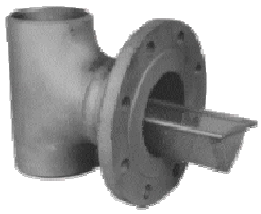
# T. ROWE STRAINERS

**Manufacturer of Strainers and Paddle Blinds for Pipeline, Oil & Gas, Petrochemical, HVAC, and Commercial Markets.**



**Quality and Fabrication Excellence**

# *T. Rowe Strainers*

## **A.** Strainer Definition and Purpose

Strainers are used for the protection of petroleum process and pipeline equipment installed upstream of the equipment. The equipment protected by T. Rowe Strainers is generally more expensive than the total price of the strainer. This piece of equipment is critical to the operation.

Strainers use perforated and/or wire mesh media for straining purposes. These materials are "two dimensional", meaning they do not have "depth" or "dirt holding" capacity. This means that when a debris particle is caught in the straining media the opening is blocked or plugged. This results in reduced opening area for flow. Strainer sizing and selection are critical to insure your cleaning cycle time, particle size retention and pressure drop requirements are achieved.

## **B.** Straining Media Selection for Basket

The following is a general guideline of media used in various applications:

- Liquid Turbine Meters — 1/8" dia. Perforated support with 40 x 40 mesh liner
- Gas Turbine Meters and Regulators — 1/8" dia. Perforated support with 80 x 80 mesh liner
- P.D. Meters — 1/8" Perforated
- Centrifugal Pumps Service:

| | |
|---|---|
| Crude Oil | 1/4" dia. Perforated |
| Refined Products | 1/8" dia. Perforated |
| Coke Fines | 3/4" flattened expanded metal |
| Water | 1/8" dia. To 3/8" dia. Perforated |

- Natural Gas Compressors — 1/8" dia. Perforated to 50 microns Varies by manufacturer recommendations

# *T. Rowe Strainers*

## **C.** Strainer Design and Selection

T. Rowe fabricated strainers are manufactured in several styles or types to meet various applications. Strainer type selection should be base upon your requirements. A general guideline as follows:

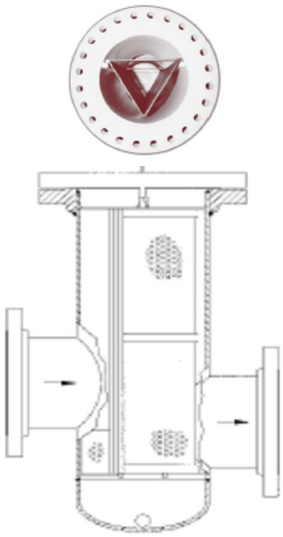
| **Application Description and Requirement** | **Style** | **Type** |
|---|---|---|
| **1.** Pumps, Flow Meters, Compressors & Control Valve Protection, Low Pressure Drop, High Capacity, ease maintenance, several optional features. | Vertical basket | FV or FT |
| **2.** Pump Suction & Gas Regulator Protection, relative clean product, very adaptable to various piping arrangements. | Tee Strainers | TSF or TSW<br>TLF or TLW<br>TVF or TVW |
| **3.** Pump suction, HVAC, Various types of Water service, Boiler Feedwater, and industrial piping system, relative clean product, blowdown required for basket cleaning. | Y-Strainers | FYW or FYF |
| **4.** Temporary Service for Start-up of piping Systems and permanent compressor Packages, permanent service in clean Natural gas applications. | Temporary Cone and Basket Strainers | CP, CWI, CWO<br>BP, BWI, BWO |
| **5.** Low Flow and Small Pipe size, Temporary service only. | Flat Strainers | FP or F-PF |

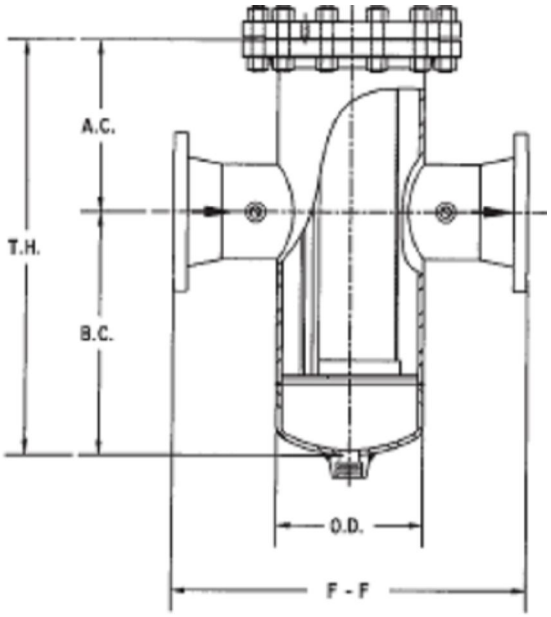
## **D.** Manufacturing Specifications

All T. Rowe Strainers are fabricated to the ASME B31.3 Code unless specified otherwise by customer.

# Vertical Basket Strainer

## **TYPE FT** for Horizontal or Vertical Pipe Run






**TYPE FT** with Angle Basket for Horizontal or Vertical Pipe Run Available with offset nozzles

| LINE SIZE | COMMON DIMENSIONS | | | | | | BASKET SURFACE AREA (SQ.IN.) | BASKET OPEN AREA (SQ.IN.) | OPEN AREA RATIO* | LINE SIZE |
|---|---|---|---|---|---|---|---|---|---|---|
| | O.D. | F.F. | TH | BC** | AC** | DRAIN | FT | FT | FT | |
| 2 | 4½ | 17 | 16 | 9 | 7 | 1 | 66 | 26.4 | 787% | 2 |
| 3 | 6⅝ | 20 | 20 | 11 | 9 | 1 | 140 | 56.0 | 758% | 3 |
| 4 | 8⅝ | 23 | 24 | 14 | 10 | 1½ | 245 | 98.0 | 770% | 4 |
| 6 | 10¾ | 26 | 29 | 17 | 12 | 1½ | 366 | 146 | 505% | 6 |
| 8 | 12¾ | 30 | 35 | 21 | 14 | 1½ | 550 | 220 | 440% | 8 |
| 10 | 16 | 34 | 42 | 25 | 17 | 1½ | 813 | 325 | 412% | 10 |
| 12 | 18 | 37 | 46 | 28 | 18 | 2 | 1037 | 415 | 367% | 12 |
| 14 | 18 | 37 | 53 | 33 | 20 | 2 | 1247 | 499 | 362% | 14 |
| 16 | 24 | 44 | 60 | 36 | 24 | 2 | 2019 | 808 | 442% | 16 |
| 18 | 24 | 45 | 65 | 39 | 26 | 2 | 2170 | 868 | 387% | 18 |
| 20 | 26 | 48 | 71 | 45 | 26 | 2 | 2569 | 1028 | 369% | 20 |
| 24 | 30 | 56 | 95 | 64 | 31 | 2 | 4055 | 1522 | 403% | 24 |
| 30 | 36 | 62 | 108 | 71 | 37 | 2 | 5561 | 2224 | 342% | 30 |

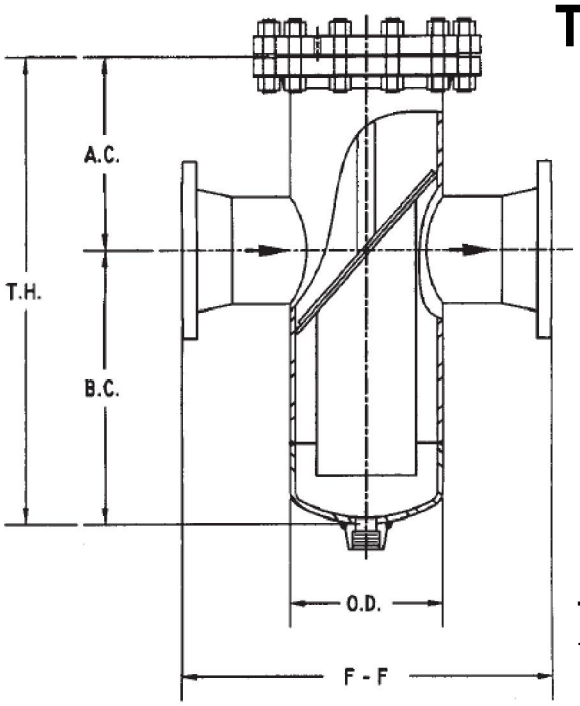
*Based on Standard perforated 1/8'' diameter holes on 3/16'' centers. Open Area and Open Area Ratio also applicable to perforated patterns 1/4'' diameter holes on 3/8'' diameter holes on 9/16'' centers. Other patterns and wire mesh liners available. All dimensions are in inches. **Larger line sizes available**

### *INFORMATION REQUIRED*

1. Quantity
2. Flow Rate
3. Design pressure and temperature
4. Special Size Strainer (if other than standard, advise dimensions)
5. Line size and flange rating or beveled for welding
6. Wire cloth size—under Strainer Design
7. Housing and basket material (Carbon steel is standard) - others are available
8. Special features

# Vertical Basket Strainer

## **TYPE FV** for Horizontal Pipe Run




**TYPE FV** with Slope Top Basket for Horizontal Pipe Run

| LINE SIZE | COMMON DIMENSIONS | | | | | | BASKET SURFACE AREA (SQ.IN.) | BASKET OPEN AREA (SQ.IN.) | OPEN AREA RATIO* | LINE SIZE |
|---|---|---|---|---|---|---|---|---|---|---|
| | O.D. | F.F. | TH | BC** | AC** | DRAIN | FV | FV | FV | |
| 2 | 4½ | 17 | 16 | 9 | 7 | 1 | 44 | 17.6 | 524% | 2 |
| 3 | 6⅝ | 20 | 20 | 11 | 9 | 1 | 99 | 39.6 | 536% | 3 |
| 4 | 8⅝ | 23 | 24 | 14 | 10 | 1½ | 207 | 82.8 | 650% | 4 |
| 6 | 10¾ | 26 | 29 | 17 | 12 | 1½ | 330 | 132 | 457% | 6 |
| 8 | 12¾ | 30 | 35 | 21 | 14 | 1½ | 509 | 204 | 408% | 8 |
| 10 | 16 | 34 | 42 | 25 | 17 | 1½ | 792 | 317 | 402% | 10 |
| 12 | 18 | 37 | 46 | 28 | 18 | 2 | 1034 | 414 | 366% | 12 |
| 14 | 18 | 37 | 53 | 33 | 20 | 2 | 1232 | 493 | 358% | 14 |
| 16 | 24 | 44 | 60 | 36 | 24 | 2 | 1885 | 754 | 413% | 16 |
| 18 | 24 | 45 | 65 | 39 | 26 | 2 | 2073 | 829 | 355% | 18 |
| 20 | 26 | 48 | 71 | 45 | 26 | 2 | 2512 | 1005 | 345% | 20 |
| 24 | 30 | 56 | 95 | 64 | 31 | 2 | 4310 | 1724 | 406% | 24 |
| 30 | 36 | 62 | 108 | 71 | 37 | 2 | 5938 | 2375 | 353% | 30 |

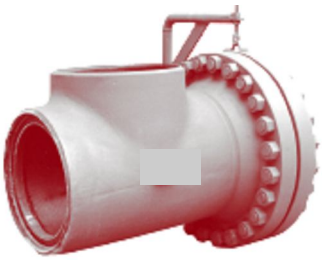
*Based on Standard perforated 1/8'' diameter holes on 3/16'' centers. Open Area and Open Area Ratio also applicable to perforated patterns 1/4'' diameter holes on 3/8'' diameter holes on 9/16'' centers. Other patterns and wire mesh liners available. All dimensions are in inches.

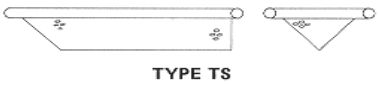
**Larger line sizes available**

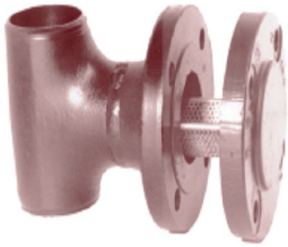
### *INFORMATION REQUIRED*

1. Quantity
2. Flow Rate
3. Design pressure and temperature
4. Special Size Strainer (if other than standard, advise dimensions)
5. Line size and flange rating or beveled for welding
6. Wire cloth size—under Strainer Design
7. Housing and basket material (Carbon steel is standard) - others are available
8. Special features

# TEE STRAINERS

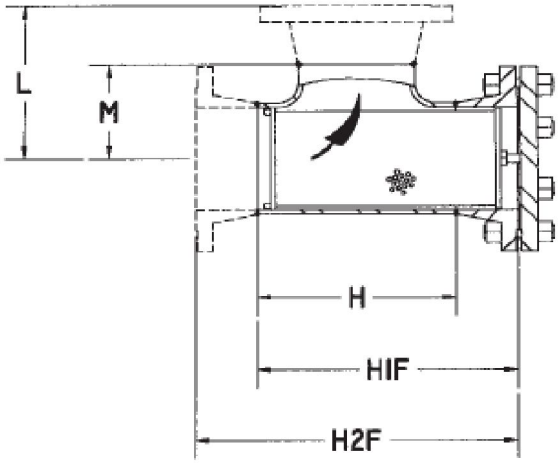


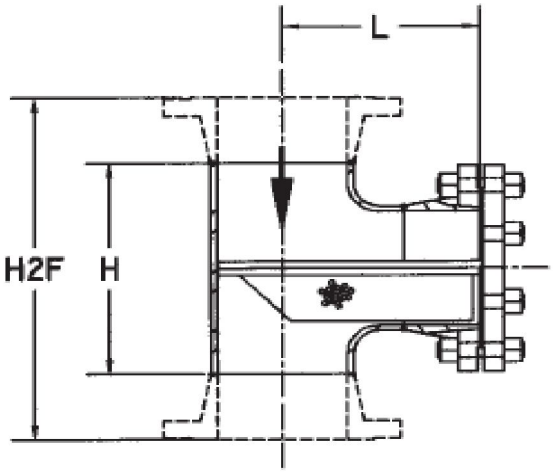



TYPE TVW (Weld Inlet & Outlet)
TYPE TVF (Flanges Inlet & Outlet)
TYPE TVFI (Flanged Inlet, Weld Outlet)
TYPE TVFO (Weld Inlet, Flanged Outlet)

TYPE TSW (Weld Inlet & Outlet)
TYPE TSF (Flanges Inlet & Outlet)
TYPE TSFI (Flanged Inlet, Weld Outlet)
TYPE TSFO (Weld Inlet, Flanged Outlet)




| PIPE SIZE | H | M | 150# | | | 300# | | | 600# | | | PIPE SIZE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | H1F | H2F | L | HIF | H2F | L | H1F | H2F | |
| 2 | 5 | 2 1/2 | 5 | 7 | 10 | 5 1/4 | 7 3/4 | 10 1/2 | 5 5/8 | 8 1/8 | 11 1/4 | 2 |
| 3 | 6 3/4 | 3 3/8 | 6 1/8 | 9 1/2 | 12 1/4 | 6 1/2 | 9 7/8 | 13 | 6 7/8 | 10 1/4 | 13 3/4 | 3 |
| 4 | 8 1/4 | 41/8 | 7 1/8 | 11 1/4 | 14 1/4 | 7 1/2 | 11 5/8 | 15 | 8 3/8 | 12 1/2 | 16 3/4 | 4 |
| 6 | 11 1/4 | 5 5/8 | 9 1/8 | 14 3/4 | 18 1/4 | 9 1/2 | 15 1/8 | 19 | 10 1/2 | 16 1/8 | 21 | 6 |
| 8 | 14 | 7 | 11 | 18 | 22 | 11 3/8 | 18 3/8 | 22 3/4 | 12 1/2 | 19 1/2 | 25 | 8 |
| 10 | 17 | 8 1/2 | 12 1/2 | 21 | 25 | 13 1/8 | 21 5/8 | 26 1/4 | 14 3/4 | 23 1/4 | 29 1/4 | 10 |
| 12 | 20 | 10 | 14 1/2 | 24 1/2 | 29 | 15 1/8 | 25 1/8 | 30 1/4 | 16 3/8 | 26 3/8 | 32 3/4 | 12 |
| 14 | 22 | 11 | 16 | 27 | 32 | 16 5/8 | 27 5/8 | 33 1/4 | 17 3/4 | 28 3/4 | 35 1/2 | 14 |
| 16 | 24 | 12 | 17 | 29 | 34 | 17 3/4 | 29 3/4 | 35 1/2 | 19 1/4 | 31 1/4 | 38 1/2 | 16 |
| 18 | 27 | 13 1/2 | 19 | 32 1/2 | 38 | 19 3/4 | 33 1/4 | 39 1/2 | 21 | 34 1/2 | 42 | 18 |
| 20 | 30 | 15 | 20 11/16 | 35 11/16 | 41 3/8 | 21 3/8 | 36 3/8 | 42 3/4 | 22 3/4 | 37 3/4 | 45 1/2 | 20 |
| 24 | 34 | 17 | 23 | 40 | 46 | 23 5/8 | 40 5/8 | 47 1/4 | 25 1/4 | 421/4 | 50 1/2 | 24 |

Dimensions in inches and are based on standard weld tee with raised face or ring joint weld neck flanges. Standard weight tee and W.N. bore for 150# and 300# . Extra strong tee and W.N. bore for 600# , 400# , 900# , 1500# , 2500# in RF/FF/RJ and other facings available. Blind flange can be taped for blowdown.

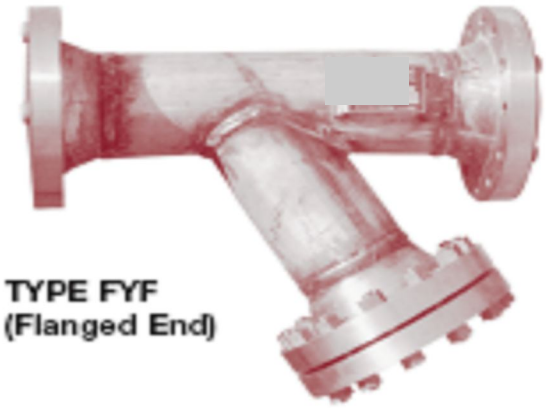
## *INFORMATION REQUIRED*

1. Quantity
2. Line Size
3. T. Rowe type
4. Flange rating & Face
5. Housing material*
6. Housing Pipe Schedule
7. Basket material*
8. Mesh liner if required
9. Additional Features

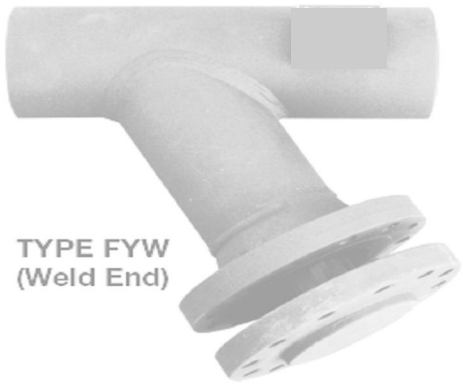
*Carbon Steel is standard. Other materials are available.

# Y—STRAINERS

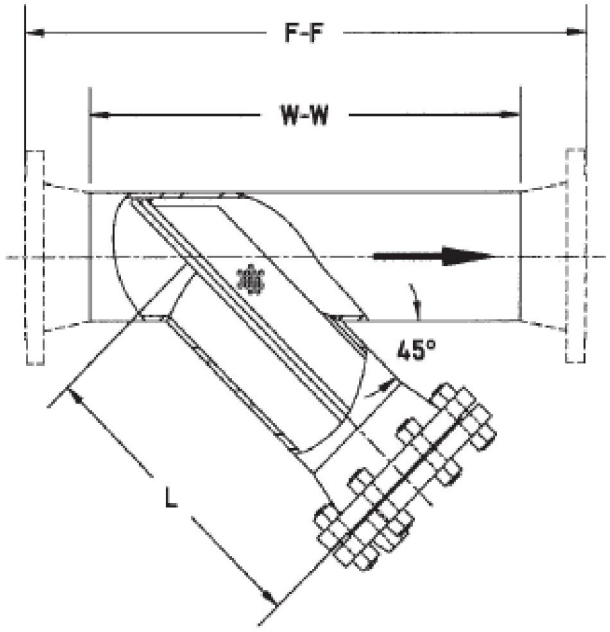




TYPE FYF
(Flanged End)



TYPE FYW
(Weld End)




| SIZE | O.D. | TYPE FYW W-W | TYPE FYF F-F | L | BLOWDOWN (NPT) |
|---|---|---|---|---|---|
| 4 | 4 1/2 | 18 1/2 | 26 | 12 | 3/4 |
| 6 | 6 5/8 | 20 1/4 | 30 | 16 | 3/4 |
| 8 | 8 5/8 | 26 | 37 | 20 | 1 |
| 10 | 10 3/4 | 33 1/2 | 46 | 23 | 1 |
| 12 | 12 3/4 | 38 1/4 | 51 | 26 | 1 1/2 |
| 14 | 14 | 42 1/2 | 56 | 29 | 1 1/2 |
| 16 | 16 | 47 1/2 | 62 | 32 | 1 1/2 |
| 18 | 18 | 53 | 68 | 36 | 1 1/2 |
| 20 | 20 | 57 1/2 | 73 | 39 | 2 |
| 24 | 24 | 63 1/2 | 80 | 43 | 2 |

Larger sizes on application

Dimensions are in inches.

T. Rowe Y-Strainers can be fabricated from any commercial available pipe including carbon steel, low and intermediate alloy steels and stainless steel. The F-F dimensions shown for the Type FYF Strainer is applicable for any flange rating or facing 150# ANSI thru 300# ANSI. Higher pressure on application. Special Dimensions available to match your piping requirements.

Standard Basket – Perforated 1/8" Diameter holes on 3/16" Centers

Other Patterns, wire mesh and liners available,

***INFORMATION REQUIRED***

1. Quantity
2. Line Size
3. **T. Rowe Type**
4. Flange Rating and Face
5. Housing material *
6. Housing Pipe Schedule
7. Basket material *
8. Mesh liner if required
9. Additional Features

*Carbon Steel is standard. Other materials are available.

# *WEIGHTS*

# BASED ON CATALOG STANDARD UNITS

## FV AND FT STRAINERS

| 2" 150# | 3" 150# | 4" 150# | 6" 150 # | 8" 150# | 10" 150# | 12" 150# |
|---|---|---|---|---|---|---|
| 68# | 120# | 190# | 295# | 460# | 690# | 910# |
| 2" 300# | 3" 300# | 4" 300# | 6" 300# | 8" 300# | 10" 300# | 12" 300# |
| 95# | 180# | 280# | 450# | 670# | 1020# | 1350# |
| 2" 600# | 3" 600# | 4" 600# | 6" 600# | 8" 600# | 10" 600# | 12" 600# |
| 140# | 290# | 500# | 820# | 1120# | 1720# | 2350# |

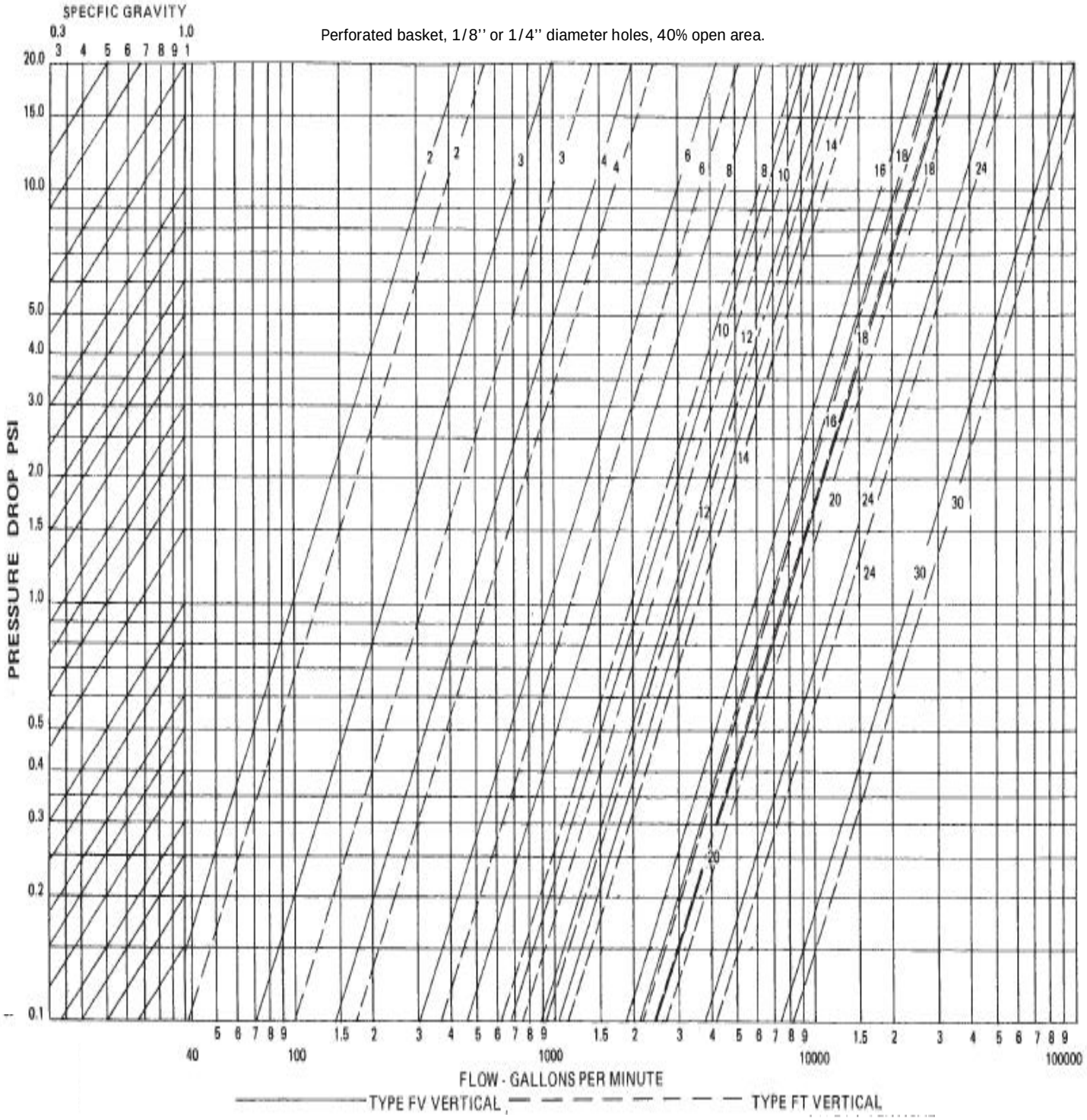
## TEE STRAINERS

| 2" 150# | 3" 150# | 4" 150# | 6" 150# | 8" 150# | 10" 150# | 12" 150# | 16" 150# |
|---|---|---|---|---|---|---|---|
| W-18# | W-31# | W-51# | W-97# | W-159# | W-238# | W-365# | W-614# |
| F-30# | F-51# | F-81# | F-145# | F-237# | F-342# | F-525# | F-894# |
| 2" 300# | 3" 300# | 4" 300# | 6" 300# | 8" 300# | 10" 300# | 12" 300# | 16" 300# |
| W-26# | W-47# | W-74# | W-143# | W-224# | W-351# | W-529# | W-887# |
| F-44# | F-77# | F-124# | F-227# | F-358# | F-533# | F-809# | F-1387# |
| 2" 600# | 3" 600# | 4" 600# | 6" 600# | 8" 600# | 10" 600# | 12" 600# | 16" 600# |
| W-36# | W-67# | W-122# | W-247# | W-387# | W-639# | W-822# | W-1426# |
| F-60# | F-113# | F-206# | F-409# | F-627# | F-1019# | F-1272# | F-2206# |

W= Weld Ends
F= Flanged Ends

# Estimated Pressure Drop for FV & FT Strainers

Perforated basket, 1/8'' or 1/4'' diameter holes, 40% open area.

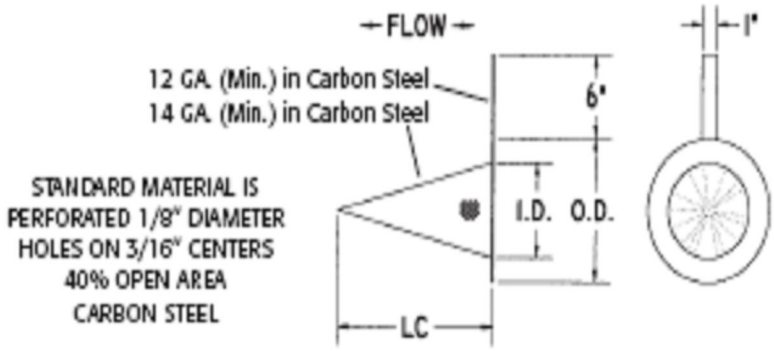



Example: A 6" line flowing 1,000 G.P.M. liquid with a specific gravity of 0.6. To find the pressure drop, enter the chart at 1,000 G.P.M. and intersect the line representing a 6" FV, and FT strainer. Read to the left for each type of fabricated strainer to intersection of S.G. = 1.0. Follow diagonal guide lines down to S.G. = 0.6. Read straight to the left for the corrected pressure drop. In the example the FV strainer would have a pressure drop of 0.65 P.S.I., the FT 0.45 P.S.I. The strainer selection would depend upon piping configuration and allowable pressure drop.

CORRECTION FACTORS. MULTIPLY PRESSURE DROP BY:

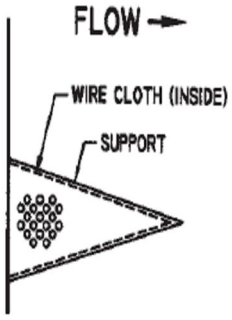
| VISCOSITY SSU | PERFORATED 1/8" or 1/4" DIA. | WITH WIRE MESH LINER | | | |
|---|---|---|---|---|---|
| | | 40 mesh | 60 mesh | 80 mesh | 100 mesh |
| 30 (Water) | Use Chart | 1.3 | 1.5 | 1.6 | 1.7 |
| 500 | 1.6 | 1.9 | 2.1 | 2.4 | 2.6 |
| 1,000 | 1.7 | 2.2 | 2.4 | 2.6 | 2.8 |
| 2,000 | 1.9 | 2.4 | 2.7 | 2.9 | 3.2 |

# CONE STRAINERS

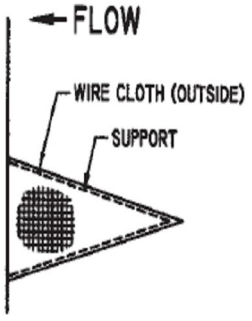



**TYPE CP**

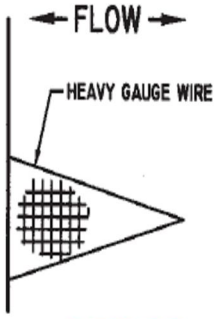
| LENGTH L C | | | | | | |
|---|---|---|---|---|---|---|
| LINE SIZE | STD. LGTH. | 75% | 100% | 150% | 200% | 300% |
| 2 | 4 | – | 4 | 6 | 8 | 11 |
| 3 | 6 | – | 6 | 9 | 12 | 18 |
| 4 | 8 | – | 8 | 10 | 13 | 20 |
| 6 | 11 | – | 11 | 13 | 18 | 27 |
| 8 | 12 | – | 12 | 17 | 23 | 34 |
| 10 | 12 | 12 | 14 | 22 | 29 | 44 |
| 12 | 12 | 12 | 16 | 26 | 35 | 50 |
| 14 | 14 | 14 | 18 | 27 | 36 | 53 |
| 16 | 16 | 16 | 21 | 31 | 40 | 60 |
| 18 | 18 | 18 | 24 | 35 | 46 | 68 |
| 20 | 20 | 20 | 26 | 39 | 51 | 76 |
| 24 | 23 | 23 | 31 | 45 | 60 | 90 |
| 30 | 29 | 29 | 38 | 57 | 76 | 114 |
| 36 | 33 | 33 | 44 | 66 | 88 | 126 |



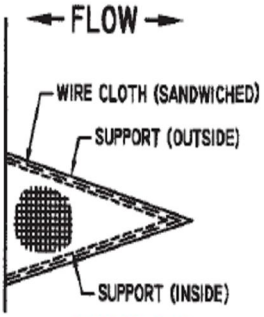

**TYPE CWI**
Wire Cloth Inside
*Perforated Support




**TYPE CWO**
Wire Cloth Outside
*Perforated Support




**TYPE CW**
1 Ply Heavy Wire
(Customers' Choice)




**TYPE CTP**
Expanded Support
Inside and Outside

* Expanded metal support available

Percent open areas shown are compared to the cross sectional flow area of Standard Weight Pipe. All dimensions are in inches. Standard length designed to fit weld neck flange plus long radius weld elbow. OD is designed to fit inside flange bolt hole circle. Full face is available, add FF to type of strainer. ID is designed to fit inside standard weight pipe for 150# and 300# rating, extra strong pipe for 600# rating. Advise pipe wall or schedule for higher pressure ratings.


Available with any type temporary strainer

# CONE STRAINERS

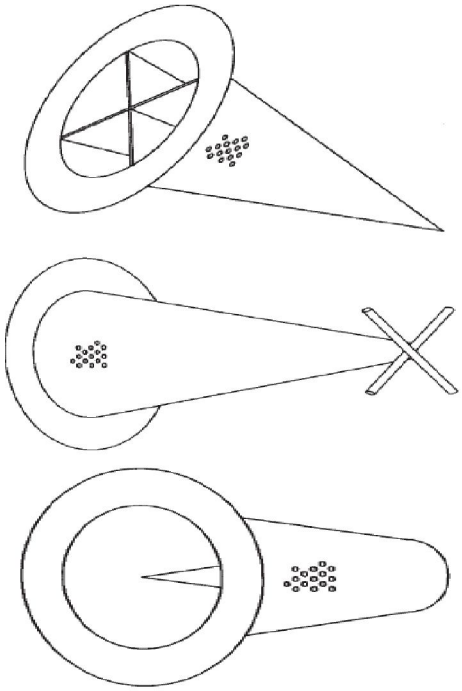


## Additional Features

Cross bracing can be installed in both cone and basket strainers to help prevent collapse.

Vibration supports can be supplied on extra long strainers to help stabilize the strainer off of the pipe wall and prevent vibration.

Both cone and basket strainers can be inverted to obtain a high percent of open area in a tight piping situation.



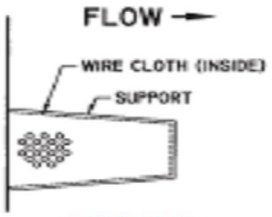
| CONES & BASKET STRAINERS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DIMENSIONS IN INCHES | | | | | | | | ASA RING JOINT GASKET NUMBER (Soft iron cadmium plated is standard) | | | |
| | ID | | | OD | | | | | | | | |
| SIZE | 150/300 lb. RF/FF/RJ | 400/600 lb. RF/RJ | 900/1500 lb. RF/RJ | 150/300 lb. RF/FF | 400 lb. RF | 600 lb. RF | 900 lb. RF | 1500 lb. RF | 300/400 600 lb. RJ | 900 lb. RJ | 1500 lb. RJ | 2500 lb. RJ |
| 3/4 | 5/8 | 5/8 | Advise Pipe Schedule or Flange Dia. of Bore. Strainer ID will be 1/8" (small sizes) to 1/2" (large sizes) Less than Flange Bore | 2 1/8 | 2 1/2 | 2 1/2 | 2 5/8 | 2 5/8 | R13 | R14 | R14 | R16 |
| 1 | 7/8 | 7/8 | | 2 1/2 | 2 3/4 | 2 3/4 | 3 | 3 | R16 | R16 | R16 | R18 |
| 1 1/4 | 1 1/8 | 1 1/8 | | 2 7/8 | 3 1/8 | 3 1/8 | 3 1/4 | 3 3/8 | R18 | R18 | R18 | R21 |
| 1 1/2 | 1 3/8 | 1 3/8 | | 3 1/4 | 3 5/8 | 3 5/8 | 3 3/4 | 3 3/4 | R20 | R20 | R20 | R23 |
| 2 | 1 7/8 | 1 7/8 | | 4 | 4 1/4 | 4 1/8 | 5 1/2 | 5 1/2 | R23 | R24 | R24 | R26 |
| 2 1/2 | 2 1/4 | 1 15/16 | | 4 5/8 | 5 | 5 | 6 1/4 | 6 3/8 | R26 | R27 | R27 | R28 |
| 3 | 2 7/8 | 2 33/64 | | 5 1/4 | 5 3/4 | 5 3/4 | 6 1/2 | 6 3/4 | R31 | R31 | R35 | R32 |
| 4 | 3 3/4 | 3 5/8 | | 6 3/4 | 6 7/8 | 7 1/2 | 8 | 8 1/8 | R37 | R37 | R39 | R38 |
| 6 | 5 3/4 | 5 5/8 | | 8 5/8 | 9 5/8 | 10 1/8 | 11 1/4 | 11 | R45 | R45 | R46 | R47 |
| 8 | 7 1/2 | 7 3/8 | | 10 3/4 | 11 3/4 | 12 3/8 | 14 | 13 3/4 | R49 | R49 | R50 | R51 |
| 10 | 9 1/2 | 9 1/4 | | 13 1/8 | 13 7/8 | 15 1/2 | 17 | 17 | R53 | R53 | R54 | R55 |
| 12 | 11 1/2 | 11 1/8 | | 15 7/8 | 16 1/4 | 17 3/4 | 19 3/8 | 20 1/4 | R57 | R57 | R58 | R60 |
| 14 | 12 7/8 | * | | 17 1/2 | 18 3/4 | 19 1/8 | 20 1/4 | – | R61 | R62 | R63 | – |
| 16 | 14 3/4 | | | 20 | 20 7/8 | 22 | 22 3/8 | – | R65 | R66 | R67 | – |
| 18 | 16 3/4 | | | 21 3/8 | 23 1/8 | 23 7/8 | 24 7/8 | – | R69 | R70 | R71 | – |
| 20 | 18 3/4 | | | 23 5/8 | 25 1/4 | 26 5/8 | 27 1/4 | – | R73 | R74 | R75 | – |
| 24 | 22 3/4 | | | 28 | 30 | 30 7/8 | 32 3/4 | – | R77 | R78 | R79 | – |

* Advise pipe schedule or flange dia. of bore. Strainer ID will be 1/2" less than flange bore. **Larger sizes available.**

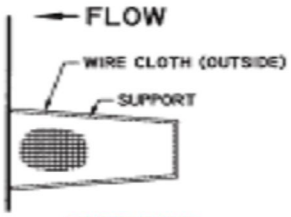
***HOW TO ORDER***

1. Quantity
2. Line Size
3. Mating Flange Rating
4. Flange face type
5. Type of Strainer Required
6. Length Required
7. Material of Construction
8. Wire Mesh & Material if required

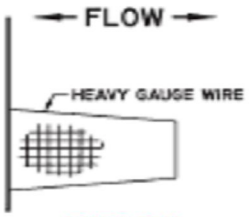
# BASKET STRAINERS




**TYPE BWI**
Wire Cloth Inside
*Perforated Support

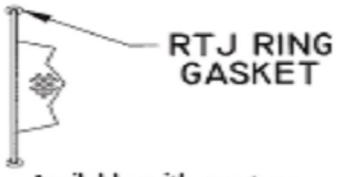



**TYPE BWO**
Wire Cloth Outside
*Perforated Support

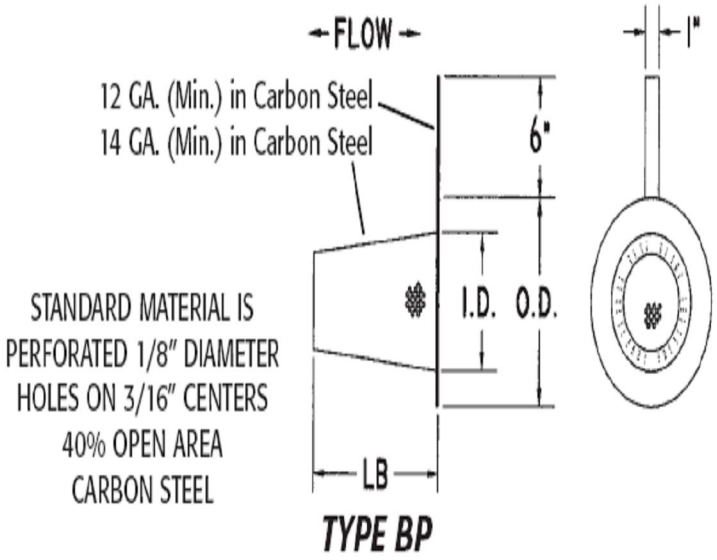



**TYPE BW**
1 Ply Heavy Wire
(Customers' Choice)

* Expanded metal support available



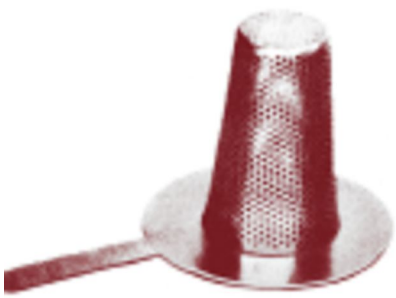

Available with any type temporary strainer




**TYPE BP**

| LENGTH L B | | | | | | | |
|---|---|---|---|---|---|---|---|
| LINE SIZE | C | STD. LGTH. | 75% | 100% | 150% | 200% | 300% |
| 2 | 1¼ | 2½ | – | 2½ | 4 | 5 | 6 |
| 3 | 2 | 3 | – | 3 | 5 | 7 | 8 |
| 4 | 2½ | 5 | – | 5 | 7 | 9 | 11 |
| 6 | 4 | 6 | – | 6 | 9 | 12 | 17 |
| 8 | 5½ | 8 | – | 8 | 11 | 14 | 21 |
| 10 | 6 | 10 | 10 | 11 | 15 | 19 | 27 |
| 12 | 7 | 11 | 11 | 12 | 18 | 22 | 32 |
| 14 | 10 | 11 | 11 | 13 | 18 | 23 | 33 |
| 16 | 10 | 12 | 12 | 14 | 21 | 25 | 38 |
| 18 | 11 | 14 | 14 | 17 | 23 | 28 | 43 |
| 20 | 13 | 16 | 16 | 19 | 26 | 31 | 48 |
| 24 | 15 | 19 | 19 | 23 | 32 | 40 | 57 |
| 30 | 19 | 21 | 21 | 28 | 40 | 50 | 71 |
| 36 | 23 | 26 | 26 | 38 | 50 | 60 | 84 |

Percent open areas shown are compared to the cross sectional flow area of Standard Weight Pipe. All dimensions are in inches. Standard length designed to fit weld neck flange plus long radius weld elbow. OD is designed to fit inside flange bolt hole circle. Full face is available, add FF to type of strainer. ID is designed to fit inside standard weight pipe for 150# and 300# rating, extra strong pipe for 600# rating. Advise pipe wall or schedule for higher pressure ratings.



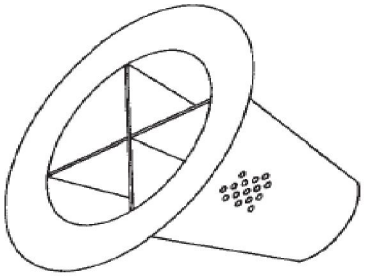
# BASKET STRAINERS

## Additional Features

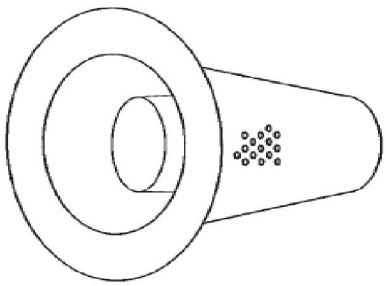
| CONES & BASKET STRAINERS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DIMENSIONS IN INCHES | | | | | | | | ASA RING JOINT GASKET NUMBER (Soft iron cadmium plated is standard) | | | |
| | ID | | | OD | | | | | | | | |
| SIZE | 150/300 lb. RF/FF/RJ | 400/600 lb. RF/RJ | 900/1500 lb. RF/RJ | 150/300 lb. RF/FF | 400 lb. RF | 600 lb. RF | 900 lb. RF | 1500 lb. RF | 300/400 600 lb. RJ | 900 lb. RJ | 1500 lb. RJ | 2500 lb. RJ |
| 3/4 | 5/8 | 5/8 | Advise Pipe Schedule or Flange Dia. of Bore. Strainer ID will be 1/8" (small sizes) to 1/2" (large sizes) Less than Flange Bore | 2 1/8 | 2 1/2 | 2 1/2 | 2 5/8 | 2 5/8 | R13 | R14 | R14 | R16 |
| 1 | 7/8 | 7/8 | | 2 1/2 | 2 3/4 | 2 3/4 | 3 | 3 | R16 | R16 | R16 | R18 |
| 1 1/4 | 1 1/8 | 1 1/8 | | 2 7/8 | 3 1/8 | 3 1/8 | 3 1/4 | 3 3/8 | R18 | R18 | R18 | R21 |
| 1 1/2 | 1 3/8 | 1 3/8 | | 3 1/4 | 3 5/8 | 3 5/8 | 3 3/4 | 3 3/4 | R20 | R20 | R20 | R23 |
| 2 | 1 7/8 | 1 7/8 | | 4 | 4 1/4 | 4 1/8 | 5 1/2 | 5 1/2 | R23 | R24 | R24 | R26 |
| 2 1/2 | 2 1/4 | 1 15/16 | | 4 5/8 | 5 | 5 | 6 1/4 | 6 3/8 | R26 | R27 | R27 | R28 |
| 3 | 2 7/8 | 2 33/64 | | 5 1/4 | 5 3/4 | 5 3/4 | 6 1/2 | 6 3/4 | R31 | R31 | R35 | R32 |
| 4 | 3 3/4 | 3 5/8 | | 6 3/4 | 6 7/8 | 7 1/2 | 8 | 8 1/8 | R37 | R37 | R39 | R38 |
| 6 | 5 3/4 | 5 5/8 | | 8 5/8 | 9 5/8 | 10 1/8 | 11 1/4 | 11 | R45 | R45 | R46 | R47 |
| 8 | 7 1/2 | 7 3/8 | | 10 3/4 | 11 3/4 | 12 3/8 | 14 | 13 3/4 | R49 | R49 | R50 | R51 |
| 10 | 9 1/2 | 9 1/4 | | 13 1/8 | 13 7/8 | 15 1/2 | 17 | 17 | R53 | R53 | R54 | R55 |
| 12 | 11 1/2 | 11 1/8 | | 15 7/8 | 16 1/4 | 17 3/4 | 19 3/8 | 20 1/4 | R57 | R57 | R58 | R60 |
| 14 | 12 7/8 | * | | 17 1/2 | 18 3/4 | 19 1/8 | 20 1/4 | – | R61 | R62 | R63 | – |
| 16 | 14 3/4 | | | 20 | 20 7/8 | 22 | 22 3/8 | – | R65 | R66 | R67 | – |
| 18 | 16 3/4 | | | 21 3/8 | 23 1/8 | 23 7/8 | 24 7/8 | – | R69 | R70 | R71 | – |
| 20 | 18 3/4 | | | 23 5/8 | 25 1/4 | 26 5/8 | 27 1/4 | – | R73 | R74 | R75 | – |
| 24 | 22 3/4 | | | 28 | 30 | 30 7/8 | 32 3/4 | – | R77 | R78 | R79 | – |

* Advise pipe schedule or flange dia. of bore. Strainer ID will be 1/2" less than flange bore. **Larger sizes available.**

Cross bracing can be installed in both cone and basket strainers to help prevent collapse.

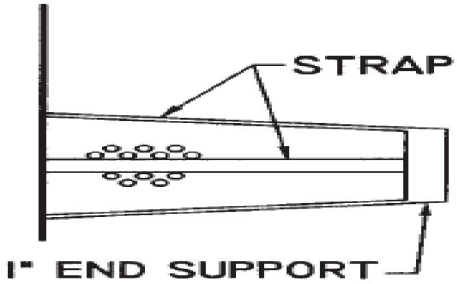


Both cone and basket strainers can be inverted to obtain a high percent of open area in a tight piping situation.



## TYPE BSW or BSP

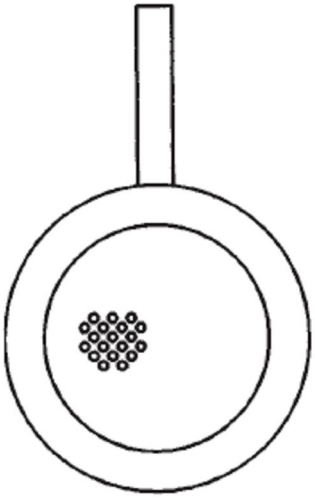
Stiffeners on side and top of basket Can be supplied on BP, BW or BWI Strainers.




### *HOW TO ORDER*

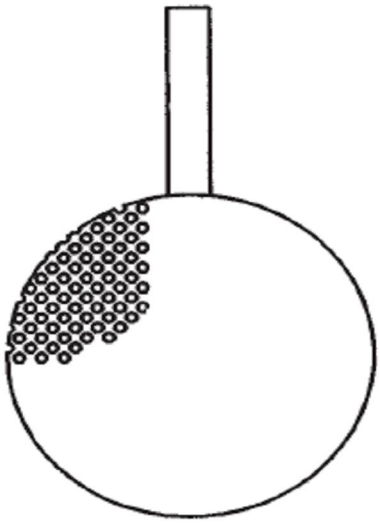
1. Quantity
2. Line Size
3. Mating Flange Rating
4. Flange face type
5. Type of Strainer Required
6. Length Required
7. Material of Construction
8. Wire Mesh & Material if required

# FLAT STRAINERS



***TYPE FP***
***PERFORATED WITH SOLID RING***
***(3" and larger only)***

| TYPE FP AND FW FLAT STRAINERS | | | | | |
|---|---|---|---|---|---|
| SIZE | I.D. | O.D. 125 lb. FF 150 lb. RF | O.D. 250 lb. FF 300 lb. RF | O.D. 400 lb. RF | O.D. 600 lb. RF |
| 3/4 | 1 | 2 1/8 | 2 1/2 | 2 1/2 | 2 1/2 |
| 1 | 1 1/8 | 2 1/2 | 2 3/4 | 2 3/4 | 2 3/4 |
| 1 1/4 | 1 3/8 | 2 7/8 | 3 1/8 | 3 1/8 | 3 1/8 |
| 1 1/2 | 1 5/8 | 3 1/4 | 3 5/8 | 3 5/8 | 3 5/8 |
| 2 | 2 1/4 | 4 | 4 1/4 | 4 1/4 | 4 1/4 |
| 3 | 3 1/4 | 5 1/4 | 5 3/4 | 5 3/4 | 5 3/4 |
| 4 | 4 1/4 | 6 3/4 | 7 | 6 7/8 | 7 1/2 |
| 5 | 5 1/8 | 7 1/2 | 8 3/8 | 8 1/4 | 9 3/8 |
| 6 | 6 3/8 | 8 5/8 | 9 3/4 | 9 5/8 | 10 3/8 |
| 8 | 8 3/8 | 10 7/8 | 12 | 11 7/8 | 12 1/2 |
| 10 | 10 1/2 | 13 1/4 | 14 1/8 | 14 | 15 5/8 |
| 12 | 12 1/2 | 16 | 16 1/2 | 16 3/8 | 17 7/8 |
| 14 | 14 | 17 1/2 | 19 | 18 7/8 | 19 1/4 |
| 16 | 16 | 20 | 21 1/8 | 21 | 22 1/8 |
| 18 | 18 | 21 3/8 | 23 3/8 | 23 1/4 | 24 |
| 20 | 20 | 23 5/8 | 25 5/8 | 25 3/8 | 26 3/4 |
| 24 | 24 | 28 | 30 3/8 | 30 1/8 | 31 |



***TYPE F-PF***
***ALL PERFORATED***

STANDARD MATERIAL IS
PERFORATED 1/8" DIAMETER
HOLES ON 3/16" CENTERS
40% OPEN AREA
CARBON STEEL

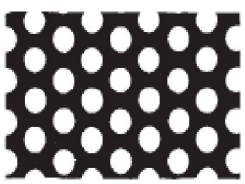
# Materials Data

## Perforated and Wire Cloth

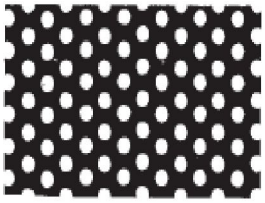
### PERFORATED PATTERNS NORMALLY STOCKED

| PATTERN | | % OPEN AREA | # HOLES PSI | MATERIAL/GAUGE | | |
|---|---|---|---|---|---|---|
| DIA | CENTERS | | | C.S. | 304SS | 316SS |
| 1/16 | 1/8 | 23 | 74 | 16 | 22 | - |
| 1/8 | 3/16 | 40 | 33 | 14,11 | 14 | 14* |
| 3/16 | 1/4 | 51 | 18 | 14 | 16 | - |
| 1/4 | 3/8 | 40 | 8 | 11 | 14,11 | 14,11 |
| 3/8 | 9/16 | 40 | 3,7 | 11 | 11 | - |
| 1/2 | 11/16 | 48 | 2,4 | 11 | 11 | - |

* Also in Monel


1/8" DIA. on 3/16" CTR


1/4" DIA. on 3/8" CTR


1/16" DIA. on 1/8" CTR


3/8" DIA. on 9/16" CTR

### EXPANDED METAL NORMALLY STOCKED

For Straining or Fine Mesh Wire Cloth Support

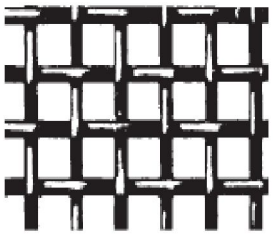
| SIZE | GAUGE | % OPEN AREA | MATERIAL |
|---|---|---|---|
| 1/2 | 16 Flattened | 62 | C.S; 304SS |
| 3/4 | 13 Flattened | 72 | C.S; 304SS |

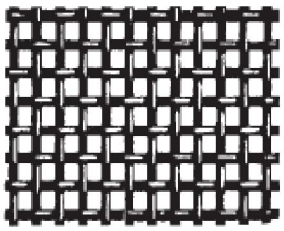

1/2" EXPANDED

### WIRE CLOTH NORMALLY STOCKED

Coarse mesh for straining or support

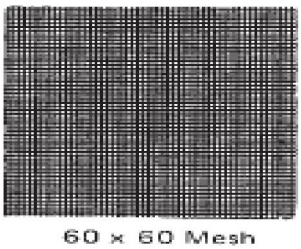
| MESH* | WIRE DIA. | OPENING | % OPEN AREA |
|---|---|---|---|
| 3 x 3 | .080 | .2533 | 57.6 |
| 4 x 4 | .063 | .1870 | 56.0 |
| 8 x 8 | .035 | .0900 | 51.8 |
| 8 x 8 | .047 | .0780 | 38.9 |
| 10 x 10 | .035 | .0650 | 42.3 |

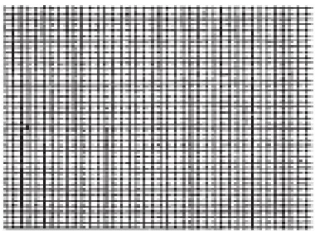

4 x 4 Mesh

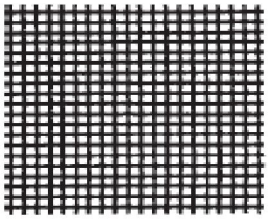

8 x 8 Mesh

Fine mesh requiring support

| MESH* | WIRE DIA. | OPENING | % OPEN AREA |
|---|---|---|---|
| 20 x 20 | .016 | .0340 | 46.2 |
| 30 x 30 | .013 | .0203 | 37.1 |
| 40 x 40 | .010 | .0150 | 36.0 |
| 60 x 60 | .0075 | .0092 | 30.5 |
| 80 x 80 | .0055 | .0070 | 31.4 |
| 100 x 100 | .0045 | .0055 | 30.3 |


60 x 60 Mesh


40 x 40 Mesh


20 x 20 Mesh

*Number of wires per linear inch.
All meshes shown are available,
304 S.S. and 316 S.S.
Many other meshes and material are available.
All dimensions in inches.

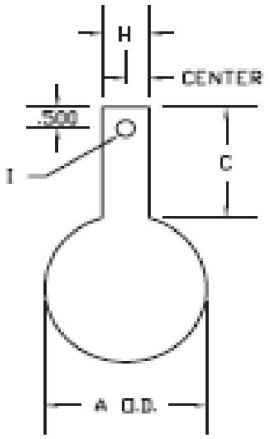
# Paddle Blinds — Isolation & Hydrotest Thickness

T. Rowe provides only excellence in fabrication.
Demanding only quality, whether renting or purchasing all blinds will be delivered with Costumer Satisfaction.

Available in Raised Face, Mill or Serrated—Ring Tongue Joint, Oval or Octagonal, Male or Female configurations.

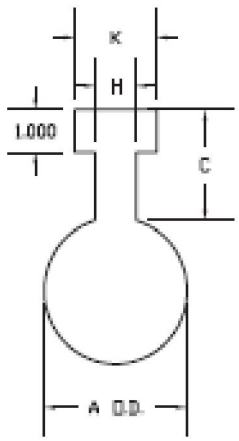
- Flange sizes 1/2'' – 96''
- Flange ratings 150 – 2500#
- 125–250 RMS Serrated Finishes or Mill Finish Available
- Ring Tongue Joint – Male or Female – Oval Octagonal
- Stamped with Size & Rating
- Ground to provide smooth edges
- Q/A & Q/C: Manufactured under our strict Quality Assurance Program

Our inventory consists of 516—-Gr70 Spec Carbon Steel material made to ASME/ANSI B16.4 standards.
**Line sizes up to 96'' Available.**
Standard isolation thickness is 5/16" (+/-1/16),
Any thickness available upon request.




When Ordering Specify:
- Flange Rating
- Line Size
- Mill or Serrated Face
- Thickness (Isolation, Hydro, or Custom)
- Handle Type (If necessary)
- Material
- Quantity
- Delivery Date

Additionally:
- Gasket Types & Quantities
- Bolt & Nut Quantities




*Other ratings and alloys also available*

*The blank thicknesses as shown in the tables are per ASME/ANSI B16-1 or B16-5 pressure temperature rating for the flanges. The thicknesses were calculated using the equation for blanks in ANSI B31-3 as follows: +m=dg 3P 16SE + C where: C=0.02, DG=1.D. of ring gaskets (inches), T=Blank Thickness (inches), SE-24,400 psi, SF= Safety Factor*

# PADDLE BLINDS — HYDROTEST THICKNESS CHART

| LINE SIZE INCHES | Flange Rating 150# SF 2.5 | | 300# SF 2.5 | | 600# SF 3.0 | | 900# SF 3.0 | | 1500# SF 3.0 | | 2500# SF 3.0 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | O.D. | TKNS | O.D. | TKNS | O.D. | TKNS | O.D. | TKNS | O.D. | TKNS | O.D. | TKNS |
| 1/2" | 1 3/4" | 5/16 | 2 | 5/16 | 2 | 5/16 | 2 3/8 | 5/16 | 2 3/8 | 5/16 | 2 5/8 | 3/8 |
| 3/4" | 2 1/8" | | 2 1/2 | | 2 1/2 | | 2 5/8 | | 2 5/8 | 3/8 | 2 7/8 | 3/8 |
| 1" | 2 1/2" | | 2 3/4 | | 2 3/4 | | 3 | | 3 | 3/8 | 3 1/4 | 3/8 |
| 1 1/4" | 2 7/8" | | 3 1/8 | | 3 1/8 | 3/8 | 3 3/8 | 3/8 | 3 3/8 | 3/8 | 4 | 1/2 |
| 1 1/2" | 3 1/4" | | 3 5/8 | | 3 5/8 | | 3 3/4 | | 3 3/4 | 1/2 | 4 1/2 | 1/2 |
| 2 | 4" | | 4 1/4 | 3/8 | 4 1/4 | | 5 1/2 | 1/2 | 5 1/2 | 1/2 | 5 5/8 | 5/8 |
| 2 1/2" | 4 3/4" | | 5 | | 5 | 1/2 | 6 3/8 | | 6 3/8 | 5/8 | 6 1/2 | 3/4 |
| 3 | 5 1/4" | | 5 3/4 | | 5 3/4 | | 6 1/2 | 5/8 | 6 3/4 | 3/4 | 7 5/8 | 7/8 |
| 3 1/2" | 6 1/4" | 3/8 | 6 3/8 | | 6 1/4 | 5/8 | | | | | | |
| 4 | 6 3/4" | | 7 | 1/2 | 7 1/2 | | 8 | 3/4 | 8 1/8 | 7/8 | 9 1/8 | 1 1/8 |
| 5 | 7 5/8" | | 8 3/8 | 5/8 | 9 3/8 | | 9 5/8 | | 9 7/8 | 1 1/8 | 10 7/8 | 1 3/8 |
| 6 | 8 5/8" | | 9 3/4 | | 10 3/8 | 3/4 | 11 | 7/8 | 11 | 1 3/8 | 12 3/8 | 1 5/8 |
| 8 | 10 7/8" | 1/2 | 12 | | 12 1/2 | 7/8 | 14 | 1 | 13 3/4 | 1 5/8 | 15 1/8 | 2 1/8 |
| 10 | 13 1/4" | | 14 1/8 | 7/8 | 15 5/8 | 1 1/8 | 17 | 1 3/8 | 17 | 2 | 18 5/8 | 2 5/8 |
| 12 | 16 | 5/8 | 16 1/2 | 1 | 17 5/8 | 1 3/8 | 19 1/2 | 1 5/8 | 20 3/8 | 2 3/8 | 21 1/2 | 3 1/8 |
| 14 | 17 5/8" | 3/4 | 19 | 1 1/8 | 19 1/4 | 1 5/8 | 20 3/8 | 1 7/8 | 22 5/8 | 2 5/8 | | |
| 16 | 20 1/8" | | 21 1/8 | 1 1/4 | 22 1/8 | 1 3/4 | 22 1/2 | 2 1/8 | 25 1/8 | 3 | | |
| 18 | 21 1/2" | 7/8 | 23 3/8 | 1 1/2 | 24 | 2 | 25 | 2 3/8 | 27 5/8 | 3 3/8 | | |
| 20 | 23 3/4" | 1 | 25 5/8 | 1 5/8 | 26 3/4 | 2 1/8 | 27 3/8 | 2 5/8 | 29 5/8 | 3 3/4 | | |
| 22 | 25 7/8" | 1 1/8 | 27 5/8 | 1 3/4 | 28 3/4 | 2 1/2 | | | | | | |
| 24 | 28 1/8" | 1 1/4 | 30 3/8 | 1 7/8 | 31 | 2 3/4 | 32 7/8 | 2 7/8 | 35 3/8 | 4 3/8 | | |
| 26 | 30 3/8" | 1 3/8 | 32 3/4 | 2 | 34 | 2 7/8 | 34 5/8 | 3 1/2 | | | | |
| 28 | 32 5/8" | 1 1/2 | 35 1/4 | | 35 7/8 | 3 1/8 | 37 1/8 | 3 3/4 | | | | |
| 30 | 34 5/8" | 1 5/8 | 37 3/8 | 2 1/8 | 38 1/8 | 3 3/8 | 39 5/8 | 4 1/8 | | | | |
| 32 | 36 7/8" | 1 3/4 | 39 1/2" | 2 3/8 | 40 1/8" | 3 5/8 | 42 1/8" | 4 3/8 | | | | |
| 34 | 38 7/8" | 1 7/8 | 41 1/2 | 2 5/8 | 42 1/8 | 4 1/8 | 44 5/8 | 5 | | | | |
| 36 | 41 1/8" | 2 | 43 7/8 | 2 3/4 | 44 3/8 | 4 1/4 | 47 1/8 | 5 1/4 | | | | |
| 38 | 43 5/8" | 2 1/8 | 41 3/8 | 3 | 43 3/8 | 4 1/2 | 47 1/8 | 5 1/2 | | | | |
| 40 | 45 5/8" | 2 1/4 | 43 3/4 | 3 | 45 3/8 | 4 3/4 | 49 1/8 | 5 7/8 | | | | |
| 42 | 47 7/8" | 2 3/8 | 45 3/4 | 3 1/4 | 47 7/8 | 5 | 51 1/8 | 6 1/8 | | | | |
| 44 | 50 1/8" | 2 1/2 | 47 7/8 | 3 3/8 | 49 7/8 | 5 1/4 | 53 3/4 | 6 3/8 | | | | |
| 46 | 52 1/8" | | 50 | 3 5/8 | 51 7/8 | 5 1/2 | 56 3/8 | 6 3/4 | | | | |
| 48 | 54 3/8" | 2 5/8 | 52 | 3 3/4 | 54 5/8 | 5 3/4 | 58 3/8 | 7 | | | | |

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# *T. Rowe Strainer Inquiry Form*

Please complete the following information below and Fax to T. Rowe Pipe @ 580-362-3915. We will be happy to recommend a Strainer for your application. You can also visit with one of our representatives (Page 17).

**Name:** _____

**Company:** _____

**Address:** _____

_____

**City:** _____ **State:** _____ **Zip Code:** _____

**e-mail:** _____

**Telephone:** _____ **Fax:** _____

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**Strainer Type:** _____

**Strainer Housing Material:** _____

**Line Size:** _____

**Flange Rating:** _____

**Product Service:** _____

**Manufacturing Design Code:** _____

**Paint Requirements:** _____

**Other information / Optional Accessories:** _____

_____

All strainer are fabricated "on-order", we can custom design specific units to match your dimensional and service requirements.

# T. ROWE STRAINERS

## Permanent & Temporary Strainers

## Isolation & Hydrotest Paddle Blinds

T. ROWE PIPE, LLC

Quality and Fabrication Excellence

*Piping Fabrication* *Alloy Weld Overlays* *Commercial Blasting & Coating*

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**126 S. Elm Newkirk, OK 74647**

**Phone: 580-362-3911**

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