



VALVES & ACCESSORIES

Valves & Accessories Table of Contents

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General notes: Additional information is included in our data sheets and is available upon request. It is the Designer's responsibility to select products suitable for the intended service and to ensure that pressure ratings and performance data is not exceeded. Always read and understand the installation constructions. Never remove any piping components nor correct or modify any piping deficiencies without first depressurising and draining the system. Material and gasket selection should be verified with the gasket recommendation listing for the specific application.

Model B303 Grooved End Butterfly Valves Gear and Lever-Lock Operators

(Page 1 of 3)

Tech Data Sheet: G315



The GRINNELL Model B303 Butterfly Valves provide for efficient control in piping systems of on/off or throttling/balancing service, fluid flow, and bubble-tight shut-off. The valves are furnished with grooved ends for use with grooved couplings and can be easily adapted to flanged components utilising GRINNELL Figure 71 Class 150 Flange Adapters.

Flow may be from either direction and the valve may be positioned in any orientation. The body and disc construction provides for increased strength and durability. The disc seal and body coatings are compatible with a variety of chemicals and temperature ranges. Contact your GRINNELL Representative for specific recommendations on seal and coating selections.



Lever-Lock Operator

Gear Operator

Approvals

- The Model B303 Butterfly Valves conform to MSS SP-67.

Maximum Working Pressure

- 50 to 200mm (2" to 8"): 20,7 bar (300 psi)
- 250 to 300mm (10" to 12"): 12 bar (175 psi)

Body:

- Ductile Iron conforming to ASTM A 536, Grade 65-45-12.

Body Coating:

- Nylon: Rilson Pine Powder (PA11), Black

Disc:

- Ductile Iron conforming to ASTM A 395, Grade 60-40-18

Upper and Lower Stem:

- Type 410 Stainless Steel conforming to ASTM A479

Lever-Lock Operator:

- Handle Polymer-Coated Iron
- Lever-Lock Zinc-Plated Steel
- Throttling Plate . . . Zinc-Plated Steel

Gear Operator:

- 50 to 200mm (2" to 8"): bronze travelling nut gearbox in ductile iron housing.
- 250 to 300mm (10" to 12"): segmented gearbox in ductile iron housing.

Encapsulated Disc Material & Temperature Rating:

See chart below

Butterfly Valve Torque

- Pressure drop, contact a GRINNELL Sales Representative.

Performance

- Pressure drop, contact a GRINNELL Sales Representative.

Valves & Accessories

| Grade "E" EPDM ^(a) | Grade "T" Nitrile ^(b) | Grade "O" Flouoroelastomer ^(c) |
|--|-------------------------------------|--|
| -30°F to 230°F -34°C to 110°C | -20°F to 180°F -29°C to 82°C | -20°F to 200°F -29°C to 93°C |
| <p>a. Recommended for hot water, dilute acids, alkalis, oil free air, and many chemical services not involving petroleum products. Not recommended for hydrocarbons or steam service.</p> <p>b. Recommended for petroleum products, vegetable oils, mineral oils, and air with oils. High-end oil vapour temperature decreases to 150°F (66°C) Not recommended for hot water or hot dry air systems.</p> <p>c. Recommended for oxidizing acids, petroleum products, hydraulic fluids, lubricants, halogenated hydrocarbons. Not recommended for hot water.</p> | | |

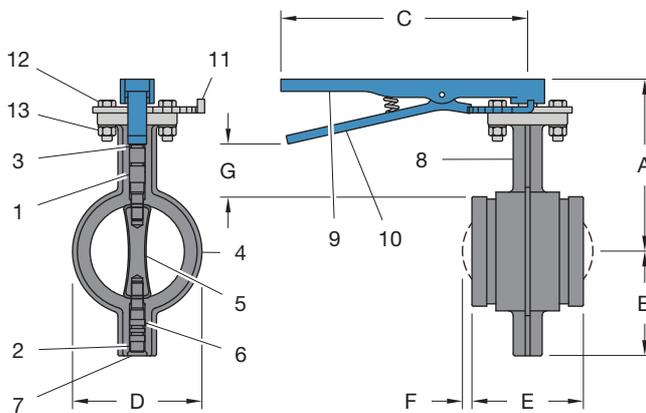
Model B303 Grooved End Butterfly Valves Lever-Lock Operator

(Page 2 of 3)

Tech Data Sheet: G315



The 50 through 200mm (2" through 8") Model B303 Butterfly Valve with Lever-Lock Operator has a throttling plate that provides throttling notches every 10° for manual control in balancing up to 90° or to shut off service. The Lever may be pad-locked in any one of the positions, including opened or closed, by virtue of a locking hole located in the handle and lever.



| Valve Material Specifications | | | |
|-------------------------------|----------------|---|------|
| Item No. | Description | Material | Qty. |
| 1 | Upper Stem | Stainless Steel | 1 |
| 2 | Bearing | Polyacetal | 4 |
| 3 | O-ring | EPDM, Nitrile, or Fluoroelastomer | 4 |
| 4 | Body | Ductile Iron RILSAN Coated | 1 |
| 5 | Disc | Ductile Iron Encapsulation per Table on page 96 | 1 |
| 6 | Lower Stem | Stainless Steel | 1 |
| 7 | Dust Plug | EPDM, Nitrile, or Fluoroelastomer | 1 |
| 8 | Nameplate | Aluminium | 1 |
| 9 | Handle | Ductile Iron | 1 |
| 10 | Lever | Zinc-Plated Steel | 1 |
| 11 | Throttle Plate | Zinc-Plated Steel | 1 |
| 12 | Hex. Bolt | Zinc-Plated Steel | 2 |
| 13 | Hex. Nut | Zinc-Plated Steel | 2 |

Valves & Accessories

| Part Number | | Pipe Size | | Dimensions - mm Inches | | | | | | | Approx Weight Kg. Lbs. |
|-------------|----------|-------------------------|----------------------|------------------------|---------------|----------------|---------------|---------------|--------------|--------------|------------------------------|
| EPDM | Nitrile | Nominal mm Inches | O.D. mm Inches | A | B | C | D | E | F | G | |
| B30320EL | B30320TL | 50 2 | 60.3 2.375 | 131,0 5.16 | 72,5 2.85 | 284,0 11.18 | 70,0 2.76 | 96,4 3.80 | 0 | 50,8 2.00 | 1,8 4.0 |
| B30325EL | B30325TL | 65 2½ | 73.0 2.875 | 146,0 5.76 | 85,0 3.35 | 284,0 11.18 | 77,0 3.03 | 96,4 3.80 | 0 | 59,4 2.34 | 3,8 8.4 |
| B30326EL | B30326TL | 65 76,1mm | 76.1 3.000 | 146,0 5.76 | 85,0 3.35 | 284,0 11.18 | 77,0 3.03 | 96,4 3.80 | 0 | 57,9 2.28 | 3,8 8.4 |
| B30330EL | B30330TL | 80 3 | 88.9 3.500 | 153,0 6.02 | 91,0 3.58 | 284,0 11.18 | 96,0 3.78 | 96,4 3.80 | 0 | 58,2 2.29 | 4,3 9.5 |
| B30340EL | B30340TL | 100 4 | 114.3 4.500 | 178,0 7.01 | 109,0 4.29 | 284,0 11.18 | 124,0 4.88 | 115,4 4.54 | 0 | 70,6 2.78 | 6,0 13.2 |
| B30356EL | B30356TL | 125 139,7mm | 139.7 5.500 | 199,0 7.83 | 131,0 4.16 | 284,0 11.18 | 146,0 5.75 | 132,4 5.21 | 0 | 59,4 2.34 | 8,8 19.4 |
| B30350EL | B30350TL | 125 5 | 141.3 5.563 | 199,0 7.83 | 131,0 4.16 | 284,0 11.18 | 146,0 5.75 | 132,4 5.21 | 0 | 58,7 2.31 | 8,8 19.4 |
| B30366EL | B30366TL | 150 165,1mm | 165.1 6.500 | 212,0 8.35 | 145,0 5.71 | 284,0 11.18 | 175,0 6.89 | 132,4 5.21 | 6,8 0.27 | 59,7 2.35 | 10,6 23.4 |
| B30360EL | B30360EL | 150 6 | 168.3 6.625 | 212,0 8.35 | 145,0 5.71 | 284,0 11.18 | 175,0 6.89 | 132,4 5.21 | 6,8 0.27 | 58,2 2.29 | 10,6 23.4 |
| B30380EL | B30380TL | 200 8 | 219.1 8.625 | 237,0 9.33 | 170,0 6.69 | 284,0 11.18 | 224,0 8.82 | 147,4 5.80 | 24,0 0.94 | 57,7 2.27 | 15,6 34.4 |

Note: recommended for mounting with GRINNELL Rigid couplings
For information on alternative sizes, contact a GRINNELL Sales Representative.
For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Model B303 Grooved End Butterfly Valves Gear Operator

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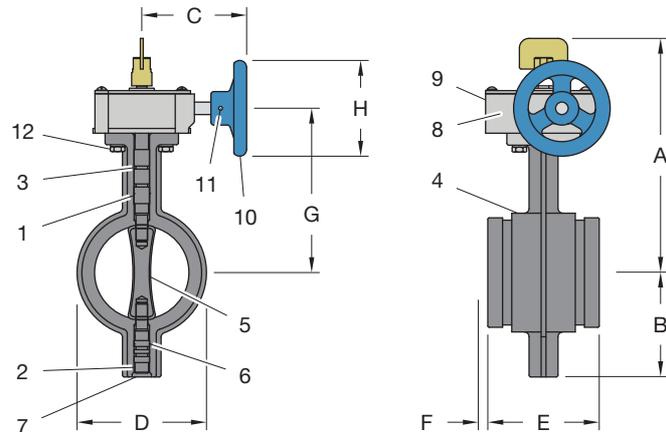
Tech Data Sheet: G315



The 50 through 300mm (2" through 12") Model B303 Butterfly Valve with Gear Operator is a self-locking, travelling nut gear operator (50 through 200mm) and segmented gearbox (250 through 300mm) type. It is equipped with adjustable stop screws to lock the valve at the full open and shut positions.



| Valve Material Specifications | | | |
|-------------------------------|---------------|---|------|
| Item No. | Description | Material | Qty. |
| 1 | Upper Stem | Stainless Steel | 1 |
| 2 | Bearing | Polyacetal | 4 |
| 3 | O-ring | EPDM, Nitrile, or Fluoroelastomer | 4 |
| 4 | Body | Ductile Iron RILSAN Coated | 1 |
| 5 | Disc | Ductile Iron Encapsulation per Table on page 96 | 1 |
| 6 | Lower Stem | Stainless Steel | 1 |
| 7 | Dust Plug | EPDM, Nitrile, or Fluoroelastomer | 1 |
| 8 | Nameplate | Aluminium | 1 |
| 9 | Gear Operator | Ductile Iron, Steel | 1 |
| 10 | Handwheel | Ductile Iron | 1 |
| 11 | Spring Pin | Steel | 1 |
| 12 | Hex. Bolt | Zinc-Plated Steel | 2 |



Valves & Accessories

| Part Number | | Pipe Size | | Dimensions - mm Inches | | | | | | | | Approx Weight Kg. Lbs. |
|-------------|----------|-------------------------|----------------------|------------------------|-------|-------|-------|-------|------|-------|-------|------------------------------|
| EPDM | Nitrile | Nominal mm Inches | O.D. mm Inches | A | B | C | D | E | F | G | H | |
| B30320EG | B30320TG | 50 | 60.3 | 214,0 | 72,5 | 108,6 | 70,0 | 96,4 | 0 | 124,5 | 125,0 | 7,2 |
| | | 2 | 2.375 | 8.43 | 2.85 | 4.28 | 2.76 | 3.80 | 0 | 4.9 | 4.92 | 15.9 |
| B30325EG | B30325TG | 65 | 73.0 | 237,3 | 85,0 | 108,6 | 77,0 | 96,4 | 0 | 139,8 | 125,0 | 8,7 |
| | | 2½ | 2.875 | 9.34 | 3.35 | 4.28 | 3.03 | 3.80 | 0 | 5.50 | 4.92 | 19.2 |
| B30326EG | B30326TG | 65 | 76.1 | 237,3 | 85,0 | 108,6 | 77,0 | 96,4 | 0 | 139,8 | 125,0 | 8,7 |
| | | 76,1mm | 3.000 | 9.34 | 3.35 | 4.28 | 3.03 | 3.80 | 0 | 5.50 | 4.92 | 19.2 |
| B30330EG | B30330TG | 80 | 88.9 | 243,8 | 91,0 | 108,6 | 96,0 | 96,4 | 0 | 146,3 | 125,0 | 9,5 |
| | | 3 | 3.500 | 9.60 | 3.58 | 4.28 | 3.78 | 3.80 | 0 | 5.76 | 4.92 | 21.0 |
| B30340EG | B30340TG | 100 | 114.3 | 269,0 | 109,0 | 108,6 | 124,0 | 115,4 | 0 | 171,5 | 125,0 | 11,0 |
| | | 4 | 4.500 | 10.59 | 4.29 | 4.28 | 4.88 | 4.54 | 0 | 6.75 | 4.92 | 24.3 |
| B30356EG | B30356TG | 125 | 139.7 | 290,0 | 131,0 | 147,0 | 146,0 | 132,4 | 0 | 201,5 | 150,0 | 14,5 |
| | | 139,7mm | 5.500 | 11.42 | 4.16 | 5.79 | 5.75 | 5.21 | 0 | 7.93 | 5.91 | 32.0 |
| B30350EG | B30350TG | 125 | 141.3 | 290,0 | 131,0 | 147,0 | 146,0 | 132,4 | 0 | 201,5 | 150,0 | 14,5 |
| | | 5 | 5.563 | 11.42 | 4.16 | 5.79 | 5.75 | 5.21 | 0 | 7.93 | 5.91 | 32.0 |
| B30366EG | B30366TG | 150 | 165.1 | 303,0 | 145,0 | 147,0 | 175,0 | 132,4 | 6,8 | 214,5 | 150,0 | 16,2 |
| | | 165,1mm | 6.500 | 11.93 | 5.71 | 5.79 | 6.89 | 5.21 | 0.27 | 8.44 | 5.91 | 35.7 |
| B30360EG | B30360TG | 150 | 168.3 | 303,0 | 145,0 | 147,0 | 175,0 | 132,4 | 6,8 | 214,5 | 150,0 | 16,2 |
| | | 6 | 6.625 | 11.93 | 5.71 | 5.79 | 6.89 | 5.21 | 0.27 | 8.44 | 5.91 | 35.7 |
| B30380EG | B30380TG | 200 | 219.1 | 328,0 | 170,0 | 208,0 | 224,0 | 147,4 | 24,0 | 236,0 | 225,0 | 22,5 |
| | | 8 | 8.625 | 12.91 | 6.69 | 8.19 | 8.82 | 5.80 | 0.94 | 9.29 | 8.86 | 49.6 |
| B30310EG | B30310TG | 250 | 273.0 | 374,0 | 195,0 | 208,0 | 275,0 | 159,0 | 41,8 | 282,0 | 225,0 | 33,0 |
| | | 10 | 10.750 | 14.72 | 7.68 | 8.19 | 10.83 | 6.26 | 1.65 | 11.10 | 8.86 | 72.8 |
| B30312EG | B30312TG | 300 | 323.9 | 402,0 | 241,5 | 208,0 | 339,0 | 165,0 | 68,5 | 310,0 | 225,0 | 40,4 |
| | | 12 | 12.750 | 15.83 | 9.51 | 8.19 | 13.15 | 6.50 | 2.70 | 12.20 | 8.86 | 89.3 |

Note: recommended for mounting with GRINNELL Rigid couplings

For information on alternative sizes, contact a GRINNELL Sales Representative.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Model CV-1 Grooved End Check Valves

(Page 1 of 2)

Tech Data Sheet: G352



SPECIFICATIONS

Valve Assembly Finish

- Red, non-lead paint

Max Working Pressure

- 20.7 Bar (300 psi)

Clapper

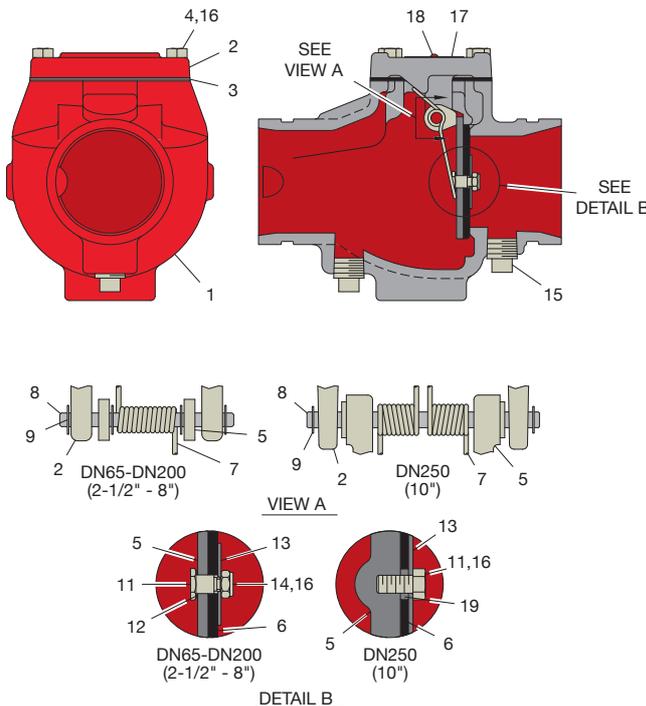
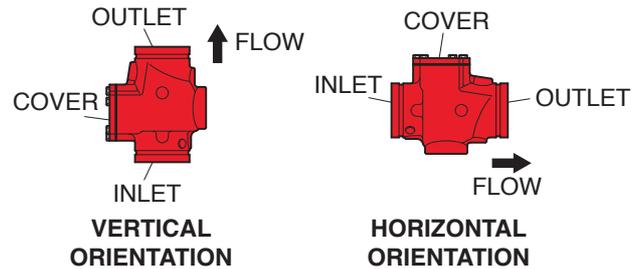
- 50 - 200mm (2" - 8") - Stainless Steel,
250mm (10") - Ductile iron

The GRINNELL Model CV-1 Grooved End Swing Check Valves are compact and rugged swing-type units that allow water flow in one direction and prevent flow in the opposite direction. They are manufactured with a ductile iron body and a nickel-plated seat.

- Sizes 50 to 200mm (2" to 8") have a stainless steel clapper assembly.
- Sizes 250 to 300mm (10" to 12") have a ductile iron clapper assembly.

A resilient elastomer seal facing on the spring-loaded clapper ensures a leaktight seal and a non-sticking operation.

The Model CV-1 Check Valves are designed to minimise water hammer caused by flow reversal. The Model CV-1 Check Valve is furnished with grooved ends and can be installed using GRINNELL Grooved Couplings or Flanged Adapters. The Model CV-1 Check Valves have been designed with a removable cover for ease of field maintenance. These valves can be installed horizontally (with cover in the upward position) or vertically with the flow in the upward direction.

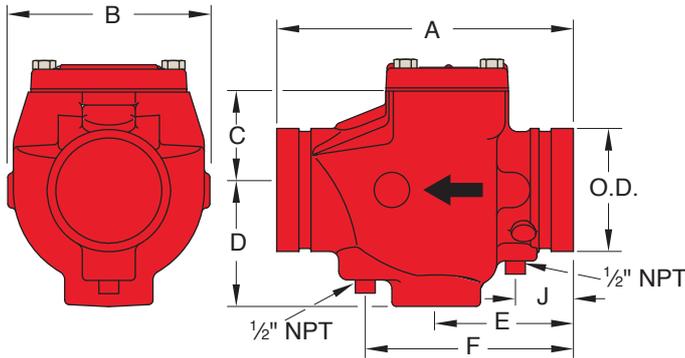


| Valve Material Specifications | | | |
|-------------------------------|-------------------|---------------------------------|------|
| Item No. | Description | Material | Qty. |
| 1 | Body | Ductile Iron | 1 |
| 2 | Cap | Ductile Iron | 1 |
| 3 | Gasket | Synthetic Fibre | 1 |
| 4 | Hex Cap Screw | Steel, Zinc Plated | AR |
| 5 | Clapper | Stainless Steel or Ductile Iron | 1 |
| 6 | Seal Facing | EPDM Grade "E" | 1 |
| 7 | Spring | Stainless Steel | 1 |
| 8 | Hinge Shaft | Stainless Steel | 1 |
| 9 | Retaining Ring | Stainless Steel | AR |
| 10 | Washer | Teflon | 2 |
| 11 | Retention Bolt | Stainless Steel | 1 |
| 12 | Seal Ring | Neoprene | 1 |
| 13 | Retaining Disc | Stainless Steel | 1 |
| 14 | Locknut | Stainless Steel | 1 |
| 15 | Plug- 1/2"-14 NPT | Cast Iron | 2 |
| 16 | Adhesive | Thread Sealer | AR |
| 17 | Nameplate | Aluminium | 1 |
| 18 | Rivet | Steel | 2 |
| 19 | Spacer | Stainless Steel | 1 |

Model CV-1 Grooved End Check Valves

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Tech Data Sheet: G352

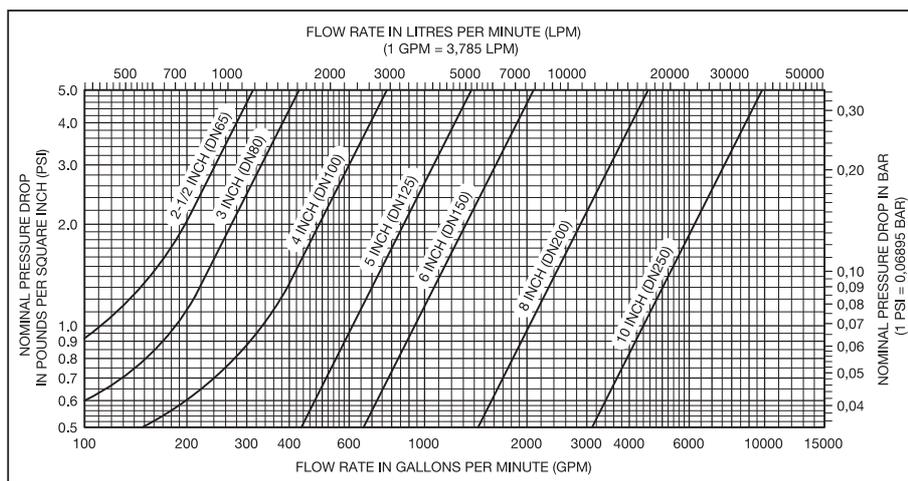


| Part Number | Pipe Size | | Dimensions mm In. | | | | | | | Approx. Weight kg Lbs |
|-------------|-------------------|-------------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------------------|
| | Nominal DN In. | O.D. mm In. | A mm In. | B mm In. | C mm In. | D mm In. | E mm In. | F mm In. | J mm In. | |
| 595900020 | 50 | 60.3 | 171.5 | 111.3 | 64.8 | 65.3 | 82.3 | 120.7 | 41.5 | 4.1 |
| | 2 | 2.375 | 6.75 | 4.38 | 2.55 | 2.57 | 3.25 | 4.75 | 1.62 | 9.0 |
| 595900025 | 65 | 73.0 | 203.2 | 147.3 | 86.6 | 86.4 | 98.6 | 152.4 | 43.2 | 4.5 |
| | 2-1/2 | 2.875 | 8.00 | 5.80 | 3.41 | 3.40 | 3.88 | 6.00 | 17.0 | 10.0 |
| 595900076 | 65 | 76.1 | 203.2 | 147.3 | 86.6 | 86.4 | 98.6 | 152.4 | 43.2 | 4.5 |
| | 76.1mm | 3.000 | 8.00 | 5.80 | 3.41 | 3.40 | 3.88 | 6.00 | 1.70 | 10.0 |
| 595900030 | 80 | 88.9 | 212.6 | 146.3 | 91.4 | 86.4 | 98.6 | 152.4 | 43.2 | 5.0 |
| | 3 | 3.500 | 8.37 | 5.76 | 3.60 | 3.40 | 3.88 | 6.00 | 1.70 | 11.0 |
| 595900040 | 100 | 114.3 | 245.6 | 171.2 | 117.1 | 92.2 | 115.1 | 181.1 | 46.7 | 11.3 |
| | 4 | 4.500 | 9.63 | 6.74 | 4.61 | 3.63 | 4.56 | 7.13 | 1.84 | 25.0 |
| 595900139 | 125 | 139.7 | 266.7 | 190.5 | 134.4 | 106.7 | 124.5 | 193.0 | 48.3 | 13.2 |
| | 139.7mm | 5.500 | 10.50 | 7.50 | 5.29 | 4.20 | 4.90 | 7.60 | 1.90 | 29.0 |
| 595900050 | 125 | 141.3 | 266.7 | 190.5 | 134.4 | 106.7 | 124.5 | 193.0 | 48.3 | 13.2 |
| | 5 | 5.563 | 10.50 | 7.50 | 5.29 | 4.20 | 4.90 | 7.60 | 1.90 | 29.0 |
| 595900165 | 150 | 165.1 | 292.1 | 204.4 | 146.1 | 114.3 | 127.0 | 193.0 | 37.6 | 21.3 |
| | 165.1mm | 6.500 | 11.50 | 8.05 | 5.75 | 4.50 | 5.00 | 7.60 | 1.48 | 47.0 |
| 595900060 | 150 | 168.3 | 292.1 | 204.4 | 146.1 | 114.3 | 127.0 | 193.0 | 37.6 | 21.3 |
| | 6 | 6.625 | 11.50 | 8.05 | 5.75 | 4.50 | 5.00 | 7.60 | 1.48 | 47.0 |
| 595900080 | 200 | 219.1 | 355.6 | 260.4 | 196.9 | 142.7 | 138.4 | 213.4 | 58.9 | 29.9 |
| | 8 | 8.625 | 14.00 | 10.25 | 7.75 | 5.62 | 5.45 | 8.40 | 2.20 | 66.0 |
| 595900100 | 250 | 273.0 | 457.2 | 330.2 | 259.3 | 162.1 | 190.5 | 266.7 | 76.2 | 49.4 |
| | 10 | 10.750 | 18.00 | 13.00 | 10.21 | 6.38 | 7.50 | 10.50 | 3.00 | 109.7 |
| 595900120 | 300 | 323.9 | 533.4 | 362.7 | 287.2 | 184.4 | 193.5 | 269.7 | 69.9 | 68.0 |
| | 12 | 12.750 | 21.00 | 14.28 | 11.31 | 7.26 | 7.62 | 10.62 | 2.75 | 2.68 |

For information on alternative sizes, contact a GRINNELL Sales Representative.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Model CV-1 Pressure Loss Data



Refer to back cover for country-specific contact information

Figure 760P "Y" Strainer

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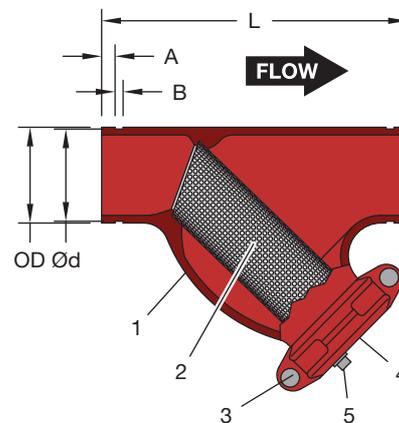
Tech Data Sheet: G422



The Figure 760P "Y" Strainer provides economical strainer protection for piping equipment such as pumps, meters, valves, compressors, traps and similar equipment, from debris and foreign matter.

This Strainer features a 304 Stainless Steel screen that is secured with an end cap and a mechanical coupling. Cleaning and maintenance of the screen can be accomplished easily by removing the coupling. The Figure 760P Strainer is suitable for vertical and horizontal installation.

| "Y" Strainer - Material Specifications | | |
|--|----------------|---|
| Item No. | Description | Material |
| 1 | Valve Body | ASTM A536, 65-45-12 |
| 2 | Screen | AISI 304 |
| 3 | Rigid Coupling | ASTM A536, 65-45-12 |
| 4 | Cap | ASTM A536, 65-45-12 |
| 5 | Plug | Malleable Iron Galvanized or Bronze ASTM B564 |



Valves & Accessories

| Part Number | Pipe Size | | Ød Bar psi | A mm Inches | B mm Inches | L mm Inches | Screen Perforation Detail (See Next Page) | Drain Plug Size Selection Inches NPT |
|-------------|-------------------------|----------------------|----------------|-------------------|-------------------|-------------------|--|---|
| | Nominal mm Inches | O.D. mm Inches | | | | | | |
| 760P000601 | 50 2 | 60.3 2.375 | 57.2 2.25 | 15.9 0.63 | 7.9 0.31 | 247.5 9.74 | Fig. A | 1/2" |
| 760P000731 | 65 2-1/2 | 73.0 2.875 | 69.1 2.72 | 15.9 0.63 | 7.9 0.31 | 273.0 10.75 | | |
| 760P000761 | 65 76,1mm | 73.0 2.875 | 69.1 2.72 | 15.9 0.63 | 7.9 0.31 | 273.0 10.75 | | |
| 760P000881 | 80 3 | 88.9 3.500 | 84.9 3.34 | 15.9 0.63 | 7.9 0.31 | 298.5 11.75 | Fig. B | 1" |
| 760P001141 | 100 4 | 114.3 4.500 | 110.1 4.33 | 15.9 0.63 | 9.6 0.37 | 362.0 14.25 | | |
| 760P001391 | 125 139,7mm | 139.7 5.500 | 137.0 5.39 | 15.9 0.63 | 9.6 0.37 | 419.0 16.50 | Fig. C | 1" |
| 760P001651 | 150 165,1mm | 165.7 6.500 | 164.0 6.46 | 15.9 0.63 | 9.6 0.37 | 470.0 18.50 | Fig. D | |
| 760P001681 | 150 6 | 168.3 6.625 | 164.0 6.46 | 15.9 0.63 | 9.6 0.37 | 470.0 18.50 | | |
| 760P002191 | 200 8 | 219.1 8.625 | 214.4 8.44 | 19.1 0.75 | 11.1 0.44 | 609.5 24.00 | | |
| 760P002731 | 250 10 | 273.1 10.750 | 268.3 10.56 | 19.1 0.75 | 12.7 0.50 | 686.0 27.00 | | |
| 760P003241 | 300 12 | 323.9 12.750 | 318.3 12.53 | 19.1 0.75 | 12.7 0.50 | 762.0 30.00 | | |

Maximum working pressure is based upon the performance capability of the GRINNELL "Y"-Strainer.

Maximum system working pressure is dependant upon the rigid couplings used for installation and the pressure capacity of the system components.

For information on alternative sizes, contact a GRINNELL Sales Representative.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

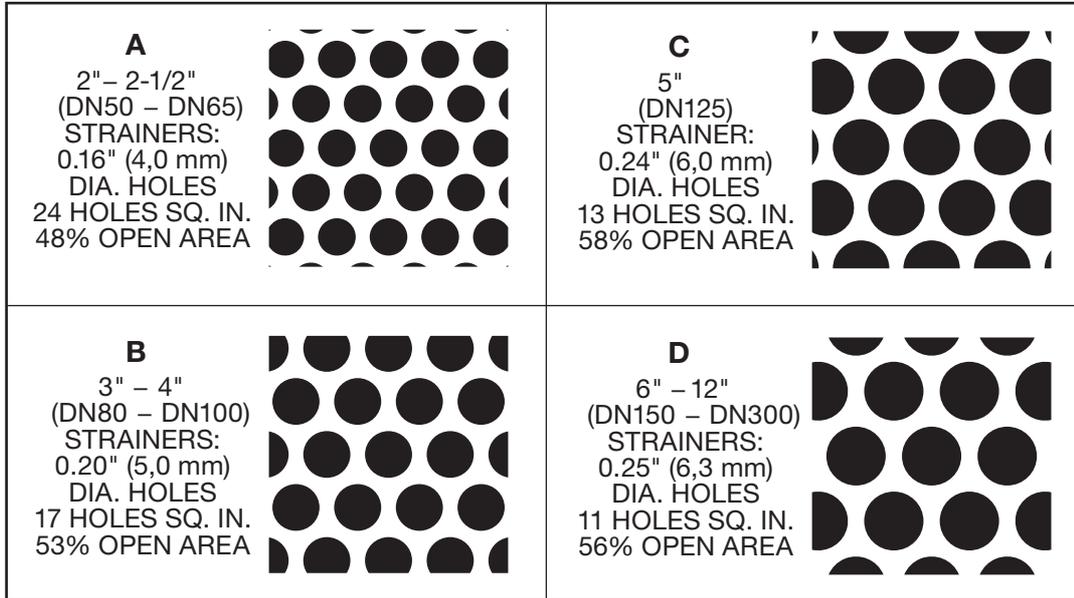
Figure 760P "Y" Strainer

(Page 2 of 2)

Tech Data Sheet: G422



**Figure 760P "Y" Strainer
Screen Perforations**



SPECIFICATIONS

Maximum Working Pressure

- 20 bar (300 psi)

Strainer Screen

- AISI 304

Temperature Range

- 0° to 100°C (32° to 200° F)

Body and Cover

- ASTM A-536, Grade 65-45-12

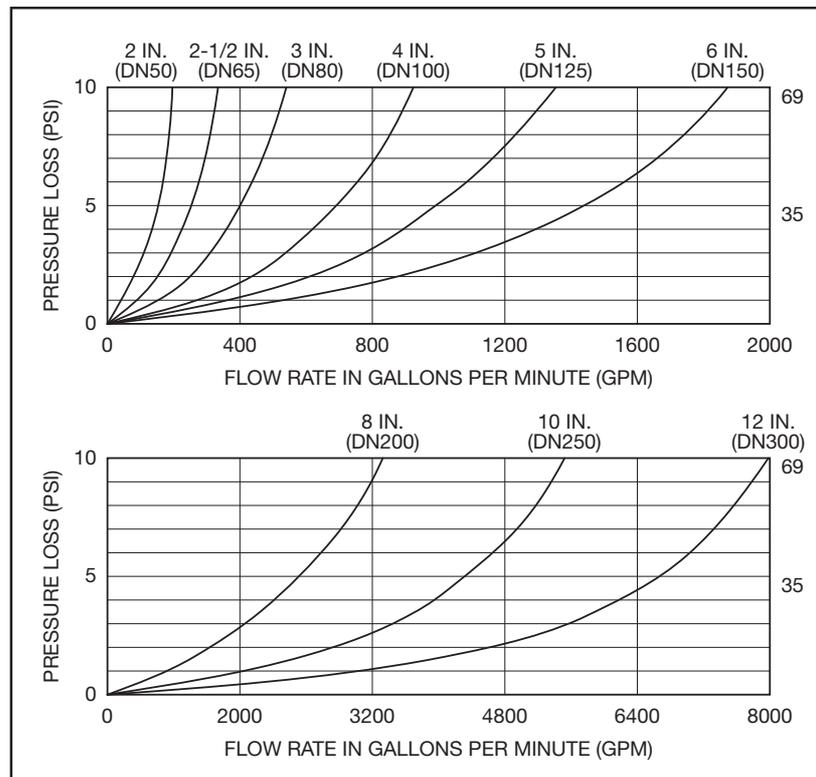
Coating

- Fusion bonded Epoxy Coating in accordance with ANSI/AWWA C550 or painting upon request

Performance

- See chart or contact a GRINNELL Sales Representative.

**Figure 760P "Y" Strainer
Performance**



Valves &
Accessories

Figure 725G Suction Diffuser

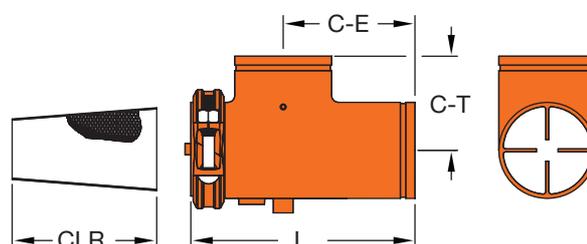
10
YEAR
LIMITED
WARRANTY



The Model 725G Suction Diffuser features a space saving design, ductile iron body and integral vanes that effectively reduce turbulence and provide optimum flow conditions at the inlet side of the pump.

The suction diffuser's inlet is supplied with a grooved end to AWWA C606-04. The 725G can be connected directly to grooved end pump or to a flanged end pump if used in combination with a Model 7041 Flange Adapter or a Model 7180 Universal Flange Adapter.

The Model 725G is supplied with a 304 stainless steel running strainer and a disposable fine mesh screen to protect the pump during start-up operation.



Valves &
Accessories

| Part Number | Nominal Size - mm Inches | | | | Max. Wk Pressure* Bar psi | Dimensions - mm Inches | | | | Drain Inches | Approx Weight Kg. Lbs. |
|-------------|--------------------------|-------------------|-------------------|-------------------|---------------------------------|------------------------|-------|-------|-------|-----------------|------------------------------|
| | Suction Side | | Pump Side | | | L | C-E | CLR | C-T | | |
| | Nominal DN In. | O.D. mm In. | Nominal mm In. | O.D. mm In. | | | | | | | |
| 725G2X2* | 50 | 60.3 | 50 | 60.3 | 20.7 | 224 | 127 | 147 | 95 | 1/2 | 3.6 7.9 |
| | 2 | 2.375 | 2 | 2.375 | 300 | 8.82 | 5.00 | 5.79 | 3.75 | | |
| 725G25X25* | 65 | 76.1 | 65 | 76.1 | 20.7 | 224 | 127 | 147 | 95 | 1/2 | 4.0 8.8 |
| | 76.1mm | 3.000 | 76.1mm | 3.000 | 300 | 8.82 | 5.00 | 5.79 | 3.75 | | |
| 725G3X3* | 80 | 88.9 | 80 | 88.9 | 20.7 | 265 | 160 | 176 | 108 | 1 | 5.9 13.0 |
| | 3 | 3.500 | 3 | 3.500 | 300 | 10.43 | 6.30 | 6.93 | 5.51 | | |
| 725G4X4* | 100 | 114.3 | 100 | 114.3 | 20.7 | 312 | 187 | 218 | 127 | 1 | 9.4 20.9 |
| | 4 | 4.500 | 4 | 4.500 | 300 | 12.28 | 7.36 | 8.58 | 5.00 | | |
| 725G5X5* | 125 | 139.7 | 125 | 139.7 | 20.7 | 352 | 260 | 248 | 229 | 1 | 17.7 38.9 |
| | 139,7mm | 5.500 | 139,7mm | 5.500 | 300 | 13.86 | 10.24 | 9.76 | 9.02 | | |
| 725G6X6* | 150 | 165.1 | 150 | 165.1 | 20.7 | 385 | 229 | 265 | 165 | 1 | 19.7 43.3 |
| | 165,1mm | 6.500 | 165,1mm | 6.500 | 300 | 15.16 | 9.02 | 10.43 | 6.50 | | |
| 725G8X8 * | 200 | 219.1 | 200 | 219.1 | 20.7 | 464 | 260 | 320 | 229 | 1-1/4 | 34.3 75.5 |
| | 8 | 8.625 | 8 | 8.625 | 300 | 18.27 | 10.24 | 12.60 | 9.02 | | |
| 725G10X10* | 250 | 273.1 | 250 | 273.1 | 20.7 | 562 | 315 | 410 | 229 | 1-1/4 | 56.0 123.2 |
| | 10 | 10.750 | 10 | 10.750 | 300 | 22.11 | 12.40 | 16.14 | 9.02 | | |
| 725G12X12* | 300 | 323.9 | 300 | 323.9 | 20.7 | 668 | 392 | 490 | 254 | 1-1/4 | 76.4 168.1 |
| | 12 | 12.750 | 12 | 12.750 | 300 | 26.30 | 15.43 | 19.29 | 10.00 | | |

* = 1 for red paint finish, 2 for hot dipped galvanised finish

For information on alternative sizes, contact a GRINNELL Sales Representative.

* Working pressure is based on connection with roll or cut grooved standard wall carbon steel pipe

See pages 116 - 127 for gasket information.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

CB800 Circuit Balancing Valves

Tech Data Sheet: G450



GRINNELL Model CB800 Circuit Balancing Valves are designed to achieve accurate and efficient balancing of hydronic heating or cooling systems. Circuit Balancing Valves provide superior accuracy in measuring flows rather than ball type circuit setters.

The CB800 valve serves 5 functions:

- Throttling
- Measuring differential pressure
- Draining
- Filling
- Positive shutoff

These valves are rated at 20.7 Bar (300 psi) at 150°C (300°F).

The Y-Pattern style provides low pressure drop. The globe style valve allows for precise throttling. The easy-to-adjust digital/vernier handwheel provides a minimum of 70 unique handwheel positions. The handwheel and test ports are located on one side for easy access. A built-in memory stop ensures the setting can be returned to a balanced position after shutoff. The self-sealing pressure/temperature test ports use standard insertion probes to eliminate additional components.

The GRINNELL Circuit Balancing Valve is installed with flow in the direction of the arrow, and may be in the horizontal or vertical position. The handwheel can be positioned up or down, or on either side.



MATERIAL SPECIFICATIONS

Body

- Sizes 15 – 50mm (1/2" – 2") solder or BSP threaded connection: brass-resistant to dezincification (DZR)
- Sizes 65 – 300mm (2 1/2" – 12"), grooved or flanged connection: Cast Iron conforming to ASME ANSI B 16.5

Valve Stem and Disc

- Brass resistant to dezincification (DZR)

O-Ring

- EPDM E

Handwheel

- Thermoplastic

For accessories and replacement parts contact a GRINNELL Sales Representative for details.

Valve Sizing

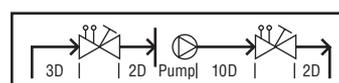
All balancing valves are sized to perform in a normal operation range between 25% and 100% of the full open position, at a minimum differential pressure between 0.3 – 0.9m (1 – 3 ft.) of water. It is recommended that for improved accuracy, the valve is set to open 70%+.

When maximum flow is known but a pressure drop through the balancing valve is unknown, select a balancing valve for a maximum pressure drop of 0.6m (2 ft.) water 0.06 Bar (0.8 psi) in the full open position as shown in the table to the right.

Accurate flow measurement requires that the velocity distribution near the balancing valve remains constant, regardless of the total flow through the pipe. Fittings, such as elbows and tees, disturb the normal flow profile which is established through straight pipe. Pumps create even greater disturbances. Failure to allow water flows around fittings and pumps to normalise can affect measuring accuracy by as much as 20% when the valve is in the fully open position. Minimum lengths (diameters, D) of straight pipe before and after the balancing valve prevent these errors.

Valves are designed for vertical, horizontal, or inclined installation.

Minimum Pipe Diameters from Fittings



| Size mm Inches | Flow Rate GPM LPM | Connection Type |
|----------------------|-------------------------|--------------------|
| 15 | 0.687 - 1.110 | Thread |
| 1/2 | 2.6 - 4.2 | |
| 20 | 0.898 - 1.638 | |
| 3/4 | 3.4 - 6.2 | |
| 25 | 1.638 - 2.536 | |
| 1 | 6.2 - 9.6 | |
| 32 | 2.483 - 5.548 | |
| 1 1/4 | 9.4 - 21.0 | |
| 40 | 3.96 - 7.93 | |
| 1 1/2 | 15 - 30 | |
| 50 | 5.812 - 11.096 | Grooved |
| 2 | 22 - 42 | |
| 65 | 10.30 - 28.01 | |
| 2 1/2 | 39 - 106 | |
| 65 | 10.30 - 28.01 | |
| 76,1mm | 39 - 106 | |
| 80 | 15.85 - 34.87 | |
| 3 | 60 - 132 | |
| 100 | 26.42 - 57.33 | |
| 4 | 100 - 217 | |
| 125 | 29.59 - 83.75 | |
| 139,7mm | 112 - 317 | |
| 125 | 29.59 - 83.75 | |
| 5 | 112 - 317 | |
| 150 | 58.12 - 115.46 | |
| 165,1mm | 220 - 437 | |
| 150 | 58.12 - 115.46 | |
| 6 | 220 - 437 | |
| 200 | 58.92 - 232.76 | |
| 8 | 223 - 881 | |
| 250 | 77.15 - 342.93 | |
| 10 | 292 - 1298 | |
| 300 | 162.75 - 457.33 | |
| 12 | 616 - 1731 | |

Model CB800 Circuit Balancing Valves Grooved Ends

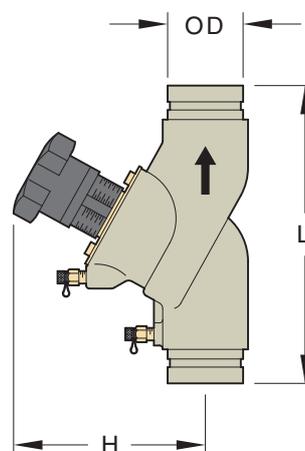
Tech Data Sheet: G450



The GRINNELL Model CB800 Balancing Valve provides features for achieving accurate and efficient balancing of hydronic heating or cooling systems. The GRINNELL Groove-by-Groove Model CB800 Valve, available sizes 65 to 300mm (2 1/2" to 12"), is composed of cast iron.

The CB800 valve serves 5 functions:

- Throttling
- Measuring differential pressure
- Draining
- Filling
- Positive shutoff



Valves & Accessories

| Part Number | Pipe Size | | Dimensions | | Approx. Weight Kg. Lbs. | Limits PN/°C PSI/°F | Handwheel Turns |
|-------------|-------------------------|----------------------|-------------------|-------------------|-------------------------------|---------------------------|--------------------|
| | Nominal mm Inches | O.D. mm Inches | L mm Inches | H mm Inches | | | |
| CB8002504 | 65 | 73.0 | 290.6 | 187.5 | 8.5 | 20.7/150 | 8 |
| | 2 1/2 | 2.875 | 11.44 | 7.38 | 18.7 | 300/300 | |
| CB8007604 | 65 | 76.1 | 290.6 | 187.5 | 8.5 | 20.7/150 | 8 |
| | 76,1mm | 3.000 | 11.44 | 7.38 | 18.7 | 300/300 | |
| CB8003004 | 80 | 88.9 | 311.2 | 203.2 | 12.5 | 20.7/150 | 8 |
| | 3 | 3.500 | 12.25 | 8.00 | 27.5 | 300/300 | |
| CB8004004 | 100 | 114.3 | 349.3 | 239.8 | 20.5 | 20.7/150 | 8 |
| | 4 | 4.500 | 13.75 | 9.44 | 45.1 | 300/300 | |
| CB8001394 | 125 | 139.7 | 400.0 | 282.7 | 32.0 | 20.7/150 | 8 |
| | 139,7mm | 5.500 | 15.75 | 11.13 | 70.4 | 300/300 | |
| CB8005004 | 125 | 141.3 | 400.0 | 282.7 | 32.0 | 20.7/150 | 8 |
| | 5 | 5.563 | 15.75 | 11.13 | 70.4 | 300/300 | |
| CB8001654 | 150 | 165.1 | 479.6 | 285.8 | 43.5 | 20.7/150 | 8 |
| | 165,1mm | 6.500 | 18.88 | 11.25 | 95.7 | 300/300 | |
| CB8006004 | 150 | 168.3 | 479.6 | 285.8 | 43.5 | 20.7/150 | 8 |
| | 6 | 6.625 | 18.88 | 11.25 | 95.7 | 300/300 | |
| CB8008004 | 200 | 219.1 | 600.2 | 468.4 | 116.0 | 20.7/150 | 12 |
| | 8 | 8.625 | 23.63 | 18.44 | 255.2 | 300/300 | |
| CB8001104 | 250 | 273.1 | 730.3 | 479.6 | 171.0 | 20.7/150 | 12 |
| | 10 | 10.750 | 28.75 | 18.88 | 376.2 | 300/300 | |
| CB8001204 | 300 | 323.9 | 849.4 | 514.4 | 136.0 | 20.7/150 | 12 |
| | 12 | 12.750 | 33.44 | 20.25 | 519.2 | 300/300 | |

For information on alternative sizes, contact a GRINNELL Sales Representative.

See circuit balancing valve specifications on pages 83.

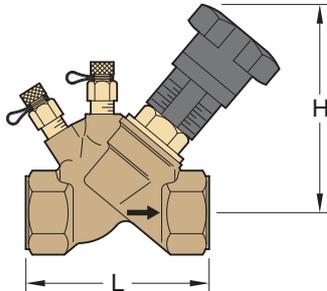
For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Model CB800 Circuit Balancing Valves BSP Threaded Ends

Tech Data Sheet: G450



The GRINNELL Model CB800 Balancing Valve provides features for achieving accurate and efficient balancing of hydronic heating or cooling systems. One valve serves five functions: throttling, measuring (pressure and temperature), positive shutoff, draining and filling. The GRINNELL Thread-by-Thread Model CB800 Valve, available in sizes 15 to 50mm ($\frac{1}{2}$ " to 2"), is composed of zinc retaining brass.



Valves &
Accessories

| Part Number | Pipe Size | | Dimensions | | Approx. Weight Kg. Lbs. | Limits PN/°C PSI/°F | Handwheel Turns |
|-------------|-------------------------|----------------------|-------------------|-------------------|-------------------------------|---------------------------|--------------------|
| | Nominal mm Inches | O.D. mm Inches | L mm Inches | H mm Inches | | | |
| CB8000505 | 15 | 21.3 | 79.5 | 104.9 | 0.6 | 16/150 | 7 |
| | $\frac{1}{2}$ | 0.840 | 3.13 | 4.13 | 1.4 | 235/300 | |
| CB8000755 | 20 | 26.9 | 84.1 | 115.8 | 0.6 | 16/150 | 7 |
| | $\frac{3}{4}$ | 1.050 | 3.31 | 4.56 | 1.4 | 235/300 | |
| CB8001005 | 25 | 33.7 | 85.6 | 119.1 | 1.0 | 16/150 | 7 |
| | 1 | 1.315 | 3.38 | 4.69 | 2.2 | 235/300 | |
| CB8001255 | 32 | 42.4 | 111.3 | 136.7 | 1.4 | 16/150 | 10 |
| | $1\frac{1}{4}$ | 1.660 | 4.38 | 5.38 | 3.0 | 235/300 | |
| CB8001505 | 40 | 48.3 | 120.7 | 138.2 | 1.7 | 16/150 | 10 |
| | $1\frac{1}{2}$ | 1.900 | 4.75 | 5.44 | 3.9 | 235/300 | |
| CB8002005 | 50 | 60.3 | 150.9 | 147.6 | 2.6 | 16/150 | 10 |
| | 2 | 2.375 | 5.94 | 5.81 | 5.6 | 235/300 | |

For information on alternative sizes, contact a GRINNELL Sales Representative.

See circuit balancing valve specifications on pages 83.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Model CB800 Circuit Balancing Valves Insulation Kits

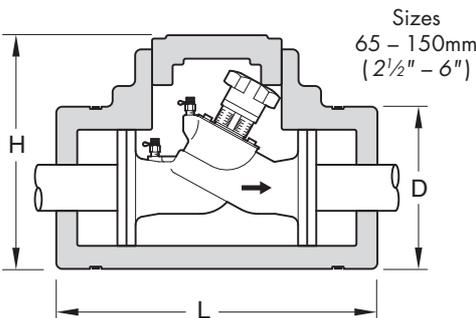
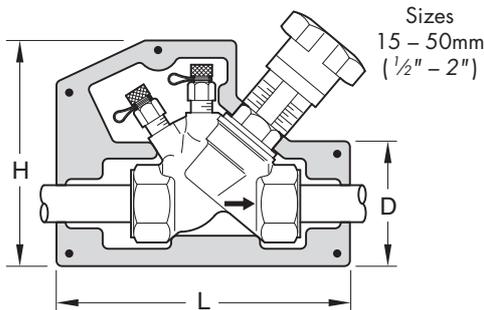
Tech Data Sheet: G450

10
YEAR
LIMITED
WARRANTY



The insulation shells have a CFC-free inner core made of polyurethane foam with a 1.5mm (0.06") plastic coat. It consists of two double shells which are tightened by two metal straps.

Available for sizes 15 – 150mm (½" – 6"). Specify size and end-connection type.



| Pipe Size | | Dimensions | | | Approx. Weight Kg. Lbs. |
|-------------------------|----------------------|-------------------|-------------------|-------------------|-------------------------------|
| Nominal mm Inches | O.D. mm Inches | D mm Inches | H mm Inches | L mm Inches | |
| 15 ½ | 21.3 0.840 | 69 2.72 | 136 5.35 | 183 7.20 | 0.15 0.3 |
| 20 ¾ | 26.9 1.050 | 77 3.31 | 143 5.63 | 195 7.68 | 0.18 0.4 |
| 25 1 | 33.7 1.315 | 85 3.35 | 151 5.94 | 243 9.57 | 0.22 0.5 |
| 32 1¼ | 42.4 1.660 | 97 3.82 | 172 6.77 | 254 10.00 | 0.20 0.4 |
| 40 1½ | 48.3 1.900 | 105 4.13 | 185 7.28 | 250 9.84 | 0.33 0.7 |
| 50 2 | 60.3 2.375 | 120 4.72 | 209 8.23 | 276 10.87 | 0.43 0.9 |
| 65 2½ | 73.0 2.875 | 260 10.2 | 410 16.1 | 505 19.9 | 3.06 6.7 |
| 80 3 | 88.9 3.500 | 280 11.0 | 415 16.3 | 530 20.9 | 3.25 7.2 |
| 100 4 | 114.3 4.500 | 320 12.6 | 520 20.5 | 580 22.8 | 5.16 11.4 |
| 125 5 | 141.3 5.563 | 360 14.2 | 560 22.1 | 620 24.4 | 5.24 11.6 |
| 150 6 | 168.3 6.625 | 400 15.7 | 600 23.6 | 730 28.7 | 5.97 13.2 |

For information on alternative sizes, contact a GRINNELL Sales Representative.

◆ Contact a GRINNELL Sales Representative for details.

See circuit balancing valve specifications on pages 83.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Valves &
Accessories

Model CB800 Circuit Balancing Valves MC2 Measuring Computer

Tech Data Sheet: G450

10
YEAR
LIMITED
WARRANTY



The GRINNELL Model MC2 computer is a hand-held computer-balancing instrument designed to measure the flow in GRINNELL Balancing Valves from 15 – 300mm (½" – 12"). The GRINNELL Model MC2 computer:

- Automatically calculates the flow rate for a valve.
- Measures differential pressure and temperature.
- Compares the actual and nominal flow values.
- Displays the required presetting value.

All results may be saved in the hand-held computer and can be downloaded to a PC at a later time.

The easy-to-operate touch button keypad protects against water and dirt particles. The hand-held computer is supplied with a rechargeable power pack. All parts of the hand-held computer are stored in a convenient carrying case.

Note: Only available in select regions, contact a GRINNELL Sales Representative.

Figure 70607 Groove Ended Metering Station

10
YEAR
LIMITED
WARRANTY



Description:

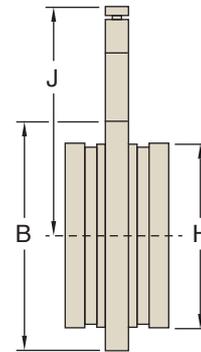
- Oventrop groove ended metering station PN16 complete with 2 extended pressure test points.

Application:

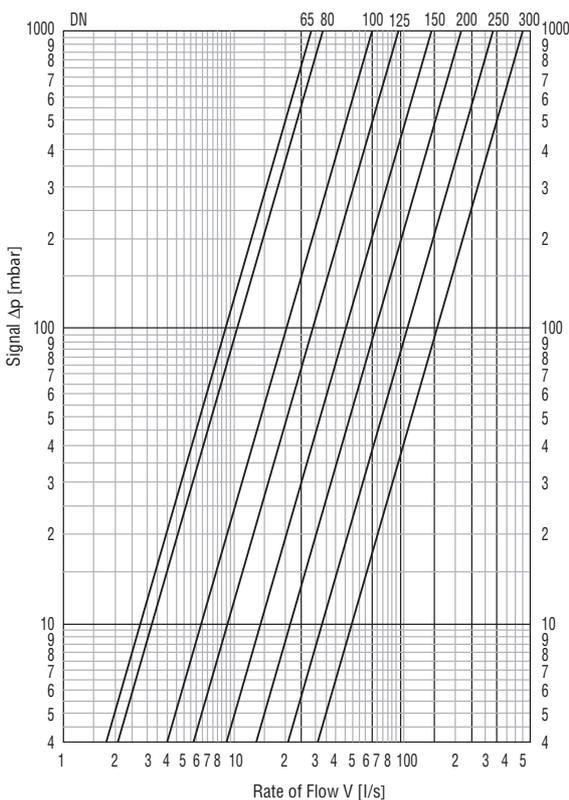
- Oventrop groove ended metering stations are installed in the pipework of hot water heating and chilled water systems to obtain flow measurements.
- Non-aggressive fluids
- Maximum pressure: 16 bar (232 psi)
- Temperature range: -10°C to 150°C (14°F to 302°F)

Materials:

- Nickel plated steel body
- DZR test points
- Note: To obtain an accuracy of +/- 5%, we recommended a minimum of 5 diameters of straight, valve sized, pipe on the inlet of the metering station and 3 diameters on the outlet.



Valves & Accessories



| Part Number | Pipe Size | | Dimensions - mm Inches | | | | Kv |
|-------------|-------------------|-----------------|------------------------|--------------|----------------|--------------|------|
| | Nominal mm Inches | O.D. mm Inches | A | B | H | J | |
| 7060751 | 65 76.1mm | 76.1 3.000 | 80 3.15 | 108 4.25 | 76.1 3.00 | 195 7.68 | 102 |
| 7060752 | 80 3 | 88.9 3.500 | 80 3.15 | 125 4.92 | 88.9 3.50 | 212 8.35 | 120 |
| 7060753 | 100 4 | 114.3 4.500 | 80 3.15 | 147 5.79 | 114.3 4.50 | 234 9.21 | 234 |
| 7060754 | 125 139.7mm | 139.7 5.500 | 80 3.15 | 175 6.89 | 139.7 5.50 | 262 10.31 | 335 |
| 7060755 | 150 165.1mm | 165.1 6.500 | 80 3.15 | 202 7.95 | 165.1 6.50 | 289 11.38 | 522 |
| 7060756 | 200 8 | 219.1 8.625 | 100 3.94 | 251 9.88 | 219.1 8.63 | 338 13.31 | 780 |
| 7060757 | 250 10 | 273.1 10.750 | 100 3.94 | 300 11.81 | 273.1 10.75 | 387 15.24 | 1197 |
| 7060758 | 300 12 | 323.9 12.750 | 100 3.94 | 345 13.58 | 323.9 12.75 | 432 17.01 | 1810 |

For information on alternative sizes, contact a GRINNELL Sales Representative.
For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

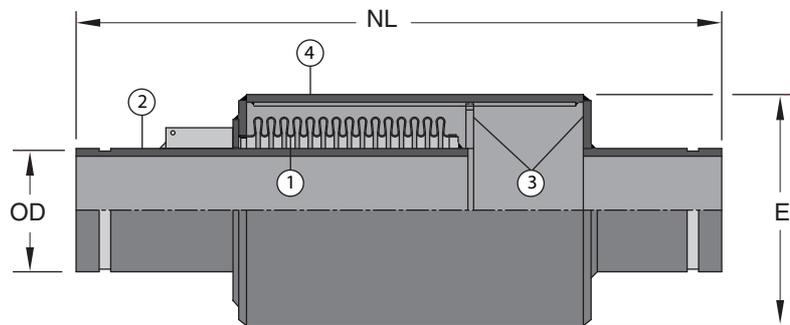
Figure RXAG Expansion Joint

10
YEAR
LIMITED
WARRANTY



An expansion joint with steel grooved ends for use within grooved end pipe systems. Using these couplings and fittings, combines a number of advantages. The ease and swiftness of installation reduces the actual time needed "on site". For applications in mainly heating systems, where a thermal expansion of the piping has to be absorbed. This type of expansion joint is basically meant for axial movements, and has an outer protection sleeve. The shown type is recommended for mounting with GRINNELL Rigid couplings.

| RXAG - Material Specifications | | |
|--------------------------------|-------------------------|--------------|
| Item No. | Description | Material |
| 1 | Bellow | AISI 316Ti |
| 2 | Grooved Ends | Carbon Steel |
| 3 | End/Guide Ring | Carbon Steel |
| 4 | Outer Protection Sleeve | AISI 304 |



Valves & Accessories

| Part Number | Pipe Size | | Max. Wk Pressure 20°C (68°F) Bar psi | Max. Wk Pressure 200°C (392°F) Bar psi | NL Neutral Length mm Inches | E mm Inches | Axial Compression mm Inches | Axial Extension mm Inches | Approx. Weight Kg. Lbs. |
|-------------|-------------------------|----------------------|---|---|--------------------------------------|-------------------|-----------------------------------|---------------------------------|-------------------------------|
| | Nominal mm Inches | O.D. mm Inches | | | | | | | |
| RXAG034 | 25 | 33.7 | 16.0 | 10.0 | 525 | 88.9 | -70 | +10 | 4.8 |
| | 1 | 1.315 | 230 | 145 | 20.67 | 3.50 | -2.76 | +0.39 | 10.6 |
| RXAG042 | 32 | 42.4 | 16.0 | 10.0 | 525 | 101.6 | -70 | +10 | 6.0 |
| | 1 ¼ | 1.660 | 230 | 145 | 20.67 | 4.00 | -2.76 | +0.39 | 13.2 |
| RXAG048 | 40 | 48.3 | 16.0 | 10.0 | 525 | 114.3 | -70 | +10 | 7.3 |
| | 1 ½ | 1.900 | 230 | 145 | 20.67 | 4.50 | -2.76 | +0.39 | 16.1 |
| RXAG060 | 50 | 60.3 | 16.0 | 10.0 | 525 | 115.0 | -70 | +10 | 7.8 |
| | 2 | 2.375 | 230 | 145 | 20.67 | 4.52 | -2.76 | +0.39 | 17.2 |
| RXAG076 | 65 | 76.1 | 16.0 | 10.0 | 525 | 127.0 | -70 | +10 | 10.3 |
| | 76,1mm | 3.000 | 230 | 145 | 20.67 | 5.00 | -2.76 | +0.39 | 22.7 |
| RXAG089 | 80 | 88.9 | 16.0 | 10.0 | 525 | 166.0 | -70 | +10 | 14.6 |
| | 3 | 3.500 | 230 | 145 | 20.67 | 6.54 | -2.76 | +0.39 | 32.2 |
| RXAG114 | 100 | 114.3 | 16.0 | 10.0 | 525 | 178.0 | -70 | +10 | 16.3 |
| | 4 | 4.500 | 230 | 145 | 20.67 | 7.00 | -2.76 | +0.39 | 35.9 |
| RXAG139 | 125 | 139.7 | 16.0 | 10.0 | 525 | 219.0 | -70 | +10 | 22.3 |
| | 139,7mm | 5.500 | 230 | 145 | 20.67 | 8.63 | -2.76 | +0.39 | 49.2 |
| RXAG168 | 150 | 168.3 | 16.0 | 10.0 | 525 | 273.0 | -70 | +10 | 30.6 |
| | 6 | 6.625 | 230 | 145 | 20.67 | 10.75 | -2.76 | +0.39 | 67.5 |
| RXAG219 | 200 | 219.1 | 16.0 | 10.0 | 525 | 324.0 | -70 | +10 | 44.4 |
| | 8 | 8.625 | 230 | 145 | 20.67 | 12.75 | -2.76 | +0.39 | 97.9 |
| RXAG273 | 250 | 273.0 | 16.0 | 10.0 | 525 | 400.0 | -70 | +10 | - |
| | 10 | 10.750 | 230 | 145 | 20.67 | 15.75 | -2.76 | +0.39 | - |
| RXAG300 | 300 | 323.9 | 16.0 | 10.0 | 525 | 457.0 | -70 | +10 | - |
| | 12 | 12.750 | 230 | 145 | 20.67 | 18.00 | -2.76 | +0.39 | - |

Note: recommended for mounting with GRINNELL Rigid couplings
 For information on alternative sizes, contact a GRINNELL Sales Representative.
 For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figure ALG Expansion Joint



MATERIAL SPECIFICATIONS

Bellow

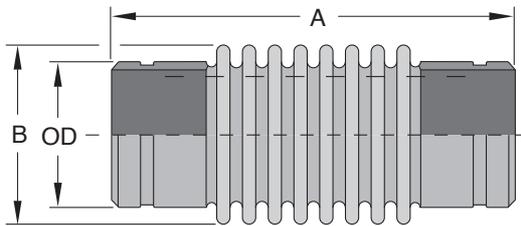
- Stainless steel AISI 321/Ws No 1.4541

Pipe Ends

- Carbon steel - ST 35.8

Internal Sleeves

- Stainless steel AISI 304/Ws No 1.4301



| Part Number | Pipe Size | | Max. Wk Pressure Bar psi | A mm Inches | B mm Inches | Rated Movement L mm Inches | Spring Rate N/mm Lbs/In. | Approx. Weight Kg. Lbs. |
|-------------|-------------------------|----------------------|--------------------------------|-------------------|-------------------|----------------------------------|--------------------------------|-------------------------------|
| | Nominal mm Inches | O.D. mm Inches | | | | | | |
| ALG0034 | 25 | 33.7 | 16.0 | 200 | 39 | +20 / -20 | 14 | 0.4 |
| | 1 | 1.315 | 230 | 7.87 | 1.54 | +0.79/-0.79 | 80 | 0.9 |
| ALG0042 | 32 | 42.4 | 16.0 | 205 | 46 | +20 / -20 | 16 | 0.5 |
| | 1 1/4 | 1.660 | 230 | 8.07 | 1.81 | +0.79/-0.79 | 91 | 1.2 |
| ALG0048 | 40 | 48.3 | 16.0 | 234 | 58 | +25 / -25 | 26 | 0.8 |
| | 1 1/2 | 1.900 | 230 | 9.21 | 2.28 | +0.98/-0.98 | 148 | 1.7 |
| ALG0060 | 50 | 60.3 | 16.0 | 276 | 69 | +30 / -30 | 22 | 1.3 |
| | 2 | 2.375 | 230 | 10.87 | 2.72 | +1.18/-1.18 | 126 | 2.8 |
| ALG0073 | 65 | 73.0 | 16.0 | 261 | 87 | +30 / -30 | 24 | 1.6 |
| | 2 1/2 | 2.875 | 230 | 10.28 | 3.43 | +1.18/-1.18 | 137 | 3.4 |
| ALG0076 | 65 | 76.1 | 16.0 | 261 | 87 | +30 / -30 | 24 | 1.6 |
| | 76,1mm | 3.000 | 230 | 10.28 | 3.43 | +1.18/-1.18 | 137 | 3.4 |

Note: recommended for mounting with GRINNELL Rigid couplings

For information on alternative sizes, contact a GRINNELL Sales Representative.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figure ANS Expansion Joint

10
YEAR
LIMITED
WARRANTY



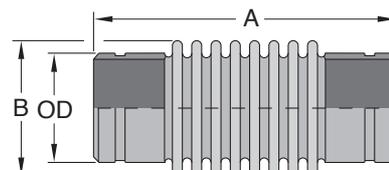
MATERIAL SPECIFICATIONS

Bellow

- Stainless steel AISI 321/Ws No 1.4541

Pipe Ends

- Carbon steel - ST 35.8



| Part Number | Pipe Size | | Max. Wk Pressure Bar psi | A mm Inches | B mm Inches | Rated Movement L mm Inches | Spring Rate N/mm Lbs/In | Approx. Weight Kg. Lbs. |
|-------------|-------------------------|----------------------|--------------------------------|-------------------|-------------------|----------------------------------|-------------------------------|-------------------------------|
| | Nominal mm Inches | O.D. mm Inches | | | | | | |
| ANS0089 | 80 | 88.9 | 16.0 | 205 | 104 | +20 / -20 | 46 | 1.9 |
| | 3 | 3.500 | 230 | 8.07 | 4.09 | +0.79/-0.79 | 263 | 4.1 |
| ANS0114 | 100 | 114.3 | 16.0 | 200 | 127 | +20 / -20 | 49 | 2.4 |
| | 4 | 4.500 | 230 | 7.87 | 5.00 | +0.79/-0.79 | 280 | 5.3 |
| ANS0139 | 125 | 139.7 | 16.0 | 210 | 155 | +25 / -25 | 93 | 3.2 |
| | 139,7mm | 5.500 | 230 | 8.27 | 6.10 | +0.98/-0.98 | 531 | 7.1 |
| ANS0141 | 125 | 141.3 | 16.0 | 210 | 155 | +25 / -25 | 93 | 3.2 |
| | 5 | 5.563 | 230 | 8.27 | 6.10 | +0.98/-0.98 | 531 | 7.1 |
| ANS0165 | 150 | 165.1 | 16.0 | 245 | 184 | +25 / -25 | 83 | 5.0 |
| | 165,1mm | 6.500 | 230 | 9.65 | 7.24 | +0.98/-0.98 | 474 | 11.0 |
| ANS0168 | 150 | 168.3 | 16.0 | 245 | 184 | +25 / -25 | 83 | 5.0 |
| | 6 | 6.625 | 230 | 9.65 | 7.24 | +0.98/-0.98 | 474 | 11.0 |
| ANS0219 | 200 | 219.1 | 16.0 | 275 | 235 | +25 / -25 | 89 | 8.7 |
| | 8 | 8.625 | 230 | 10.83 | 9.25 | +0.98/-0.98 | 508 | 19.1 |

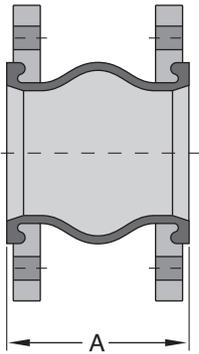
Note: recommended for mounting with GRINNELL Rigid couplings

For information on alternative sizes, contact a GRINNELL Sales Representative.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figure FSF Flanged Rubber Bellows

10
YEAR
LIMITED
WARRANTY



MATERIAL SPECIFICATIONS

Flange

- Galvanised carbon steel - ST 35.8, with hardened steel flange ring.

Bellow

- EPDM, nylon reinforced.



| Part Number | Pipe Size | | Max. Wk Pressure Bar <i>psi</i> | Flange Dimension | A mm <i>Inches</i> | Axial Movement ΔL mm <i>Inches</i> | Lateral Movement mm <i>Inches</i> | Max. Deflection | Approx. Weight Kg. <i>Lbs.</i> |
|-------------|-----------------------------|--------------------------|------------------------------------|------------------|-----------------------|---|--------------------------------------|-----------------|-----------------------------------|
| | Nominal mm <i>Inches</i> | O.D. mm <i>Inches</i> | | | | | | | |
| FSF0050E | 50 | 60.3 | 16.0 | PN10/16 | 130 | +20 / -30 | +20 | 35° | 3.8 |
| | 2 | 2.375 | 230 | | 5.12 | +0.79 / -1.18 | +0.79 | | 8.4 |
| FSF0065E | 65 | 76.1 | 16.0 | PN10/16 | 130 | +20 / -30 | +20 | 35° | 4.7 |
| | 76,1mm | 3.000 | 230 | | 5.12 | +0.79 / -1.18 | +0.79 | | 10.4 |
| FSF0080E | 80 | 88.9 | 16.0 | PN10/16 | 130 | +20 / -30 | +20 | 35° | 5.1 |
| | 3 | 3.500 | 230 | | 5.12 | +0.79 / -1.18 | +0.79 | | 11.2 |
| FSF0100E | 100 | 114.3 | 16.0 | PN10/16 | 130 | +20 / -30 | +20 | 35° | 7.0 |
| | 4 | 4.500 | 230 | | 5.12 | +0.79 / -1.18 | +0.79 | | 15.4 |
| FSF0125E | 125 | 139.7 | 16.0 | PN10/16 | 130 | +20 / -30 | +20 | 35° | 8.9 |
| | 139,7mm | 5.500 | 230 | | 5.12 | +0.79 / -1.18 | +0.79 | | 19.6 |
| FSF0150E | 150 | 165.1 | 16.0 | PN10/16 | 130 | +20 / -30 | +20 | 35° | 10.6 |
| | 165,1mm | 6.500 | 230 | | 5.12 | +0.79 / -1.18 | +0.79 | | 23.4 |
| FSF0200E | 200 | 219.1 | 10.0 | PN10 | 130 | +20 / -30 | +20 | 35° | 15.2 |
| | | | 150 | | | | | | 5.12 |
| FSF0250E | 8 | 8.625 | 16.0 | PN16 | 130 | +20 / -30 | +20 | 35° | 15.2 |
| | | | 230 | | | | | | 5.12 |
| FSF0300E | 250 | 273.0 | 10.0 | PN10 | 130 | +20 / -30 | +20 | 35° | 31.5 |
| | | | 150 | | | | | | 5.12 |
| FSF1200E | 10 | 10.750 | 16.0 | PN16 | 130 | +20 / -30 | +20 | 35° | 31.5 |
| | | | 230 | | | | | | 5.12 |
| FSF1250E | 300 | 323.9 | 10.0 | PN10 | 130 | +20 / -30 | +20 | 35° | 98.6 |
| | | | 150 | | | | | | 5.12 |
| FSF1300E | 12 | 12.750 | 16.0 | PN16 | 130 | +20 / -30 | +20 | 35° | 98.6 |
| | | | 230 | | | | | | 5.12 |

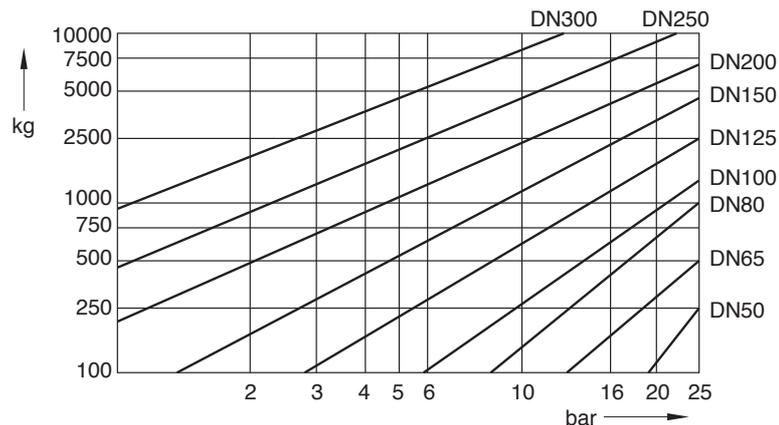
Valves & Accessories

Note: Max. working temperature: 104° C (219.2°F) maximum Vacuum: 400 mm Hg

For information on alternative sizes, contact a GRINNELL Sales Representative.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Reaction Force FSF Rubber Expansion Joints



Figures 407GT & 407T Dielectric Waterways

Tech Data Sheet: G465



Clearflow* Fittings protect plumbing systems through an innovative steel-to-plastic design that establishes a dielectric waterway. The dielectric fittings separate dissimilar metals in the electrolyte (waterway), eliminating the local galvanic cell.

The Clearflow Fittings metal-to-metal joint design maintains external electrical continuity, thereby preventing stray current corrosion. This feature is critical when stray current is present due to intentional or non-intentional grounding of direct current (DC) sources, such as phone systems and appliances.

Fittings meet the requirements of ASTM D 4140 for continuous use at temperatures up to 110°C (230°F).

Test data/results and listings by Pittsburgh Testing Laboratory can be provided upon request. Contact a GRINNELL Sales Representative

* Clearflow is a Registered Trademark of Perfection Corp.



Figure 407GT Dielectric Waterway

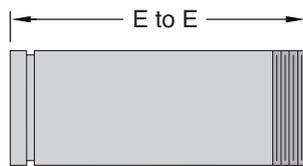
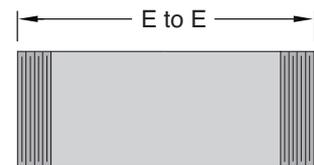


Figure 407T Dielectric Waterway



Valves & Accessories

| Pipe Size | | Figure 407GT Grooved x Male Thread | | | Figure 407T Male Thread x Male Thread | | |
|-------------------------|----------------------|---------------------------------------|----------------------------|---------------------------------|--|----------------------------|---------------------------------|
| Nominal mm Inches | O.D. mm Inches | Part Number | End to End mm Inches | Approx. Weight kg Lbs. | Part Number | End to End mm Inches | Approx. Weight kg Lbs. |
| 15 1/2 | 21.3 0.840 | - | - - | - - | 407T000212 | 76.2 3.0 | 0.1 0.2 |
| 20 3/4 | 26.9 1.050 | - | - - | - - | 407T000262 | 76.2 3.0 | 0.1 0.2 |
| 25 1 | 33.7 1.315 | | 101.6 4.0 | 0.1 0.3 | 407T000342 | 101.6 4.0 | 0.1 0.3 |
| 32 1 1/4 | 42.4 1.660 | 407GT00422 | 101.6 4.0 | 0.3 0.6 | 407T000422 | 101.6 4.0 | 0.3 0.6 |
| 40 1 1/2 | 48.3 1.900 | 407GT00482 | 101.6 4.0 | 0.4 0.8 | 407T000482 | 101.6 4.0 | 0.4 0.8 |
| 50 2 | 60.3 2.375 | 407GT00602 | 101.6 4.0 | 0.5 1.0 | 407T000602 | 101.6 4.0 | 0.5 1.0 |
| 65 2 1/2 | 73.0 2.875 | 407GT00732 | 152.4 6.0 | 0.7 1.6 | 407T000732 | 152.4 6.0 | 0.7 1.6 |
| 80 3 | 88.9 3.500 | 407GT00892 | 152.4 6.0 | 0.9 2.0 | 407T000892 | 152.4 6.0 | 0.9 2.0 |
| 100 4 | 114.3 4.500 | 407GT01142 | 152.4 6.0 | 2.0 4.5 | 407T001142 | 152.4 6.0 | 2.0 4.5 |

For information on alternative sizes, contact a GRINNELL Sales Representative.

See fitting specifications on page 39.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.