



All Bayonet Connection products come with  
CSM renowned customer service,  
from conceptual design to implementation,  
and are backed by  
1-year Defect Warranty.

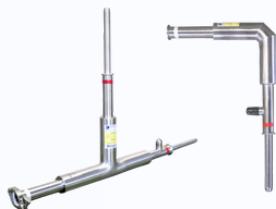


*Vacuum Insulated Rigid & Flex Lines*



*Vacuum Insulated Valves*

*Vacuum Insulated Fittings*



# Bayonet Connection

Close tolerance with extreme low heat leak, frost and condensation free vacuum insulated bayonet connections, designed for cryogenic systems down to 4 Kelvin (-269 °C).

## Vacuum Jacketed Bayonets

CSM uses a highly efficient cryogenic connection for vacuum insulated piping systems. Constructed in stainless steel, the bayonet connection utilizes an extremely close tolerance design between the male and female bayonet to minimize convective heat transfer.

The thin-walled bayonet reduces overall conductive heat transfer compared to other competitive products. This bayonet tube insertion length is increased with better heat barrier to eliminate condensation or frosting at the clamp joints due to high humidity environment. These design features translate to lowest heat leak and preserve liquid cryogen quality.

## Typical Application

- Vacuum Insulated Rigid Lines
- Vacuum Insulated Flex Lines
- Vacuum Jacketed Modular Valve or Fitting components

## Features and Benefits

- Frost and condensation free connections
- Minimization of heat leak
- Easy to install or disassemble, both at cold and warm condition
- Compatible with hygienic type clamping system for leak free operation
- Can be installed in any orientation
- Bayonets can be assembled much quicker compared to traditional welding joint, significantly lowering your installation costs

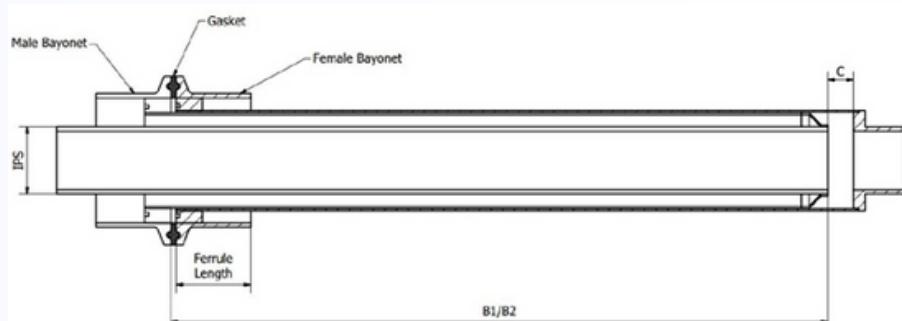
## Bayonet Specifications

| Bayonet | Max Design Pressure | Weight             |                    | Bayonet Heat Leak   | Inner & Outer Jacket Material |
|---------|---------------------|--------------------|--------------------|---------------------|-------------------------------|
|         |                     | Male               | Female             |                     |                               |
| C2      | 200 psi (14 bar)    | 0.09 lbs (0.04 kg) | 0.15 lbs (0.07 kg) | 6.1 BTU/hr (1.8 W)  | S/S 300                       |
| C5      |                     | 0.44 lbs (0.20 kg) | 0.46 lbs (0.21 kg) | 4.0 BTU/hr (1.2 W)  |                               |
| C10     |                     | 0.75 lbs (0.34 kg) | 0.79 lbs (0.36 kg) | 8.1 BTU/hr (2.4 W)  |                               |
| C15     |                     | 1.12 lbs (0.51 kg) | 1.10 lbs (0.50 kg) | 7.8 BTU/hr (2.3 W)  |                               |
| B5      |                     | 0.53 lbs (0.24 kg) | 0.49 lbs (0.22 kg) | 8.1 BTU/hr (2.4 W)  |                               |
| B10     |                     | 1.28 lbs (0.58 kg) | 1.21 lbs (0.55 kg) | 7.8 BTU/hr (2.3 W)  |                               |
| B15     |                     | 2.18 lbs (0.99 kg) | 2.16 lbs (0.98 kg) | 9.2 BTU/hr (2.7 W)  |                               |
| B20     |                     | 2.80 lbs (1.27 kg) | 2.65 lbs (1.20 kg) | 11.3 BTU/hr (3.3 W) |                               |
| B30     |                     | 6.13 lbs (2.78 kg) | 5.53 lbs (2.51 kg) | 16.7 BTU/hr (4.9 W) |                               |

## Bayonet Dimensions

| Bayonet   | Size                  | Inner Pipe Diameter                      | Ferrule Size (Clamp F) | Dimensions   |                        |
|-----------|-----------------------|--|------------------------|--|------------------------|
|           |                       |  |                        | B1 (Special)   | B2 (Standard)          |
| C2        | 3/8" ODT              | 3/8" OD (8.0 mm)<br>1/2" OD (12.7 mm)    | KF16 / KF25            | 4 3/16" (105 mm) RIBER<br>7 1/16" (155 mm) Dr. Eberl | -                      |
| C5        | 3/4" ODT              | 3/4" OD (19.1 mm)                        | 1 1/2" (51 mm)         | 7 1/16" (180 mm)                                     | 8 5/8" (220 mm)        |
| C10 / B5  | 1 1/8" ODT or 1/2" PS | 1 1/8" OD (29.0 mm)<br>1/2" NB (21.3 mm) | 2" (64 mm)             | 7 1/16" (180 mm)<br>8 5/8" (220 mm)                  | 10" (250 mm)           |
| C15 / B10 | 1 1/2" ODT or 1" PS   | 1 1/2" OD (38.1 mm)<br>1" NB (33.4 mm)   | 2 1/2" (78 mm)         | 9 5/8" (245 mm)                                      | 11 13/16" (300 mm)     |
| B15       | 1 1/2" PS             | 1 1/2" NB (48.3 mm)                      | 3" (91 mm)             | -  | 14" (363 mm)           |
| B20       | 2" PS                 | 2" NB (60.3 mm)                          | 4" (119 mm)            | -  | 15 3/4" (390 mm)       |
| B30       | 3" PS                 | 3" NB (88.9 mm)                          | 5" (145 mm)            | -  | 18 223/254" (479.5 mm) |

\*Larger sizes are available upon request



A-A (1:1)

