



# Cryogenic Valves

For Industrial Gas Applications



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# Cryogenic Bronze Manual Globe Valve

Bolted Bonnet - Extended Stem  
 Bronze Body with Bronze Internals  
 DN6 - DN50 (1/4" - 2")

The Parker Bestobell range of extended globe valves have been designed to eliminate leakages, maximize lifetime operation and reduce maintenance and spares cost.

The range is available with either screwed ends, Socket Ends or stubs and utilizes Parker Bestobell's unique independent bonnet and flange design, eliminating leakage through the flange gasket.

The Bronze extended stem globe valve has a bolted bonnet, integral cone seat and renewable seal, complete with bronze internals. Available with various ends, the valve is of the cone seat design for drop tight shut off. The bolted bonnet allows easy maintenance, even in confined spaces.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

**Maximum Working Pressure (MWP)**

Subject to end connections  
 Up to 50 bar (725 psi) at -196°C to +65°C

**Features**

- Unique Parker Bestobell loose flange bolted bonnet design allows for thermal expansion and contraction and eliminates leakage at the bonnet gasket
- PTFE/PCTFE seal to ensure tight shut off at all times
- Designed and engineered specifically for cryogenic service
- Anti-blowout stem and one-piece high strength design for operator safety
- Long life, low torque stem thread
- Lightweight ergonomic aluminium hand wheel
- Screwed and welded high strength extension tube/bonnet joints
- Revolving disc ensures non-rotating seat contact for an extended leak free life
- Full bore
- Fast/easy maintenance of PTFE/PCTFE components
- Long life spring loaded gland packing

**Technical**

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011.
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

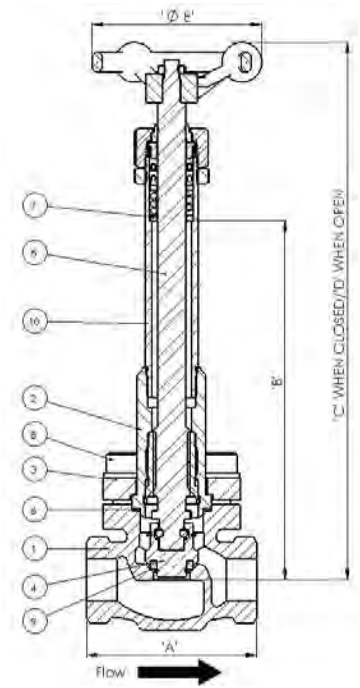
CE Marked according to the Pressure Equipment Directive



DN40 Bronze Globe Valve  
 Extended Stem with Screwed Ends



DN15 Bronze Globe Valve  
 Extended Stem with Stainless Steel Stubs



**Materials**

|                  | <b>Bronze</b>                        |
|------------------|--------------------------------------|
| 1. Body          | Gun Metal BS EN 1982 CC491K          |
| 2. Cover         | Stainless Steel BS EN 10088-3 1.4301 |
| 3. Bonnet Flange | Stainless Steel ASTM A351 CF8M       |
| 4. Disc          | HT Brass BS EN 12164 CW 721R         |
| 5. Stem          | Stainless Steel BS EN 10088-3 1.4401 |
| 6. Gasket Bonnet | Sigma 511                            |
| 7. Gland Packing | Virgin PTFE                          |
| 8. Fasteners     | Stainless Steel BS6105 A2/A4 Gr.70   |
| 9. Seal          | Virgin PTFE/PCTFE                    |
| 10. Tube         | Stainless Steel ASTM A312 TP304L     |

**Specifications**

| Size       | Unit   | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" |
|------------|--------|-------------|--------------|--------------|--------------|------------|----------------|------------|
| A          | mm     | 68          | 68           | 68           | 76           | 92         | 121            | 146        |
| B          | mm     | 230/300     | 230/300      | 230/300      | 230/300      | 230/300    | 230/300        | 230/300    |
| C : Closed | mm     | 300/370     | 300/370      | 300/370      | 300/370      | 310/380    | 310/380        | 310/380    |
| D : Open   | mm     | 310/380     | 310/380      | 310/380      | 310/380      | 320/390    | 320/390        | 330/400    |
| E          | mm     | 80          | 80           | 80           | 80           | 101        | 121            | 144        |
| Cv         | US GPM | 3.6         | 3.6          | 3.6          | 6.2          | 13.2       | 26.5           | 43         |
| Weight     | kg     | 1.5         | 1.5          | 1.5          | 2.5          | 2.5        | 4.5            | 7.6        |

**How to Order**

The correct part number is easily derived from the following number sequence

| CNB                                | 10                               | TA              | D   | 3           | C      |        |
|------------------------------------|----------------------------------|-----------------|---|-------------|--------|--------|
| Series                             | Valve Size Diameter Nominal (DN) | Connection Type | Bonnet & Stem Type  | Stem Length | Seat   |        |
| CNB Cryogenic Globe Valve - Bronze | 10                               | DN6             | TA BSP-PL<br>TC BSP-TR<br>TE NPT<br>SST Stainless Steel Stubs | 3           | C Cone |        |
|                                    | 20                               | DN10            |   |             |        | 230 mm |
|                                    | 30                               | DN15            |   | 6           |        |        |
|                                    | 40                               | DN20            |   |             |        |        |
|                                    | 50                               | DN25            |   |             |        |        |
|                                    | 70                               | DN40            |   |             |        |        |
| 80                                 | DN50                             |                 |   |             |        |        |

**Notes:** For Schedule 10 Stubs (Stainless Steel option only) insert Q2 at the end of part number. Please contact us for other options.

# Cryogenic Bronze Manual Globe Valve

Bolted Bonnet - Non-Extended Stem  
 Bronze Body with Bronze Internals  
 DN6 - DN50 (1/4" - 2")

The Parker Bestobell range of non-extended globe valves have been designed to eliminate leakages, maximize lifetime operation and reduce maintenance and spares cost.

The range is available with either screwed ends, Socket Ends or stubs and utilizes Parker Bestobell's unique independent bonnet and flange design, eliminating leakage through the flange gasket.

The Bronze non-extended stem globe valve has a bolted bonnet, integral cone seat and renewable seal, complete with bronze internals. Available with various ends, the valve is of the cone seat design for drop tight shut off. The bolted bonnet allows easy maintenance, even in confined spaces.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

## Features

- Unique Parker Bestobell loose flange bolted bonnet design allows for thermal expansion and contraction and eliminates leakage at the bonnet gasket
- PTFE/PCTFE seal to ensure tight shut off at all times
- Designed and engineered specifically for cryogenic service
- Anti-blowout stem and one-piece high strength design for operator safety
- Long life, low torque stem thread
- Lightweight ergonomic aluminium hand wheel
- Revolving disc ensures non-rotating seat contact for an extended leak free life
- Full bore
- Fast/easy maintenance of PTFE/PCTFE components
- Long life spring loaded gland packing

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011.
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive



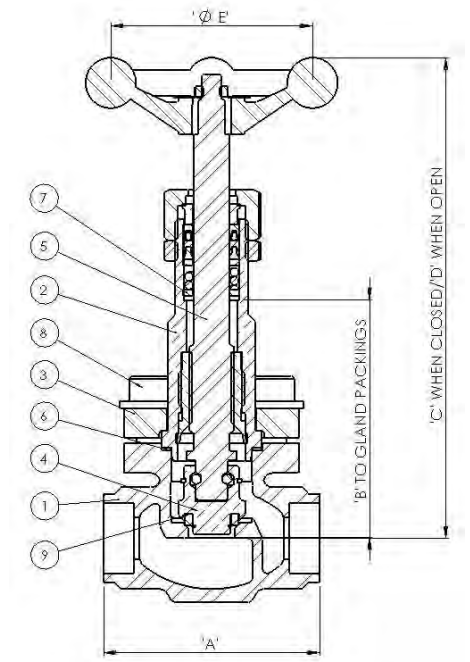
DN40 Bronze Globe Valve  
 Non-Extended Stem with  
 Screwed Ends



DN25 Bronze Globe Valve  
 Non-Extended Stem with  
 Stainless Steel Stubs

## Materials

|                  | Bronze                               |
|------------------|--------------------------------------|
| 1. Body          | Gun Metal BS EN 1982 CC491K          |
| 2. Cover         | Stainless Steel BS EN 10088-3 1.4301 |
| 3. Bonnet Flange | Stainless Steel ASTM A351 CF8M       |
| 4. Disc          | HT Brass BS EN 12164 CW 721R         |
| 5. Stem          | Stainless Steel BS EN 10088-3 1.4401 |
| 6. Gasket Bonnet | Sigma 511                            |
| 7. Gland Packing | Virgin PTFE                          |
| 8. Fasteners     | Stainless Steel BS6105 A2/A4 Gr.70   |
| 9. Seal          | Virgin PTFE/PCTFE                    |



## Specifications

| Size      | Unit   | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" |
|-----------|--------|-------------|--------------|--------------|--------------|------------|----------------|------------|
| A         | mm     | 68          | 68           | 68           | 76           | 92         | 121            | 146        |
| B         | mm     | 80          | 80           | 80           | 80           | 90         | 110            | 140        |
| C: Closed | mm     | 150         | 150          | 150          | 170          | 170        | 190            | 230        |
| D: Open   | mm     | 160         | 160          | 160          | 180          | 180        | 200            | 240        |
| E         | mm     | 80          | 80           | 80           | 80           | 101        | 121            | 144        |
| Cv        | US GPM | 3.6         | 3.6          | 3.6          | 6.2          | 13.2       | 26.5           | 43         |
| Weight    | kg     | 1           | 1            | 1            | 1.6          | 2          | 3.7            | 6          |

## How to Order

The correct part number is easily derived from the following number sequence

| CNB                                | 10                                  | TA                        | C1                                 | C      |
|------------------------------------|-------------------------------------|---------------------------|------------------------------------|--------|
| Series                             | Valve Size<br>Diameter Nominal (DN) | Connection Type           | Bonnet & Stem Type                 | Seat   |
| CNB Cryogenic Globe Valve - Bronze | 10 DN6                              | TA BSP-PL                 | Bolted Bonnet<br>Non-Extended Stem | C Cone |
|                                    | 20 DN10                             | TC BSP-TR                 |                                    |        |
|                                    | 30 DN15                             | TE NPT                    |                                    |        |
|                                    | 40 DN20                             | SST Stainless Steel Stubs |                                    |        |
|                                    | 50 DN25                             |                           |                                    |        |
|                                    | 70 DN40                             |                           |                                    |        |
|                                    | 80 DN50                             |                           |                                    |        |

Notes: For Schedule 10 Stubs (Stainless Steel option only) insert Q2 at the end of part number. Please contact us for other options.

# Cryogenic Full Stainless Steel Globe Valve

Bolted Bonnet - Extended Stem  
Full Stainless Steel  
DN6 - DN50 (1/4" - 2")

The Parker Bestobell range of extended globe valves have been designed to eliminate leakages, maximize lifetime operation and reduce maintenance and spares cost.

The range is available with either Butt Weld, socket end or flanged options and utilizes Parker Bestobell's unique independent bonnet and flange design, eliminating leakage through the flange gasket.

This Stainless Steel extended stem globe valves feature bolted bonnet, integral cone seat and renewable seal, complete with Stainless Steel internals. The bolted bonnet allows easy maintenance, even in confined spaces. The valve is of the cone seat design for drop tight shut off.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

**Maximum Working Pressure (MWP)**

Subject to end connections  
Up to 50 bar (725 psi) at -196°C to +65°C

**Features**

- Unique Parker Bestobell loose flange bolted bonnet design allows for thermal expansion and contraction and eliminates leakage at the bonnet gasket
- PTFE/PCTFE seal to ensure tight shut off at all times
- Designed and engineered specifically for cryogenic service
- Anti-blowout stem and one-piece high strength design for operator safety
- Long life, low torque stem thread
- Lightweight ergonomic aluminium hand wheel
- Screwed and welded high strength extension tube/bonnet joints
- Revolving disc ensures non-rotating seat contact for an extended leak free life
- Full bore
- Fast/easy maintenance of PTFE/PCTFE components
- Long life spring loaded gland packing

**Technical**

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011.
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive



DN15 Stainless Steel Globe Valve Extended Stem with Socket Ends



DN50 Stainless Steel Globe Valve Extended Stem with Flanged Ends



DN40 Stainless Steel Globe Valve Extended Stem with Butt Weld Ends

**Materials**

|                  | Stainless Steel                      |
|------------------|--------------------------------------|
| 1. Body          | Stainless Steel ASTM A351 CF8M       |
| 2. Cover         | Stainless Steel BS EN 10088-3 1.4301 |
| 3. Bonnet Flange | Stainless Steel ASTM A351 CF8M       |
| 4. Seal          | Virgin PTFE/PCTFE                    |
| 5. Stem          | Stainless Steel BS EN 10088-3 1.4401 |
| 6. Gasket Bonnet | Sigma 511                            |
| 7. Gland Packing | Virgin PTFE                          |
| 8. Tube          | Stainless Steel ASTM A312 TP304L     |
| 9. Disc          | Stainless Steel BS EN 10088-3 1.4401 |
| 10. Fasteners    | Stainless Steel BS6105 A2/A4 Gr.70   |

**Specifications**

**Butt Weld/Socket Weld Ends**

| Size      | Unit   | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" |
|-----------|--------|-------------|--------------|--------------|--------------|------------|----------------|------------|
| A         | mm     | 68          | 68           | 68           | 92           | 92         | 121            | 146        |
| B         | mm     | 300         | 300          | 300          | 300          | 300        | 300            | 300        |
| C: Closed | mm     | 370         | 370          | 370          | 380          | 380        | 380            | 380        |
| D: Open   | mm     | 380         | 380          | 380          | 390          | 390        | 390            | 390        |
| E         | mm     | 80          | 80           | 80           | 80           | 101        | 121            | 144        |
| Cv        | US GPM | 3.6         | 3.6          | 3.6          | 13.2         | 13.2       | 26.5           | 43         |
| Weight    | kg     | 1.6         | 1.6          | 1.6          | 2.3          | 2.3        | 4.2            | 6.8        |

**Flanged Ends (Class 300)**

| Size             | Unit | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" |
|------------------|------|-------------|--------------|--------------|--------------|------------|----------------|------------|
| F                | mm   | 130         | 130          | 130          | 160          | 160        | 200            | 230        |
| G                | mm   | 95          | 95           | 95           | 124          | 124        | 155            | 165        |
| Flange Thickness | mm   | 14          | 14           | 14           | 18           | 18         | 21             | 22         |
| Weight           | kg   | 2.8         | 2.8          | 2.8          | 5.3          | 5.3        | 9.6            | 13.8       |

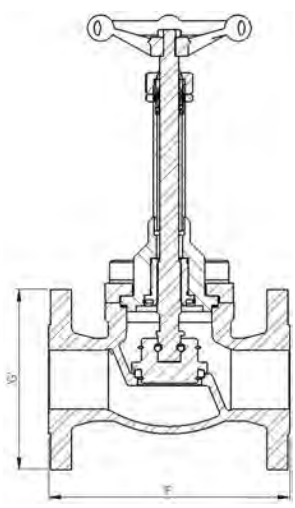
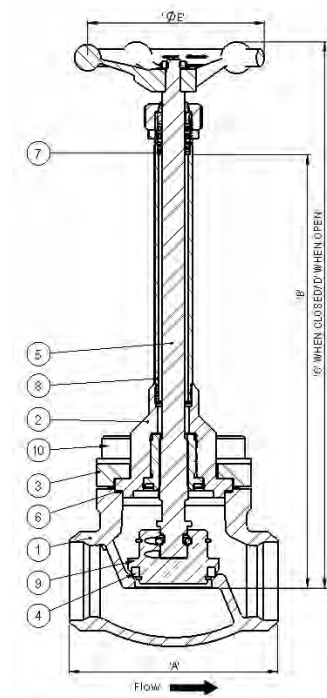
\*Class 150 available on request

**How to Order**

The correct part number is easily derived from the following number sequence

| CNS   | 10   | B1  | D                              | 3                  | C      |
|---|--|---|--------------------------------|--------------------|--------|
| Series                                      | Valve Size - Diameter Nominal (DN)                                       | Connection Type   | Bonnet & Stem Type             | Stem Length        | Seat   |
| CNS Cryogenic Globe Valve - Stainless Steel | 10 DN6<br>20 DN10<br>30 DN15<br>40 DN20<br>50 DN25<br>70 DN40<br>80 DN50 | B1 Butt Weld Schedule 10<br>SNE Socket Weld<br>FA Flange Class 150<br>FC Flange Class 300 | Bolted Bonnet<br>Extended Stem | 3 230mm<br>6 300mm | C Cone |

Please contact us for other options.



# Cryogenic Full Stainless Steel Globe Valve

Bolted Bonnet - Non-Extended Stem  
Full Stainless Steel  
DN6 - DN50 (1/4" - 2")

The Parker Bestobell range of non-extended globe valves have been designed to eliminate leakages, maximize lifetime operation and reduce maintenance and spares cost.

The range is available with either Butt Weld, socket end or flanged options and utilizes Parker Bestobell's unique independent bonnet and flange design, eliminating leakage through the flange gasket.

The Stainless Steel non-extended stem globe valve has a bolted bonnet, integral cone seat and renewable seal, complete with Stainless Steel internals. Available with various ends, the valve is of the cone seat design for drop tight shut off. The bolted bonnet allows easy maintenance, even in confined spaces.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

## Features

- Unique Parker Bestobell loose flange bolted bonnet design allows for thermal expansion and contraction and eliminates leakage at the bonnet gasket
- PTFE/PCTFE seal to ensure tight shut off at all times
- Designed and engineered specifically for cryogenic service
- Anti-blowout stem and one-piece high strength design for operator safety
- Long life, low torque stem thread
- Lightweight ergonomic aluminium hand wheel
- Revolving disc ensures non-rotating seat contact for an extended leak free life
- Full bore
- Fast/easy maintenance of PTFE/PCTFE components
- Long life spring loaded gland packing

## Technical

- Designed and engineered for use with Group 1 gases.
- ISO 9001 accreditation- design and manufacture to ASTM B31.1, BS EN 1626 and BS ISO 21011.
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive



DN15 Full Stainless Steel Globe Valve Non-Extended Stem with Socket Ends



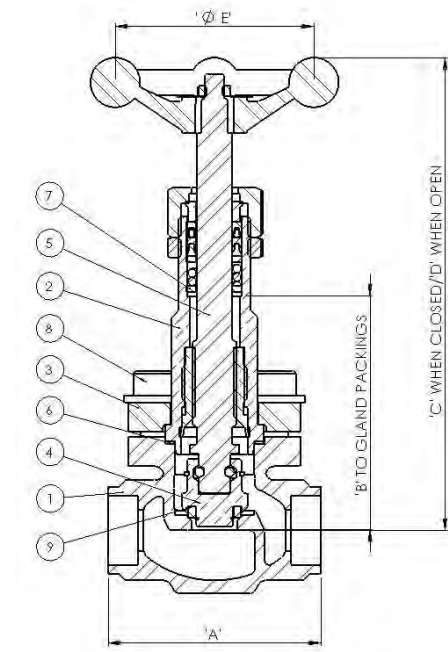
DN25 Full Stainless Steel Globe Valve Non-Extended Stem with Flanged Ends



DN15 Full Stainless Steel Globe Valve Non-Extended Stem with Butt Weld Ends

## Materials

|                  | Stainless Steel                      |
|------------------|--------------------------------------|
| 1. Body          | Stainless Steel ASTM A351 CF8M       |
| 2. Cover         | Stainless Steel BS EN 10088-3 1.4301 |
| 3. Bonnet Flange | Stainless Steel ASTM A351 CF8M       |
| 4. Disc          | Stainless Steel BS EN 10088-3 1.4401 |
| 5. Stem          | Stainless Steel BS EN 10088-3 1.4401 |
| 6. Gasket Bonnet | Sigma 511                            |
| 7. Gland Packing | Virgin PTFE                          |
| 8. Fasteners     | Stainless Steel BS6105 A2/A4 Gr.70   |
| 9. Seal          | Virgin PTFE/PCTFE                    |



## Specifications

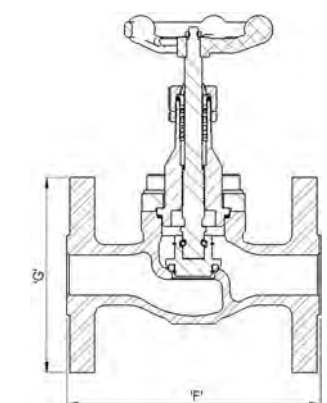
### Butt Weld/Socket Weld Ends

| Size      | Unit   | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" |
|-----------|--------|-------------|--------------|--------------|--------------|------------|----------------|------------|
| A         | mm     | 68          | 68           | 68           | 92           | 92         | 121            | 146        |
| B         | mm     | 80          | 80           | 80           | 80           | 90         | 110            | 140        |
| C: Closed | mm     | 150         | 150          | 150          | 170          | 170        | 190            | 230        |
| D: Open   | mm     | 160         | 160          | 160          | 180          | 180        | 200            | 240        |
| E         | mm     | 80          | 80           | 80           | 101          | 101        | 121            | 144        |
| Cv        | US GPM | 3.6         | 3.6          | 3.6          | 13.2         | 13.2       | 26.5           | 43         |
| Weight    | kg     | 1.2         | 1.2          | 1.2          | 2            | 2          | 3.7            | 5.8        |

### Flanged Ends (Class 300)

| Size             | Unit | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" |
|------------------|------|-------------|--------------|--------------|--------------|------------|----------------|------------|
| F                | mm   | 130         | 130          | 130          | 160          | 160        | 200            | 230        |
| G                | mm   | 95          | 95           | 95           | 124          | 124        | 155            | 165        |
| Flange Thickness | mm   | 14          | 14           | 14           | 18           | 18         | 21             | 22         |
| Weight           | kg   | 2.8         | 2.8          | 2.8          | 5.3          | 5.3        | 9.6            | 13.8       |

\*Class 150 available on request



## How to Order

The correct part number is easily derived from the following number sequence

| CNS   | 10   | B1  | C1                                 | C      |
|---|--|---|------------------------------------|--------|
| Series                                      | Valve Size - Diameter Nominal (DN)                                       | Connection Type   | Bonnet & Stem Type                 | Seat   |
| CNS Cryogenic Globe Valve - Stainless Steel | 10 DN6<br>20 DN10<br>30 DN15<br>40 DN20<br>50 DN25<br>70 DN40<br>80 DN50 | B1 Butt Weld Schedule 10<br>SNE Socket Weld<br>FA Flange Class 150<br>FC Flange Class 300 | Bolted Bonnet<br>Non-Extended Stem | C Cone |

Please contact us for other options.

# Cryogenic Stainless Steel Globe Valve

Bolted Bonnet - Extended Stem  
Stainless Steel  
DN65 - DN100 (2½" - 4")

The Parker Bestobell range of Stainless Steel extended globe valves have been designed to eliminate leakages, maximize lifetime operation and reduce maintenance and spares.

The range is available with Butt Weld, Socket Ends or flanged options and utilizes Parker Bestobell's unique independent bonnet and flange design, eliminating leakage through the flange gasket.

The Stainless Steel extended stem globe valve has a bolted bonnet, integral cone seat and renewable PTFE seal, complete with bronze internals. Available with various ends, the valve is of the cone seat design for drop tight shut off. The bolted bonnet allows easy maintenance, even in confined spaces.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

## Features

- Unique Parker Bestobell loose flange bolted bonnet design allows for thermal expansion and contraction and eliminates leakage at the bonnet gasket
- Precision investment cast body – smooth surface finish
- PTFE seal to ensure tight shut off at all times
- Lightweight therefore excellent thermal characteristics and increased payload on mobile tanker application
- Designed and engineered specifically for cryogenic service
- Anti-blowout stem and one-piece high strength design for operator safety
- Long life, low torque stem thread
- Screwed and welded high strength extension tube / bonnet joints
- Revolving disc ensures non-rotating seat contact for an extended leak free life
- Fast/easy maintenance of PTFE/PCTFE components
- Long life spring loaded gland packing (Available on 2½" & 3")

## Technical

- Designed and engineered for use with Group 1 gases.
  - Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
  - Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.
- CE Marked according to the Pressure Equipment Directive



DN65 Stainless Steel Globe Valve Extended Stem with Socket Ends



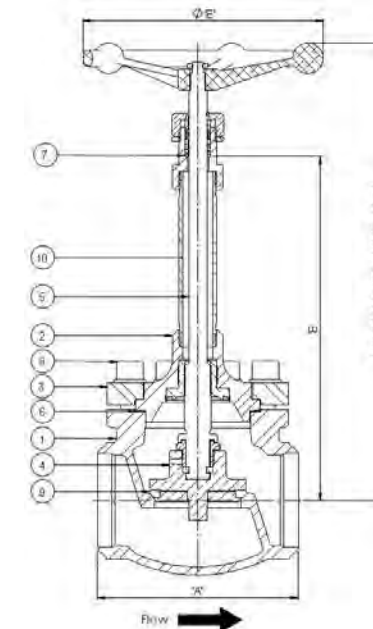
DN80 Stainless Steel Globe Valve Extended Stem with Butt Weld Ends



DN80 Stainless Steel Globe Valve Extended Stem with Flanged Ends

## Materials

|                        | Stainless Steel                      |
|------------------------|--------------------------------------|
| 1. Body                | Stainless Steel ASTM A351 CF8M       |
| 2. Cover               | Stainless Steel ASTM A351 CF8M       |
| 3. Loose Bonnet Flange | Stainless Steel ASTM A351 CF8M       |
| 4. Disc                | HT Brass BS EN 12164 CW721R          |
| 5. Stem                | Stainless Steel BS EN 10088-3 1.4401 |
| 6. Gasket              | Sigma 511                            |
| 7. Gland Packing       | Virgin PTFE                          |
| 8. Fasteners           | Stainless Steel BS6105 A2/A4 Gr.70   |
| 9. Seal                | Virgin PTFE                          |
| 10. Tube               | Stainless Steel ASTM A312 TP304L     |



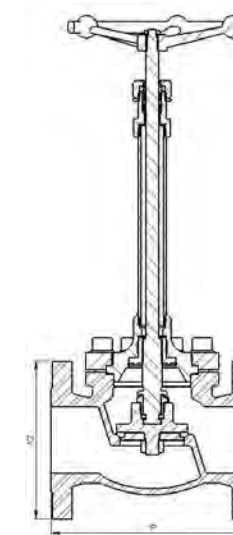
## Specifications

### Butt Weld Ends

| Size   | Unit   | DN65<br>2½" | DN80<br>3" | DN100<br>4" |
|--------|--------|-------------|------------|-------------|
| A      | mm     | 178         | 178        | 292         |
| B      | mm     | 300         | 300        | 400         |
| C      | mm     | 392         | 407        | 578         |
| D      | mm     | 412         | 437        | 613         |
| E      | mm     | 171         | 222        | 380         |
| Weight | kg     | 13          | 15         | 55          |
| Cv     | US GPM | 75          | 108        | 198         |



DN100 Stainless Steel Globe Valve Extended Stem with Butt Weld Ends



### Flanged Ends (Class 300)

| Size             | Unit | DN65<br>2½" | DN80<br>3" | DN100<br>4" |
|------------------|------|-------------|------------|-------------|
| F                | mm   | 290         | 310        | 350         |
| G                | mm   | 191         | 210        | 254         |
| Flange Thickness | mm   | 25          | 28         | 32          |
| Weight           | kg   | 21          | 27         | 74          |



DN100 Stainless Steel Globe Valve Extended Stem with Flanged Ends

\*Class 150 available on request

## How to Order

The correct part number is easily derived from the following number sequence

| CNT   | 90                                 | B1  | D                              | 4              | C      |
|---|------------------------------------|---|--------------------------------|----------------|--------|
| Series                                      | Valve Size - Diameter Nominal (DN) | Connection Type   | Bonnet & Stem Type             | Stem Length    | Seat   |
| CNT Cryogenic Globe Valve - Stainless Steel | 90 DN65<br>A0 DN80<br>B0 DN100     | B1 Butt Weld Schedule 10<br>SNE Socket Weld<br>FA Flange Class 150<br>FC Flange Class 300 | Bolted Bonnet<br>Extended Stem | 4 300<br>7 400 | C Cone |

Please contact us for other options.

# Cryogenic Stainless Steel Globe Valve

Bolted Bonnet – Extended Stem  
 Full Stainless Steel  
 DN150 & DN200 (6" & 8")

The Parker Bestobell range of extended globe valves have been designed to eliminate leakages, maximize lifetime operation and reduce maintenance and spares cost.

The range is available with either Butt Weld, socket end or flanged options and utilizes Parker Bestobell's unique independent bonnet and flange design, eliminating leakage through the flange gasket.

The Stainless Steel extended stem globe valves has a bolted bonnet, integral cone seat and renewable PTFE/PCTFE seal, complete with Stainless Steel internals. Available with various ends, the valve is of the cone seat design for drop tight shut off. The bolted bonnet allows easy maintenance, even in confined spaces.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 19 bar (275 psi) at -196°C to +65°C

## Features

- Unique Parker Bestobell loose flange bolted bonnet design allows for thermal expansion and contraction and eliminates leakage at the bonnet gasket
- Lightweight therefore excellent thermal characteristics
- Designed and engineered specifically for cryogenic service
- Anti-blowout stem and one-piece high strength design for operator safety
- Long life, low torque stem thread
- Screwed and welded high strength extension tube / bonnet joints
- Revolving disc ensures non-rotating seat contact for an extended leak free life
- Full bore
- Fast/easy maintenance of PTFE components

## Technical

- Designed and engineered for use with LNG.
  - Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
  - Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.
- CE Marked according to the Pressure Equipment Directive



DN150 Stainless Steel Globe Valve  
 Extended Stem with Butt Weld Ends



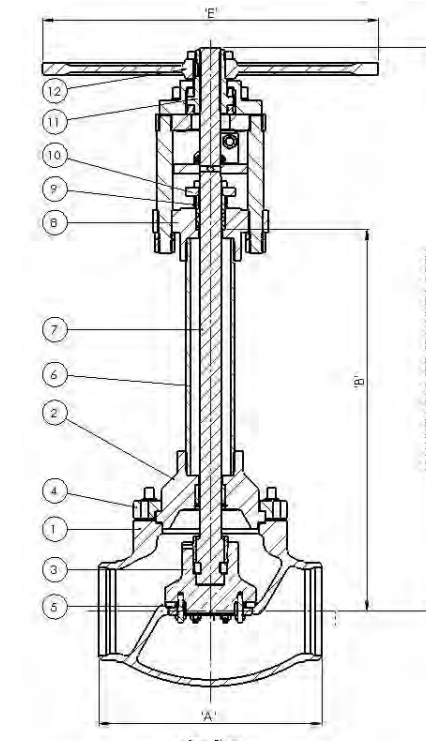
DN150 Stainless Steel  
 Globe Valve Extended  
 Stem with Flanged Ends



DN200 Stainless Steel  
 Globe Valve Extended  
 Stem with Flanged Ends

## Materials

|                    | Stainless Steel                      |
|--------------------|--------------------------------------|
| 1. Body            | Stainless Steel ASTM A351 CF8M       |
| 2. Cover           | Stainless Steel ASTM A351 CF8M       |
| 3. Disc            | Stainless Steel ASTM A351 CF8M       |
| 4. Fasteners       | Stainless Steel BS6105 A4 Gr.70      |
| 5. Seal            | Hostafon TF3105 25% Glass Fill PTFE  |
| 6. Extension Tube  | Stainless Steel ASTM A312 TP304L     |
| 7. Stem            | Stainless Steel BS EN 10088-3 1.4401 |
| 8. Gland Housing   | Stainless Steel BS EN 10088-3 1.4401 |
| 9. Gland Follower  | HT Brass BS EN 12164 CW721R          |
| 10. Gland Plate    | HT Brass BS EN 12164 CW721R          |
| 11. Handwheel Boss | Aluminium BRZ BS EN 12163 CW307G     |
| 12. Handwheel      | Cast Iron GR.250                     |



## Specifications

### Butt Weld Ends

| Size  | A (mm) | B (mm) | C (mm) | D (mm) | ØE (mm) | Cv (US GPM) | Weight (kg) |
|-------|--------|--------|--------|--------|---------|-------------|-------------|
| DN150 | 406    | 700    | 1023   | 1075   | 600     | 400         | 125         |
| DN200 | 495    | 700    | 1363   | 1442   | 500     | 715         | 219         |

### Flanged Ends (Class 150)

| Size             | Unit | DN150 6" | DN200 8" |
|------------------|------|----------|----------|
| F                | mm   | 406      | 495      |
| G                | mm   | 279      | 343      |
| Flange Thickness | mm   | 25       | 28       |
| Weight           | kg   | 140      | 250      |

## How to Order

| Part Number | Valve Size Diameter Nominal (DN) | Connection Type       | Stem Length (mm) |
|-------------|----------------------------------|-----------------------|------------------|
| CNTD0B1DDC  | DN150                            | Butt Weld Schedule 10 | 700              |
| CNTD0FADDC  |                                  | Flange Class 150      |                  |
| CNTE0B1DDC  | DN200                            | Butt Weld Schedule 10 | 700              |
| CNTE0FADDC  |                                  | Flange Class 150      |                  |

Please contact us for other options.



# Cryogenic Stainless Steel Globe Valve

Bolted Bonnet - Extended Stem  
 Stainless Steel Body with Bronze Internals  
 DN6 - DN50 (1/4" - 2")

The Parker Bestobell range of extended globe valves have been designed to eliminate leakages, maximize lifetime operation and reduce maintenance and spares cost.

The range is available with either Butt Weld, socket end or flanged options and utilizes Parker Bestobell's unique independent bonnet and flange design, eliminating leakage through the flange gasket.

The Stainless Steel extended stem globe valve has a bolted bonnet, integral cone seat and renewable PTFE/PCTFE seal, complete with Stainless Steel internals. Available with various ends, the valve is of the cone seat design for drop tight shut off. The bolted bonnet allows easy maintenance, even in confined spaces.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

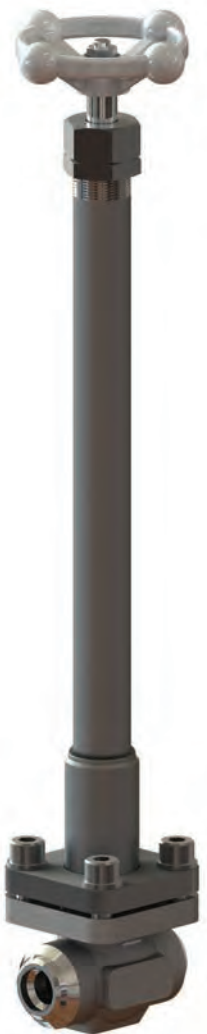
## Features

- Unique Parker Bestobell loose flange bolted bonnet design allows for thermal expansion and contraction and eliminates leakage at the bonnet gasket
- PTFE/PCTFE seal to ensure tight shut off at all times
- Designed and engineered specifically for cryogenic service
- Anti-blowout stem and one-piece high strength design for operator safety
- Long life, low torque stem thread
- Lightweight ergonomic aluminium handwheel
- Screwed and welded high strength extension tube / bonnet joints
- Revolving disc ensures non-rotating seat contact for an extended leak free life
- Full bore
- Fast/easy maintenance of PTFE/PCTFE components
- Long life spring loaded gland packing

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive



DN15 Stainless Steel Globe Valve Extended Stem with Bronze Internals and Butt Weld Ends



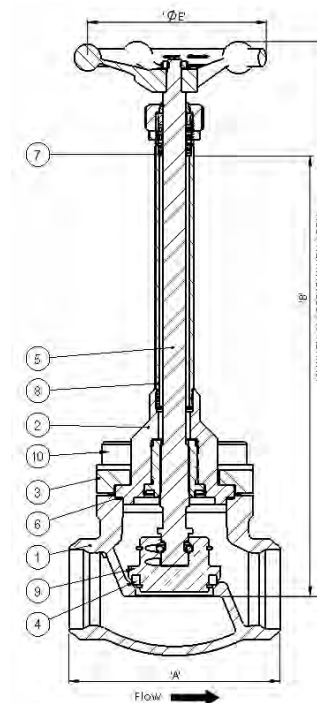
DN50 Globe Valve with Butt Weld Ends



DN50 Globe Valve with Butt Weld Ends Sectioned View

## Materials

|                  | Stainless Steel                      |
|------------------|--------------------------------------|
| 1. Body          | Stainless Steel ASTM A351 CF8M       |
| 2. Cover         | Stainless Steel BS EN 10088-3 1.4301 |
| 3. Bonnet Flange | Stainless Steel ASTM A351 CF8M       |
| 4. Seal          | Virgin PTFE/PCTFE                    |
| 5. Stem          | Stainless Steel BS EN 10088-3 1.4401 |
| 6. Gasket Bonnet | Sigma 511                            |
| 7. Gland Packing | Virgin PTFE                          |
| 8. Tube          | Stainless Steel ASTM A312 TP304L     |
| 9. Disc          | HT Brass BS EN 12164 CW721R          |
| 10. Fasteners    | Stainless Steel BS6105 A2/A4 Gr.70   |



## Specifications

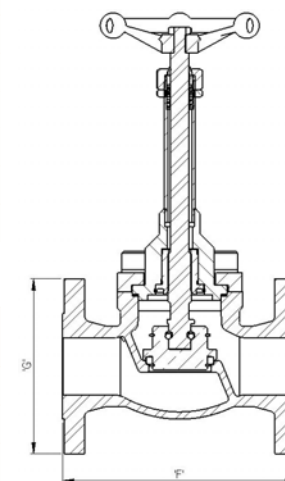
### Butt Weld/Socket Weld Ends

| Size       | Unit   | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" |
|------------|--------|-------------|--------------|--------------|--------------|------------|----------------|------------|
| A          | mm     | 68          | 68           | 68           | 92           | 92         | 121            | 146        |
| B          | mm     | 230/300     | 230/300      | 230/300      | 230/300      | 230/300    | 230/300        | 230/300    |
| C : Closed | mm     | 300/370     | 300/370      | 300/370      | 310/380      | 310/380    | 310/380        | 310/380    |
| D : Open   | mm     | 310/380     | 310/380      | 310/380      | 320/390      | 320/390    | 320/390        | 320/390    |
| E          | mm     | 80          | 80           | 80           | 101          | 101        | 121            | 144        |
| Cv         | US GPM | 3.6         | 3.6          | 3.6          | 13.2         | 13.2       | 26.5           | 43         |
| Weight     | kg     | 1.6         | 1.6          | 1.6          | 2.3          | 2.3        | 4.2            | 6.8        |

### Flanged Ends (Class 300)

| Size             | Unit | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" |
|------------------|------|-------------|--------------|--------------|--------------|------------|----------------|------------|
| F                | mm   | 130         | 130          | 130          | 160          | 160        | 200            | 230        |
| G                | mm   | 95          | 95           | 95           | 124          | 124        | 155            | 165        |
| Flange Thickness | mm   | 14          | 14           | 14           | 18           | 18         | 21             | 22         |
| Weight           | kg   | 2.8         | 2.8          | 2.8          | 5.3          | 5.3        | 9.6            | 13.8       |

\*Class 150 available on request



## How to Order

The correct part number is easily derived from the following number sequence

| CNT   | 10                                 | B1                       | D                  | 3           | C      |
|---|------------------------------------|--------------------------|--------------------|-------------|--------|
| Series                                      | Valve Size - Diameter Nominal (DN) | Connection Type          | Bonnet & Stem Type | Stem Length | Seat   |
| CNT Cryogenic Globe Valve - Stainless Steel | 10 DN6                             | B1 Butt Weld Schedule 10 | Bolted Bonnet      | 3 230       | C Cone |
|   | 20 DN10                            | SNE Socket Weld          |                    | 6 300       |        |
|   | 30 DN15                            | FA Flange Class 150      | Extended Stem      |             |        |
|   | 40 DN20                            | FC Flange Class 300      |                    |             |        |
|   | 50 DN25                            |                          |                    |             |        |
|   | 70 DN40                            |                          |                    |             |        |
| 80 DN50                                     |                                    |                          |                    |             |        |

Please contact us for other options.

# Cryogenic Stainless Steel Globe Valve

Bolted Bonnet – Non-Extended Stem  
 Stainless Steel Body with Bronze Internals  
 DN6 - DN50 (1/4" - 2")

The Parker Bestobell range of non-extended globe valves have been designed to eliminate leakages, maximize lifetime operation and reduce maintenance and spares cost.

The range is available with either Butt Weld, socket end or flanged options and utilizes Parker Bestobell's unique independent bonnet and flange design, eliminating leakage through the flange gasket.

The Stainless Steel non-extended stem globe valve has a bolted bonnet, integral cone seat and renewable PTFE/PCTFE seal, complete with Stainless Steel internals. Available with various ends, the valve is of the cone seat design for drop tight shut off. The bolted bonnet allows easy maintenance, even in confined spaces.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

## Features

- Unique Parker Bestobell loose flange bolted bonnet design allows for thermal expansion and contraction and eliminates leakage at the bonnet gasket
- PTFE/PCTFE seal to ensure tight shut off at all times
- Designed and engineered specifically for cryogenic service
- Anti-blowout stem and one-piece high strength design for operator safety
- Long life, low torque stem thread
- Lightweight ergonomic aluminium handwheel
- Revolving disc ensures non-rotating seat contact for an extended leak free life
- Full bore
- Fast/easy maintenance of PTFE/PCTFE components
- Long life spring loaded gland packing

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive



DN15 Stainless Steel Globe Valve Non-Extended Stem with Butt Weld Ends



DN15 Globe Valve with Socket Ends

DN15 Globe Valve with Socket Ends Sectioned View

## Materials

|                  | Stainless Steel                      |
|------------------|--------------------------------------|
| 1. Body          | Stainless Steel ASTM A351 CF8M       |
| 2. Cover         | Stainless Steel BS EN 10088-3 1.4301 |
| 3. Bonnet Flange | Stainless Steel ASTM A351 CF8M       |
| 4. Disc          | HT Brass BS EN 12164 CW721R          |
| 5. Stem          | Stainless Steel BS EN 10088-3 1.4401 |
| 6. Gasket Bonnet | Sigma 511                            |
| 7. Gland Packing | Virgin PTFE                          |
| 8. Fasteners     | Stainless Steel BS6105 A2/A4 Gr.70   |
| 9. Seal          | Virgin PTFE/PCTFE                    |

## Specifications

### Butt Weld/Socket Weld Ends

| Size      | Unit   | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" |
|-----------|--------|-------------|--------------|--------------|--------------|------------|----------------|------------|
| A         | mm     | 68          | 68           | 68           | 92           | 92         | 121            | 146        |
| B         | mm     | 80          | 80           | 80           | 90           | 90         | 110            | 140        |
| C: Closed | mm     | 150         | 150          | 150          | 170          | 170        | 190            | 200        |
| D: Open   | mm     | 160         | 160          | 160          | 180          | 180        | 200            | 237        |
| E         | mm     | 80          | 80           | 80           | 101          | 101        | 121            | 144        |
| Cv        | US GPM | 3.6         | 3.6          | 3.6          | 13.2         | 13.2       | 26.5           | 43         |
| Weight    | kg     | 1.3         | 1.3          | 1.3          | 2            | 2          | 4              | 7          |

### Flanged Ends (Class 300)

| Size             | Unit | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" |
|------------------|------|-------------|--------------|--------------|--------------|------------|----------------|------------|
| F                | mm   | 130         | 130          | 130          | 160          | 160        | 200            | 230        |
| G                | mm   | 95          | 95           | 95           | 124          | 124        | 155            | 165        |
| Flange Thickness | mm   | 14          | 14           | 14           | 18           | 18         | 21             | 22         |
| Weight           | kg   | 2.8         | 2.8          | 2.8          | 5.3          | 5.3        | 9.6            | 13.8       |

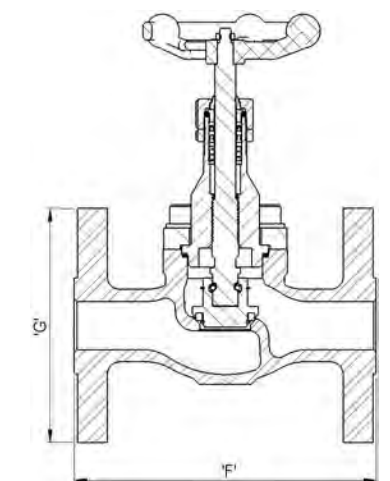
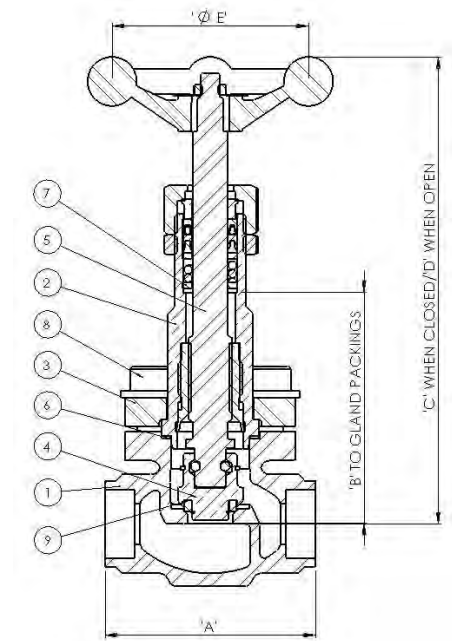
Class 150 available on request.

## How to Order

The correct part number is easily derived from the following number sequence

| CNT   | 10   | B1  | C1                                 | C      |
|---|--|---|------------------------------------|--------|
| Series                                      | Valve Size Diameter Nominal (DN)   | Connection Type   | Bonnet & Stem Type                 | Seat   |
| CNT Cryogenic Globe Valve - Stainless Steel | 10 DN6<br>20 DN10<br>30 DN15<br>40 DN20<br>50 DN25<br>70 DN40<br>80 DN50 | B1 Butt Weld Schedule 10<br>SNE Socket Weld<br>FA Flange Class 150<br>FC Flange Class 300 | Bolted Bonnet<br>Non-Extended Stem | C Cone |

Please contact us for other options.



# Cryogenic Actuated Globe Valve

## Pneumatically Actuated Globe Valve DN15 - DN150 (1/2" - 6")

The Parker Bestobell on/off and control valves are fitted with a pneumatic diaphragm type actuator.

The actuator uses compressed air to open and a spring to close. Double actuation (i.e. actuated opening and closing) is available upon request.

The range is available with either Butt Weld, Socket Ends or flanged options.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

### Maximum Working Pressure (MWP) (Subject to End Connections/Actuator)

Up to 50 bar (725 psi) at -196°C to + 65°C

### Features

- Full range of Class 150 Stainless Steel extended globe valves.
- Class 300 available for sizes up to DN100
- Independent bonnet and flange design
- Full Bore
- Throttling and On/Off functions available

### Technical

- Designed and engineered for use with Group 1 gases.
- Full material traceability backed by BS EN 10204 3.1/3.2 certification.
- Available in Butt Weld (ANSI B16.25), Socket Weld and Flange (ANSI B16.5) connections.

CE Marked according to the Pressure Equipment Directive

### Materials

|                   | Stainless Steel                      |
|-------------------|--------------------------------------|
| 1. Body           | Stainless Steel ASTM A351 CF8M       |
| 2. Cover          | Stainless Steel BS EN 10088-3 1.4301 |
| 3. Bonnet Flange  | Stainless Steel ASTM A351 CF8M       |
| 4. Disc           | Stainless Steel BS EN 10088-3 1.4401 |
| 5. Seal           | PTFE TF7196                          |
| 6. Gasket Bonnet  | Sigma 511                            |
| 7. Gland Packing  | Virgin PTFE                          |
| 8. Extension Tube | Stainless Steel ASTM A312 TP316L     |
| 9. Stem           | Stainless Steel BS EN 10088-3 1.4401 |
| 10. Fasteners     | Stainless Steel BS6105 A2/A4 .Gr.70  |

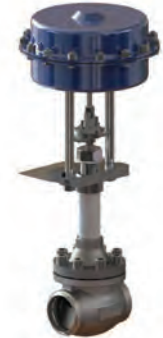
\*Bronze body available on request



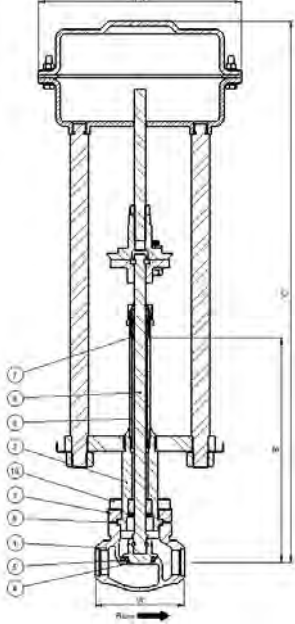
DN25 Pneumatically Actuated Globe Valve with Butt Weld Ends



DN50 Globe Valve with Flanged Ends



DN80 Globe Valve with Socket Ends



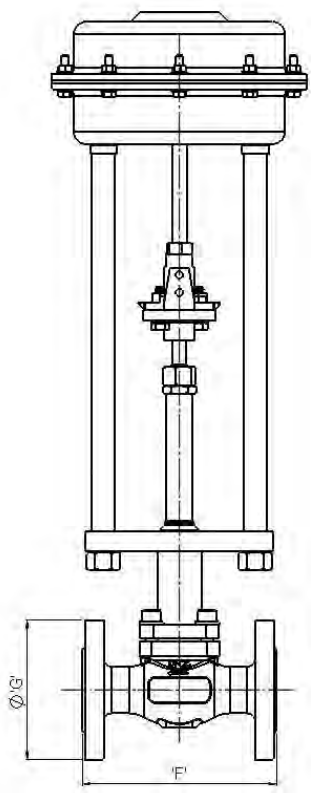
### Specifications

#### Butt Weld/Socket Weld Ends

| Size   | Unit   | DN15<br>1/2" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" | DN65<br>2 1/2" | DN80<br>3" | DN100<br>4" | DN150<br>6" |
|--------|--------|--------------|------------|----------------|------------|----------------|------------|-------------|-------------|
| A      | mm     | 68           | 92         | 121            | 146        | 178            | 178        | 292         | 406         |
| B      | mm     | 300          | 300        | 300            | 300        | 300            | 300        | 400         | 600         |
| C      | mm     | 480          | 620        | 637            | 647        | 662            | 682        | 862         | 1120        |
| D      | mm     | 162          | 210        | 310            | 310        | 310            | 310        | 415         | 512         |
| Weight | kg     | 12           | 12         | 40             | 43         | 54             | 60         | 120         | 195         |
| Cv     | US GPM | 3.6          | 13.2       | 26.5           | 43         | 75             | 108        | 198         | 400         |

#### Flanged Ends

| Size             | Unit | Class 300    |            |                |            |                |            | Class 150   |             |
|------------------|------|--------------|------------|----------------|------------|----------------|------------|-------------|-------------|
|                  |      | DN15<br>1/2" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" | DN65<br>2 1/2" | DN80<br>3" | DN100<br>4" | DN150<br>6" |
| F                | mm   | 130          | 160        | 200            | 230        | 290            | 310        | 350         | 406         |
| G                | mm   | 95           | 124        | 155            | 165        | 191            | 210        | 254         | 279         |
| Flange Thickness | mm   | 14           | 18         | 21             | 22         | 25             | 28         | 32          | 25          |
| Weight           | kg   | 14           | 15         | 46             | 50         | 62             | 72         | 140         | 210         |



### How to Order

| Part Number     | Valve Size - Diameter Nominal (DN) | Connection Type       | Stem Length (mm) | Maximum Working Pressure (bar) |
|-----------------|------------------------------------|-----------------------|------------------|--------------------------------|
| CNT30B1D6CPA    | DN15                               | Butt Weld Schedule 10 | 300              | 50                             |
| CNT30SNED6CPA   |                                    | Socket Weld           |                  |                                |
| CNT30FCD6CPA    |                                    | Flange Class 300      |                  |                                |
| CNT50B1D6CPA    | DN25                               | Butt Weld Schedule 10 | 300              | 50                             |
| CNT50SNED6CPA   |                                    | Socket Weld           |                  |                                |
| CNT50FCD6CPA    |                                    | Flange Class 300      |                  |                                |
| CNT70B1D6CPA50  | DN40                               | Butt Weld Schedule 10 | 300              | 50                             |
| CNT70SNED6CPA50 |                                    | Socket Weld           |                  |                                |
| CNT70FCD6CPA50  |                                    | Flange Class 300      |                  |                                |
| CNT80B1D6CPA    | DN50                               | Butt Weld Schedule 10 | 300              | 40                             |
| CNT80SNED6CPA   |                                    | Socket Weld           |                  |                                |
| CNT80FCD6CPA    |                                    | Flange Class 300      |                  |                                |
| CNT90B1D6CPA    | DN65                               | Butt Weld Schedule 10 | 300              | 16                             |
| CNT90SNED6CPA   |                                    | Socket Weld           |                  |                                |
| CNT90FCD6CPA    |                                    | Flange Class 300      |                  |                                |
| CNTA0B1D4CPA    | DN80                               | Butt Weld Schedule 10 | 300              | 16                             |
| CNTA0SNED4CPA   |                                    | Socket Weld           |                  |                                |
| CNTA0FCD4CPA    |                                    | Flange Class 300      |                  |                                |
| CNTB0B1D7CPA    | DN100                              | Butt Weld Schedule 10 | 400              | 16                             |
| CNTB0SNED7CPA   |                                    | Socket Weld           |                  |                                |
| CNTB0FAD7CPA    |                                    | Flange Class 150      |                  |                                |
| CNTD0B1D9CPA    | DN150                              | Butt Weld Schedule 10 | 700              | 16                             |
| CNTD0FAD9CPA    |                                    | Flange Class 150      |                  |                                |

Please contact us for other options.

# Cryogenic Manifold Fill Assemblies

Stainless Steel  
DN25 & DN40 (1" & 1½")

The Parker Bestobell cryogenic main fill valve manifold is specifically designed for cryogenic static storage tanks to replace the traditional gang of valves linked together with piping and a large amount of welding and brazing.

It is the joining together of four valves: top fill, bottom fill, check valve and drain valve. It is available in two sizes 25mm (1") and 40mm (1½").

The design makes it a simple valve to operate from the user perspective. The Manifold can be supplied with various inlet connections to suit customer requirements.

Located within the valve is a spring to close check valve to prevent back wash of media at the end of the filling cycle. A drain valve is fitted to release any trapped media in the fill block. A warm-up leg is also included for the connection of a thermal relief valve.

The unit is supplied ready to be fitted to the tank, with pipe specifications supplied by the customer.



DN40 Stainless Steel Manifold Fill Assembly

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C (extended stem)

## Features

- A one piece body reduces the number of potential leak paths and simplifies the piping system
- The unique internal characteristics reduces the pressure drop and vessel filling time
- Complete valve assembly reduces the tank build time
- Check valve for additional safety
- Self-draining strainer prevents debris entering the system
- Bolted bonnet headworks allow for easy maintenance

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.
- Manual operated inside screw globe valves, size range DN25 and DN40.
- Available with stainless stubs.

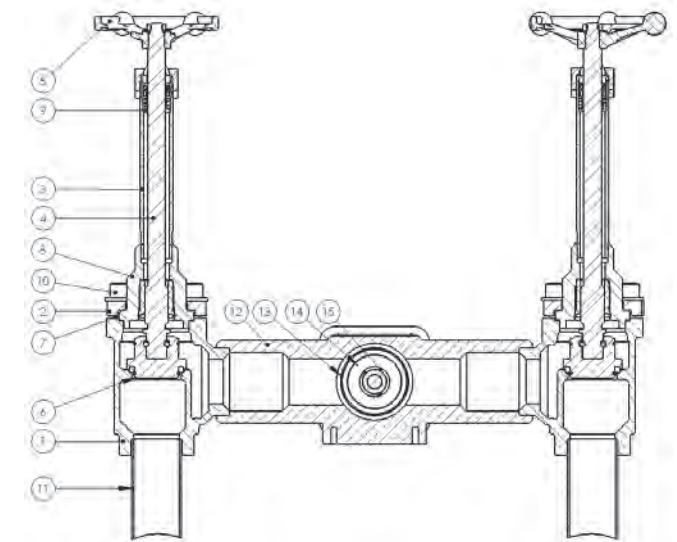
CE Marked according to the Pressure Equipment Directive



DN40 Stainless Steel Manifold Fill Assembly

## Materials

|                    | Stainless Steel                      |
|--------------------|--------------------------------------|
| 1. Body            | Stainless Steel ASTM A351 CF8M       |
| 2. Bonnet          | Stainless Steel BS EN 10088-3 1.4401 |
| 3. Tube, Extension | Stainless Steel ASTM A312 TP 304L    |
| 4. Stem            | Stainless Steel BS EN 10088-3 1.4401 |
| 5. Handwheel       | Aluminium                            |
| 6. Disc            | HT Brass BS EN 12164 CW721R          |
| 7. Gasket          | Sigma 511                            |
| 8. Seal            | PCTFE                                |
| 9. Gland Packing   | Virgin PTFE Sigma 511                |
| 10. Fasteners      | Stainless Steel BS6105 A2/A4 Gr.70   |
| 11. Down Pipe      | Copper ASTM B88                      |
| 12. Central Body   | Gunmetal BS EN 1982 CC491K           |
| 13. Strainer       | Brass                                |
| 14. Disc           | HT Brass BS EN 12164 CW721R          |
| 15. Spring         | PHOS BRZ BS EN 12163 CW451K          |

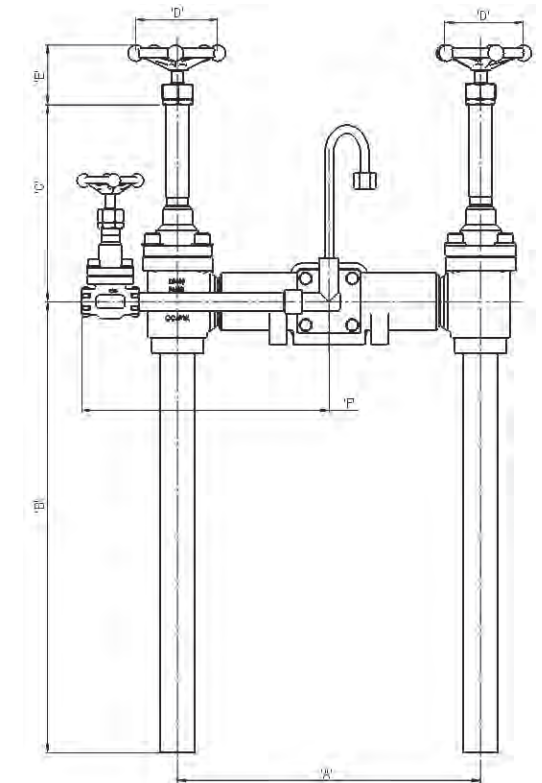


## Specifications

### Stainless Steel Stubs

| Size | Unit | DN25                                 | DN40                                  |
|------|------|--------------------------------------|---------------------------------------|
| A    | mm   | 295                                  | 301                                   |
| B    | mm   | 85                                   | 85                                    |
| C    | mm   | 230                                  | 230                                   |
| D    | mm   | 101                                  | 121                                   |
| E    | mm   | 90                                   | 90                                    |
| F    | mm   | 118                                  | 118                                   |
|      |      | Socket End To Suit 1" NB Schedule 10 | Socket End To Suit 1½" NB Schedule 10 |

All dimensions / weights are approximate



## How to Order

| Part Number   | Valve Size - Diameter Nominal (DN) | Stubs Material  | Options                |
|---------------|------------------------------------|-----------------|------------------------|
| CTS50PPD63CAL | DN25                               | Stainless Steel | With check function    |
| CTS50PPD63CIN |                                    |                 | Without check function |
| CTS70PPD63CAL | DN40                               |                 | With check function    |
| CTS70PPD63CIN |                                    |                 | Without check function |

Please contact us for other options.

# Cryogenic Manifold Fill Assemblies

Bronze  
DN40 (1½")

The Parker Bestobell cryogenic main fill valve manifold is specifically designed for cryogenic static storage tanks to replace the traditional gang of valves linked together with piping and a large amount of welding and brazing.

It is the joining together of four valves: top fill, bottom fill, check valve and drain valve.

The design makes it a simple valve to operate from the user perspective. The Manifold can be supplied with various inlet connections to suit customer requirements.

Located within the valve is a spring to close check valve to prevent back wash of media at the end of the filling cycle. A drain valve is fitted to release any trapped media in the fill block. A warm-up leg is also included for the connection of a thermal relief valve.

The unit is supplied ready to be fitted to the tank, with pipe specifications supplied by the customer.



DN40 Bronze Manifold Fill Assembly

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C (extended stem)

## Features

- A one piece body reduces the number of potential leak paths and simplifies the piping system
- The unique internal characteristics reduces the pressure drop and vessel filling time
- Complete valve assembly reduces the tank build time
- Check valve for additional safety
- Self-draining strainer prevents debris entering the system
- Bolted bonnet headworks allow for easy maintenance

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.
- Manual operated inside screw globe valves.
- Available with copper and Stainless Steel stubs.

CE Marked according to the Pressure Equipment Directive



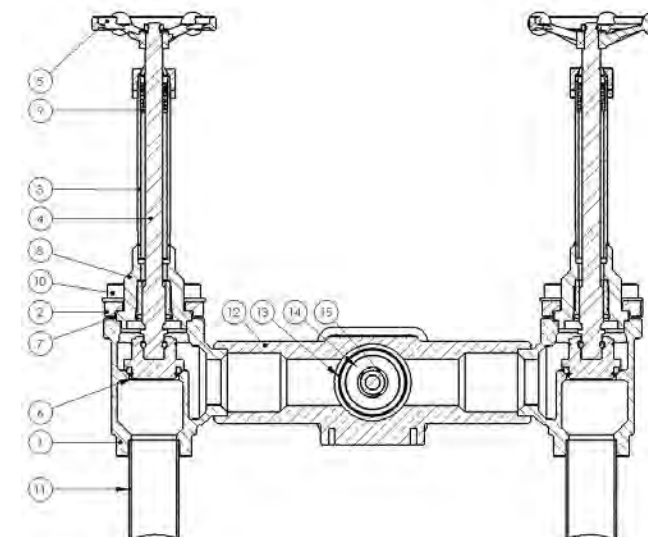
DN40 Bronze Manifold Fill Assembly



DN40 Bronze Manifold Fill Assembly with Short Centre

## Materials

|                    | Bronze                               |
|--------------------|--------------------------------------|
| 1. Body            | Gunmetal BS EN 1982 CC491K           |
| 2. Bonnet          | Gunmetal BS EN 1982 CC491K           |
| 3. Tube, Extension | Stainless Steel ASTM A312 TP 304L    |
| 4. Stem            | Stainless Steel BS EN 10088-3 1.4401 |
| 5. Handwheel       | Aluminium                            |
| 6. Disc            | HT Brass BS EN 12164 CW721R          |
| 7. Gasket          | Sigma 511                            |
| 8. Seal            | PCTFE                                |
| 9. Gland Packing   | Virgin PTFE Sigma 511                |
| 10. Fasteners      | Stainless Steel BS6105 A2/A4 Gr.70   |
| 11. Down Pipe      | Stainless Steel ASTM A312 TP304L     |
| 12. Central Body   | Gunmetal BS EN 1982 CC491K           |
| 13. Strainer       | Brass                                |
| 14. Disc           | HT Brass BS EN 12164 CW721R          |
| 15. Spring         | PHOS BRZ BS EN 12163 CW451K          |



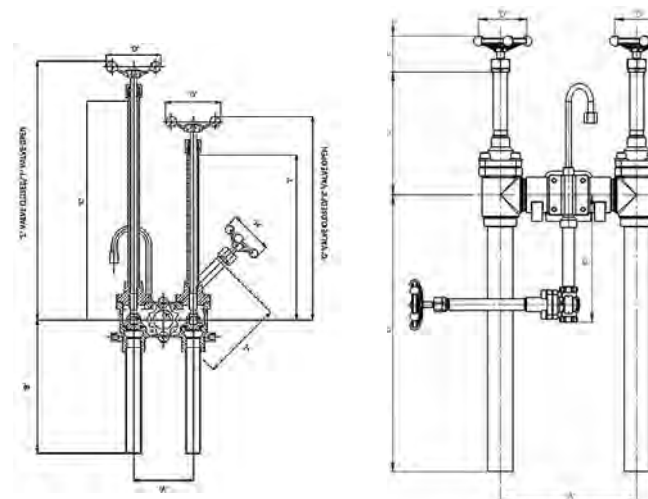
## Specifications

### Short Centre Type Bronze Casting

| Size   | Unit   | DN40               |
|--------|--------|--------------------|
| A      | mm     | 120                |
| B      | mm     | 248                |
| C      | mm     | 400                |
| D      | mm     | 121                |
| E      | mm     | 80                 |
| F      | mm     | 300                |
| G      |        | 1½" NB Schedule 10 |
| H      | mm     | 112                |
| J      | mm     | 156                |
| Cv     | US GPM | 26.5               |
| Weight | kg     | 15                 |

### Long Centre Type Bronze Casting

| Size | Unit   | DN40                                     |
|------|--------|--|
| A    | mm     | 301                                      |
| B    | mm     | 85                                       |
| C    | mm     | 230                                      |
| D    | Dia mm | 121                                      |
| E    | mm     | 90                                       |
| F    | mm     | 118                                      |
| G    |        | Socket End To Suit<br>1½" NB Schedule 10 |



## How to Order

| Part Number    | Valve Size - Diameter Nominal (DN) | Stubs Material  | Options                  |
|----------------|------------------------------------|-----------------|--------------------------|
| CTB70F1LLET00  | DN40                               | Stainless Steel | Without redundant valves |
| CTB70F1LLPR010 |                                    | Copper          | Without redundant valves |
| CTB70F1LLPR020 |                                    |                 | With redundant valves    |

Please contact us for other options.

# Cryogenic Stainless Steel Manual Gate Valve

Bolted Bonnet - Extended Stem  
DN40 - DN100 (1½" - 4")

The Stainless Steel uni-directional extended stem gate valve has a bolted bonnet, integral soft seat and bronze internals. Available with Butt Weld ends, the valve has a wedge seat design for tight shut off designed to seal on downstream seat only in order to prevent liquid lock. The bolted bonnet allows for simple site maintenance with easy access to the serviceable parts of the valve.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 40 bar (580 psi) at -196°C to +65°C

## Features

- Replaceable body seat that is part of the headwork assembly (excluding DN40)
- Precision investment cast body - smooth surface finish
- Lapped seat and PTFE seal ensure a tight shut off at all time
- Lightweight design gives excellent thermal characteristics
- Anti-blow out stem and one-piece high strength stem design for operator safety
- Long life, low torque stem thread
- Screwed and welded high strength extension tube and bonnet joints
- Lightweight ergonomic handwheel
- Quick removal of headworks allows fast/easy maintenance

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive

Please contact us for other options.



DN40 Stainless Steel Gate Valve with Butt Weld Ends



DN50 Gate Valve with Butt Weld Ends

DN80 Gate Valve with Butt Weld Ends

## Materials

|                     | Stainless Steel                      |
|---------------------|--------------------------------------|
| 1. Body             | Stainless Steel ASTM A351 CF8M       |
| 2. Cover            | Stainless Steel ASTM A351 CF8M       |
| 3. Stem             | Stainless Steel BS EN 10088-3 1.4401 |
| 4. Wedge            | Stainless Steel ASTM A351 CF8M       |
| 5. Disc             | Phosphor Bronze                      |
| 6. Disc/Seat Seal   | Virgin PTFE                          |
| 7. Packing Assembly | HT Brass/Virgin PTFE                 |
| 8. Extension Tube   | Stainless Steel ASTM A312 TP304L     |
| 9. Handwheel        | Aluminium                            |
| 10. Seat            | Stainless Steel BS EN 10088-3 1.4401 |
| 11. Bonnet Gasket   | Sigma 511                            |
| 12. Fasteners       | Stainless Steel BS6105 A2/A4 Gr.70   |

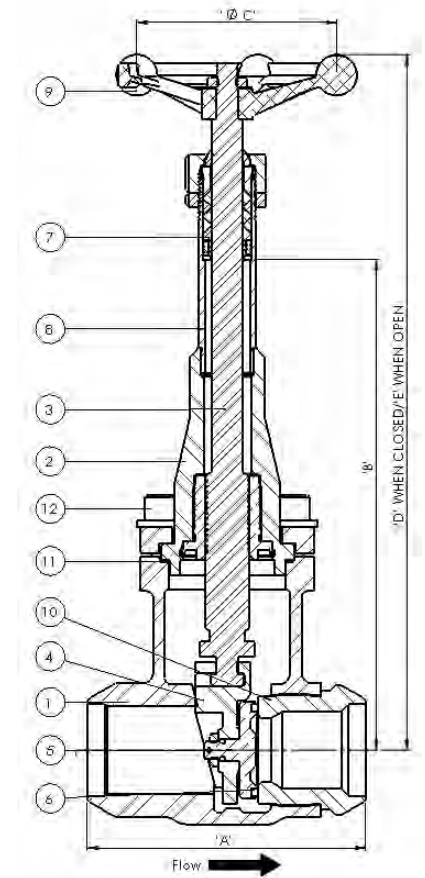
## Specifications

| Size   | Unit   | DN40<br>1½" | DN50<br>2" | DN65<br>2½" | DN80<br>3" | DN100<br>4" |
|--------|--------|-------------|------------|-------------|------------|-------------|
| A      | mm     | 130         | 140        | 150         | 150        | 229         |
| B      | mm     | 230         | 300        | 300         | 400        | 400         |
| C      | mm     | 102         | 146        | 146         | 146        | 146         |
| D      | mm     | 326         | 396        | 389         | 496        | 496         |
| E      | mm     | 363         | 456        | 464         | 586        | 586         |
| Cv     | US GPM | 132         | 240        | 380         | 560        | 560         |
| Weight | kg     | 5.3         | 10.4       | 12.9        | 18.2       | 20.5        |

## How to Order

| Part Number   | Valve Size<br>Diameter Nominal (DN) | Connection Type       | Stem Length (mm) |
|---------------|-------------------------------------|-----------------------|------------------|
| CMC70B1D3S00  | DN40                                | Butt Weld Schedule 10 | 230              |
| CMC70STED3S00 |                                     | Socket Weld           |                  |
| CMC80B1D6S00  | DN50                                | Butt Weld Schedule 10 | 300              |
| CMC80STED6S00 |                                     | Socket Weld           |                  |
| CMC90B1D4S00  | DN65                                | Butt Weld Schedule 10 | 300              |
| CMC90STED4S00 |                                     | Socket Weld           |                  |
| CMCA0B1D7S00  | DN80                                | Butt Weld Schedule 10 | 400              |
| CMCA0STED7S00 |                                     | Socket Weld           |                  |
| CMCB0B1D7S00  | DN100                               | Butt Weld Schedule 10 | 400              |
| CMCB0STED7S00 |                                     | Socket Weld           |                  |

Please contact us for other options.



# Cryogenic Stainless Steel Actuated Gate Valve

Bolted Bonnet - Pneumatic Tyre Design  
Fail to Close

DN40 - DN100 (1½" - 4")

The Stainless Steel uni-directional cryogenic emergency shut off valve has a bolted bonnet and integral pneumatic actuator. The valve is of fail to close design with automatic operation. The valve is equipped with a manual override system in case air has been lost and an emergency discharge is required. The valve has an integral seat and bronze internals. Available with Butt Weld ends, the valve has a wedge seat design for tight shut off designed to seal on downstream seat only in order to prevent liquid lock. The bolted bonnet allows for simple site maintenance with easy access to the serviceable parts of the valve.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 40 bar (580 psi) at -196°C to +65°C

## Features

- Replaceable body seat that is part of the headwork assembly (excluding DN40)
- Precision investment cast body - smooth surface finish
- Lapped seat and PTFE seal ensure a tight shut off at all time
- Lightweight design gives excellent thermal characteristics
- Anti-blow out stem and one-piece high strength stem design for operator safety
- Screwed and welded high strength extension tube and bonnet joints
- Quick removal of headworks allows fast/easy maintenance
- 316 Stainless Steel construction with bronze internal components
- Manual override hand wheel available on request

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive



DN80 Actuated Gate Valve with Butt Weld Ends without Guard

DN80 Actuated Gate Valve with Butt Weld Ends with Guard



DN40 Gate Valve with Butt Weld Ends

DN50 Gate Valve with Socket Ends

## Materials

|                   | Stainless Steel                      |
|-------------------|--------------------------------------|
| 1. Body           | Stainless Steel ASTM A351 CF8M       |
| 2. Cover          | Stainless Steel ASTM A351 CF8M       |
| 3. Stem           | Stainless Steel BS EN 10088-3 1.4401 |
| 4. Wedge          | Stainless Steel ASTM A351 CF8M       |
| 5. Disc           | Phosphor Bronze                      |
| 6. Disc/Seat Seal | Virgin PTFE                          |
| 7. Extension Tube | Stainless Steel ASTM A312 TP304L     |
| 8. Seat           | Stainless Steel ASTM A312 TP304L     |
| 9. Gasket         | Sigma 511                            |
| 10. Fasteners     | Stainless Steel BS6105 A2/A4 Gr.70   |

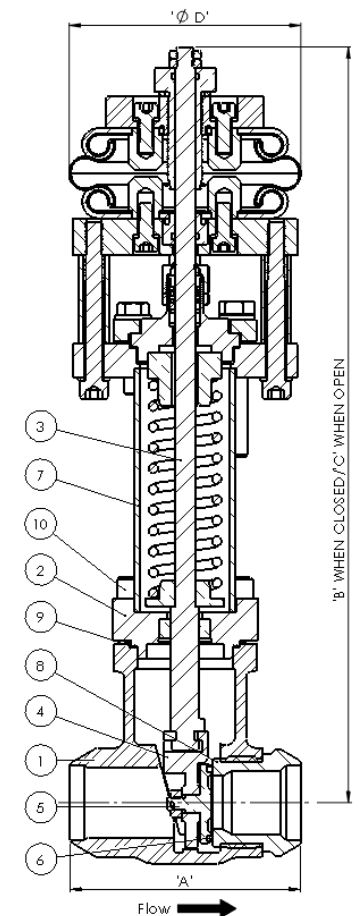
## Specifications

| Size   | Unit   | DN40<br>1½" | DN50<br>2" | DN65<br>2½" | DN80<br>3" | DN100<br>4" |
|--------|--------|-------------|------------|-------------|------------|-------------|
| A      | mm     | 130         | 140        | 150         | 150        | 229         |
| B      | mm     | 450         | 495        | 502         | 535        | 535         |
| C      | mm     | 490         | 540        | 567         | 615        | 615         |
| D      | mm     | 165         | 240        | 240         | 240        | 240         |
| Cv     | US GPM | 132         | 240        | 380         | 560        | 560         |
| Weight | kg     | 13          | 19         | 21.7        | 27.1       | 30          |

## How to Order

| Part Number   | Valve Size<br>Diameter Nominal (DN) | Connection Type       | Stem Length<br>(mm) | Options       |
|---------------|-------------------------------------|-----------------------|---------------------|---------------|
| CMD70B1D6STY  | DN40                                | Butt Weld Schedule 10 | 300                 | Without guard |
| CMD70STED6STY |                                     | Socket Weld           |                     |               |
| CMD70B1D6STC  |                                     | Butt Weld Schedule 10 |                     | With guard    |
| CMD70STED6STC |                                     | Socket Weld           |                     |               |
| CMD80B1D8STY  | DN50                                | Butt Weld Schedule 10 | 500                 | Without guard |
| CMD80STED8STY |                                     | Socket Weld           |                     |               |
| CMD80B1D8STC  |                                     | Butt Weld Schedule 10 |                     | With guard    |
| CMD80STED8STC |                                     | Socket Weld           |                     |               |
| CMD90B1D8STY  | DN65                                | Butt Weld Schedule 10 | 500                 | Without guard |
| CMD90STED8STY |                                     | Socket Weld           |                     |               |
| CMD90B1D8STC  |                                     | Butt Weld Schedule 10 |                     | With guard    |
| CMD90STED8STC |                                     | Socket Weld           |                     |               |
| CMDA0B1D8STY  | DN80                                | Butt Weld Schedule 10 | 500                 | Without guard |
| CMDA0STED8STY |                                     | Socket Weld           |                     |               |
| CMDA0B1D8STC  |                                     | Butt Weld Schedule 10 |                     | With guard    |
| CMDA0STED8STC |                                     | Socket Weld           |                     |               |
| CMDB0B1D8STY  | DN100                               | Butt Weld Schedule 10 | 500                 | Without guard |
| CMDB0STED8STY |                                     | Socket Weld           |                     |               |
| CMDB0B1D8STC  |                                     | Butt Weld Schedule 10 |                     | With guard    |
| CMDB0STED8STC |                                     | Socket Weld           |                     |               |

Please contact us for other options.



# Cryogenic Bronze Ball Valve

Reduced Bore  
DN15- DN50 (1/2" - 2")

This Bronze uni-directional ball valve has been designed specifically for cryogenic applications. It is available with NPT or BSP threaded ends.

The flow co-efficient (CV) allows full flow of media from filling stations and portable delivery systems therefore no delay in filling time.

Other variations include:

- Stainless Steel Version
- Actuated
- Full Bore

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

## Features

- Spring loaded gland seal giving low torque levels under both ambient and cryogenic conditions
- One piece, anti-blow-out stem
- Relief hole to prevent trapping of liquefied gases
- Designed to prevent incorrect, and hence dangerous, re-assembly after stripping for maintenance
- Removable centre section designed to industry standard dimensions, allowing interchangeability in existing installations
- Valves can be supplied with actuators fitted allowing fast, remote automatic operation
- Long life spring loaded gland packing

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive



DN50 Bronze Ball Valve with NPT Threaded Ends



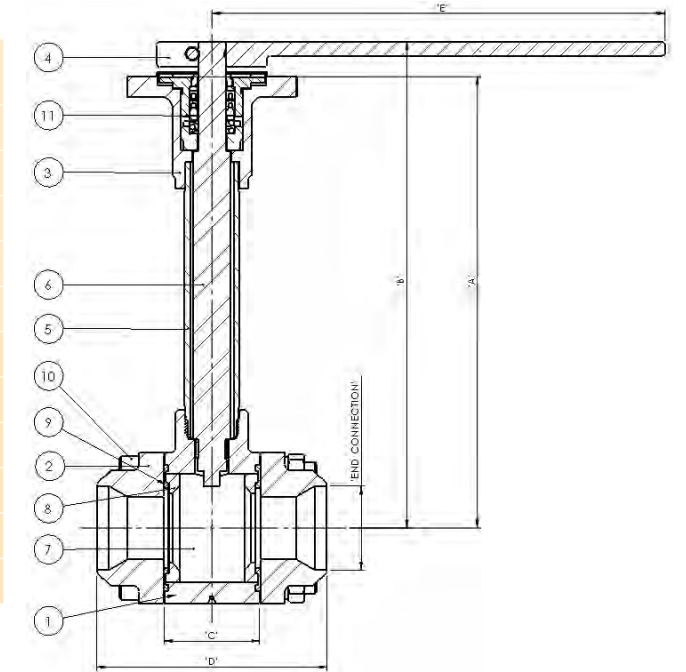
DN15 Ball Valve with NPT Threaded Ends



DN25 Ball Valve with NPT Threaded Ends

## Materials

|                     | Bronze                               |
|---------------------|--------------------------------------|
| 1. Body             | Gunmetal BS EN 1982 CC491K           |
| 2. End Adaptors     | Gunmetal BS EN 1982 CC491K           |
| 3. Gland Housing    | Stainless Steel ASTM A351 CF8M       |
| 4. Lever            | Stainless Steel ASTM A351 CF8M       |
| 5. Extension Tube   | Stainless Steel ASTM A269 TP304L     |
| 6. Stem             | Stainless Steel BS EN 10088-3 1.4401 |
| 7. Ball             | Brass BS EN 12164 CW614N             |
| 8. Ball Seal        | Hostaflon                            |
| 9. End Adaptor Seal | Virgin PTFE                          |
| 10. Fasteners       | Stainless Steel BS6105 A2/A4 Gr.70   |
| 11. Gland Packings  | Virgin PTFE                          |



## Specifications

| Size | Valve Size |       | Reduced Bore Size |       | Dimension |     |    |     |     |       | Torque |      | CV (US GPM) | Weight (kg) |
|------|------------|-------|-------------------|-------|-----------|-----|----|-----|-----|-------|--------|------|-------------|-------------|
|      | mm         | in    | mm                | in    | A         | B   | C  | D   | E   | P.C.D | Nm     | lbft |             |             |
| DN15 | 15         | 1/2   | 11                | 3/8   | 230       | 250 | 21 | 67  | 190 | 50    | 10     | 7    | 9           | 2           |
| DN25 | 25         | 1     | 20                | 3/4   | 230       | 250 | 32 | 96  | 190 | 60    | 23     | 17   | 30          | 3           |
| DN40 | 40         | 1 1/2 | 32                | 1 1/4 | 230       | 250 | 49 | 117 | 230 | 80    | 40     | 30   | 90          | 5           |
| DN50 | 50         | 2     | 37                | 1 1/2 | 230       | 250 | 56 | 129 | 230 | 100   | 62     | 46   | 138         | 7           |

## How to Order

| Part Number    | Valve Size Diameter Nominal (DN) | Connection Type | Stem Length (mm) |
|----------------|----------------------------------|-----------------|------------------|
| CZFR30GTAE4BND | DN15                             | BSP-PL          | 230              |
| CZFR30GTEE4BND |                                  | NPT             |                  |
| CZFR50GTAE4BND | DN25                             | BSP-PL          | 230              |
| CZFR50GTEE4BND |                                  | NPT             |                  |
| CZFR70GTAE4BND | DN40                             | BSP-PL          | 230              |
| CZFR70GTEE4BND |                                  | NPT             |                  |
| CZFR80GTAE4BND | DN50                             | BSP-PL          | 230              |
| CZFR80GTEE4BND |                                  | NPT             |                  |

Please contact us for other options.



# Cryogenic Stainless Steel Ball Valve

Reduced Bore

DN15 - DN50 (1/2" - 2")

This Stainless Steel uni-directional ball valve has been designed specifically for cryogenic applications. It is available with Socket Weld and Butt Weld ends.

The flow co-efficient (CV) allows full flow of media from filling stations and portable delivery systems therefore no delay in filling time.

Other variations include:

- Bronze Version
- Actuated
- Full Bore

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

## Features

- Spring loaded gland seal giving low torque levels under both ambient and cryogenic conditions
- Precision investment cast body - smooth surface finish
- Once piece, anti-blow-out stem
- Relief hole to prevent trapping of liquefied gases
- Designed to prevent incorrect, and hence dangerous, re-assembly after stripping for maintenance
- Removable centre section designed to industry standard dimensions, allowing interchangeability in existing installations
- Valves can be supplied with actuators fitted allowing fast, remote automatic operation
- Long life spring loaded gland packing

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive



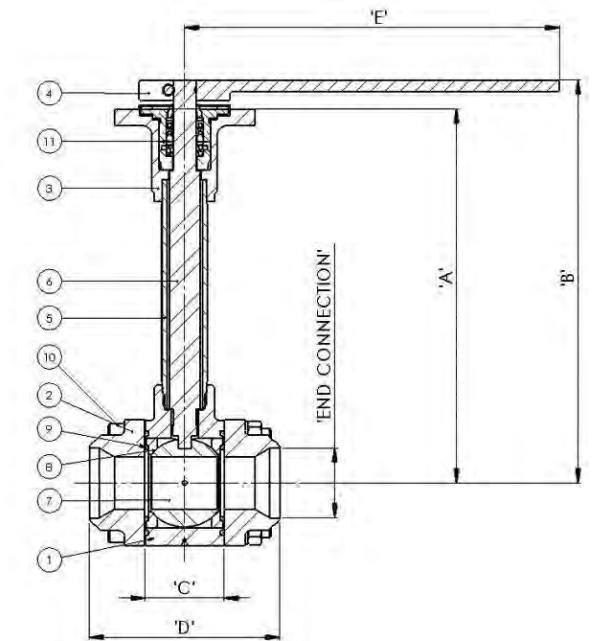
DN40 Stainless Steel Ball Valve with Butt Weld Ends



DN40 Stainless Steel Ball Valve with Socket Ends

## Materials

|                     | Stainless Steel                      |
|---------------------|--------------------------------------|
| 1. Body             | Stainless Steel ASTM A351 CF8M       |
| 2. End Adaptors     | Stainless Steel ASTM A351 CF8M       |
| 3. Gland Housing    | Stainless Steel ASTM A351 CF8M       |
| 4. Lever            | Stainless Steel ASTM A351 CF8M       |
| 5. Extension Tube   | Stainless Steel ASTM A312 TP304L     |
| 6. Stem             | Stainless Steel BS EN 10088-3 1.4401 |
| 7. Ball             | Stainless Steel 316 S31 BS970        |
| 8. Ball Seal        | Hostafllon                           |
| 9. End Adaptor Seal | Virgin PTFE                          |
| 10. Fasteners       | Stainless Steel BS6105 A2/A4 Gr.70   |
| 11. Gland Packings  | Virgin PTFE                          |



## Specifications

| Size | Valve Size |       | Reduced Bore Size |       | Dimension |     |    |     |     |       | Torque |      | CV US GPM | Weight (kg) |
|------|------------|-------|-------------------|-------|-----------|-----|----|-----|-----|-------|--------|------|-----------|-------------|
|      | mm         | in    | mm                | in    | A         | B   | C  | D   | E   | P.C.D | Nm     | lbft |           |             |
| DN15 | 15         | 1/2   | 11                | 3/8   | 230       | 250 | 21 | 67  | 190 | 50    | 10     | 7    | 9         | 3           |
| DN25 | 25         | 1     | 20                | 3/4   | 230       | 250 | 32 | 96  | 190 | 60    | 23     | 17   | 30        | 5.5         |
| DN40 | 40         | 1 1/2 | 32                | 1 1/4 | 230       | 250 | 49 | 117 | 230 | 80    | 40     | 30   | 90        | 7           |
| DN50 | 50         | 2     | 37                | 1 1/2 | 230       | 250 | 56 | 129 | 230 | 100   | 62     | 46   | 138       | 7.2         |

## How to Order

| Part Number    | Valve Size Diameter Nominal (DN) | Connection Type       | Stem Length (mm) |
|----------------|----------------------------------|-----------------------|------------------|
| CZFR30SB1E4S00 | DN15                             | Butt Weld Schedule 10 | 230              |
| CZFR30SSNE4S00 |                                  | Socket Weld           |                  |
| CZFR50SB1E4S00 | DN25                             | Butt Weld Schedule 10 | 230              |
| CZFR50SSNE4S00 |                                  | Socket Weld           |                  |
| CZFR70SB1E4S00 | DN40                             | Butt Weld Schedule 10 | 230              |
| CZFR70SSNE4S00 |                                  | Socket Weld           |                  |
| CZFR80SB1E4S00 | DN50                             | Butt Weld Schedule 10 | 230              |
| CZFR80SSNE4S00 |                                  | Socket Weld           |                  |

Please contact us for other options.

# Cryogenic Wafer Ball Valve

Reduced Bore  
DN80 (3")

This uni-directional wafer type ball valve has been designed specifically for cryogenic applications. It is available with Butt Weld ends (for Stainless Steel) and threaded ends (for Bronze).

The flow co-efficient (CV) allows full flow of media from filling stations and portable delivery systems therefore no delay in filling time.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 34 bar (500 psi) at -196°C to +65°C

## Features

- Precision investment cast body – smooth surface finish (for Stainless Steel Valves)
- One piece, anti-blowout stem
- Relief hole to prevent trapping of liquefied gases
- Designed to prevent incorrect, and hence dangerous, re-assembly after stripping for maintenance
- Removable centre section wafer pattern designed to suit industrial standard dimensions, allowing interchangeability in existing installations
- Valves can be supplied with pneumatic actuators fitted allowing fast, remote or automatic operation

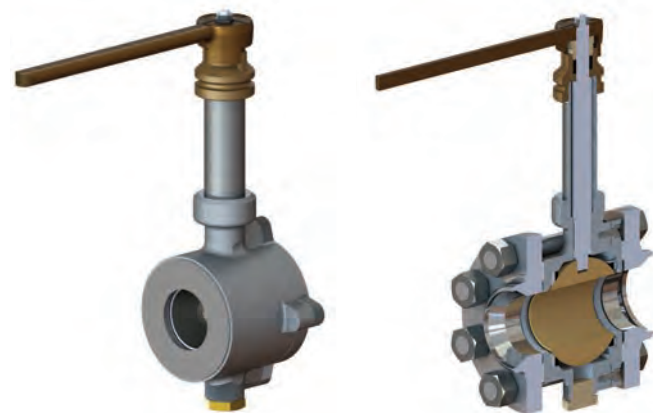
## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive

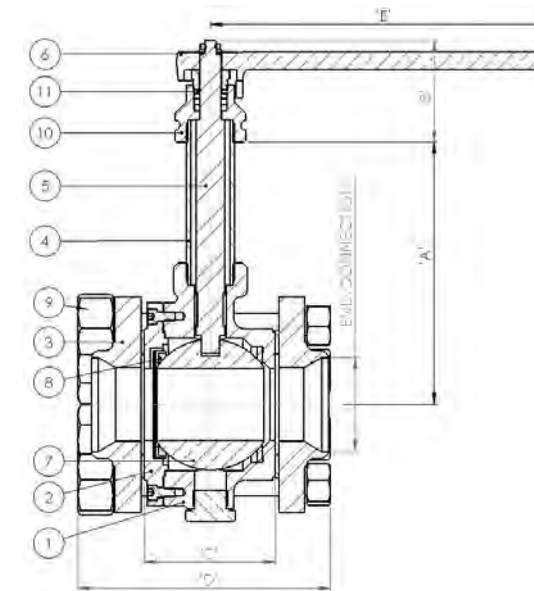


DN80 Stainless Steel Wafer Ball Valve with Butt Weld Ends



Centre Section

Sectioned View



## Materials

|                   | Stainless Steel                      | Bronze                               |
|-------------------|--------------------------------------|--------------------------------------|
| 1. Body           | Stainless Steel ASTM A351 CF8M       | Gunmetal BS EN 1982 CC491K           |
| 2. End Adaptors   | Stainless Steel ASTM A351 CF8M       | Gunmetal BS EN 1982 CC491K           |
| 3. Gland Housing  | Stainless Steel ASTM A351 CF8M       | Stainless Steel ASTM A351 CF8M       |
| 4. Extension Tube | Stainless Steel ASTM A312 TP304L     | Stainless Steel ASTM A312 TP304L     |
| 5. Stem           | Stainless Steel BS EN 10088-3 1.4401 | Stainless Steel BS EN 10088-3 1.4401 |
| 6. Lever          | Stainless Steel ASTM A351 CF8M       | Stainless Steel ASTM A351 CF8M       |
| 7. Ball           | Stainless Steel Series 300           | Stainless Steel Series 300 / Brass   |
| 8. Retainer       | HT Brass BS EN 12164 CW721R          | HT Brass BS EN 12164 CW721R          |
| 9. Fasteners      | Stainless Steel BS6105 A2/A4 Gr. 70  | Stainless Steel BS6105 A2/A4 Gr. A4  |
| 10. Packings      | Virgin PTFE                          | Virgin PTFE                          |
| 11. Seal to Ball  | Virgin PTFE                          | Virgin PTFE                          |

## Specifications

| Size | Valve Size |    | Dimension |    |     |     |     | Torque |      | CV<br>US GPM | Weight<br>(kg) |
|------|------------|----|-----------|----|-----|-----|-----|--------|------|--------------|----------------|
|      |            |    | A         | B  | C   | D   | E   | Nm     | lbft |              |                |
|      | mm         | in | mm        | mm | mm  | mm  | mm  |        |      |              |                |
| DN80 | 80         | 3  | 230       | 80 | 110 | 215 | 300 | 102    | 75   | 300          | 30             |

## How to Order

| Part Number    | Valve Size<br>Diameter Nominal (DN) | Connection Type       | Body Material   | Stem Length<br>(mm) |
|----------------|-------------------------------------|-----------------------|-----------------|---------------------|
| CZFRA0GTEE5A00 | DN80                                | NPT                   | Bronze          | 230                 |
| CZFRA0GTAE5A00 |                                     | BSP-PL                | Bronze          |                     |
| CZFRA0SB1E4S00 |                                     | Butt Weld Schedule 10 | Stainless Steel |                     |

Please contact us for other options.

# Cryogenic Actuated Bronze Ball Valve

Reduced Bore  
DN15 - DN50 (1/2" - 2")

This Bronze uni-directional three-piece ball valve has been designed specifically for cryogenic applications. It is available with threaded ends.

The flow co-efficient (CV) allows full flow of media from filling stations and portable delivery systems therefore no delay in filling time.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

## Features

- Spring loaded gland seal giving low torque levels under both ambient and cryogenic conditions
- One piece, anti-blow-out stem
- Relief hole to prevent trapping of liquefied gases
- Designed to prevent incorrect, and hence dangerous, re-assembly after stripping for maintenance
- Removable centre section designed to industry standard dimensions, allowing interchangeability in existing installations

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive



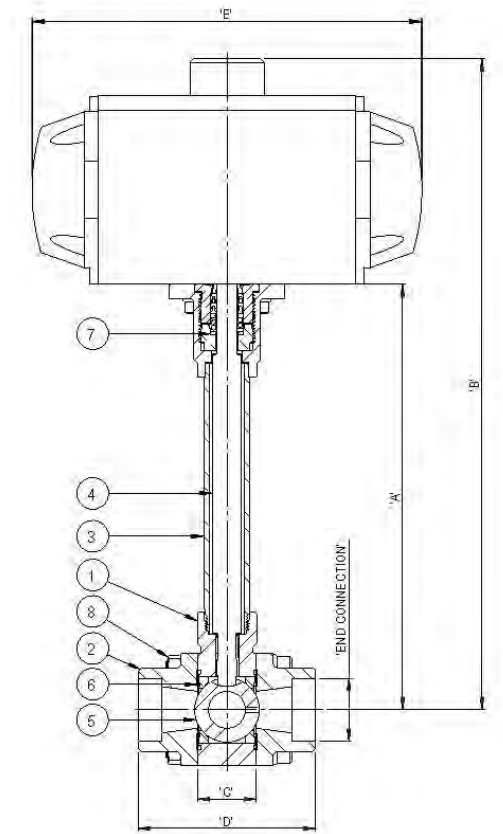
DN50 Actuated Bronze Ball Valve with NPT Threaded Ends



DN40 Actuated Bronze Ball Valve - Centre Section

## Materials

|                   | Bronze                               |
|-------------------|--------------------------------------|
| 1. Body           | Gunmetal BS EN 1982 CC491K           |
| 2. End Adaptors   | Gunmetal BS EN 1982 CC491K           |
| 3. Extension Tube | Stainless Steel ASTM A312 304L       |
| 4. Stem           | Stainless Steel BS EN 10088-3 1.4401 |
| 5. Ball           | Stainless Steel Series 300 / Brass   |
| 6. Seal           | Virgin PTFE                          |
| 7. Packings       | Virgin PTFE                          |
| 8. Fasteners      | Stainless Steel BS6105 A2/A4 Gr.70   |



## Specifications

| Size | Valve Size |       | Reduced Bore Size |       | Dimension |     |    |     |     |       | Ball Valve Torque |      | CV US GPM | Weight (kg) |
|------|------------|-------|-------------------|-------|-----------|-----|----|-----|-----|-------|-------------------|------|-----------|-------------|
|      | mm         | in    | mm                | in    | A         | B   | C  | D   | E   | P.C.D | Nm                | lbft |           |             |
| DN15 | 15         | 1/2   | 10                | 3/8   | 230       | 352 | 21 | 67  | 210 | 45    | 10                | 7    | 9         | 4.7         |
| DN25 | 25         | 1     | 20                | 3/4   | 230       | 352 | 32 | 96  | 210 | 63    | 23                | 17   | 30        | 5.5         |
| DN40 | 40         | 1 1/2 | 30                | 1 1/4 | 230       | 405 | 49 | 117 | 315 | 81    | 40                | 30   | 90        | 15.5        |
| DN50 | 50         | 2     | 40                | 1 1/2 | 230       | 405 | 56 | 129 | 315 | 95    | 62                | 46   | 138       | 16          |

## How to Order

| Part Number    | Valve Size Diameter Nominal (DN) | Connection Type | Stem Length (mm) |
|----------------|----------------------------------|-----------------|------------------|
| CZFR30GTEE4BAM | DN15                             | NPT             | 230              |
| CZFR30GTAE4BAM |                                  | BSP-PL          |                  |
| CZFR50GTEE4BAM | DN25                             | NPT             | 230              |
| CZFR50GTAE4BAM |                                  | BSP-PL          |                  |
| CZFR70GTEE4BAM | DN40                             | NPT             | 230              |
| CZFR70GTAE4BAM |                                  | BSP-PL          |                  |
| CZFR80GTEE4BAM | DN50                             | NPT             | 230              |
| CZFR80GTAE4BAM |                                  | BSP-PL          |                  |

Please contact us for other options.

# Cryogenic Actuated Stainless Steel Ball Valve

Reduced Bore

DN15 - DN50 (1/2" - 2")

This Stainless Steel uni-directional three-piece ball valve has been designed specifically for cryogenic applications. It is available with Socket Weld and Butt Weld ends.

The flow co-efficient (CV) allows full flow of media from filling stations and portable delivery systems therefore no delay in filling time.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

## Features

- Spring loaded gland seal giving low torque levels under both ambient and cryogenic conditions
- Precision investment cast body – smooth surface finish
- One piece, anti-blow-out stem
- Relief hole to prevent trapping of liquefied gases
- Designed to prevent incorrect, and hence dangerous, re-assembly after stripping for maintenance
- Removable centre section designed to industry standard dimensions, allowing interchangeability in existing installations

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive



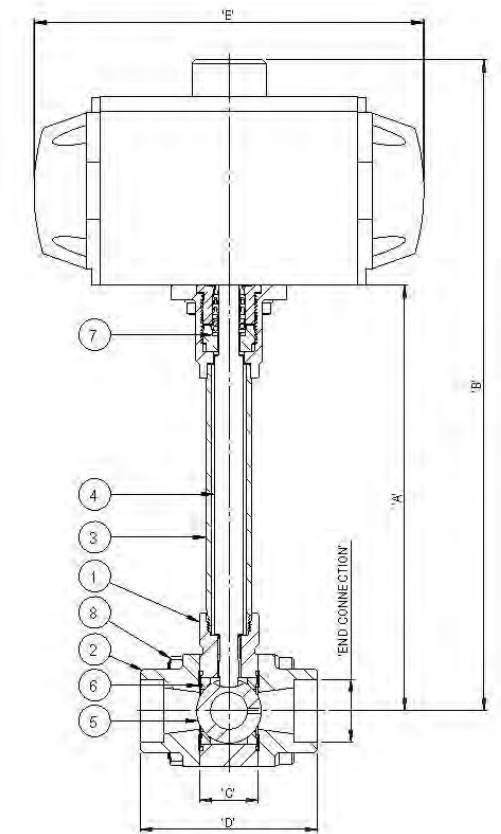
DN25 Actuated Stainless Steel Ball Valve – Reduced Bore with Butt Weld Ends



DN25 Actuated Stainless Steel Ball Valve - Centre Section

## Materials

|                   | Stainless Steel                      |
|-------------------|--------------------------------------|
| 1. Body           | Stainless Steel ASTM A351 CF8M       |
| 2. End Adaptors   | Stainless Steel ASTM A351 CF8M       |
| 3. Extension Tube | Stainless Steel ASTM A312 TP304L     |
| 4. Stem           | Stainless Steel BS EN 10088-3 1.4401 |
| 5. Ball           | Stainless Steel Series 300           |
| 6. Seal           | Virgin PTFE                          |
| 7. Packings       | Virgin PTFE                          |
| 8. Fasteners      | Stainless Steel BS6105 A2/A4 Gr.70   |



## Specifications

| Size | Valve Size |       | Reduced Bore Size |       | Dimension |     |    |     |     |       | Ball Valve Torque |      | CV US GPM | Weight (kg) |
|------|------------|-------|-------------------|-------|-----------|-----|----|-----|-----|-------|-------------------|------|-----------|-------------|
|      | mm         | in    | mm                | in    | A         | B   | C  | D   | E   | P.C.D | Nm                | lbft |           |             |
| DN15 | 15         | 1/2   | 10                | 3/8   | 230       | 352 | 21 | 67  | 210 | 45    | 10                | 7    | 9         | 4.7         |
| DN25 | 25         | 1     | 20                | 3/4   | 230       | 352 | 32 | 96  | 210 | 63    | 23                | 17   | 30        | 5.5         |
| DN40 | 40         | 1 1/2 | 30                | 1 1/4 | 230       | 405 | 49 | 117 | 315 | 81    | 40                | 30   | 90        | 15.5        |
| DN50 | 50         | 2     | 40                | 1 1/2 | 230       | 405 | 56 | 129 | 315 | 95    | 62                | 46   | 138       | 16          |

## How to Order

| Part Number    | Valve Size Diameter Nominal (DN) | Connection Type       | Stem Length (mm) |
|----------------|----------------------------------|-----------------------|------------------|
| CZFR30SB1E4SAM | DN15                             | Butt Weld Schedule 10 | 230              |
| CZFR30SSNE4SAM |                                  | Socket Weld           |                  |
| CZFR50SB1E4SAM | DN25                             | Butt Weld Schedule 10 | 230              |
| CZFR50SSNE4SAM |                                  | Socket Weld           |                  |
| CZFR70SB1E4SAM | DN40                             | Butt Weld Schedule 10 | 230              |
| CZFR70SSNE4SAM |                                  | Socket Weld           |                  |
| CZFR80SB1E4SAM | DN50                             | Butt Weld Schedule 10 | 230              |
| CZFR80SSNE4SAM |                                  | Socket Weld           |                  |

Please contact us for other options.

# Cryogenic Safety Relief Valve

Bronze

Nozzle 10 - 20 (3/8" - 3/4")

A range of high quality Bronze relief valves designed to comply with ISO 4126 (Safety Valves General Requirement), Ad-Merkblatt A2 (Safety Devices against Excess Pressure) and TUV requirements. They are eminently suited to the protection of static and road going cryogenic storage tanks against damaging over pressure.

There are three basic sizes, defined by the throat diameter and each is available with a variety of inlet and outlet connections.

The valve is designed and factory set to lift repeatedly within 2% of the set pressure and to reseal above 92% of set pressure. Spring pre-compression and blow down ring settings are sealed after test to inhibit unauthorized tampering.

Flow rates at 10% above set pressure.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

Each valve is individually set and flow tested and then stamped with the date of manufacture and its own unique serial number prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 40 bar (580 psi) at -196°C to + 65°C

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured to ISO 4126 (SVGR) ASTM B31.1, BS EN 1626
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive

## Materials

|                      | <b>Bronze</b>                      |
|----------------------|------------------------------------|
| 1. Body              | Gunmetal BS EN 1982 CC491K         |
| 2. Seat              | HT Brass BS EN 12164 CW721R        |
| 3. Adjusting Cap     | Gunmetal BS EN 1982 CC491K         |
| 4. Disc (Nozzle 10)  | Brass BS EN 12163 CW712R           |
| Disc (Nozzle 15, 20) | Phosphor Bronze BS EN 12163 CW451R |
| 5. Seal              | PTFE TF7196                        |
| 6. Blow Down Ring    | Gunmetal BS EN 1982 CC491K         |
| 7. Spring            | Stainless Steel 302 S26 BS2056     |
| 8. Weather Proof Cap | HT Brass BS EN 12164 CW721R        |

## Specifications

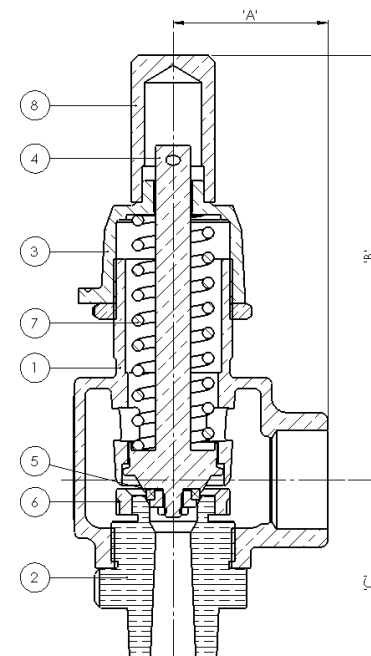
| Size   | Unit | DN10 | DN15 | DN20 |
|--------|------|------|------|------|
| A      | mm   | 48   | 64   | 64   |
| B      | mm   | 130  | 133  | 133  |
| C      | mm   | 60   | 73   | 73   |
| Weight | kg   | 1.5  | 3    | 3    |

## Technical Data

| Inlet Orifice Dia (mm) | Set Pressure Range (Bar) | Inlet Sizes (BSP/NPT) | Outlet Sizes (BSP/NPT) |
|------------------------|--------------------------|-----------------------|------------------------|
| 11.4                   | 1.7 - 40                 | 1/2" or 3/4"          | 3/4" or 1"             |
| 14                     | 1.7 - 40                 | 3/4" or 1"            | 1 1/4"                 |
| 20.50                  | 1.7 - 30                 | 1" or 1 1/4"          | 1 1/2" or 1 1/4"       |



Nozzle 15 Bronze Safety Relief Valve



Safety Relief Valve Elbow



Safety Relief Valve Inlet Adaptor, Elbow, Downpipe & Coupling



Safety Relief Valve Inlet Adaptor



Safety Relief Valve Elbow, Downpipe & Coupling

## How to Order

The correct part number is easily derived from the following number sequence

### Nozzle 10

| CW   | F                                  | 20               | J                                | H                              | 05                         | N00   |
|--|------------------------------------|------------------|----------------------------------|--------------------------------|----------------------------|---|
| Series                                       | Type                               | Orifice Diameter | Inlet Connection                 | Outlet Connection              | Pressure Range             | Option  |
| CW<br>Cryogenic<br>Safety<br>Relief<br>Valve | F Without<br>Lever                 | 20 11.40<br>mm   | J 1/2" BSP-PL Male               | H 3/4" BSP-PL Female           | 05 25-39 psi (1.7-2.7 bar) | N00 No Drain<br>N1 Elbow<br>N2 Inlet Adaptor<br>Elbow, Downpipe<br>& Coupling<br>N3 Inlet Adaptor<br>N4 Elbow, Downpipe<br>& Coupling |
|  |                                    |                  | K 1/2" BSP-TR Male               | J 3/4" BSP-TR Female           | 12 40-53 psi (2.8-3.6 bar) |   |
|  | L 1/2" NPT Male                    |                  | K 3/4" NPT Female                | 17 54-79 psi (3.7-5.4 bar)     |                            |   |
|  | M 3/4" BSP-PL Male                 |                  | L 1" BSP-PL Female               | 25 80-111 psi (5.5-7.6 bar)    |                            |   |
|  | N 3/4" BSP-PL Male<br>c/w 60° Cone |                  | M 1" BSP-PL Male c/w<br>60° Cone | 32 112-148 psi (7.7-10.2 bar)  |                            |   |
|  | P 3/4" BSP-TR Male                 |                  | N 1" BSP-TR Female               | 38 149-219 psi (10.3-15.1 bar) |                            |   |
|  | R 3/4" NPT Male                    |                  | P 1" BSP-TR Male                 | 48 220-289 psi (15.2-19.9 bar) |                            |   |
|  |                                    |                  | R 1" NPT Female                  | 53 290-435 psi (20-30 bar)     |                            |   |
|  |                                    |                  |                                  | 63 420-580 psi (29-40 bar)     |                            |   |

### Nozzle 15

| CW   | F                  | 30               | M                  | T                       | 06                             | N00             |
|--|--------------------|------------------|--------------------|-------------------------|--------------------------------|-----------------|
| Series                                       | Type               | Orifice Diameter | Inlet Connection   | Outlet Connection       | Pressure Range                 | Option          |
| CW<br>Cryogenic<br>Safety<br>Relief<br>Valve | F Without<br>Lever | 30 14 mm         | M 3/4" BSP-PL Male | T 1 1/4" BSP-PL Female  | 06 25-47 psi (1.7-3.2 bar)     | N00<br>No Drain |
|  |                    |                  | P 3/4" BSP-TR Male | U 1 1/4" BSP-TR Female  | 14 48-70 psi (3.3-4.8 bar)     |                 |
|  |                    |                  | R 3/4" NPT Male    | V 1 1/4" BSP-NPT Female | 22 71-112 psi (4.9-7.7 bar)    |                 |
|  |                    |                  | S 1" BSP-PL Male   |                         | 34 113-156 psi (7.8-10.7 bar)  |                 |
|  |                    |                  | T 1" BSP-TR Male   |                         | 39 157-225 psi (10.8-15.5 bar) |                 |
|  |                    |                  | U 1" NPT Male      |                         | 49 226-320 psi (15.6-22 bar)   |                 |
|  |                    |                  |                    |                         | 57 321-435 psi (22.1-30 bar)   |                 |
|  |                    |                  |                    |                         | 75 436-580 psi (30.1-40 bar)   |                 |

### Nozzle 20

| CW   | F                  | 40               | T                    | T                      | 04                             | N00             |
|--|--------------------|------------------|----------------------|------------------------|--------------------------------|-----------------|
| Series                                       | Type               | Orifice Diameter | Inlet Connection     | Outlet Connection      | Pressure Range                 | Option          |
| CW<br>Cryogenic<br>Safety<br>Relief<br>Valve | F Without<br>Lever | 40 20.50 mm      | T 1" BSP-TR Male     | T 1 1/4" BSP-PL Female | 04 25-34 psi (1.7-2.3 bar)     | N00<br>No Drain |
|  |                    |                  | U 1" NPT Male        | U 1 1/4" BSP-TR Female | 10 35-54 psi (2.4-3.7 bar)     |                 |
|  |                    |                  | V 1 1/4" BSP-PL Male | V 1 1/4" NPT Female    | 19 55-74 psi (3.8-5.1 bar)     |                 |
|  |                    |                  | W 1 1/4" BSP-TR Male | W 1 1/2" BSP-PL Female | 24 75-109 psi (5.1-7.5 bar)    |                 |
|  |                    |                  | Y 1 1/4" NPT Male    | Z 1 1/2" NPT Female    | 31 110-159 psi (7.6-10.9 bar)  |                 |
|  |                    |                  |                      |                        | 41 160-229 psi (11-15.8 bar)   |                 |
|  |                    |                  |                      |                        | 50 230-309 psi (15.9-21.3 bar) |                 |
|  |                    |                  |                      |                        | 56 310-435 psi (21.4-30 bar)   |                 |

Please contact us for other options.

# Cryogenic Safety Relief Valve

Stainless Steel

Nozzle 10 - 20 (3/8" - 3/4")

A range of high quality Stainless Steel relief valves designed to comply with ISO 4126 (Safety Valves General Requirement), Ad-Merkblatt A2 (Safety Devices against Excess Pressure) and TUV requirements. They are eminently suited to the protection of static and road going cryogenic storage tanks against damaging over pressure.

There are three basic sizes, defined by the throat diameter and each is available with a variety of inlet and outlet connections.

The valve is designed and factory set to lift repeatedly within 2% of the set pressure and to reseal above 92% of set pressure. Spring pre-compression and blow down ring settings are sealed after test to inhibit unauthorized tampering.

Flow rates at 10% above set pressure.

All valves are degreased for oxygen duty, assembled in clean room conditions and sealed in robust polythene bags prior to dispatch.

Each valve is individually set and flow tested and then stamped with the date of manufacture and its own unique serial number prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 40 bar (580 psi) at -196°C to + 65°C

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured to ISO 4126 (SVGR) ASTM B31.1, BS EN 1626
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive

## Materials

|   | Stainless Steel  |
|---|--|
| 1. Body                                     | Stainless Steel ASTM A351 CF8M                                 |
| 2. Seat                                     | HT Brass BS EN 12164 CW721R                                    |
| 3. Adjusting Cap                            | SS ASTM A351 CF8M  |
| 4. Disc (Nozzle 10)<br>Disc (Nozzle 15, 20) | Brass BS EN 12163 CW712R<br>Phosphor Bronze BS EN 12163 CW451R |
| 5. Seal                                     | PTFE TF7196  |
| 6. Blow Down Ring                           | Gunmetal BS EN 1982 CC491K                                     |
| 7. Spring                                   | Stainless Steel 302 S26 BS2056                                 |
| 8. Weather Proof Cap                        | SS 316 BS EN 10088-3 1.4401                                    |

\* Full Stainless Steel Relief Valve available on request.

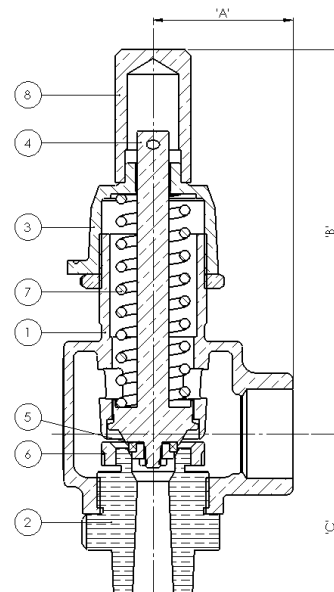


Nozzle 10 Stainless Steel Safety Relief Valve



Nozzle 10 Safety Relief Valve

Nozzle 20 Safety Relief Valve



## Specifications

| Size   | Unit | Nozzle 10 | Nozzle 15 | Nozzle 20 |
|--------|------|-----------|-----------|-----------|
| A      | mm   | 48        | 64        | 64        |
| B      | mm   | 130       | 133       | 133       |
| C      | mm   | 60        | 73        | 73        |
| Weight | kg   | 1.5       | 3         | 3         |

## Technical Data

| Inlet Orifice Dia (mm) | Set Pressure Range (Bar) | Inlet Sizes (BSP/NPT) | Outlet Sizes (BSP/NPT) |
|------------------------|--------------------------|-----------------------|------------------------|
| 11.4                   | 1.7 - 40                 | 1/2" or 3/4"          | 3/4" or 1"             |
| 14                     | 1.7 - 40                 | 3/4"                  | 1 1/4"                 |
| 20.50                  | 1.7 - 30                 | 1"                    | 1 1/4"                 |

## How to Order

| Part Number      | Orifice Diameter | Inlet Connection | Outlet Connection       | Pressure Range              |
|------------------|------------------|------------------|-------------------------|-----------------------------|
| <b>Nozzle 10</b> |                  |                  |                         |                             |
| CWT20LK17N00     | 11.40mm          | 1/2" NPT Male    | 3/4" NPT Female         | 54-79 psi (3.7-5.4 bar)     |
| CWT20RK17N00     |                  | 3/4" NPT Male    | 1" NPT Female           |                             |
| CWT20LR17N00     |                  | 1/2" NPT Male    |                         |                             |
| CWT20RR17N00     |                  | 3/4" NPT Male    | 3/4" NPT Female         | 80-111 psi (5.5-7.6 bar)    |
| CWT20LK25N00     |                  | 1/2" NPT Male    |                         |                             |
| CWT20RK25N00     |                  | 3/4" NPT Male    |                         |                             |
| CWT20LR25N00     |                  | 1/2" NPT Male    | 1" NPT Female           |                             |
| CWT20RR25N00     |                  | 3/4" NPT Male    |                         |                             |
| CWT20LK38N00     |                  | 1/2" NPT Male    | 3/4" NPT Female         | 149-219 psi (10.3-15.1 bar) |
| CWT20RK38N00     |                  | 3/4" NPT Male    |                         |                             |
| CWT20LR38N00     |                  | 1/2" NPT Male    |                         |                             |
| CWT20RR38N00     |                  | 3/4" NPT Male    | 1" NPT Female           |                             |
| CWT20LK48N00     |                  | 1/2" NPT Male    |                         |                             |
| CWT20RK48N00     |                  | 3/4" NPT Male    | 3/4" NPT Female         | 220-289 psi (15.2-19.9 bar) |
| CWT20LR48N00     |                  | 1/2" NPT Male    |                         |                             |
| CWT20RR48N00     |                  | 3/4" NPT Male    |                         |                             |
| CWT20LK53N00     | 1/2" NPT Male    | 3/4" NPT Female  | 290-435 psi (20-30 bar) |                             |
| CWT20RK53N00     | 3/4" NPT Male    |                  |                         |                             |
| CWT20LR53N00     | 1/2" NPT Male    |                  |                         |                             |
| CWT20RR53N00     | 3/4" NPT Male    | 1" NPT Female    |                         |                             |
| <b>Nozzle 15</b> |                  |                  |                         |                             |
| CWT30RV22N00     | 14mm             | 3/4" NPT Male    | 1 1/4" NPT Female       | 71-112 psi (4.9-7.7 bar)    |
| CWT30RV34N00     |                  |                  |                         | 113-156 psi (7.8-10.7 bar)  |
| CWT30RV39N00     |                  |                  |                         | 157-225 psi (10.8-15.5 bar) |
| CWT30RV49N00     |                  |                  |                         | 226-320 psi (15.6-22 bar)   |
| <b>Nozzle 20</b> |                  |                  |                         |                             |
| CWT40UV31N00     | 20.50            | 1" NPT Male      | 1 1/4" NPT Female       | 110-159 psi (7.6-10.9 bar)  |
| CWT40UV74N00     |                  |                  |                         | 290-362 psi (20-25 bar)     |

Please contact us for other options.

# Cryogenic Thermal Relief Valve

Brass  
Nozzle 6 (1/4")

A compact cryogenic relief valve designed to prevent damage to piping and equipment caused by the expansion of liquefied gases.

When liquefied gases are trapped between two closed valves (a situation known as liquid lock) the reheating and consequent boiling can lead to a dangerous rise in pressure.

The Parker Bestobell Thermal Relief Valve has been designed with this application specifically in mind using materials which are particularly suited to this purpose. One major benefit of this is that the valve will not stick in its seat even when left unused for long periods of time. The valve also reseats correctly after venting off the expanding fluid, thus preventing the waste of expensive cryogenic gases. It is available with a variety of outlet connections to suit the customers' requirements.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

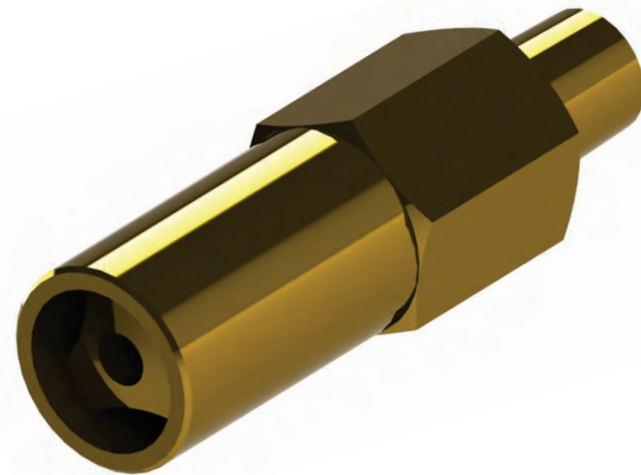
## Maximum Working Pressure (MWP)

Subject to end connections

Up to 40 bar (580 psi) at -196°C to + 65°C

## Features

- Valve will not stick in its seat even when left unused for long periods of time
- Design allows the valve to reseat correctly after venting off the expanding fluid which prevents wastage of cryogenic gases
- Accuracy of lifting pressure is +/- 3%
- Valve is tight up until 90% of set pressure
- Valve reseats before 50% of set pressure
- Orifice diameter is 8mm



Nozzle 6 Brass Thermal Relief Valve  
Open to Atmosphere

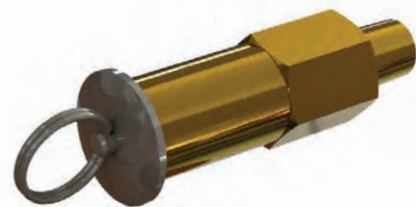
## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive



Pipe Away Adaptor



Ring Pull

## Materials

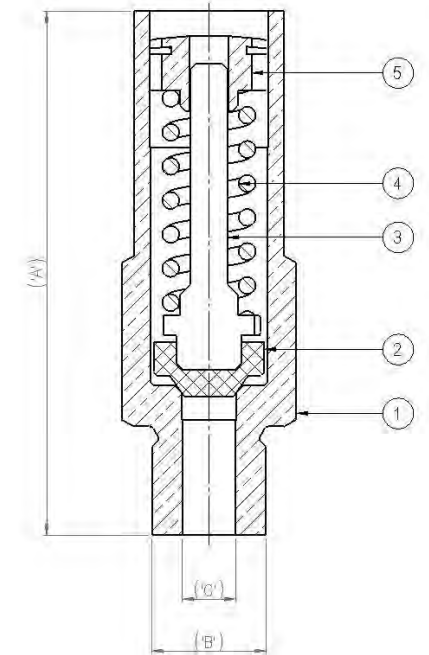
| Brass       |                                  |
|-------------|----------------------------------|
| 1. Body     | Naval Brass BS EN 12163 CW712R   |
| 2. Disc     | Hostafilon Electro Carbon Filled |
| 3. Stem     | Stainless Steel 10088-3 1.4401   |
| 4. Spring   | Stainless Steel 302              |
| 5. Adjuster | Naval Brass BS EN 12163 CW712R   |

\* Stainless Steel version available on request.

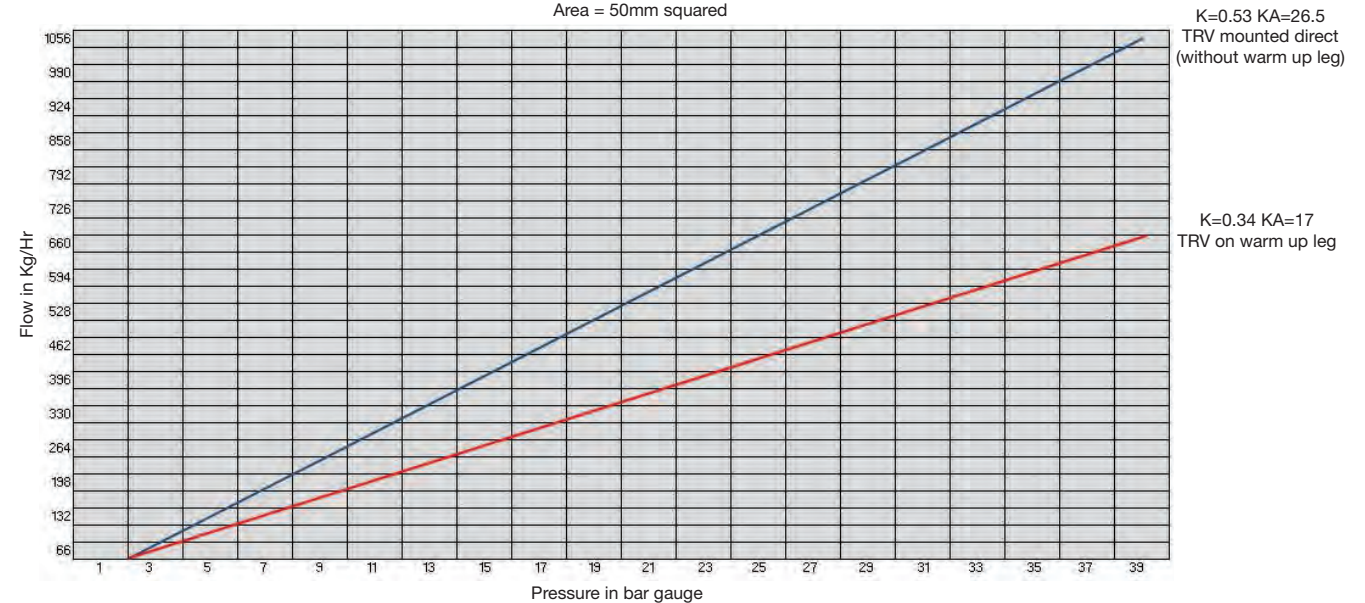
## Specifications

| Pressure Ranges |               | Outlet Type   | Unit | A  | C |
|-----------------|---------------|---------------|------|----|---|
| psi             | bar           |               |      |    |   |
| 25 - 49         | 1.72 - 3.38   | Plain         | mm   | 73 | 8 |
| 50 - 99         | 3.45 - 6.83   | Ring Pull     | mm   | 84 | 8 |
| 100 - 199       | 6.90 - 13.72  | Male Threaded | mm   | 99 | 8 |
| 112 - 148       | 7.72 - 10.20  | Shrouded      | mm   | 93 | 8 |
| 200 - 434       | 13.80 - 29.90 |               |      |    |   |
| 435 - 580       | 30.00 - 40.00 |               |      |    |   |

B - Inlet Type (Male BSPT/NPT)



DN6 V2698 Thermal Relief Valve  
Flow in Kg/Hr @ 0 deg C Inlet & P+10%  
Area = 50mm squared



## How to Order

The correct part number is easily derived from the following number sequence

| CVF                            | 10               | B                  | 1                    | 07                             | N00      |
|--------------------------------|------------------|--------------------|----------------------|--------------------------------|----------|
| Series                         | Orifice Diameter | Inlet Connection   | Outlet Connection    | Pressure Range                 | Option   |
| CVF                            | 10 8.00mm        | B 1/4" BSP-TR Male | 1 Open to Atmosphere | 07 25-49 psi (1.7-3.3 bar)     | N00      |
| Cryogenic Thermal Relief Valve |                  | C 1/4" NPT Male    | 3 Ring Pull          | 15 50-99 psi (3.4-6.8 bar)     | No Drain |
|                                |                  | K 1/2" BSP-TR Male | C 1/2" BSP-TR        | 29 100-199 psi (6.9-13.7 bar)  |          |
|                                |                  | L 1/2" NPT Male    | F 1/2" NPT           | 32 112-148 psi (7.7-10.2 bar)  |          |
|                                |                  |                    |                      | 45 200-434 psi (13.8-29.9 bar) |          |
|                                |                  |                    |                      | 60 435-580 psi (30-40 bar)     |          |

Please contact us for other options.

# Cryogenic Pressure Regulator

## Pressure Build-Up Regulator and Economiser DN15 (1/2")

The Parker Bestobell cryogenic pressure regulator (also known as Cryoreg) is used to regulate pressure of storage vessels, including static and transportable tanks. It features combined pressure build-up, regulator and economiser regulation functions within one valve.

This includes:

- Pressure build up regulator
- Economiser valve
- Thermal relief on two of the ports

Cryoreg is designed to fit downstream of the pressure build-up coil and therefore controls the gaseous flow during the pressure build up phase of its operation. The valve operation is such that it maintains a system pressure on a container or storage unit during transfer of gas from the trailer to a storage unit or vice versa. Pressure must be maintained to allow flow to occur at desired rates during transfer.



DN15 Cryogenic Pressure Regulator Valve

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

### Maximum Working Pressure (MWP)

Subject to end connections

Up to 25 bar (360 psi) at -196°C to + 65°C

### Features

- Combined pressure build-up regulator and economiser functions for simpler pipework and fewer joints
- High flow characteristics – for closer control of tank pressure
- Operates on liquid or gas – to suit every installation
- Single adjustment for both functions – for simpler tank setting
- High accuracy/low deadband allows higher tank pressure – reduced boil-off in pipelines
- Dual thermal relief valve action – for added system protection
- Strainer fitted as standard on inlet and outlet
- Ball check fitted to economiser outlet as standard

### Technical

- Designed and engineered for use with Group 1 gases.
- DN15 – DN25 bull nose end connections available. Please contact us with your requirements.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

The Cryoreg is available with a choice of springs to give optimum control in all applications. Set pressure tolerance will normally be held on gas ± 3% and liquid side ± 5%.



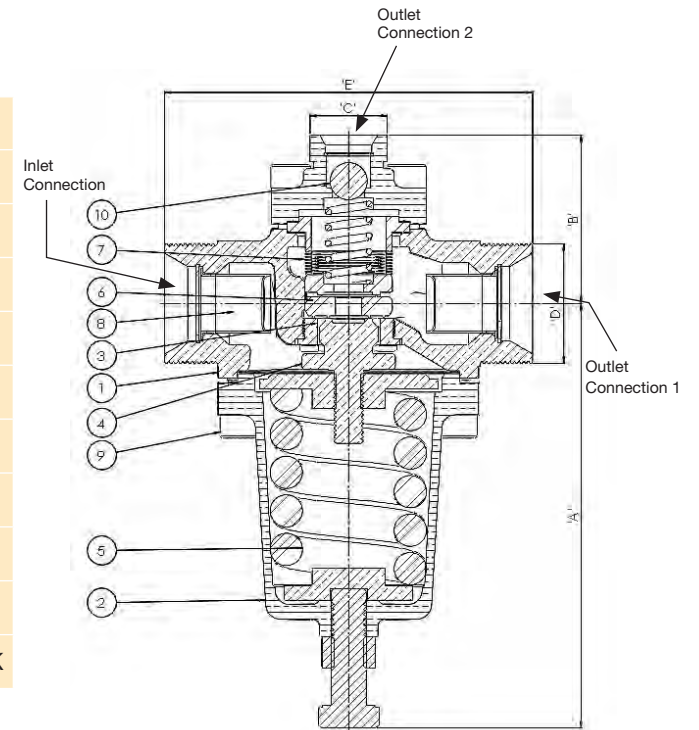
DN15 Pressure Regulator with Bull Nose End Connector and Extended Stubs



DN15 Pressure Regulator with Bull Nose End Connector and Socket Ends

### Materials

|                     | <b>Bronze</b>                      |
|---------------------|------------------------------------|
| 1. Body             | Gunmetal BS EN1982 CC491K          |
| 2. Spring Housing   | Gunmetal BS EN1982 CC491K          |
| 3. Seat             | Bronze BS EN 12163 CW451K          |
| 4. Disc Assembly    | Beryllium Copper/Phosphor Bronze   |
| 5. Spring           | Stainless Steel Series 300         |
| 6. Seal             | Virgin PTFE                        |
| 7. Bellows Assembly | Stainless Steel Series 300         |
| 8. Strainer         | Monel                              |
| 9. Fasteners        | Stainless Steel BS6105 A2/A4 Gr.70 |
| 10. Ball            | Phosphor Bronze BS EN 12163 CW451K |



### Specifications

| Pressure Ranges | Dimension |      |         |           |     | Weight (kg) |
|-----------------|-----------|------|---------|-----------|-----|-------------|
|                 | A         | B    | C       | D         | E   |             |
| 1.5 - 5 bar     | 134       | 57.5 | 3/4 BSP | 1 1/4 BSP | 126 | 3.5         |
| 4 - 12 bar      | 134       | 57.5 | 3/4 BSP | 1 1/4 BSP | 126 | 3.5         |
| 10 - 25 bar     | 134       | 57.5 | 3/4 BSP | 1 1/4 BSP | 126 | 3.5         |

### How to Order

The correct part number is easily derived from the following number sequence

| CK                                       | 30  | 10                                 | 10                                 | 10                                 | 1              | 7000           |                         |
|--|---|------------------------------------|------------------------------------|------------------------------------|----------------|----------------|-------------------------|
| Series                                   | Valve Size<br>Diameter<br>Nominal<br>(DN) | Inlet Connection                   | Outlet Connection 1                | Outlet Connection 2                | Thread<br>Size | Pressure Range |                         |
| CK<br>Cryogenic<br>Pressure<br>Regulator | 30 DN15                                   | 10 1 1/4" BSP-PL c/w 60° Cone      | 10 1 1/4" BSP-PL c/w 60° Cone      | 10 3/4" BSP-PL c/w 60° Cone        | 1 1 1/4"       | 7000           | 22-73 psi (1.5-5 bar)   |
|  |   | E3 1/2" NPT Female                 | E3 1/2" NPT Female                 | E2 3/8" NPT Female                 |                | 7100           | 58-174 psi (4-12 bar)   |
|  |   | E5 1" NPT Female                   | E5 1" NPT Female                   | E3 1/2" NPT Female                 |                | 7200           | 145-363 psi (10-25 bar) |
|  |   | S9 1/2" NB x Butt Weld Schedule 10 | S9 1/2" NB x Butt Weld Schedule 10 | E4 3/4" NPT Female                 |                |                |                         |
|  |   | SN 1" NB x Butt Weld Schedule 10   | SN 1" NB x Butt Weld Schedule 10   | S9 1/2" NB x Butt Weld Schedule 10 |                |                |                         |

Please contact us for other options.



# Cryogenic Pressure Regulator

## Pressure Build-Up Regulator and Economiser DN15 (1/2")

### Description of Operation

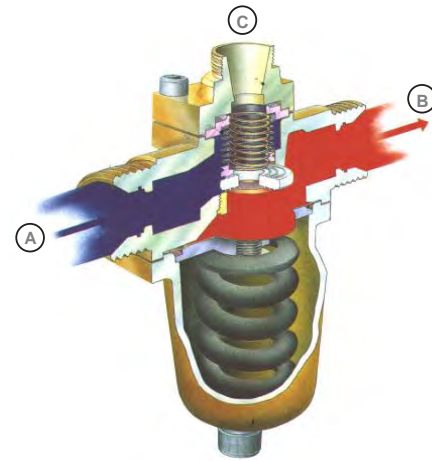
In the following explanation of the "Cryoreg" it is assumed to be fitted downstream of the pressure build-up coil and will therefore be controlling a gaseous flow during the pressure build-up phase of its operation. Operation is identical when fitted upstream of the PBU coil except that liquid will be passed during the pressure build-up phase.

### First Function

Pressure build-up regulator

As the customer draws liquid or gas from the tank the pressure inside the tank will fall. To compensate for this, the "Cryoreg" will open to allow liquid to pass through the pressure build-up coil. Sufficient gas will thus be generated to bring the tank back to its normal working pressure.

In this phase of operation, flow is from port A to port B via the pressure build-up seat on the multi-function disc, the flow path being formed from the upward movement of the diaphragm assembly lifting the multi-function disc away from the main seat. This upward movement arises as a result of the force in the pressure setting spring overcoming the pressure force acting over the sensing diaphragm. As soon as the pressure in the tank has recovered, the diaphragm assembly is pushed back down again, closing off the flow path.



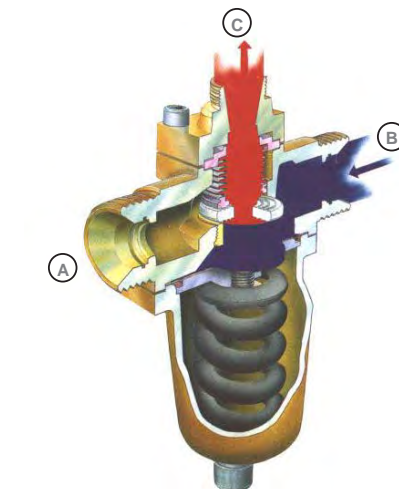
First function

### Second Function

Economiser Valve

When heat leaks into a cryogenic storage tank, liquid will revert to its gas phase leading to a pressure rise in the tank. Left unchecked, the process may continue until the relief valve lifts, wastefully venting gas to atmosphere. The function of an economiser valve is to divert excess gas into the customer's supply line. Providing the customer is drawing gas, diverting the flow in this manner will prevent the relief valve lifting, avoiding waste and reducing the overall cost of storing the liquefied gas. To accomplish this; a flow path is formed within the "Cryoreg" to allow gas to pass from port B, up through the centre of the valve to exit via the economiser port C. The flow path is formed from the downward movement of the diaphragm (which senses tank pressure) having overcome over the force in the pressure setting spring. This occurs when the tank pressure exceeds the valve set pressure by more than 0.54 barg.

Note that this mechanism is also used to provide thermal relief into the economiser from outlet B.



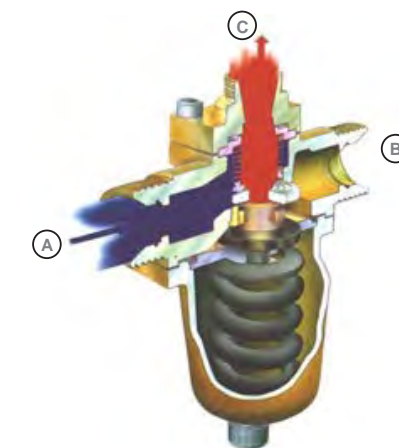
Second function

### Third function

Thermal relief

Inadvertent closure of the valve supplying the pressure build-up coil could lead to liquid being trapped between the coil and the "Cryoreg". A thermal relief valve would normally be required to protect the coil-associated pipework from the high pressures generated by warming of the trapped liquid. This function, however, is built in to the "Cryoreg", which will automatically vent the gas into either the economiser line (port C) or the gas supply line to the tank (port A). This function is accomplished by the differential pressure across the bellows assembly forcing it to compress, leaving the multi-function disc in place. This allows a flow path to form from port A, up through the centre of the bellows to exit from the economiser port. Remember that thermal relief is provided on port B by the economiser function described above giving protection under all foreseeable circumstances.

Note that if an isolating valve is fitted in the economiser line it will be necessary to fit a separate Thermal Relief Valve between the economiser port (C) and the isolation valve. This is not necessary if a Parker Bestobell Check Valve is installed.



Third function

$$Q = kw \sqrt{\Delta p / \rho} \text{ where}$$

Q = Actual flow in m<sup>3</sup>/h

$\Delta p$  = Pressure drop in bar

$\rho$  = Liquid density in kg/m<sup>3</sup>

### Cryoreg Flow Data

Cryoreg on liquid side of vapouriser

Flow rates given are in kg/hr with 1 meter liquid head in vessel. For change in liquid head multiply flow by square root liquid head.

### Maximum Flow through regulator to give pressure build kg/hr

| Bar g |       | 2   | 4   | 6   | 8   | 10  | 12  | 14  | 16  | 18  | 20  | 25    | 30  | 35    | 40  |
|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-------|-----|
| psi g |       | 29  | 58  | 87  | 116 | 145 | 174 | 203 | 232 | 261 | 290 | 362.5 | 435 | 507.5 | 580 |
| LIN   | kg/hr | 513 | 499 | 477 | 460 | 445 | 431 | 418 | 407 | 393 | 378 | 347   | 310 | -     | -   |
| LOX   | kg/hr | 728 | 711 | 686 | 667 | 651 | 636 | 622 | 609 | 595 | 581 | 551   | 524 | 495   | 467 |
| LAR   | kg/hr | 888 | 888 | 837 | 813 | 792 | 774 | 757 | 741 | 726 | 704 | 669   | 634 | 597   | 563 |
| CO2   | kg/hr | -   | -   | 758 | 746 | 727 | 715 | 703 | 692 | 681 | 672 | 648   | 627 | 607   | 586 |

### Maximum gas withdrawal from tank M3/hr

| Bar g | psi g | LIN M3/hr | LOX M3/hr | LAR M3/hr | CO2 M3/hr | Liquid Density kg/M3 |      |      |      | Vapour Density kg/M3 |       |      |      |
|-------|-------|-----------|-----------|-----------|-----------|----------------------|------|------|------|----------------------|-------|------|------|
|       |       |           |           |           |           | LIN                  | LOX  | LAR  | CO2  | LIN                  | LOX   | LAR  | CO2  |
| 2     | 29    | 25313     | 48940     | 43151     | -         | LIN                  | LOX  | LAR  | CO2  | LIN                  | LOX   | LAR  | CO2  |
| 4     | 58    | 14544     | 28991     | 25388     | -         | 780                  | 1106 | 1350 | -    | 12.45                | 11.4  | 15.4 | -    |
| 6     | 87    | 9434      | 18940     | 16929     | 24155     | 758                  | 1080 | 1319 | -    | 20.24                | 18.2  | 24.8 | -    |
| 8     | 116   | 6708      | 13798     | 12359     | 17835     | 725                  | 1043 | 1272 | 1152 | 28.19                | 25.8  | 34.3 | 18   |
| 10    | 145   | 5014      | 10680     | 9494      | 13646     | 699                  | 1014 | 1235 | 1134 | 36.35                | 33.2  | 43.9 | 23.5 |
| 12    | 174   | 3861      | 8533      | 7549      | 11184     | 676                  | 989  | 1204 | 1105 | 44.8                 | 40.4  | 53.8 | 29   |
| 14    | 203   | 3040      | 6998      | 6141      | 9379      | 655                  | 966  | 1176 | 1086 | 53.7                 | 47.9  | 63.9 | 34   |
| 16    | 232   | 2436      | 5805      | 5080      | 8006      | 636                  | 946  | 1150 | 1068 | 63.1                 | 55.4  | 74.3 | 39   |
| 18    | 261   | 1938      | 4867      | 4267      | 6786      | 618                  | 925  | 1126 | 1051 | 72.8                 | 63.2  | 85.1 | 44   |
| 20    | 290   | 1537      | 3991      | 3552      | 5968      | 597                  | 904  | 1103 | 1035 | 83.3                 | 71.2  | 96   | 50   |
| 25    | 362.5 | 877       | 2664      | 2409      | 4285      | 574                  | 883  | 1070 | 1021 | 94.3                 | 81.6  | 107  | 55   |
| 30    | 435   | 507       | 1841      | 1669      | 3281      | 527                  | 838  | 1017 | 985  | 126.6                | 106.0 | 137  | 70   |
| 35    | 507.5 | -         | 1262      | 1131      | 2522      | 471                  | 796  | 963  | 953  | 154.6                | 132.2 | 169  | 84   |
| 40    | 580   | -         | 853       | 750       | 1901      | -                    | 752  | 907  | 922  | -                    | 162.0 | 207  | 100  |
|       |       |           |           |           |           | -                    | 710  | 855  | 890  | -                    | 196.8 | 253  | 120  |

# Cryogenic Pressure Build Up Valve

Stainless Steel  
DN50 (2")

The Parker Bestobell pressure build up valve is designed to provide an 'easy adjust' pressure regulation function in one valve.

It is suitable for use on cryogenic static tanks and road trailers. The valve maintains a system pressure on a container or storage unit during transfer of gas from the trailer to a storage unit or vice versa, therefore optimising safety. As the pressure falls, the valve opens and allows liquid to pass into the vaporiser. The gas generated is returned to the vapour space at the top of the vessel.

It has high flow characteristics, enabling it to fill or empty the tank quickly.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

## Features

- High flow characteristics for closer control of tank pressure
- Operates on liquid or gas to suit every installation
- Single adjustment for ease of tank setting
- Inlet strainer fitted as standard fitted as standard to all valves
- Removable cartridge internal system for ease of maintenance
- Available with a choice of springs to give optimum control in all applications

## Technical

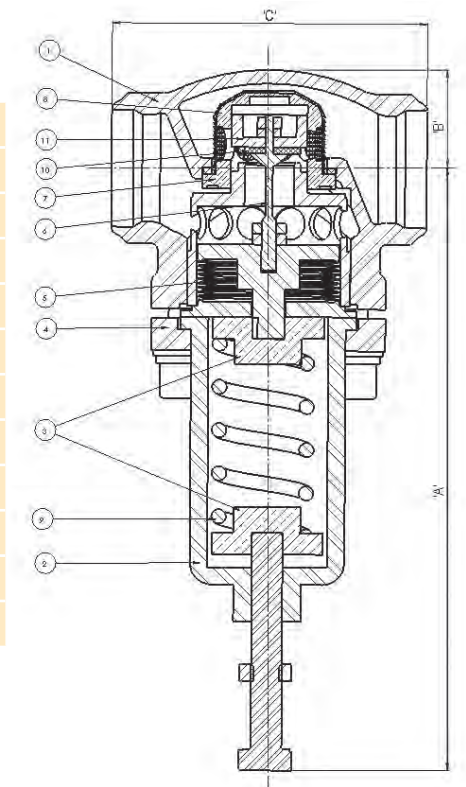
- Designed for use with: C, Ar, O2, CO2
- DN50 Flow data: Cv = 12.5 US GPM; Kv = 10.8 M3/hr
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.



DN50 Cryogenic Stainless Steel Pressure Build Up Valve

## Materials

|                    | Stainless Steel                    |
|--------------------|------------------------------------|
| 1. Body            | Stainless Steel ASTM A351 CF3M     |
| 2. Spring Housing  | HT Brass BS EN 12164 CW721R        |
| 3. Pressure Plates | HT Brass BS EN 12164 CW721R        |
| 4. Cover           | Stainless Steel ASTM A351 CF8M     |
| 5. Bellows         | Stainless Steel                    |
| 6. Stem            | Brass HT Brass BS EN 12164 CW721R  |
| 7. Piston Housing  | Phosphor Bronze BS EN 12163 CW451K |
| 8. Strainer        | Stainless Steel 316                |
| 9. Spring          | Stainless Steel 302                |
| 10. Seal           | Virgin PTFE                        |
| 11. Piston         | HT Brass BS EN 12164 CW721R        |



## Specifications

### Butt Weld Ends

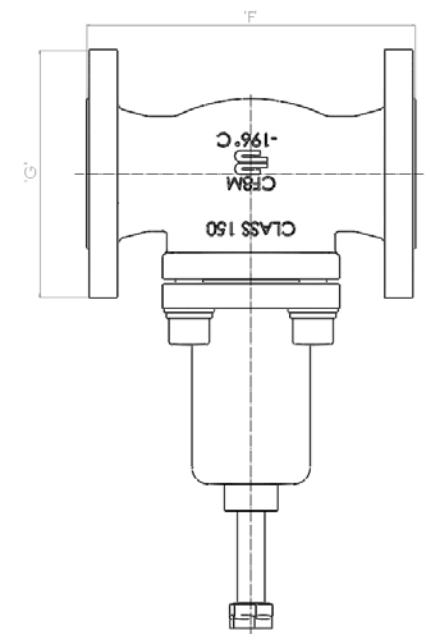
| Size   | Unit | DN50 2" |
|--------|------|---------|
| A      | mm   | 243     |
| B      | mm   | 48      |
| C      | mm   | 146     |
| Weight | kg   | 9       |

| Size | Spring Adjustment Range |
|------|-------------------------|
| DN50 | 22-130 psi (1.5-9 bar)  |

### Flanged Ends (Class 150)

| Size             | Unit | DN50 2" |
|------------------|------|---------|
| F                | mm   | 203     |
| G                | mm   | 152     |
| Flange Thickness | mm   | 19      |
| Weight           | kg   | 14      |

Class 300 available on request



## How to Order

| Part Number  | Valve Size Diameter Nominal (DN) | Connection Type       | Pressure Range (psi) |
|--------------|----------------------------------|-----------------------|----------------------|
| CF80B1B17000 | 50                               | Butt Weld Schedule 10 | 22 - 130             |
| CF80FAFA7000 |                                  | Flange Class 150      |                      |
| CF80FCFC7000 |                                  | Flange Class 300      |                      |

Please contact us for other options.

# Cryogenic Lift Check Valve

Stainless Steel  
DN6 - DN150 (1/4" - 6")

Parker Bestobell lift check valves feature bolted bonnet, integral seat and renewable PTFE seal, complete with bronze internals. The Stainless Steel body valves are available with flanged, Butt Weld and Socket Ends. The lift check valve is of a cone seat design for zero leak shut off.

The bolted bonnet allows for easy maintenance, even in confined spaces.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

## Features

- Unique Parker Bestobell loose flange bolted bonnet design allows for thermal expansion and contraction and eliminates leakage at the bonnet gasket
- Precision investment cast body – smooth surface finish
- PTFE seal to ensure tight shut off at all times
- Designed and engineered specifically for cryogenic service
- Full bore
- Fast/easy maintenance of PTFE components



DN80 Stainless Steel Lift Check Valve with Socket Ends

## Technical

- Designed and engineered for use with Group 1 gases.
  - Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011.
  - Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.
- CE Marked according to the Pressure Equipment Directive.



DN40 Lift Check Valve with Butt Weld Ends



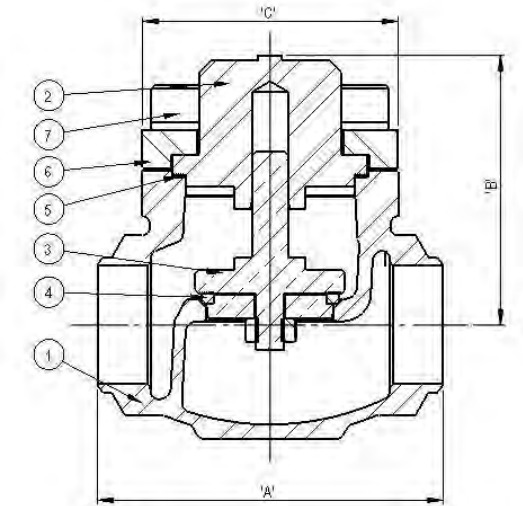
DN40 Lift Check Valve with Flanged Ends



DN40 Lift Check Valve with Socket Ends

## Materials

|                  | Stainless Steel                      |
|------------------|--------------------------------------|
| 1. Body          | Stainless Steel ASTM A351 CF8M       |
| 2. Cover         | Stainless Steel BS EN 10088-3 1.4401 |
| 3. Disc          | HT Brass BS EN 12164 CW721R          |
| 4. Seal          | Virgin PTFE                          |
| 5. Gasket Bonnet | Sigma 511                            |
| 6. Bonnet Flange | Stainless Steel - ASTM A351 CF8M     |
| 7. Fasteners     | Stainless Steel BS6105 A2/A4 Gr.70   |



## Specifications

### Butt Weld/Socket Weld Ends

| Size             | Unit   | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" | DN65<br>2 1/2" | DN80<br>3" | DN100<br>4" | DN150<br>6" |
|------------------|--------|-------------|--------------|--------------|--------------|------------|----------------|------------|----------------|------------|-------------|-------------|
| A                | mm     | 68          | 68           | 68           | 92           | 92         | 121            | 146        | 178            | 178        | 292         | 400         |
| B                | mm     | 51          | 51           | 51           | 60           | 71         | 84             | 107        | 145            | 145        | 193         | 260         |
| C                | mm     | 55          | 55           | 55           | 66           | 66         | 81             | 108        | 130            | 133        | 169         | 305         |
| Cv               | US GPM | 3.6         | 3.6          | 3.6          | 13.2         | 13.2       | 26.5           | 43         | 68             | 98         | 174         | 400         |
| Weight           | kg     | 1           | 1            | 1            | 1.5          | 1.6        | 3.2            | 6.5        | 9              | 13.4       | 35          | 110         |
| Opening Pressure | PSI    | 0.37        | 0.37         | 0.37         | 0.37         | 0.37       | 0.24           | 0.21       | 0.25           | 0.27       | 0.34        | 0.5         |

### Flanged Ends (Class 300)

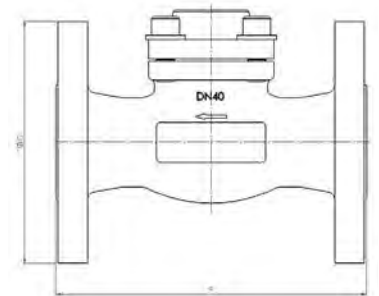
| Size             | Unit | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" | DN65<br>2 1/2" | DN80<br>3" | DN100<br>4" |
|------------------|------|--------------|--------------|------------|----------------|------------|----------------|------------|-------------|
| F                | mm   | 130          | 160          | 160        | 200            | 230        | 290            | 310        | 350         |
| G                | mm   | 95           | 124          | 124        | 155            | 165        | 191            | 210        | 254         |
| Flange Thickness | mm   | 14           | 18           | 18         | 21             | 22         | 25             | 28         | 32          |
| Weight           | kg   | 2.2          | 4.5          | 4.5        | 8.6            | 13.5       | 19.5           | 27.4       | 53          |

Class 150 available on request  
DN150 sizes are to Class 150 pressures only

## How to Order

The correct part number is easily derived from the following number sequence

| CGT             | 10                               | B1                       | B        | 0                | C         |
|-----------------|----------------------------------|--------------------------|----------|------------------|-----------|
| Series          | Valve Size Diameter Nominal (DN) | Connection Type          | Bonnet   | Option           | Seat Type |
| CGT             | 10 DN6                           | B1 Butt Weld Schedule 10 | B Bolted | 0 Without Spring | C Cone    |
| Cryogenic       | 20 DN10                          | SNE Socket Weld          |          |                  |           |
| Lift Check      | 30 DN15                          | FA Flange Class 150      |          |                  |           |
| Stainless Steel | 40 DN20                          | FC Flange Class 300      |          |                  |           |
|                 | 50 DN25                          |                          |          |                  |           |
|                 | 70 DN40                          |                          |          |                  |           |
|                 | 80 DN50                          |                          |          |                  |           |
|                 | 90 DN65                          |                          |          |                  |           |
|                 | A0 DN80                          |                          |          |                  |           |
|                 | B0 DN100                         |                          |          |                  |           |
|                 | D0 DN150                         |                          |          |                  |           |



Please contact us for other options.

# Cryogenic Lift Check Valve

Bronze

DN6 - DN50 (1/4" - 2")

Parker Bestobell lift check valves feature bolted bonnet, integral seat and renewable PTFE disc, complete with bronze internals. The bronze body valves are available with Socket Ends or BSP Parallel/NPT threaded end connections and Stainless Steel stubs. The lift check is of a cone seat design for zero leak shut off.

The bolted bonnet allows for easy maintenance, even in confined spaces with lower bolting torques.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.



DN25 Bronze Lift Check Valve with Stainless Steel Stubs

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

## Features

- Unique Parker Bestobell loose flange bolted bonnet design allows for thermal expansion and contraction and eliminates leakage at the bonnet gasket
- PTFE seal to ensure tight shut off at all times
- Designed and engineered specifically for cryogenic service
- Full bore
- Fast/easy maintenance of PTFE components

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011.
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

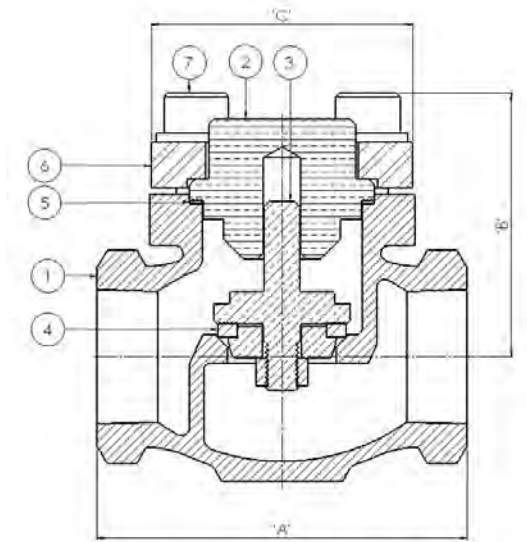
CE Marked according to the Pressure Equipment Directive.



DN15 Bronze Lift Check Valve with Socket Ends

## Materials

|                  | <b>Bronze</b>                        |
|------------------|--------------------------------------|
| 1. Body          | Gunmetal BS EN 1982 CC491K           |
| 2. Cover         | Stainless Steel BS EN 10088-3 1.4401 |
| 3. Disc          | HT Brass BS EN 12164 CW721R          |
| 4. Seal          | Virgin PTFE                          |
| 5. Gasket Bonnet | Sigma 511                            |
| 6. Bonnet Flange | Stainless Steel - ASTM A351 CF8M     |
| 7. Fasteners     | Stainless Steel BS6105 A2/A4 Gr.70   |



## Specifications

| Size             | Unit   | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" |
|------------------|--------|-------------|--------------|--------------|--------------|------------|----------------|------------|
| A                | mm     | 68          | 68           | 68           | 76           | 92         | 121            | 146        |
| B                | mm     | 51          | 51           | 51           | 60           | 71         | 84             | 107        |
| C                | mm     | 55          | 55           | 55           | 66           | 66         | 81             | 108        |
| Cv               | US GPM | 3.6         | 3.6          | 3.6          | 6.2          | 13.2       | 26.5           | 43         |
| Weight           | kg     | 1           | 1            | 1            | 1.3          | 1.8        | 3.7            | 6.4        |
| Opening Pressure | psi    | 0.37        | 0.37         | 0.37         | 0.37         | 0.37       | 0.24           | 0.21       |

## How to Order

The correct part number is easily derived from the following number sequence

| CGB                                      | 10                                  | TA                        | B        | 0                | C         |
|--|-------------------------------------|---------------------------|----------|------------------|-----------|
| Series                                   | Valve Size<br>Diameter Nominal (DN) | Connection Type           | Bonnet   | Option           | Seat Type |
| CGB<br>Cryogenic<br>Lift Check<br>Bronze | 10                                  | DN6                       | B Bolted | 0 Without Spring | C Cone    |
|  | 20                                  | DN10                      |          |                  |           |
|  | 30                                  | DN15                      |          |                  |           |
|  | 40                                  | DN20                      |          |                  |           |
|  | 50                                  | DN25                      |          |                  |           |
|  | 70                                  | DN40                      |          |                  |           |
| 80                                       | DN50                                | SST Stainless Steel Stubs |          |                  |           |

Please contact us for other options.

# Cryogenic Swing Check Valve

Stainless Steel  
DN25 - DN80 (1" - 3")

A Stainless Steel swing check valve with a PTFE seal incorporated into the valve disc ensures a drop tight shut off at ambient temperatures and a leakage rate complying with EN1626 "Valves for Cryogenic Service" under cryogenic conditions.

A wide opening allows high flow rates at low-pressure drops.

The design incorporates a bolted bonnet and a unique easy assemble valve disc assembly.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

## Features

- Designed and engineered specifically for cryogenic service
- Precision investment cast body – smooth surface finish
- Lapped seating face to ensure tight shut-off
- Offset centre of gravity of the disc assembly
- The disc hits the seat face squarely giving even wear across the seal
- Improved low differential pressure seating
- Very low leak rates achievable
- Unique Parker Bestobell cover to avoid incorrect assembly
- PTFE seal to ensure tight shut off



DN50 Stainless Steel Swing Check Valve with Butt Weld Ends

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011.
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive.



DN25 Stainless Steel Swing Check Valve with Butt Weld Ends



DN50 Stainless Steel Swing Check Valve with Flanged Ends

## Materials

|              | Stainless Steel                      |
|--------------|--------------------------------------|
| 1. Body      | Stainless Steel ASTM A351 CF8M       |
| 2. Cover     | Stainless Steel ASTM A351 CF8M       |
| 3. Disc      | Stainless Steel BS EN 10088-3 1.4401 |
| 4. Seal      | Virgin PTFE                          |
| 5. Arm       | Stainless Steel ASTM A351 CF8M       |
| 6. Fasteners | Stainless Steel BS6105 A2/A4 Gr.70   |
| 7. Gasket    | Sigma 511                            |

## Specifications

### Butt Weld Ends

| Size             | Unit   | DN25 | DN40 | DN50 | DN80 |
|------------------|--------|------|------|------|------|
| A                | mm     | 92   | 121  | 146  | 260  |
| B                | mm     | 64   | 73   | 92   | 110  |
| C                | mm     | 70   | 110  | 125  | 155  |
| Cv               | US GPM | 20   | 48   | 90   | 192  |
| Weight           | kg     | 2    | 3.8  | 5.9  | 15.2 |
| Opening Pressure | psi    | 0.21 | 0.22 | 0.22 | 0.5  |

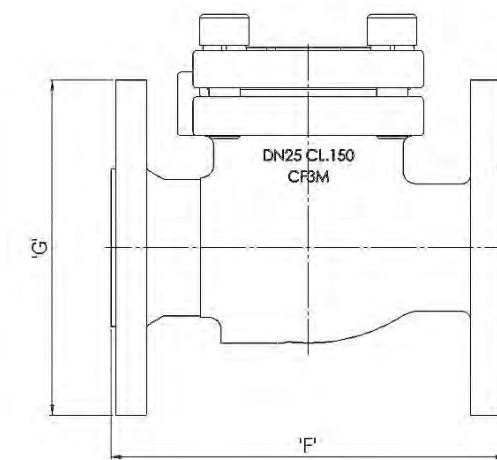
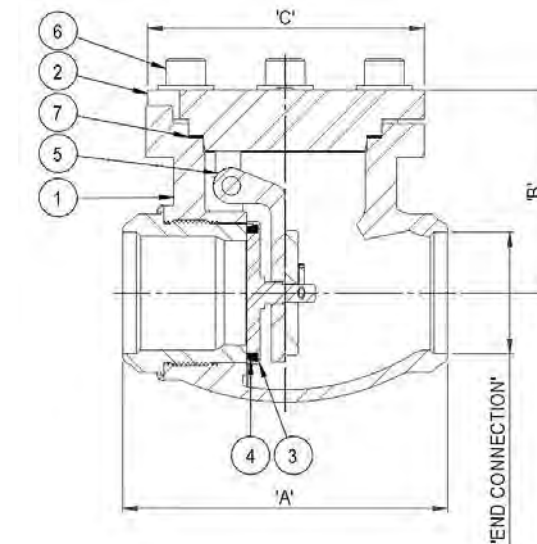
### Flanged Ends (Class 300)

| Size             | Unit | DN25 1" | DN50 2" | DN80 3" |
|------------------|------|---------|---------|---------|
| F                | mm   | 127     | 203     | 241     |
| G                | mm   | 108     | 152.4   | 190.5   |
| Flange Thickness | mm   | 11      | 19      | 23.8    |
| Weight           | kg   | 3.3     | 10      | 20      |

## How to Order

| Part Number | Valve Size Diameter Nominal (DN) | End Connection        |
|-------------|----------------------------------|-----------------------|
| CHC50UB100  | DN25                             | Butt Weld Schedule 10 |
| CHC50UFC00  |                                  | Flange Class 300      |
| CHC70UB100  | DN40                             | Butt Weld Schedule 10 |
| CHC80UB100  | DN50                             | Butt Weld Schedule 10 |
| CHC80UFC00  |                                  | Flange Class 300      |
| CHCA0UB100  | DN80                             | Butt Weld Schedule 10 |
| CHCA0UFC00  |                                  | Flange Class 300      |

Please contact us for other options.



# Cryogenic Strainer

Stainless Steel

DN6 - DN100 (1/4" - 4")

Parker Bestobell's T-type cryogenic strainers prevent contaminants entering an end product in industrial gas applications. Strainers with Stainless Steel bodies are available with Socket Weld, Butt Weld & Flanged Ends.

These cryogenic strainers are designed with a loose flange bolted bonnet design that allows for thermal expansion and contraction and eliminates leakage, therefore enhancing safety. Effective straining function is assured by the large clearance around the entire strainer circumference.

The 100 mesh monel strainer element is compatible with all common cryogenic liquids or gases and is supported by a perforated copper cylinder for additional strength.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Features

- Unique Parker Bestobell loose flange bolted bonnet design allows for thermal expansion and contraction and eliminates leakage at the bonnet gasket
- Precision investment cast body – smooth surface finish
- Designed and engineered specifically for cryogenic service
- Full bore
- Adequate strainer area to ensure full flow of fluid through the unit



DN40 Stainless Steel Strainer with Butt Weld Ends

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

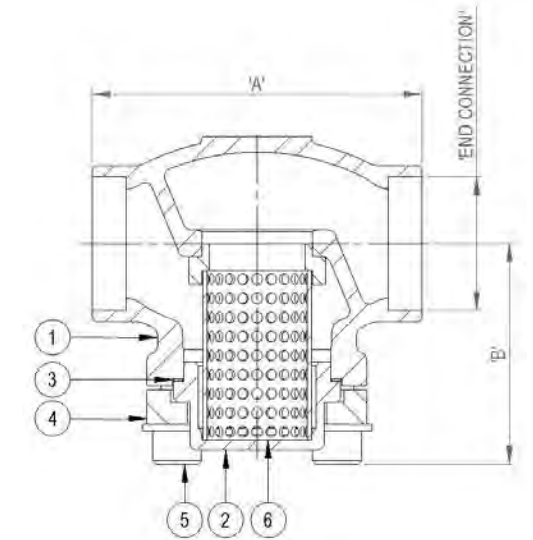
## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011.
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive.

## Materials

|                 | Stainless Steel                      |
|-----------------|--------------------------------------|
| 1. Body         | Stainless Steel ASTM A351 CF8M       |
| 2. Cover        | Stainless Steel BS EN 10088-3 1.4401 |
| 3. Gasket       | Sigma 511                            |
| 4. Loose Flange | Stainless Steel ASTM A351 CF8M       |
| 5. Fasteners    | Stainless Steel BS6105 A2 / A4 Gr.70 |
| 6. Filter       | Copper / Monel Gauze                 |



## Specifications

### Butt Weld/Socket Weld Ends

| Size   | Unit   | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" | DN65<br>2 1/2" | DN80<br>3" | DN100<br>4" |
|--------|--------|-------------|--------------|--------------|--------------|------------|----------------|------------|----------------|------------|-------------|
| A      | mm     | 68          | 68           | 68           | 92           | 92         | 121            | 146        | 178            | 178        | 292         |
| B      | mm     | 55          | 55           | 55           | 66           | 66         | 81             | 108        | 145            | 160        | 229         |
| Cv     | US GPM | 16          | 16           | 16           | 44           | 44         | 80             | 128        | 192            | 260        | 390         |
| Weight | kg     | 1           | 1            | 1            | 1.6          | 2          | 2.6            | 5.4        | 7              | 10         | 33          |

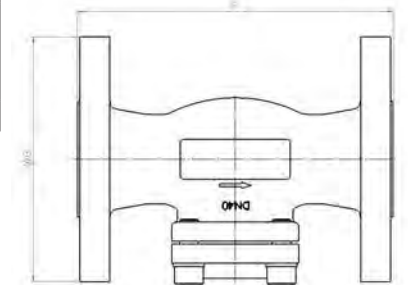
### Flanged Ends (Class 300)

| Size             | Unit | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" | DN65<br>2 1/2" | DN80<br>3" | DN100<br>4" |
|------------------|------|-------------|--------------|--------------|--------------|------------|----------------|------------|----------------|------------|-------------|
| F                | mm   | 130         | 130          | 130          | 160          | 160        | 200            | 230        | 290            | 310        | 350         |
| G                | mm   | 95          | 95           | 95           | 124          | 124        | 155            | 165        | 191            | 210        | 254         |
| Flange Thickness | mm   | 14          | 14           | 14           | 18           | 18         | 21             | 22         | 25             | 28         | 32          |
| Weight           | kg   | 2.2         | 2.2          | 2.2          | 5            | 5          | 8              | 12.4       | 17.5           | 24         | 51          |

## How to Order

The correct part number is easily derived from the following number sequence

| CS                 | 10                               | B1                       | F               | BY          |
|--------------------|----------------------------------|--------------------------|-----------------|-------------|
| Series             | Valve Size Diameter Nominal (DN) | Connection Type          | Filter Material | Filter Size |
| CS                 | 10 DN6                           | B1 Butt Weld Schedule 10 | F Copper/Monel  | BY 100 mesh |
| Cryogenic Strainer | 20 DN10                          | SNE Socket Weld          |                 |             |
|                    | 30 DN15                          | FA Flange Class 150      |                 |             |
|                    | 40 DN20                          | FC Flange Class 300      |                 |             |
|                    | 50 DN25                          |                          |                 |             |
|                    | 70 DN40                          |                          |                 |             |
|                    | 80 DN50                          |                          |                 |             |
|                    | 90 DN65                          |                          |                 |             |
| A0 DN80            |                                  |                          |                 |             |
| B0 DN100           |                                  |                          |                 |             |



Please contact us for other options.



DN40 Stainless Steel Strainer with Flanged Ends



DN100 Stainless Steel Strainer with Butt Weld Ends

Strainer

Strainer

# Cryogenic Strainer

Bronze

DN6 - DN50 (1/4" - 2")

Parker Bestobell's T-type cryogenic strainers prevent contaminants entering an end product in industrial gas applications. Strainers with Bronze bodies are available with Socket Weld, Stainless Steels Stubs and threaded ends.

These cryogenic strainers are designed with a loose flange bolted bonnet design that allows for thermal expansion and contraction and eliminates leakage, therefore enhancing safety. Effective straining function is assured by the large clearance around the entire strainer circumference.

The 100 mesh monel strainer element is compatible with all common cryogenic liquids or gases and is supported by a perforated copper cylinder for additional strength.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

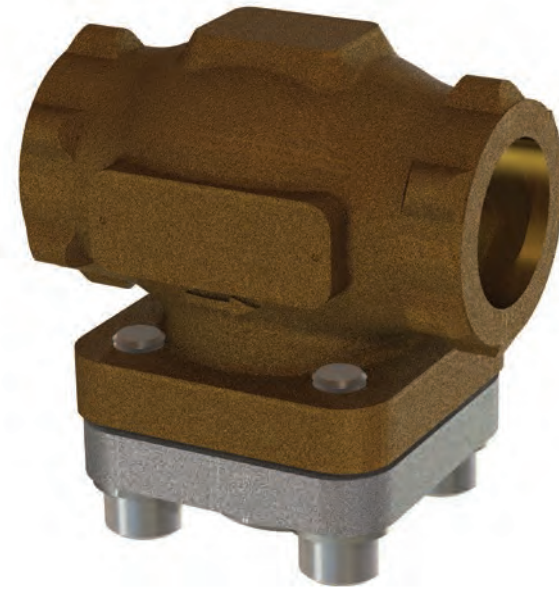
Up to 50 bar (725 psi) at -196°C to +65°C

## Features

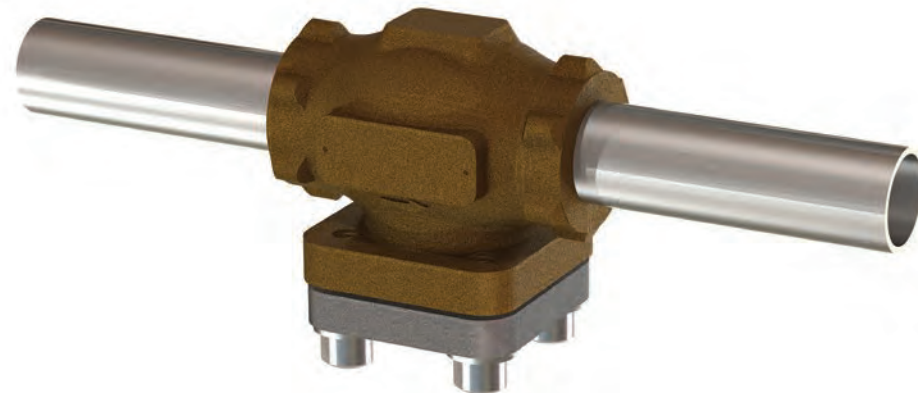
- Unique Parker Bestobell loose flange bolted bonnet design allows for thermal expansion and contraction and eliminates leakage at the bonnet gasket
- Designed and engineered specifically for cryogenic service
- Full bore
- Adequate strainer area to ensure full flow of fluid through the unit

## Technical

- Designed and engineered for use with Group 1 gases.
  - Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011.
  - Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.
- CE Marked according to the Pressure Equipment Directive.



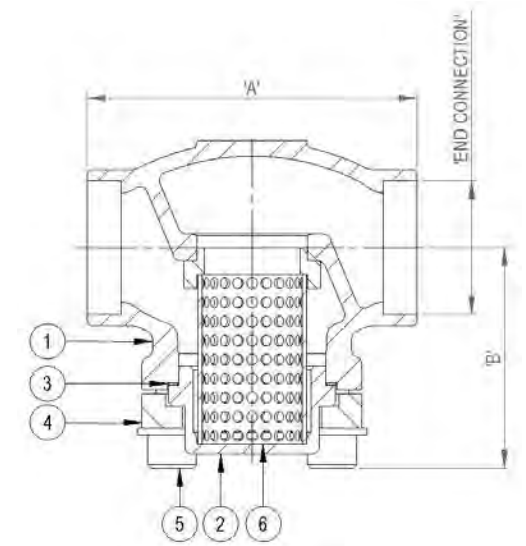
DN25 Bronze Strainer with Socket Weld Ends



DN25 Bronze Strainer with Stainless Steel Stubs

## Materials

|                 | Bronze                               |
|-----------------|--------------------------------------|
| 1. Body         | Gunmetal BS EN 1982 CC491K           |
| 2. Cover        | Stainless Steel BS EN 10088-3 1.4401 |
| 3. Gasket       | Sigma 511                            |
| 4. Loose Flange | Stainless Steel ASTM A351 CF8M       |
| 5. Fasteners    | Stainless Steel BS6105 A2 / A4 Gr.70 |
| 6. Filter       | Copper / Monel Gauze                 |



## Specifications

| Size   | Unit   | DN6<br>1/4" | DN10<br>3/8" | DN15<br>1/2" | DN20<br>3/4" | DN25<br>1" | DN40<br>1 1/2" | DN50<br>2" |
|--------|--------|-------------|--------------|--------------|--------------|------------|----------------|------------|
| A      | mm     | 68          | 68           | 68           | 76           | 92         | 121            | 146        |
| B      | mm     | 55          | 55           | 55           | 66           | 66         | 81             | 108        |
| Cv     | US GPM | 16          | 16           | 16           | 44           | 44         | 80             | 128        |
| Weight | kg     | 1           | 1            | 1            | 1.6          | 1.8        | 3.1            | 5.1        |

## How to Order

The correct part number is easily derived from the following number sequence

| CS                          | 10   | TA  | F               | BY          |
|-----------------------------|--|---|-----------------|-------------|
| Series                      | Valve Size<br>Diameter Nominal (DN)                                      | Connection Type                                     | Filter Material | Filter Size |
| CS<br>Cryogenic<br>Strainer | 10 DN6<br>20 DN10<br>30 DN15<br>40 DN20<br>50 DN25<br>70 DN40<br>80 DN50 | TA BSP-PL<br>TE NPT<br>SST Stainless Steel<br>Stubs | F Copper/Monel  | BY 100 mesh |

Please contact us for other options.

# Automatic Sensing Pressure Reversing Obturator - ASPRO

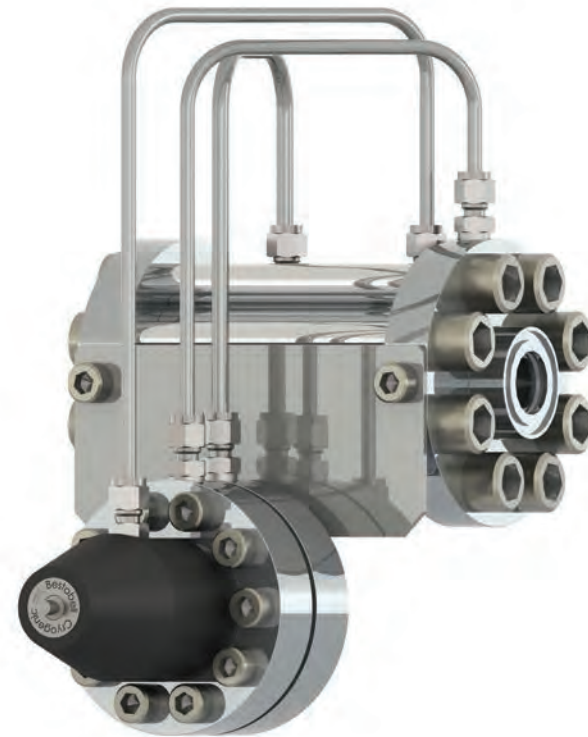
Stainless Steel  
DN6 & DN20 (1/4" & 3/4")

The Automatic Sensing Pressure Reversing Obturator (ASPRO) is a concept that addresses the issue of back contamination from high-pressure carbon dioxide cylinders removing the opportunity for gas contamination. This is a particular problem in the food and beverage industry, where on numerous occasions, contamination has occurred leading to product recalls and brand damage.

There are also a growing number of applications in pharmaceutical production and clean process used in industrial production.

The ASPRO was developed for the prevention of back contamination of CO2 from a high-pressure cylinder, or dewar to the main flow stream, preventing back flow pressures up to 3600psi (250bar), in accordance with recommendations requested by EIGA and BCGA.

The flow co-efficient (CV) allows full flow of media from filling stations and portable delivery systems therefore no delay in filling time.



DN20 Stainless Steel ASPRO Valve

## Maximum Working Pressure (MWP)

Subject to end connections

DN6 - 110bar (1600 psi)

DN20 - 207bar (3000 psi)

Temperature range: -20°C to +65°C

Please note - The above temperature rating is primarily for CO2. Other operating temperatures, for different media, are available upon request.

## Features

- Fully automatic: no operator involvement required to operate the valve
- Designed for single point filling lines

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011.

## Materials

|                       | Stainless Steel                          |
|-----------------------|--|
| 1. Shuttle Valve      | Stainless Steel 316 BS EN 10088-3 1.4401 |
| 2. Diaphragm Valve    | Stainless Steel 316 BS EN 10088-3 1.4401 |
| 3. Pipe to Upstream   | Stainless Steel ASTM A351 TP316L         |
| 4. Pipe to Vent       | Stainless Steel ASTM A351 TP316L         |
| 5. Pipe to Downstream | Stainless Steel ASTM A351 TP316L         |

## Specifications

| Size   | Unit  | DN6<br>1/4" | DN20<br>3/4" |
|--------|-------|-------------|--------------|
| A      | mm    | 110         | 238          |
| B      | mm    | 64          | 51           |
| C      | mm    | 230         | 57           |
| D      | mm    | -           | 140          |
| E      | mm    | -           | 192          |
| F      | mm    | -           | 57           |
| G      | mm    | -           | 278          |
| Kv     | l/min | 13.5        | 78           |
| Weight | kg    | 4           | 4            |

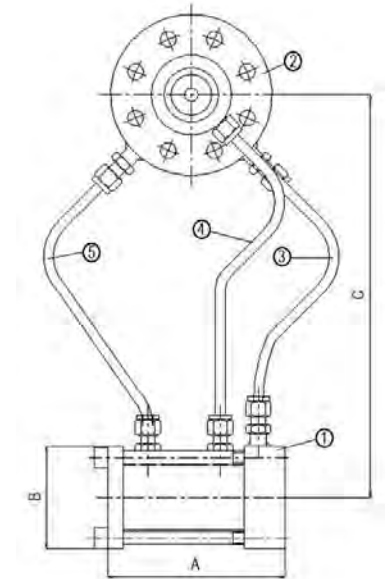
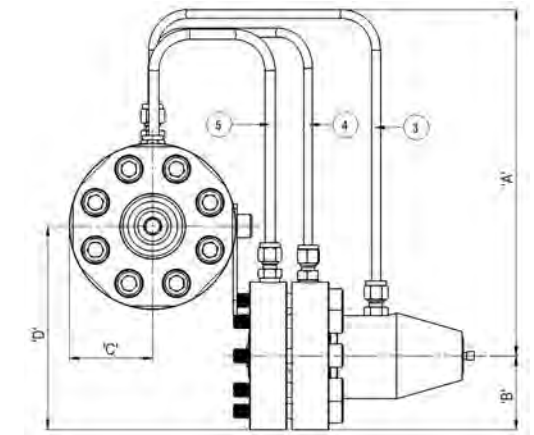
DN6: 1/4" TR ONLY

DN20: 3/4" TR, 1/2" Socket Weld

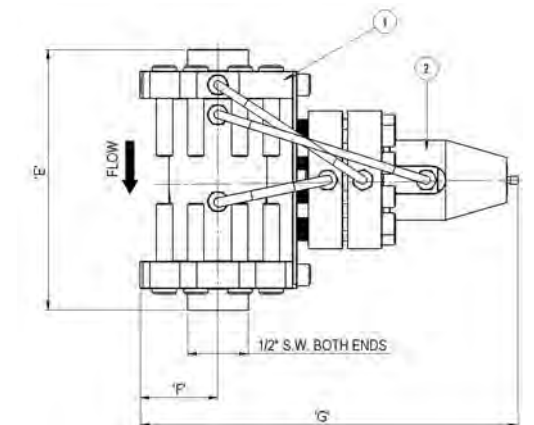
## How to Order

| Part Number | Valve Size<br>Diameter Nominal (DN) | Connection Type |
|-------------|-------------------------------------|-----------------|
| CXC10TC00   | DN6                                 | BSP-TR          |
| CXC40TC00   | DN20                                | BSP-TR          |
| CXC40SNB0C  |                                     | Socket Weld     |

Please contact us for other options.



DN6



DN20



# Flow Diverter Ball Valve

Bronze

DN20 - DN50 (3/4" - 2")

The Parker Bestobell flow diverter is a quarter turn ball valve that enables quick and safe changeover between relief valves.

They ensure that the flow capacity of the valve is not reduced below that available from one fully open port, even during movement of the operating lever from one position to another. The integrity of the vessel is not threatened, even if the operator inadvertently leaves the operating lever mid-position.

The valve comprises three main components: the centre body incorporating the inlet port, ball and operating lever and the two end adaptors, which include the various outlet ports.

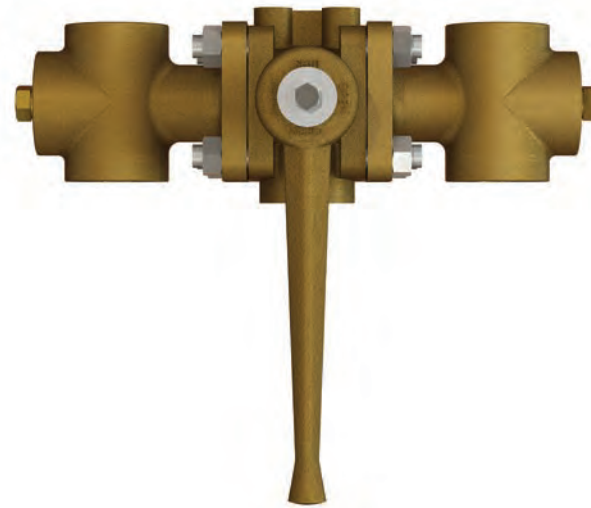
The Flow Diverter Ball Valve is designed for ease of installation, as the position of the entry port helps the system designer to fit it into the correct place. With the bottom entry valve, the inlet port is on the opposite side of the centre body from the opening lever. The front entry valve has the inlet port on the face at 90° to the operating lever.

The valve is usually at the hub of a fairly complex piping system and many variations on the basic design have evolved to suit customers' specific requirements.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Features

- 90° operation from one side to another
- Fitted to safety circuit of a storage vessel, tank or trailer
- Anti blow-out stem
- Porting indications on handle
- Handle designed to prevent attachment to valve in wrong position
- Ball machined to prevent incorrect assembly
- Drilled and tapped mounting bosses to allow rigid mounting
- Quick and simple to use
- Extremely reliable
- Three position "T"-port allows a pressurised storage vessel to be protected by two relief valves. This enables the discharge of higher volumes of gas, which in turn allows faster filling or quicker tank turnaround.



DN20 Bronze Flow Diverter Ball Valve

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

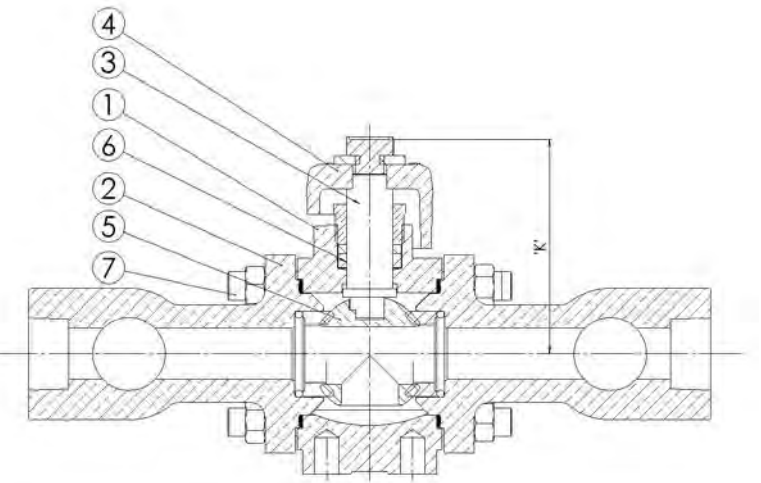
## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011.
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive.

## Materials

|                 | Bronze                             |
|-----------------|------------------------------------|
| 1. Body         | Gunmetal BS EN 1982 CC491K         |
| 2. End Adaptors | Gunmetal BS EN 1982 CC491K         |
| 3. Stem         | HT Brass BS EN 12164 CW721R        |
| 4. Lever        | Gunmetal BS EN 1982 CC491K         |
| 5. Ball         | Brass                              |
| 6. Seat, Gland  | Virgin PTFE                        |
| 7. Fasteners    | Stainless Steel BS6105 A2/A4 Gr.70 |



## Specifications

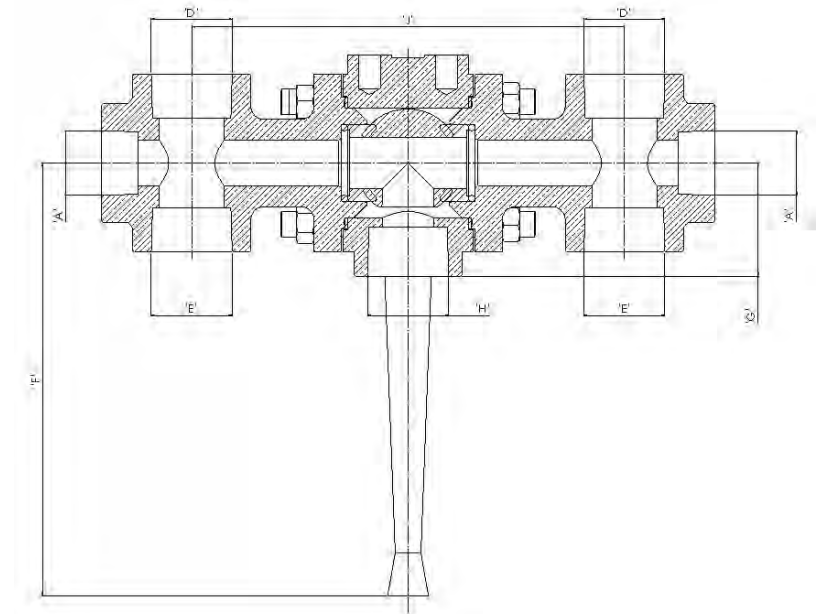
|        | Unit   | DN20          | DN25        | DN32        | DN50        |
|--------|--------|---------------|-------------|-------------|-------------|
| F      | mm     | 170           | 170         | 225         | 225         |
| G      | mm     | 44            | 60          | 67.5        | 95          |
| J      | mm     | 168           | 200         | 223         | 222         |
| K      | mm     | 75            | 75          | 75          | 75          |
| Weight | kg     | 6             | 8.2         | 12          | 19          |
| CV     | US GPM | 10.8 (1 port) | 19 (1 port) | 31 (1 port) | 84 (1 port) |

## End Adaptors Configuration

The main function of the end flanges is to duct the flow from the centre body to the relief valves. In addition to this primary function however, is the subsidiary one of providing additional ports to allow connection of pressure test apparatus and/or bursting disc.

Note that the end flanges can be fitted in any one of four positions, each at 90° to the other. The operating arc of the valve lever may prevent several of these positions being used because of the 180° lever operation.

|   |                               |
|---|-------------------------------|
| A | Outlet Connection 1           |
| D | Outlet Connection 2           |
| E | Outlet Connection 3           |
| F | Lever Length                  |
| G | Inlet Length                  |
| H | Inlet Connection              |
| J | Dimension over outlet centres |
| K | Stem Length                   |



# Flow Diverter Ball Valve

Bronze

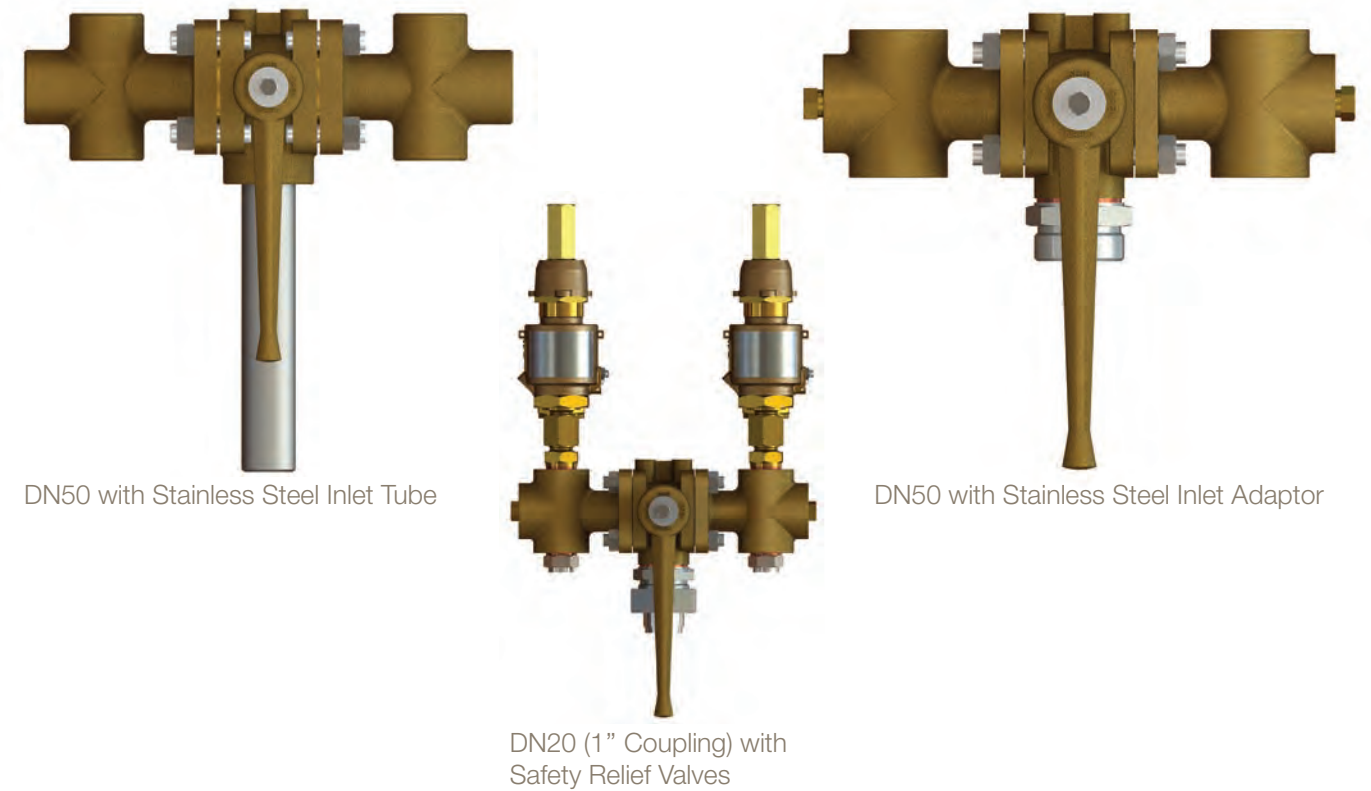
DN20 - DN50 (3/4" - 2")

## How to Order

| Part Number          | Outlet           |                  |              | Inlet Connection | Entry  |
|----------------------|------------------|------------------|--------------|------------------|--------|
|                      | Connection 1     | Connection 2     | Connection 3 |                  |        |
| <b>DN20 Diverter</b> |                  |                  |              |                  |        |
| CJB40SS5ABT1T        | -                | 3/4" PL          | 3/4" PL      | 1" NB            | Bottom |
| CJB40TA5AAT1T        | -                | 1/2" PL          | 1/2" PL      |                  |        |
| CJB40TE5BZT1T        | 3/4" NPT         | 1" NPT           | 1" NPT       | 1" NPT           | Front  |
| CJF40SS5APT1T        | 1/4" NPT         | 3/4" NPT         | 3/4" NPT     |                  |        |
| CJF40SS5B2T1T        | -                | 1" PL            | 1" PL        | 1" NB            | Front  |
| CJF40555H4E1T        | 1/4" NPT Plugged | 1/2" NPT         | 1/2" NPT     |                  |        |
| CJF40555H6E1T        |                  | 1" TR            | 1" TR        |                  |        |
| CJF40TA5AKE1TVA      | 1/2" PL Plugged  | 3/8" PL Plugged  | 3/4" PL      | 1" PL            | Front  |
| CJF40TC5B8E1TVA      | 3/4" TR Plugged  | 1/4" NPT         | 3/4" TR      | 1" TR            |        |
| CJF40TE5APT1T        | 1/4" NPT         | 3/4" NPT Plugged | 3/4" NPT     | 1" NPT           | Front  |
| CJF40TE5BEE1TVA      | -                |                  |              |                  |        |
| CJF40TE5BFE1TVA      | -                | 1/2" NPT Plugged | 1/2" NPT     | M40/2            | Front  |
| CJF40TH5B8E1TVA      | -                | 1/2" PL          | 1/2" PL      |                  |        |
| <b>DN25 Diverter</b> |                  |                  |              |                  |        |
| CJF50TE5APE1T        | 1/4" NPT         | 3/4" NPT         | 3/4" NPT     | 1" NPT           | Bottom |
| <b>DN32 Diverter</b> |                  |                  |              |                  |        |
| CJF60SS7BEE1T        | -                | 1 1/4" TR        | 1 1/4" TR    | 1 1/2" NB        | Front  |
| CJF60SS7CHE1T        | 1/4" NPT         | 3/4" NPT         | 1" NPT       |                  |        |
| CJF60SS7CJEITQ5      | -                | 1" TR            | 1" TR        | 1 1/2" NPT       | Front  |
| CJF60SS7CLE1T        | 1/4" NPT         | 1" NPT           | 1" NPT       |                  |        |
| CJF600SS7CLE1T       | -                | 1 1/4" TR        | 1 1/4" TR    | 1 1/2" TR        | Bottom |
| CJB60TE6C9E1T        | 1 1/2" NPT       | -                | -            | 1 1/2" NPT       |        |

| Part Number          | Outlet          |                  |              | Inlet Connection | Entry  |
|----------------------|-----------------|------------------|--------------|------------------|--------|
|                      | Connection 1    | Connection 2     | Connection 3 |                  |        |
| <b>DN50 Diverter</b> |                 |                  |              |                  |        |
| CJB80TA6E4T1T        | 3/8" TR         | 1 1/4" PL        | 1 1/4" PL    | 1 1/2" NB        | Bottom |
| CJB08TA6EDT1T        |                 | 1 1/2" PL        | 1 1/2" PL    |                  |        |
| CJB80TC7FGE1T        | -               | 1" TR            | 1" TR        | 2" TR            | Front  |
| CJF80SS6F4TITQC      | 1/4" TR         |                  | 1 1/4" TR    | 1 1/2" NB        |        |
| CJF80TC7EPEITVA      | 3/4" TR Plugged | 1/4" NPT Plugged | 2" TR        | 2" TR            | Front  |
| CJF80SS7F2T1T        | -               | 2" TR            |              |                  |        |
| CJF807FDEITVA        | 1" TR Plugged   | 1/4" NPT Plugged | 3/4" NPT     | 2" TR            | Front  |
| CJF80TC7F6E1T        | 3/4" TR         | 1/4" NPT         | 3/4" TR      |                  |        |
| CJF80TC7EDE1T        | -               | 1 1/2" TR        | 1 1/2" TR    |                  |        |

Please contact us for other options.



# Flow Diverter Globe Valve

Bronze  
DN25 (1")

The Parker Bestobell flow diverter globe valve features two internal seats which allow one relief valve, or both relief valves to be live, depending on the position of the disc.

It is essential that a cryogenic liquid storage vessel is always protected by a relief valve. If only one relief valve was fitted to the vessel, it would be impossible to disconnect for routine maintenance or checking of lifting pressure without prejudicing the safety of the vessel. For this reason, all cryogenic storage tanks require two relief valves to be connected to the vessel.

This valve is usually at the hub of a fairly complex piping system and many variations on the basic design have evolved to suit customers' specific requirements.

All valves are degreased for oxygen duty, assembled in clean room conditions and pressure tested prior to dispatch.

## Maximum Working Pressure (MWP)

Subject to end connections

Up to 50 bar (725 psi) at -196°C to +65°C

## Features

- PTFE seal to ensure tight shut-off at all times
- Fast/easy maintenance of PTFE components
- Long life, low torque stem thread
- Anti-blowout stem and one-piece high strength design for operator safety
- Long life spring loaded gland packing
- Lightweight ergonomic aluminium hand wheel

## Technical

- Designed and engineered for use with Group 1 gases.
- Designed and manufactured in accordance with ASTM B31.1, BS EN 1626 and BS ISO 21011.
- Optional full material traceability backed by BS EN 10204 3.1/3.2 certification.

CE Marked according to the Pressure Equipment Directive.



DN25 Bronze Flow Diverter Globe Valve



DN25 Bronze Flow Diverter Globe Valve with Inlet Adaptor

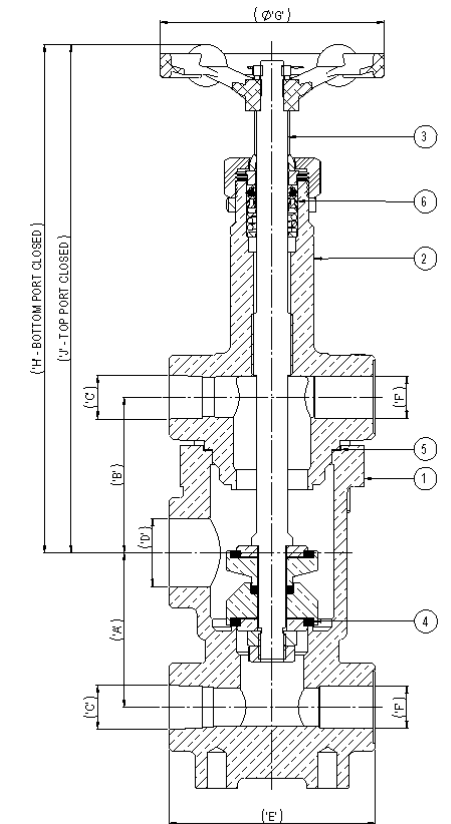
## Materials

|             | Bronze                          |
|-------------|---------------------------------|
| 1. Body     | Gunmetal BS EN 1982 CC491K      |
| 2. Cover    | Gunmetal BS EN 1982 CC491K      |
| 3. Stem     | HT Brass BS EN 12164 CW721R     |
| 4. Seal     | Hostaflon 25% Glass Filled PTFE |
| 5. Gasket   | Sigma 511                       |
| 6. Packings | Virgin PTFE                     |

## Specifications

| Size   | Unit   | DN25 1" |
|--------|--------|---------|
| A      | mm     | 70      |
| B      | mm     | 70      |
| E      | mm     | 93      |
| G      | mm     | 116     |
| H      | mm     | 230     |
| J      | mm     | 258     |
| CV     | US GPM | 6.5     |
| Weight | kg     | 5.6     |

|   |                               |
|---|-------------------------------|
| A | Outlet centre to Inlet centre |
| B | Outlet centre to Inlet centre |
| C | Outlet Connection 1           |
| D | Inlet Connection              |
| E | Dimension over Outlet centres |
| F | Outlet Connection 2           |
| G | Handwheel Diameter            |
| H | Bottom Port                   |
| J | Top Port                      |



## How to Order

| Part Number   | Outlet Connection 1 | Inlet Connection | Outlet Connection 2 |
|---------------|---------------------|------------------|---------------------|
| CND50MRL1FA12 | ½" BSP-PL           | 1" BSP-PL        | ½" BSP-TR           |
| CND50MRL1FA19 | ½" NPT              | 1" NPT           | ¾" NPT              |
| CND50MRL1FA23 |                     |                  | ½" NPT              |

# Low Flow Protection Switch - Truflo

Bronze DN15 - DN432 (1/2" - 1 1/4")

The Parker low flow protection switch - Truflo ensures protection against flow changes that could be detrimental to equipment and processes, sending an electronic alert in cases of insufficient flow, as standard, or excessive flow, on request. It alerts the operators in the event of a change in differential pressure, allowing them to respond accordingly.

Truflo operates by movement of a diaphragm that operates a micro-switch. The underside of the diaphragm is in direct contact with the inlet flow, whilst the upper side is in contact with the outlet flow from the calibrated nozzle. With no flow through, a spring loaded plunger holds the diaphragm in the down position. Flow through the calibrated nozzle causes a pressure differential between top and bottom of the diaphragm, with the higher pressure on the underside of the diaphragm pushing it upwards. This in turn causes the plunger to move, which activates the micro-switch.



DN15 Bronze Truflo

## Features

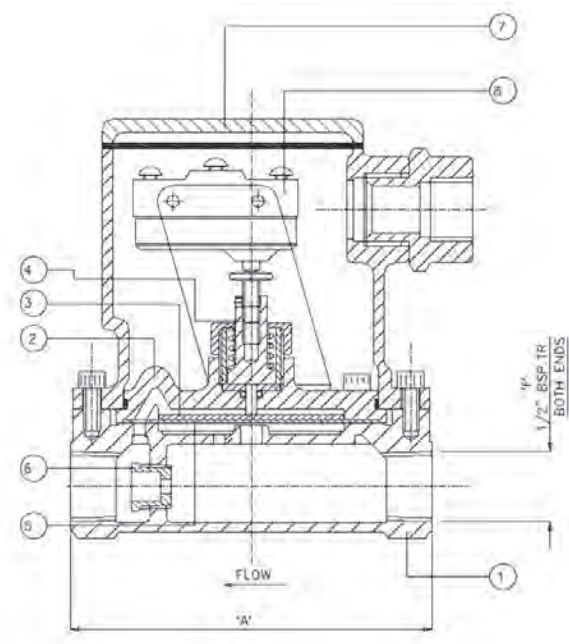
- Warns against insufficient flow as standard or can warn against excessive flow on request.
- Lifts to tight tolerances (2 PSI pressure rating)
- Life Expectancy - 500,000 operations @ 15amps / 6,000,000 operations @ 5amps
- Enhanced controllability
- Reliable flow control
- Electrical Data:
  - 125, -250 or 480V AC-15 amps
  - 250V DC-1/4 amp
  - 125V DC-1/2 amp

## Maximum Working Pressure (MWP)

- Max. Working Pressure: 150psi (10.6 kg/cm<sup>2</sup>)
- Min. Working Pressure: 3psi (0.21 kg/cm<sup>2</sup>)
- Pressure Differential to Activate Switch: 2psi
- Max Temp: 70 °C (160 °F)
- Min Temp: 1 °C (34 °F)

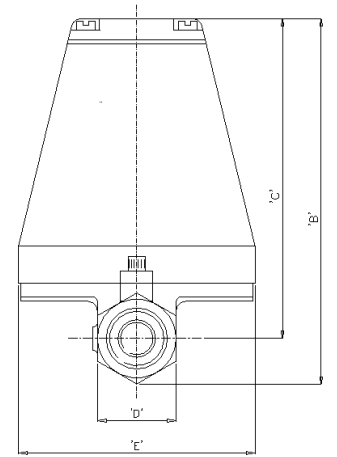
## Materials

|                   | <b>Bronze</b>                  |
|-------------------|--------------------------------|
| 1. Body           | Gunmetal BS EN 1982 CC491K     |
| 2. Flange Plate   | Naval Brass BS EN 12163 CW712R |
| 3. Pressure Plate | SS 316 BS EN 10088-3 1.4401    |
| 4. Plunger        | Naval Brass BS EN 12163 CW712R |
| 5. Main Diaphragm | EPDM or Silicone               |
| 6. Nozzle         | Naval Brass BS EN 12163 CW712R |
| 7. Cover Lid      | Gunmetal BS EN 1982 CC492K     |
| 8. Microswitch    | Plastic                        |



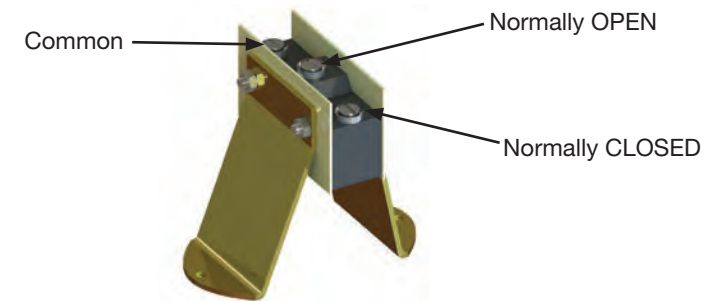
## Installation

1. It is advisable that the Truflo switch be fitted downstream of all items of equipment which require its protection. Should a Truflo be fixed upstream, and a burst takes place downstream, then no warning will be given.
2. Always fit a Truflo switch in a non-turbulent part of the circuit, i.e. always away from needle valves, sharps bends, etc., as these can cause switch 'Flutter'.
3. Do not grip the switch bracket when installing, always use the spanner flats provided. Do not use excessive pressure when making connections on to the terminals.
4. The Truflo switch is a precision, factory calibrated instrument, and any interference with its setting or with the switch mounting brackets will result in a variation of the flow warning rate.
5. The switch may be connected to a warning light, cut-off switch, or contactor relay.
6. For low flow rates, particularly of 1/2 G.P.M. and below, and where the fluid is likely to be unclean, we recommend that a strainer be fitted upstream.
7. If it is desired to restrict excess flow whilst protecting against minimum flow we suggest fitting a 'Constaflo' flow control unit upstream of the Truflo, this should be chosen to give a flow-rate of 50% above critical. The total pressure drop requirement then being 18 psi.



## Specifications

| Size | 1/2" B.S.P.T. | 1 1/4" B.S.P.T. |
|------|---------------|-----------------|
| A    | 108mm         | 113mm           |
| B    | 125mm         | 153mm           |
| C    | 109mm         | 120mm           |
| D    | 27mm          | 51mm            |
| E    | 82mm          | 82mm            |
| F    | 1/2" B.S.P.T. | 1 1/4" B.S.P.T. |



## How to Order

The correct part number is easily derived from the following number sequence

| FT        | 30                               | TA              | 14                 | B                   | A2            | B                  |
|-----------|----------------------------------|-----------------|--------------------|---------------------|---------------|--------------------|
| Series    | Valve Size Diameter Nominal (DN) | Connection Type | Flow Rate (GPM)    | Valve Body Material | Application   | Diaphragm Material |
| FT Truflo | 30 DN15                          | TA BSP-PL       | 14 0.375 36 4.000  | B Bronze            | A2 Industrial | B Silicone         |
|           | 40 DN20                          | TC BSP-TR       | 15 0.400 37 4.500  |                     | A3 Marine     | E EPDM             |
|           | 50 DN25                          |                 | 16 0.450 38 5.000  |                     |               |                    |
|           | 60 DN32                          |                 | 17 0.500 39 5.500  |                     |               |                    |
|           |                                  |                 | 20 0.625 41 6.250  |                     |               |                    |
|           |                                  |                 | 24 1.000 43 7.000  |                     |               |                    |
|           |                                  |                 | 25 1.125 45 8.000  |                     |               |                    |
|           |                                  |                 | 26 1.250 47 9.000  |                     |               |                    |
|           |                                  |                 | 27 1.375 48 10.000 |                     |               |                    |
|           |                                  |                 | 28 1.500 50 11.000 |                     |               |                    |
|           |                                  |                 | 30 2.000 52 12.500 |                     |               |                    |
|           |                                  |                 | 31 2.250 58 16.000 |                     |               |                    |
|           |                                  |                 | 33 2.750 61 18.000 |                     |               |                    |
|           |                                  |                 | 34 3.000           |                     |               |                    |

Please contact us for other options.

# Water Flow Controller - Constaflor

Bronze

DN6 - DN50 (1/4" - 2")

The Parker Constaflor is a water flow controller which provides effective control of water-based media, ensuring flow rates are maintained within +10% of their rated capacity, regardless of upstream or downstream pressures.

## Maximum Working Pressure (MWP)

- Max. Working Pressure: 200psi (14kg/cm<sup>2</sup>)
- Max. Working Temperature: 65 °C
- Min. Working Temperature: 1 °C
- Max. Pressure Difference: 200psi (14kg/cm<sup>2</sup>)
- Min. Pressure Difference: 15psi (1.06kg/cm<sup>2</sup>)
- Accuracy ±10% when operating in the range 15 to 200psi (1.06 to 14kg/cm<sup>2</sup>) pressure difference

## Features

- Ensures flow rate is maintained irrespective of upstream or downstream pressures.
- Extremely robust and reliable
- Tried and trusted performance - been used for over 50 years in defence sector.

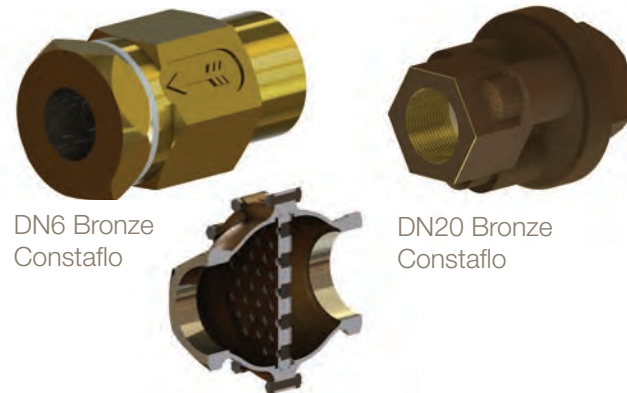
## Materials

| DN6-DN15     |                             |
|--------------|-----------------------------|
| 1. Body      | Gunmetal BS EN 1982 CC491K  |
| 2. Nozzle    | HT Brass BS EN 12164 CW721R |
| 3. Diaphragm | EPDM (or Silicone)          |
| 4. Gasket    | Nylon 66                    |

| DN20-DN50             |                                  |
|-----------------------|----------------------------------|
| 1. Body               | Gunmetal BS EN 1982 CC491K       |
| 2. Retainer           | Gunmetal BS EN 1982 CC491K       |
| 3. Retainer Diaphragm | Rigid PVC                        |
| 4. Nozzle             | Acetal                           |
| 5. Diaphragm          | EPDM (or Silicone)               |
| 6. Fasteners          | Aluminium Brz BS EN 12163 CW307G |



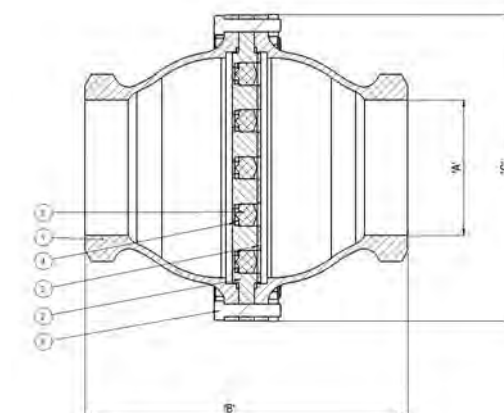
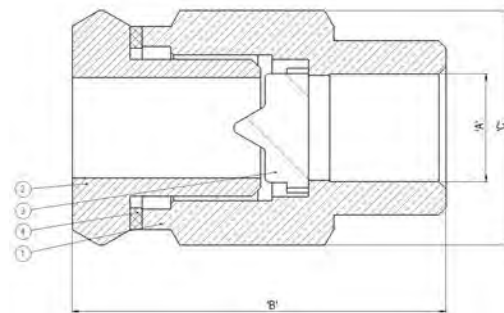
DN50 Bronze Constaflor



DN6 Bronze Constaflor

DN20 Bronze Constaflor

DN50 Bronze Constaflor Sectioned View



## Operation

An EPDM diaphragm, working in conjunction with a profiled orifice - when subjected to pressure differences between 15 and 200psi (1.06 and 14kg/cm<sup>2</sup>) flexes on to the orifice to vary the orifice area, maintaining a constant flow rate irrespective of varying upstream or downstream pressures, within the operating range of the unit. An initial pressure drop of 15psi (1.06kg/cm<sup>2</sup>) is necessary for the unit to reach control point.

## Specifications

| A      |      | B       |     | C       |     |
|--------|------|---------|-----|---------|-----|
| in.    | mm   | in.     | mm  | in.     | mm  |
| 1/4"   | DN6  | 1 19/32 | 41  | 1/32    | 26  |
| 3/8"   | DN10 | 2 1/32  | 51  | 1 1/4   | 32  |
| 1/2"   | DN15 | 2 3/32  | 53  | 1 15/32 | 37  |
| 3/4"   | DN20 | 3 17/32 | 91  | 2 7/8   | 73  |
| 1"     | DN25 | 3 17/32 | 91  | 2 7/8   | 73  |
| 1 1/4" | DN32 | 6 3/16  | 157 | 5 1/4   | 133 |
| 1 1/2" | DN40 | 8 7/8   | 225 | 7 3/8   | 187 |
| 2"     | DN50 | 10 5/8  | 270 | 8 3/8   | 213 |

## How to Order

The correct part number is easily derived from the following number sequence

| FC            | 10                               | TA              | 03                   | B                   | C1            | B                  |
|---------------|----------------------------------|-----------------|----------------------|---------------------|---------------|--------------------|
| Series        | Valve Size Diameter Nominal (DN) | Connection Type | Flow Rate (GPM)      | Valve Body Material | Applications  | Diaphragm Material |
| FC Constaflor | 10 DN6                           | TA BSP-PL       | 03 0.125 56 15.000   | B Bronze            | C1 Industrial | B Silicon          |
|               | 20 DN10                          | TC BSP-TR       | 09 0.111 58 16.000   |                     | C2 Marine     | E EPDM             |
|               | 30 DN15                          | TE NPT          | 13 0.375 59 17.000   |                     |               |                    |
|               | 40 DN20                          |                 | 17 0.500 61 18.000   |                     |               |                    |
|               | 50 DN25                          |                 | 20 0.625 63 20.000   |                     |               |                    |
|               | 60 DN32                          |                 | 21 0.750 64 22.000   |                     |               |                    |
|               | 70 DN40                          |                 | 23 0.875 65 24.000   |                     |               |                    |
|               | 80 DN50                          |                 | 24 1.000 66 25.000   |                     |               |                    |
|               |                                  |                 | 26 1.250 67 26.000   |                     |               |                    |
|               |                                  |                 | 28 1.500 68 28.000   |                     |               |                    |
|               |                                  |                 | 29 1.750 69 30.000   |                     |               |                    |
|               |                                  |                 | 30 2.000 71 35.000   |                     |               |                    |
|               |                                  |                 | 32 2.500 73 40.000   |                     |               |                    |
|               |                                  |                 | 34 3.000 75 45.000   |                     |               |                    |
|               |                                  |                 | 36 4.000 77 50.000   |                     |               |                    |
|               |                                  |                 | 37 4.500 78 55.000   |                     |               |                    |
|               |                                  |                 | 38 5.000 80 60.000   |                     |               |                    |
|               |                                  |                 | 40 6.000 81 65.000   |                     |               |                    |
|               |                                  |                 | 45 7.000 83 70.000   |                     |               |                    |
|               |                                  |                 | 47 9.000 85 75.000   |                     |               |                    |
|               |                                  |                 | 48 10.000 87 80.000  |                     |               |                    |
|               |                                  |                 | 50 11.000 89 85.000  |                     |               |                    |
|               |                                  |                 | 51 12.000 90 90.000  |                     |               |                    |
|               |                                  |                 | 53 13.000 93 95.000  |                     |               |                    |
|               |                                  |                 | 55 14.000 95 100.000 |                     |               |                    |

## Notes:

DN6-DN15 - Single Constaflor up to 6 GPM  
 DN20-DN50 - Multi Constaflor up to 100 GPM  
 Please contact us for other options.

# Spares Kits

## Globe Valves & Manifold Fill Assemblies Soft Goods Kit

DN6 - DN150 (1/8" - 6")

Soft Goods Kit to suit cryogenic globe valves and manifold fill assemblies.

### Consisting of:

- 1 x Wiper Seal
- 2 x Chevron Top
- 1 x 'O' Seal
- 1 x Chevron BTM
- 1 x Gasket
- 1 x A/F Disc
- 1 x Seal



Soft Goods Kit for Globe Valves & Manifold Assemblies

### Specifications & How to Order

| DN  | Part Number | Weight (kg) |
|-----|-------------|-------------|
| 6   | CNBR30C     | 0.1         |
| 10  | CNBR30C     | 0.1         |
| 15  | CNBR30C     | 0.1         |
| 20* | CNBR40C     | 0.1         |
| 25  | CNBR50C     | 0.1         |
| 32  | CNBR70C     | 0.1         |
| 40  | CNBR70C     | 0.1         |
| 50  | CNBR80C     | 0.1         |
| 65  | CNBR90C     | 0.1         |
| 80  | CNBRA0C     | 0.2         |
| 100 | CNBRB0C     | 0.2         |
| 150 | CNBRD0C     | 0.2         |

\*Suitable for use with Bronze Globe Valves only

## Globe Valves, Gate Valves, Manifold Fill Assemblies & Globe Diverters - Handwheels

DN6 - DN150 (1/8" - 6")

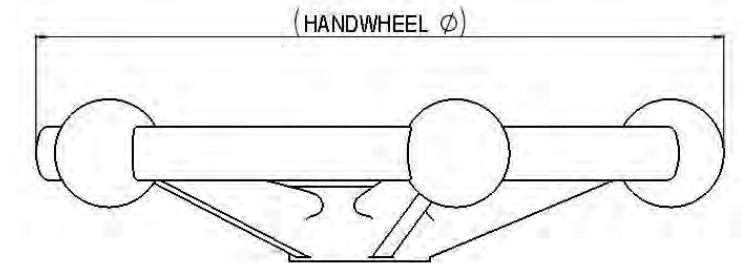
Spare Handwheel to suit cryogenic globe valves, gate valves, manifold fill assemblies and globe diverters.

### Consisting of:

- 1 x Handwheel



Handwheel



### Specifications & How to Order

| DN  | Part Number       | Handwheel - Ø mm | Weight (kg) |
|-----|-------------------|------------------|-------------|
| 6   | S-M0F122M1AAB3W00 | 63.5             | 0.05        |
| 10  | S-M0F122M1AAB3W00 | 63.5             | 0.05        |
| 15  | S-M0F122M1AAB3W00 | 63.5             | 0.05        |
| 20  | S-M0F122M1ABB5W00 | 82.55            | 0.09        |
| 25  | S-M0F122M1ABB5W00 | 82.55            | 0.09        |
| 32  | S-M0F122M1ACB7W00 | 101.6            | 0.1         |
| 40  | S-M0F122M1ACB7W00 | 101.6            | 0.1         |
| 50  | S-M0F121M1AHB8W00 | 127.0            | 0.2         |
| 65  | S-M0F122M1AQB9W01 | 152.4            | 0.25        |
| 80  | S-M0F121M1ATC2W00 | 203.2            | 0.4         |
| 100 | S-L0210F017       | 380.0            | 7.00        |
| 150 | S-M0F123H1CLC5B00 | 600.0            | 14.00       |

All weights are approximate

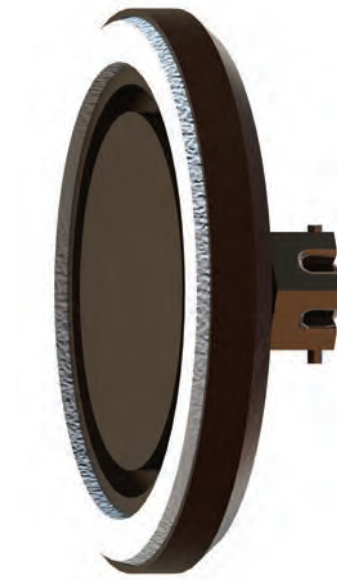
# Spares Kits

## Gate Valves – Wedge Disc Assembly DN40 - DN100 (1½” - 4”)

Disc and seal assembly replacements for cryogenic gate valves.

**Consisting of:**

- 1 x Disc (Phosphor Bronze) & Seal (Virgin PTFE)
- 1 x Locknut
- 1 x Spring Pin



Wedge Disc Assembly

**Specifications & How to Order**

| Manual |                 |             | Actuated |                 |             |
|--------|-----------------|-------------|----------|-----------------|-------------|
| DN     | Part Number     | Weight (kg) | DN       | Part Number     | Weight (kg) |
| 40     | S-SUBCMT7004002 | 0.1         | -        | -               | -           |
| 50     | S-SUBCMT8004002 | 0.3         | 50       | S-SUBCMD8004000 | 0.3         |
| 65     | S-SUBCMT9004002 | 0.4         | 65       | S-SUBCMD9004000 | 0.4         |
| 80     | S-SUBCMTA004002 | 0.6         | 80       | S-SUBCMDA004001 | 0.6         |
| 100    | S-SUBCMTA004002 | 0.6         | -        | -               | -           |

All weights are approximate

## Ball Valves – Soft Goods Kit DN15 - DN50 (½” - 2”)

Cryogenic ball valve soft goods kit.

**Consisting of:**

- 2 x Inner/Outer Ball Seal
- 1 x Wiper Seal
- 2 x Chevron Top
- 1 x Chevron Bottom
- 1 x PTFE Bush
- 1 x Protection Cap
- 1 x ‘O’ Seal
- 1 x Gasket
- 2 x Brass Washer
- 1 x Spring
- 1 x Shim



Soft Goods Kit for Ball Valves

## Gate Valves - Soft Goods Kit DN40 - DN100 (1½” - 4”)

Soft Goods Kit to suit cryogenic gate valves.

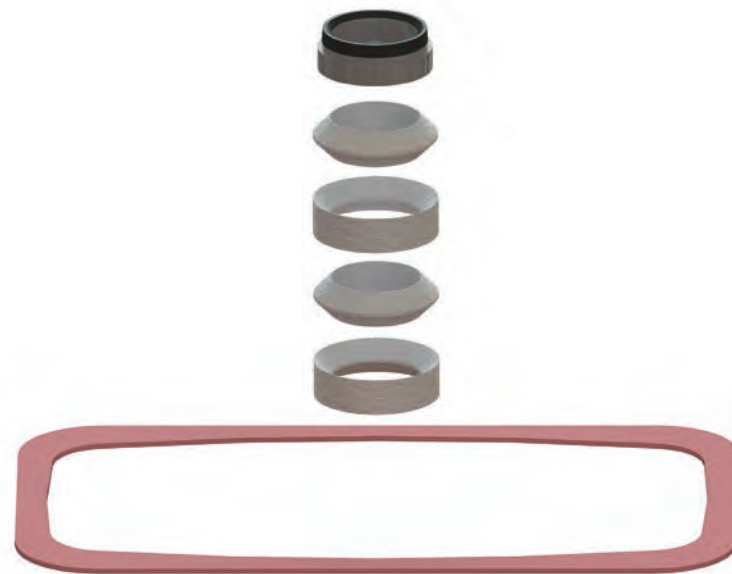
**Consisting of:**

- 1 x Wiper Seal
- 1 x Gland Packing Set
- 1 x Gasket

**Specifications & How to Order**

| DN  | Part Number | Weight (kg) |
|-----|-------------|-------------|
| 40  | CMCR70      | 0.1         |
| 50  | CMCR80      | 0.1         |
| 65  | CMCR90      | 0.1         |
| 80  | CMCRA0      | 0.1         |
| 100 | CMCRA0      | 0.1         |

All weights are approximate



Soft Goods Kit for Gate Valves

**Specifications & How to Order**

| DN | Bore    | Part Number  | Weight (kg) |
|----|---------|--------------|-------------|
| 10 | Full    | CZREPKIT15RB | 0.1         |
| 15 | Reduced | CZREPKIT15RB | 0.1         |
| 20 | Full    | CZREPKIT25RB | 0.1         |
| 25 | Reduced | CZREPKIT25RB | 0.1         |
| 25 | Full    | CZREPKIT40RB | 0.1         |
| 40 | Reduced | CZREPKIT40RB | 0.1         |
| 40 | Full    | CZREPKIT50RB | 0.1         |
| 50 | Reduced | CZREPKIT50RB | 0.1         |
| 65 | Full    | CZ0P65/80    | 0.3         |
| 80 | Reduced | CZ0P65/80    | 0.3         |

All weights are approximate

# Spares Kits

## Gate Valves – Seat DN50 - DN100 (2" - 4")

Cryogenic gate valve replacement seat.

### Consisting of:

- 1 x Seat (316L) & Seal (Virgin PTFE)
- 1 x Circlip



Seat

### Specifications & How to Order

| DN  | Part Number | Weight (kg) |
|-----|-------------|-------------|
| 50  | CMCR80SEAT  | 0.3         |
| 65  | CMCR90SEAT  | 0.4         |
| 80  | CMCRA0SEAT  | 0.5         |
| 100 | CMCRA0SEAT  | 0.5         |

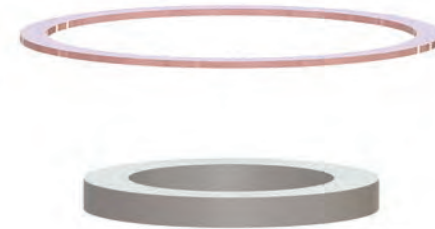
All weights are approximate

## Lift Check Valves – Soft Goods Kit DN6 - DN150 (1/8" - 6")

Soft Goods Kit to suit cryogenic lift check valves.

### Consisting of:

- 1 x Gasket
- 1 x Seal



Gasket & Seal

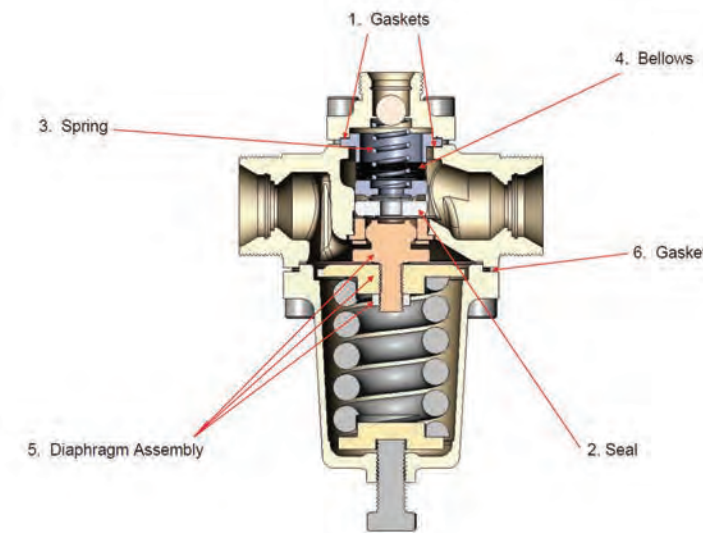
### Specifications & How to Order

| DN  | Part Number | Weight (kg) |
|-----|-------------|-------------|
| 6   | CGR30C      | 0.1         |
| 10  | CGR30C      | 0.1         |
| 15  | CGR30C      | 0.1         |
| 20* | CGR40C      | 0.1         |
| 25  | CGR50C      | 0.1         |
| 32  | CGR70C      | 0.1         |
| 40  | CGR70C      | 0.1         |
| 50  | CGR80C      | 0.1         |
| 65  | CGR90C      | 0.1         |
| 80  | CGRA0C      | 0.1         |
| 100 | CGRB0C      | 0.1         |
| 150 | CGRD0C      | 0.1         |

\*Suitable for use with Bronze Lift Check Valves only  
All weights are approximate

## Cryogenic Pressure Regulators – Spares Kits DN15 (1/2")

Spares kits for Cryogenic Pressure Regulators.



Cryogenic Pressure Regulator

### Specifications & How to Order

| Part Number    | Item                              | Content                           | DN | Weight (kg) |
|----------------|-----------------------------------|-----------------------------------|----|-------------|
| CKCSP1         | Seal Kit                          | 1 x Seal                          | 15 | 0.1         |
|                |                                   | 2 x Gaskets                       |    |             |
| CKCSP2         | Bellows/Seal Kit                  | 1 x Bellows                       | 15 | 0.1         |
|                |                                   | 1 x Spring                        |    |             |
|                |                                   | 1 x Seal                          |    |             |
|                |                                   | 2 x Gaskets                       |    |             |
| CKCSP3         | Diaphragm Kit - High Pressure     | 1 x Diaphragm Assembly            | 15 | 0.5         |
|                |                                   | 1 x Gasket                        |    |             |
| CKCSP4         | Diaphragm Kit - Low Pressure      | 1 x Diaphragm Assembly            | 15 | 0.5         |
|                |                                   | 1 x Gasket                        |    |             |
| CKCSP5         | Main Spring Kit - High Pressure   | 1 x Spring                        | 15 | 0.7         |
|                |                                   | 1 x Gasket                        |    |             |
| CKCSP6         | Main Spring Kit - Medium Pressure | 1 x Spring                        | 15 | 0.4         |
|                |                                   | 1 x Gasket                        |    |             |
| CKCSP7         | Main Spring Kit - Low Pressure    | 1 x Spring                        | 15 | 0.4         |
|                |                                   | 1 x Gasket                        |    |             |
| CKCSP8         | Gasket Set                        | 2 x Gaskets                       | 15 | 0.1         |
|                |                                   | 1 x Gasket                        |    |             |
| CK30A1REPKITHP | Repair Kit - High Pressure        | 1 x Diaphragm Kit - High Pressure | 15 | 0.1         |
|                |                                   | 1 x Seal                          |    |             |
|                |                                   | 2 x Gaskets                       |    |             |
| CK30A1REPKITLP | Repair Kit - Low Pressure         | 1 x Diaphragm Kit - Low Pressure  | 15 | 0.5         |
|                |                                   | 1 x Seal                          |    |             |
|                |                                   | 2 x Gaskets                       |    |             |

All weights are approximate



# Spares Kits

## Swing Check Valves – Disc, Seal Assembly & Gasket DN50 - DN100 (2" - 4")

Spares kit to suit cryogenic swing check valves.

### Consisting of:

- 1 x Gasket
- 1 x Disc (316) & Seal (Virgin PTFE)
- 1 x Split Pin

### Specifications & How to Order

| DN | Part Number | Weight (kg) |
|----|-------------|-------------|
| 25 | CHCR50      | 0.1         |
| 40 | CHCR70      | 0.1         |
| 50 | CHCR80      | 0.2         |
| 80 | CHCRA0      | 0.4         |

All weights are approximate



Disk, Seal Assembly & Gasket

## Strainer – Soft Goods Kit DN6 - DN150 (1/8" - 6")

Spare Gasket to suit cryogenic globes, lift checks & strainers.

### Consisting of:

- 1 x Gasket

### Specifications & How to Order

| DN  | Part Number        | Weight (kg) |
|-----|--------------------|-------------|
| 6   | S-B0A61BLZ76A90000 | 0.01        |
| 10  | S-B0A61BLZ76A90000 | 0.01        |
| 15  | S-B0A61BLZ76A90000 | 0.01        |
| 20  | S-B0A61BLZA9A90000 | 0.01        |
| 25  | S-B0A61BLZA9A90000 | 0.01        |
| 32  | S-B0A61BLZCBA90000 | 0.01        |
| 40  | S-B0A61BLZCBA90000 | 0.01        |
| 50  | S-B0A61BLZEDA90000 | 0.01        |
| 65  | S-B0A61BLZFEAC0000 | 0.01        |
| 80  | S-B0A61BR176AC0020 | 0.01        |
| 100 | S-B0A61BL5HGAC0000 | 0.01        |
| 150 | S-B0A61BL2KKAC0000 | 0.01        |

All weights are approximate



Gasket

## Ball Diverter Valves – Soft Goods Kit DN20 - DN50 (3/4" - 2")

Soft Goods Kit to suit cryogenic ball diverters.

### Consisting of

- 2 x Ball Seal
- 2 x End Cover Gasket
- 2 x 'O' Seal
- 1 x Packing
- 2 x Support to Valve Seal (Only on DN32 & DN50 versions)

### Specifications & How to Order

| DN | Part Number | Weight (kg) |
|----|-------------|-------------|
| 20 | CJR40       | 0.1         |
| 32 | CJR60       | 0.1         |
| 50 | CJR80       | 0.2         |

All weights are approximate



Soft Goods Kit for Ball Diverter Valves

## Globe Diverter Valves – Soft Goods Kit DN25 (1")

Soft Goods Kit to suit cryogenic globe diverter valves.

### Consisting of:

- 1 x Wiper Seal
- 1 x Chevron Set
- 2 x Brass Washer
- 1 x Gasket
- 2 x Outer Seal
- 1 x Inner Seal
- 1 x Spring

### Specifications & How to Order

| DN | Part Number | Weight (kg) |
|----|-------------|-------------|
| 25 | CNDR50      | 0.1         |

All weights are approximate



Soft Goods Kit for Globe Diverter Valves

# Spares Kits

## Pressure Build Up Valves – Gasket, Seal & Bellows DN50 (2")

Soft Goods Kit to suit DN50 Pressure Build Up Valves.

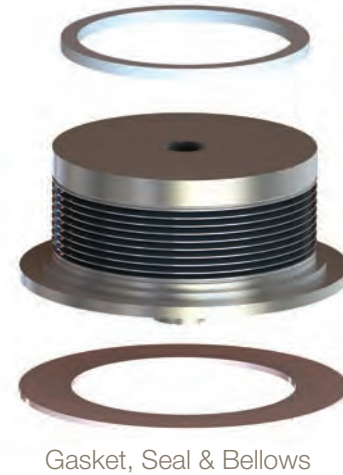
### Consisting of:

- 1 x Bellows
- 1 x Seal
- 1 x Gasket

### Specifications

| DN | Part Number | Weight (kg) |
|----|-------------|-------------|
| 50 | CFR80       | 0.3         |

All weights are approximate

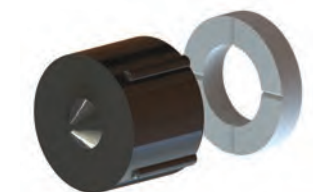


## Constaflo – Diaphragm, Nozzle & Gasket DN6 - DN50 (1/4" – 2")

Spares kits to suit Constaflo Valves

### Consisting of:

- Orifice Plate Sub Assembly
- Diaphragm (EPDM) & Nozzle
- Gasket & 'O' Seal



### Specifications & How to Order

| Part Number                   | DN | Weight (kg) |
|-------------------------------|----|-------------|
| <b>Diaphragm &amp; Nozzle</b> |    |             |
| FC10SP--BE                    | 6  | 0.2         |
| FC20SP--BE                    | 10 | 0.1         |
| FC30SP--BE                    | 15 | 0.1         |
| FC40SP--BE                    | 20 | 0.2         |
| FC50SP--BE                    | 25 | 0.2         |
| FC60SP--BE                    | 32 | 0.3         |
| FC70SP--BE                    | 40 | 0.4         |
| FC80SP--BE                    | 50 | 0.5         |
| <b>Gasket</b>                 |    |             |
| S-B0A61BN354AB0000            | 6  | 0.1         |
| S-B0A61BN376AB0000            | 10 | 0.1         |
| S-B0A61BN376AB0000            | 15 | 0.1         |
| S-B0A61BJBBAC0000             | 20 | 0.1         |
| S-B0A61BJBBAC0000             | 25 | 0.1         |
| <b>'O' Seal</b>               |    |             |
| S-B0A60JJ1D100                | 32 | 0.1         |
| S-B0A60JJ1DA00                | 40 | 0.1         |
| S-B0A60JJ1DD00                | 50 | 0.1         |

All weights are approximate



## Truflo – Nozzle & Diaphragm DN10 - DN40 (3/8" - 1 1/2")

Spares Kit to suit Truflo Valves.

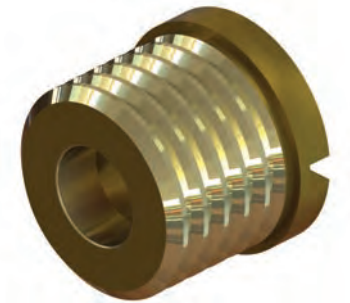
### Consisting of:

- 1 x Nozzle
- 1 x Diaphragm

### Specifications & How to Order

| DN | Nozzle           |             | Diaphragm    |             |
|----|------------------|-------------|--------------|-------------|
|    | Part Number      | Weight (kg) | Part Number  | Weight (kg) |
| 10 | S-MFT31DC5302600 | 0.2         | S-BFT24CJ100 | 0.1         |
| 15 | S-MFT31DC5302600 | 0.2         | S-BFT24CJ100 | 0.1         |
| 20 | S-MFT31DC5302600 | 0.2         | S-BFT24CJ100 | 0.1         |
| 25 | S-MFT31DC5302600 | 0.2         | S-BFT24CJ100 | 0.1         |
| 32 | S-MFT31DA2603700 | 0.2         | S-BFT24CJ100 | 0.1         |
| 40 | S-MFT31DA2603700 | 0.2         | S-BFT24CJ100 | 0.1         |

All weights are approximate



## Actuated Gate Valves – Soft Goods Kit & Tyre DN50 - DN80 (2" - 3")

Spares kits to suit cryogenic actuated gate valves.

### Consisting of:

- Soft Goods Kit:
- 1 x Wiper Seal
  - 1 x Gland Packing Set
  - 1 x Gasket
- Tyre:
- 1 x Spare Tyre

### Specifications & How to Order

| Soft Goods Kit |             |             | Tyre |             |             |
|----------------|-------------|-------------|------|-------------|-------------|
| DN             | Part Number | Weight (kg) | DN   | Part Number | Weight (kg) |
| 50             | CMCR80      | 0.4         | 50   | S-L0708F012 | 2           |
| 65             | CMCR90      | 0.4         | 65   | S-L0708F012 | 2           |
| 80             | CMCRA0      | 0.4         | 80   | S-L0708F012 | 2           |

All weights are approximate

Both kits supplied separately



# Useful Conversion Charts

# Notes

| Gases Conversion Table |                      |                             |                  |                  |
|------------------------|----------------------|-----------------------------|------------------|------------------|
| Gas                    | *m3 gas per kilogram | *m3 gas per litre of liquid | Boiling point °C | Relative Density |
| Oxygen                 | 0.738                | 0.842                       | -183             | 1.1              |
| Nitrogen               | 0.844                | 0.682                       | -196             | 1.0              |
| Carbon Dioxide         | 0.535                | -                           | -78#             | 1.5              |
| Argon                  | 0.591                | 0.822                       | -186             | 1.4              |
| Air                    | 0.816                | -                           | -194             | 1.0              |
| Helium                 | 5.913                | 0.737                       | -269             | 0.14             |
| Hydrogen               | 11.73                | 0.831                       | -253             | 0.07             |
| LPG (85% Propane)      | 0.531                | 0.271                       | -42              | 2.0              |
| Acetylene              | 0.901                | -                           | -75              | 0.9              |
| Sulphur Dioxide        | 0.366                | 0.534                       | -10              | 2.3              |
| Nitrous Oxide          | 0.534                | 0.654                       | -89              | 1.5              |
| At 15°C and 101.33 kPa |                      |                             | #dry ice (solid) |                  |

|                          |                           |
|--------------------------|---------------------------|
| <b>Bar to psi</b>        | Divide psi figure by 14.5 |
| <b>Bar to kg per cm2</b> | Bar multiplied by 1.0197  |
| <b>mbar to kpa</b>       | mbar multiplied x 0.1     |
| <b>kpa to bar</b>        | Divide by 100             |
| <b>mpa to bar</b>        | Multiply by 10            |
| <b>kg per cm2 to bar</b> | Multiply by 0.98          |
| <b>1 UK gallon</b>       | 4.546 litres              |
| <b>1 UK gallon</b>       | 1.201 US gallon           |
| <b>1 US gallon</b>       | 3.785 litres              |
| <b>1 kilogram</b>        | 2.2 lb                    |

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