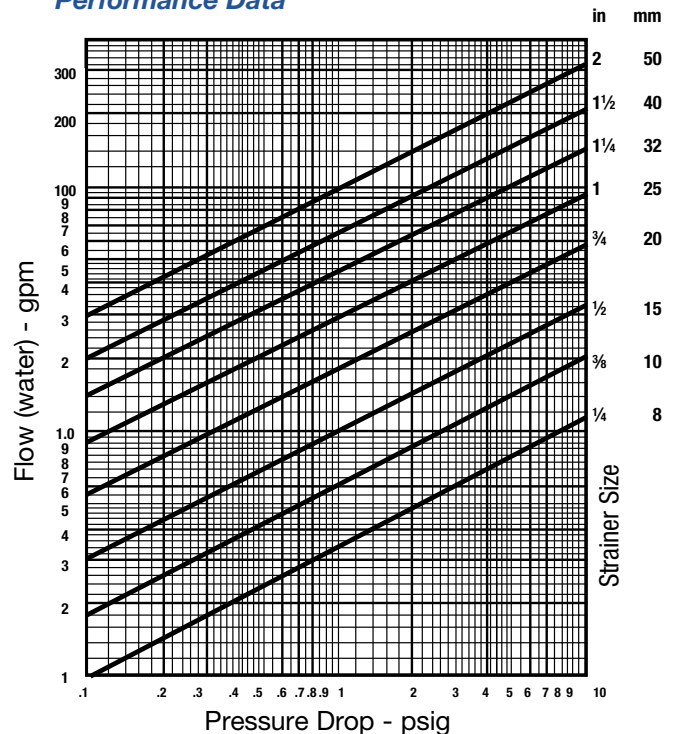
For additional information, please call or write for ES-88S specification sheet.

For liquid or steam service,
ANSI Class 600, Stainless Steel



No. 88S

Performance Data



Flow-Coefficient: Flow coefficient (Cv) is the number of gallons per minute of water flowing through a given size restriction at a pressure drop of one psig

Conversions: For gpm to lpm, multiply by 3.8
For psi to bar, multiply by .069.

Standard Screens

Size	Openings	Standard Screens
1/4" - 2" (8-50mm)	0.062"	1/16" 304SS perf.†

†Wire mesh liners are available to insert inside the standard 1/16" perforated screen.

Cast Stainless Steel Strainers, Wye-Pattern, Flanged End Connections

150 psig WSP / 275 psig WOG, Sizes 1/2" – 6" (15-150mm)

77F-CSSI Strainers

This cost-effective Class 150 series of cast stainless steel strainers are manufactured overseas. They are furnished with blowdown connections and a machined seat that allows the seat to be self-aligning and assures a perfect fit. All sizes come complete with flanged blowdown screen cover and PTFE gasket. The strainer may be installed in horizontal or vertical pipe with the blowdown connection at the lower end of the screen retainer cover.

Blowdown Outlets

Tapped NPT; see dimension "C" for specific sizes. Blowdown plug furnished.

Maximum Pressures (Non-Shock) & Temperatures

150 psig (10.3 bar) WSP at 400°F (204°C).
275 psig (19.0 bar) WOG at 100°F (38°C).

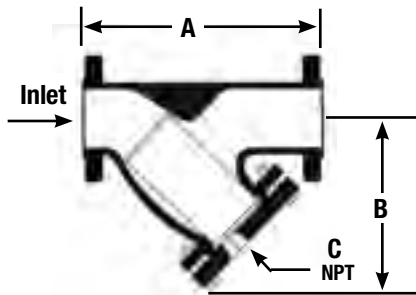
Materials of Construction

Body and screen retainer cover are constructed of ASTM A-351 Grade CF8M Type 316SS. Plug is ASTM A-182 Type 316. All screens are 304SS, gasket is PTFE.

ANSI 300 Class Cast Stainless Steel Strainers

Consult Watts for availability of stainless steel 300 psig (20.7 bar) WSP / 720 psig (49.6 bar) WOG 316SS strainers.

Dimensions - Weights



77F-CSSI

Ordering Code	Size (DN) in. mm	Dimensions (approx.)						Weights	
		A		B		C (NPT)		lbs.	kgs.
0823089	1/2" 15	6	152	3 7/8	98	1/4	8	6	2.4
0823090	3/4" 20	7	178	4 1/4	108	3/8	10	7	2.9
0823091	1" 25	7 1/2	191	4 3/4	121	1/2	15	9	4.0
0823092	1 1/2" 40	9	229	5 5/8	143	1/2	15	12	5.4
0823093	2" 50	8 5/8	219	5 1/4	133	1/2	15	20	9.0
0823094	2 1/2" 65	10 1/4	260	7 1/2	191	3/4	20	32	14.5
0823095	3" 80	11 5/8	295	7	195	1	25	36	16.3
0823096	4" 100	14 3/8	365	9 1/8	232	1 1/2	40	61	27.6
0823097	6" 150	18 5/8	473	13	330	2	50	160	72.5

Dimensions shown are subject to change. Contact Watts for exact dimensions when required.

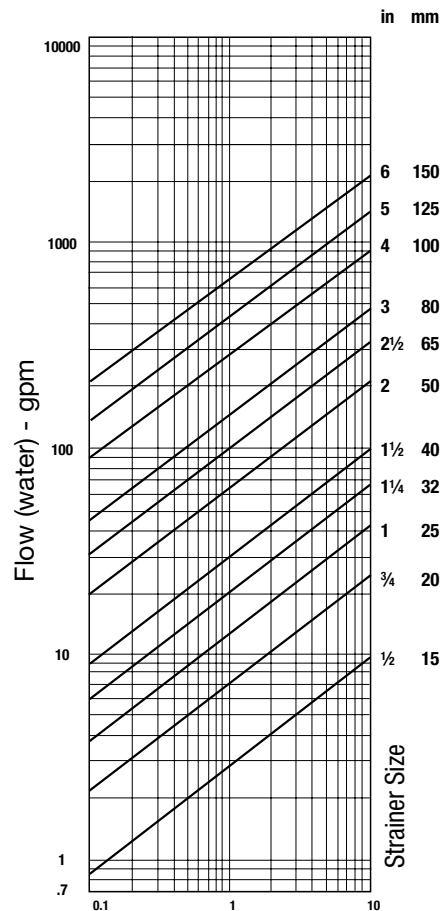
For liquid or steam service



77F-CSSI

Performance Data

Table shows flows (gpm-water) at various pressure drops (psig) using standardly furnished screens.



Conversions: For gpm to lpm, multiply by 3.8
For psi to bar, multiply by .069.

Standard Screens

Size	Openings	Standard Screens
1/2" - 1 1/2" (15-40mm)	0.032"	1/32" 304SS perf.
2" - 3" (50-80mm)	0.045"	3/64" 304SS perf.
4" - 6" (100-150mm)	0.125"	1/8" 304SS perf.

For additional information, please call or write for ES-77F-CSSI specification sheet.

Fabricated Stainless Steel Strainers, Wye-Pattern, Flanged End and Groove End Connections

200 psi WOG, Sizes 2½" – 12" (65-300mm)

77F-SS / 77G-SS Strainers

This 304SS wye-pattern strainer is a lightweight, fabricated strainer designed to remove dirt and other debris from water lines and media compatible with 304SS. A simple, two-bolt, grooved-style cover permits easy access to the strainer screen for screen replacement, or removal of dirt from the stainless steel screen. Self-cleaning may be accomplished by opening a valve or plug (closure plug provided) to the blowdown outlet. See dimension "C" for NPT tap sizes.

Alternative to cast iron strainers

The 77F-SS / 77G-SS strainers provide a cost effective, lightweight, easy to maintain alternative to flanged, cast iron strainers. Because the 77F-SS / 77G-SS body is made of 304SS, it is suitable for use in potable water and food applications in compliance with NSF-61 and FDA requirements.

Pressure - Temperature Rating (Non-Shock)

200 psig (13.8 bar) WOG at 150°F (66°C).

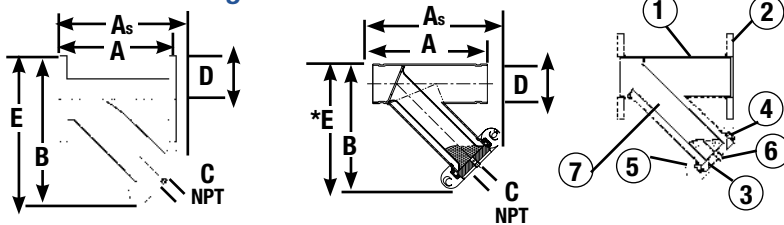
Standards

The dimensions and drilling of flanges conform to ANSI B16.1, Class 125 cast iron and Class 150 cast steel flanges.

Standard Screens

Size	Screen Openings	Material
2½" - 5" (65-125mm)	1/16" perforation	304SS
6" - 8" (150-200mm)	1/8" perforation	304SS
10" - 12" (250-300mm)	3/16" perforation	304SS

Dimensions - Weights



77F-SS / 77G-SS

Flanged Ordering Code	Size (NPS)		Dimensions (approx.)								E*		Weights			
	in.	mm	A in.	A mm	As in.	As mm	B in.	B mm	C (NPT) in.	C (NPT) mm	D in.	D mm	Screen removal in.	Screen removal mm	lbs.	kgs.
0821110	2½	65	10	254	11¼	284	12½	329	½	15	3½	89	17½	446	21	9.5
0821111	3	80	10⅞	257	11¼	281	13	330	½	15	3¾	95	18½	470	26	11.8
0821112	4	100	12½	308	14¼	360	15¼	400	½	15	4½	114	23	584	33	15.0
0821114	6	150	18½	470	20¼	513	21¼	541	¾	20	5½	140	31¼	794	70	31.8
0821115	8	200	21½	549	24¼	624	26⅞	670	¾	20	6¾	171	39½	992	91	41.3
0821116	10	250	26	660	32¼	818	32½	830	¾	20	8	203	49	1245	134	60.8
0821117	12	300	29½	759	35½	902	37⅞	949	¾	20	9½	241	56½	1437	225	102.0
Grooved																
0821160	2½	65	9½	241	11¼	284	10¼	260	½	15	1½	38	15½	395	21	9.5
0821161	3	80	9⅞	244	11¼	295	11¼	286	½	15	2⅓	52	16¾	425	26	11.8
0821162	4	100	11⅞	295	14¼	360	13¾	344	½	15	2¼	57	20¼	527	33	15.0
0821164	6	150	18	457	20¼	513	19¾	487	¾	20	3⅞	86	29⅞	740	70	31.8
0821165	8	200	21⅞	537	24¼	624	24	610	¾	20	4⅞	111	36½	932	91	41.3
0821166	10	250	25½	648	32¼	818	30⅞	765	¾	20	5⅞	138	46½	1180	134	60.8
0821167	12	300	29⅞	746	35½	902	30⅞	872	¾	20	6⅞	164	53½	1359	225	102.0

*E dimension is minimum clearance for screen removal.

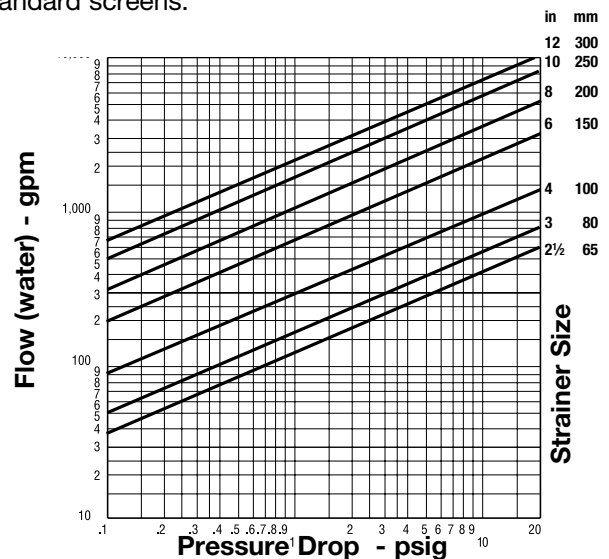
Materials

- Body** - 304SS ASTM A-312
- Flanges** - Zinc-plated ASTM A-36 carbon steel
- Cover** - Standard construction:
2½" - 5", 12" (65-125, 300mm) - Ductile iron
6", 8", 10" (150, 200, 250mm) - 304SS
FDA conformance:
2½" - 5", 12" (65-125, 300mm) - Epoxy coated ductile iron.
6", 8", 10" (150, 200, 250mm) - 304SS
- Cover Gasket** - EPDM (ambient to 150°F)
- Grooved Coupling** - Ductile iron ASTM A-536
Bolts - Heat treated (SAEJ-429) steel ASTM B-633
Nuts - Heat treated (SAEJ-429) steel ASTM B-633
- Plug** - Brass ASTM B-584
- Screen** - 304SS ASTM A-276



Performance Data 77F-SS / 77G-SS

Flow curves show pressure drop (psig) and flows (gpm) using standard screens.



Conversions: For gpm to lpm, multiply by 3.8
For psi to bar, multiply by .069.

For additional information, please call or write for ES-77F-SS_77G-SS specification sheet.

Cast Iron Flanged Basket Strainers, Bolted or Clamp Cover

125 psig WSP/ 200 psig WOG, Sizes 2" – 12" (50-300mm) 97FB-CIB

50 psig WOG, Sizes 2" – 12" (50-300mm) 97FB-CIC

97FB-CI Strainers

These Class 125 cast iron basket strainers are manufactured overseas, and are furnished with blowdown connections and angle designed baskets. Sizes 8" (200mm) and larger come with side drain facing outlet of the strainer. All sizes come with either bolted or quick removal clamped cover and graphite gasket. The strainer may only be installed in horizontal pipe.

Blowdown Outlets

Tapped NPT; see dimension "E" for specific sizes.
Blowdown plug furnished.

Materials of Construction

Body, cover, and plug are constructed of ASTM A-126 Class B cast iron. The gasket material is graphite. All perforated strainer screens are 304SS.

Maximum Pressure (Non-Shock) and Temperature

97FB-CIB: Bolted screen retainer cover
125 psig (8.6 bar) WSP at 353°F (178°C)
200 psig (13.8 bar) WOG at 150°F (66°C)

97FB-CIC: Clamped screen retainer cover
50 psig (345kPa) WOG at 150°F (66°C)

Standard Screens

Size	Openings	Standard Screens
2" - 3" (50-80mm)	0.045"	3/64" 304SS perf.
4" - 12" (100-300mm)	0.125"	1/8" 304SS perf.

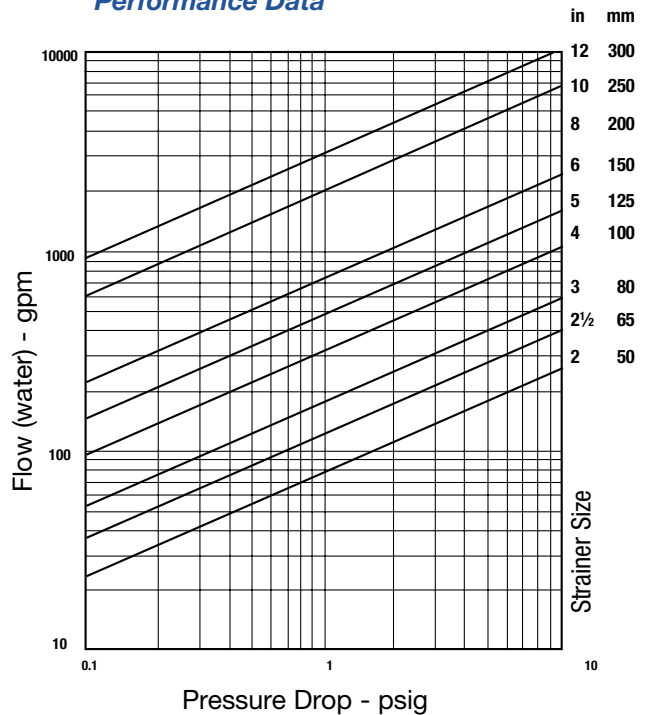
Consult Watts for information and availability of flanged basket strainers manufactured of cast bronze, cast or fabricated steel (UL/FM) and stainless steel. Also available are threaded and socket weld 1/2" - 2" (15-50mm) cast steel basket strainers.

Standards

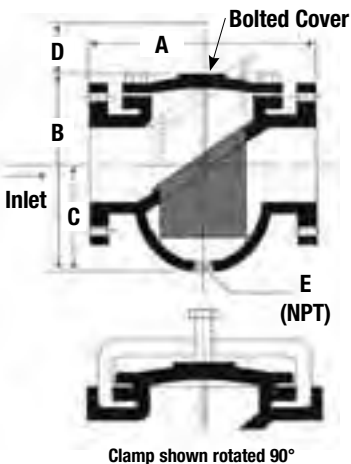
The dimensions and drilling of flanges conform to ANSI B16.1, Class 125 and Class 150 flanges.



Performance Data



Conversions: For gpm to lpm, multiply by 3.8
For psi to bar, multiply by .069.



97FB-CIB / 97FB-CIC

Ordering Code		Size (DN)		Dimensions (approx.)						D		Weights			
97FB-CIB	97FB-CIC	in.	mm	A in.	A mm	B in.	B mm	C in.	C mm	Removal Clearance in.	Removal Clearance mm	E (NPT) in.	E (NPT) mm	lbs.	kgs.
0823054	0823064	2"	50	8 1/8"	206	8 3/8"	213	5	127	5 3/8"	137	1	25	22	9.9
0823055	0823065	2 1/2"	65	8 3/4"	222	9 1/8"	244	5 1/16"	135	6 1/16"	160	1	25	31	14.0
0823056	0823066	3"	80	9 7/8"	251	11 1/4"	286	6 1/2"	165	8	203	1	25	42	19.0
0823057	0823067	4"	100	11 1/2"	292	13 1/2"	343	8	203	9 5/16"	237	1	25	70	31.7
0823058	0823068	5"	125	13 1/8"	333	14 3/8"	371	8	203	10 1/4"	260	1	25	90	40.8
0823059	0823069	6"	150	14 7/8"	378	15 5/8"	397	8 5/8"	219	11 1/8"	283	1 1/4"	32	124	56.2
0823060	0823070	8"	200	18 11/16"	475	21	533	11 3/4"	298	15 1/16"	395	3/4"	20	270	122.4
0823061	0823071	10"	250	20 1/8"	511	24 1/2"	622	13 3/4"	349	18	457	3/4"	20	384	174.1
0823062	0823072	12"	300	26 1/4"	667	29 3/4"	756	16 5/8"	416	23 1/4"	591	1	25	670	303.9

Dimensions shown are subject to change. Contact Watts for exact dimensions when required.

For additional information, please call or write for ES-97FB-CI specification sheet.

Cast 316SS Flanged Basket Strainers, Bolted Cover

275 psig WOG, Sizes 2" – 6" (50-150mm) 97FB-CSSIB

97FB-CSSI Strainers

These Class 150 cast 316SS basket strainers are manufactured overseas, and are furnished with blowdown connections and angle designed baskets. Sizes 8" (200mm) and larger come with side drain facing outlet of the strainer. All sizes come with bolted cover and PTFE gasket. The strainer may only be installed in horizontal pipe.

Blowdown Outlets

Tapped NPT; see dimension "E" for specific sizes. Blowdown plug furnished.

Materials of Construction

Body, cover, and plug are constructed of ASTM A-351 Grade CF8M cast 316SS. The gasket material is PTFE. All perforated strainer screens are 304SS.

Maximum Pressure (Non-shock) and Temperature

97FB-CSSIB: Bolted screen retainer cover
275 psig (19.0 bar) WOG at 100°F (37.8°C)



97FB-CSSIB

Standard Screens

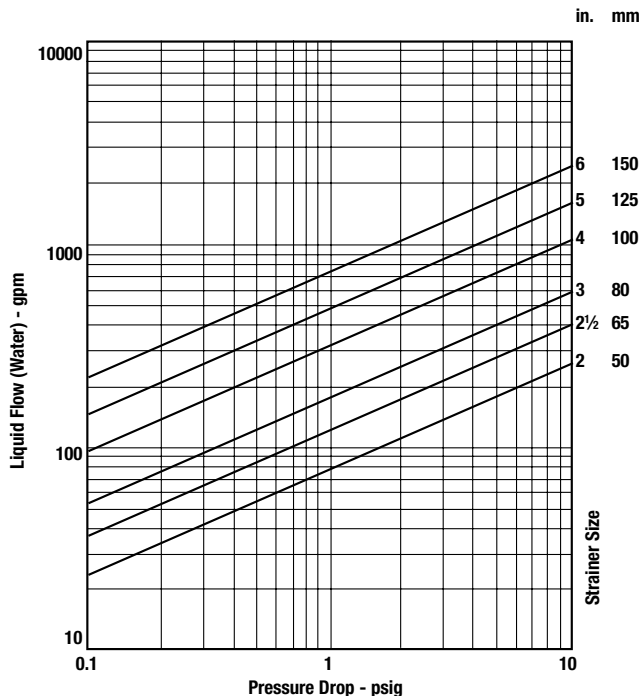
Size	Openings	Standard Screens
2" - 3" (50-80mm)	0.045"	3/64" 304SS perf.
4" - 6" (100-150mm)	0.125"	1/8" 304SS perf.

Consult factory for information and availability of flanged basket strainers manufactured of cast iron or bronze, and cast or fabricated steel. Also available are threaded 1/2" - 2" (15-50mm) cast iron, steel, and stainless steel basket strainers.

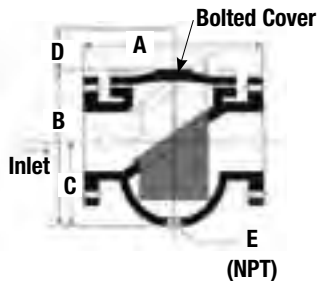
Standards

The dimensions and drilling of flanges conform to ANSI B16.1, Class 125 and Class 150 flanges.

Performance Data



Conversions: For gpm to lpm, multiply by 3.8
For psi to bar, multiply by .069.



97FB-CSSIB

Ordering Code 97FB-CSSIB	Size (DN)		Dimensions (approx.)						D Removal Clearance		E (NPT)		Weights	
			A	B	C	D	E	F	G	H	I	J		
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.
0823235	2	50	8 3/8	206	8 3/8	213	5	127	5 3/8	137	1	25	22	10.0
0823236	2 1/2	65	8 3/4	222	9 5/8	244	5 5/16	135	6 5/16	160	1	25	31	14.0
0823237	3	80	9 7/8	251	11 1/4	286	6 1/2	165	8	203	1	25	42	19.0
0823238	4	100	11 1/2	292	13 1/2	343	8	203	9 5/16	237	1	25	70	32.0
0823239	6	150	14 7/8	378	15 5/8	397	8 5/8	219	11 1/8	283	1 1/4	32	124	56.0

Dimensions shown are subject to change. Contact Watts for exact dimensions when required.

For additional information, please call or write for ES-97FB-CSSI specification sheet.

Cast Iron Duplex Strainers, Butterfly Valve Operated Flanged Connections, Bolted Screen Covers

200 psig WOG, Sizes 5" – 14" (125-350mm) 97FD-CIB

97FD-CI Strainers

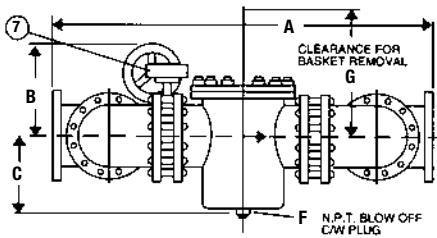
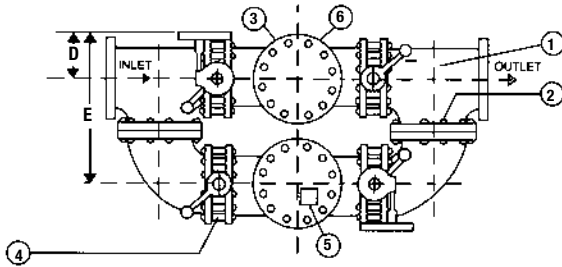
These cast iron duplex strainers are designed for applications where flow cannot be shut down to service the strainer screen, and bubble tight shut-off is essential. The cast iron 97FD-CI strainers conform to ANSI B16.1 flange dimensions, and should be installed in horizontal pipe only.

Options:

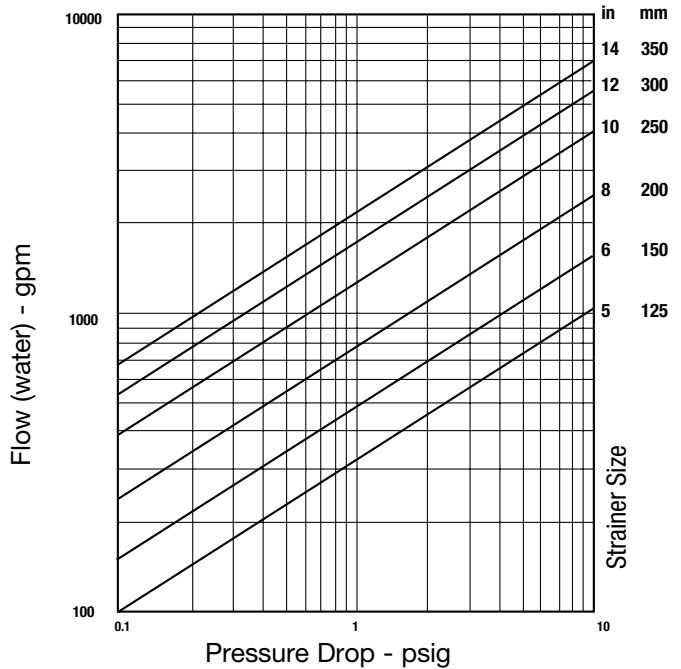
- Automatic/ manual flush
- Differential pressure gauges and switches
- Special coatings

Maximum Pressure (Non-shock) and Temperature

97FD-CIB: Cast iron body with bolted cover
200 psig (13.8) WOG at 100°F (38°C).



Performance Data



Conversions: For gpm to lpm, multiply by 3.8
For psi to bar, multiply by .069.

Standard Screens

Size	Openings	Standard Screens
5" - 14" (125-350mm)	0.125"	1/8" 304SS perf.

Bill of Materials

Item	Description	Material	Qty.
1	Inlet/Outlet Manifold	Cast Iron	2
2	Studs and Nuts	B7 & 2H Cast Steel	as req.
3	Cover Gaskets	red rubber	as req.
4	Butterfly Valves	Cast Iron w/EPDM liner	4
5	Nameplate	Aluminum	1
6	Basket strainer	Cast Iron	2
7	*Gear Actuator	Steel	2

*Optional Feature

97FD-CIB

Size (DN)	in.	mm	97FD-CIB	Dimensions (approx.)												Weights		
				A		B		C		D		E		F		G		lbs.
5	125	0823220	48	1219	12 1/2	318	8	203	7 3/4	197	15	381	1	25	17	432	500	227
6	150	0823221	52	1321	13 1/8	333	8 5/8	219	7 3/4	197	16	406	1 1/4	32	19	483	800	363
8	200	0823222	61	1549	14 1/2	368	11 3/4	298	7 3/4	197	18	457	3/4	20	25	635	1,350	612
10	250	0823223	70 3/4	1797	16	406	13 3/4	349	7 3/4	197	22	559	3/4	20	29	737	2,050	930
12	300	0823224	83	2108	19 1/2	495	16 3/8	416	10 1/2	267	24	610	1	25	37	940	4,700	2132
14	350	0823225	96 1/2	2451	26	660	22 1/4	565	10 1/2	267	30	762	1 1/2	40	41	1041	6,300	2857

Dimensions shown are subject to change. Contact Watts for exact dimensions when required.

For additional information, please call or write for ES-97FD-CIB specification sheet.

Epoxy Coated Stainless Steel UL/FM Fire Service Strainer

175 psig WOG, Sizes 3" – 10" (80-100mm)

97FB-FSFE Strainers

Protect your water systems from damage caused by debris with the Watts 97FB-FSFE Fire Service Strainer. The Watts 97FB-FSFE is used in conjunction with a water spray system to protect the system against clogging that can be caused by particles fouling the small discharge opening of the sprinkler heads. Strainers for fire systems are designed to trap foreign materials 1/8" (3mm) diameter or larger. This type of strainer is usually installed upstream of most of the devices in the system including the Meters, Backflow Preventers (or Detector Check Valves), and Flow Alarms, in order to protect these devices from damage caused by large particles.

Features:

- Epoxy coated stainless steel strainer, flange x flange, groove x groove or groove x flange with multiple cleanouts
- 304 stainless steel strainer element
- Sizes: 3", 4", 6", 8" and 10"
(80, 100, 150, 200 and 250mm)
- Rated working pressure: 175 psi (12.1 bar)
- Temperature range: 140°F (60°C)
- Flanges AWWA Class "D" Grooves AWWA C606

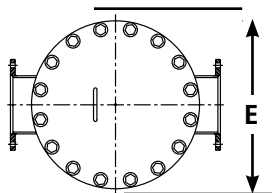
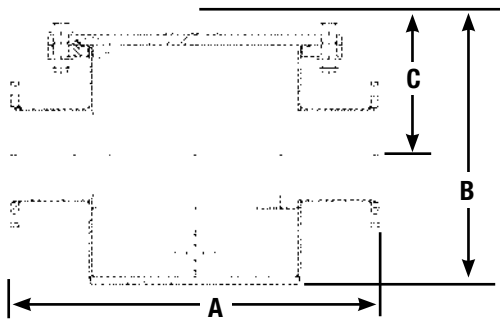
Models

Body and Cover: Fusion bonded epoxy coated steel

Strainer element: 304 stainless steel

Clean-out plug: Brass or bronze

Dimensions - Weights

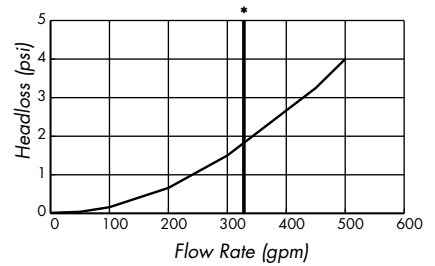


97FB-FSFE

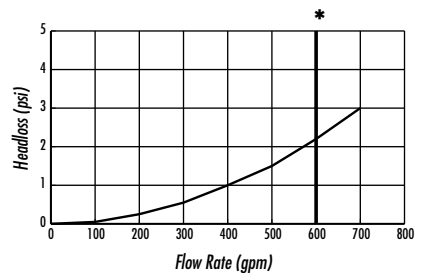
Size (DN)	Dimensions (approx.)		Dimensions (approx.)			Shipping Weight		STD Perf Dia-Inch
	in.	mm	A in.	B in.	C in.	lbs.	kgs.	
3	80	0823220	14 1/8	20 5/8	10	70	32	1/4
4	100	0823221	21	20 5/8	10 5/8	120	54	1/4
6	150	0823222	26 7/8	22 3/8	11 1/4	232	105	1/4
8	200	0823223	31 1/4	25 1/16	13	560	254	1/4
10	250	0823224	30	29 1/16	14 1/2	570	259	1/4

Dimensions shown are subject to change. Contact Watts for exact dimensions when required.

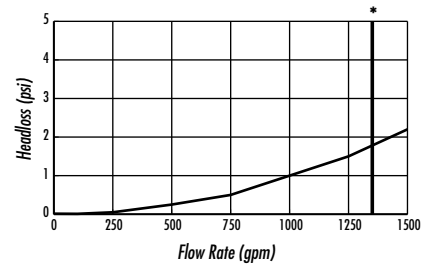
**3" (80mm)
97FB-FSFE**



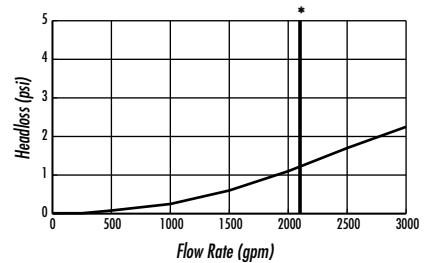
**4" (100mm)
97FB-FSFE**



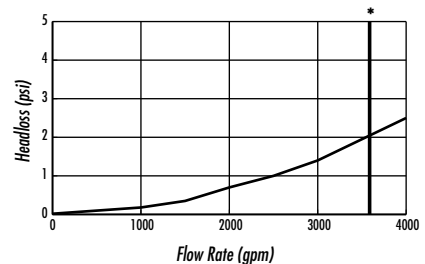
**6" (150mm)
97FB-FSFE**



**8" (200mm)
97FB-FSFE**



**10" (250mm)
97FB-FSFE**



Small Diameter O.E.M. and Industrial Strainers

27 Strainers - V-Pattern, Compact, 1/8" - 1/2" (6-15mm)

These V-Pattern strainers are popularly used on beverage dispensers, ice cube machines, dental equipment, and instrument control systems. Cast bronze body and brass retainer cap with gasket. 250 psig (17.2 bar) CWP.

Performance

Chart shows flows through strainers in gallons per minute (gpm) based on pressure drop (psig) across strainer using standardly furnished screens.

See Page 1 for standard and optional screens.

Size	Flow (gpm) @ Pressure Drop (psig)				
	2 psig	4 psig	6 psig	8 psig	10 psig
1/8" (3mm)	1.5	2.5	3	3.5	4
1/4" (8mm)	3	3.5	4.5	5	6
3/8" (10mm)	5	7	8	10	11
1/2" (15mm)	10	12	14	15	16

Conversions: For psi to kPa, multiply by 6.9.



No. 27

Series 27

Ordering Code	Size (DN)		Dimensions				Weights		Screen Mesh
	in.	mm	A		B		lbs.	kgs.	
0104000	1/8	3	1 3/4	44	1 7/16	37	.38	.17	40
0104050	1/4	8	2 1/16	52	1 11/16	43	.62	.28	30
0104023	3/8	10	2 1/2	64	2 3/16	56	.75	.34	24
0104053	1/2	15	2 3/4	70	2 5/8	67	1.00	.45	24

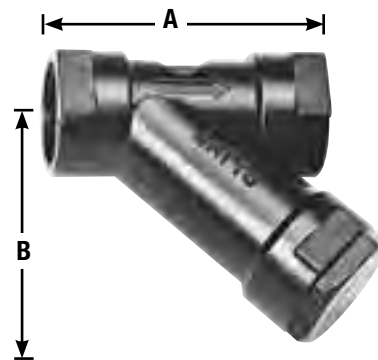
P777-100 Strainer - Plastic Body, 1/4" and 3/8" (8 and 10mm)

These 45° Wye-pattern strainers with threaded ends are for O.E.M. applications to ensure protection to mechanical equipment from the destructive effects of dirt, scale, and foreign objects.

Body is NSF approved Noryl plastic and clean out plug is made of NSF approved acetal plastic. "O"-ring seated, quick clean out plug. Maximum supply pressure 300 psig (20.7 bar) CWP.

Available with a standard 100 mesh screen, and optional screens down to 40 mesh.

See Page 1 for optional screens.



No. P777-100

Series P777-100

Ordering Code	Size (DN)		Dimensions (approx.)				Weights	
	in.	mm	A		B		lbs.	kgs.
0384765	1/4	8	1 7/8	48	1 3/4	44	.25	.11
0384766	3/8	10	1 7/8	48	1 3/4	44	.38	.17

Small Diameter O.E.M. and Industrial Strainers

745 Strainer - Bronze, 3/4" (20mm)

These 45° Wye-pattern strainers are for O.E.M. and industrial installations where regular maintenance cleaning requires a hand removable screen retainer cap.

These strainers are designed for installations where there is little room for maintenance wrenches, and where regular screen cleaning is necessary, such as on commercial dishwashers or similar equipment. Cast bronze body, brass retainer cap with Viton O-ring, and stainless steel screen.

250 psig (17.2 bar) WOG @ 210°F (99°C) and 50 psig (345 kPa) WSP @ 280°F (138°C).

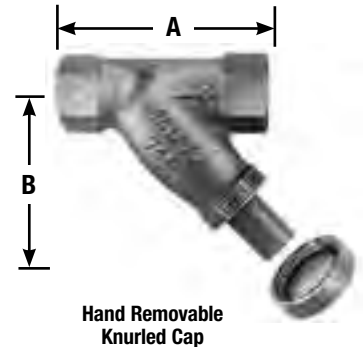
Performance

Table shows the pressure drop (psig) at various flow rates using standardly furnished 80 mesh screens.*

*OPTIONAL #40 mesh screen

No. 745

Flow-gpm	Sizes	
	3/4" (20mm)	
10	.4	
20	2.1	
30	4.3	
40	7.5	
50	10.0	
60	12.0	
	(psig)	



Ordering Code No.	Size (DN)		Dimensions (approx.)				Weight	
	in.	mm	A		B		lbs.	kgs.
0384569	3/4	20	4"	102	3 3/8"	92	1.62	.7

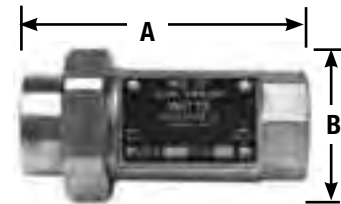
Consult factory for 1/2" size ordering code.

17 Strainers - Bronze, 3/4" and 1" (20 and 25mm)

These are union end, in-line strainers. Especially suited for quick removal of equipment for servicing, or where the separation of feed lines is required. Cast bronze body, Buna-N union seal, and 40 mesh* stainless steel strainer screen.

Standard Rating: 250 psig (17.2 bar) WOG at 180°F (82°C).

Optional Rating: 50 psig (345 kPa) WSP at 280°F (138°C).
(Consult Factory)



Performance

Table shows pressure drop (psig) through Series 17 strainers at various flow rates using standardly furnished 40 mesh screen.

*See Page 1 for optional mesh screens.

No. 17

Flow-gpm	Sizes	
	3/4 (20mm)	1" (25mm)
10	.4	.3
20	1.5	1.0
30	3.8	2.4
40	6.0	4.0
50	8.9	6.0
60	NR	8.1
	(psig)	

Ordering Code	Size (DN)		Dimensions (approx.)				Weights	
	in.	mm	A		B		lbs.	kgs.
0067015	3/4	20	4 3/8"	111	2 3/8"	60	1.75	.7
0067040	1	25	4 3/8"	111	2 3/8"	60	1.75	.7

Strainer Cross-Reference Guide

MANUFACTURER	THREADED IRON	FLANGED IRON	BRONZE NPT/CXC	BRONZE FLANGED
WATTS	77S-M1 77SI	77F-DI 77F-DI-250 77F-DI-FDA	777 (Threaded) S777 (Solder) 777S (Threaded) S777S (Solder) 777SI (Threaded) S777SI (Solder)	77F-BI
APE	#21	#958 (CL. 125) #952 (CL. 250)	#551B (Same as 777S)	
B&K	N/A		105 Series (Threaded)	
CASH-ACME	SY-70	N/A	SY-85	
RP & C(CONBRACO)	Style TG	Style F1-125 Style F2-250	59 Series	
KECKLEY	Style B	Style A (CL. 125) Style A (CL. 250)	Style F-150 (Threaded) Style E (Solder)	BA
LEGEND	T-17 (Threaded)	N/A	T-15 (Threaded) S-15 (Solder)	
MATCO-NORCA	N/A	140F	143T (Thd) 143C (CXC)	
MUELLER	#11M	#758/#751	#351M (Threaded) #353 1/2M (Solder)	#851
RED-WHITE	N/A	Figure 381	380 (Same as 777) 387 (Same as S777) 380B (Same as 777S) 387B (Same as S777S)	
SARCO	IT	"CI-125 (2" - 8")" "F-125 (10" - 18")" "CI-250 (2" - 4")" "F-250 (5" - 18")"	Type BT (Threaded) Type TBT (Solder)	
SSI	250YTI	125 YFI 250 YFI	125 YTB (Same as 777S) 125 YSB (Same as S777S)	150YFB
STREAMFLOW	T-250	YF-125 YF-250	TB-300 (Threaded)	YF-150B
WILKINS	SCI	FS FSC (FDA)	YBX (Same as 777) YBC (Same as S777) YBX (Same as 777S) YBCP (Same as S777S) S Series	

CARBON STEEL Thd/SW	CARBON STEEL FLANGED	STAINLESS STEEL Thd/SW	STAINLESS STEEL FLANGED	SIMPLEX BASKET FL. CAST IRON
88CSI-T 88CSI-SW	77F-CSI	87SI (300#) 88S (600#)	77F-CSSI	97FB-CIB (Bolted) 300
#681D (Thd) #682D (SW)	#881D (150#) #882D (300#)	#681H (Thd) #682H (SW)	#881 (150#) #882 (300#)	#265 (125#)
SB	SA (150#) SA (300#)	SSB (600#)	SSA (150#) SSA (150#)	GFV (Bolted) HLC (Clamp)
#861 (Thd.) #862 (SW)	#761 (150#) #762 (300#)	"#861-SS (600#, Thd.)" "#862-SS (600#, SW)"	#761 (150#) #781 (150#) #762 (300#) #782 (300#)	166 (Bolted) 195 (Bolted) 155 (Clamp) 195 (Clamp)
600YTS	150YFS	300YTSS (300#) 600YTSS (600#)	150YFSS	125BFIB (Bolted) 125BFIC (Clamp)
T600 (600#)	YF-150 (150#) YF-300 (300#)	T600SS (600#)	YF-150SS (150#) YF-300SS (300#)	BF-125 (125#) BF-150B (150#)

For Technical Assistance Call Your Authorized Watts Agent.

			Telephone #	Fax #
	HEADQUARTERS: Watts Regulator Company	815 Chestnut St., North Andover, MA 01845-6098 U.S.A.	978 688-1811	978 794-1848
North East	BWA Company	17610 S. Waterloo Rd., Cleveland, OH 44119	216 486-1010	216 486-2860
	Disney McLane & Associates	428 McGregor Ave., Cincinnati, OH 45206	800 542-1682	877 476-1682
	Edwards, Platt & Deely, Inc.	277 Royal Ave., Hawthorne, NJ 07506	973 427-2898	973 427-4246
	Edwards, Platt & Deely, Inc.	368 Wyandanch Ave., North Babylon, NY 11703	631 253-0600	631 253-0303
	J. B. O'Connor Company, Inc.	P.O. Box 12927, Pittsburgh, PA 15241	724 745-5300	724 745-7420
	RMI	Glenfield Bus. Ctr., 2535 Mechanicsville Tpk., Richmond, VA 23223	804 643-7355	804 643-7380
	The Joyce Agency, Inc.	8442 Alban Rd., Springfield, VA 22150	703 866-3111	703 866-2332
	Vernon Bitzer Associates, Inc.	980 Thomas Drive, Warminster, PA 18974	215 443-7500	215 443-7573
	W. P. Haney Co., Inc.	51 Norfolk Ave., South Easton, MA 02375	508 238-2030	508 238-8353
	WMS Sales, Inc. (Main office)	9580 County Rd., Clarence Center, NY 14032	716 741-9575	716 741-4810
South East	Billingsley & Associates, Inc.	2728 Crestview Ave., Kenner, LA 70062-4829	504 602-8100	504 602-8106
	Billingsley & Associates, Inc.	478 Cheyenne Lane, Madison, MS 39110	601 856-7565	601 856-8390
	Francisco J. Ortiz & Co., Inc.	Charlyn Industrial Pk., Road 190 KM1.9 - Lot #8, Carolina, Puerto Rico 00983	787 769-0085	787 750-5120
	Mid-America Marketing, Inc.	203 Industrial Drive, Birmingham, AL 35211	205 879-3469	205 870-5027
	Mid-America Marketing, Inc.	1364 Foster Avenue, Nashville, TN 37210	615 259-9944	615 259-5111
	Mid-America Marketing, Inc.	5466 Old Hwy. 78, Memphis, TN 38118	800 365 6154	901 795-0394
	Smith & Stevenson Co., Inc.	4935 Chastain Ave., Charlotte, NC 28217	704 525-3388	704 525-6749
	Harry Warren, Inc.	1400 North Orange Blossom Trail, Orlando, FL 32804	407 841-9237	407 841-9246
	Watts Georgia	2861-B Bankers Industrial Drive, Atlanta, GA 30360	770 209-3310	770 447-4583
	North Central	Dave Watson Associates	1325 West Beecher, Adrian, MI 49221	517 263-8988
Mid-Continent Marketing Services Ltd.		1275 Lakeside Drive, Romeoville, IL 60446	630 953-1211	630 953-1067
Soderholm & Associates, Inc.		7150 143rd Ave. N.W., Anoka, MN 55303	763 427-9635	763 427-5665
Stickler & Associates		333 North 121 St., Milwaukee, WI 53226	414 771-0400	414 771-3607
South Central	Hugh M. Cunningham, Inc.	13755 Benchmark, Dallas, TX 75234	972 888-3808	972 888-3838
	HMC Sandia Group	13755 Benchmark, Dallas, TX 75234	505 222-3134	972 888-3838
	Mack McClain & Associates	4407 Meramec Bottom, Suite G, St. Louis, MO 63129	314 894-8188	314 894-8388
	Mack McClain & Associates, Inc.	1450 NE 69th Place, Ste. 56 Ankeny, IA 50021	515 288-0184	515 288-5049
	Mack McClain & Associates, Inc.	15090 West 116th St., Olathe, KS 66062	913 339-6677	913 339-9518
	OK! Sales, Inc.	214-A NE 12th., Moore, OK 73160	405 794-5200	405 794-5250
Western	Delco Sales, Inc.	1930 Raymer Ave., Fullerton, CA 92833	714 888-2444	714 888-2448
	Delco Sales, Inc.	111 Sand Island Access Rd., Unit I-10, Honolulu, HI 96819	808 842-7900	808 842-9625
	Fanning & Associates, Inc.	6765 Franklin St., Denver, CO 80229-7111	303 289-4191	303 286-9069
	Hollabaugh Brothers & Associates	6915 South 194th St., Kent, WA 98032	253 867-5040	253 867-5055
	Hollabaugh Brothers & Associates	3028 S.E. 17th Ave., Portland, OR 97202	503 238-0313	503 235-2824
	P I R Sales, Inc.	3050 North San Marcos Place, Chandler, AZ 85225	480 892-6000	480 892-6096
	Preferred Sales	31177 Wiegman Road, Hayward, CA 94544	510 487-9755	510 476-1595
	R. E. Fitzpatrick Sales, Inc.	4109 West Nike Dr. (8250 South), West Jordan, UT 84088	801 282-0700	801 282-0600
Canada	Watts Industries (Canada) Inc. (Watts Regulator Co. Division)	5435 North Service Road, Burlington, Ontario L7L 5H7	905 332-4090	905 332-7068
	Con-Cur West Marketing, Inc.	71B Clipper Street, Coquitlam, British Columbia V3K 6X2	604 540-5088	604 540-5084
	D.C. Sales Ltd.	#13-6130 4th St. S.E., Calgary, Alberta T2H 2B6	403 253-6808	403 259-8331
	D.C. Sales Ltd.	16726 111 Ave, Edmonton, Alberta T5M 2S6	780 496-9495	780 496-9621
	GTA Sales Team.	Greater Toronto Area	888 208-8927	888 479-2887
	Hydro-Mechanical Sales, Ltd.	3700 Joseph Howe Drive, Suite 1, Halifax, Nova Scotia B3L 4H7	902 443-2274	902 443-2275
	Hydro-Mechanical Sales, Ltd.	P.O. Box 1445 (Mailing), 297 Collishaw St., Suite 7 (shipping) Moncton, New Brunswick E1C 9R2	506 859-1107	506 859-2424
	J.D.S. Sales Ltd.	4 Lancaster Street, St. John's, Newfoundland A1A 5P7	709 579-5771	709 579-1558
	Les Ent. Roland Lajoie	6221 Marivaux, St-Leonard, QC H1P 3H6	514 328-6645	514 328-6131
	Les Ent. Roland Lajoie	23 du Buisson, Pont Rouge, QC G3H 1X9	418 873-2500	418 873-2505
	Mar-Win Agencies, Ltd.	1333 Clifton St., Winnipeg, Manitoba R3E 2V1	204 775-8194	204 786-8016
	Northern Mechanical Sales	P.O. Box 280 (mailing) 163 Pine St. (shipping), Garson, Ontario P3L 1S6	705 693-2715	705 693-4394
	Palsler Enterprises, Ltd.	P.O. Box 28136 (mailing), 1885 Blue Heron Dr., #4, London, Ontario N6H 5L9	519 471-9382	519 471-1049
	RAM Mechanical Marketing Inc.	905 Winnipeg Street, Regina, Saskatchewan S4R 1J1	306 525-1986	306 525-0809
	RAM Mechanical Marketing Inc.	510 Ave M South, Saskatoon, Saskatchewan S7M 2K9	306 244-6622	306 244-0807
	Walmar Mechanical Sales	24 Gurdwara Rd., Nepean, Ontario K2E 8B5	613 225-9774	613 225-0673
	EXPORT Hdqtrs.: Watts Regulator Co.	815 Chestnut St., North Andover, MA 01845-6098 U.S.A.	978 688-1811	978 794-1848

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