



BALL VALVES  
AUTOMATION  
&  
CONTROLS  
BACKFLOW  
PREVENTERS  
BUTTERFLY  
VALVES  
FORGED STEEL  
VALVES



FOR RESIDENTIAL, COMMERCIAL  
AND INDUSTRIAL APPLICATIONS



**APOLLO®**

**pipeline strainers**

SAFETY RELIEF  
VALVES  
STRAINERS  
PLUMBING  
& HEATING  
PRODUCTS  
IN-LINE  
CHECK VALVES



## Pipeline Strainers

# Conbraco Industries has the right strainer for your application

If you need pipeline strainers to protect expensive equipment such as valves, meters, solenoids, regulators and pumps in a wide variety of applications, Conbraco Industries should be your source. No other company provides you with more top quality strainer choices.

Conbraco produces a wide variety of strainer models in sizes from 1/8" to 18", suitable for everything from O.E.M. applications to heavy process industry use. They are available in bronze, cast iron, stainless and carbon steels.

Select from threaded or flanged end connections. There are hundreds of screen options, including magnetic screen assemblies for extra protection.

This brochure will help you learn more about all the strainer options available to you from Conbraco. If you need assistance, please feel free to contact your local Conbraco distributor, or call our Customer Service Department at (704) 841-6000. We'll be happy to help you select the right strainer for your specific application.

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## WARRANTY & LIMITATIONS OF LIABILITY

Conbraco Industries, Inc. warrants, to its initial purchaser only, that its products which are delivered to this initial purchaser will be of the kind described in the order or price list and will be free of defects in workmanship or material for a period of two years from the date of delivery to you, our initial purchaser. Should any failure to conform to this warranty appear within two years after the date of the initial delivery to our initial purchaser, Conbraco will, upon written notification thereof and substantiation that the goods have been stored, installed, maintained and operated in accordance with Conbraco's recommendations and standard industry practice, correct such defects by suitable repair or replacement at Conbraco's own expense.

THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHER WARRANTY OF QUALITY WHETHER EXPRESSED OR IMPLIED, EXCEPT THE WARRANTY OF TITLE AND AGAINST PATENT INFRINGEMENT. Correction of non-conformities, in the manner and for the period of time provided above, shall constitute fulfillment of all liabilities of Conbraco to our initial purchaser, with respect to the goods, whether based on contract, negligence, strict tort or otherwise. It is the intention of Conbraco Industries, Inc. that no warranty of any kind, whether express or implied, shall pass through our initial purchaser to any other person or corporation.

**LIMITATION OF LIABILITY:** Conbraco Industries, Inc. SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR SPECIAL OR CONSEQUENTIAL DAMAGES SUCH AS, BUT NOT LIMITED TO, DAMAGES OR LOSS OF OTHER PROPERTY OR EQUIPMENT, LOSS OF PROFITS OR REVENUE, COST OF CAPITAL, COST OF PURCHASED OR REPLACEMENT GOODS, OR CLAIMS OF CUSTOMERS OF OUR INITIAL PURCHASER. THE REMEDIES OF OUR INITIAL PURCHASER, AND ALL OTHERS, SET FORTH HEREIN ARE EXCLUSIVE, AND THE LIABILITY OF CONBRACO WITH RESPECT TO SAME SHALL NOT, EXCEPT AS EXPRESSLY PROVIDED HEREIN, EXCEED THE PRICE OF THE CONBRACO GOODS UPON WHICH SUCH LIABILITY IS BASED.



## Product Index

Model	Material	Class	Connection	Style	Size Range	Page
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59-UL	Bronze	400 WOG	NPT	Y	1/8" - 1/2"	6
59-00X-06	Bronze	400 WOG	Sweat End	Y	1/8" - 2"	7
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TCG*	Cast Iron	250	NPT	Y	1/4" - 3"	10
539-15	Bronze	150	Flanged	Y	1/4" - 8"	11
539-30	Bronze	300	Flanged	Y	1/4" - 8"	11
C531-S*	Carbon Steel	600	NPT	Y	1/4" - 3"	12
C531-SW*	Carbon Steel	600	Socket Weld	Y	1/4" - 3"	12
C533-S	316 SS	600	NPT	Y	1/4" - 2"	12
C533-SW	316 SS	600	Socket Weld	Y	1/4" - 2"	12
FC1*	Cast Iron	125	Flanged	Y	1-1/2" - 18"	13
FC2*	Cast Iron	250	Flanged	Y	1-1/2" - 18"	13
UL Listed	Cast Iron	125	Flanged	Y	2-1/2" - 6"	14
C534-S*	Ductile Iron	600	NPT	Y	1/4" - 3"	15
Magnetic Assy. and inserts						16-17
*Apollo® International						

## Strainer Comparative Reference

Product	Cii	Mueller	Nicholson	Keckley	Paget	Leslie	Armstrong	Spirax/Sarco	Crane	Yarway	Watts
Bronze Screwed	59	352	352	F	39-S	7100	F4SC	BT		911	777MI
Bronze Sweat	59										S777
Cast Iron 250# Screwed	TCG*	11		B	B	7000	AISC	AT	990-1/2	901	77S/77SI
Bronze 150# Flanged	539-15	851	851	BA-150	39-15	7101	F4FL	BF-150		814	
Bronze 300# Flanged	539-30	852	852	BA-300	39-30	7102	F4FL	BF-300		818	
Cast Steel 600# Screwed	C531-S*	861-581	861-581	SB	31-S	7200	BISC	CT	994-D	921	
Cast Steel 600# Socket Weld	C531-SW*	862/582	862/582	SB	31-SW	7209	BISW	CT		921-SW	
Stainless Steel 600# Screwed	533-S	861-SS/ 581-SS	861-SS/ 581-SS	SSB	33-S	7500	E7SC	316		931	
Stainless Steel 600# Socket Weld	533-SW	862-SS/ 582-SS	862-SS/ 582-SS		33-SW	7509	E7SW	316-SW		931-SW	88S
Cast Iron 125# Flanged	FC1*	751/758	751/758	A-125	A-125	7001	AIFL	AF	989-1/2	804	77F-D
Cast Iron 250# Flanged	FC2*	752	752	A-250	A-250	7002	AIFL	AF	991-1/2	806	77F-D-250
Ductile Iron Screwed	C534-S*	251-DI	251-DI		34-S			DT			
Cast Iron 125# FOD Epoxy Coated	613C										
Note: Not all manufacturers use the same screen as standard											
*Apollo® International											



## Pipeline Strainers

### Part Numbering Matrix

6XX - XX			
Type	Connection	Material	Size
603 - "Y" Type, Bolted Cover	0 - FNPT	1 - Cast Iron	1 - 1/4"
612 - "Y" Type, Imported, Screwed	1 - Socket Weld	2 - Carbon Steel	2 - 3/8"
613 - "Y" Type, Imported, Flanged	2 - Flanged, Class 125/150	3 - 316 (CF8M)	3 - 1/2"
	3 - Flanged, Class 250/300	4 - Ductile Iron	4 - 3/4"
		5 - Bronze	5 - 1"
		C - Cast Iron, Epoxy Coated	6 - 1-1/4"
		E - Cast Iron, Plugged Blow Off	7 - 1-1/2"
		F - 316, Oxygen Cleaned	8 - 2"
		G - 316, Plugged Blow Off	9 - 2-1/2"
		J - Carbon Steel, Plugged Blow Off	0 - 3"
		U - Cast Iron, UL Listed	A - 4"
			B - 5"
			C - 6"
			E - 8"
			G - 10"
			H - 12"
			J - 14"
			K - 16"
			L - 18"
Screen			
Screen Type	Screen Material		
A - 20 MESH	M - .062 PERF	1 - 304 SST	6 - 304 SST/MAGNETS
B - 30 MESH	N - .125 PERF	2 - MONEL	7 - MONEL/MAGNETS
C - 40 MESH	O - .187 PERF	3 - 316 SST	8 - 316 SST/MAGNETS
D - 60 MESH	P - .250 PERF	4 - BRASS	9 - BRASS/MAGNETS
E - 80 MESH	Q - .375 PERF		
F - 100 MESH	R - .312 PERF		
G - 60/80/100 MESH	S - .156 PERF		
H - 200 MESH	T - 16 MESH		
I - .020 PERF	U - 12 MESH		
J - .027 PERF	V - .500 PERF		
K - .033 PERF	W - 150 MESH		
L - .045 PERF	Y - .093 PERF		

Note: Does not apply to 59 or 59V Series. See pages 6-9.

## Strainer Screen Data

Our strainer screens are made in a variety of perforations and mesh openings to best suit the application. Standard material is 304 stainless steel. Other screen materials are available on special request. When screens are constructed of very fine mesh wire cloth, they are reinforced with a rigid outer shell of perforated sheet. Perforated screens are made of sheet stainless steel, the thickness of which is not greater than half the size of the perforations.

### OPENING RATIOS

The following steps should be taken to determine the ratio of openings through strainer screens to the area of inlet pipe size.

1. Determine the size mesh or perforation required to give the desired particle retention.
2. Multiply the total area of the screen by the percent of open area of the perforation or mesh material. The result is the open area of the screen. (Total area of the screen is given in the dimensional charts).
3. The open area of the screen divided by the area of the pipe will give the ratio of open area of the screen to the area of the pipe.
4. To determine the ratio of open area to the pipe on mesh lined reinforced screens, complete step two (2) to find the open area of the mesh. Multiply the open area of the mesh by the percent of open area of the reinforcing material. The result divided by the area of the pipe will be the ratio of open area of the screen to the area of the pipe.

### MAGNETIC INSERTS

Magnetic inserts may be furnished, which when placed inside the strainer screen or basket, will collect very fine ferrous metal particles entrained in the liquid thus protecting equipment against abrasive damage.

### Common Perforations And Mesh Open Areas

Mesh	Square Opening	% Open Area	Perf	Actual Opening	% Open Area
20	0.034	46.2	0.027	0.027	23
40	0.015	36.0	1/32	0.033	29
60	0.010	30.5	3/64	0.045	37
80	0.007	31.4	1/16	0.062	30
100	0.006	30.3	1/8	0.125	40
			1/4	0.250	48

### Area of Schedule #40 Pipe (IN<sup>2</sup>)

Pipe Size Inches	Pipe Size Area	Pipe Size Inches	Pipe Size Area	Pipe Size Inches	Pipe Size Area
1/2	0.304	3	7.393	10	78.860
3/4	0.533	3-1/2	9.886	12	111.930
1	0.864	4	12.730	14	135.280
1-1/4	1.495	5	20.010	16	176.720
1-1/2	2.036	6	28.890	18	223.680
2	3.355	8	50.030		
2-1/2	4.788				

## Pressure - Temperature Ratings

For Steel and Alloy Strainers. Pressure temperature ratings shown are for non-shock conditions.

Carbon Steel: ASTM A216 Grade WCB  
Stainless Steel: ASTM A351 Grade CF8M (316)

Degrees F.	Class 150		Class 300		Class 600	
	Carbon Steel	Stainless Steel	Carbon Steel	Stainless Steel	Carbon Steel	Stainless Steel
-20 to 100	285	275	740	720	1480	1440
200	260	235	675	620	1350	1240
300	230	215	655	560	1315	1120
400	200	195	635	515	1270	1025
500	170	170	600	480	1200	955
600	140	140	550	450	1095	900
650	125	125	535	445	1075	890
700	110	110	535	430	1065	870
750	95	95	505	425	1010	855
800	80	80	410	420	825	845
850	65	65	270	420	535	835
900	50	50	170	415	345	830
950	35	35	105	385	205	775
1000	20	20	50	350	105	700
1050				345		685
1100				305		610
1150				235		475
1200				185		370
1250				145		295
1300				115		235
1350				95		190
1400				75		150
1450				60		115
1500				40		85

Skilled specialists in our engineering department are available to provide customer assistance on special straining applications.

## Pipeline Strainers

# Strainer Pressure Drop Data

Pressure drop tests for data contained on charts are based on standard screens used for liquid service. Tests conducted at Conbraco Industries, Inc.'s laboratory indicate a 25% increase in pressure drop with screens 50% clogged. These figures are based on non-reinforced screens.

**Flow Coefficient:** The flow coefficient (Cv) is the number of gallons per minute of water flowing through a given size restriction at a pressure drop of one (1) psig.

To obtain the Cv factor for a given size strainer, read the capacity at the intersection with one (1) psig pressure drop. Example: Cv for a 5" flanged "Y" type strainer is 470. To determine the pressure drop for liquids other than water, please refer to the multiplying factor data.

### MULTIPLYING FACTORS

#### Screens Other Than Standard:

% Open Area				
Strainer Size	35 or Over	25 - 35	20 - 25	Lined
1/4 thru 1	1.0	1.0	1.15	1.25
1-1/4 thru 2	1.0	1.0	1.4	1.8
2-1/2 thru 6	1.0	1.2	1.6	2.0
8 thru 18	1.0	1.3	1.8	2.2

Multiply the pressure drop as determined from appropriate chart by the factor in the table above to obtain the correct pressure drop.

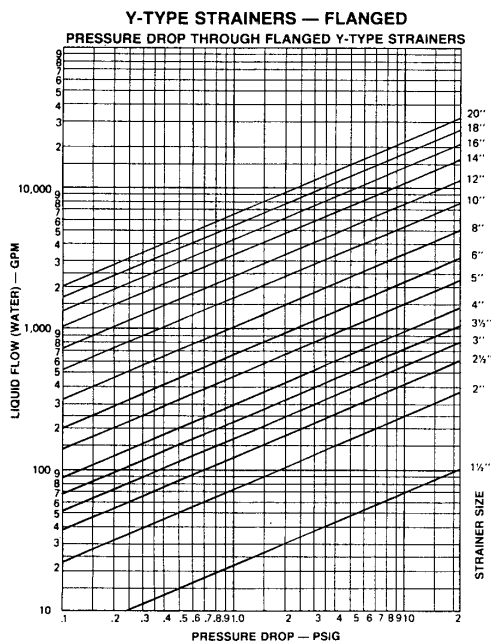
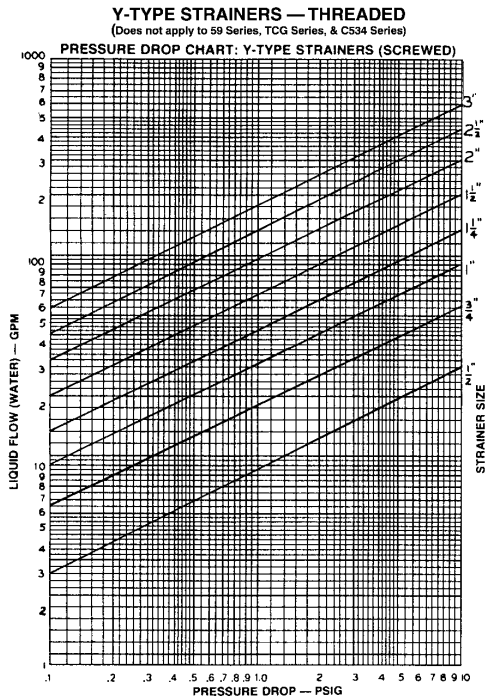
#### When specific gravity is other than 1:

Multiply the pressure drop from the appropriate chart by the specific gravity of the liquid. (Note: When the specific gravity is less than 1, use 1 as the factor).

#### Viscosity other than 34 SSU:

SSU	Factor	SSU	Factor	SSU	Factor	SSU	Factor
40	.96	100	.70	700	.43	4000	.31
50	.85	150	.62	800	.42	5000	.29
60	.82	200	.57	900	.41	6000	.285
70	.77	300	.52	1000	.39	7000	.28
80	.79	400	.48	2000	.35	8000	.275
90	.72	500	.46	3000	.33	9000	.27
						10000	.26

Divide the pressure as determined from the appropriate chart by the factor in the above table to obtain the corrected pressure drop.



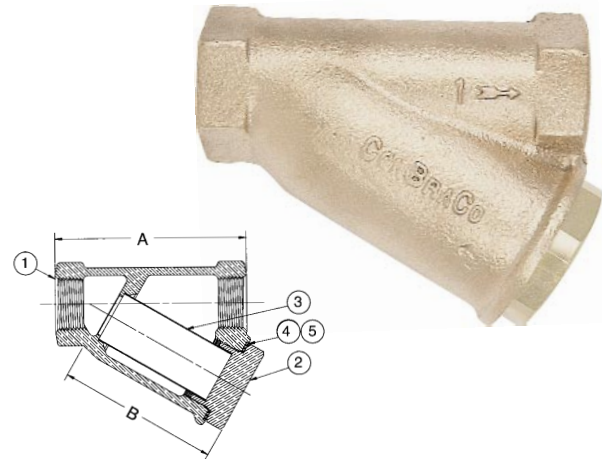


# Bronze NPT "Y" Strainers

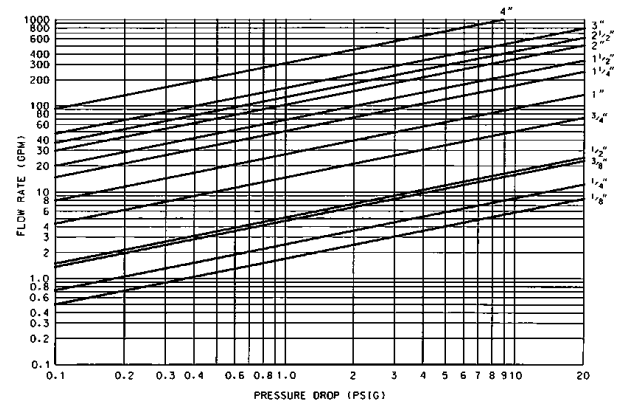
## 59 Series

Conbraco's 59 Series "Y" strainers are lightweight and compact. All sizes offer maximum protection against foreign particles in piping systems and process equipment. Cast bronze body and stainless steel screens are completely corrosion resistant. Self-aligning screen is easily accessed for cleaning or service. Operating pressures up to 400 psig make the 59 Series an excellent choice as a versatile, multi-purpose strainer. Sizes 1/8" to 1/2" are perfect for OEM applications and are available as UL recognized components for use as a secondary strainer on oil burning equipment. Optional tapped caps are also available for convenient cleaning of the screen and are not plugged (suffix-02). For tapped cap with plug installed use suffix -P2.

- WORKING PRESSURE (non-shock):**  
300 psig @ 350°F Steam  
400 psig @ 150°F Water, Oil, Gas
- SELF ALIGNING SCREENS**  
304 SS (Standard) available in a large variety of meshes (thru 100).  
Contact factory for optional meshes.



59 SERIES FLOW DATA



### Materials of Construction

No.	Part	Material	ASTM Spec	Remarks
1	Body	Bronze	B584	
2	Cap	Rod Brass (1/8" – 1") Bronze (1-1/4" – 4")	B16 B584	
3	*Screen	Stainless Steel		Type 304
4	*O-Ring Teflon	(1/8" thru 1/2")		
5	*Gasket	PTFE (3/4" thru 4")		

\* Recommended spare parts

### Standard Screens:

Size	Screen Opening
1/8" thru 1/2"	50 Mesh
3/4" thru 3"	20 Mesh
4"	.125 Perf.

### Suffix Key

-02	Tapped Cap
-P2	Tapped Cap with Plug
-07	Tapped Cap with Plug and Alternate Screen
-06	Strainer/Ball Valve Combination
-03	Monel Screen

### Suffix Key

-E1	20 MESH
-A1	40 MESH
-B1	60 MESH
-C1	80 MESH
-H1	100 MESH

### Dimensional Specifications

Model	Size	A	B	C	(Suffix-02)	Wt./100	Screen Area (IN <sup>2</sup> )
59-000-01	1/8"	2	1-1/4	—	1/8 NPT	44.5	1.38
59-001-01	1/4"	2	1-1/4	—	1/8 NPT	42.5	1.38
59-002-01	3/8"	2-11/16	2	—	1/4 NPT	78.6	3.19
59-003-01	1/2"	2-11/16	2	—	1/4 NPT	75.1	3.19
59-004-01	3/4"	3-7/8	3-1/4	—	1/2 NPT	174	8.18
59-005-01	1"	4-3/4	4	—	3/4 NPT	276	12.9
59-006-01	1-1/4"	5-1/8	4-1/4	—	3/4 NPT	358	16.2
59-007-01	1-1/2"	5-3/4	5	—	1 NPT	541	22.8
59-008-01	2"	6-3/4	6	—	1-1/4 NPT	747	32.7
59-009-01	2-1/2"	7-15/16	5-7/8	—	1-1/4 NPT	1130	47.3
59-010-01	3"	9-1/8	6-7/8	—	1-1/2 NPT	1580	64.8
59-011-01	4"	11-15/16	10-1/8	—	1-1/2 NPT	3070	115
59-UL0-01	1/8"	2	1-1/4	—	1/8 NPT	44.5	1.38
59-UL1-01	1/4"	2	1-3/4	—	1/8 NPT	42.5	1.38
59-UL2-01	3/8"	2-11/16	2	—	1/4 NPT	78.6	3.19
59-UL3-01	1/2"	2-11/16	2	—	1/4 NPT	75.1	3.19



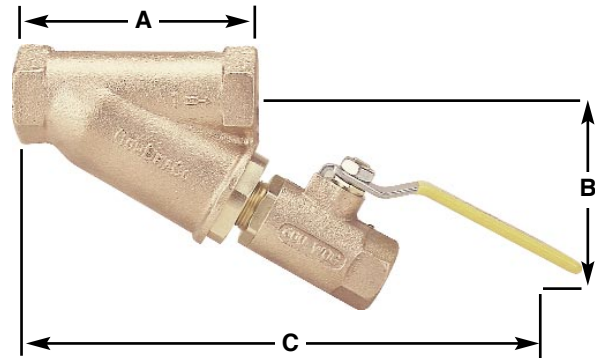
## Pipeline Strainers

# Bronze NPT "Y" Strainer & Ball Valve Combination

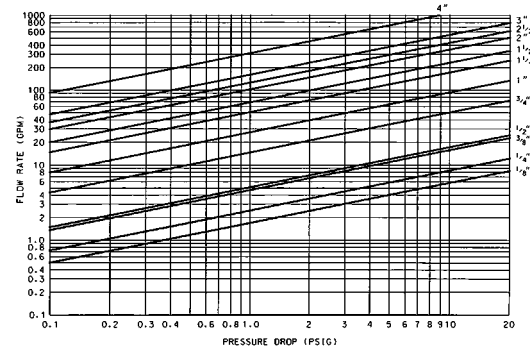
## 59-00X-06 Series

Conbraco's 59-00X-06 Series, with operating pressures up to 400 psig, makes an outstanding choice as a versatile multi-purpose OEM strainer. With the addition of the Apollo® Ball Valve, you receive a high quality product, engineered and designed for safety and outstanding performance. All sizes offer maximum protection against foreign particles in piping systems and process equipment. Both the strainer and the ball valve are completely corrosion resistant. The ball valve, which offers a blow-out-proof stem design, allows for excellent debris removal during cleaning or blow-off of the screen. Even with the ball valve addition, the self-aligning screen remains easily accessible for routine servicing.

- **WORKING PRESSURE (non-shock):**  
300 psig @ 350°F Steam  
400 psig @ 150°F Water, Oil, Gas
- **SELF ALIGNING SCREENS**  
304 SS (Standard) available in a large variety of meshes (thru 100).  
Contact factory for optional meshes.



59 SERIES FLOW DATA



### Materials of Construction

No.	Part	Material	ASTM Spec	Remarks
1	Body	Bronze	B584	
2	Cap	Rod Brass (1/2" – 1")	B16	
		Bronze (1-1/4" – 2")	B584	
3	Ball Valve	Bronze	B584	70-800 Series
4	*Screen	Stainless Steel		Type 304
5	*O-Ring	Silicone (1/8" thru 1/2")		
6	*Gasket	PTFE (3/4" thru 2")		

\* Recommended spare parts

### STANDARD SCREENS:

Size	Screen Opening
1/8" thru 1/2"	50 Mesh
3/4" thru 2"	20 Mesh

### Dimensional Specifications

Model	Size	A	B	C	Tapped Cap (Suffix-02)	Wt./100	Screen Area (IN <sup>2</sup> )
59-003-06	1/2"	2-11/16	3-3/4	6-61/64	—	138	3.19
59-004-06	3/4"	3-13/16	2-15/16	8-31/32	—	246	8.18
59-005-06	1"	4-3/4	3-5/8	11	—	417	12.9
59-006-06	1-1/4"	5-1/8	3-15/16	11-1/2	—	499	16.2
59-007-06	1-1/2"	5-3/4	4-13/32	12-27/64	—	720	22.8
59-008-06	2"	6-25/32	4-21/32	13-25/32	—	1091	32.7

Note: Dimensions shown are subject to change. Contact factory for exact dimensions when required.

Note: Dimensions shown are subject to change.



# Bronze Sweat End "Y" Strainers

## 59-300 Series

Conbraco's 59 Series Sweat End Y-Strainers provide excellent protection against particle contamination in piping systems and process equipment. This lightweight and compact series is designed with minimal wall thickness at the solder ends to allow for high strength solder joints. These Y-Strainers consist of bronze bodies and stainless steel screens, and are corrosion resistant. The 59 Series Sweat End Strainers are designed for operating pressures up to 400 psig and are available in sizes 1/2" through 2". Optional tapped caps are also available for convenient cleaning of the screen and are not plugged (suffix-02). For tapped cap with plug installed use suffix-P2.

- WORKING PRESSURE (non-shock):**

300 psig @ 350°F Steam

400 psig @ 150°F Water, Oil, Gas

- SELF ALIGNING SCREENS**

304 SS (Standard) and is available in a variety of meshes (thru 100). Contact factory for optional meshes.

- PRESSURE DROP**

Not available at the time of printing. Please contact Customer Service for proper data.



### Materials of Construction

No.	Part	Material	ASTM Spec	Remarks
1	Body	Bronze	B584	
2	Cap	Bronze	B584	(1-1/4" – 2")
		Rod Brass	B16	(1/2" – 1")
3	*Screen	Stainless Steel		Type 304
4	*Gasket	PTFE		(3/4" – 2" only)
5	*O-Ring	PTFE		(1/2" only)

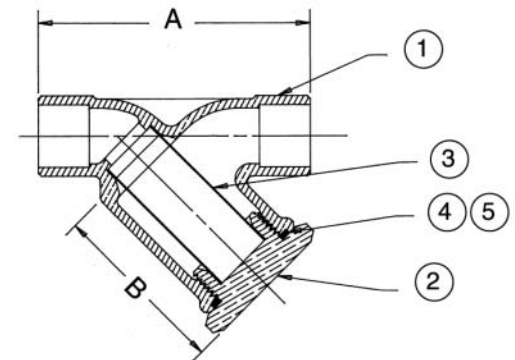
\* Recommended spare parts

**\* STANDARD SCREENS:**

Size	Screen Opening
1/2"	50 Mesh
3/4" thru 2"	20 Mesh

Suffix Key	
-02	Tapped Cap
-P2	Tapped Cap with Plug
-03	Monel Screen
-07	Tapped Cap with Plug and Alternate Screen

Suffix Key	
-E1	20 MESH
-A1	40 MESH
-B1	60 MESH
-C1	80 MESH
-H1	100 MESH



### Dimensional Specifications

Model	Size	A	B	Tapped Cap (Suffix-02)	Wt./100	Screen Area (IN <sup>2</sup> )
59-303-01	1/2"	2-3/4	1-13/16	1/4 NPT	50	3.19
59-303-P2	1/2"			1/4 NPT	50	
59-304-01	3/4"	4	2-7/8	1/2 NPT	121	8.18
59-304-P2	3/4"			1/2 NPT	121	
59-305-01	1"	4-3/4	3-9/16	3/4 NPT	189	12.9
59-305-P2	1"			3/4 NPT	189	
59-306-01	1-1/4"	5-1/4	3-15/16	3/4 NPT	280	16.2
59-306-P2	1-1/4"			3/4 NPT	280	
59-307-01	1-1/2"	6	4-5/8	1 NPT	426	22.8
59-307-P2	1-1/2"			1 NPT	426	
59-308-01	2"	7-1/4	5	1-1/4 NPT	627	32.7
59-308-P2	2"			1-1/4 NPT	627	

Note: Dimensions shown are subject to change.



## Pipeline Strainers

# Bronze "Mini" Strainers

### 59V Series "Mini" Strainer, sizes 1/8" and 1/4"

The body of the 59-V is corrosion-resistant solid cast bronze, ASTM B-584. The removable clean-out cap is solid brass bar stock, ASTM B-16. Standard screens are made of 304 stainless steel, and are 50 mesh.

#### Materials of Construction

No.	Part	Material	ASTM Spec	Remarks
1.	Body	Cast Bronze	B-584	
2.	Screen	Stainless Steel		Type 304 50 Mesh
3.	O-Ring	EPDM		
4.	Cap	Rod Brass	B-16	

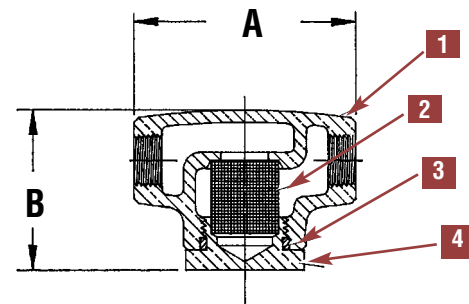
Note: Specify suffix -H1 for optional 100 Mesh.  
 -C1 for optional 80 Mesh.  
 -D1 for optional 30 Mesh.

#### • WORKING PRESSURE (non-shock):

400 psig @ 210°F WOG  
 125 psig @ 400°F WSP

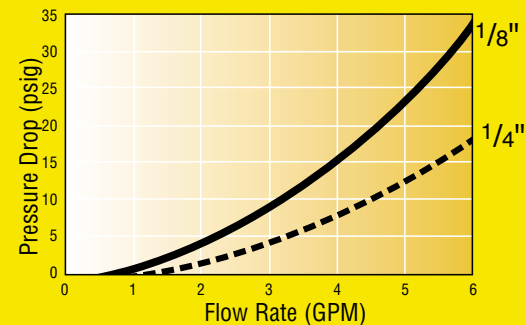
#### • CV FACTORS

1/8" 1.03 GPM  
 1/4" 1.42 GPM



#### Dimensional Specifications

Model	Size	A	B	Wt./100
59V-000-01	1/8 NPT	1-3/4	1-1/4	25
59V-001-01	1/4 NPT	2	1-5/16	29.7



## Cast Iron "Y" Strainers

### TCG Series Sizes 1/3" Thru 3"

(Apollo® International)

Install these hardworking strainers upstream in almost any application to protect valves, regulators, solenoids and meters from rust, dirt and pipe scale. The "TCG" Series is a rugged 250 lb. WSP-rated strainer constructed from high-tensile ASTM A-126 Class B cast iron with blow-off connections and easily removable cylindrical screens.

A tapered seat allows screens to be self-aligning and assures a perfect fit. Self-cleaning is easily accomplished by opening the valve or plug connected to the blow-off outlet. (Not normally furnished plugged.)

Blow-off connection is flanged on 2-1/2" and 3" sizes. Corrosion resistant stainless steel screens are standard.

- NPT THREADED ENDS**

- WORKING PRESSURE (Non-Shock)**

250 psig @ 406°F. Steam  
400 psig @ 150°F. Water, Oil, Gas

- SELF CLEANING**

Accomplished by opening the blow-off connection.

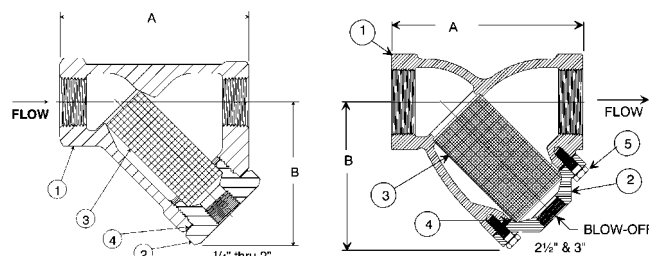
- SELF ALIGNING SCREENS\*\***

Available in 304 SS (Standard), 316 SS, Monel and Brass. All materials are available in a large variety of perforations and meshes.

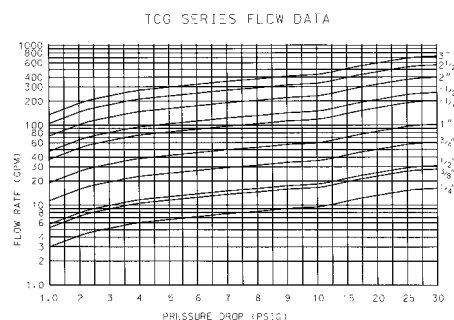
- PRESSURE DROP**

See applicable chart on page 5.

- NPT TAPPED BLOW-OFF CONNECTION**



TCG Strainer Flow Data



**\*\*Standard Screens:**

Size	Screen Opening	Suffix
1/4" thru 2"	20 Mesh	A1
2 1/2" thru 3"	.045 Perf.	L1

### Materials of Construction

No.	Part	Material	ASTM Spec	Remarks
1	Body	Cast Iron	A126	Cl. B
2	Plug/Cover	Cast Iron	A126	Cl. B
3	*Screen	Stainless Steel		Type 304
4	*Gasket	Graphite		
5	***Bolts	Carbon Steel		Grade 2

\* Recommended Spare Parts

\*\* Screen shown is standard screen material. Contact customer service for optional materials and perforations/mesh.

\*\*\* 2-1/2" & 3" only

### Dimensional Specifications

	Size	A	B	Blow-Off NPT	Weight/Lbs.	Screen Area In2
612011A1	1/4"	3-3/16	2-3/8	1/4	1-1/4	2.6
612012A1	3/8"	3-3/16	2-3/8	1/4	1-1/4	2.6
612013A1	1/2"	3-3/16	2-3/8	1/4	1-1/2	2.6
612014A1	3/4"	3-3/4	2-3/8	3/8	2-1/4	4.9
612015A1	1"	4	3-1/2	3/8	3	6.7
612016A1	1-1/4"	5	4-1/8	3/4	5-1/4	11.6
612017A1	1-1/2"	5-3/4	4-11/16	3/4	6-1/2	15.6
612018A1	2"	7	5-7/16	1	11-1/8	23.1
612019L1	2-1/2"	9-1/4	5-11/16	1	23-1/2	55.6
612010L1	3"	10	7	1	33	78.4

Note: Dimensions shown are subject to change.

## Pipeline Strainers

# Flanged Cast Bronze "Y" Strainers

## 539 Series Class 150 & 300

Ideal for most standard industrial applications. Use to protect meters, nozzels, heat exchangers, condensers or other process equipment against debris.

- WORKING PRESSURE (non-shock)**

- 539-15 - Class 150**

150 psig @ 406°F. Steam

225 psig @ 150°F. Water, Oil, Gas

- 539-30 - Class 300**

300 psig @ 422° F. Steam

500 psig @ 150° F. Water, Oil, Gas

- SELF CLEANING**

Accomplished by opening the blow-off connection.

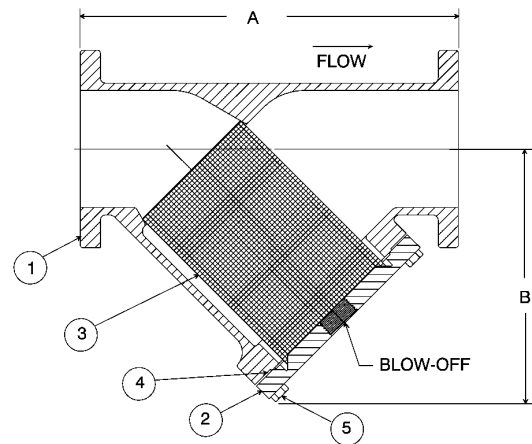
- SELF ALIGNING SCREENS**

Available in 304 SS (Standard), 316 SS, Monel and Brass. All materials are available in a large variety of perforations and meshes. Contact factory for optional materials and perforations/mesh.

- PRESSURE DROP**

See applicable chart on page 5.

- NPT TAPPED BLOW-OFF CONNECTION.**



### Materials of Construction

No.	Part	Material	ASTM Spec	Remarks
1	Body	Bronze	B584	
2	Cover/Plug	Bronze	B584	
3	*Screen	Stainless Steel		Type 304
4	*Gasket	Blue Guard 3000		
5	Bolting	Carbon Steel		Grade 2

\*Recommended Spare Parts

### Model Numbers/Selection Information

Model "539-15"	150 FLG	Sizes 2" Thru 8"
Model "539-30"	300 FLG	Sizes 2" Thru 8"

### Standard Screens:

Service	Size	Screen Openings	Screen Suffix	Material
Liquid	2" Thru 3"	.045 Perf.	L1	304 Stainless Steel
	4" Thru 8"	.125 Perf.	N1	
Steam	2" Thru 3"	.045 Perf.	L1	304 Stainless Steel
	4" Thru 8"	.062 Perf.	M1	

### Part Numbers

CL150 (Liquid)		CL300 (Liquid)	
2" 603258LI	5" 60325BNI	2" 603358LI	5" 60335BNI
2-1/2" 603259LI	6" 60325CNI	2-1/2" 603359LI	6" 60335CNI
3" 603250LI	8" 60325ENI	3" 603350LI	8" 60335ENI
4" 60325ANI		4" 60335ANI	

### Dimensional Specifications

Size	A		B	Blow-Off NPT	Screen Area In <sup>2</sup>	Weight/Lbs.	
	Class 150	Class 300				Class 150	Class 300
2"	9-1/2	10-1/8	6-1/4	1	46.0	30	33
2-1/2"	11-1/4	11-3/4	7-1/8	1-1/4	58.3	50	55
3"	12-3/8	13	8-3/8	1-1/2	74.5	61	71
4"	14-1/2	15-1/2	10	1-1/2	118.7	91	113
5"	16-7/8	17-1/2	12-1/4	2	189.0	146	178
6"	19-1/8	19-7/8	14	2	270.0	180	212
8"	24-1/4	25-1/8	17	2	425.0	370	410

Note: Dimensions shown are subject to change.

# Cast Carbon Steel & 316 Stainless "Y" Strainers

## Threaded & Socket Weld C531-S & SW Series C533-S & SW Series

(Apollo® International)

Durable carbon or stainless steel, threaded or socket, in sizes 1/4" through 3".

### • WORKING PRESSURE (Non-Shock)

#### Carbon Steel

600 psig @ 839°F. Steam

1480 psig @ 100°F. Water, Oil & Gas

#### Stainless Steel

600 psig @ 1124°F. Steam

1440 psig @ 100°F. Water, Oil & Gas

### Materials of Construction

#### Carbon Steel

No.	Part	Material	ASTM Spec	Remarks
1	Body	Carbon Steel	A216	Grade WCB
2	Plug (1/4" - 2")	Carbon Steel	A216	Grade WCB
2	Cover (2-1/2" - 3")	Carbon Steel	A515	Grade 60
3	*Screen	Stainless Steel		Type 304
4	*Gasket (1/4" - 1-1/2")	Copper		
4	*Gasket (2")	304 SS/Carbon Graphite		Spiral Wound
4	*Gasket (2-1/2" - 3")	Carbon Graphite		
5	Bolting	Carbon Steel		Grade 5

#### Stainless Steel

No.	Part	Material	ASTM Spec	Remarks
1	Body	Stainless Steel	A351	Grade CF8M (316)
2	Plug (1/4" - 1-1/4")	Stainless Steel	A276	Grade 316
2	Cover (1-1/2" - 2")	Stainless Steel	A351	Grade CF8M (316)
3	*Screen	Stainless Steel		Type 304
4	*Gasket (1/4" - 2")	304 SS/Carbon Graphite		Spiral Wound

\* Recommended Spare Parts

### • STANDARD SCREENS:

1/4" Thru 2" - 20 Mesh/304 Stainless Steel

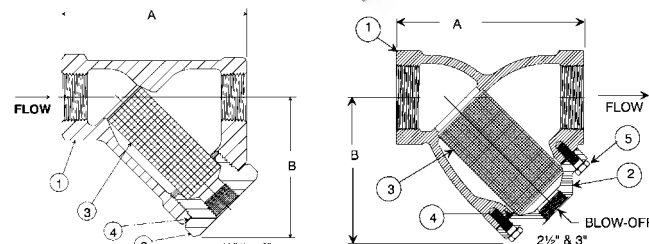
2-1/2" & 3" - .045 Perf./304 Stainless Steel

Contact Factory for Optional Materials and Perforations/Mesh.

### • PRESSURE DROP:

See applicable chart on page 5.

### • NPT TAPPED BLOW-OFF CONNECTION



### Model Numbers/Selection Information

#### Carbon Steel Sizes 1/4" Thru 3"

Model "C531-S"	NPT
Model "C531-SW"	Socket Weld (1/2"-2")

#### Stainless Steel Sizes 1/4" Thru 2"

Model "533-S"	NPT
Model "533-SW"	Socket Weld (1/2"-2")

### Part Numbers

Carbon Steel		Stainless Steel	
CS-NPT C531-S	C531-SW	C533-S	C533-SW
1/4" 612021A1	1/2" 612123A1	1/4" 612031A1	1/2" 612133A1
3/8" 612022A1	3/4" 612124A1	3/8" 612032A1	3/4" 612134A1
1/2" 612023A1	1" 612125A1	1/2" 612033A1	1" 612135A1
3/4" 612024A1	1-1/4" 612126A1	3/4" 612034A1	1-1/4" 612136A1
1" 612025A1	1-1/2" 612127A1	1" 612035A1	1-1/2" 612137A1
1-1/4" 612026A1	2" 612128A1	1-1/4" 612036A1	2" 612138A1
1-1/2" 612027A1		1-1/2" 612037A1	
2" 612028A1		2" 612038A1	
2-1/2" 612029A1			
3" 612020A1			

### Dimensional Specifications

Size	A	B	Blow-Off NPT	Weight/Lbs.	Screen Area In <sup>2</sup>
1/4"	2-11/16	2-1/16	1/4	1	2.5
3/8"	2-11/16	2-1/16	1/4	1	2.5
1/2"	3-3/8	2-3/4	3/8	2	5.4
3/4"	4-7/16	3-5/8	3/8	3-3/4	8.7
1"	4-7/8	3-3/4	1/2	4	12.7
1-1/4"	5-3/8	4-3/8	3/4	7	18.1
1-1/2"	6-3/8	5-1/8	3/4	8-3/4	25.3
2"	7-1/2	6	1	12	39.2
2-1/2"*	10-9/16	7	1-1/4	37	58.3
3"*	10-15/16	8-1/8	1-1/4	48	76.7

\* Note: Available in carbon steel only. Dimensions shown are subject to change.



## Pipeline Strainers

# Flanged Cast Iron "Y" Strainers

## Class 125 & 250 "FC1" & "FC2" Series

(Apollo® International)

Same great features as "TCG" Series but with flanged connections for applications from 1-1/2" through 18". Protects process equipment against harmful debris.

- WORKING PRESSURE (Non-Shock)**

- Model FC1 - Class 125**

Sizes 1-1/2" Thru 12"

125 psig @ 450°F. Steam • 200 psig @ 150°F. Water, Oil, Gas

Sizes 14" Thru 18"

125 psig @ 250°F. Steam • 150 psig @ 150°F. Water, Oil, Gas

- Model FC2 - Class 250**

Sizes 1-1/2" Thru 12"

250 psig @ 450°F. Steam • 500 psig @ 150°F. Water, Oil, Gas

Sizes 14" Thru 18"

250 psig @ 275°F. Steam • 300 psig @ 150°F. Water, Oil, Gas

- SELF CLEANING**

Accomplished by opening the blow-off connection.

- SELF ALIGNING SCREENS**

Available in 304SS (Standard), 316 SS, Monel and Brass. All materials are available in large variety of perforations and meshes. Contact factory for optional materials and perforations/mesh.

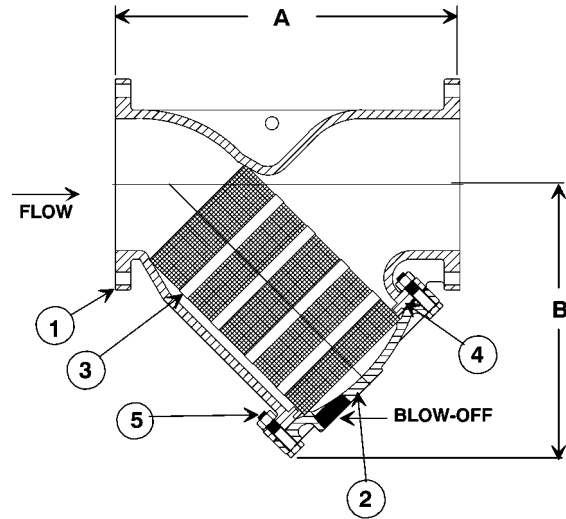
- PRESSURE DROP**

See applicable chart on page 5.

- NPT TAPPED BLOW-OFF CONNECTION**



(Also available with FDA approved epoxy coating, see page 24. 2-1/2" - 6" available as UL listed – see page 14)



### Materials of Construction

No.	Part	Material	ASTM Spec	Remarks
1	Body	Cast Iron	A126	Cl.B
2	Cover	Cast Iron	A126	Cl.B
3	*Screen	Stainless Steel		Type 304
4	*Gasket	Blue Guard 3000		
5	Bolting	Carbon Steel		Grade 2

\* Recommended Spare Parts

### Part Numbers

#### Standard Screens:

Service	Size	Screen Openings	Screen Suffix	Material
Liquid	1-1/2" Thru 3"	.045 Perf.	L1	304 Stainless Steel
	4" Thru 16"	.125 Perf.	N1	
	18"	.250 Perf.	P1	
Steam	1-1/2" Thru 6"	.045 Perf.	L1	304 Stainless Steel
	8" Thru 16"	.062 Perf.	M1	
	18"	.125 Perf.	N1	

FC1-125 (Liquid)				FC2-250 (Liquid)			
1-1/2"	613217L1	8"	613218L1	1-1/2"	613317L1	2"	613318L1
2-1/2"	613219L	10"	613210L1	2-1/2"	613319L1	3"	613310L1
4"	61321ANI	12"	61321BNI	4"	61331ANI	5"	61331BNI
6"	61321CNI	14"	61321ENI	6"	61331CNI	8"	61331ENI
10"	61321GNI	16"	61321HNI	10"	61331GNI	12"	61331HNI
14"	61321JNI	18"	61321KNI	14"	61331JNI	16"	61331KNI
18"	61321LPI			18"	61331LPI		

### Dimensional Specifications

Size	A		B		Size Blow-Off Plug	Weight Lbs.		Screen Area In <sup>2</sup>
	Class 125 Flanged	Class 250 Flanged	Class 125 Flanged	Class 250 Flanged		Class 125 Flanged	Class 250 Flanged	
1-1/2"	9-1/2	9-1/2	5-7/16	5-7/16	3/4	16	22	23.2
2"	9-1/2	11-5/8	6-1/2	6-1/8	1	24	28	34.5
2-1/2"	10-1/2	13	7	6-3/4	1-1/4	33	38	47.3
3"	12	14	8	8	1-1/4	44	54	64.8
4"	14-7/8	17-1/16	10-3/4	10-3/4	1-1/4	85	110	127.2
5"	17-3/8	19-1/16	13-1/2	13-1/2	1-1/2	117	160	198.7
6"	21	21-1/16	16-1/4	16-1/4	1-1/2	174	224	286.0
8"	22-1/2	23	17	19-1/2	2	262	468	327.5
10"	26-1/8	28	20-1/4	21-1/4	2-1/2	410	590	550.0
12"	30-3/8	32-5/8	24	25	2-1/2	604	890	759.0
14"	36	37-5/8	29	29-1/2	2	815	1080	1052.0
16"	37	38-15/16	33	33-1/2	2-1/2	1224	1800	1406.0
18"	46	47-5/8	35-1/2	36-1/2	3	1990	2380	1772.0

\* Note: Dimensions shown are subject to change.



# UL Listed Cast Iron Y-Type Strainers

## 613 Series

(Apollo® International)

Size 2-1/2" through 6". Available standard or epoxy coated.

- SIZES 2-1/2" THRU 6"**

- OPERATING PRESSURES AND TEMPERATURES**

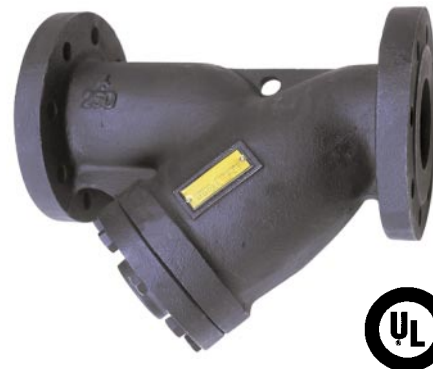
125 lb. Flange  
125 psig @ 450°F. Steam  
200 psig @ 150°F. WOG

- LISTING:**

Underwriters Laboratories Inc.® Subject #321  
Fire Main Equipment, Strainers, "Y" Type Pipe Strainers

- CONSTRUCTION:**

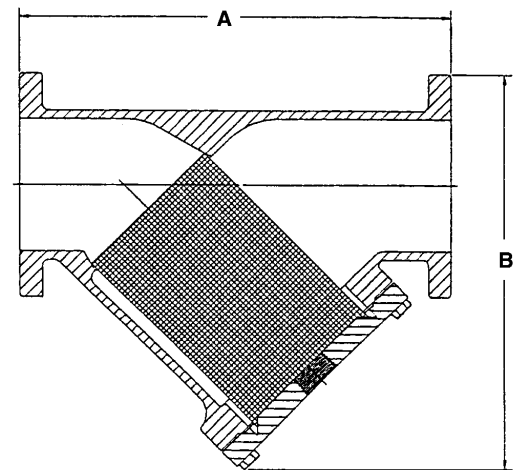
High-tensile ASTM A126 Class B Cast Iron with blow-off connections and self aligning cylindrical screens. May be installed in horizontal or vertical pipe lines with blow-off connection at the lower end of the screen. All have a flanged blow-off cover. A crane hook is provided on the 4" and 6" strainers to provide for lifting and supporting the unit during installation.



### SCREEN SIZES:

	Suffix
Standard: .125 Perf.*	(-N1)
Optional: .187 Perf.	(-O1)
.250 Perf.	(-P1)

\*3" available in .187 or .250 Perf. only



### Dimensional Specifications

Size	A	B	Blow-Off NPT	Weight/ Lbs.	Screen Area In <sup>2</sup>
2-1/2"	10-1/2	7	1-1/4	33	47.3
3"	12	8	1-1/4	44	64.8
4"	14-7/8	10-3/4	1-1/4	85	127.2
6"	21	16-1/4	1-1/2	174	286.0

Note: Dimensions shown are subject to change.

### Model Numbers/Selection Information

613-2U9	2-1/2" Strainer
613-2U0	3" Strainer
613-2UA	4" Strainer
613-2UC	6" Strainer
613-2C9	2-1/2" Strainer Epoxy Coated
613-2C0	3" Strainer Epoxy Coated
613-2CA	4" Strainer Epoxy Coated
613-2CC	6" Strainer Epoxy Coated

## Pipeline Strainers

# Cast Ductile Iron "Y" Strainers

## C534-S Series Threaded End, Class 600 (Apollo® International)



Provides inexpensive protection for costly pumps, meters, valves and other mechanical equipment.

Similar to "TCG" Series but with much higher temperature and pressure ratings.

### SIZES: 1/4" THRU 3"

- **NPT THREADED ENDS**
- **WORKING PRESSURE (Non-Shock)**  
600 psig @ 650°F. Steam • 1000 psig @ 150°F. Water, Oil, Gas
- **SELF CLEANING**  
Accomplished by opening the blow-off connection.
- **SELF ALIGNING SCREENS\*\***  
Available in 304 SS (Standard), 316 SS, Monel and Brass. All materials are available in a large variety of perforations and meshes.
- **PRESSURE DROP**  
See applicable chart on page 5.
- **NPT TAPPED BLOW-OFF CONNECTION**

### Materials of Construction

No.	Part	Material	ASTM Spec	Remarks
1	Body	Ductile Iron	A395	60-40-18
2	Plug/Cover	Ductile Iron	A395	60-40-18
3	*Screen	Stainless Steel		Type 304
4	*Gasket	Graphite		
5	***Bolting	Carbon Steel		Grade 2

\*Recommended Spare Parts

\*\*Screen shown is standard screen material. Contact customer service for optional materials and perforations/mesh.

\*\*\*1", 2 1/2" & 3" only.

### STANDARD SCREENS:\*\*

1/4" Thru 2" - 20 Mesh/304 Stainless Steel

2 1/2" Thru 3" - .045 Perf./304 Stainless Steel

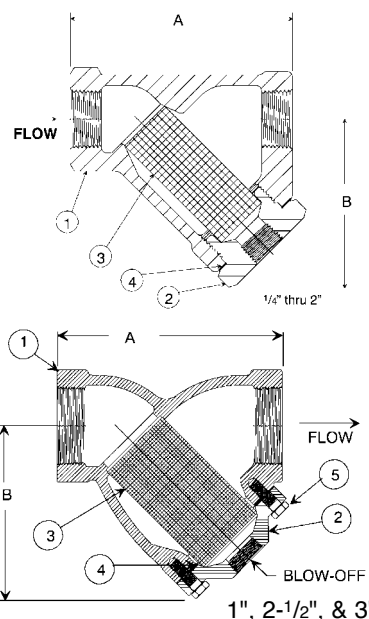
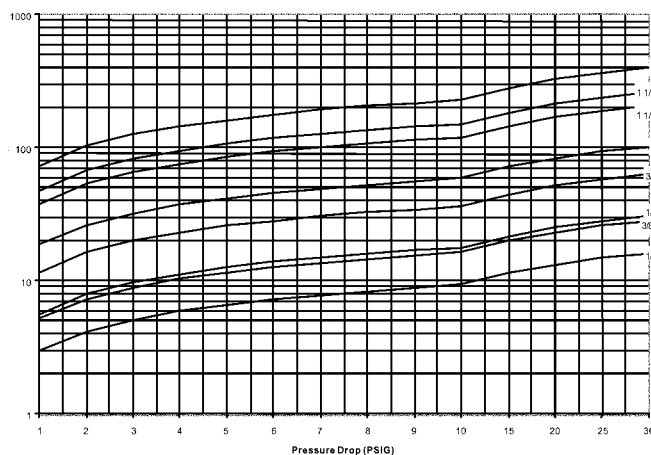
Contact customer service for optional materials and perforations/mesh.

### Dimensional Specifications

Size	A	B	Blow-Off NPT	Weight/Lbs.	Screen Area In <sup>2</sup>
1/4"	3-3/16	2-1/16	1/4	1	2.6
3/8"	3-3/16	2-1/16	1/4	1	2.6
1/2"	3-3/16	2-25/32	3/8	2-1/4	2.6
3/4"	3-3/4	3-1/16	3/8	2-3/4	4.9
1"	4	3-1/2	3/8	3	6.7
1-1/4"	5	4-3/16	3/4	7-1/2	11.6
1-1/2"	5-3/4	4-3/4	3/4	10-1/4	15.6
2"	7	5-7/8	1	17-1/2	23.1
2-1/2"	9-1/4	6-3/4	1	22	55.6
3"	10	7-7/8	1	37	78.4

Note: Dimensions shown are subject to change.

C534-S Flow Data



### Part Numbers

#### C534-S

1/4" 612041AI	3/4" 612044AI	1-1/2" 612047AI	3" 612040LI
3/8" 612042AI	1" 612045AI	2" 612048AI	
1/2" 612043AI	1-1/4" 612046AI	2-1/2" 612049LI	

## Magnetic Screen Assemblies For Extra Protection Against Fine Ferrous Metal Particles



Now you can get added protection for your hydraulic system, pumps and other equipment.

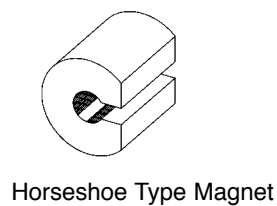
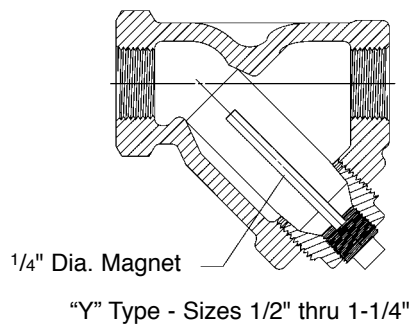
Magnetic screen assemblies prevent fine ferrous metal particles from passing through the screen and damaging bearings and other machined surfaces.

The magnets in these screen assemblies are positioned to obtain the strongest magnetic field possible, resulting in the most effective particle retention.

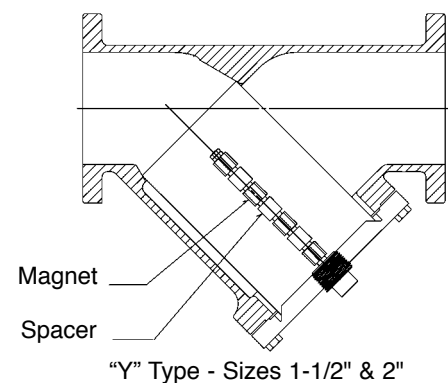
Magnetic screen assemblies are designed to fit all types and sizes of strainers, making it possible to easily change screens in the field to convert to magnetic strainers.

### Rod or Horseshoe Type Magnet

**Example "A" - Rod Magnet**



**EXAMPLE "B" - HORSESHOE MAGNET**

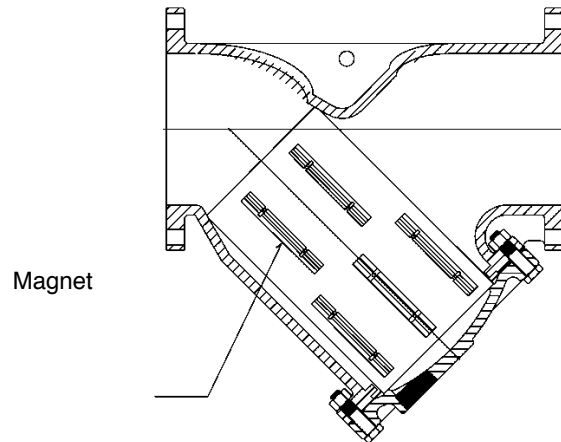




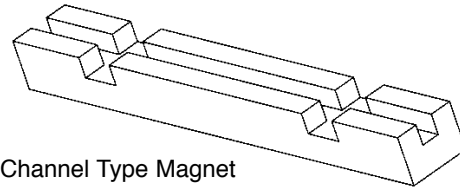
## Pipeline Strainers

### Channel Type Magnet

#### EXAMPLE "C" - CHANNEL MAGNET



"Y" Type - Sizes 2-1/2" thru 18"



Channel Type Magnet

Magnet Quantity														
Size	1/2 thru 1-1/4	1-1/2	2	2-1/2	3	4	5	6	8	10	12	14	16	18
“Y” Type	1	4	6	3	3	4	10	12	12	12	16	20	24	32
Basket Type			2	2	3	3	5	7	11	13	17			

## Specifications

Magnetic inserts are available on "Y" type in all body materials.

Corrosion resistant fasteners are used to assemble the magnets to the screen.

Magnets are equally spaced in each row. When two or more rows are used, the magnets are staggered.

Magnet material is Cast Alnico #5.

**Example A** - Rod magnet, "Y" type, 1/2" thru 1-1/4"

**Example B** - Horseshoe magnet, "Y" type, 1-1/2" & 2"

**Example C** - Channel magnet, "Y" type, 2-1/2" thru 18".

## Ordering Information

These magnetic assemblies are available for all strainers, regardless of body material or end connections.

Magnetic screen assemblies are used with stainless steel screen material only.

The blow-off connection (drain) is not available on strainers that have rod or horseshoe type magnets.

When ordering, specify, "Magnetic Strainer Screen".

For other strainer information, see the appropriate strainer catalog page.

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.