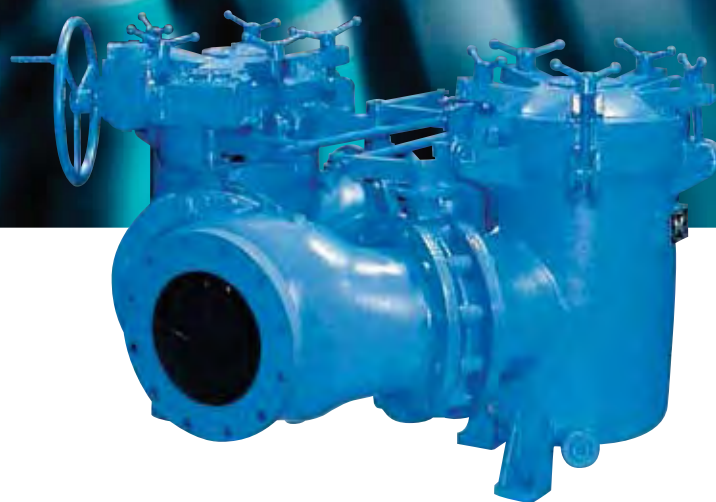


Model 52

- Sizes 10" to 18"
- Iron and bronze
- Flanged



Features

- Continuous flow, no shutdown for basket cleaning
- Compact butterfly valve design
- Quick opening covers
- Convoluted design baskets
- Threaded drain
- Perforated or mesh stainless steel baskets
- Vent
- Positive shutoff

Options

- Ductile iron construction
- Basket perforations from 1/32" to 1/2"
- Basket mesh of 20, 40 or 60
- MONEL® baskets
- Vent valves
- Drain valves
- Gauge taps 1/4" NPT
- Pressure differential gauge and switch connections
- Magnetic basket inserts

MONEL® is a registered trademark of Special Metals Corporation group of Companies.

The butterfly valve advantage

The Eaton Model 52 duplex strainer's design large size with high flow rates benefit from a set of synchronized, high-quality, butterfly valves that minimize the effort to switch the flow from one basket chamber to the other.

The valve replaces the diverter plug used on smaller size strainers and gives a straight flow pattern with no sudden changes in flow direction. The result is a very low pressure loss. A 10" strainer of this type can handle 2,000 gpm (454 m³/h) of water with a pressure drop of only 2 psi (0.14 bar). This is the strainer to choose for high flow rate applications when a low-pressure loss is critical.

Unique basket design

The Model 52 incorporates a larger screening area by convoluting (pleating) the perforated sheet in the strainer basket, thus increasing the available screening area while reducing the total basket size.

The flow enters the basket from the side, not the top, resulting in a straight through flow pattern. This means a lower pressure drop and greater time between basket cleanings than would be possible with standard design baskets—a substantial savings in time and operating costs.

Compact design

Lighter weight and a smaller profile make this strainer ideal for situations when space requirements are tight.

Easy to operate

- A single hand wheel operator can be on either side of the strainer if accessibility is a problem.
- An arrow on the top of the gear housing indicates which basket chamber is in service and which is ready for cleaning.
- Quick opening covers make strainer basket changing or cleaning quick and easy with no tools or lifting gear.

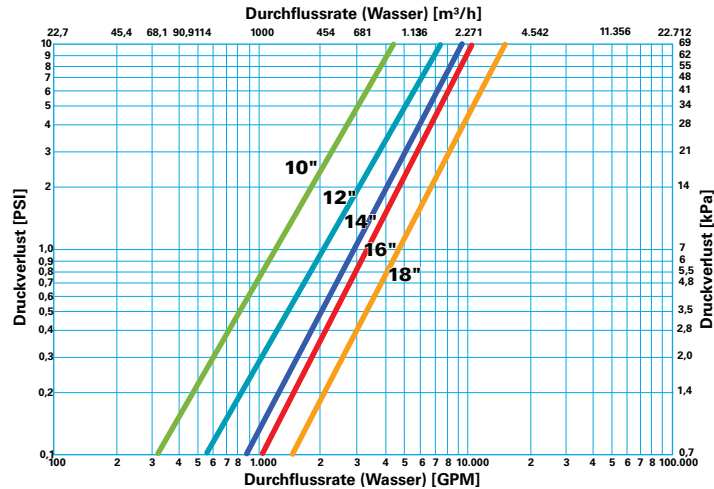


Powering Business Worldwide

Selection chart

| Size | Material | End connection | Seals | Pressure rating* |
|------------|----------|----------------|---------|--------------------|
| 10" to 12" | Iron | Flanged 125# | Buna-N® | 200 psi (13.8 bar) |
| 10" to 12" | Bronze | Flanged 150# | Buna-N | 200 psi (13.8 bar) |
| 14" to 18" | Iron | Flanged 125# | Buna-N | 150 psi (10.3 bar) |
| 14" to 18" | Bronze | Flanged 150# | Buna-N | 150 psi (10.3 bar) |

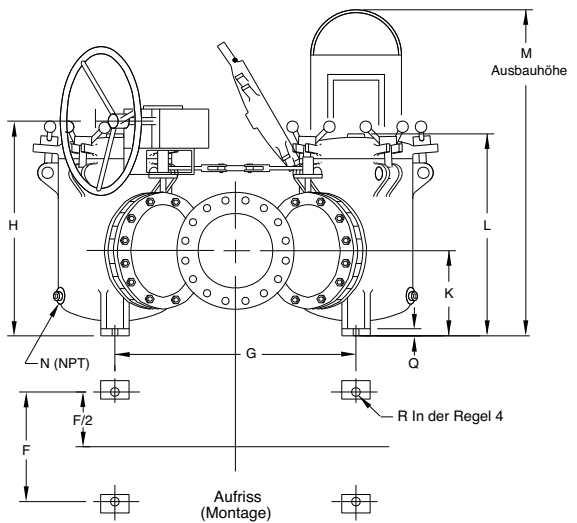
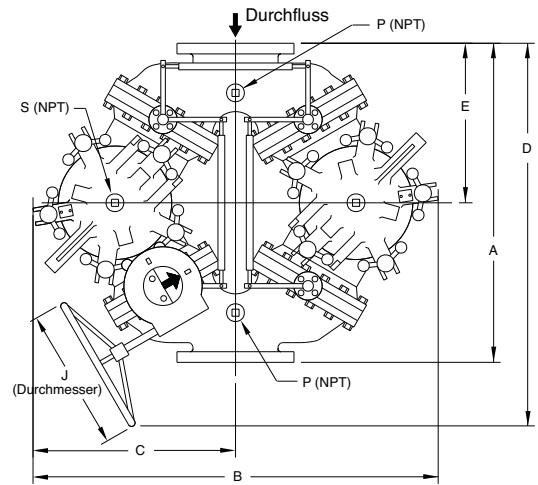
* @ 100 °F (38 °C)

C_V factors*

| Size | Value | Size | Value |
|------|-------|------|-------|
| 10" | 1300 | 16" | 3400 |
| 12" | 2000 | 18" | 4900 |
| 14" | 2900 | | |

* For water with clean, perforated basket

Dimensions and weights are for reference only. Contact Eaton for certified drawings.



Dimensions (in/mm)

| Pipe size | A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | Wt (lb / kg) | |
|-----------|------|------|-----|------|--------|-----|------|--------|-----|---------|--------|------|-------|-----|----|----|-----|--------------|--------|
| | Iron | | | | | | | | | | | | | | | | | Iron | Bronze |
| 10 | 45 | 51 | 26 | 52 | 22-1/2 | 19 | 32 | 30-1/4 | 18 | 12-3/16 | 29 | 49 | 1-1/2 | 1/2 | 1 | 1 | 1/4 | 1600 | 2003 |
| | 1143 | 1295 | 660 | 1321 | 572 | 483 | 813 | 768 | 457 | 310 | 737 | 1245 | — | | 32 | 32 | — | 727 | 910 |
| 12 | 62 | 64 | 32 | 66 | 31 | 23 | 41 | 36-5/8 | 16 | 16-3/4 | 38 | 66 | 1-1/2 | 1/2 | 1 | 1 | 1/4 | 2650 | 3318 |
| | 1574 | 1626 | 813 | 1676 | 787 | 584 | 1041 | 924 | 406 | 425 | 965 | 1676 | — | | 32 | 32 | — | 1205 | 1508 |
| 14 | 72 | 76 | 38 | 79 | 35-1/2 | 27 | 48 | 44-3/4 | 24 | 18-3/4 | 44-1/2 | 77 | 1-1/2 | 1/2 | 1 | 1 | 1/4 | 4300 | 5384 |
| | 1829 | 1930 | 965 | 2007 | 902 | 686 | 1219 | 1137 | 610 | 476 | 1130 | 196 | — | | 32 | 32 | — | 1955 | 2447 |
| 16 | 72 | 76 | 38 | 79 | 35-1/2 | 27 | 48 | 44-3/4 | 24 | 18-3/4 | 44-1/2 | 77 | 1-1/2 | 1/2 | 1 | 1 | 1/4 | 4400 | 5509 |
| | 1829 | 1930 | 965 | 2007 | 902 | 686 | 1219 | 1137 | 610 | 476 | 1130 | 196 | — | | 32 | 32 | — | 2000 | 2504 |
| 18 | 72 | 76 | 38 | 79 | 35-1/2 | 27 | 48 | 44-3/4 | 24 | 18-3/4 | 44-1/2 | 77 | 1-1/2 | 1/2 | 1 | 1 | 1/4 | 4600 | — |
| | 1829 | 1930 | 965 | 2007 | 902 | 686 | 1219 | 1137 | 610 | 476 | 1130 | 196 | — | | 32 | 32 | — | 2087 | — |

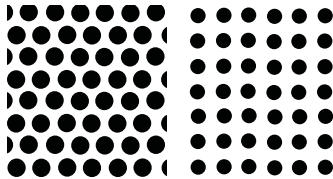
**Click Here
For Your Free Quote**

TECHNICAL INFORMATION

Standard Cast Pipeline Strainers

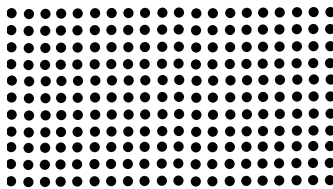
Basket and screen data

Pattern examples

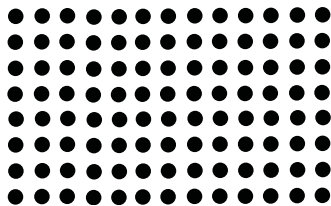


Staggered holes

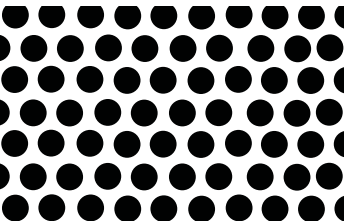
Straight holes



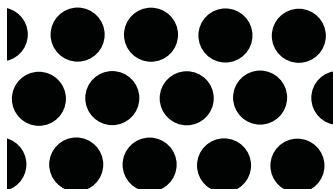
1/32" – Actual size



1/16" – Actual size



1/8" – Actual size



1/4" – Actual size

Basket and screen design

Designed to be both effective and durable, the basket or screen is the heart of an Eaton strainer. Eaton supplies baskets for simplex and duplex strainers and screens for Y strainers, in standard and heavy-duty designs. Standard design baskets meet the needs of most applications. Eaton recommends the heavy-duty design in cases when straining an extremely high viscosity material or experiencing a high solids load.

Eaton baskets and screens are available in two standard materials: 316 stainless steel or MONEL®. These materials cover nearly all corrosion resistance levels needed in strainer services. A wide range of perforations and mesh provides removal of solids from 1/2" down to as low as 40 microns. For special, unique applications, Eaton custom fabricates baskets from just about any material to exact specifications.

Basket construction

Each style basket includes a perforated sheet induction welded to a rigid top ring and solid bottom cap. Special attention to the welds along the perforated sheet seam, prevent the possible bypass of solids and maintain the basket's strength. A handle, welded to the I.D. of the top ring, facilitates easy removal. Heavy-duty baskets have reinforcing strips induction welded along the perforation's

seam and circumferentially on the outside of the mid-section of the basket. The perforated sheet is inside the top ring and bottom cap.

Screen construction

Y strainer screens, rolled to form a cylinder, are induction welded along the seam. A neat weld, applied along the perforated sheet seam, prevents the possible bypass of solids and provides a seam of acceptable strength. Eaton machines Y strainer screen seats to specific dimensions and, accordingly, both the O.D. and length of these screens are closely toleranced.

Perforated sheet – specification

Eaton baskets utilize perforated sheets because of their greater inherent strength and resistance to stress cracking. The percentage of open area of a screen generally dictates the internal pressure drop experienced across it. The objective is to select a perforation with the best balance of open area, hole arrangement and sheet thickness.

Open area

Perforated sheets can have an open area from 15% to 75%. In general, the larger the open area of perforated sheet, the thinner the sheet thickness must be. Holes punched closer together increase the perforated open area; the solid portion between holes distorts and becomes weak. Another

factor in controlling the sheet thickness is the hole diameter. The smaller the hole diameter, the thinner the sheet. Eaton baskets and screens have between 28% to 63% open area with gauge thickness from 18 (0.048 mm) to 25 (0.021 mm), depending upon the size of the perforations and the size and model of the strainer.

Hole arrangement

Holes can be punched either in a straight line or in a staggered pattern. Eaton baskets and screens have a staggered pattern that increases the open area, provides extra strength and creates less pressure drop.

Perforations

Eaton baskets and screens are available in 1/32", 3/64", 1/16", 1/8", 5/32", 1/4", 3/8" and 1/2" perforations and in mesh sizes 20, 40, 60, 80, 100, 200, 325 and 400. However, for general service there is one perforation for each size and type of strainer. Unless specified, this standard perforation is the size furnished with the strainer.

MONEL® is a registered trademark of Special Metals Corporation group of Companies.



Powering Business Worldwide

TECHNICAL INFORMATION

Standard Cast Pipeline Strainers

Basket and screen data

Wire mesh specifications

Eaton strainers are available with woven wire mesh screens. Wire mesh provides smaller openings for very fine straining applications down to 40 microns. Eaton baskets and screens use monofilament mesh possessing equal wire size and wire count in both directions to produce square openings. Other types of mesh such as Dutch (or Hollander) are also available. Dutch weave has a greater quantity of wires in one direction and fewer wires of a larger diameter in the other direction. This creates a rectangular opening. As with perforated sheet, the best wire mesh selection is a balance of open area, wire diameter and type of weave.

Openings

Standard wire mesh liners for Eaton baskets and screens are available from 20 to 400 mesh. For any size mesh, there are different open area selections based on the diameter of the wires used. Twenty mesh means 20 wires per inch in both a vertical and horizontal direction. Therefore, as the wire size increases, the hole size decreases. Eaton baskets offer wire mesh with openings from 0.034" to 0.0015" (20 mesh to 400 mesh).

Open area

The open area of wire mesh is a function of both the weave and the wire diameter. Eaton uses a plain square weave in most cases because its straight-through flow path creates the least pressure drop. The mesh is

reinforced with a perforated metal backing possessing greater than a 60% open area. This combination affords the greatest degree of strength, yet offers a lower pressure drop than other types of wire mesh. In certain instances, such as Y strainer in steam applications, the increased pressure drop resulting from the use of a Dutch weave is not as critical as the retention of small particles. Therefore, in applications that involve steam, Eaton suggests the use of weave such as the 30 x 160 size that can withstand a much higher differential pressure without bursting. Eaton can supply baskets and screens with open areas from 14% to 46%.

Plain square weave

Woven in an over and under pattern of wire having the same diameter, this weave produces a square opening with excellent flow characteristics.

Plain dutch weave

Woven in an over and under pattern in one direction in which the horizontal wires are larger in diameter than the vertical wires, which are driven close and crimped at each pass. This weave produces greater strength, but lower flow rates, than a square weave. Most often used in steam applications.

Mesh liners available

The number of openings per linear inch determines the size of mesh liners. The standard sizes Eaton can furnish are 20, 40, 60, 80, 100, 200, 325 and 400.

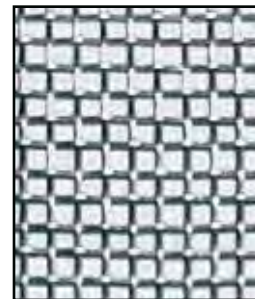
Perforated basket sheet specifications

| Perforation size inches | Sheet thickness uss gauge # | Hole pattern | % Open area |
|-------------------------|-----------------------------|--------------|-------------|
| 0.020 | 26 (0.018 mm) | Straight | 16.0 |
| 1/32 | 26 (0.018 mm) | Straight | 28.0 |
| 3/64 | 26 (0.018 mm) | Straight | 30.2 |
| 0.045 | 26 (0.018 mm) | Straight | 37.0 |
| 1/16 | 26 (0.018 mm) | Straight | 31.0 |
| 1/8 | 26 (0.018 mm) | Staggered | 40.0 |
| 5/32 | 26 (0.018 mm) | Staggered | 63.0 |
| 1/4 | 26 (0.018 mm) | Staggered | 42.0 |
| 3/8 | 26 (0.018 mm) | Staggered | 52.0 |
| 1/2 | 26 (0.018 mm) | Staggered | 47.9 |

Mesh basket sheet specifications

| Mesh size | Wire diameter inches | Mesh opening inches | Mesh opening microns | % Open area |
|-----------|----------------------|---------------------|----------------------|-------------|
| 20 | 0.016 | 0.0340 | 864 | 46.2 |
| 40 | 0.010 | 0.0150 | 381 | 36.0 |
| 60 | 0.0075 | 0.0092 | 234 | 30.5 |
| 80 | 0.0060 | 0.0065 | 165 | 27.0 |
| 100 | 0.0045 | 0.0055 | 140 | 30.3 |
| 200 | 0.0021 | 0.0029 | 74 | 33.6 |
| 325 | 0.0014 | 0.0017 | 43 | 30.0 |
| 400 | 0.0010 | 0.0015 | 38 | 36.0 |

Wire mesh weaves



Plain square weave



Plain dutch weave

TECHNICAL INFORMATION

Standard Cast Pipeline Strainers

Basket effective area

| Strainer model | Pipe size (in) | Perforation size (in) | Nominal area of pipe (sq in) | Gross screen area (sq in) | Free area (sq in) | Ratio free area to pipe area |
|----------------|----------------|-----------------------|------------------------------|---------------------------|-------------------|------------------------------|
| 85 | 1/4 | .045 | .10 | 5.0 | 1.8 | 18.0 |
| 85 | 3/8 | .045 | .19 | 5.0 | 1.8 | 9.5 |
| 85 | 1/2 | .045 | .30 | 5.0 | 1.8 | 6.0 |
| 85 | 3/4 | .045 | .53 | 7.1 | 2.6 | 4.9 |
| 85 | 1 | .045 | .86 | 10.4 | 3.7 | 4.3 |
| 85 | 1-1/4 | .045 | 1.49 | 15.1 | 5.5 | 3.7 |
| 85 | 1-1/2 | .045 | 2.03 | 21.7 | 7.8 | 3.8 |
| 85 | 2 | .045 | 3.35 | 30.4 | 10.9 | 3.3 |
| 85 | 2-1/2 | .045 | 4.78 | 43.2 | 15.5 | 3.2 |
| 85 | 3 | .045 | 7.39 | 70.7 | 25.5 | 3.4 |
| 85 | 4 | .045 | 12.73 | 106.8 | 38.4 | 3.0 |
| 85 | 6 | .045 | 28.70 | 241.7 | 87.0 | 3.0 |
| 85 | 8 | .045 | 50.02 | 414.6 | 149.2 | 3.0 |
| 85 | 10 | .045 | 71.80 | 652.2 | 234.8 | 3.3 |
| 30R | 1-1/2 | 5/32 | 2.03 | 35.4 | 22.3 | 11.0 |
| 30R | 2 | 5/32 | 3.35 | 50.9 | 32.1 | 9.6 |
| 30R | 2-1/2 | 5/32 | 4.78 | 84.7 | 53.4 | 11.2 |
| 30R | 3 | 5/32 | 7.39 | 84.7 | 53.4 | 7.2 |
| 30R | 4 | 5/32 | 12.73 | 114.5 | 72.1 | 5.6 |
| 30R | 5 | 5/32 | 20.0 | 158.1 | 99.6 | 5.0 |
| 30R | 6 | 5/32 | 28.9 | 180.9 | 113.9 | 4.0 |
| 30R | 8 | 5/32 | 50.03 | 275.6 | 171.8 | 3.4 |
| 50 | 5 | 3/16 | 20.0 | 216.1 | 106.0 | 5.4 |
| 50 | 6 | 3/16 | 28.9 | 265.4 | 132.7 | 4.6 |
| 50 | 8 | 3/16 | 50.02 | 506.7 | 253.4 | 5.1 |
| 52 | 10 | 3/16 | 78.8 | 800 | 400 | 5.1 |
| 52 | 12 | 3/16 | 113.1 | 1200 | 600 | 5.3 |
| 52 | 14 | 3/16 | 137.9 | 2000 | 1000 | 7.3 |
| 52 | 16 | 3/16 | 182.6 | 2000 | 1000 | 5.5 |
| 52 | 18 | 3/16 | 182.6 | 2000 | 1000 | 5.5 |
| 53BTX | 3/4 | 1/32 | 0.53 | 19.8 | 5.5 | 10.4 |
| 53BTX | 1 | 1/32 | 0.86 | 19.8 | 5.5 | 6.4 |
| 53BTX | 1-1/4 | 1/8 | 1.49 | 45.0 | 22.0 | 14.4 |
| 53BTX | 1-1/2 | 1/8 | 2.03 | 45.0 | 22.0 | 10.6 |
| 53BTX | 2 | 1/8 | 3.35 | 65.0 | 31.0 | 9.3 |
| 53BTX | 2-1/2 | 1/8 | 4.78 | 65.0 | 31.0 | 6.5 |
| 53BTX | 3 | 3/16 | 7.39 | 110.3 | 55.1 | 7.4 |
| 53BTX | 4 | 3/16 | 12.73 | 152.0 | 76.0 | 5.9 |

| Strainer model | Pipe size (in) | Perforation size (in) | Nominal area of pipe (sq in) | Gross screen area (sq in) | Free area (sq in) | Ratio free area to pipe area |
|----------------|----------------|-----------------------|------------------------------|---------------------------|-------------------|------------------------------|
| 72 | 3/8 | 1/32 | 0.19 | 12.7 | 3.4 | 18.0 |
| 72 | 1/2 | 1/32 | 0.30 | 12.7 | 3.4 | 11.3 |
| 72 | 3/4 | 1/32 | 0.53 | 19.5 | 5.2 | 9.9 |
| 72 | 1 | 1/32 | 0.86 | 19.5 | 5.2 | 6.1 |
| 72 | 1-1/4 | 1/8 | 1.49 | 30.1 | 14.4 | 9.7 |
| 72 | 1-1/2 | 1/8 | 2.03 | 49.7 | 19.0 | 9.4 |
| 72 | 2 | 1/8 | 3.35 | 50.9 | 24.4 | 7.3 |
| 72 | 2-1/2 | 1/8 | 4.78 | 80.2 | 38.4 | 8.0 |
| 72 | 3 | 3/16 | 7.39 | 114.5 | 57.2 | 7.8 |
| 72 | 4 | 3/16 | 12.73 | 168.3 | 84.1 | 6.6 |
| 72 | 5 | 3/16 | 20.0 | 265.4 | 132.7 | 6.6 |
| 72 | 6 | 3/16 | 28.9 | 324.2 | 162.1 | 5.6 |
| 72 | 8 | 3/16 | 50.02 | 555.3 | 277.7 | 5.6 |
| 73 | 10 | 3/16 | 78.8 | 800 | 400 | 5.1 |
| 73 | 12 | 3/16 | 113.1 | 1200 | 600 | 5.3 |
| 73 | 14 | 3/16 | 137.9 | 2000 | 1000 | 7.3 |
| 73 | 16 | 3/16 | 182.6 | 2000 | 1000 | 5.5 |
| 73 | 18 | 3/16 | 182.6 | 2000 | 1000 | 5.5 |

Alloy data

Metal alloys used in Eaton strainers

Carbon steel – ASTM A-216 grade WCB

Tensile strength: 70,000 lb/sq in (480 N/mm²)
Yield: 36,000 lb/sq in (245 N/mm²)
Elongation: 22%
Chemical composition:
C (Carbon) 0.30%
Si (Silicon) 0.60%
P (Phosphorus) 0.04%
S (Sulfur) 0.045%
Mn (Manganese) 1.00%
Residual Elements 1.00% max

Aluminum bronze – ASTM B-148 grade C95400

Tensile strength: 75,000 lb/sq in (517 N/mm²)
Yield: 30,000 lb/sq in (206 N/mm²)
Elongation: 12%
Chemical composition:
Cu (Copper) 85%
Fe (Iron) 4%
Al (Aluminum) 11%

Stainless steel – ASTM A-351 grade CF8M

Tensile strength: 70,000 lb/sq in (480 N/mm²)
Yield: 30,000 lb/sq in (206 N/mm²)
Elongation: 30%
Chemical composition:
C (Carbon) 0.08% max
Si (Silicon) 1.5%
P (Phosphorus) 0.040%
Cr (Chromium) 18.0 - 21.0%
Ni (Nickel) 9.0 - 12.0%
Mn (Manganese) 1.50%
S (Sulfur) 0.04%
Mo (Molybdenum) 2.0 - 3.0%

Cast iron – ASTM A-126 class B

Tensile strength: 31,000 lb/sq in (214 N/mm²)
Compressive strength: 109,000 lb/sq in (750 N/mm²)
Tensile modulus: 15 x 10⁶ lb/sq in
Chemical composition:
C (Carbon) 3.20 - 3.40 %
Si (Silicon) 2.10 - 2.30%
P (Phosphorus) 0.15 - 0.30%
S (Sulfur) 0.08 - 0.12%
Mn (Manganese) 0.50 - 0.80%

Ductile iron – ASTM A-395 grade 60-40-18

Tensile strength: 60,000 lb/sq in (413 N/mm²)
Yield: 40,000 lb/sq in (275 N/mm²)
Elongation: 18%
Chemical composition:
C (Carbon) 3.20 - 4.0%
Si (Silicon) 1.80 - 2.80%
P (Phosphorus) 0.08% max.
S (Sulfur) 0.03% max.
Mn (Manganese) 0.03% max.



Powering Business Worldwide

TECHNICAL INFORMATION

Standard Cast Pipeline Strainers

Pressure drop calculations

Pressure drops for Eaton strainers are shown on each product page. The curves are based on the flow of water through clean, perforated baskets or screens. For mesh-lined baskets or screens and/or for fluids other than water, use the correction factors listed on this page. To accurately calculate the pressure loss for filters and strainers in a pipeline, proceed as follows:

1. First calculate pressure loss using C_v factor formula at right.
2. Take the pressure loss figure obtained in (1) and recalculate it using the appropriate correction factor from the following table.

Correction factors for mesh-lined baskets

First – Multiply the pressure drop for water shown in charts by the specific gravity of the liquid.

Second – Multiply the corrected pressure drop figure by the following correction factors for more viscous liquids. (Water has a viscosity of 30 SSU.)

| Viscosity (SSU) | Unlined perforated basket | 40 Mesh lined basket | 60 Mesh lined basket | 80 Mesh lined basket | 100 Mesh lined basket | 200 Mesh lined basket | 325 Mesh lined basket |
|-----------------|---------------------------|----------------------|----------------------|----------------------|-----------------------|-----------------------|-----------------------|
| 30 (water) | 1 | 1.2 | 1.4 | 1.6 | 1.7 | 2.0 | 2.5 |
| 500 | 1.6 | 1.9 | 2.1 | 2.4 | 2.6 | 3.1 | 3.6 |
| 1000 | 1.7 | 2.2 | 2.4 | 2.6 | 2.8 | 3.3 | 3.8 |
| 2000 | 1.9 | 2.4 | 2.7 | 2.9 | 3.2 | 3.8 | 4.0 |
| 3000 | 2.0 | 2.6 | 2.9 | 3.2 | 3.5 | 4.1 | 4.3 |
| 5000 | 2.2 | 3.0 | 3.5 | 4.0 | 4.5 | 5.3 | 6.3 |
| 10000 | 2.5 | 3.5 | 4.2 | 5.0 | 6.0 | 7.1 | 8.5 |

Strainer basket opening equivalents

| Mesh | Inches | Millimeters | Microns | Perf | Inches | Millimeters | Microns |
|------|--------|-------------|---------|------|--------|-------------|---------|
| 400 | 0.0015 | 0.0381 | 38 | 1/32 | 0.033 | 0.838 | 838 |
| 300 | 0.0018 | 0.0457 | 45 | 3/64 | 0.045 | 1.143 | 1143 |
| 250 | 0.0024 | 0.0609 | 60 | 1/16 | 0.070 | 1.778 | 1776 |
| 200 | 0.0027 | 0.0686 | 68 | 3/32 | 0.094 | 2.387 | 2387 |
| 150 | 0.0041 | 0.1041 | 104 | 1/8 | 0.125 | 3.175 | 3175 |
| 100 | 0.0065 | 0.1651 | 165 | 5/32 | 0.150 | 3.810 | 3810 |
| 80 | 0.007 | 0.1778 | 177 | 3/16 | 0.1875 | 4.762 | 4762 |
| 60 | 0.009 | 0.2286 | 228 | 1/4 | 0.250 | 6.350 | 6350 |
| 40 | 0.015 | 0.8636 | 380 | 3/8 | 0.375 | 9.525 | 9525 |
| 20 | 0.034 | 0.8636 | 862 | 1/2 | 0.500 | 12.700 | 12700 |

Pressure loss calculation using C_v factor

Metric units

$$\Delta p = \left[\frac{Q}{C_v} \right]^2 (133.6)$$

Δp = Pressure drop in kPa
 Q = Flow in m³/h
 C_v = Flow coefficient

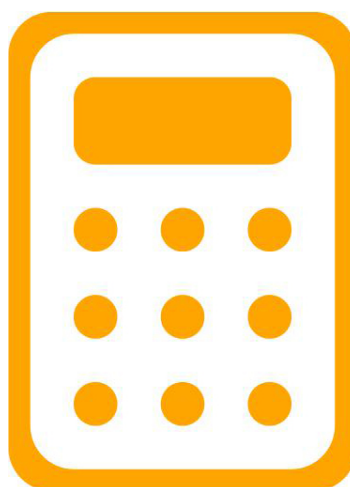
Standard units

$$\Delta p = \left[\frac{Q}{C_v} \right]^2$$

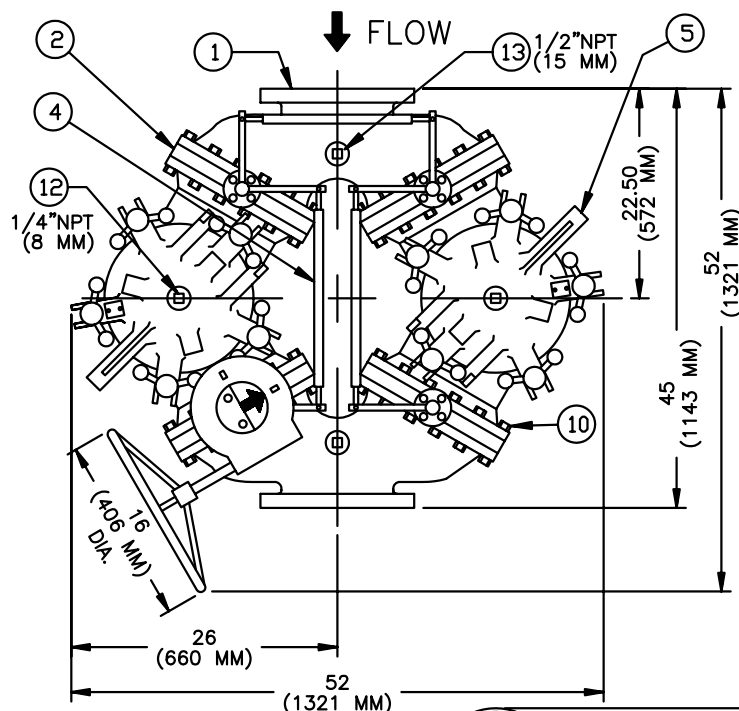
Δp = Pressure drop in psi
 Q = Flow in gpm
 C_v = Flow coefficient

The pressure loss across a strainer can be calculated using the system's flow rate and the C_v factor for that strainer.

For example, a 1" Model 72 simplex strainer with a perforated basket has a C_v factor of 22.5. In water service with a 30 gpm (6.8 m³/h) flow rate, it will have a 1.7 psi (117 mbar) pressure drop $(30 \div 22.5)^2 = 1.7$. For mesh-lined baskets and/or fluids with a viscosity greater than water, multiply the pressure drop by the correction factors in the chart "Correction factors for mesh-lined baskets."



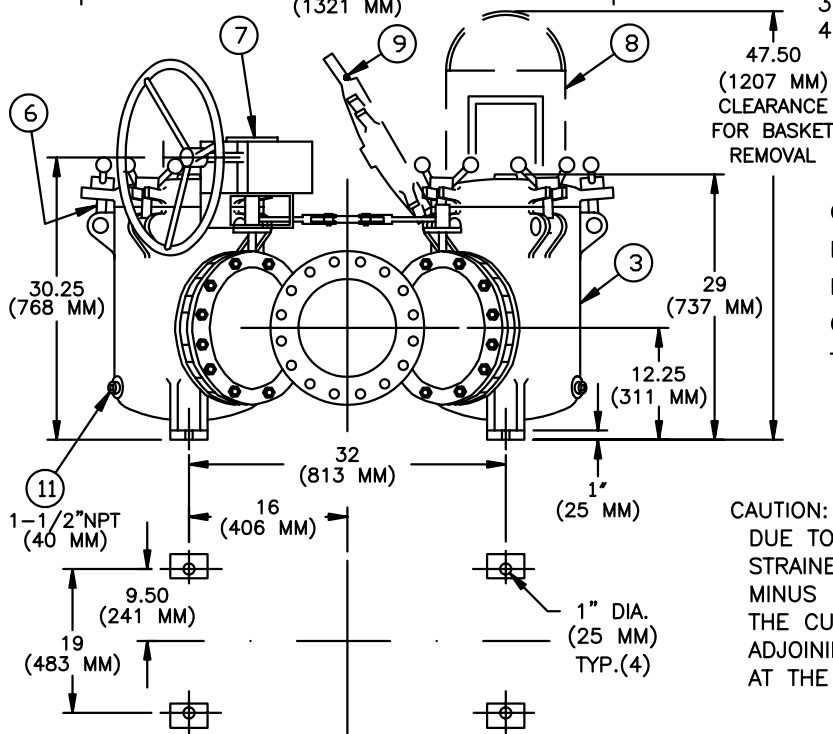
**CLICK HERE FOR
THE ONLINE
DIFFERENTIAL
PRESSURE DROP
CALCULATOR**



| NO. | DESCRIPTION | MATERIAL |
|-----|-------------------|---------------------|
| 1 | FLANGED Y | CAST IRON A126 CL.C |
| 2 | BUTTERFLY VALVE | IRON / BUNA-N SEAL |
| 3 | BODY | CAST IRON A126 CL.C |
| 4 | LINKAGE | STEEL |
| 5 | COVER | CAST IRON A126 CL.C |
| 6 | SWING BOLTS | CARBON STEEL |
| 7 | GEAR OPERATOR | IRON |
| 8 | BASKET | |
| | PERF. DIA. | |
| | MESH SIZE | |
| 9 | O-RING | BUNA-N |
| 10 | BOLT/NUT | CARBON STEEL |
| 11 | PIPE PLUG (DRAIN) | IRON |
| 12 | PIPE PLUG (VENT) | IRON |
| 13 | PIPE PLUG (GAGE) | IRON |

NOTES:

1. INLET/OUTLET FLANGE PER ANSI B16.1 CLASS 125 FF FLANGE.
2. MAX. WORKING PRESS.: 200 PSI @100° F. (13.8 BAR @ 37.8° C)
3. DIMENSIONS ARE IN INCHES / (MM).
4. WEIGHT: 1600 LBS. (726 KG.)



CUSTOMER:
P.O. NO.:
REG. NO.:
QUOTE NO.:
TAG NO.:

CAUTION:

DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

PLAN VIEW
(MOUNTING)

PART NO: ST052100AF40C

| | | | | | | | |
|-------|-----|---|---------|-------|-----|------|---------|
| | | EATON FILTRATION, LLC 70 WOOD AVENUE SOUTH, ISELIN, NEW JERSEY 08830 | | | | | |
| | | NAME MODEL 52 DUPLEX STRAINER 125# FLAT FACE FLANGE SIZE 10" CAST IRON | | | | | |
| DRAWN | FM | DATE | 3/14/94 | CERT. | GJL | DATE | 3/14/94 |
| SIZE | DWG | SD052104 | | | | REV | F |
| A | NO | | | | | | |

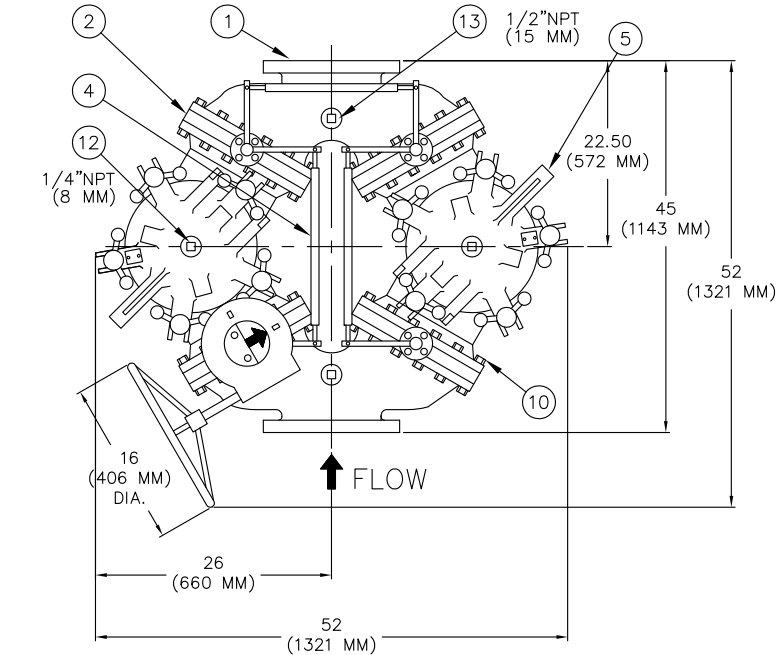
ELECTRONIC FILE NAME: SD052104.DWG

REF. ECR 0058909

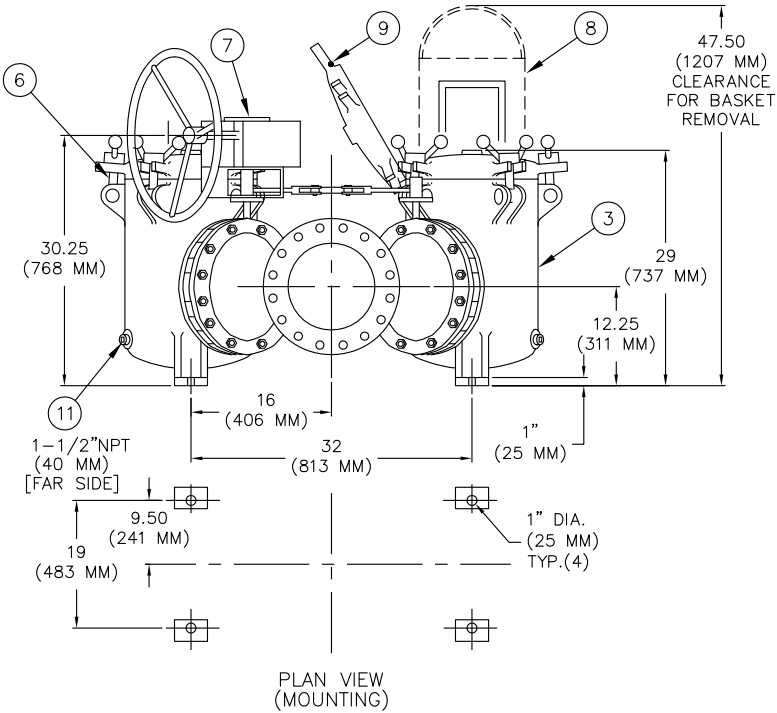
DATE 07/14/11

UNAUTHORIZED USE, MANUFACTURE OR REPRODUCTION IN WHOLE OR IN PART IS PROHIBITED. DRAWING, DESIGN AND OTHER DISCLOSURES PROPERTY OF EATON FILTRATION, LLC

| REVISIONS | | | | |
|-----------|-------------------------------------|-----------|---------|------------|
| REV | DESCRIPTION | BY | ECO | DATE |
| B | NEW RELEASE | FM | 0058909 | 7/14/2011 |
| C | UPDATED TITLE BLOCK | S. PATIL | 0112361 | 7/24/2015 |
| D | CHANGED DIRECTION OF THE FLOW ARROW | N. INGOLE | 0116455 | 10/30/2015 |



- NOTE:
- INLET/OUTLET FLANGE PER ASME B16.1 CLASS 125 FF FLANGE
 - MAX. WORKING PRESS.: 200 PSI [13.8 BAR.] 100° F [37.8° C]
 - DIMENSIONS ARE IN INCHES / (MM)
 - WEIGHT: 1600 LBS. (726 KG.)



CAUTION:
DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

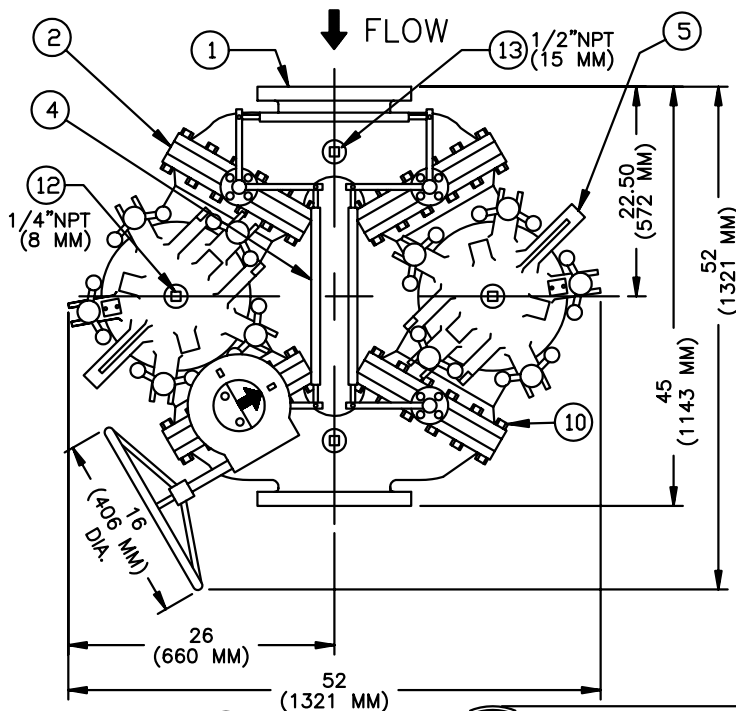
| | | |
|----------------|-----------------------------|---------------------|
| 13 | PIPE PLUG (GAGE) | IRON |
| 12 | PIPE PLUG (VENT) | IRON |
| 11 | PIPE PLUG (DRAIN) | IRON |
| 10 | BOLT/NUT | CARBON STEEL |
| 9 | O-RING | BUNA-N |
| 8 | BASKET PERF. DIA. MESH SIZE | |
| 7 | GEAR OPERATOR | IRON |
| 6 | SWING BOLTS | CARBON STEEL |
| 5 | COVER | CAST IRON A126 CL.C |
| 4 | LINKAGE | STEEL |
| 3 | BODY | CAST IRON A126 CL.C |
| 2 | BUTTERFLY VALVE | IRON / BUNA-N SEAL |
| 1 | FLANGED Y | CAST IRON A126 CL.C |
| ITEM | DESCRIPTION | MATERIAL |
| PART LIST FOR: | | |

| |
|---------------------------|
| DRAWN BY FM |
| SCALE AS DRAWN |
| RESTRICTION RESTRICTED |
| SHEET 1 OF 1 |
| PROJECTION THIRD ANGLE |

| | | | |
|--|-----------|--------------------------|----------|
| <div> <div> </div> <div> HYDRAULICS GROUP FILTRATION DIVISION GALESBURG, MICHIGAN, USA • TINTON FALLS, NEW JERSEY, USA </div> </div> | | | |
| <div> <div>MODEL 52 DUPLEX STRAINER 125# FLAT FACE</div> <div>FLANGE SIZE 10" CAST IRON (HANDWHEEL ON INLET)</div> </div> | | | |
| DATE 4/11/06 | SIZE A | DWG FILENAME SD052113 | REV D |

| CUSTOMER INFO | |
|---------------|----------------|
| NAME | |
| P.O. NO. | |
| TAG NO. | |
| S.O. NO. | |
| PART NO. | ST052100AF4021 |

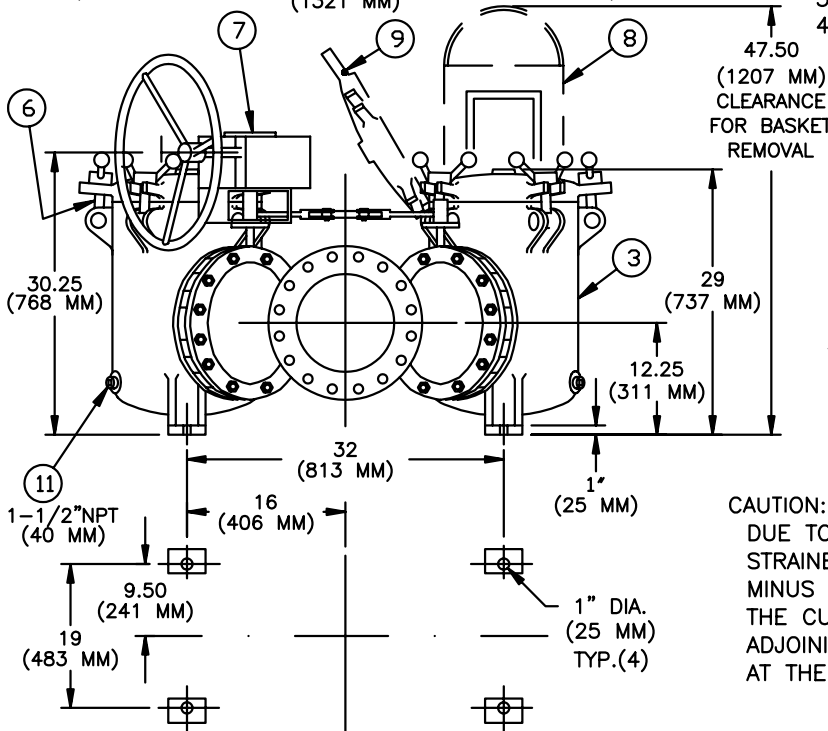
EATON CORPORATION - CONFIDENTIAL AND PROPRIETARY NOTICE TO PERSONS RECEIVING THIS DRAWING AND/OR TECHNICAL INFORMATION. THIS DOCUMENT, INCLUDING THE DRAWING AND INFORMATION CONTAINED THEREON IS CONFIDENTIAL AND IS THE EXCLUSIVE PROPERTY OF EATON AT ANY TIME. BY TAKING THE POSSESSION OF THIS DOCUMENT THE RECIPIENT ACKNOWLEDGES AND AGREES THAT THIS DOCUMENT CANNOT BE USED IN ANY MANNER ADVERSE TO THE INTEREST OF EATON AND THAT NO PORTION OF THIS DRAWING MAY BE COPIED OR OTHERWISE REPRODUCED WITHOUT THE PRIOR WRITTEN CONSENT OF EATON, IN THE CASE OF CONFLICTING CONTRACTUAL PROVISIONS, THIS NOTICE SHALL GOVERN THE STATUS OF THIS DOCUMENT. 2015 EATON CORPORATION - ALL RIGHTS RESERVED.



| NO. | DESCRIPTION | MATERIAL |
|-----|-------------------|--------------------|
| 1 | FLANGED Y | DUCTILE IRON A395 |
| 2 | BUTTERFLY VALVE | IRON / BUNA-N SEAL |
| 3 | BODY | DUCTILE IRON A395 |
| 4 | LINKAGE | STEEL |
| 5 | COVER | DUCTILE IRON A395 |
| 6 | SWING BOLTS | CARBON STEEL |
| 7 | GEAR OPERATOR | IRON |
| 8 | BASKET | |
| | PERF. DIA. | |
| | MESH SIZE | |
| 9 | O-RING | BUNA-N |
| 10 | BOLT/NUT | CARBON STEEL |
| 11 | PIPE PLUG (DRAIN) | IRON |
| 12 | PIPE PLUG (VENT) | IRON |
| 13 | PIPE PLUG (GAGE) | IRON |

NOTES:

1. INLET/OUTLET FLANGE PER ANSI B16.42 CLASS 150 FF FLANGE.
2. MAX. WORKING PRESS.: 200 PSI @100° F. (13.8 BAR @ 37.8° C)
3. DIMENSIONS ARE IN INCHES / (MM).
4. WEIGHT: 1600 LBS. (726 KG.)



CUSTOMER:
P.O. NO.:
REG. NO.:
QUOTE NO.:
TAG NO.:

CAUTION:

DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

PLAN VIEW
(MOUNTING)

PART NO.: ST052100BF60C.

| | | | | | | | |
|-------|-----|--|--------|-------|----|------|--------|
| | | EATON FILTRATION, LLC 70 WOOD AVENUE SOUTH, ISELIN, NEW JERSEY 08830 | | | | | |
| | | NAME MODEL 52 DUPLEX STRAINER 150# FLAT FACE FLANGE SIZE 10" DUCTILE IRON | | | | | |
| DRAWN | FM | DATE | 5/2/08 | CERT. | LH | DATE | 5/2/08 |
| SIZE | DWG | SD052117 | | | | REV | B |
| A | NO | | | | | | |

ELECTRONIC FILE NAME: SD052117.DWG

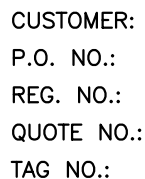
REF. ECR 0058909

DATE 07/14/11


UNAUTHORIZED USE, MANUFACTURE OR REPRODUCTION IN WHOLE OR IN PART IS PROHIBITED. DRAWING, DESIGN AND OTHER DISCLOSURES PROPERTY OF EATON FILTRATION, LLC



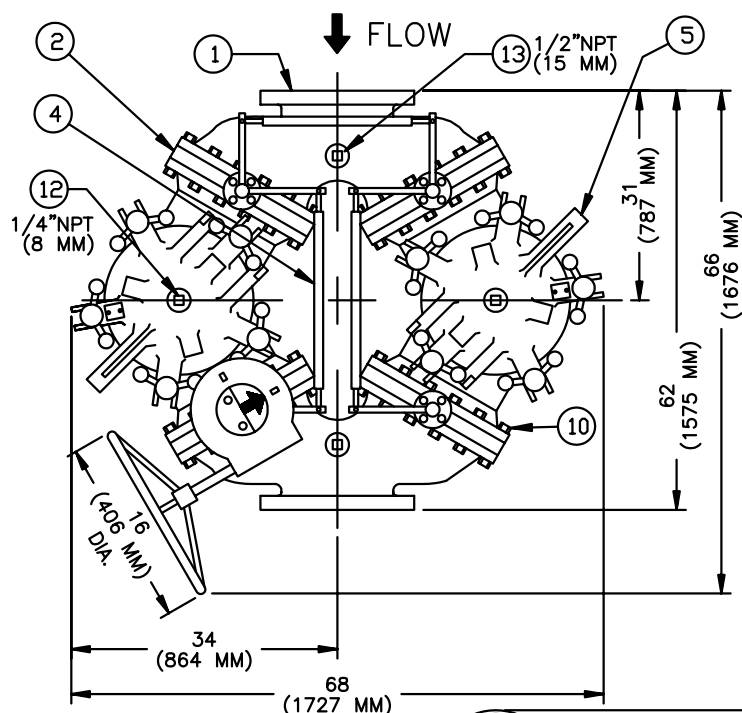
1. INLET/OUTLET FLANGE PER ANSI B16.24
CLASS 150 FF FLANGE.
2. MAX. WORKING PRESS.: 200 PSI @100° F.
(13.8 BAR @ 37.8° C)
3. DIMENSIONS ARE IN INCHES / (MM).
4. WEIGHT: 1840 LBS. (836 KG.)



DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

| | | | | | | | |
|--|--|--|--|-----------------|--|---------------------|--|
|  | | EATON FILTRATION, LLC 70 WOOD AVENUE SOUTH, ISELIN, NEW JERSEY 08830 | | | | | |
| | | NAME MODEL 52 DUPLEX STRAINER 150# FLAT FACE FLANGE SIZE 10" BRONZE | | | | | |
| DRAWN FM | | DATE 1/25/95 | | CERT. LF | | DATE 1/25/95 | |
| SIZE A | | DWG NO SD052106 | | | | REV D | |

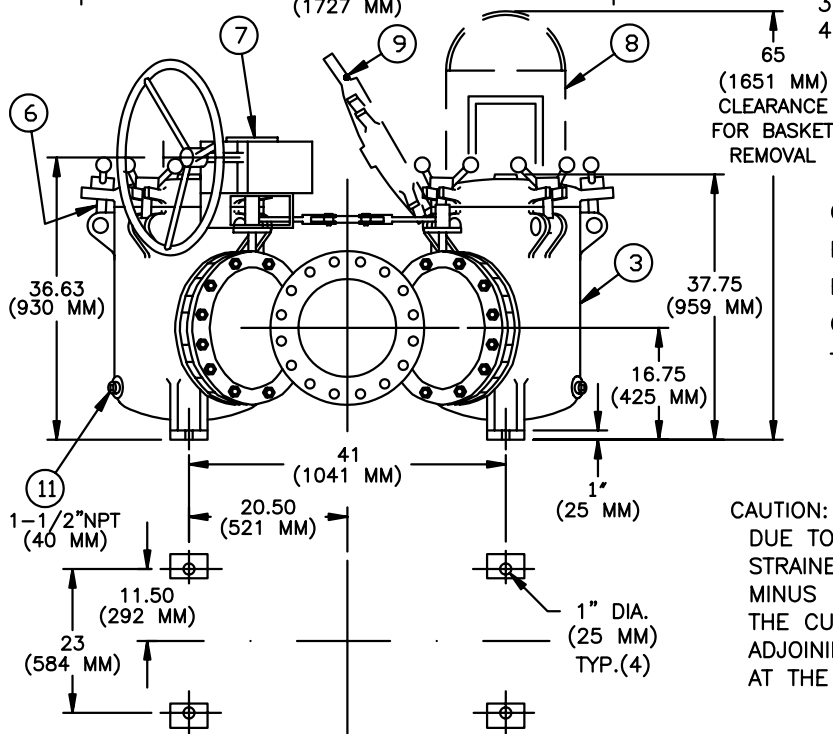
UNAUTHORIZED USE, MANUFACTURE OR
REPRODUCTION IN WHOLE OR IN PART IS
PROHIBITED. DRAWING, DESIGN AND
OTHER DISCLOSURES PROPERTY OF
EATON FILTRATION, LLC



| NO. | DESCRIPTION | MATERIAL |
|-----|-------------------|---------------------|
| 1 | FLANGED Y | CAST IRON A126 CL.C |
| 2 | BUTTERFLY VALVE | IRON / BUNA-N SEAL |
| 3 | BODY | CAST IRON A126 CL.C |
| 4 | LINKAGE | STEEL |
| 5 | COVER | CAST IRON A126 CL.C |
| 6 | SWING BOLTS | CARBON STEEL |
| 7 | GEAR OPERATOR | IRON |
| 8 | BASKET | |
| | PERF. DIA. | |
| | MESH SIZE | |
| 9 | O-RING | BUNA-N |
| 10 | BOLT/NUT | CARBON STEEL |
| 11 | PIPE PLUG (DRAIN) | IRON |
| 12 | PIPE PLUG (VENT) | IRON |
| 13 | PIPE PLUG (GAGE) | IRON |

NOTES:

1. INLET/OUTLET FLANGE PER ANSI B16.1 CLASS 125 FF FLANGE.
2. MAX. WORKING PRESS.: 200 PSI @100° F. (13.8 BAR @ 37.8° C)
3. DIMENSIONS ARE IN INCHES / (MM).
4. WEIGHT: 2650 LBS. (1202 KG.)



CUSTOMER:

P.O. NO.:

REG. NO.:

QUOTE NO.:

TAG NO.:

CAUTION:

DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

PLAN VIEW
(MOUNTING)

PART NO.: ST052120AF40C

ELECTRONIC FILE NAME: SD052103.DWG

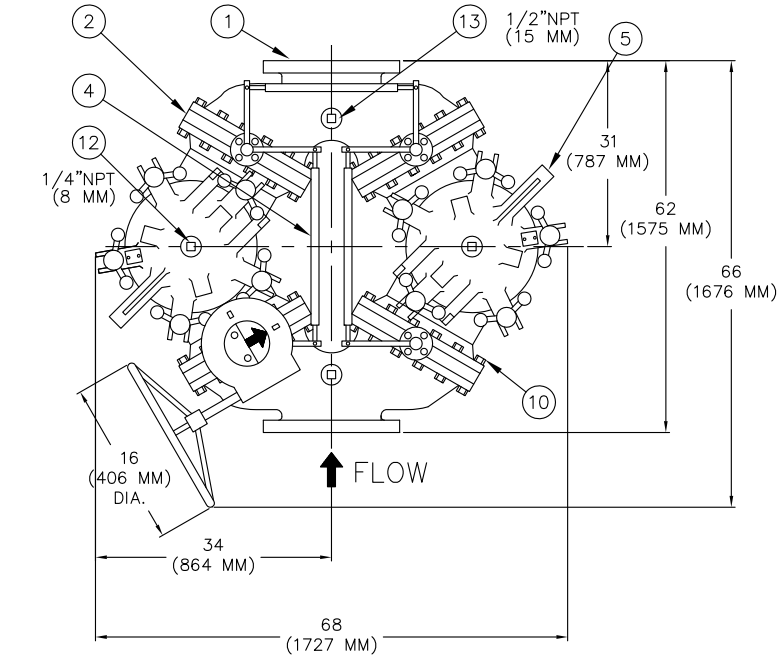
REF. ECR 0058908

DATE 07/14/11

UNAUTHORIZED USE, MANUFACTURE OR REPRODUCTION IN WHOLE OR IN PART IS PROHIBITED. DRAWING, DESIGN AND OTHER DISCLOSURES PROPERTY OF EATON FILTRATION, LLC

| | | | | | |
|--|--------|--------------|--|--------------|-------|
| EATON NAME MODEL 52 DUPLEX STRAINER 125# FLAT FACE FLANGE SIZE 12" CAST IRON | | DATE 3/14/94 | | DATE 3/14/94 | |
| | | CERT. GJL | | DATE 3/14/94 | |
| SIZE A | DWG NO | SD052103 | | | |
| | | | | | REV D |

| REVISIONS | | | | |
|-----------|-------------------------------------|-----------|---------|------------|
| REV | DESCRIPTION | BY | ECO | DATE |
| C | NEW RELEASE | DM | 0058909 | 7/14/2011 |
| D | UPDATED TITLE BLOCK | S. PATIL | 0112361 | 7/24/2015 |
| E | CHANGED DIRECTION OF THE FLOW ARROW | N. INGOLE | 0116455 | 10/30/2015 |

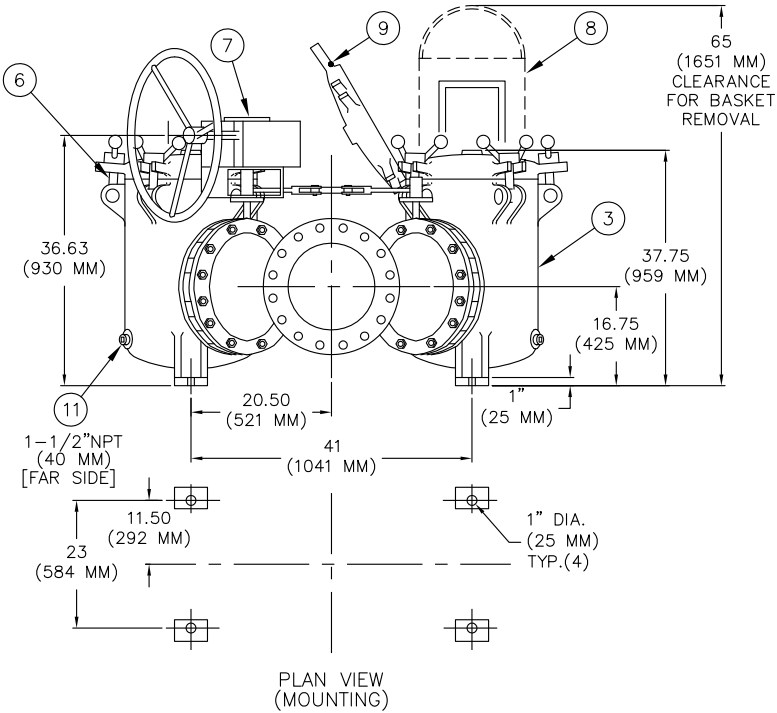


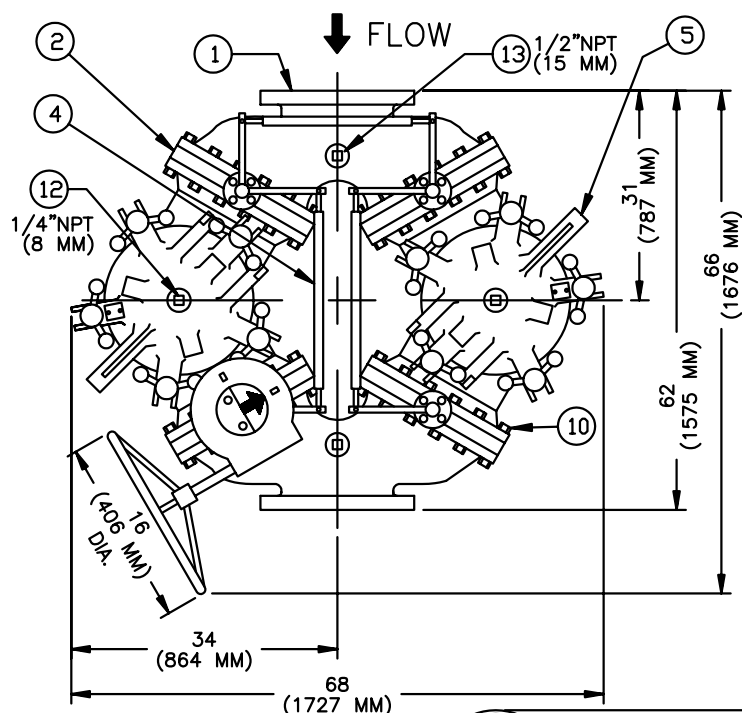
NOTE:

1. INLET/OUTLET FLANGE PER ASME B16.1 CLASS 125 FF FLANGE.
2. MAX. WORKING PRESS.: 200 PSI [13.8 BAR.] 100° F [37.8° C]
3. DIMENSIONS ARE IN INCHES / (MM)
4. WEIGHT: 2650 LBS. (1202 KG.)
5. HANDWHEEL LOCATED LEFT SIDE OF INLET.

CAUTION:

DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

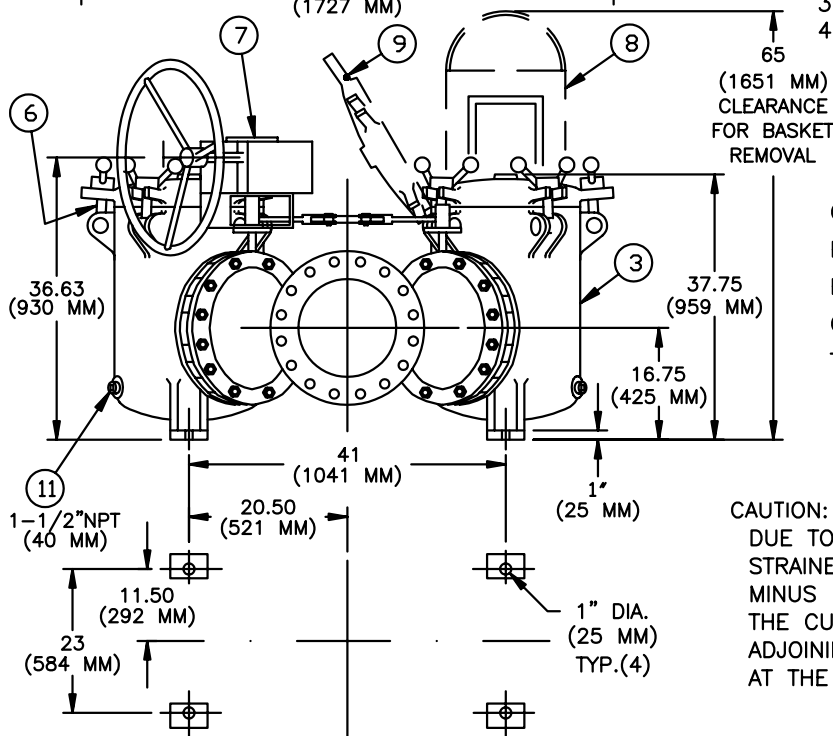




| NO. | DESCRIPTION | MATERIAL |
|-----|-------------------|--------------------|
| 1 | FLANGED Y | DUCTILE IRON A395 |
| 2 | BUTTERFLY VALVE | IRON / BUNA-N SEAL |
| 3 | BODY | DUCTILE IRON A395 |
| 4 | LINKAGE | STEEL |
| 5 | COVER | DUCTILE IRON A395 |
| 6 | SWING BOLTS | CARBON STEEL |
| 7 | GEAR OPERATOR | IRON |
| 8 | BASKET | |
| | PERF. DIA. | |
| | MESH SIZE | |
| 9 | O-RING | BUNA-N |
| 10 | BOLT/NUT | CARBON STEEL |
| 11 | PIPE PLUG (DRAIN) | IRON |
| 12 | PIPE PLUG (VENT) | IRON |
| 13 | PIPE PLUG (GAGE) | IRON |

NOTES:

1. INLET/OUTLET FLANGE PER ANSI B16.42 CLASS 150 FF FLANGE.
2. MAX. WORKING PRESS.: 200 PSI @100° F. (13.8 BAR @ 37.8° C)
3. DIMENSIONS ARE IN INCHES / (MM).
4. WEIGHT: 2650 LBS. (1202 KG.)



PLAN VIEW
(MOUNTING)

CUSTOMER:

P.O. NO.:
REG. NO.:
QUOTE NO.:
TAG NO.:

CAUTION:

DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

PART NO.: ST052120BF60C

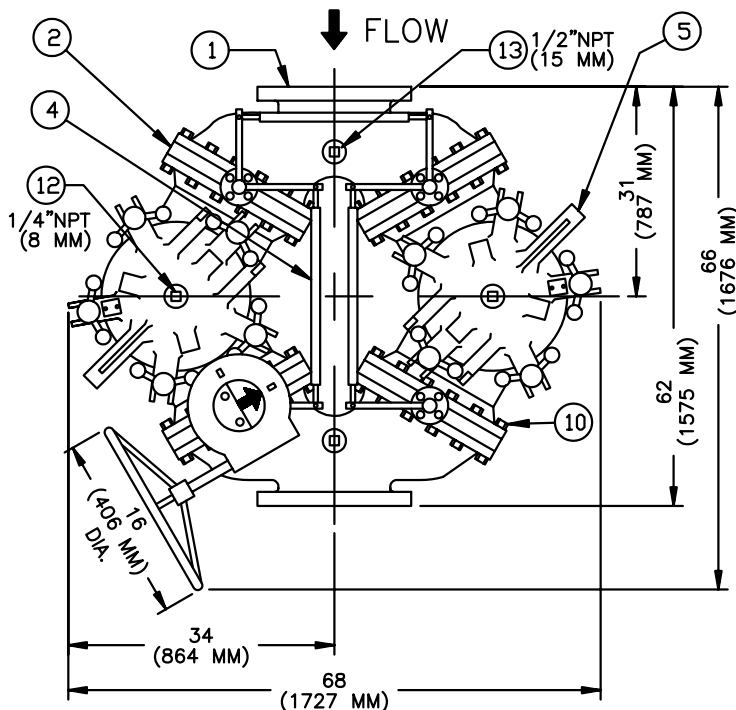
ELECTRONIC FILE NAME: SD052118.DWG

REF. ECR 0058909

DATE 07/14/11

UNAUTHORIZED USE, MANUFACTURE OR REPRODUCTION IN WHOLE OR IN PART IS PROHIBITED. DRAWING, DESIGN AND OTHER DISCLOSURES PROPERTY OF EATON FILTRATION, LLC

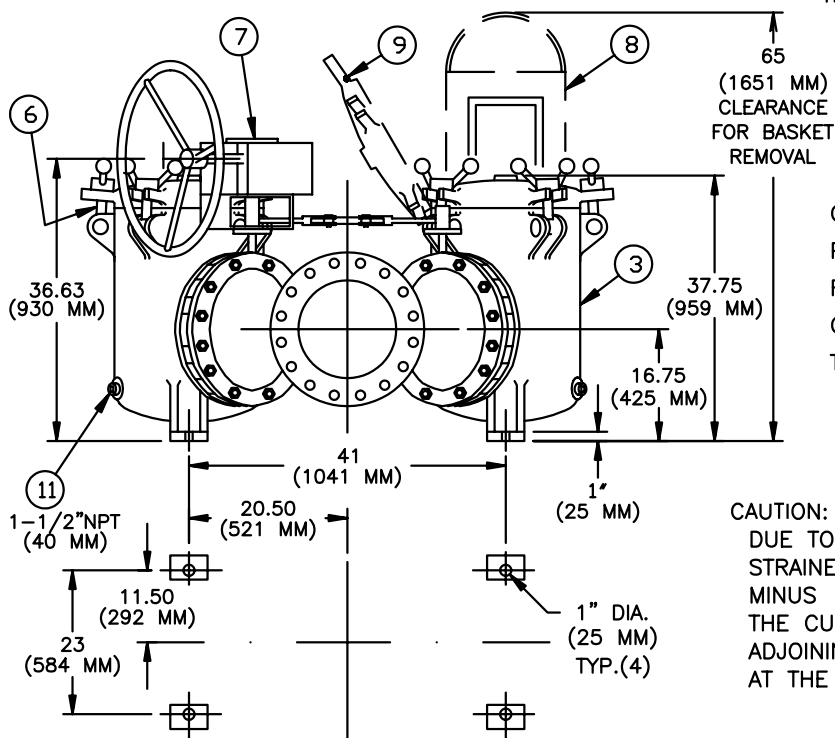
| | | | | | | | |
|-------|-----|--|--------|-------|----|------|--------|
| | | EATON FILTRATION, LLC 70 WOOD AVENUE SOUTH, ISELIN, NEW JERSEY 08830 | | | | | |
| | | NAME MODEL 52 DUPLEX STRAINER 150# FLAT FACE FLANGE SIZE 12" DUCTILE IRON | | | | | |
| DRAWN | FM | DATE | 5/2/08 | CERT. | LH | DATE | 5/2/08 |
| SIZE | DWG | SD052118 | | | | REV | B |
| A | NO | | | | | | |



| NO. | DESCRIPTION | MATERIAL |
|-----|-------------------|---|
| 1 | FLANGED Y | BRONZE |
| 2 | BUTTERFLY VALVE | BODY: IRON SEAL: BUNA-N DISC: ALUM-BRONZE |
| 3 | BODY | BRONZE |
| 4 | LINKAGE | STEEL |
| 5 | COVER | BRONZE |
| 6 | SWING BOLTS | CARBON STEEL |
| 7 | GEAR OPERATOR | IRON |
| 8 | BASKET | |
| | PERF. DIA. | |
| | MESH SIZE | |
| 9 | O-RING | BUNA-N |
| 10 | BOLT/NUT | CARBON STEEL |
| 11 | PIPE PLUG (DRAIN) | BRONZE |
| 12 | PIPE PLUG (VENT) | BRONZE |
| 13 | PIPE PLUG (GAGE) | BRONZE |

NOTES:

1. INLET/OUTLET FLANGE PER ANSI B16.24 CLASS 150 FF FLANGE.
2. MAX. WORKING PRESS.: 200 PSI @100° F. (13.8 BAR @ 37.8° C)
3. DIMENSIONS ARE IN INCHES / (MM).
4. WEIGHT: 3100 LBS. (1406 KG.)



CUSTOMER:
P.O. NO.:
REG. NO.:
QUOTE NO.:
TAG NO.:

CAUTION:

DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

PLAN VIEW
(MOUNTING)

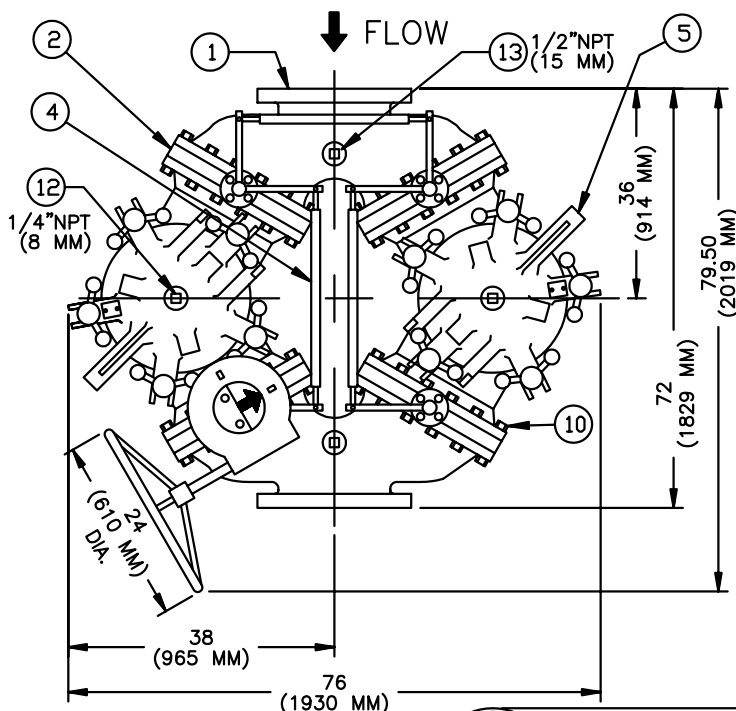
PART NO.: ST052120BF10C

ELECTRONIC FILE NAME: SD052105.DWG

REF. ECR 0058909 DATE 07/14/11

UNAUTHORIZED USE, MANUFACTURE OR REPRODUCTION IN WHOLE OR IN PART IS PROHIBITED. DRAWING, DESIGN AND OTHER DISCLOSURES PROPERTY OF EATON FILTRATION, LLC

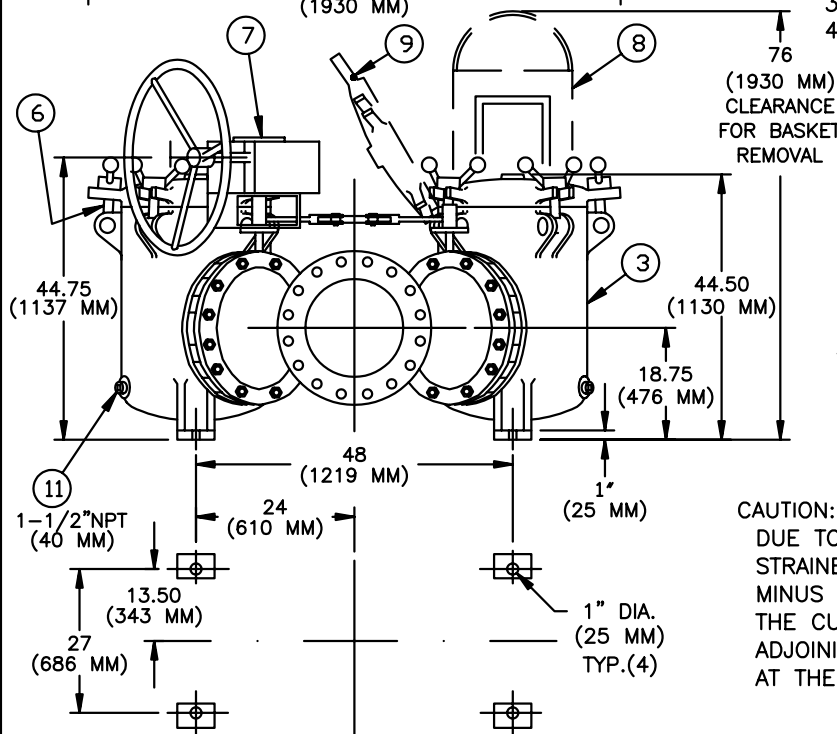
| | | | | | | | |
|-------|--------|--|---------|-------|-----|------|---------|
| | | EATON FILTRATION, LLC 70 WOOD AVENUE SOUTH, ISELIN, NEW JERSEY 08830 | | | | | |
| | | NAME MODEL 52 DUPLEX STRAINER 150# FLAT FACE FLANGE SIZE 12" BRONZE | | | | | |
| DRAWN | FM | DATE | 3/14/94 | CERT. | GJL | DATE | 3/14/94 |
| SIZE | DWG NO | SD052105 | | | | REV | F |
| A | | | | | | | |



| NO. | DESCRIPTION | MATERIAL |
|-----|-------------------|---------------------|
| 1 | FLANGED Y | CAST IRON A126 CL.C |
| 2 | BUTTERFLY VALVE | IRON / BUNA-N SEAL |
| 3 | BODY | CAST IRON A126 CL.C |
| 4 | LINKAGE | STEEL |
| 5 | COVER | CAST IRON A126 CL.C |
| 6 | SWING BOLTS | CARBON STEEL |
| 7 | GEAR OPERATOR | IRON |
| 8 | BASKET | |
| | PERF. DIA. | |
| | MESH SIZE | |
| 9 | O-RING | BUNA-N |
| 10 | BOLT/NUT | CARBON STEEL |
| 11 | PIPE PLUG (DRAIN) | IRON |
| 12 | PIPE PLUG (VENT) | IRON |
| 13 | PIPE PLUG (GAGE) | IRON |

NOTES:

1. INLET/OUTLET FLANGE PER ANSI B16.1 CLASS 125 FF FLANGE.
2. MAX. WORKING PRESS.: 150 PSI @100° F. (10.3 BAR @ 37.8° C)
3. DIMENSIONS ARE IN INCHES / (MM).
4. WEIGHT: 4300 LBS. (1950 KG.)



PLAN VIEW
(MOUNTING)

CUSTOMER:

P.O. NO.:
REG. NO.:
QUOTE NO.:
TAG NO.:

CAUTION:

DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

PART NO.: ST052140AF40C

| | | | | | | | |
|-------|-----|---|---------|-------|-----|------|---------|
| | | EATON FILTRATION, LLC 70 WOOD AVENUE SOUTH, ISELIN, NEW JERSEY 08830 | | | | | |
| | | NAME MODEL 52 DUPLEX STRAINER 125# FLAT FACE FLANGE SIZE 14" CAST IRON | | | | | |
| DRAWN | FM | DATE | 3/14/94 | CERT. | GJL | DATE | 3/14/94 |
| SIZE | DWG | SD052102 | | | | REV | D |
| A | NO | | | | | | |

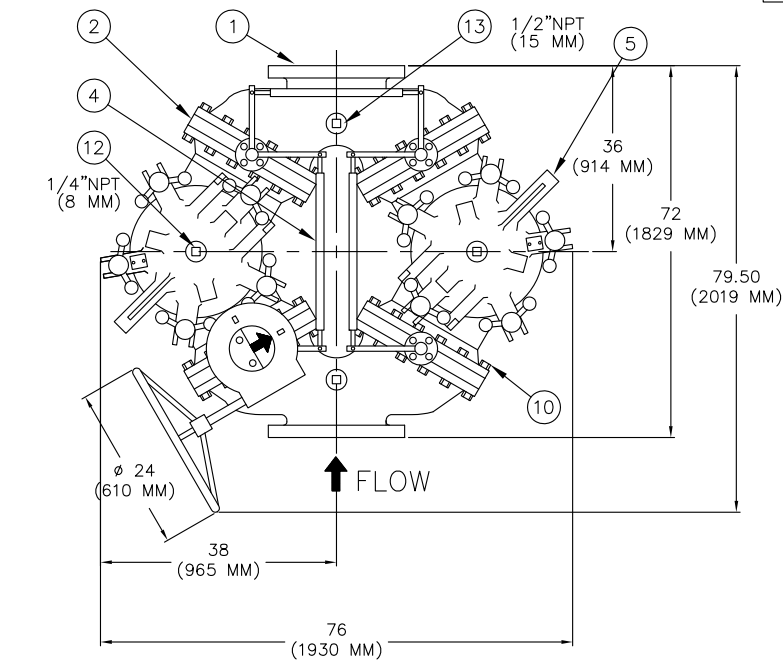
ELECTRONIC FILE NAME: SD052102.DWG

REF. ECR 0058909

DATE 07/14/11

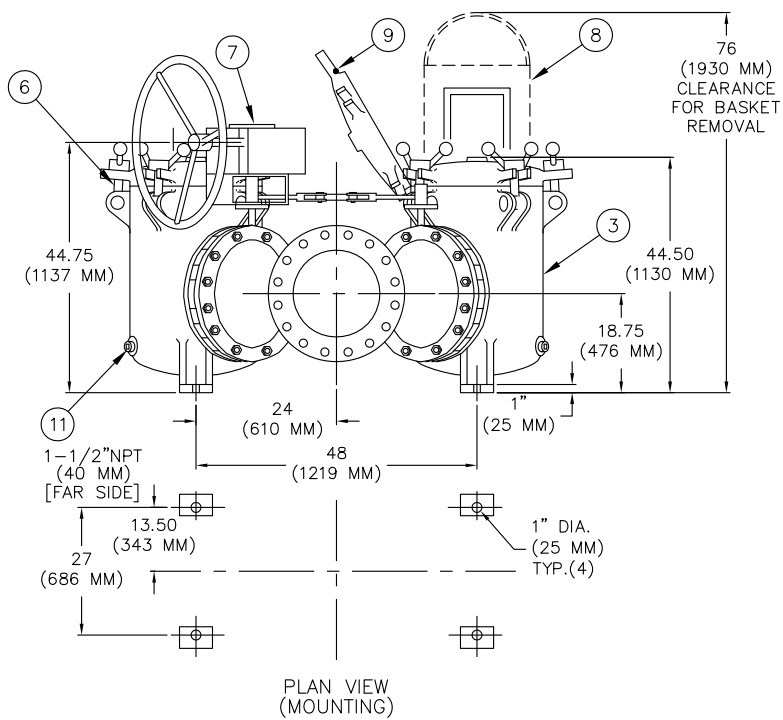
UNAUTHORIZED USE, MANUFACTURE OR REPRODUCTION IN WHOLE OR IN PART IS PROHIBITED. DRAWING, DESIGN AND OTHER DISCLOSURES PROPERTY OF EATON FILTRATION, LLC

| REVISIONS | | | | |
|-----------|-------------------------------------|----------|---------|------------|
| REV | DESCRIPTION | BY | ECO | DATE |
| C | NEW RELEASE | FM | 0058909 | 7/14/2011 |
| D | UPDATED TITLE BLOCK | S. PATIL | 0112361 | 7/24/2015 |
| E | CHANGED DIRECTION OF THE FLOW ARROW | N.INGOLE | 0116455 | 10/30/2015 |



NOTE:

1. INLET/OUTLET FLANGE PER ASME B16.1 CLASS 125 FF FLANGE.
2. MAX. WORKING PRESS.: 150 PSI [10.3 BAR.] 100° F [37.8° C]
3. DIMENSIONS ARE IN INCHES / (MM)
4. WEIGHT: 4300 LBS. (1950 KG.)
5. HANDWHEEL LOCATED LEFT SIDE OF INLET.



CAUTION:

DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

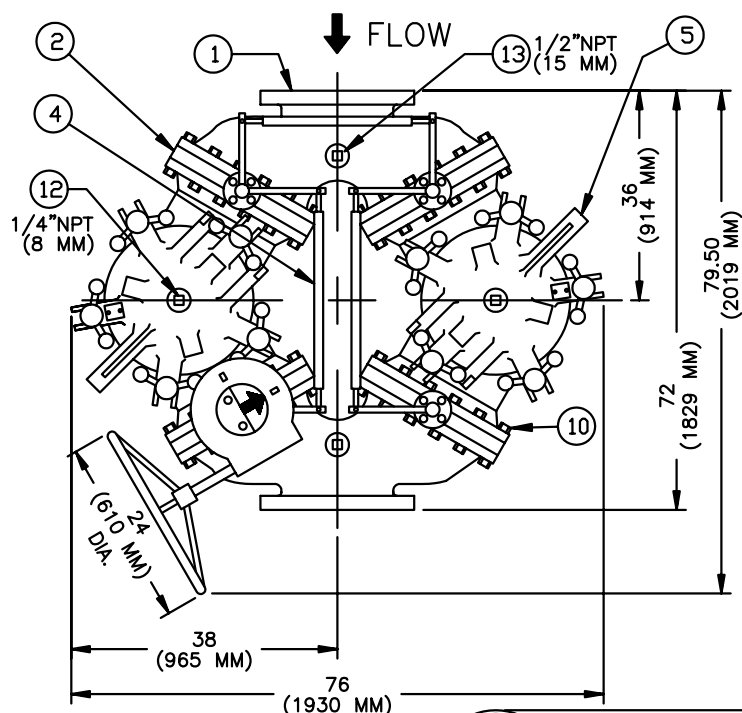
| | | |
|----------------|-----------------------------|---------------------|
| 13 | PIPE PLUG (GAGE) | IRON |
| 12 | PIPE PLUG (VENT) | IRON |
| 11 | PIPE PLUG (DRAIN) | IRON |
| 10 | BOLT/NUT | CARBON STEEL |
| 9 | O-RING | BUNA-N |
| 8 | BASKET PERF. DIA. MESH SIZE | |
| 7 | GEAR OPERATOR | IRON |
| 6 | SWING BOLTS | CARBON STEEL |
| 5 | COVER | CAST IRON A126 CL.C |
| 4 | LINKAGE | STEEL |
| 3 | BODY | CAST IRON A126 CL.C |
| 2 | BUTTERFLY VALVE | IRON /BUNA-N SEAL |
| 1 | FLANGED Y | CAST IRON A126 CL.C |
| ITEM | DESCRIPTION | MATERIAL |
| PART LIST FOR: | | |

| |
|---------------------------|
| DRAWN BY FM |
| SCALE AS DRAWN |
| RESTRICTION RESTRICTED |
| SHEET 1 OF 1 |
| PROJECTION THIRD ANGLE |

| | | | |
|--|-----------|--------------------------|----------|
|  HYDRAULICS GROUP FILTRATION DIVISION GALESBURG, MICHIGAN, USA • TINTON FALLS, NEW JERSEY, USA | | | |
| TITLE MODEL 52 DUPLEX STRAINER 125# FLAT FACE FLANGE SIZE 14" CAST IRON (HANDWHEEL ON INLET) | | | |
| DATE 8/16/04 | SIZE A | DWG FILENAME SD052111 | REV E |

| CUSTOMER INFO | |
|---------------|----------------|
| NAME | |
| P.O. NO. | |
| TAG NO. | |
| S.O. NO. | |
| PART NO. | ST052140AF4026 |

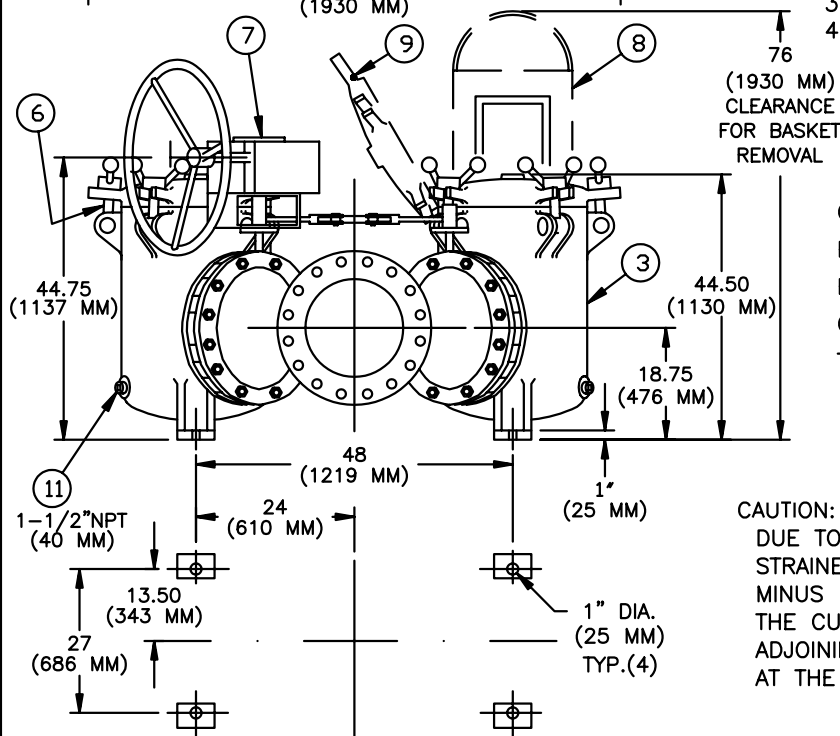
EATON CORPORATION - CONFIDENTIAL AND PROPRIETARY NOTICE TO PERSONS RECEIVING THIS DRAWING AND/OR TECHNICAL INFORMATION. THIS DOCUMENT, INCLUDING THE DRAWING AND INFORMATION CONTAINED THEREON IS CONFIDENTIAL AND IS THE EXCLUSIVE PROPERTY OF EATON AT ANY TIME. BY TAKING THE POSSESSION OF THIS DOCUMENT THE RECIPIENT ACKNOWLEDGES AND AGREES THAT THIS DOCUMENT CANNOT BE USED IN ANY MANNER ADVERSE TO THE INTEREST OF EATON AND THAT NO PORTION OF THIS DRAWING MAY BE COPIED OR OTHERWISE REPRODUCED WITHOUT THE PRIOR WRITTEN CONSENT OF EATON, IN THE CASE OF CONFLICTING CONTRACTUAL PROVISIONS, THIS NOTICE SHALL GOVERN THE STATUS OF THIS DOCUMENT. 2015 EATON CORPORATION - ALL RIGHTS RESERVED.



| NO. | DESCRIPTION | MATERIAL |
|-----|-------------------|--------------------|
| 1 | FLANGED Y | DUCTILE IRON A395 |
| 2 | BUTTERFLY VALVE | IRON / BUNA-N SEAL |
| 3 | BODY | DUCTILE IRON A395 |
| 4 | LINKAGE | STEEL |
| 5 | COVER | DUCTILE IRON A395 |
| 6 | SWING BOLTS | CARBON STEEL |
| 7 | GEAR OPERATOR | IRON |
| 8 | BASKET | |
| | PERF. DIA. | |
| | MESH SIZE | |
| 9 | O-RING | BUNA-N |
| 10 | BOLT/NUT | CARBON STEEL |
| 11 | PIPE PLUG (DRAIN) | IRON |
| 12 | PIPE PLUG (VENT) | IRON |
| 13 | PIPE PLUG (GAGE) | IRON |

NOTES:

1. INLET/OUTLET FLANGE PER ANSI B16.42 CLASS 150 FF FLANGE.
2. MAX. WORKING PRESS.: 150 PSI @100° F. (10.3 BAR @ 37.8° C)
3. DIMENSIONS ARE IN INCHES / (MM).
4. WEIGHT: 4300 LBS. (1950 KG.)



CUSTOMER:

P.O. NO.:
REG. NO.:
QUOTE NO.:
TAG NO.:

CAUTION:

DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

PLAN VIEW
(MOUNTING)

PART NO.: ST052140BF60C

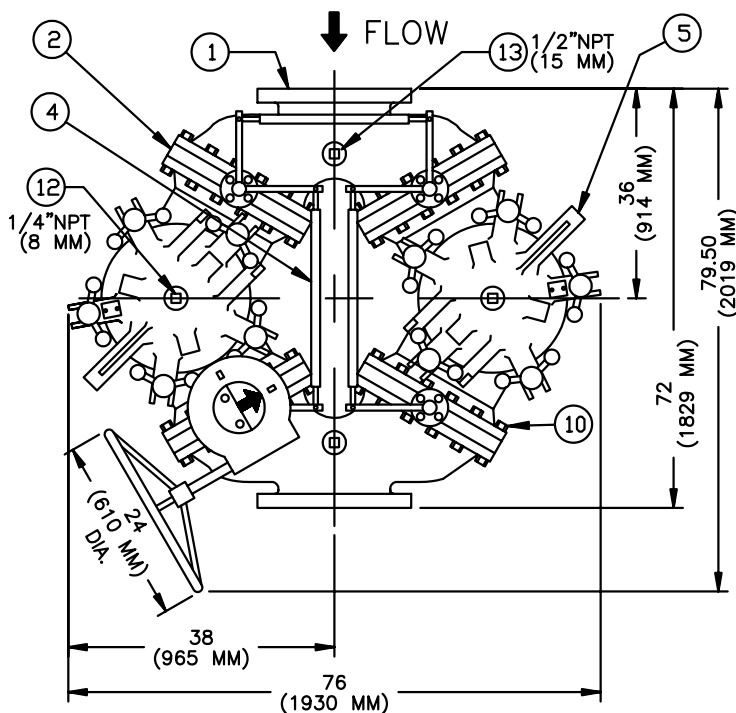
| | | | | | | | |
|-------|-----|--|--------|-------|----|------|--------|
| | | EATON FILTRATION, LLC 70 WOOD AVENUE SOUTH, ISELIN, NEW JERSEY 08830 | | | | | |
| | | NAME MODEL 52 DUPLEX STRAINER 150# FLAT FACE FLANGE SIZE 14" DUCTILE IRON | | | | | |
| DRAWN | FM | DATE | 5/2/08 | CERT. | LH | DATE | 5/2/08 |
| SIZE | DWG | SD052116 | | | | REV | B |
| A | NO | | | | | | |

ELECTRONIC FILE NAME: SD052116.DWG

REF. ECR 0058909

DATE 07/14/11

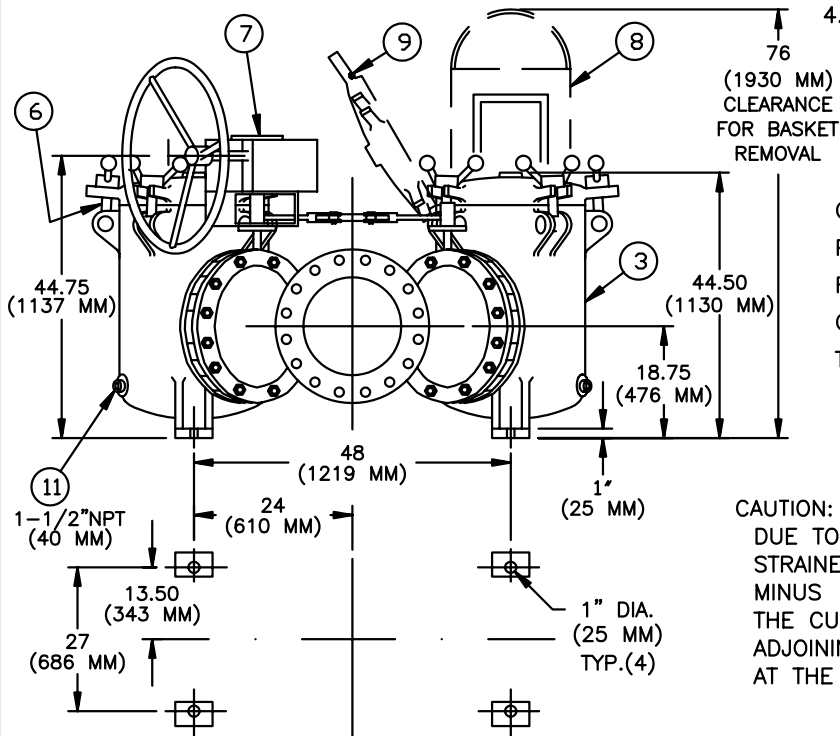
UNAUTHORIZED USE, MANUFACTURE OR REPRODUCTION IN WHOLE OR IN PART IS PROHIBITED. DRAWING, DESIGN AND OTHER DISCLOSURES PROPERTY OF EATON FILTRATION, LLC



| NO. | DESCRIPTION | MATERIAL |
|-----|-------------------|--|
| 1 | FLANGED Y | BRONZE |
| 2 | BUTTERFLY VALVE | BODY: IRON SEAL: BUNA-N DISC: ALUM. BRONZE |
| 3 | BODY | BRONZE |
| 4 | LINKAGE | STEEL |
| 5 | COVER | BRONZE |
| 6 | SWING BOLTS | CARBON STEEL |
| 7 | GEAR OPERATOR | IRON |
| 8 | BASKET | |
| | PERF. DIA. | |
| | MESH SIZE | |
| 9 | O-RING | BUNA-N |
| 10 | BOLT/NUT | CARBON STEEL |
| 11 | PIPE PLUG (DRAIN) | BRONZE |
| 12 | PIPE PLUG (VENT) | BRONZE |
| 13 | PIPE PLUG (GAGE) | BRONZE |

NOTES:

1. INLET/OUTLET FLANGE PER ANSI B16.24 CLASS 150 FF FLANGE.
2. MAX. WORKING PRESS.: 150 PSI @100° F. (10.3 BAR @ 37.8° C)
3. DIMENSIONS ARE IN INCHES / (MM).
4. WEIGHT: 4900 LBS. (2223 KG.)



CUSTOMER:
P.O. NO.:
REG. NO.:
QUOTE NO.:
TAG NO.:

CAUTION:

DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

PLAN VIEW
(MOUNTING)

PART NO.: ST052140BF10C

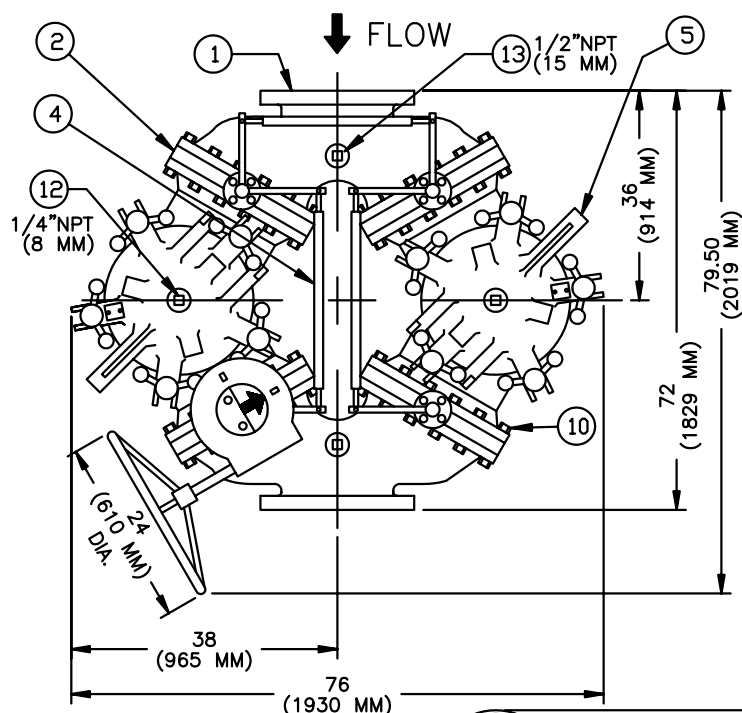
| | | | | | |
|--|----------|---|-------------------------|-------|--|
| EATON 70 WOOD AVENUE SOUTH, ISELIN, NEW JERSEY 08830 | | EATON FILTRATION, LLC NAME MODEL 52 DUPLEX STRAINER 150# FLAT FACE FLANGE SIZE 14" BRONZE | | | |
| | | DRAWN FM DATE 8/6/01 | CERT. LF DATE 8/6/01 | REV C | |
| SIZE A DWG NO | SD052109 | | | | |

ELECTRONIC FILE NAME: SD052109.DWG

REF. ECR 0058909

DATE 07/14/11

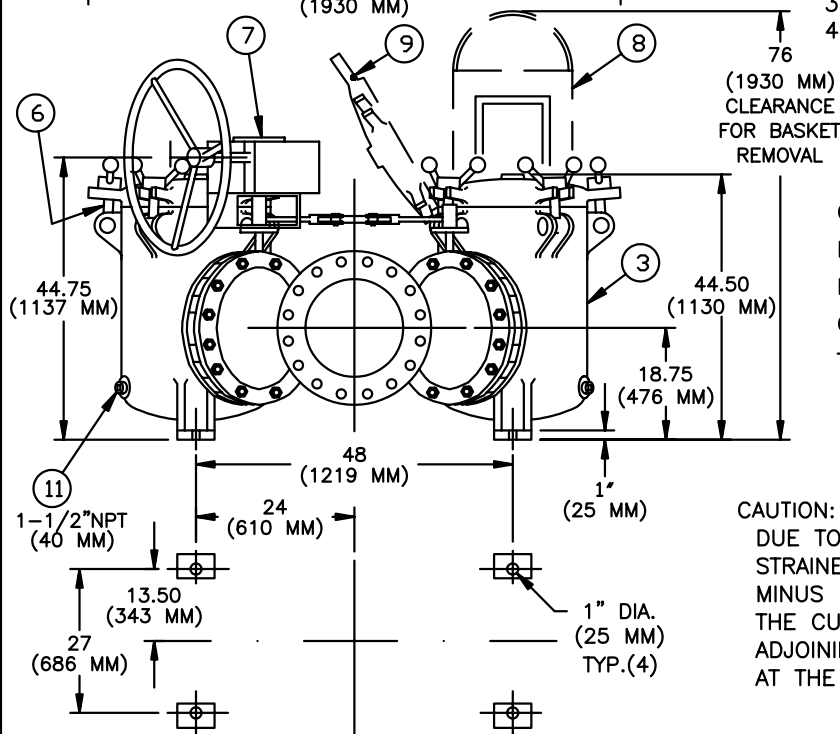
UNAUTHORIZED USE, MANUFACTURE OR REPRODUCTION IN WHOLE OR IN PART IS PROHIBITED. DRAWING, DESIGN AND OTHER DISCLOSURES PROPERTY OF EATON FILTRATION, LLC



| NO. | DESCRIPTION | MATERIAL |
|-----|-------------------|---------------------|
| 1 | FLANGED Y | CAST IRON A126 CL.C |
| 2 | BUTTERFLY VALVE | IRON / BUNA-N SEAL |
| 3 | BODY | CAST IRON A126 CL.C |
| 4 | LINKAGE | STEEL |
| 5 | COVER | CAST IRON A126 CL.C |
| 6 | SWING BOLTS | CARBON STEEL |
| 7 | GEAR OPERATOR | IRON |
| 8 | BASKET | |
| | PERF. DIA. | |
| | MESH SIZE | |
| 9 | O-RING | BUNA-N |
| 10 | BOLT/NUT | CARBON STEEL |
| 11 | PIPE PLUG (DRAIN) | IRON |
| 12 | PIPE PLUG (VENT) | IRON |
| 13 | PIPE PLUG (GAGE) | IRON |

NOTES:

1. INLET/OUTLET FLANGE PER ANSI B16.1 CLASS 125 FF FLANGE.
2. MAX. WORKING PRESS.: 150 PSI @100° F. (10.3 BAR @ 37.8° C)
3. DIMENSIONS ARE IN INCHES / (MM).
4. WEIGHT: 4400 LBS. (1996 KG.)



CUSTOMER:

P.O. NO.:
REG. NO.:
QUOTE NO.:
TAG NO.:

CAUTION:

DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

PLAN VIEW
(MOUNTING)

PART NO.: ST052160AF40C

| | | | | | | | |
|-------|-----|---|---------|-------|-----|------|---------|
| | | EATON FILTRATION, LLC 70 WOOD AVENUE SOUTH, ISELIN, NEW JERSEY 08830 | | | | | |
| | | NAME MODEL 52 DUPLEX STRAINER 125# FLAT FACE FLANGE SIZE 16" CAST IRON | | | | | |
| DRAWN | FM | DATE | 3/14/94 | CERT. | GJL | DATE | 3/14/94 |
| SIZE | DWG | SD052101 | | | | REV | D |
| A | NO | | | | | | |

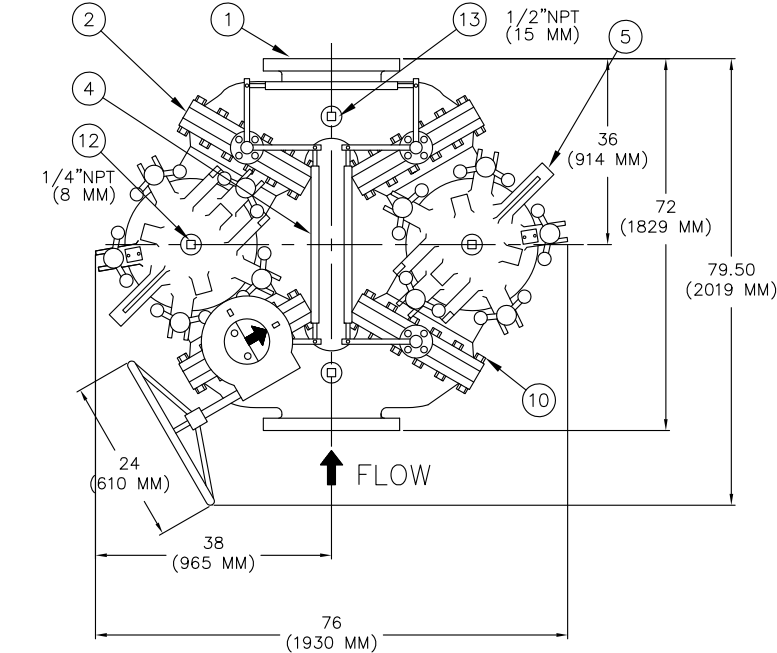
ELECTRONIC FILE NAME: SD052101.DWG

REF. ECR 0058909

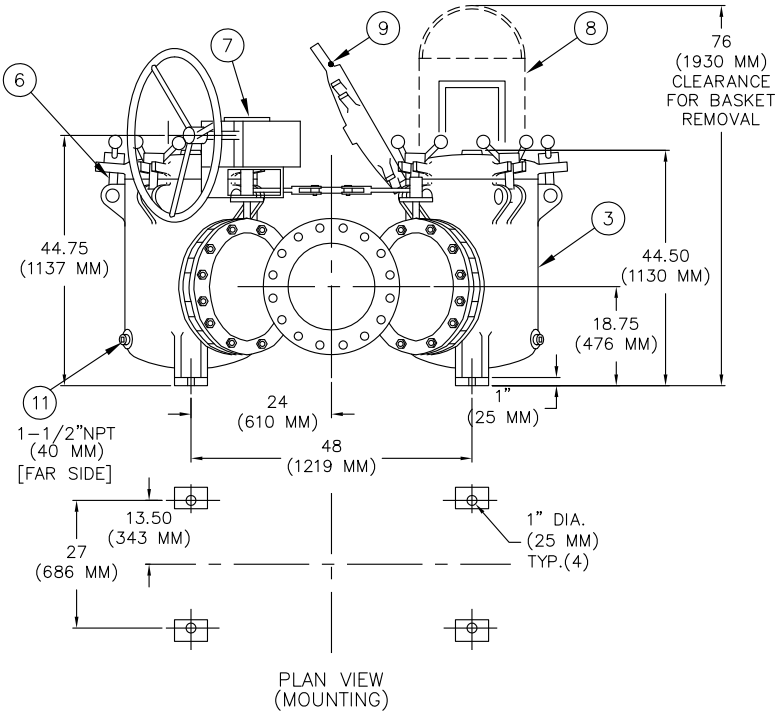
DATE 07/14/11

UNAUTHORIZED USE, MANUFACTURE OR REPRODUCTION IN WHOLE OR IN PART IS PROHIBITED. DRAWING, DESIGN AND OTHER DISCLOSURES PROPERTY OF EATON FILTRATION, LLC

| REVISIONS | | | | |
|-----------|-------------------------------------|-----------|---------|------------|
| REV | DESCRIPTION | BY | ECO | DATE |
| B | NEW RELEASE | FM | 0058909 | 10/9/2006 |
| C | UPDATED TITLE BLOCK | S. PATIL | 0112361 | 7/24/2015 |
| D | CHANGED DIRECTION OF THE FLOW ARROW | N. INGOLE | 0116455 | 10/30/2015 |



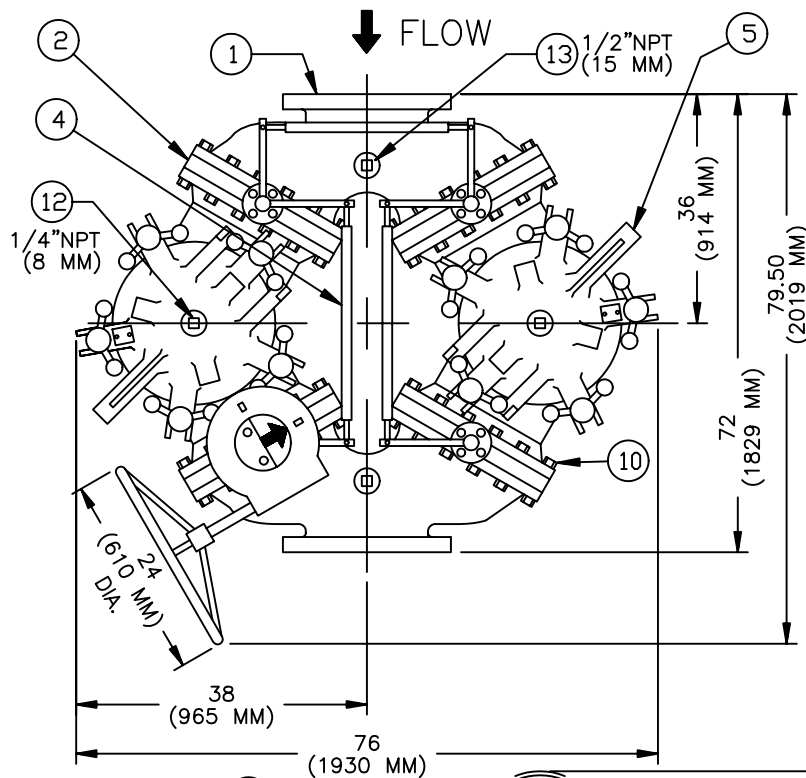
- NOTE:
1. INLET/OUTLET FLANGE PER ASME B16.1 CLASS 125 FF FLANGE
 2. MAX. WORKING PRESS.: 150 PSI [10.3 BAR.] 100° F [37.8° C]
 3. DIMENSIONS ARE IN INCHES / (MM)
 4. WEIGHT: 4600 LBS. (2087 KG.)



CAUTION:
DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

| | | |
|---------------|-----------------------------------|---------------------|
| 13 | PIPE PLUG (GAGE) | IRON |
| 12 | PIPE PLUG (VENT) | IRON |
| 11 | PIPE PLUG (DRAIN) | IRON |
| 10 | BOLT/NUT | CARBON STEEL |
| 9 | O-RING | BUNA-N |
| 8 | BASKET PERF. DIA. MESH SIZE | |
| 7 | GEAR OPERATOR | IRON |
| 6 | SWING BOLTS | CARBON STEEL |
| 5 | COVER | CAST IRON A126 CL.C |
| 4 | LINKAGE | STEEL |
| 3 | BODY | CAST IRON A126 CL.C |
| 2 | BUTTERFLY VALVE | IRON / BUNA-N SEAL |
| 1 | FLANGED Y | CAST IRON A126 CL.C |
| ITEM | DESCRIPTION | MATERIAL |
| PART LIST FOR | | |

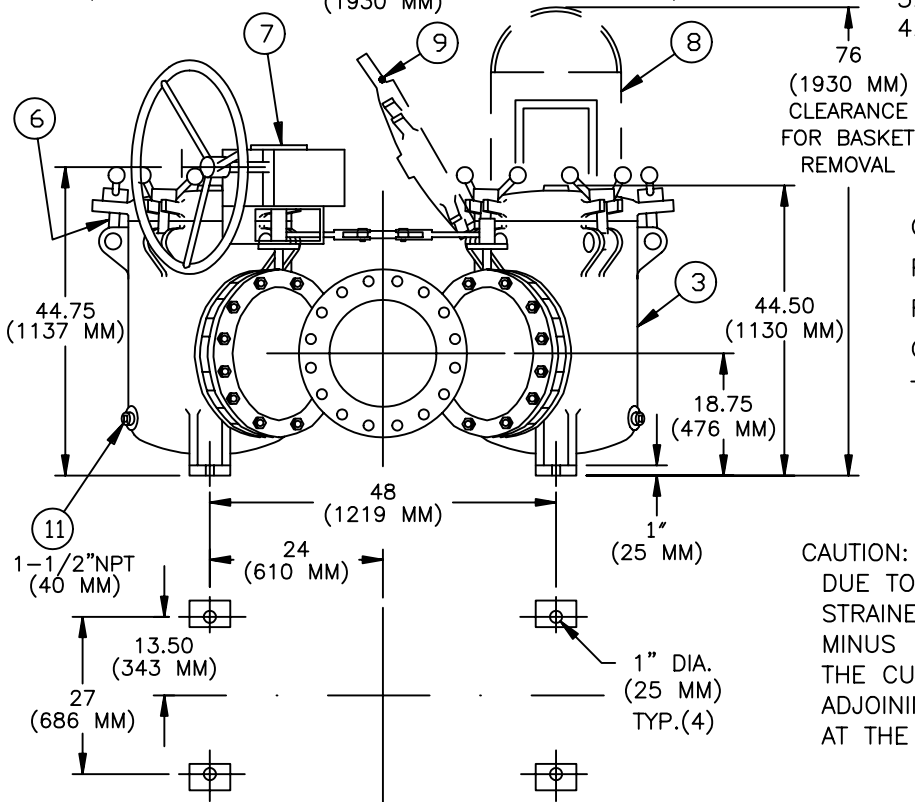
| | | | | | | | |
|----------------------------|--|---|--|--|-----------|--------------------------|----------|
| CUSTOMER INFO | | DRAWN BY FM | | <div> <div> HYDRAULICS GROUP FILTRATION DIVISION GALESBURG, MICHIGAN, USA • TINTON FALLS, NEW JERSEY, USA </div> <div> </div> </div> | | | |
| | | SCALE AS DRAWN | | | | | |
| NAME | | RESTRICTION RESTRICTED | | <div> <div> MODEL 52 DUPLEX STRAINER 125# FLAT FACE FLANGE SIZE 18" CAST IRON (HANDWHEEL ON INLET) </div> <div> </div> </div> | | | |
| P.O. NO. | | SHEET 1 OF 1 | | | | | |
| TAG NO. | | PROJECTION THIRD ANGLE | | DATE 10/9/06 | SIZE A | DWG FILENAME SD052114 | REV D |
| S.O. NO. | | <div> <div> EATON CORPORATION - CONFIDENTIAL AND PROPRIETARY NOTICE TO PERSONS RECEIVING THIS DRAWING AND/OR TECHNICAL INFORMATION. THIS DOCUMENT, INCLUDING THE DRAWING AND INFORMATION CONTAINED THEREON IS CONFIDENTIAL AND IS THE EXCLUSIVE PROPERTY OF EATON AT ANY TIME. BY TAKING THE POSSESSION OF THIS DOCUMENT THE RECIPIENT ACKNOWLEDGES AND AGREES THAT THIS DOCUMENT CANNOT BE USED IN ANY MANNER ADVERSE TO THE INTEREST OF EATON AND THAT NO PORTION OF THIS DRAWING MAY BE COPIED OR OTHERWISE REPRODUCED WITHOUT THE PRIOR WRITTEN CONSENT OF EATON, IN THE CASE OF CONFLICTING CONTRACTUAL PROVISIONS, THIS NOTICE SHALL GOVERN THE STATUS OF THIS DOCUMENT. 2015 EATON CORPORATION - ALL RIGHTS RESERVED. </div> <div> </div> </div> | | | | | |
| PART NO. ST052180AF4021 | | | | | | | |



| NO. | DESCRIPTION | MATERIAL |
|-----|-------------------|---------------------|
| 1 | FLANGED Y | CAST IRON A126 CL.C |
| 2 | BUTTERFLY VALVE | IRON / BUNA-N SEAL |
| 3 | BODY | CAST IRON A126 CL.C |
| 4 | LINKAGE | STEEL |
| 5 | COVER | CAST IRON A126 CL.C |
| 6 | SWING BOLTS | CARBON STEEL |
| 7 | GEAR OPERATOR | IRON |
| 8 | BASKET | |
| | PERF. DIA. | |
| | MESH SIZE | |
| 9 | O-RING | BUNA-N |
| 10 | BOLT/NUT | CARBON STEEL |
| 11 | PIPE PLUG (DRAIN) | IRON |
| 12 | PIPE PLUG (VENT) | IRON |
| 13 | PIPE PLUG (GAGE) | IRON |

NOTES:

1. INLET/OUTLET FLANGE PER ANSI B16.1 CLASS 125 FF FLANGE.
2. MAX. WORKING PRESS.: 150 PSI @100° F. (10.3 BAR @ 37.8° C)
3. DIMENSIONS ARE IN INCHES / (MM).
4. WEIGHT: 4600 LBS. (2087 KG.)



CUSTOMER:

P.O. NO.:

REG. NO.:

QUOTE NO.:

TAG NO.:

CAUTION:

DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

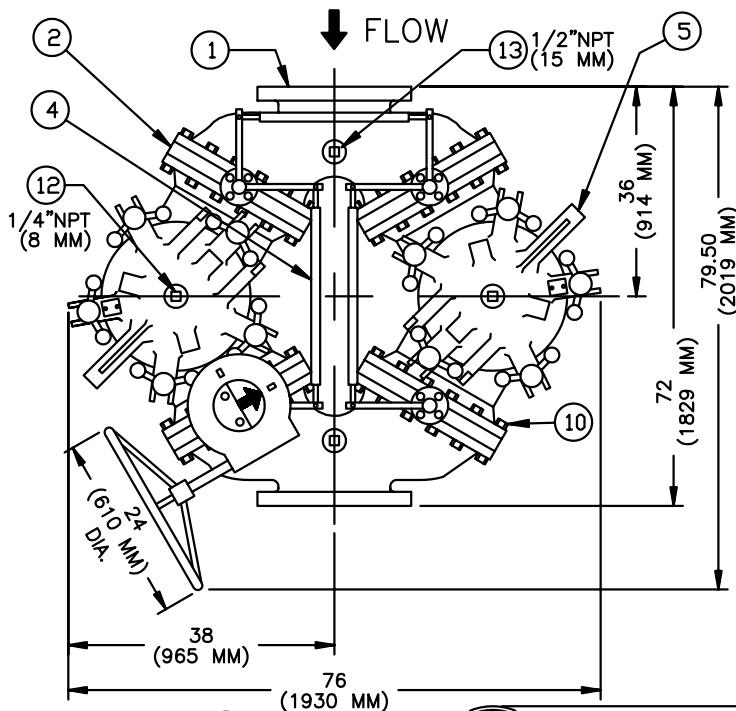
PLAN VIEW
(MOUNTING)

| | | | |
|-------|--------|---|---------|
| | | EATON FILTRATION, LLC 900 FAIRMOUNT AVENUE, ELIZABETH, NEW JERSEY 07207 | |
| | | NAME MODEL 50 DUPLEX STRAINER 125# FLAT FACE FLANGE SIZE 18" CAST IRON | |
| DRAWN | FM | DATE | 3/14/94 |
| CERT. | GJL | DATE | 3/14/94 |
| SIZE | DWG NO | SD052107 | |
| A | | REV B | |

ELECTRONIC FILE NAME: SD052107.DWG

REF. ECR D507 DATE 11/1/05

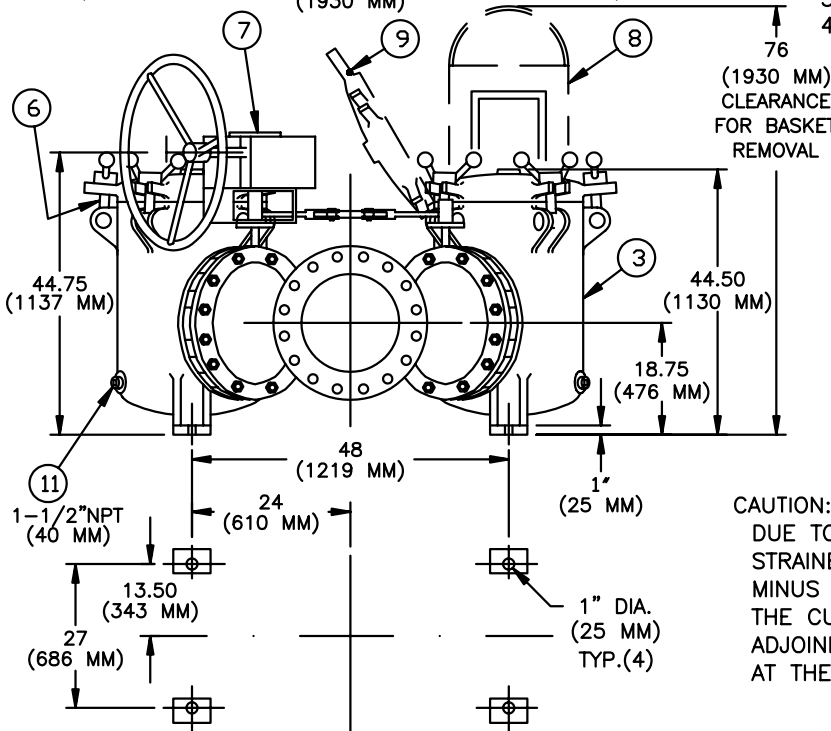
UNAUTHORIZED USE, MANUFACTURE OR REPRODUCTION IN WHOLE OR IN PART IS PROHIBITED. DRAWING, DESIGN AND OTHER DISCLOSURES PROPERTY OF EATON FILTRATION, LLC



| NO. | DESCRIPTION | MATERIAL |
|-----|-------------------|--------------------|
| 1 | FLANGED Y | DUCTILE IRON A395 |
| 2 | BUTTERFLY VALVE | IRON / BUNA-N SEAL |
| 3 | BODY | DUCTILE IRON A395 |
| 4 | LINKAGE | STEEL |
| 5 | COVER | DUCTILE IRON A395 |
| 6 | SWING BOLTS | CARBON STEEL |
| 7 | GEAR OPERATOR | IRON |
| 8 | BASKET | |
| | PERF. DIA. | |
| | MESH SIZE | |
| 9 | O-RING | BUNA-N |
| 10 | BOLT/NUT | CARBON STEEL |
| 11 | PIPE PLUG (DRAIN) | IRON |
| 12 | PIPE PLUG (VENT) | IRON |
| 13 | PIPE PLUG (GAGE) | IRON |

NOTES:

1. INLET/OUTLET FLANGE PER ANSI B16.42 CLASS 150 FF FLANGE.
2. MAX. WORKING PRESS.: 150 PSI @100° F. (10.3 BAR @ 37.8° C)
3. DIMENSIONS ARE IN INCHES / (MM).
4. WEIGHT: 4600 LBS. (2087 KG.)



PLAN VIEW
(MOUNTING)

CUSTOMER:
P.O. NO.:
REG. NO.:
QUOTE NO.:
TAG NO.:

CAUTION:

DUE TO THE TYPE OF CONSTRUCTION OF THIS STRAINER, ALL DIMENSIONS MAY VARY PLUS OR MINUS 1.50% OF THE CHARTED FIGURES. THE CUSTOMER IS ADVISED NOT TO FABRICATE ADJOINING PIPING UNTIL RECEIPT OF THE UNIT AT THE JOB SITE.

PART NO.: ST052180BF60C

| | | | | | | | |
|-------|-----|--|--------|-------|----|------|--------|
| | | EATON FILTRATION, LLC 70 WOOD AVENUE SOUTH, ISELIN, NEW JERSEY 08830 | | | | | |
| | | NAME MODEL 52 DUPLEX STRAINER 150# FLAT FACE FLANGE SIZE 18" DUCTILE IRON | | | | | |
| DRAWN | FM | DATE | 3/6/03 | CERT. | LH | DATE | 3/6/03 |
| SIZE | DWG | SD052110 | | | | REV | C |
| A | NO | | | | | | |

ELECTRONIC FILE NAME: SD052110.DWG

REF. ECR 0058909

DATE 07/14/11

UNAUTHORIZED USE, MANUFACTURE OR REPRODUCTION IN WHOLE OR IN PART IS PROHIBITED. DRAWING, DESIGN AND OTHER DISCLOSURES PROPERTY OF EATON FILTRATION, LLC

Read all the following information and instructions prior to installing and operating the equipment.
Failure to comply with these instructions could result in bodily injury or property damage.



TABLE OF CONTENTS

| | |
|---|---|
| Introduction | 1 |
| Receiving, Handling, and Inspection | 2 |
| Installation..... | 2 |
| Start Up | 3 |
| Shut Down Periods | 3 |
| Basket Removal and Cleaning | 4 |
| Service | 5 |
| Recommended Spare Parts | 5 |

INTRODUCTION

The Eaton Model 52 Duplex Strainers are devices installed in a pipeline to remove dirt and other unwanted debris from fluids. They are designed for pressure or suction applications.

Straining is accomplished by directing the fluid through sized openings in the basket. Once sediment and debris is collected in the basket, fluid flow is interrupted while the basket is removed for cleaning.

The Model 52 Duplex Strainers employ synchronized butterfly valves to divert flow from one strainer basket chamber to the other. By using balanced butterfly valves, a minimum of effort is required to change over for basket cleaning.

Model 52 Duplex Strainers require only one basket for each well, and has been designed to provide increased screening area which extends the intervals between cleaning and lowers initial pressure loss.

For additional information regarding Model 52 Duplex, visit our website at filtration.eaton.com.

RECEIVING, HANDLING, AND INSPECTION

1. Unpack the strainer and inspect for damage occurring during transit. Report damage to the carrier. If the strainer is not installed immediately, see "Storage" instructions.
2. Remove any preservatives with solvent-dampened cloths. Exercise care when using solvent and follow solvent manufacturer's instructions.
3. Verify that the rating of the strainer is greater than or equal to the maximum pressure and temperature of the installation.
4. Rotate the hand wheel to an extreme travel position.
5. Release the cover swing bolts by loosening the clamping handles until they clear the cover and swing away from the body. Release the swing bolts from both basket chambers.
6. Examine the body to which the arrow on the warning /instruction plate is pointing. Visually check that the butterfly discs on either side of the basket chamber are centered in their seats
7. Remove the basket and check for damage.
8. Examine the O-ring for damage and replace if necessary. *Always keep a spare O-ring on hand.*
9. Rotate the hand wheel in the opposite direction of an extreme travel position and repeat steps 5, 6, 7 and 8.
10. Close both covers carefully. Rough handling could damage cover seals. Lock covers in place by tightening the ball clamping handles firmly.

STORAGE

Replace protective wrap, flange protectors etc. that may have been removed during receiving, handling and inspection. Store the strainer in a clean, dry environment.

INSTALLATION



CAUTION: Before installation, review the application and chemical compatibility of the process fluid to the materials of construction of the strainer. Verify that the correct size and flange rating for the application is marked on the strainer.

Remove protective wraps, etc. before installing the strainer. Be sure to inspect cover gasket or O-ring for possible damage and replace as required. Ideally, the strainer should be installed in a horizontal pipeline with the basket well covers accessible from the top. Sufficient clearance should be allowed above the strainer for easy removal of the strainer basket.



CAUTION: A crane hoist or other lifting aid should be used to lift and restrain the cover during the basket cleaning operation.

1. Be sure sufficient clearance is provided for easy opening of the cover and removal of the basket. Refer to the Sales Drawing for removal clearances. Support the strainer firmly in the pipeline and install in accordance with system flow.
2. **The strainer should not be used to support connecting piping.** Expansion joints should be used where long, straight runs of piping are present, as even small changes in temperature can cause large thermal expansion forces which the strainer is not designed to withstand. Excessive piping loads may also cause deflection into the strainer, which may result in a linkage misalignment, thereby causing valve leakage. Use the mounting provisions integral with the strainer body for mounting the strainer to a concrete foundation or steel pad.
3. The strainer should be lifted by a fork lift truck or by a suitable hoist with slings placed around the inlet and outlet connections only.
4. It is recommended that a differential pressure gauge be installed between the inlet and outlet ends of the strainer in order to alert maintenance personnel as to when flow diversion and strainer basket cleaning is necessary. When there is a 5 psi (0.35kg/cm²) increase in pressure loss across the strainer, it's recommended to clean the basket. Gauge tap holes (1/2" NPT) are provided at the inlet and outlet connections for gauge installation.



CAUTION: To prevent damage to the baskets DO NOT permit strainer pressure differential between inlet and outlet connection to exceed 20 psi (1.4 kg/cm²)

INSTALLATION (CONTINUED)

5. Suitable drain piping with a shut off valve is recommended between the bottom of the strainer chamber and an open sump.
6. Install a vent valve on top of each cover to release trapped air in the vessel.
7. With both covers secured in the closed position and the vent drain valves closed, open the main inlet valve to start the flow. With a cloth over the vent valve of the well in service, to prevent injury, gradually open the vent valve to release trapped air in the vessel. When the escaping liquid is free of air, close the vent valve.
8. The strainer is now ready for service.



NOTE: To prevent accidental closure, especially aboard ship, the cover should be held open with a steel wire cable.



CAUTION: When fluids other than water and with temperatures in excess of 120°F are to be handled by the strainer, the vent cock must be removed and the vent piped to a safe discharge point to protect the operator. Wear protective clothing which includes gloves, vests and goggles when handling dangerous fluids.



NOTE: The not in service, ready for cleaning basket can be determined by the direction of the arrow on the Warning/Instruction plate. Always be sure that the hand wheel is turned to an extreme travel position before opening the basket chamber cover.

START UP

1. Open both basket chamber vent cocks to expel air from the strainer. (if so equipped)
2. Slowly open the valves upstream and downstream of the strainer to start the flow into the strainer.
3. Turn the hand wheel to a mid-position so that the fluid enters both basket chambers.



CAUTION: Start flow gradually. This eliminates sudden shock to the strainer and other equipment in the line.

4. Close the vent cocks when air is expelled and fluid starts to flow. Use a cloth and gloves to prevent injury.
5. Rotate hand-wheel to extreme travel position to divert flow into a clean basket. DO NOT leave the hand-wheel in the center position or both baskets will become dirty which would require interrupting the flow to clean them.



CAUTION: DO NOT open the cover over the basket well that is in service while the strainer is in operation. The Warning/Instruction plate arrow indicates which basket is not in service and ready for cleaning. To switch the flow from one basket well to the other the hand wheel must be turned fully clockwise or Counter-clockwise.

BASKET REMOVAL, CLEANING, AND REPLACEMENT



CAUTION: To prevent basket damage, DO NOT permit differential pressure across the strainer to exceed 20 psi.



NOTE: In order to avoid high differential pressures across the strainer (difference between inlet and outlet pressure), it is advisable to keep the strainer baskets clean. The pressure drop (differential) should not exceed 10 psi at maximum flow. If the pressure drop exceeds 10 psi (0.7 kg/cm²) with a clean basket the flow through the strainer is too high, or the strainer is undersized for the intended service.

To clean and inspect the strainer basket not in service, the following steps should be taken:

1. Turn the hand wheel so that the arrow on the warning/instruction plate points the basket ready for cleaning.
2. Slowly open the vent cock (if so equipped) to release liquid pressure in the dirty chamber. Slowly release the cover swing bolts loosening the clamping handle until it clears the cover and swing it away from the body.

BASKET REMOVAL, CLEANING, AND REPLACEMENT (CONTINUED)

3. Open the drain valve (if so equipped) or remove the drain plug from the side of the body at the bottom to drain liquid from the basket chamber. Failure to do this may cause floating debris to contaminate the strained liquid.
4. Remove the dirty basket by pulling straight up on the basket handle.

To replace the strainer basket, the following steps should be taken:

1. Replace the cleaned basket making sure that the inlet side is inserted into the groove cast into the strainer body.
2. Inspect the cover O-ring seal and sealing surface, clean seat and replace seal if necessary.
3. If the cover has a vent cock be sure to open it. Close the drain valve (if so equipped) or replace the drain plug.
4. Divert flow to the clean basket and when air is expelled from the chamber with the clean basket, close the vent cock.



CAUTION: To prevent basket damage, DO NOT permit differential pressure across the strainer to exceed 20 psi.

1. Clean the basket when there is a 5 psi (0.35 kg/cm²) increase in pressure loss across the strainer
2. During shut downs for a temporary period, drain fluid and clean the baskets.



CAUTION: Wear eye protection to avoid injury when cleaning baskets with compressed air.

To clean the strainer basket, the following steps should be taken:

1. Invert the basket and shake out all the debris and foreign particles from the basket.



NOTE: Baskets severely plugged with grease and other contaminants should be soaked in a suitable cleaning solution and cleaned with a stream jet or compressed air. Kerosene and aqueous detergents are representative solvents. If the strained fluid is fuel or chemical, use an appropriate solvent to clean the baskets.

2. Inspect basket at each cleaning for holes or tears. *Always keep spare baskets on hand.*

SERVICE

BUTTERFLY VALVE ASSEMBLY

Clean all reusable parts. If possible use silicone base oil or lubricant to facilitate assembly. Place O-rings at the outside stem holes in the seat. Assemble the seat with O-rings in the body bore, taking care to align the stem holes. Install the packing bushing and stem. Use a rotary downward pressure on the stem to facilitate assembly while paying particular attention that the seat is not damaged due to any misalignment of the stem holes. Align the counter drilled portion of the stem screw holes with the disc screw holes. Place O-rings on the disc screws. Install the disc screws and tighten securely. With the valve disc replaced in the semi-closed position, rubber interference and initial torque build up is reduced during installation.

BUTTERFLY VALVE INSTALLATION INSTRUCTIONS

Observe that the disc sealing edge is in line with the parallel flats on the stem. Rotate the stem clockwise to position the disc within the body at least 3/8" (9.5mm) away from the body face. Spread the adjacent flanges and insert the valve. Center the valve body to the flanges and tighten the bolting hand tight. Slowly open the valve counter-clockwise to check for adequate disc clearance. Return the disc to the nearby closed position and cross-tighten all bolting until the flange/valve interface is metal to metal.



NOTE: The valve is non-directional and will control flow equally well in either direction. Replace the linkage and restore proper valve disc alignment and synchronism. Re-install gear operator.

BUTTERFLY VALVE GEAR OPERATOR

If flow diversion becomes difficult, check to be sure that the gear operator is packed with grease.

RODS AND BEARINGS

Periodic lubrication is required for proper functioning of the rod and bearings. Disconnect the tie rod from the linkage arm and rotate the ball so that the surface adjacent to the race is exposed. Grease the surface with multi-purpose lubricant or equivalent. Reconnect the tie rod to the link arm with the clevis pin and cotter pin.

RECOMMENDED SPARE PARTS

Two Eaton Strainer Baskets
Six Eaton Cover O-ring seals

When ordering spare parts, be sure to specify the assemble part number of the strainer (as appears on the invoice) as well as the quantity and description of the parts.

When operating conditions such as pressure, temperature and type of fluid are known, they should be specified.

WARRANTY

All products manufactured by Seller are warranted against defects in material and workmanship under normal use and service for which such products were designed for a period of eighteen (18) months after shipment from our factory or twelve (12) months after start-up, whichever comes first. OUR SOLE OBLIGATION UNDER THIS WARRANTY IS TO REPAIR OR REPLACE, AT OUR OPTION, ANY PRODUCT OR ANY PART OR PARTS THEREOF FOUND TO BE DEFECTIVE. SELLER MAKES NO OTHER REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. WE SHALL NOT BE LIABLE FOR CARTAGE, LABOR, CONSEQUENTIAL DAMAGES OR CONTINGENT LIABILITIES. OUR MAXIMUM LIABILITY SHALL NOT IN ANY EVENT EXCEED THE CONTRACT PRICE FOR THE PRODUCT.