

Style GFV

Basket Strainer

Cast Iron (ASTM A 126, Class B)

125 lb. & 250 lb. Flanged



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Cast Iron Basket Strainer

APPLICATIONS

Steam, water, oil or gas where protection from foreign matter in a pipeline is required.

CONSTRUCTION

The Keckley Style GFV strainers are constructed from rugged cast iron castings that are machined to exacting specifications. These bodies have drilled flanges that are in accordance with ASME B16.1.

FEATURES

The Keckley Style GFV strainers feature a basket with an angular cutaway design to allow straight through flow and extremely low pressure loss. All sizes have a bolted top cover flange for ease in basket removal. The gasket is a synthetic fiber and is compressed between the body and cover for maximum strength and durability. Keckley Style GFV strainers are furnished standard with a tapped and plugged NPT drain connection.

BASKETS

Standard baskets are 304 stainless steel and are spot welded for maximum strength. Different size perforations and meshes are available in stainless steel, monel, and brass to meet specific media requirements. If media is not indicated, screens for *water* will be supplied.

CLEANING

Cleaning of the Style GFV strainer is accomplished by removing the cover and pulling out the basket. **Warning:** See Maintenance Instructions on page S6 of the Strainer Information Section for additional precautions and detailed information on servicing the strainer.

WORKING PRESSURES - NON SHOCK

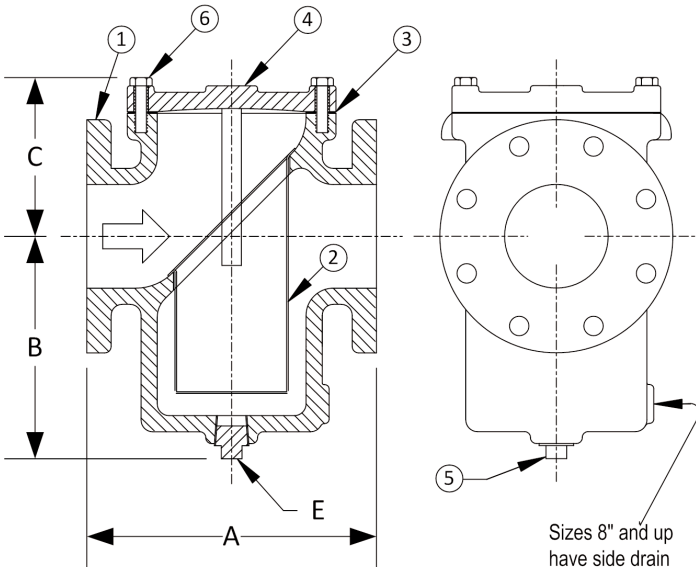
| NOM. RATING | MEDIA | 2" to 12" | 50 mm to 300 mm |
|-------------------------------------|--------------|-------------------|----------------------|
| 125# F.F. & D (STANDARD FLANGE) | STEAM | 125 PSI @ 450°F | 862 KPa @ 232°C |
| | W.O.G. | 200 PSI @ 150°F | 1379 KPa @ 66°C |
| | MEDIA | 14" and UP | 350 mm and UP |
| | STEAM | 100 PSI @ 353°F | 690 KPa @ 178°C |
| | W.O.G. | 150 PSI @ 150°F | 1035 KPa @ 66°C |
| | NOM. RATING | MEDIA | 2" to 6" |
| 250# R.F. & D (EX. HEAVY FLANGE) | STEAM | 250 PSI @ 450°F | 1724 KPa @ 232°C |
| | W.O.G. | 500 PSI @ 150°F | 3449 KPa @ 66°C |

GOVERNMENT/MILITARY SPECIFICATIONS

Style GFV cast iron flanged basket strainers meet or exceed government specification WW-S-2739 (Supersedes MIL-S-16293).

Style GFV

Basket Strainer, 125 lb. & 250 lb. Flanged
Cast Iron (ASTM A 126, Class B)



| PARTS LIST | | |
|------------|---------------------|---------------------------------|
| ITEM | DESCRIPTION | MATERIAL |
| 1 | Body | Cast Iron (ASTM A 126, Class B) |
| 2 | Basket | Stainless Steel (304) |
| 3 | Gasket | Composition |
| 4 | Cover | Cast Iron (ASTM A 126, Class B) |
| 5 | Pipe Plug | Malleable Iron |
| 6 | Hex Head Cap Screws | Steel |

| STANDARD SCREENS SUPPLIED | | | | | | | | |
|---------------------------|------------|-------------|--------------------|-----|------------|-----|-----------|------|
| SIZE | | SCREEN GAGE | SCREEN PERFORMANCE | | | | | |
| in | mm | | FOR STEAM | | FOR LIQUID | | OPEN AREA | |
| | | | in | mm | AREA | in | mm | AREA |
| 2 to 3 | 50 to 80 | 28 | 1/16 | 1.6 | 30% | 1/8 | 3.2 | 43% |
| 4 to 16 | 100 to 400 | 24 - 20 | 1/8 | 3.2 | 43% | 1/8 | 3.2 | 43% |

Standard screens supplied are for **liquid service**, unless otherwise specified.
Options: Other meshes, perforations, and screen materials are available.

| SIZE | | DIMENSIONS | | | | | | | | | | | | | | | |
|-------|-----|------------|-----|------------------------|--------|--------|------------------------|--------|-----|------------------------|-------|-------|------------------------|-------|----|------------------------|----|
| | | A | | | | B | | | | C | | | | E | | | |
| | | 125# | | 250# | | 125# | | 250# | | 125# | | 250# | | 125# | | 250# | |
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm |
| 2 | 50 | 8 | 203 | 8-1/2 | 216 | 6 | 152 | 3-7/8 | 98 | 3-1/2 | 89 | 5-1/4 | 133 | 3/4 | 20 | 1/2 | 15 |
| 2-1/2 | 65 | 8-1/4 | 210 | 9-1/4 | 235 | 7 | 178 | 5-3/4 | 146 | 3-3/4 | 95 | 5-1/4 | 133 | 3/4 | 20 | 3/4 | 20 |
| 3 | 80 | 9-3/4 | 248 | 9-1/2 | 241 | 8-1/4 | 210 | 5-3/4 | 146 | 4-1/4 | 108 | 5-1/4 | 133 | 3/4 | 20 | 3/4 | 20 |
| 4 | 100 | 11-1/2 | 292 | 11-13/16 | 300 | 9 | 229 | 8-9/16 | 217 | 4-3/4 | 121 | 6 | 152 | 1 | 25 | 1 | 25 |
| 5 | 125 | 13-1/8 | 333 | 15-3/8 | 391 | 9-3/4 | 248 | 10-1/2 | 267 | 6 | 152 | 7-3/4 | 197 | 1 | 25 | 1 | 25 |
| 6 | 150 | 14-3/4 | 375 | 15-1/2 | 394 | 10-1/2 | 267 | 10-1/2 | 267 | 6-1/4 | 159 | 7-3/4 | 197 | 1 | 25 | 1 | 25 |
| 8 | 200 | 18-1/2 | 470 | See Style D 250 lb. | 12-3/4 | 324 | See Style D 250 lb. | 9 | 229 | See Style D 250 lb. | 1-1/2 | 40 | See Style D 250 lb. | 1-1/2 | 40 | See Style D 250 lb. | |
| 10 | 250 | 20-1/8 | 511 | | 14-3/4 | 375 | | 10-3/4 | 273 | | 1-1/2 | 40 | | | | | |
| 12 | 300 | 26-1/4 | 667 | | 17-1/2 | 445 | | 13-1/2 | 343 | | 2 | 50 | | | | | |
| 14 | 350 | 30-1/4 | 768 | Consult Factory | 23-1/2 | 591 | Consult Factory | 14-1/4 | 362 | Consult Factory | 3 | 80 | Consult Factory | 3 | 80 | Consult Factory | |
| 16 | 400 | 33-1/8 | 841 | | 24-1/4 | 616 | | 15 | 381 | | 3 | 80 | | | | | |

Consult factory for sizes not shown.

Certified dimensional drawings are available upon request.

*This table reflects only the nearest metric equivalents.

| WEIGHTS | | | | | | | | | | | | |
|---------|-----|--------|----|----|-----|-----|-----|---------------------|-----|-----|-----|------|
| Size | 2" | 2-1/2" | 3" | 4" | 5" | 6" | 8" | 10" | 12" | 14" | 16" | |
| 125 | lbs | 23 | 33 | 44 | 67 | 88 | 120 | 220 | 353 | 523 | 814 | 1041 |
| | kgs | 10 | 15 | 20 | 30 | 40 | 54 | 100 | 160 | 237 | 369 | 472 |
| 250 | lbs | 29 | 53 | 65 | 107 | 187 | 224 | See Style D 250 lb. | | | | |
| | kgs | 13 | 24 | 29 | 49 | 85 | 102 | | | | | |

| FLOW COEFFICIENTS | | | | | | | |
|-------------------|----------------|------|----------------|------|----------------|------|----------------|
| Size | C _v | Size | C _v | Size | C _v | Size | C _v |
| 2" | 42.7 | 4" | 276.7 | 8" | 1486.3 | 14" | 7984.8 |
| 2-1/2" | 77.5 | 5" | 442.7 | 10" | 3051.6 | 16" | 9565.9 |
| 3" | 120.2 | 6" | 743.1 | 12" | 4980.6 | | |

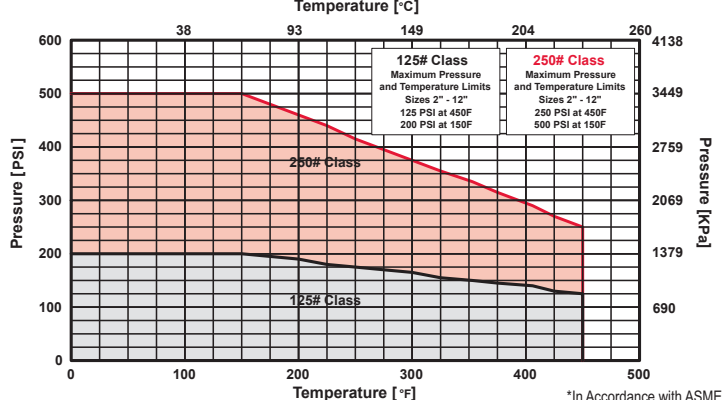
| TOTAL SCREEN AREA | | | | | | | |
|-------------------|--------------------|------|--------------------|------|--------------------|------|--------------------|
| Size | (in ²) | Size | (in ²) | Size | (in ²) | Size | (in ²) |
| 2" | 29.27 | 4" | 108.44 | 8" | 310.03 | 14" | 1141.87 |
| 2-1/2" | 45.11 | 5" | 142.29 | 10" | 457.06 | 16" | 1428.51 |
| 3" | 78.20 | 6" | 176.75 | 12" | 691.07 | | |

*See DETERMINING RATIOS on page S5 of the Strainer Information Section for calculating NET FREE AREA of the screen to inside pipe area.

PRESSURE vs. TEMPERATURE CHART

125# & 250# Flanged Cast Iron (ASTM A 126, Class B)

Suitable for use with pipe sizes up to 12"



*In Accordance with ASME B16.1



PRESSURE DROP CHART

Basket Strainers (Styles GFV, HLC, BGFV, SGFV, SGFV-K, SSGFV, and SSGFV-K)

This pressure drop chart is based on the flow of clean water through the Keckley strainer styles listed above with screen perforations ranging from 3/64" through 1/8".

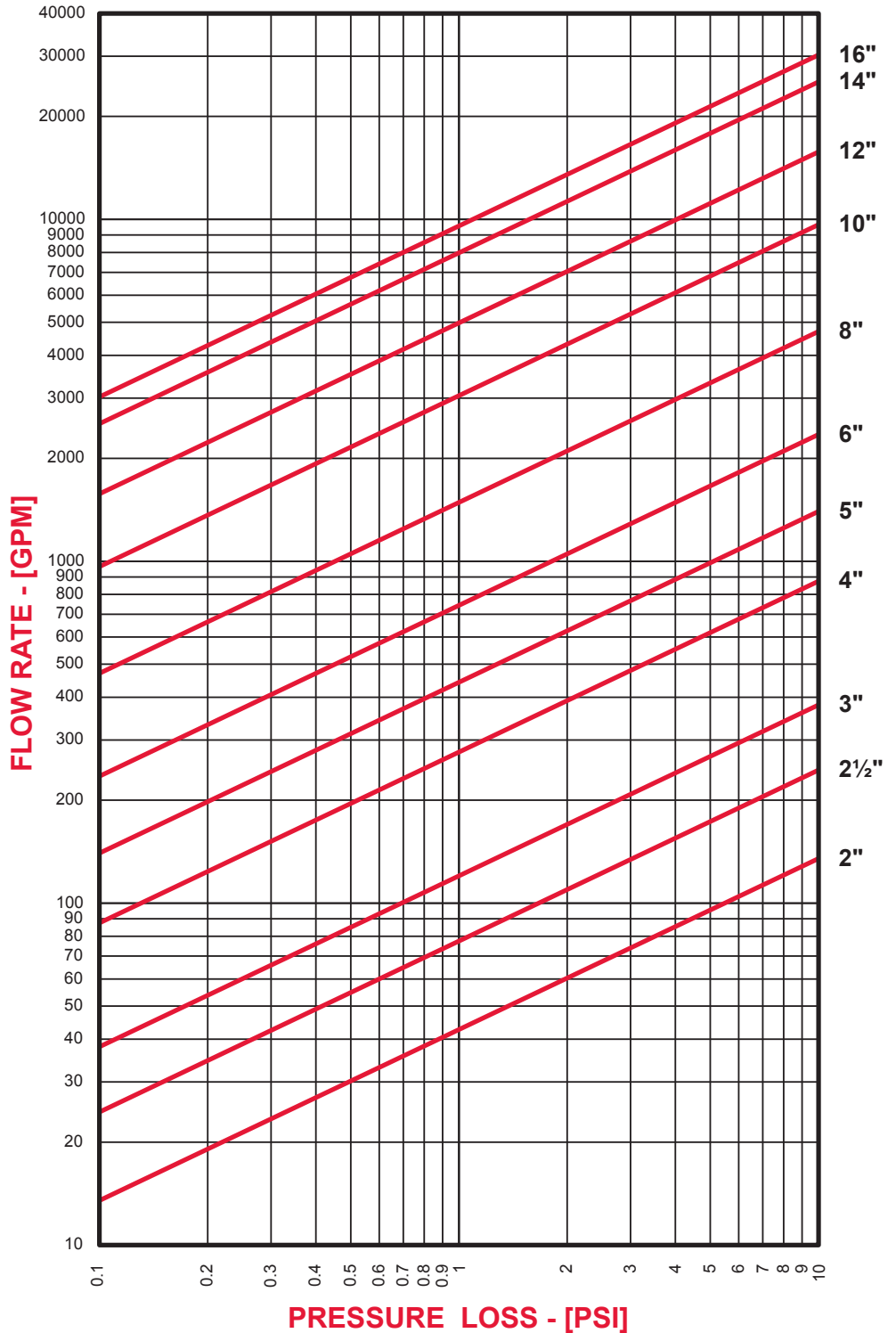
TO USE CHARTS:

Find your desired rate of flow (GPM) on the left hand side of the chart. Follow its corresponding horizontal line to the point where it intersects the diagonal line indicating the strainer pipe size. From this point of intersection, follow the vertical line down to the bottom of the chart to determine the approximate pressure drop.

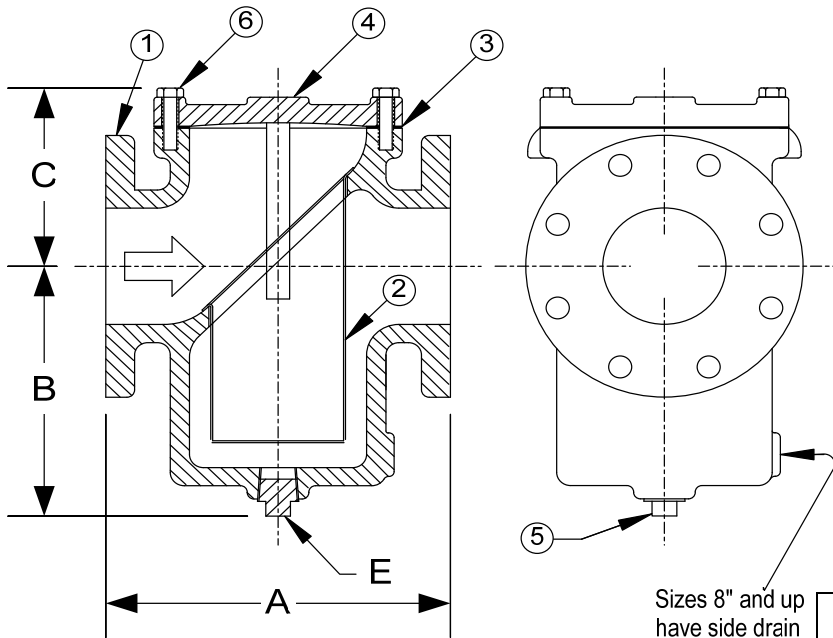
CORRECTION FACTORS:

For finer mesh baskets that are backed with a perforated sheet, multiply the pressure drops shown at right by the following:

- 40 mesh x 1.2
- 60 mesh x 1.4
- 80 mesh x 1.6
- 100 mesh x 1.7



DRAWING NO.
AL 73188



Sizes 8" and up
have side drain
blow-off hole.

| BODY PRESSURE & TEMPERATURE RATINGS – NON SHOCK | | | |
|---|--------|-----------------|-----------------|
| NOM. RATING | MEDIA | 2" to 12" | 14" & up |
| 125# (STANDARD FLANGE) | STEAM | 125 PSI @ 450°F | 100 PSI @ 353°F |
| | W.O.G. | 200 PSI @ 150°F | 150 PSI @ 150°F |

| PARTS LIST | | |
|------------|--------------------|---------------------------------|
| ITEM | DESCRIPTION | MATERIAL |
| 1 | BODY | CAST IRON (ASTM A 126, CLASS B) |
| 2 | BASKET | STAINLESS STEEL (304) |
| 3 | GASKET | COMPOSITION |
| 4 | COVER | CAST IRON (ASTM A 126, CLASS B) |
| 5 | PIPE PLUG | MALLEABLE IRON |
| 6 | HEX HEAD CAP SCREW | STEEL |

| Product Number† | SIZE | DIMENSIONS (in) | | | | COVER | | WEIGHT (lbs) |
|----------------------|-------|-----------------|--------|--------|-------|--------------|----------------|--------------|
| | | A | B | C | E | No. of Bolts | Size of Bolts | |
| 21FFS-CI125P34-FB | 2 | 8 | 6 | 3-1/2 | 3/4 | 4 | 5/8-11 x 1-1/2 | 23 |
| 21/21FFS-CI125P34-FB | 2-1/2 | 8-1/4 | 7 | 3-3/4 | 3/4 | 4 | 5/8-11 x 1-1/2 | 33 |
| 31FFS-CI125P34-FB | 3 | 9-3/4 | 8-1/4 | 4-1/4 | 3/4 | 4 | 5/8-11 x 1-1/2 | 44 |
| 41FFS-CI125P34-FB | 4 | 11-1/2 | 9 | 4-3/4 | 1 | 8 | 5/8-11 x 1-3/4 | 67 |
| 51FFS-CI125P34-FB | 5 | 13-1/8 | 9-3/4 | 6 | 1 | 8 | 3/4-10 x 1-3/4 | 88 |
| 61FFS-CI125P34-FB | 6 | 14-3/4 | 10-1/2 | 6-1/4 | 1 | 8 | 3/4-10 x 1-3/4 | 12 |
| 81FFS-CI125P34-FB | 8 | 18-1/2 | 12-3/4 | 9 | 1-1/2 | 8 | 3/4-10 x 2 | 220 |
| 101FFS-CI125P34-FB | 10 | 20-1/8 | 14-3/4 | 10-3/4 | 1-1/2 | 12 | 7/8-9 x 2-1/4 | 353 |
| 121FFS-CI125P34-FB | 12 | 26-1/4 | 17-1/2 | 13-1/2 | 2 | 12 | 7/8-9 x 2-1/2 | 523 |
| 141FFS-CI125P34-FB | 14 | 30-1/4 | 23-1/4 | 14-1/4 | 3 | 16 | 7/8-9 x 2-1/2 | 814 |
| 161FFS-CI125P34-FB | 16 | 33-1/8 | 24-1/4 | 15 | 3 | 16 | 7/8-9 x 2-1/2 | 1041 |

†See "Style GFV Product Number Configuration" for additional options.

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STANDARD SCREENS SUPPLIED

| SIZE | SCREEN GAGE | SCREEN PERFORATION | | | |
|---------|-------------|--------------------|-----------|------------|-----------|
| | | FOR STEAM | OPEN AREA | FOR LIQUID | OPEN AREA |
| in | | in | | in | |
| 2 to 3 | 28 | 1/16 | 30% | 1/8 | 43% |
| 4 to 16 | 24 – 20 | 1/8 | 43% | 1/8 | 43% |

Standard screens supplied are for **liquid service**, unless otherwise specified.
Options: Other meshes, perforations, and screen materials are available.

KECKLEY

DRAWING NO.
AL 73188

DIMENSIONAL ASSEMBLY

PART NO.

125# Flange Style GFV Cast Iron
Basket Strainer w/ 304 ss screen

SCALE: NTS

DATE: 07/01/2011

MAT'L:

REQ. ---

DR. BY DSF

STYLE GFV PRODUCT NUMBERS

Below Is An Example Of Building A Part Number For Ordering A Strainer

| Size | Pressure Class | End Conn. | Strainer Type | | Body Material | Perf Or Mesh | Screen Type | Screen Material | | Gasket Type | Cover Conn. | Origin | | Style |
|------|----------------|-----------|---------------|---|---------------|--------------|-------------|-----------------|---|-------------|-------------|--------|---|-------|
| 8 | 3 | RF | S | - | CI | 125 | P | 34 | - | F | B | I | - | GFV |

Description: 8" 250 lb. Flanged Basket Strainer, Cast Iron Body, 1/2" Perforated 304ss screen, Fiber Gasket, Bolted Cover, Import, GFV.

Size

| |
|--|
| |
|--|

Pressure Class

| Ordering Number | ASME Pressure Class |
|-----------------|---------------------|
| 1 | 125 Lb. |
| 3 | 250 Lb. |

End Connection

| Ordering Number | End Connection |
|-----------------|--------------------|
| FF ¹ | Flat Faced Flange |
| RF [*] | Raised Face Flange |

¹Available in 125 Lb. Class only.

^{*}Available in 250 Lb. Class only.

Strainer Type

| Ordering Number | Strainer Type |
|-----------------|-------------------------|
| S | Simplex Basket Strainer |

Body Material

| Ordering Number | Body Material |
|-----------------|---------------------------------|
| CI | Cast Iron (ASTM A 126, Class B) |

Perf or Mesh

| Ordering Number | Perf. or Mesh |
|-----------------|---------------|
| 033 | 1/32" |
| 045 | 3/64" |
| 062 | 1/16" |
| 094 | 3/32" |
| 125 | 1/8" |
| 156 | 5/32" |
| 188 | 3/16" |
| 250 | 1/4" |
| 375 | 3/8" |
| 500 | 1/2" |
| 750 | 3/4" |
| M20 | 20 Mesh |
| M30 | 30 Mesh |
| M40 | 40 Mesh |
| M50 | 50 Mesh |
| M60 | 60 Mesh |
| M80 | 80 Mesh |
| M100 | 100 Mesh |
| M150 | 150 Mesh |
| M200 | 200 Mesh |
| M300 | 300 Mesh |
| X | Special |

Screen Type

| Ordering Number | Screen Type |
|-----------------|-------------------------------------|
| P | Perforated |
| M | Mesh |
| L | Perforated with Mesh Lining |
| S | Perforated with Mesh Lined Start Up |
| X | Special |

Screen Material

| Ordering Number | Screen Material |
|-----------------|--------------------------|
| 34 | Type 304 Stainless Steel |
| 36 | Type 316 Stainless Steel |
| BR | Brass |
| ML | Monel |
| TI | Titanium |
| HC | Hastelloy C276 |
| DS | Duplex Stainless Steel |
| X | Special |

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Gasket Type

| Ordering Number | Gasket Type |
|-----------------|-------------|
| F | Fiber |
| B | Buna |
| V | Viton |
| P | PTFE |
| X | Special |

Cover Connection

| Ordering Number | Cover Connection |
|-----------------|------------------|
| B | Bolted |

Origin

| Country Code | Origin |
|--------------|-------------------------|
| B | Domestic (Buy American) |
| I | Import |