

BAYONET CONNECTIONS



VACUUM INSULATED CRYOGENIC CONNECTIONS

Features

- Many Bayonet Styles Available
- Commercial Styles & Close Tolerance Style now Available from Stock
- Constructed of Material that is Suitable for Cryogenic Service
- Butt Weld and Socket Weld Ends for Simple Fabrication into your System
- Thermally Efficient with Inner & Outer Weldment for Vacuum Jacketed Systems

Applications for Vacuum Jacketed Systems

- New Vacuum Jacketed Piping Systems
- Storage Vessels, Tanks & Dewars
- Transports & Trailers
- Transfer Hose & Fill Systems
- Expansion of Existing Systems & Modifications to Current Designs
- Complete Line of Vacuum Jacketed Valves and Filters
- Bayonets Available for LNG Service
- Consult Factory for Special Applications

Options

- Buna N or Silicone O-Ring and/or Graphite Face Seals (Determined by Application)
- UHP or Standard Configuration
- Electro-Polished and Special Cleaning Available
- Complete Design, Testing & Qualification

Technical Data

Operating Ranges

Temperatures –-452°F to +200°F;
-269°C to +93°C

Operating Pressures up to 275 PSIG

Tests

External Leakage –Mass Spec. to
1 x 10⁻⁹ cc GHe/sec

Service

Argon, Helium, Hydrogen, Nitrogen and Oxygen

Materials

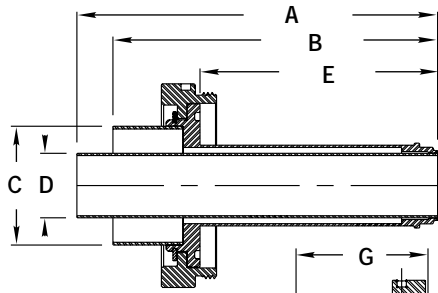
Metal Components-304 & 316
Stainless Steel

Soft Goods –Buna N, Graphite,
Silicone or Teflon®



BAYONET CONNECTIONS

Commercial Bayonets Vacuum Jacketed for Hydrogen & Helium For Hoses, Tankers and Storage Vessels

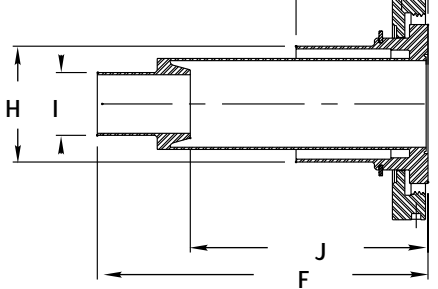


MALE AIR FORCE HYDROGEN SERVICE *

Temp. -423°F MAWP 200 PSIG

Size	P\N	A	B	C	D	E	Inner Line
1-1/2" PS	F-BMAFPS12X	10.6"	9.6"	3.5"	1.9"	7.0"	1-1/2" Sch. 5 Pipe
1-1/2" ODT	F-BMAFSTS12X	10.6"	9.6"	3.5"	1.5"	7.0"	1-1/2" x .065" Tube

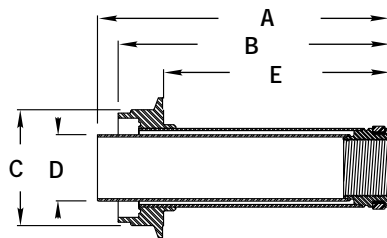
*Shipped with nose seal and o-ring.



FEMALE AIR FORCE HYDROGEN SERVICE

Temp. -423°F MAWP 200 PSIG

Size	P\N	F	G	H	I	J	Inner Line
1-1/2" PS	F-BFAFPS12X	10.0"	4.0"	3.5"	1.9"	7.2"	1-1/2" Sch. 5 Pipe
1-1/2" ODT	F-BFAFSTS12X	10.0"	4.0"	3.5"	1.5"	7.2"	1-1/2" x .065" Tube
1" PS	F-BFAFPS08X	10.0"	4.0"	3.5"	1.3"	7.2"	1" Sch. 5 Pipe
1" ODT	F-BFAFSTS08X	10.0"	4.0"	3.5"	1.0"	7.2"	1" x .065" Tube

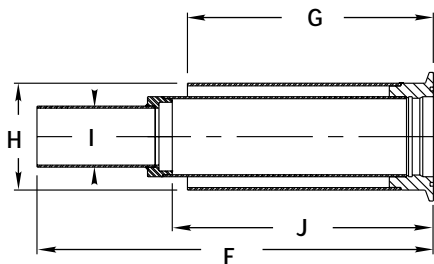


MALE LINDE TYPE HYDROGEN SERVICE*

Temp. -423°F MAWP 200 PSIG

Size	P\N	A	B	C	D	E	Inner Line
2" ODT	F-BMLTTS16X	8.8"	8.2"	3.5"	2.0"	6.8"	2" x .065" Tube
1-1/2" ODT	F-BMLTTS12X	8.8"	8.2"	3.5"	1.5"	6.8"	1-1/2" x .065" Tube

*Shipped with nose seal and energizer. V-Band Clamp required for installation.

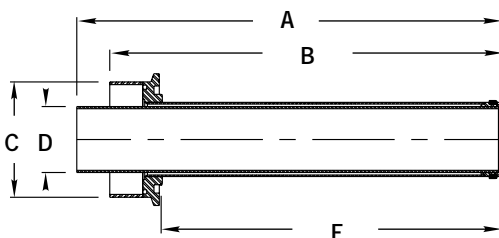


FEMALE LINDE TYPE HYDROGEN SERVICE*

Temp. -423°F MAWP 200 PSIG

Size	P\N	F	G	H	I	J	Inner Line
2" PS	F-BFLTPTS16X	13.0"	8.1"	3.5"	2.38"	8.6"	2" Sch. 5 Pipe
2" ODT	F-BFLTTS16X	13.0"	8.1"	3.5"	2.00"	8.6"	2" x .065" Tube
1-1/2" PS	F-BFLTPTS12X	13.0"	8.1"	3.5"	1.30"	8.6"	1-1/2" Sch. 5 Pipe
1-1/2" ODT	F-BFLTTS12X	13.0"	8.1"	3.5"	1.00"	8.6"	1-1/2" x .065" Tube

*Shipped with Kel-F o-ring. V-Band Clamp required for installation.

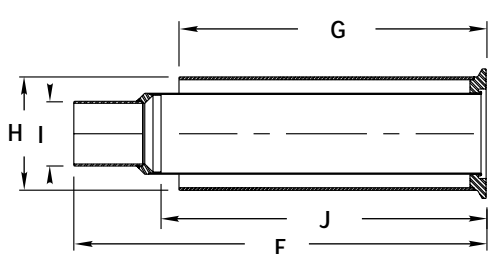


MALE HELIUM SERVICE*

Temp. -452°F MAWP 175 PSIG

Size	P\N	A	B	C	D	E	Inner Line
2" ODT	F-BMCYTS16X	17.5"	16.5"	3.5"	2.0"	15.0"	2" x .065" Tube

*Shipped with nose seal and o-ring. V-Band Clamp required for installation.



FEMALE HELIUM SERVICE*

Temp. -452°F MAWP 175 PSIG

Size	P\N	F	G	H	I	J	Inner Line
2" ODT	F-BFCYTS16X	17.38"	15.38"	3.5"	2.0"	14.7"	2" x .065" Tube

*V-Band Clamp required for installation.

V-BAND CLAMP

Model	P\N
Linde Type w/Handwheel	F-1575
Helium Service w/Handwheel	F1585
Helium Service	F1600

Dimensions are shown for reference only.

BAYONET CONNECTIONS

Commercial Bayonets – Assembly Kits & Options

AIR FORCE TYPE BAYONETS *

P/N F-BPAFxxxx K

Description	Material	Letter
Kit:		
O-Ring	Buna N	O
Nose Seal	TFE	N
Optional:		
Dust Cap	Aluminum	D
Pressure Cap, Female	Stainless Steel	S

*The Air Force Type Bayonet is a threaded connection which uses a Teflon® nose seal and Buna N O-ring on the male Bayonet. An assembly kit is required for each pair.

LINDE TYPE BAYONET*

P/N F-BPLTxxxx K

Description	Material	Letter
Kit:		
O-Ring	PCTFE	O
Energizer	Stainless Steel	E
Nose Seal	TFE	N
Optional:		
Dust Cap	Aluminum	D
Pressure Cap, Female	Stainless Steel	S

*The Linde Type Bayonet is a V-band connection which uses a Teflon® nose seal and an energizer on the male Bayonet and a Kel-F O-ring on the female Bayonet. An assembly kit is required for each pair and a V-Band Clamp is required for installation.

HELIUM SERVICE BAYONET*

P/N F-BPCYxxxx K

Description	Material	Letter
Kit:		
O-Ring	Buna N	O
Nose Seal	TFE	N
Optional:		
Dust Cap	Aluminum	D
Pressure Cap, Female	Stainless Steel	S

*The Helium Bayonet is a V-band connection which uses a Teflon® nose seal and Buna N O-ring on the male Bayonet. An assembly kit is required for each pair and a V-Band Clamp is required for installation.

Spare Assembly Kits

Type	Part Number
Air Force	F-B P AFxxxx K
Linde	F-B P LTxxxx K
Helium	F-B P CYxxxx K

Sample Kit Number:

F-B P CYxxxx K

When ordering parts for male and female Bayonets change the "P" in the Kit Number above to the identification letter for the connection type shown below:

- P = Pair
- M = Male
- F = Female

To order Optional or Kit Items change the "K" at the end of the Kit Number above to the identification letter for the kit description as shown below:

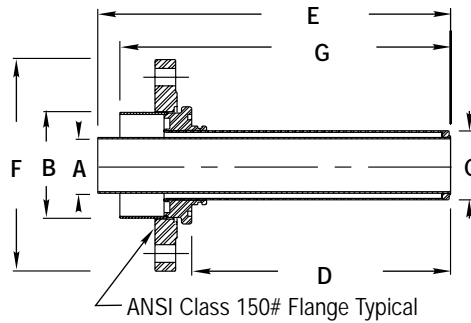
- O = O-Ring
- N = Nose Seal
- E = Energizer for Linde Type Nose Seal
- K = Complete Assembly Kits as described above
- D = Aluminum Dust Cap
- S = Stainless Steel Pressure Cap

BAYONET CONNECTIONS

Close Tolerance Bayonets, Dual Seal

For Fixed Vacuum Jacketed Piping Systems

Specify Service: Standard, Oxygen or Hydrogen

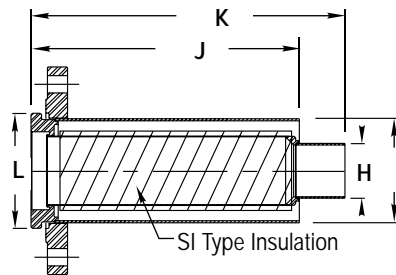


MALE CLOSE TOLERANCE*

Temp. -423°F MAWP 275 PSIG

Size*	P/N	A	B	C	D	E	F	G	ΔQ
1/2" x 2"	F-BMCTPS04X	0.84"	2.37"	1.56"	8"	12"	6.0"	11"	4.5
1" x 2-1/2"	F-BMCTPS08X	1.31"	2.87"	1.75"	10"	14"	7.0"	13"	4.9
1-1/2" x 3"	F-BMCTPS12X	1.90"	3.50"	2.44"	9"	13"	7.5"	12"	9.1
2" x 4"	F-BMCTPS16X	2.37"	4.50"	2.94"	11"	15"	9.0"	14"	9.7
3" x 5"	F-BMCTPS24X	3.50"	5.56"	3.92"	12"	16"	10.0"	15"	10.5
4" x 6"	F-BMCTPS32X	4.50"	6.62"	5.35"	16"	20"	11.0"	19"	19.2
6" x 10"	F-BMCTPS48X	6.62"	10.75"	8.39"	18"	22"	16.0"	21"	41.0

* Male bayonet shipped with all assembly hardware and seals.



FEMALE CLOSE TOLERANCE

Temp. -423°F MAWP 275 PSIG

Size*	P/N	H	I	J	K	L	ΔQ
1/2" x 2"	F-BFCTPS04X	0.84"	2.37"	9.00"	11.00"	2.94"	6.7
1" x 2-1/2"	F-BFCTPS08X	1.31"	2.87"	11.38"	13.38"	3.88"	7.9
1-1/2" x 3"	F-BFCTPS12X	1.90"	3.50"	10.38"	12.38"	4.00"	6.5
2" x 4"	F-BFCTPS16X	2.37"	4.50"	11.63"	13.63"	5.00"	6.0
3" x 5"	F-BFCTPS24X	3.50"	5.56"	13.75"	15.75"	6.49"	14.7
4" x 6"	F-BFCTPS32X	4.50"	6.62"	18.00"	20.00"	7.94"	31.7
6" x 10"	F-BFCTPS48X	6.62"	10.75"	19.25"	21.25"	11.94"	37.0

The close tolerance Dual Seal Bayonet is a flanged connection using ANSI type flanges. It is assembled with two O-rings, Teflon® nose seal and stainless steel nuts and bolts. An assembly kit is required for each pair.

Notes for Close Tolerance Bayonets:

SI – Sixteen layers of laminar radiation shielding consisting of alternating layers of glass paper and aluminum foil.

ΔQ – Conductive heat leak from ambient to cryogenic temperature. BTU/Hr. @ 77.4°K (LN2).

* – Nominal pipe size. All pipe is Schedule 5 unless noted.

Dimensions shown above are for reference only.

Spare Assembly Kits

Size	Kit Number
1/2" x 2"	F-BPCTPS04K
1" x 2-1/2"	F-BPCTPS08K
1-1/2" x 3"	F-BPCTPS12K
2" x 4"	F-BPCTPS16K
3" x 5"	F-BPCTPS24K
4" x 6"	F-BPCTPS32K
6" x 10"	F-BPCTPS48K

Sample Kit Number:

F-BPCTP S 12 K

for 1-1/2" x 3" Bayonet Pair

Required Assembly Parts For Close Tolerance Bayonets:

To order individual components from Assembly Kits change the "K" at the end of the Kit Number above to the I.D. letter for the component as shown below:

- O = O-Ring for Face Seal
- N = Nose Seal Only
- H = Nuts & Bolts to assemble Male and Female Bayonet
- K = Nose Seal, O-Rings and Nuts & Bolts

Specify Service:

To specify service other than Standard, change the "S" in the Part Number shown above to the I.D. letter for the service shown below:

- S = Standard Service includes Argon, Helium and Liquid Nitrogen
- O = Oxygen Service, Consult Factory
- H = Hydrogen Service, Consult Factory