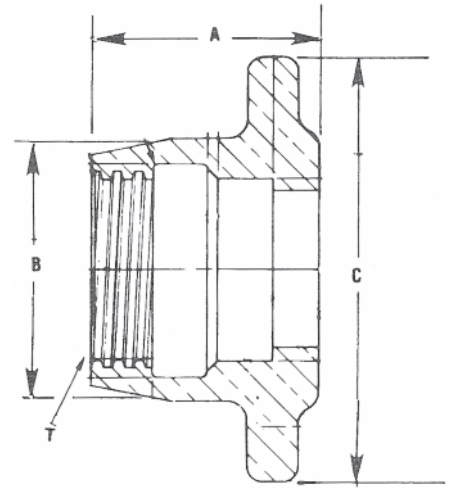


Argon Hose Nut

Cast Bronze per ASTM
 B148-9D, 316L S/S per ASTM
 A 351, CF3M, Precision machine to conform
 to Compressed Gas Association standards for
 Cryogenic Liquid Transfer connections

Argon Hose Nut

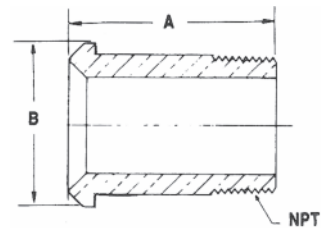


| Part Number | Liquid Service | Size | CGA Designation | Material | "T" Thread Size | A Inches | B Inches | C Inches |
|------------------|----------------|--------|-----------------|----------|-----------------|----------|----------|----------|
| BHN-AR-150-BRZ | Argon | 1 1/2" | AR-150 | Bronze | 2.7-4 Stub Acme | 2.812 | 3.500 | 5.250 |
| BHN-AR-150-316SS | Argon | 1 1/2" | AR-150 | 316L S/S | 2.7-4 Stub Acme | 2.812 | 3.500 | 5.250 |
| BHN-AR-250-BRZ | Argon | 2 1/2" | AR-250 | Bronze | 3.813-4 Acme | 2.937 | 4.625 | 6.875 |
| BHN-AR-250-316SS | Argon | 2 1/2" | AR-250 | 316L S/S | 3.813-4 Acme | 2.937 | 4.625 | 6.875 |

Hose Head Piece Threaded

Precision machine to Compressed Gas Association standards.

Material Naval Brass per ASTM-B-21
 Material 304 S/S ASTM-A276
 Material 316L S/S ASTM-A276



Hose Head Piece
 Nut Size Matches
 Size of Nut Size

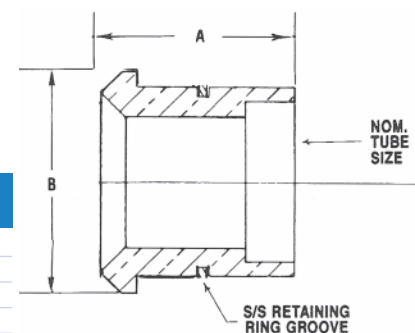
- Naval Brass
- Stainless Steel

| Part Number | Size | NPT | Material | A Inches | B Inches |
|--------------------|--------------------------|-----------------|-------------|----------|----------|
| HPT-150H150N-B-S | 1 1/2" hose x 1 1/2" nut | 1 1/2" - 11 1/2 | Naval Brass | 2.750 | 2.187 |
| HPT-150H150N-B-L | 1 1/2" hose x 1 1/2" nut | 1 1/2" - 11 1/2 | Naval Brass | 3.250 | 2.187 |
| HPT-150H250N-B | 1 1/2" hose x 2 1/2" nut | 1 1/2" - 11 1/2 | Naval Brass | 4.750 | 3.180 |
| HPT-150H300N-B | 1 1/2" hose x 3" nut | 1 1/2" - 11 1/2 | Naval Brass | 4.750 | 3.937 |
| HPT-150H150N-316SS | 1 1/2" hose x 1 1/2" nut | 1 1/2" - 11 1/2 | 316L S/S | 2.750 | 2.187 |
| HPT-150H150N-304SS | 1 1/2" hose x 1 1/2" nut | 1 1/2" - 11 1/2 | 304 S/S | 2.750 | 2.187 |
| HPT-250H250N-B | 2 1/2" hose x 2 1/2" nut | 2 1/2" - 8 | Naval Brass | 3.625 | 3.180 |
| HPT-250H300N-B | 2 1/2" hose x 3" nut | 2 1/2" - 8 | Naval Brass | 4.000 | 3.937 |
| HPT-250H250N-304SS | 2 1/2" hose x 2 1/2" nut | 2 1/2" - 8 | 304 S/S | 3.625 | 3.180 |
| HPT-250H300N-304SS | 2 1/2" hose x 3" nut | 2 1/2" - 8 | 304 S/S | 4.000 | 3.937 |

Head Piece Brazed End & Schedule 10 BWE (not shown)

Precision machine to Compressed Gas Association standards.

Material Naval Brass per ASTM-B-21
 Material 304 S/S ASTM-A276
 Material 316L S/S ASTM-A276

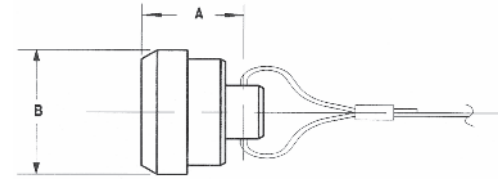


| Part Number | Size | Tube or Pipe Size | Material | A Inches | B Inches |
|-----------------------|--------------------------|----------------------|-------------|----------|----------|
| HPB-150H150N-TM-B | 1 1/2" hose x 1 1/2" nut | 1 1/2" Tube Mate | Naval Brass | 2.750 | 2.187 |
| HPB-150H150N-TS-B | 1 1/2" hose x 1 1/2" nut | 1 1/2" Tube Socket | Naval Brass | 1.687 | 2.187 |
| HPB-150H150N-PB-316SS | 1 1/2" hose x 1 1/2" nut | 1 1/2" Pipe BWE | 316L S/S | 4.000 | 2.187 |
| HPB-150H150N-TB-316SS | 1 1/2" hose x 1 1/2" nut | 1 1/2" O.D. Tube BWE | 316L S/S | 4.250 | 2.187 |
| HPB-150H150N-PS-304SS | 1 1/2" hose x 1 1/2" nut | 1 1/4" Pipe Socket | 304 S/S | 1.687 | 2.187 |
| HPB-150H150N-PB-304SS | 1 1/2" hose x 1 1/2" nut | 1 1/2" Pipe BWE | 304 S/S | 2.750 | 2.187 |
| HPB-250H250N-TS-B | 2 1/2" hose x 2 1/2" nut | 2 1/2" Tube Socket | Naval Brass | 2.062 | 3.180 |
| HPB-250H250N-PB-304SS | 2 1/2" hose x 2 1/2" nut | 2 1/2" Pipe BWE | 304 S/S | 3.625 | 3.180 |

Head Plug Assembly

Plug material naval brass per ASTM B-21. Cable material 316L stainless steel with 1/8" S/S aircraft cable.

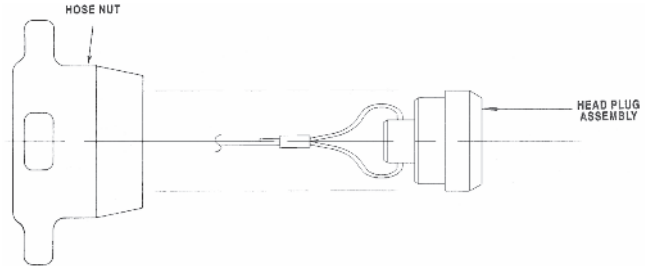
| Part Number | Size | Inches | MM | Inches | MM | Material |
|---------------|--------|--------|------|--------|------|-------------|
| HPA-150-B | 1 1/2" | 1.312 | 33.4 | 2.312 | 58.7 | Naval Brass |
| HPA-250-B | 2 1/2" | 1.750 | 44.5 | 3.187 | 80.9 | Naval Brass |
| HPA-150-316SS | 1 1/2" | 1.312 | 33.4 | 2.312 | 58.7 | 316L S/S |



Argon Pressure Cap Assembly

| Part Number | Liquid Service | Size | CGA Designation |
|---------------|----------------|--------|-----------------|
| BH-PCA-150-AR | Argon | 1 1/2" | AR-150 |
| BH-PCA-250-AR | Argon | 2 1/2" | AR-250 |

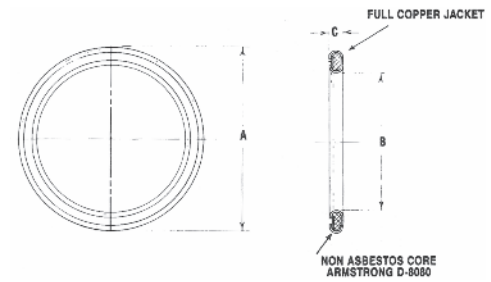
Note: All pressure cap assembly numbers are bronze nuts



Copper Clad Gasket (double jacket) or Virgin PTFE

Oxygen clean and certified.
25 Copper gaskets per package
100 PTFE gaskets per package

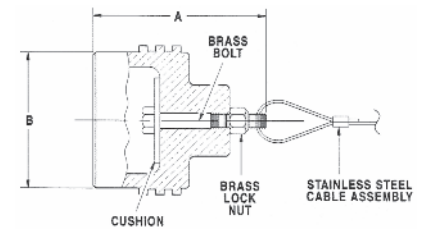
| Part Number | Size | A Inches | A MM | B Inches | B MM | C Inches | C MM | Material |
|-------------------|--------|----------|------|----------|------|----------|------|----------|
| BH-FCG-150-COPPER | 1 1/2" | 1.94 | 49.3 | 1.50 | 38.1 | .09 | 2.29 | Copper |
| BH-FCG-250-COPPER | 2 1/2" | 3.00 | 76.2 | 2.50 | 63.5 | .09 | 2.29 | Copper |
| BH-FCG-150-PTFE | 1 1/2" | 1.94 | 49.3 | 1.50 | 38.1 | .09 | 2.29 | PTFE |
| BH-FCG-250-PTFE | 2 1/2" | 3.00 | 76.2 | 2.50 | 63.5 | .09 | 2.29 | PTFE |



Argon Tail Dust Plug Assembly

Plug material cast aluminum, black anodized
Tenzalloy B-179
Alum. #713.1

| Part Number | Liquid Service | Size | CGA Designation | "T" Thread Size | Inches | A MM |
|--------------|----------------|--------|-----------------|------------------|--------|-------|
| BH-DP-150-AR | Argon | 1 1/2" | AR-150 | 2.76-4 Stub Acme | 4.000 | 101.6 |
| BH-DP-250-AR | Argon | 2 1/2" | AR-250 | 3.813-4 Acme | 4.000 | 101.6 |

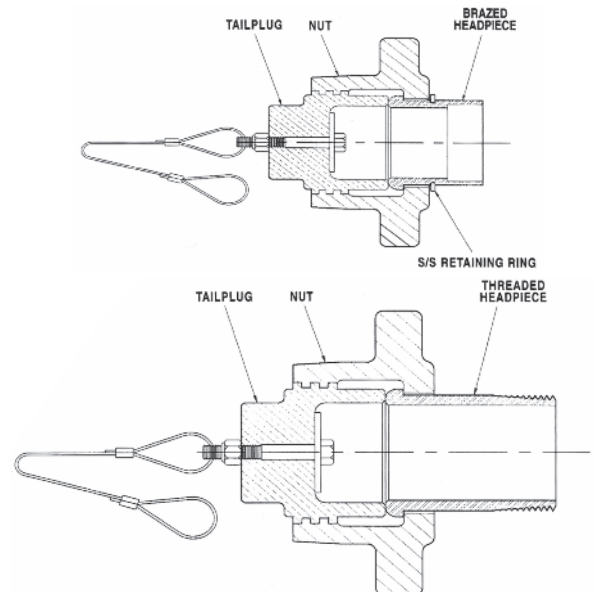


Argon Brazed & Threaded Hose End Assembly

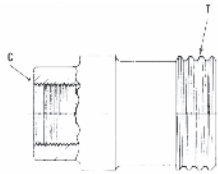
Note: All assembly numbers are for bronze nuts and naval brass headpieces.
For stainless steel, order as individual items.

Liquid Service Argon

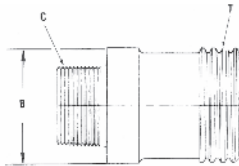
| Part Number | Fitting Size | Hose Size | Hose End Type | CGA Designation |
|-------------------|--------------|-----------|---------------|-----------------|
| BHEA-AR-T-150-150 | 1 1/2" | 1 1/2" | Threaded | AR-150 |
| BHEA-AR-T-250-250 | 2 1/2" | 2 1/2" | Threaded | AR-250 |
| BHEA-AR-T-250-200 | 2 1/2" | 2" | Threaded | AR-250 |
| BHEA-AR-B-150-150 | 1 1/2" | 1 1/2" | Brazed | AR-150 |
| BHEA-AR-B-250-250 | 2 1/2" | 2 1/2" | Brazed | AR-250 |
| BHEA-AR-B-250-200 | 2 1/2" | 2" | Brazed | AR-250 |



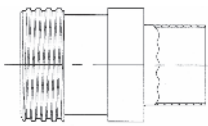
Material naval brass per ASTM-B-21
 Material 304 S/S ASTM-A276
 Material 316L S/S ASTM-A276



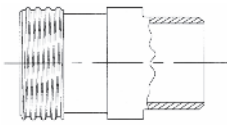
Fixed End FNPT



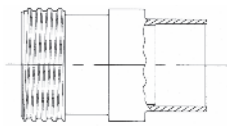
Fixed End NPT



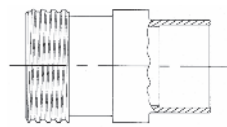
O.D. Tube BWE



Fixed End SCH 10 BWE



Fixed End Tube Socket



Fixed End Pipe Socket

Argon Fixed End Clamp with Milled Flats to Accept Hold Down Brackets

Precision machined to Compressed Gas Association standards.

Argon Fixed End Machined FNPT Liquid Service Argon

| Part Number | Size | CGA Designation | Material | "T" Thread Size | A Inches | B Inches | C End Connector |
|--------------------------|--------|-----------------|-------------|-----------------|----------|----------|-------------------|
| FEM-AR-150-112FNPT-B | 1 1/2" | AR-150 | Naval Brass | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" FNPT |
| FEM-AR-150-112FNPT-316SS | 1 1/2" | AR-150 | 316L S/S | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" FNPT |
| FEM-AR-150-14FNPT-304SS | 1 1/2" | AR-150 | 304 S/S | 2.7-4 Stub Acme | 3.250 | 2.750 | 1/4" FNPT |
| FEM-AR-150-14FNPT-316SS | 1 1/2" | AR-150 | 316L S/S | 2.7-4 Stub Acme | 3.250 | 2.750 | 1/4" FNPT |
| FEM-AR-150-14FNPT-B | 1 1/2" | AR-150 | Naval Brass | 2.7-4 Stub Acme | 3.250 | 2.750 | 1/4" FNPT |
| FEM-AR-150-112FNPT-304SS | 1 1/2" | AR-150 | 304 S/S | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" FNPT |
| FEM-AR-250-2FNPT-S-B | 2 1/2" | AR-250 | Naval Brass | 3.813-4 Acme | 3.187 | 3.837 | 2" FNPT Short |
| FEM-AR-250-212FNPT-B | 2 1/2" | AR-250 | Naval Brass | 3.813-4 Acme | 4.687 | 3.837 | 2 1/2" FNPT |
| FEM-AR-250-3FNPT-B | 2 1/2" | AR-250 | Naval Brass | 3.813-4 Acme | 4.687 | 3.837 | 3" FNPT |
| FEM-AR-250-212FNPT-S-B | 2 1/2" | AR-250 | Naval Brass | 3.813-4 Acme | 3.188 | 3.837 | 2 1/2" FNPT Short |
| FEM-AR-250-3FNPT-304SS | 2 1/2" | AR-250 | 304 S/S | 3.813-4 Acme | 4.687 | 3.837 | 3" FNPT |
| FEM-AR-250-3FNPT-316SS | 2 1/2" | AR-250 | 316L S/S | 3.813-4 Acme | 4.687 | 3.837 | 3" FNPT |
| FEM-AR-250-14FNPT-304SS | 2 1/2" | AR-250 | 304 S/S | 3.813-4 Acme | 3.312 | 3.837 | 1/4" FNPT |

Argon Fixed End Machined NPT Liquid Service Argon

| Part Number | Size | CGA Designation | Material | "T" Thread Size | A Inches | B Inches | C End Connector |
|-------------------------|--------|-----------------|-------------|-----------------|----------|----------|-----------------|
| FEM-AR-150-112NPT-B | 1 1/2" | AR-150 | Naval Brass | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" NPT |
| FEM-AR-150-114NPT-B | 1 1/2" | AR-150 | Naval Brass | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/4" NPT |
| FEM-AR-150-112NPT-316SS | 1 1/2" | AR-150 | 316L S/S | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" NPT |
| FEM-AR-150-112NPT-304SS | 1 1/2" | AR-150 | 304 S/S | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" NPT |

Argon Fixed End Machined O.D. Tube BWE Liquid Service Argon

| Part Number | Size | CGA Designation | Material | "T" Thread Size | A Inches | B Inches | C End Connector |
|-------------------------|--------|-----------------|----------|-------------------|----------|----------|--------------------|
| FEM-AR-150-112ODT-304SS | 1 1/2" | AR-150 | 304 S/S | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" OD Tube BWE |
| FEM-AR-150-112ODT-316SS | 1 1/2" | AR-150 | 316L S/S | 2.7-4 Stub Acme | 5.125 | 2.750 | 1 1/2" OD Tube BWE |
| FEM-AR-150-2ODT-316SS | 1 1/2" | AR-150 | 316L S/S | 2.7.5-4 Stub Acme | 4.250 | 2.750 | 2" OD Tube BWE |

Argon Fixed End Machined SCH 10 BWE Liquid Service Argon

| Part Number | Size | CGA Designation | Material | "T" Thread Size | A Inches | B Inches | C End Connector |
|---------------------------|--------|-----------------|----------|-----------------|----------|----------|-------------------|
| FEM-AR-150-112SCH10-316SS | 1 1/2" | AR-150 | 316L S/S | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" Sch 10 BWE |
| FEM-AR-150-112SCH10-304SS | 1 1/2" | AR-150 | 304 S/S | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" Sch 10 BWE |
| FEM-AR-250-3SCH10-304SS | 2 1/2" | AR-250 | 304 S/S | 3.813-4 Acme | 4.687 | 3.837 | 3" Sch 10 BWE |
| FEM-AR-250-212SCH10-304SS | 2 1/2" | AR-250 | 304 S/S | 3.813-4 Acme | 4.687 | 3.837 | 2 1/2" Sch 10 BWE |

Argon Fixed End Machined Tube Socket Liquid Service Argon

| Part Number | Size | CGA Designation | Material | "T" Thread Size | A Inches | B Inches | C End Connector |
|------------------------|--------|-----------------|-------------|-----------------|----------|----------|--------------------|
| FEM-AR-150-112TS-B | 1 1/2" | AR-150 | Naval Brass | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" Tube Socket |
| FEM-AR-150-112TS-316SS | 1 1/2" | AR-150 | 316L S/S | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" Tube Socket |
| FEM-AR-150-112TS-304SS | 1 1/2" | AR-150 | 304 S/S | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" Tube Socket |
| FEM-AR-250-212TS-B | 2 1/2" | AR-250 | Naval Brass | 3.813-4 Acme | 4.687 | 3.837 | 2 1/2" Tube Socket |

Argon Fixed End Machined Pipe Socket Liquid Service Argon

| Part Number | Size | CGA Designation | Material | "T" Thread Size | A Inches | B Inches | C End Connector |
|------------------------|--------|-----------------|-------------|-----------------|----------|----------|--------------------|
| FEM-AR-150-1PS-B | 1 1/2" | AR-150 | Naval Brass | 2.7-4 Stub Acme | 4.250 | 2.750 | 1" Pipe Socket |
| FEM-AR-150-112PS-B | 1 1/2" | AR-150 | Naval Brass | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" Pipe Socket |
| FEM-AR-150-112PS-316SS | 1 1/2" | AR-150 | 316L S/S | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" Pipe Socket |
| FEM-AR-150-112PS-304SS | 1 1/2" | AR-150 | 304 S/S | 2.7-4 Stub Acme | 4.250 | 2.750 | 1 1/2" Pipe Socket |
| FEM-AR-250-212PS-B | 2 1/2" | AR-250 | Naval Brass | 3.813-4 Acme | 4.687 | 3.837 | 2 1/2" Pipe Socket |

Bolt Assembly for Fixed End Clamp

Material - Stainless Steel Type 304



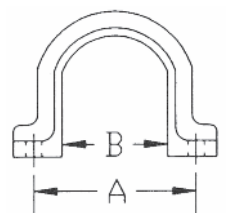
| Part Number | "T" Thread Size | A |
|-------------|-----------------|--------|
| BH-BOLTASSY | 1/2"-13 UNC | 2 3/4" |

Fixed End Clamp

For Machined Type Fixed Ends Furnished complete with Bolt Assembly

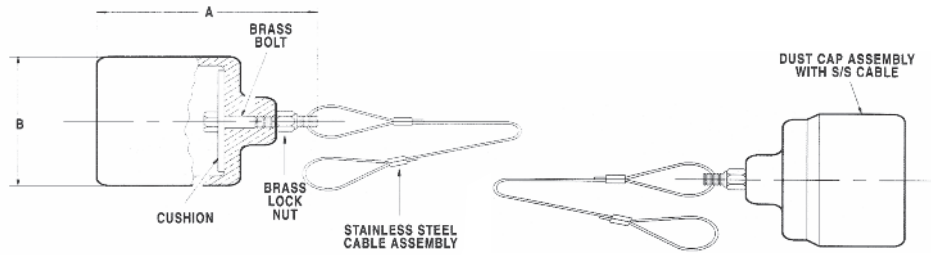
| Part Number | Fixed End Size | Inches | A MM | B Inches | MM | Material |
|--------------|----------------|--------|-------|----------|------|----------|
| CLFE-150-BRZ | 1 1/2" | 4.00 | 101.6 | 2.25 | 57.2 | Bronze |
| CLFE-250-BRZ | 2 1/2" | 5.00 | 127.0 | 3.25 | 82.6 | Bronze |

| Part Number | Fixed End Size | Inches | A MM | B Inches | MM | Material |
|----------------|----------------|--------|-------|----------|------|----------|
| CLFE-150-304SS | 1 1/2" | 4.000 | 101.6 | 2.250 | 57.2 | 304 S/S |
| CLFE-250-304SS | 2 1/2" | 5.000 | 127.0 | 3.250 | 82.6 | 304 S/S |



Dust Cap Assembly

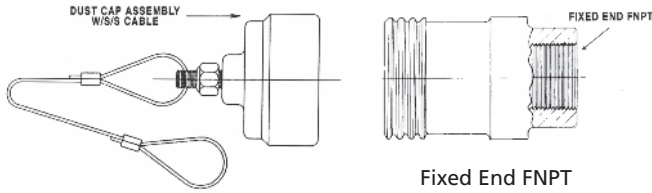
Cap material cast aluminum, black anodized
Tenzalloy ASTM-B179
Alum. #713.1



| Part Number | Liquid Service | Size | CGA Designation | "T" Thread Size | Inches | MM | Inches | MM |
|---------------|----------------|--------|-----------------|-----------------|--------|-------|--------|-------|
| BH-DCA-150-AR | Argon | 1 1/2" | AR-150 | 2.7-4 Stub Acme | 4.250 | 108.0 | 2.812 | 71.4 |
| BH-DCA-250-AR | Argon | 2 1/2" | AR-250 | 3.813-4 Acme | 4.250 | 108.0 | 3.937 | 100.0 |

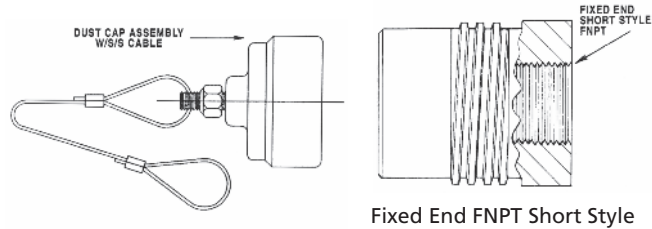
Argon Fixed End Assembly Machined Type

Note: All assembly numbers are for naval brass fixed ends. For Stainless steel, order as individual items.



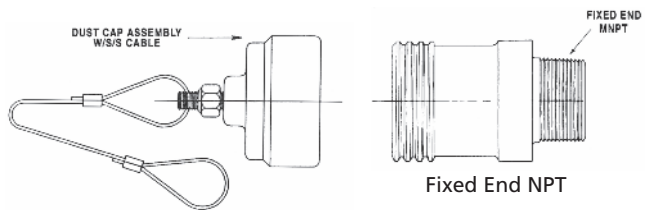
Fixed End FNPT Liquid Service Argon

| Part Number | Fitting Size | End Connections | CGA Designation |
|---------------------|--------------|-----------------|-----------------|
| FEMA-AR-150-112FNPT | 1 1/2" | 1 1/2" FNPT | AR-150 |
| FEMA-AR-250-212FNPT | 2 1/2" | 2 1/2" FNPT | AR-250 |



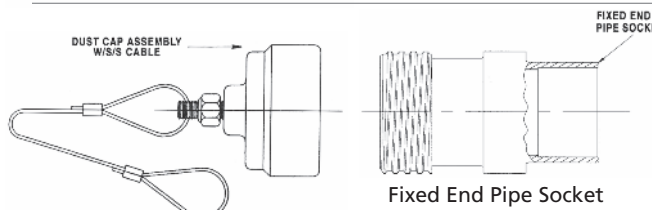
Fixed End FNPT Short Style Liquid Service Argon

| Part Number | Fitting Size | End Connections | CGA Designation |
|----------------------|--------------|---------------------|-----------------|
| FEMA-AR-250-2FNPT-SH | 2 1/2" | 2" FNPT Short Style | AR-250 |



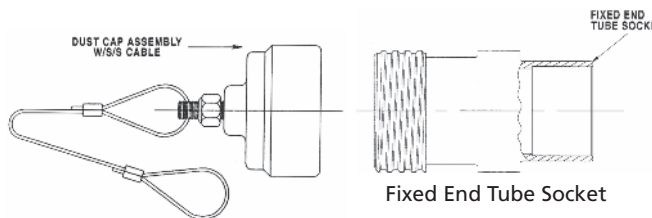
Fixed End NPT Liquid Service Argon

| Part Number | Fitting Size | End Connections | CGA Designation |
|--------------------|--------------|-----------------|-----------------|
| FEMA-AR-150-112NPT | 1 1/2" | 1 1/2" NPT | AR-150 |
| FEMA-AR-150-114NPT | 1 1/2" | 1 1/4" NPT | AR-150 |



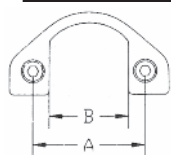
Fixed End Pipe Socket Liquid Service Argon

| Part Number | Fitting Size | End Connections | CGA Designation |
|-------------------|--------------|--------------------|-----------------|
| FEMA-AR-150-112PS | 1 1/2" | 1 1/2" Pipe Socket | AR-150 |
| FEMA-AR-150-1PS | 1 1/2" | 1" Pipe Socket | AR-150 |
| FEMA-AR-250-212PS | 2 1/2" | 2 1/2" Pipe Socket | AR-250 |



Fixed End Tube Socket Liquid Service Argon

| Part Number | Fitting Size | End Connections | CGA Designation |
|-------------------|--------------|--------------------|-----------------|
| FEMA-AR-150-112TS | 1 1/2" | 1 1/2" Tube Socket | AR-150 |
| FEMA-AR-250-212TS | 2 1/2" | 2 1/2" Tube Socket | AR-250 |



Fixed End Clamp – Right Angled

For Machined Type Fixed Ends Furnished complete with Bolt Assembly

| Part Number | Fixed End Size | Inches | MM | Inches | MM | Material |
|--------------------|----------------|--------|-------|--------|------|----------|
| CLFE-RA-150-BRZ-AR | 1 1/2" | 3.250 | 120.7 | 2.250 | 57.2 | Bronze |

Bolt Assembly for Fixed End Clamp

Material - S.S. Type 304

| Part Number | "T" Thread Size | A |
|-------------|-----------------|--------|
| BH-BOLTASSY | 1/2"-13 UNC | 2 3/4" |

Fixed End Cast

Precision machined to Compressed Gas Association standards.
Material red brass casting ASTM-B62

Options

- NPT
- Tube Socket
- Pipe Socket

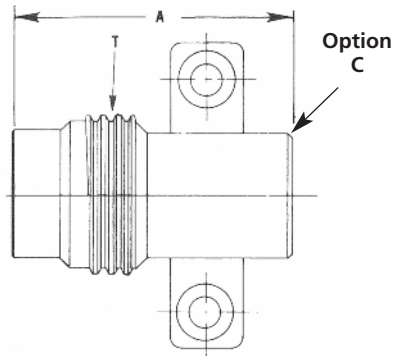
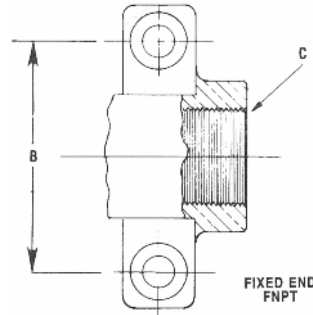


Figure 1
Fixed End Cast
Argon

Option Thread

– NPT

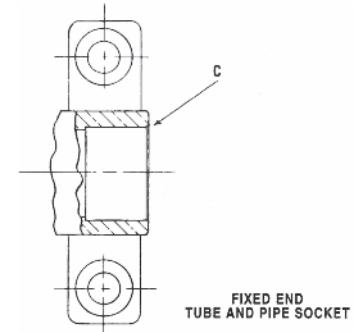
for Figure 1



Option Thread for Figure 1

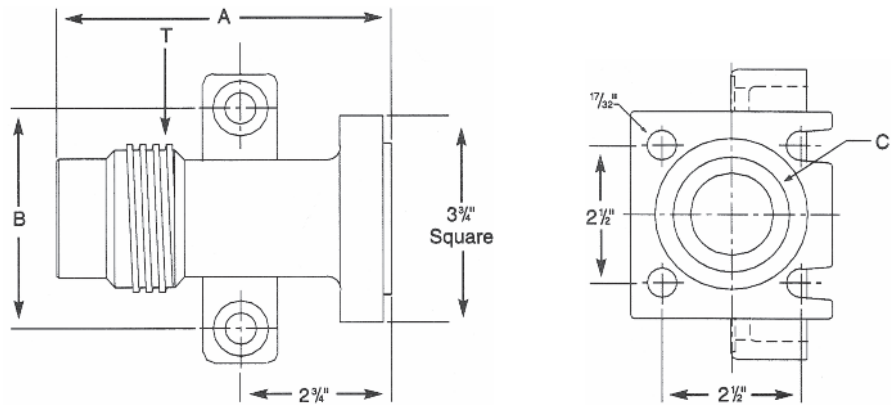
– Tube Socket

– Pipe Socket



| Part Number | Liquid Service | Size | CGA Designation | "T" Thread Size | A Inches | MM | B Inches | MM | C End Connection |
|--------------------|----------------|--------|-----------------|-----------------|----------|-------|----------|-------|--------------------|
| FEC-AR-150-112TS | Argon | 1 1/2" | AR-150 | 2.7-4 Stub Acme | 4.875 | 123.8 | 4.000 | 101.6 | 1 1/2" Tube Socket |
| FEC-AR-150-112TS-5 | Argon | 1 1/2" | AR-150 | 2.7-4 Stub Acme | 4.093 | 104.0 | 4.000 | 101.6 | 1 1/2" Tube Socket |
| FEC-AR-150-112FNPT | Argon | 1 1/2" | AR-150 | 2.7-4 Stub Acme | 4.875 | 123.8 | 4.000 | 101.6 | 1 1/2" FNPT |
| FEC-AR-150-112PS | Argon | 1 1/2" | AR-150 | 2.7-4 Stub Acme | 4.875 | 123.8 | 4.000 | 101.6 | 1 1/2" Pipe Socket |
| FEC-AR-250-2TS | Argon | 2 1/2" | AR-250 | 3.813-4 Acme | 5.062 | 128.6 | 4.000 | 101.6 | 2" Tube Socket |

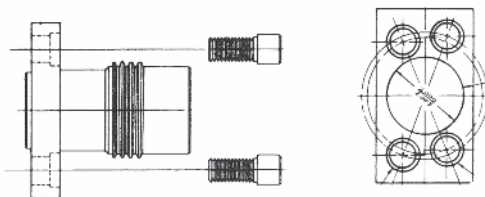
Argon Integral Flange Cast Fixed End Assembly



| Part Number | Liquid Service | Size | CGA Designation | "T" Thread Size | A Inches | MM | B Inches | MM | C End Connection |
|----------------|----------------|--------|-----------------|-----------------|----------|-------|----------|-------|---------------------|
| FEC-IFA-AR-150 | Argon | 1 1/2" | AR-150 | 2.7-4 Stub Acme | 6.125 | 155.6 | 4.000 | 101.6 | 4 Bolt Flg w/Tongue |

Argon Fixed End Assembly *Brazed Block*

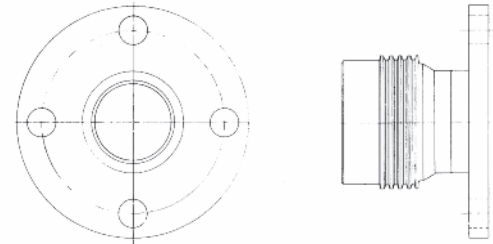
Material
Naval Brass
ASTM B21
Bolts 304
Stainless
Steel



| Part Number | Liquid Service | Size | CGA Designation |
|--------------|----------------|--------|-----------------|
| BBFEA-AR-150 | Argon | 1 1/2" | AR-150 |

Argon Fixed End Assembly *Rail Car*

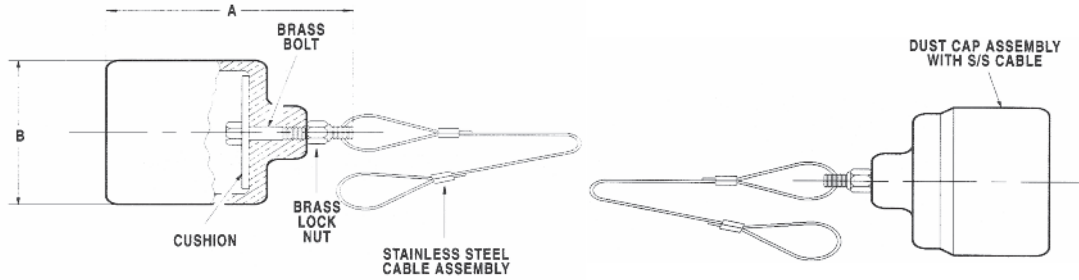
Material
Fixed End
Naval Brass
ASTM B21
Flange Naval
Brass or 304
Stainless Steel



| Part Number | Liquid Service | Size | CGA Designation | Flange Material |
|-----------------|----------------|--------|-----------------|-----------------|
| RCFEA-AR-250-B | Argon | 2 1/2" | AR-250 | Naval Brass |
| RCFEA-AR-250-SS | Argon | 2 1/2" | AR-250 | Stainless Steel |

Dust Cap Assembly

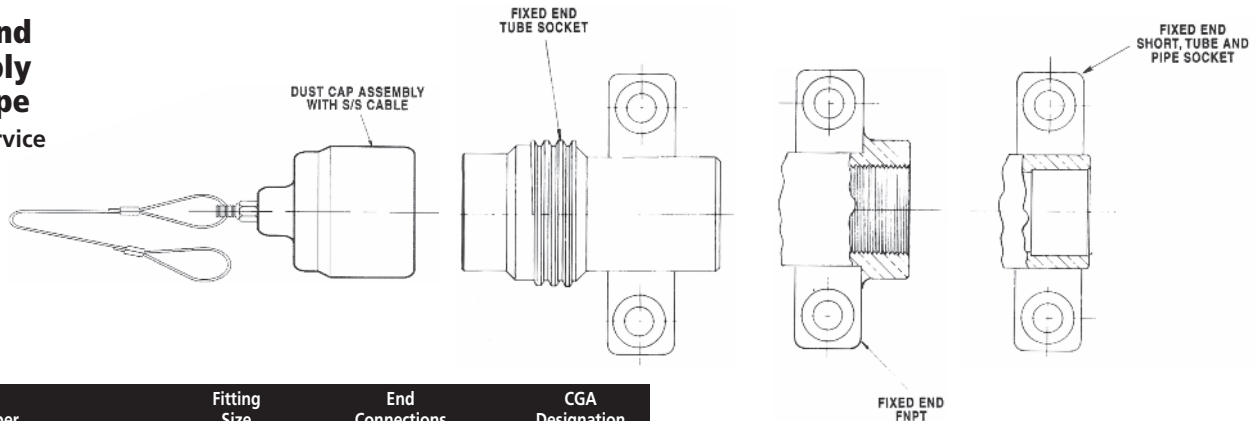
Cap material cast aluminum, black anodized
Tenzalloy ASTM-B179
Alum. #713.1



| Part Number | Liquid Service | Size | CGA Designation | "T" Thread Size | Inches | MM | Inches | MM |
|---------------|----------------|--------|-----------------|-----------------|--------|-------|--------|-------|
| BH-DCA-150-AR | Argon | 1 1/2" | AR-150 | 2.7-4 Stub Acme | 4.250 | 108.0 | 2.812 | 71.4 |
| BH-DCA-250-AR | Argon | 2 1/2" | AR-250 | 3.813-4 Acme | 4.250 | 108.0 | 3.937 | 100.0 |

Fixed End Assembly Cast Type

Liquid Service
Argon



| Part Number | Fitting Size | End Connections | CGA Designation |
|---------------------|--------------|--------------------|-----------------|
| FECA-AR-150-112FNPT | 1 1/2" | 1 1/2" FNPT | AR-150 |
| FECA-AR-150S-112TS | 1 1/2" Short | 1 1/2" Tube Socket | AR-150 |
| FECA-AR-150-112TS | 1 1/2" | 1 1/2" Tube Socket | AR-150 |
| FECA-AR-250-2TS | 2 1/2" | 2" Tube Socket | AR-250 |
| FECA-AR-150-112PS | 1 1/2" | 1 1/2" Pipe Socket | AR-150 |

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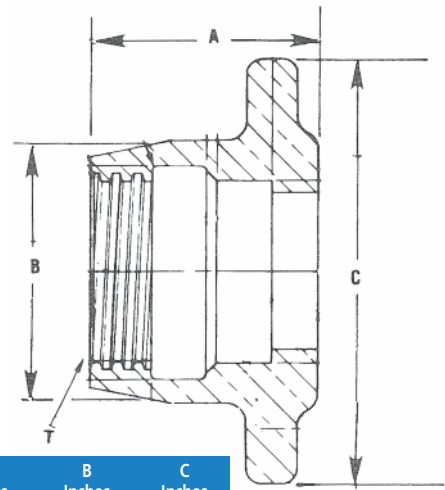
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Hose Builder gives you the
compatible CGA fitting options.

Oxygen Hose Nut

Cast Bronze per ASTM
 B148-9D, 316L S/S per ASTM
 A 351, CF3M, Precision machine to conform
 to Compressed Gas Association standards for
 Cryogenic Liquid Transfer connections

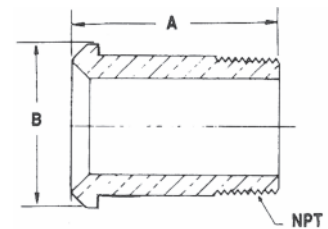


Oxygen Hose Nut

| Part Number | Liquid Service | Size | CGA Designation | Material | "T" Thread Size | A Inches | B Inches | C Inches |
|------------------|----------------|--------|-----------------|----------|-----------------|----------|----------|----------|
| BHN-OX-150-BRZ | Oxygen | 1 1/2" | OX-150 | Bronze | 2.5-4 Acme | 2.125 | 3.250 | 5.000 |
| BHN-OX-150-316SS | Oxygen | 1 1/2" | OX-150 | 316L S/S | 2.5-4 Acme | 2.125 | 3.250 | 5.000 |
| BHN-OX-200-BRZ | Oxygen | 2" | OX-200 | Bronze | 3-4 Acme | 2.062 | 3.500 | 6.000 |
| BHN-OX-300-BRZ | Oxygen | 3" | OX-300 | Bronze | 4.25-4 Acme | 2.375 | 5.000 | 6.750 |
| BHN-OX-300-316SS | Oxygen | 3" | OX-300 | 316L S/S | 4.25-4 Acme | 2.437 | 5.000 | 6.750 |

Hose Head Piece Threaded

Precision machine to Compressed Gas Association standards.
 Material Naval Brass per ASTM-B-21
 Material 304 S/S ASTM-A276
 Material 316L S/S ASTM-A276



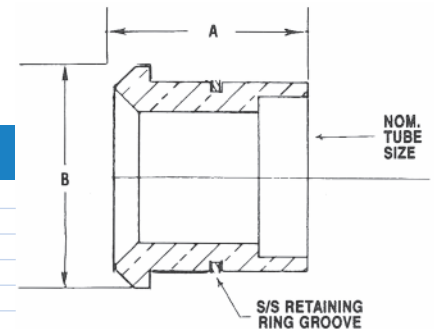
| Part Number | Size | NPT | Material | A Inches | B Inches |
|--------------------|--------------------------|-----------------|-------------|----------|----------|
| HPT-150H150N-B-S | 1 1/2" hose x 1 1/2" nut | 1 1/2" - 11 1/2 | Naval Brass | 2.750 | 2.187 |
| HPT-150H150N-B-L | 1 1/2" hose x 1 1/2" nut | 1 1/2" - 11 1/2 | Naval Brass | 3.250 | 2.187 |
| HPT-150H250N-B | 1 1/2" hose x 2 1/2" nut | 1 1/2" - 11 1/2 | Naval Brass | 4.750 | 3.180 |
| HPT-150H300N-B | 1 1/2" hose x 3" nut | 1 1/2" - 11 1/2 | Naval Brass | 4.750 | 3.937 |
| HPT-150H150N-316SS | 1 1/2" hose x 1 1/2" nut | 1 1/2" - 11 1/2 | 316L S/S | 2.750 | 2.187 |
| HPT-150H150N-304SS | 1 1/2" hose x 1 1/2" nut | 1 1/2" - 11 1/2 | 304 S/S | 2.750 | 2.187 |
| HPT-200H200N-B | 2" hose x 2" nut | 2" - 11 1/2 | Naval Brass | 3.000 | 2.687 |
| HPT-200H250N-B | 2" hose x 2 1/2" nut | 2" - 11 1/2 | Naval Brass | 4.000 | 3.180 |
| HPT-200H300N-B | 2" hose x 3" nut | 2" - 11 1/2 | Naval Brass | 3.750 | 3.937 |
| HPT-200H200N-304SS | 2" hose x 2" nut | 2" - 11 1/2 | 304 S/S | 3.000 | 2.687 |
| HPT-200H250N-304SS | 2" hose x 2 1/2" nut | 2" - 11 1/2 | 304 S/S | 4.000 | 3.180 |
| HPT-200H300N-304SS | 2" hose x 3" nut | 2" - 11 1/2 | 304 S/S | 3.750 | 3.937 |
| HPT-300H300N-B | 3" hose x 3" nut | 3" - 8 | Naval Brass | 3.625 | 3.937 |
| HPT-300H300N-304SS | 3" hose x 3" nut | 3" - 8 | 304 S/S | 3.625 | 3.937 |

**Hose Head Piece
 Nut Size Matches
 Size of Nut Size**

- Naval Brass
- Stainless Steel

Head Piece Brazed End & Schedule 10 BWE (not shown)

Precision machine to Compressed Gas Association standards.
 Material Naval Brass per ASTM-B-21
 Material 304 S/S ASTM-A276
 Material 316L S/S ASTM-A276

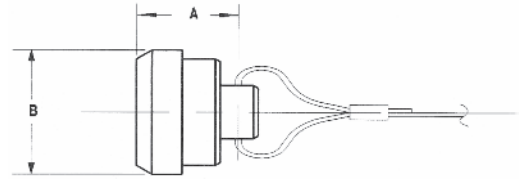


| Part Number | Size | Tube or Pipe Size | Material | A Inches | B Inches |
|-----------------------|--------------------------|----------------------|-------------|----------|----------|
| HPB-150H150N-TM-B | 1 1/2" hose x 1 1/2" nut | 1 1/2" Tube Mate | Naval Brass | 2.750 | 2.187 |
| HPB-150H150N-TS-B | 1 1/2" hose x 1 1/2" nut | 1 1/2" Tube Socket | Naval Brass | 1.687 | 2.187 |
| HPB-150H150N-PB-316SS | 1 1/2" hose x 1 1/2" nut | 1 1/2" Pipe BWE | 316L S/S | 4.000 | 2.187 |
| HPB-150H150N-TB-316SS | 1 1/2" hose x 1 1/2" nut | 1 1/2" O.D. Tube BWE | 316L S/S | 4.250 | 2.187 |
| HPB-150H150N-PS-304SS | 1 1/2" hose x 1 1/2" nut | 1 1/4" Pipe Socket | 304 S/S | 1.687 | 2.187 |
| HPB-150H150N-PB-304SS | 1 1/2" hose x 1 1/2" nut | 1 1/2" Pipe BWE | 304 S/S | 2.750 | 2.187 |
| HPB-200H200N-TS-B | 2" hose x 2" nut | 2" Tube Socket | Naval Brass | 1.937 | 2.687 |
| HPB-200H250N-TS-B | 2" hose x 2 1/2" nut | 2" Tube Socket | Naval Brass | 2.937 | 3.180 |
| HPB-200H300N-TS-B | 2" hose x 3" nut | 2" Tube Socket | Naval Brass | 2.687 | 3.937 |
| HPB-300H300N-TS-B | 3" hose x 3" nut | 3" Tube Socket | Naval Brass | 2.000 | 3.937 |
| HPB-300H300N-PB-304SS | 3" hose x 3" nut | 3" Pipe BWE | 304 S/S | 3.625 | 3.937 |

Head Plug Assembly

Plug material naval brass per ASTM B-21. Cable material 316L stainless steel with 1/8" S/S aircraft cable.

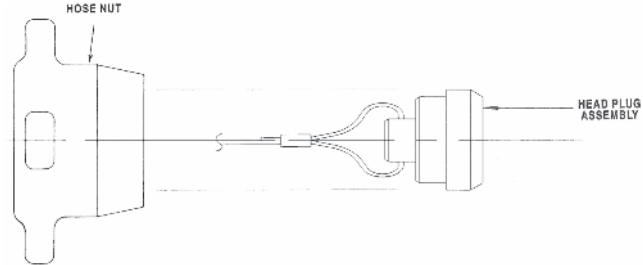
| Part Number | Size | Inches | MM | Inches | MM | Material |
|---------------|--------|--------|------|--------|-------|-------------|
| HPA-150-B | 1 1/2" | 1.312 | 33.4 | 2.312 | 58.7 | Naval Brass |
| HPA-200-B | 2" | 1.312 | 33.4 | 2.687 | 68.2 | Naval Brass |
| HPA-300-B | 3" | 1.750 | 44.5 | 3.937 | 100.0 | Naval Brass |
| HPA-150-316SS | 1 1/2" | 1.312 | 33.4 | 2.312 | 58.7 | 316L S/S |



Oxygen Pressure Cap Assembly

| Part Number | Liquid Service | Size | CGA Designation |
|---------------|----------------|--------|-----------------|
| BH-PCA-150-OX | Oxygen | 1 1/2" | OX-150 |
| BH-PCA-200-OX | Oxygen | 2" | OX-200 |
| BH-PCA-300-OX | Oxygen | 3" | OX-300 |

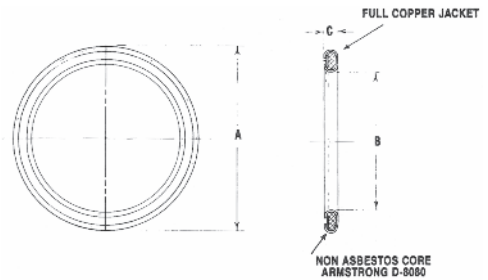
Note: All pressure cap assembly numbers are bronze nuts



Copper Clad Gasket (double jacket) or Virgin PTFE

Oxygen clean and certified.
25 Copper gaskets per package
100 PTFE gaskets per package

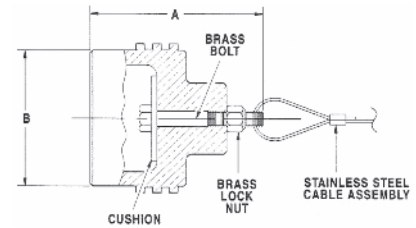
| Part Number | Size | A | | B | | C | | Material |
|-------------------|--------|--------|------|--------|------|--------|------|----------|
| | | Inches | MM | Inches | MM | Inches | MM | |
| BH-FCG-150-COPPER | 1 1/2" | 1.94 | 49.3 | 1.50 | 38.1 | .09 | 2.29 | Copper |
| BH-FCG-300-COPPER | 3" | 3.69 | 93.7 | 3.00 | 76.2 | .09 | 2.29 | Copper |
| BH-FCG-150-PTFE | 1 1/2" | 1.94 | 49.3 | 1.50 | 38.1 | .09 | 2.29 | PTFE |
| BH-FCG-200-PTFE | 2" | 2.44 | 62.0 | 2.00 | 50.8 | .09 | 2.29 | PTFE |



Oxygen Tail Dust Plug Assembly

Plug material cast aluminum, black anodized Tenzalloy B-179 Alum. #713.1

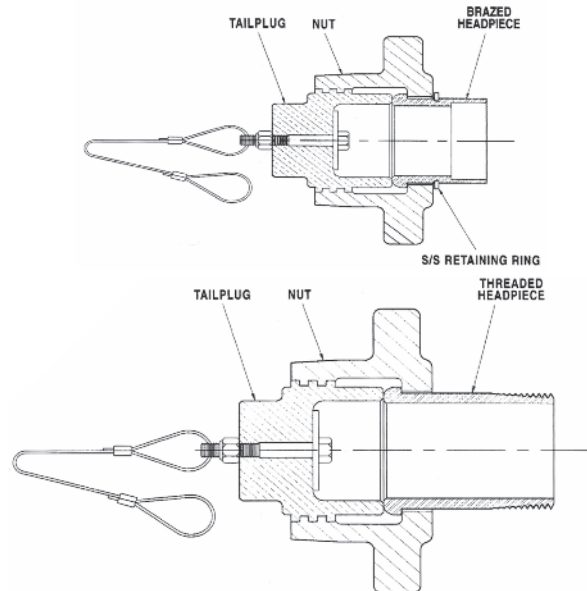
| Part Number | Liquid Service | Size | CGA Designation | "T" Thread Size | Inches | A MM |
|--------------|----------------|--------|-----------------|-----------------|--------|------|
| BH-DP-150-OX | Oxygen | 1 1/2" | OX-150 | 2.5-4 Acme | 3.500 | 88.9 |
| BH-DP-200-OX | Oxygen | 2" | OX-200 | 3-4 Acme | 3.500 | 88.9 |
| BH-DP-300-OX | Oxygen | 3" | OX-300 | 4.25-4 Acme | 3.750 | 95.3 |



Oxygen Brazed & Threaded Hose End Assembly

Note: All assembly numbers are for bronze nuts and naval brass headpieces. For stainless steel, order as individual items.

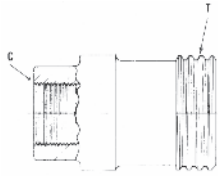
| Part Number | Liquid Service | Fitting Size | Hose Size | Hose End Type | CGA Designation |
|-------------------|----------------|--------------|-----------|---------------|-----------------|
| BHEA-OX-T-150-150 | Oxygen | 1 1/2" | 1 1/2" | Threaded | OX-150 |
| BHEA-OX-T-200-200 | Oxygen | 2" | 2" | Threaded | OX-200 |
| BHEA-OX-T-300-300 | Oxygen | 3" | 3" | Threaded | OX-300 |
| BHEA-OX-T-300-200 | Oxygen | 3" | 2" | Threaded | OX-300 |
| BHEA-OX-T-300-250 | Oxygen | 3" | 2 1/2" | Threaded | OX-300 |
| BHEA-OX-B-150-150 | Oxygen | 1 1/2" | 1 1/2" | Brazed | OX-150 |
| BHEA-OX-B-200-200 | Oxygen | 2" | 2" | Brazed | OX-200 |
| BHEA-OX-B-300-300 | Oxygen | 3" | 3" | Brazed | OX-300 |
| BHEA-OX-B-300-200 | Oxygen | 3" | 2" | Brazed | OX-300 |



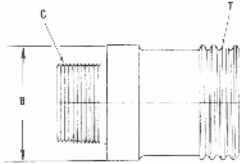
OXYGEN

Fixed End Machined

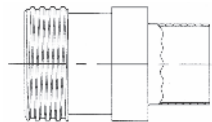
Material naval brass per ASTM-B-21
 Material 304 S/S ASTM-A276
 Material 316L S/S ASTM-A276



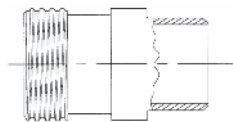
Fixed End FNPT



Fixed End NPT



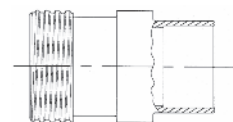
O.D. Tube BWE



Fixed End SCH 10 BWE



Fixed End Tube Socket



Fixed End Pipe Socket

Oxygen Fixed End Clamp with Milled Flats to Accept Hold Down Brackets

Precision machined to Compressed Gas Association standards.

Oxygen Fixed End Machined FNPT Liquid Service Oxygen

| Part Number | Size | CGA Designation | Material | "T" Thread Size | A Inches | B Inches | C End Connector |
|--------------------------|--------|-----------------|-------------|-----------------|----------|----------|-----------------|
| FEM-OX-150-112FNPT-B | 1 1/2" | OX-150 | Naval Brass | 2.5-4 Acme | 4.125 | 2.750 | 1 1/2" FNPT |
| FEM-OX-150-112FNPT-316SS | 1 1/2" | OX-150 | 316L S/S | 2.5-4 Acme | 4.125 | 2.750 | 1 1/2" FNPT |
| FEM-OX-150-14FNPT-304SS | 1 1/2" | OX-150 | 304 S/S | 2.5-4 Acme | 3.125 | 2.750 | 1/4" FNPT |
| FEM-OX-150-14FNPT-316SS | 1 1/2" | OX-150 | 316L S/S | 2.5-4 Acme | 3.125 | 2.750 | 1/4" FNPT |
| FEM-OX-150-14FNPT-B | 1 1/2" | OX-150 | Naval Brass | 2.5-4 Acme | 3.125 | 2.750 | 1/4" FNPT |
| FEM-OX-150-112FNPT-304SS | 1 1/2" | OX-150 | 304 S/S | 2.5-4 Acme | 4.125 | 2.750 | 1 1/2" FNPT |
| FEM-OX-200-2FNPT-B | 2" | OX-200 | Naval Brass | 3-4 Acme | 4.500 | 3.250 | 2" FNPT |
| FEM-OX-300-3FNPT-B | 3" | OX-300 | Naval Brass | 4.25-4 Acme | 4.500 | 4.250 | 3" FNPT |
| FEM-OX-300-3FNPT-S-B | 3" | OX-300 | Naval Brass | 4.25-4 Acme | 3.000 | 4.250 | 3" FNPT Short |
| FEM-OX-300-212FNPT-B | 3" | OX-300 | Naval Brass | 4.25-4 Acme | 4.500 | 4.250 | 2 1/2" FNPT |

Oxygen Fixed End Machined NPT Liquid Service Oxygen

| Part Number | Size | CGA Designation | Material | "T" Thread Size | A Inches | B Inches | C End Connector |
|-------------------------|--------|-----------------|-------------|-----------------|----------|----------|-----------------|
| FEM-OX-150-112NPT-B | 1 1/2" | OX-150 | Naval Brass | 2.5-4 Acme | 4.250 | 2.750 | 1 1/2" NPT |
| FEM-OX-150-112NPT-316SS | 1 1/2" | OX-150 | 316L S/S | 2.5-4 Acme | 4.250 | 2.750 | 1 1/2" NPT |
| FEM-OX-150-112NPT-304SS | 1 1/2" | OX-150 | 304 S/S | 2.5-4 Acme | 4.250 | 2.750 | 1 1/2" NPT |
| FEM-OX-300-3NPT-B | 3" | OX-300 | Naval Brass | 4.25-4 Acme | 4.500 | 4.250 | 3" NPT |

Oxygen Fixed End Machined O.D. Tube BWE Liquid Service Oxygen

| Part Number | Size | CGA Designation | Material | "T" Thread Size | A Inches | B Inches | C End Connector |
|-------------------------|--------|-----------------|----------|-----------------|----------|----------|----------------------|
| FEM-OX-150-112ODT-304SS | 1 1/2" | OX-150 | 304 S/S | 2.5-4 Acme | 4.750 | 2.750 | 1 1/2" O.D. Tube BWE |
| FEM-OX-150-112ODT-316SS | 1 1/2" | OX-150 | 316L S/S | 2.5-4 Acme | 4.750 | 2.750 | 1 1/2" O.D. Tube BWE |
| FEM-OX-150-2ODT-316SS | 1 1/2" | OX-150 | 316L S/S | 2.5-4 Acme | 4.750 | 2.750 | 2" O.D. Tube BWE |

Oxygen Fixed End Machined SCH 10 BWE Liquid Service Oxygen

| Part Number | Size | CGA Designation | Material | "T" Thread Size | A Inches | B Inches | C End Connector |
|---------------------------|--------|-----------------|----------|-----------------|----------|----------|-------------------|
| FEM-OX-150-112SCH10-316SS | 1 1/2" | OX-150 | 316L S/S | 2.5-4 Acme | 4.125 | 2.750 | 1 1/2" Sch 10 BWE |
| FEM-OX-150-112SCH10-304SS | 1 1/2" | OX-150 | 304 S/S | 2.5-4 Acme | 4.125 | 2.750 | 1 1/2" Sch 10 BWE |
| FEM-OX-200-2SCH10-304SS | 2" | OX-200 | 304 S/S | 3-4 Acme | 4.500 | 3.250 | 2" Sch 10 BWE |
| FEM-OX-300-3SCH10-304SS | 3" | OX-300 | 304 S/S | 4.25-4 Acme | 4.500 | 4.250 | 3" Sch 10 BWE |

Oxygen Fixed End Machined Tube Socket Liquid Service Oxygen

| Part Number | Size | CGA Designation | Material | "T" Thread Size | A Inches | B Inches | C End Connector |
|------------------------|--------|-----------------|-------------|-----------------|----------|----------|--------------------|
| FEM-OX-150-112TS-B | 1 1/2" | OX-150 | Naval Brass | 2.5-4 Stub Acme | 4.250 | 2.750 | 1 1/2" Tube Socket |
| FEM-OX-150-112TS-316SS | 1 1/2" | OX-150 | 316L S/S | 2.5-4 Stub Acme | 4.150 | 2.750 | 1 1/2" Tube Socket |
| FEM-OX-150-112TS-304SS | 1 1/2" | OX-150 | 304 S/S | 2.5-4 Stub Acme | 4.125 | 2.750 | 1 1/2" Tube Socket |
| FEM-OX-200-2TS-B | 2" | OX-200 | Naval Brass | 3-4 Acme | 4.500 | 3.250 | 2" Tube Socket |
| FEM-OX-300-3TS-B | 3" | OX-300 | Naval Brass | 4.25-4 Acme | 4.500 | 4.250 | 3" Tube Socket |

Oxygen Fixed End Machined Pipe Socket Liquid Service Oxygen

| Part Number | Size | CGA Designation | Material | "T" Thread Size | A Inches | B Inches | C End Connector |
|------------------------|--------|-----------------|-------------|-----------------|----------|----------|--------------------|
| FEM-OX-150-112PS-316SS | 1 1/2" | OX-150 | 316L S/S | 2.5-4 Acme | 4.125 | 2.750 | 1 1/2" Pipe Socket |
| FEM-OX-150-112PS-304SS | 1 1/2" | OX-150 | 304 S/S | 2.5-4 Acme | 4.125 | 2.750 | 1 1/2" Pipe Socket |
| FEM-OX-150-112PS-B | 1 1/2" | OX-150 | Naval Brass | 2.5-4 Acme | 4.250 | 2.750 | 1 1/2" Pipe Socket |
| FEM-OX-300-2PS-B | 3" | OX-300 | Naval Brass | 4.25-4 Acme | 4.500 | 4.250 | 2" Pipe Socket |
| FEM-OX-300-212PS-B | 3" | OX-300 | Naval Brass | 4.25-4 Acme | 4.500 | 4.250 | 2 1/2" Pipe Socket |
| FEM-OX-300-3PS-B | 3" | OX-300 | Naval Brass | 4.25-4 Acme | 4.500 | 4.250 | 3" Pipe Socket |

Bolt Assembly for Fixed End Clamp

Material - Stainless Steel Type 304

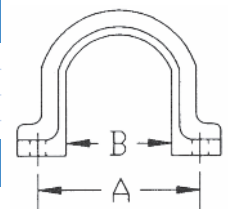


| Part Number | "T" Thread Size | A |
|-------------|-----------------|--------|
| BH-BOLTASSY | 1/2"-13 UNC | 2 3/4" |

Fixed End Clamp For Machined Type Fixed Ends Furnished complete with Bolt Assembly

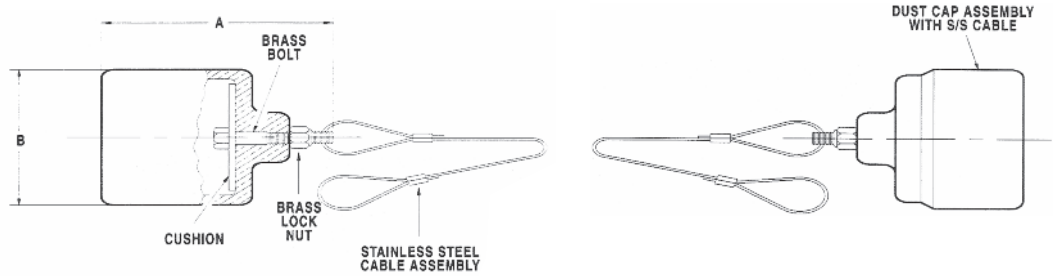
| Part Number | Fixed End Size | A Inches | A MM | B Inches | B MM | Material |
|--------------|----------------|----------|-------|----------|------|----------|
| CLFE-150-BRZ | 1 1/2" | 4.00 | 101.6 | 2.25 | 57.2 | Bronze |
| CLFE-200-BRZ | 2" | 4.50 | 114.3 | 2.75 | 69.9 | Bronze |
| CLFE-300-BRZ | 3" | 5.50 | 139.7 | 3.75 | 95.3 | Bronze |

| Part Number | Fixed End Size | A Inches | A MM | B Inches | B MM | Material |
|----------------|----------------|----------|-------|----------|------|----------|
| CLFE-150-304SS | 1 1/2" | 4.000 | 101.6 | 2.250 | 57.2 | 304 S/S |
| CLFE-300-304SS | 3" | 5.500 | 139.7 | 3.750 | 95.3 | 304 S/S |



Dust Cap Assembly

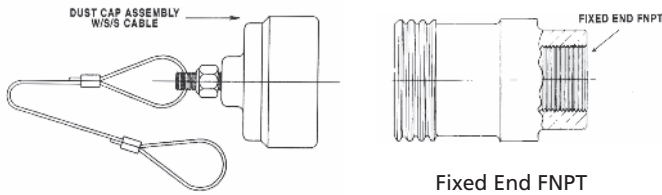
Cap material cast aluminum, black anodized
Tenzalloy ASTM-B179
Alum. #713.1



| Part Number | Liquid Service | Size | CGA Designation | "T" Thread Size | A Inches | MM | B Inches | MM |
|---------------|----------------|--------|-----------------|-----------------|----------|------|----------|-------|
| BH-DCA-150-OX | Oxygen | 1 1/2" | OX-150 | 2.5-4 Acme | 3.250 | 83.0 | 3.000 | 76.2 |
| BH-DCA-200-OX | Oxygen | 2" | OX-200 | 3-4 Acme | 3.250 | 83.0 | 3.500 | 88.9 |
| BH-DCA-300-OX | Oxygen | 3" | OX-300 | 4.25-4 Acme | 3.500 | 89.0 | 4.812 | 122.2 |

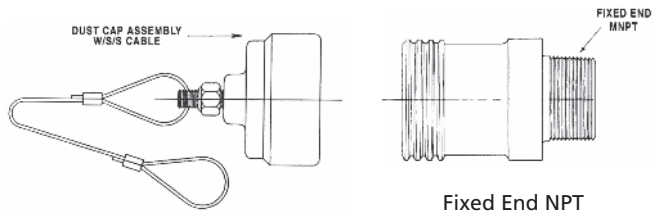
Oxygen Fixed End Assembly Machined Type

Note: All assembly numbers are for naval brass fixed ends. For Stainless steel, order as individual items.



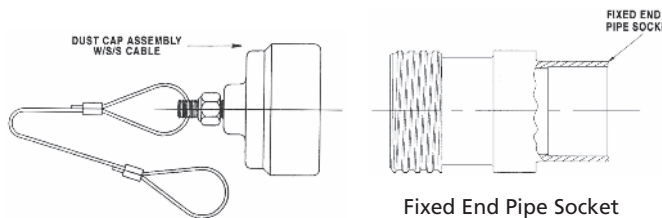
Fixed End FNPT Liquid Service Oxygen

| Part Number | Fitting Size | End Connections | CGA Designation |
|---------------------|--------------|-----------------|-----------------|
| FEMA-OX-150-112FNPT | 1 1/2" | 1 1/2" FNPT | OX-150 |
| FEMA-OX-200-2FNPT | 2" | 2" FNPT | OX-200 |
| FEMA-OX-300-3FNPT | 3" | 3" FNPT | OX-300 |



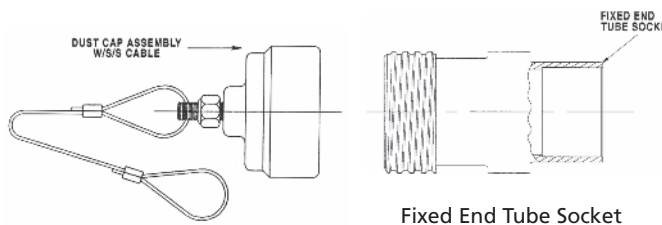
Fixed End NPT Liquid Service Oxygen

| Part Number | Fitting Size | End Connections | CGA Designation |
|--------------------|--------------|-----------------|-----------------|
| FEMA-OX-150-112NPT | 1 1/2" | 1 1/2" NPT | OX-150 |



Fixed End Pipe Socket Liquid Service Oxygen

| Part Number | Fitting Size | End Connections | CGA Designation |
|-------------------|--------------|--------------------|-----------------|
| FEMA-OX-300-212PS | 3" | 2 1/2" Pipe Socket | OX-300 |

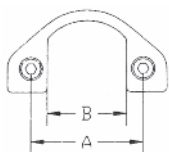


Fixed End Tube Socket Liquid Service Oxygen

| Part Number | Fitting Size | End Connections | CGA Designation |
|-------------------|--------------|--------------------|-----------------|
| FEMA-OX-150-112TS | 1 1/2" | 1 1/2" Tube Socket | OX-150 |
| FEMA-OX-200-2TS | 2" | 2" Tube Socket | OX-200 |
| FEMA-OX-300-3TS | 3" | 3" Tube Socket | OX-300 |

Fixed End Clamp – Right Angled

For Machined Type Fixed Ends Furnished complete with Bolt Assembly



| Part Number | Fixed End Size | Inches | MM | A Inches | MM | B Inches | MM | Material |
|-----------------|----------------|--------|-------|----------|------|----------|----|----------|
| CLFE-RA-150-BRZ | 1 1/2" | 3.250 | 120.7 | 2.250 | 57.2 | | | Bronze |

Bolt Assembly for Fixed End Clamp

Material - S.S. Type 304



| Part Number | "T" Thread Size | A |
|-------------|-----------------|--------|
| BH-BOLTASSY | 1/3"-13 UNC | 2 1/4" |

Fixed End Cast

Precision machined to Compressed Gas Association standards.
Material red brass casting ASTM-B62

Options

- NPT
- Tube Socket
- Pipe Socket

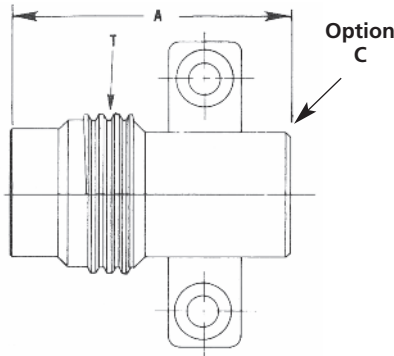
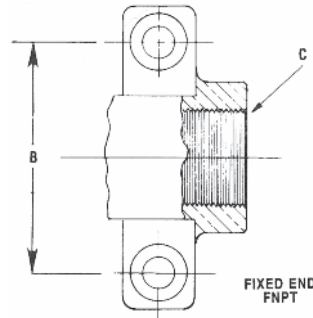


Figure 1
Fixed End Cast
Oxygen

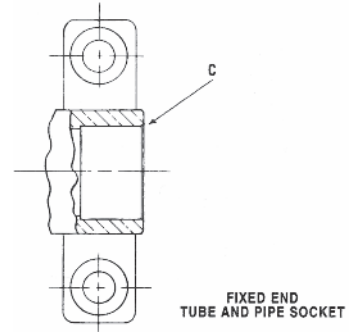
Option Thread

– NPT
for Figure 1



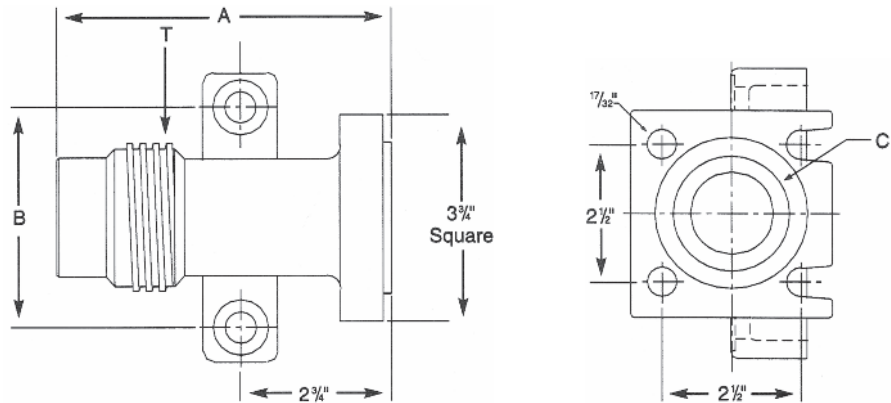
Option Thread for Figure 1

– Tube Socket
– Pipe Socket



| Part Number | Liquid Service | Size | CGA Designation | "T" Thread Size | A Inches | MM | B Inches | MM | C End Connection |
|--------------------|----------------|--------|-----------------|-----------------|----------|-------|----------|-------|--------------------|
| FEC-OX-150-112TS | Oxygen | 1 1/2" | OX-150 | 2.5-4 Acme | 4.375 | 111.1 | 4.000 | 101.6 | 1 1/2" Tube Socket |
| FEC-OX-150-112FNPT | Oxygen | 1 1/2" | OX-150 | 2.5-4 Acme | 4.375 | 111.1 | 4.000 | 101.6 | 1 1/2" FNPT |
| FEC-OX-150-112TS-5 | Oxygen | 1 1/2" | OX-150 | 2.5-4 Acme | 3.625 | 92.1 | 4.000 | 101.6 | 1 1/2" Tube Socket |
| FEC-OX-150-112PS | Oxygen | 1 1/2" | OX-150 | 2.5-4 Acme | 4.375 | 111.1 | 4.000 | 101.6 | 1 1/2" Pipe Socket |
| FEC-OX-200-2TS | Oxygen | 2" | OX-200 | 3-4 Acme | 4.875 | 123.8 | 4.000 | 101.6 | 2" Tube Socket |
| FEC-OX-200-2TS-5 | Oxygen | 2" | OX-200 | 3-4 Acme | 3.625 | 92.1 | 4.000 | 101.6 | 2" Tube Socket |

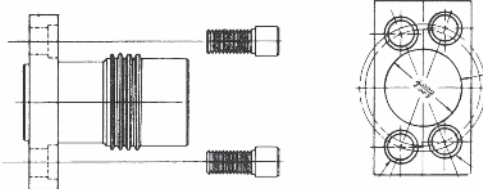
Oxygen Integral Flange Cast Fixed End Assembly



| Part Number | Liquid Service | Size | CGA Designation | "T" Thread Size | A Inches | MM | B Inches | MM | C End Connection |
|----------------|----------------|--------|-----------------|-----------------|----------|-------|----------|-------|---------------------|
| FEC-IFA-OX-150 | Oxygen | 1 1/2" | OX-150 | 2.5-4 Stub Acme | 6.125 | 155.6 | 4.000 | 101.6 | 4 Bolt Flg w/Tongue |

Oxygen Fixed End Assembly *Brazed Block*

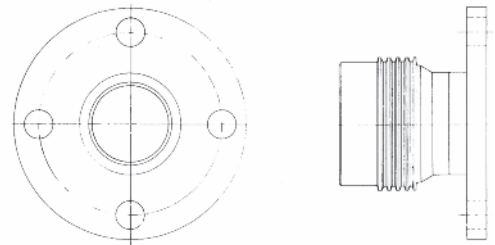
Material
Naval Brass ASTM B21
Bolts 304 Stainless Steel



| Part Number | Liquid Service | Size | CGA Designation |
|--------------|----------------|--------|-----------------|
| BBFEA-OX-150 | Oxygen | 1 1/2" | OX-150 |

Oxygen Fixed End Assembly *Rail Car*

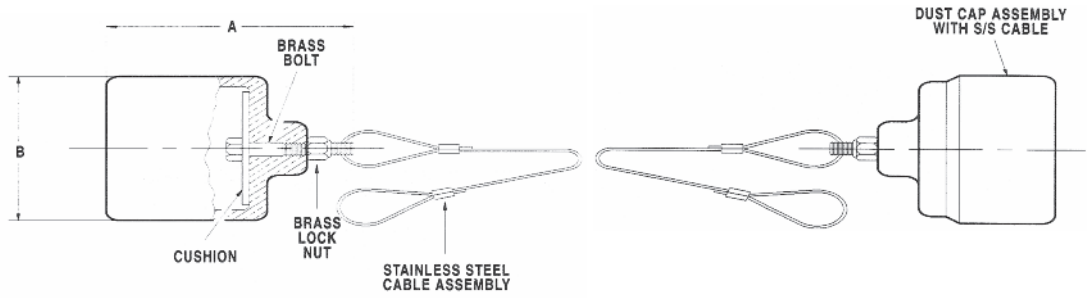
Material
Fixed End Naval Brass ASTM B21
Flange Naval Brass or 304 Stainless Steel



| Part Number | Liquid Service | Size | CGA Designation | Flange Material |
|-----------------|----------------|------|-----------------|-----------------|
| RCFEA-OX-200-B | Oxygen | 2" | OX-200 | Naval Brass |
| RCFEA-OX-300-B | Oxygen | 3" | OX-300 | Naval Brass |
| RCFEA-OX-200-SS | Oxygen | 2" | OX-200 | Stainless Steel |
| RCFEA-OX-300-SS | Oxygen | 3" | OX-300 | Stainless Steel |

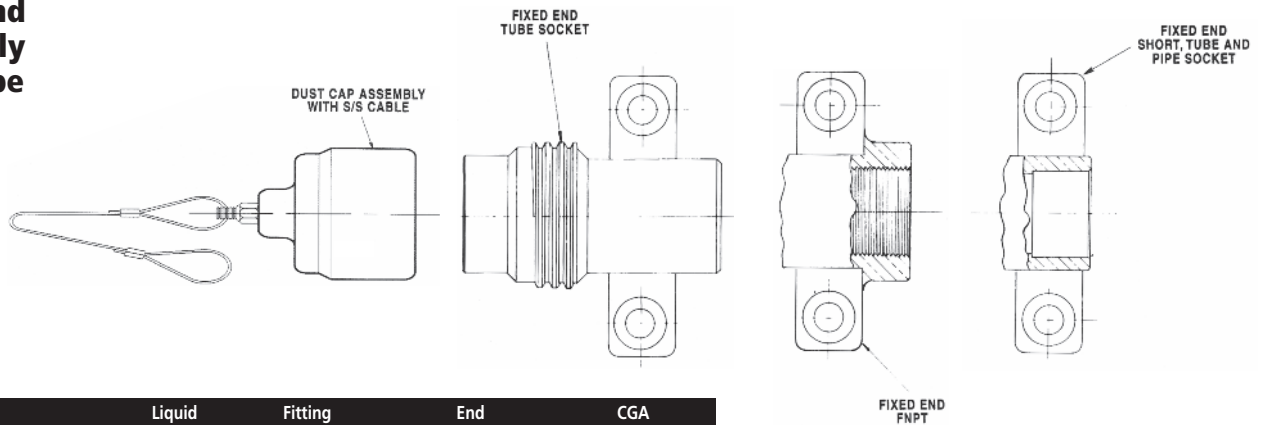
Dust Cap Assembly

Cap material cast aluminum, black anodized
Tenzalloy ASTM-B179
Alum. #713.1



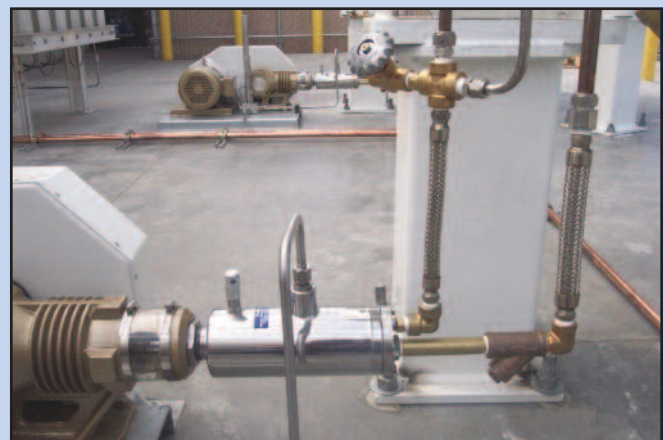
| Part Number | Liquid Service | Size | CGA Designation | "T" Thread Size | A | | B | |
|---------------|----------------|--------|-----------------|-----------------|--------|------|--------|-------|
| | | | | | Inches | MM | Inches | MM |
| BH-DCA-150-OX | Oxygen | 1 1/2" | OX-150 | 2.5-4 Acme | 3.250 | 83.0 | 3.000 | 76.2 |
| BH-DCA-200-OX | Oxygen | 2" | OX-200 | 3-4 Acme | 3.250 | 83.0 | 3.500 | 88.9 |
| BH-DCA-300-OX | Oxygen | 3" | OX-300 | 4.25-4 Acme | 3.500 | 89.0 | 4.812 | 122.2 |

Fixed End Assembly Cast Type



| Part Number | Liquid Service | Fitting Size | End Connections | CGA Designation |
|---------------------|----------------|--------------|--------------------|-----------------|
| FECA-OX-150-112FNPT | Oxygen | 1 1/2" | 1 1/2" FNPT | OX-150 |
| FECA-OX-150-112TS | Oxygen | 1 1/2" | 1 1/2" Tube Socket | OX-150 |
| FECA-OX-150S-112TS | Oxygen | 1 1/2" Short | 1 1/2" Tube Socket | OX-150 |
| FECA-OX-200-2TS | Oxygen | 2" | 2" Tube Socket | OX-200 |
| FECA-OX-200S-2TS | Oxygen | 2" Short | 2" Tube Socket | OX-200 |
| FECA-OX-150-112PS | Oxygen | 1 1/2" | 1 1/2" Pipe Socket | OX-150 |

**Cryogenic
Hose
Applications**

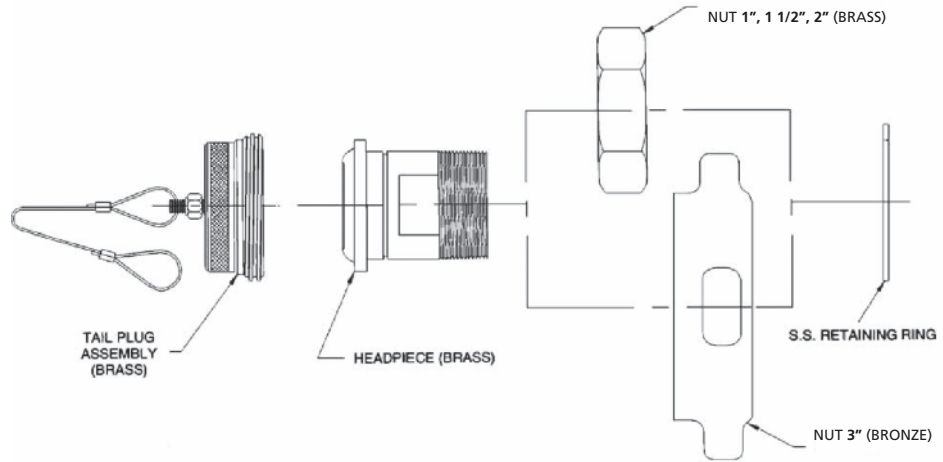


**Carbon Dioxide
Hose End Assembly**

| Part Number | Size |
|--------------|--------|
| BHEA-CO2-100 | 1" |
| BHEA-CO2-150 | 1 1/2" |
| BHEA-CO2-200 | 2" |
| BHEA-CO2-300 | 3" |

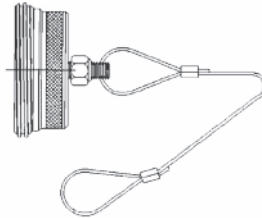
Complete Unit Includes:

- ① Dust Plug Assembly
- ② Head Piece
- ③ Nut



① Tail Dust Plug Assembly CO2 Brass

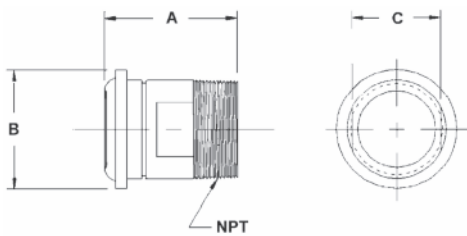
Material
Brass Bar per ASTM-B16, with
Stainless Steel Safety Cable



| Part Number | Size |
|---------------|--------|
| BH-DP-100-CO2 | 1" |
| BH-DP-150-CO2 | 1 1/2" |
| BH-DP-200-CO2 | 2" |
| BH-DP-300-CO2 | 3" |

② Head Piece Carbon Dioxide (Brass)

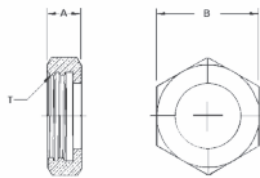
Materials
Forged Brass per ASTM B283 for 1" and 1 1/2" sizes
Brass Bar per ASTM B16 for 2", 3" and 4" sizes



| Part Number | Size | NPT | A | | B | | Wrench-Flats C | |
|-------------|--------|--------------|--------|-------|--------|-------|-------------------|------|
| | | | Inches | MM | Inches | MM | Inches | MM |
| HPT-CO2-100 | 1" | 1-11 1/2 | 2.625 | 66.7 | 1.500 | 38.1 | 1.187 | 30.1 |
| HPT-CO2-150 | 1 1/2" | 1 1/2-11 1/2 | 2.750 | 69.9 | 2.085 | 53.0 | 1.687 | 42.8 |
| HPT-CO2-200 | 2" | 2-11 1/2 | 3.156 | 80.2 | 2.875 | 73.0 | 2.125 | 54.0 |
| HPT-CO2-300 | 3" | 3-8 | 4.187 | 106.3 | 4.250 | 108.0 | 3.250 | 82.6 |

**③ 1", 1 1/2", and
2" Hose Nut
Carbon Dioxide
(Brass)**

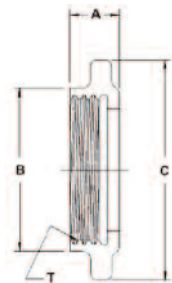
Material
Brass Bar per ASTM B16



| Part Number | Size | "T" Thread Size | A | | Hex B | | Materials |
|--------------|--------|--------------------|--------|------|----------|------|-----------|
| | | | Inches | MM | Inches | MM | |
| BHN-CO2-100 | 1" | 11 1/16-6 Acme | 1.10 | 28.0 | 2 1/4 | 57.2 | Brass |
| BHN-CO2-150 | 1 1/2" | 2 1/4-6 Acme | 1.10 | 28.0 | 2 3/4 | 69.9 | Brass |
| BHN-CO2-200 | 2" | 3 3/16-6 Acme | 1.25 | 31.8 | 3 3/4 | 95.3 | Brass |
| BHN-CO2-100L | 1" | 11 1/16-6 Acme | 1.10 | 28.0 | 2 3/4 | 69.9 | Brass |

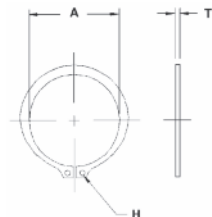
**3" Hose Nut
Carbon Dioxide
(Cast High Strength
Magnesium Bronze)**

Material
Cast High Strength
Magnesium Bronze per
ASTM B584



| Part Number | Size | "T" Thread Size | A | | B | | C | |
|----------------|------|--------------------|--------|------|--------|-------|--------|-------|
| | | | Inches | MM | Inches | MM | Inches | MM |
| BHN-CO2-300-HS | 3" | 4 1/2-6 Acme | 1.50 | 38.1 | 5 | 127.0 | 6.75 | 171.5 |

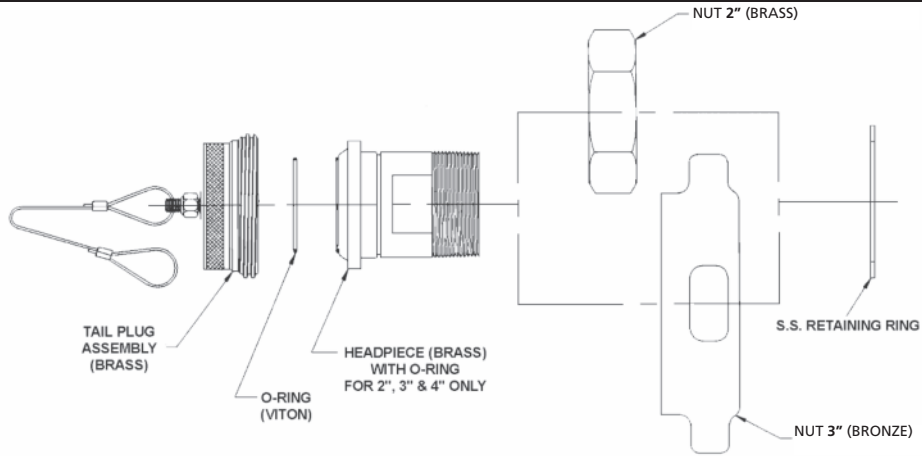
**Retaining Rings
for Hose End
Assemblies**



| Part Number | Size | A | | T | H | | Material | |
|-------------|--------|--------|-------|------|--------|------|----------|-------------------|
| | | Inches | MM | | Inches | MM | | |
| BHRR-100 | 1" | 1.214 | 30.84 | .050 | 1.27 | .078 | 1.98 | Stainless Steel |
| BHRR-150 | 1 1/2" | 1.819 | 46.20 | .062 | 1.57 | .125 | 3.18 | Stainless Steel |
| BHRR-200 | 2" | 2.197 | 55.80 | .078 | 1.98 | .125 | 3.18 | Stainless Steel |
| BHRR-300 | 3" | 3.552 | 90.22 | .120 | 3.048 | .187 | 4.75 | Zinc Plated Steel |

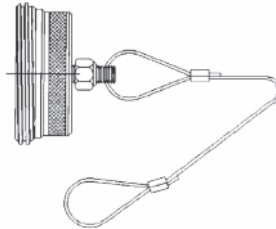
**Carbon Dioxide
Hose End
Assembly
with O-Ring**

| Part Number | Size |
|---------------|------|
| BHEOA-CO2-200 | 2" |
| BHEOA-CO2-300 | 3" |



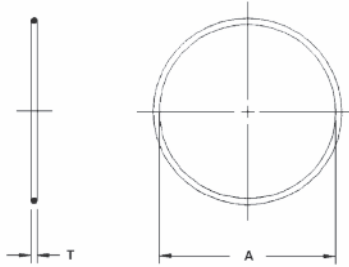
Tail Dust Plug Assembly CO2 Brass

Material
Brass Bar per ASTM-B16, with
Stainless Steel Safety Cable



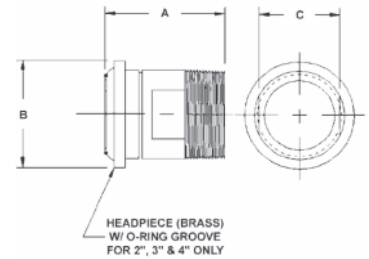
| Part Number | Size |
|---------------|------|
| BH-DP-200-CO2 | 2" |
| BH-DP-300-CO2 | 3" |

**O-Ring for
Head Piece
with
O-Ring
Option
(Viton)**



**Head Piece Carbon Dioxide
with O-Ring Groove**

Materials
Brass Bar per ASTM B16

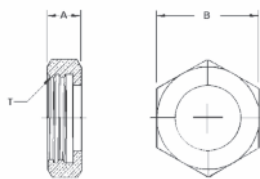


| Part Number | Size | A | | T | |
|-------------|------|--------|-------|--------|------|
| | | Inches | MM | Inches | MM |
| HPT-OR200 | 2" | 1.989 | 50.52 | .063 | 1.78 |
| HPT-OR300 | 3" | 2.987 | 75.87 | .094 | 2.62 |

| Part Number | Size | NPT | A | | B | | C | |
|--------------|------|----------|--------|-------|--------|-------|--------|------|
| | | | Inches | MM | Inches | MM | Inches | MM |
| HPTO-CO2-200 | 2" | 2-11 1/2 | 3.156 | 80.2 | 2.875 | 73.0 | 2.125 | 54.0 |
| HPTO-CO2-300 | 3" | 3-8 | 4.187 | 106.3 | 4.250 | 108.0 | 3.250 | 82.6 |

**2" Hose Nut
Carbon Dioxide
(Brass)**

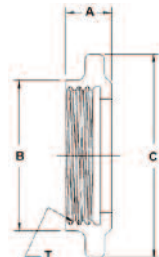
Material
Brass Bar per ASTM B16



| Part Number | Size | "T" Thread Size | A | | Hex B | | Materials |
|-------------|------|--------------------|--------|------|----------|------|-----------|
| | | | Inches | MM | Inches | MM | |
| BHN-CO2-200 | 2" | 3 3/16-6 Acme | 1.25 | 31.8 | 3 3/4 | 95.3 | Brass |

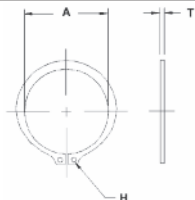
**3" Hose Nut
Carbon Dioxide
(Cast High Strength
Magnesium Bronze)**

Material
Cast High Strength
Magnesium Bronze per
ASTM B584



| Part Number | Size | "T" Thread Size | A | | B | | C | |
|----------------|------|--------------------|--------|------|--------|-------|--------|-------|
| | | | Inches | MM | Inches | MM | Inches | MM |
| BHN-CO2-300-HS | 3" | 4 1/2-6 Acme | 1.50 | 38.1 | 5 | 127.0 | 6.75 | 171.5 |

**Retaining
Rings for
Hose End
Assemblies**

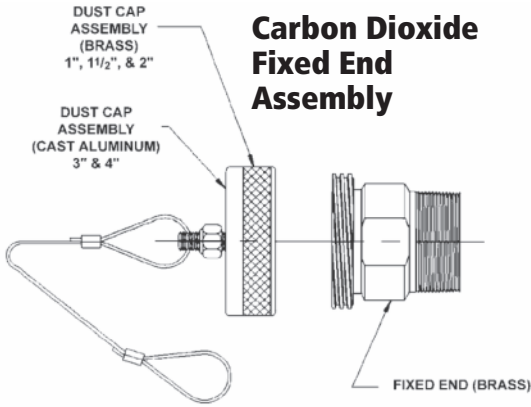


| Part Number | Size | A | | T | | H | | Material |
|-------------|------|--------|-------|--------|-------|--------|------|-------------------|
| | | Inches | MM | Inches | MM | Inches | MM | |
| BHRR-200 | 2" | 2.197 | 55.80 | .078 | 1.98 | .125 | 3.18 | Stainless Steel |
| BHRR-300 | 3" | 3.552 | 90.22 | .120 | 3.048 | .187 | 4.75 | Zinc Plated Steel |

CARBON DIOXIDE

Fixed End Assembly

Carbon Dioxide Fixed End Assembly



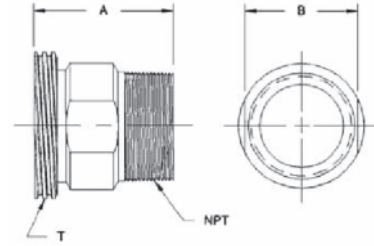
| Part Number | Size | Dust-Cap Material |
|-------------|--------|-------------------|
| FEA-CO2-100 | 1" | Brass |
| FEA-CO2-150 | 1 1/2" | Brass |
| FEA-CO2-200 | 2" | Brass |
| FEA-CO2-300 | 3" | Cast Aluminum |

Carbon Dioxide Fixed End Brass

Materials

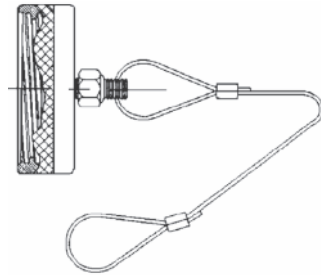
Forged Brass per ASTM B283 for 1" and 1 1/2" sizes

Brass Bar per ASTM B16 for 2", 3" and 4" sizes



| Part Number | Size | NPT | "T" Thread-Size | Inches A | Wrench-Flats B | |
|-------------|--------|-------------|-----------------|----------|----------------|------------|
| | | | | | Inches | MM |
| FE-CO2-100 | 1" | 1-11 1/2 | 1.687-6 Acme | 2.500 | 63.5 | 1.375 34.9 |
| FE-CO2-150 | 1 1/2" | 11/2-11 1/2 | 2.250-6 Acme | 2.500 | 63.5 | 2.000 50.8 |
| FE-CO2-200 | 2" | 2-11 1/2 | 3.187-6 Acme | 3.000 | 76.2 | 2.500 63.5 |
| FE-CO2-300 | 3" | 3-8 | 4.500-6 Acme | 4.062 | 103.2 | 3.625 92.1 |

Carbon Dioxide Dust Cap Assembly

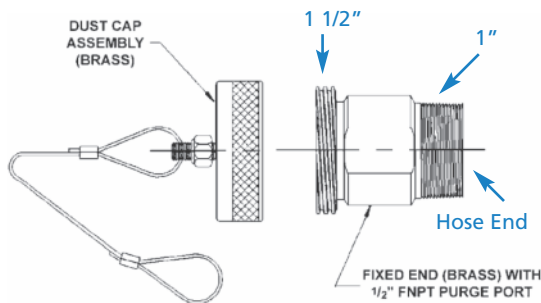


Materials

Brass Bar per ASTM B16, with Stainless Steel Safety Cable for 1", 1 1/2" and 2" sizes
Aluminum Bar per ASTM B-221, with Stainless Steel Safety Cable for 3" and 4" sizes

| Part Number | Size | Material |
|----------------|--------|----------|
| BH-DCA-100-CO2 | 1" | Brass |
| BH-DCA-150-CO2 | 1 1/2" | Brass |
| BH-DCA-200-CO2 | 2" | Brass |
| BH-DCA-300-CO2 | 3" | Aluminum |

Carbon Dioxide Fixed End Assembly with 1/2" FNPT Purge Ports

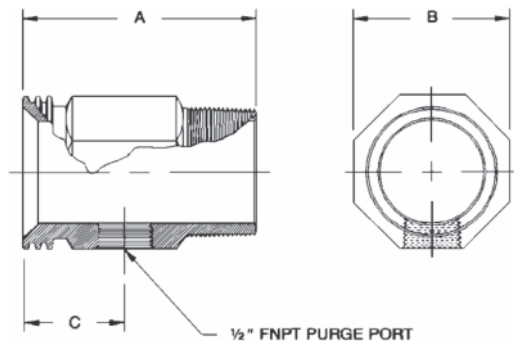


| Part Number | Size | Dust-Cap Material |
|---------------|--------|-------------------|
| FEPPA-CO2-100 | 1" | Brass |
| FEPPA-CO2-150 | 1 1/2" | Brass |

Carbon Dioxide Fixed End with 1/2" FNPT Purge Ports (Brass)

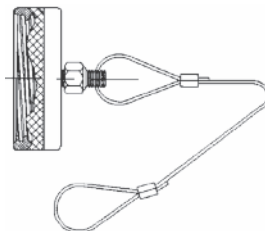
Materials

Brass Bar per ASTM B16



| Part Number | Size | NPT | "T" Thread Size | Inches A | MM A | Wrench-Flats B | | |
|--------------|--------|--------------|-----------------|----------|-------|----------------|-------------|----------|
| | | | | | | Inches | MM | Inches C |
| FEPP-CO2-100 | 1" | 1-11 1/2 | 1.687-6 Acme | 4 | 101.6 | 1 3/4 44.5 | 2 7/16 61.9 | |
| FEPP-CO2-150 | 1 1/2" | 1 1/2-11 1/2 | 2.250-6 Acme | 4 | 101.6 | 2 3/8 60.3 | 2 7/16 61.9 | |

Carbon Dioxide Dust Cap Assembly

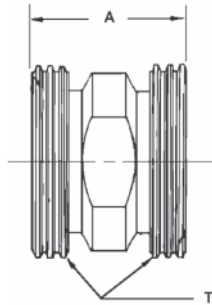


Materials

Brass Bar per ASTM B16, with Stainless Steel Safety Cable for 1" and 1 1/2" sizes

| Part Number | Size | Material |
|----------------|--------|----------|
| BH-DCA-100-CO2 | 1" | Brass |
| BH-DCA-150-CO2 | 1 1/2" | Brass |

Male to Male Adapter to Connect Two or More Lengths of Hoses (Brass)

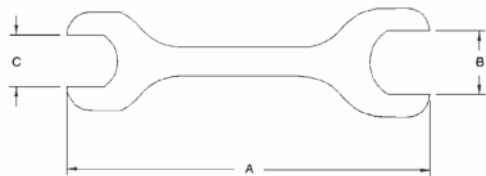


Material – Brass per ASTM B16

| Part Number | Size | A | | "T" Thread-Size | Wrench-Flats | |
|-----------------|-----------|--------|------|------------------------------|--------------|------|
| | | Inches | MM | | Inches | MM |
| BMA-100-CO2 | 1" | 3.375 | 85.7 | 1.687-6 Acme | 1.375 | 34.9 |
| BMA-150-CO2 | 1 1/2" | 3.375 | 85.7 | 2.250-6 Acme | 2.000 | 50.8 |
| BMA-200-CO2 | 2" | 3.375 | 85.7 | 3.187-6 Acme | 2.500 | 63.5 |
| BMA-300-CO2 | 3" | 3.375 | 85.7 | 4.500-6 Acme | 3.625 | 92.1 |
| BMA-150/200-CO2 | 2"-1 1/2" | 3.375 | 85.7 | 3.187-6 Acme 2.250-6 Acme | 2.500 | 63.5 |
| BMA-100/150-CO2 | 1 1/2"-1" | 3.375 | 85.7 | 2.250-6 Acme 1.687-6 Acme | 2.000 | 50.8 |

Open End Wrenches (Aluminum Anodized)

Material – Cast Aluminum per ASTM B26

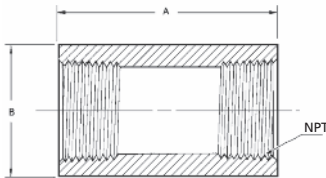


| Part Number | Fits | A | | B | | C | |
|-------------------|-----------------|--------|-------|--------|------|--------|------|
| | | Inches | MM | Inches | MM | Inches | MM |
| BFAW-100/150-NUT | 1" & 1 1/2" Nut | 16 | 406.4 | 2 3/4 | 69.9 | 2 1/4 | 57.2 |
| BFAW-100/150-FXE | 1" & 1 1/2" FE* | 16 | 406.4 | 1 3/8 | 34.9 | 2 | 50.8 |
| BFAW-100/200-FXE | 1" & 2" FE* | 16 | 406.4 | 1 3/8 | 34.9 | 2 1/2 | 63.5 |
| BFAW-100/200-NUT | 1" & 2" Nut | 20 | 508.0 | 2 1/4 | 57.2 | 3 3/4 | 95.3 |
| BFAW-200NUT200FXE | 2" Nut / 2" FE* | 20 | 508.0 | 3 3/4 | 95.3 | 2 1/2 | 63.5 |
| BFAW-150/200-NUT | 1 1/2" & 2" Nut | 20 | 508.0 | 3 3/4 | 95.3 | 2 3/4 | 69.9 |

* FE = Fixed End

Full Coupling to Adapt NPT Male Hoses (304 Stainless Steel)

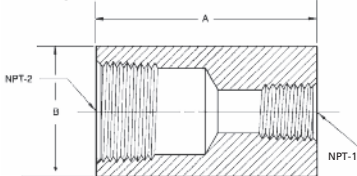
Material – Type 304 Stainless Steel per ASTM A276



| Part Number | Hose Size | NPT | A | | B | |
|-------------|-----------|--------------|--------|------|--------|------|
| | | | Inches | MM | Inches | MM |
| BFC-F1 | 1" | 1-11 1/2 | 1.937 | 49.2 | 1.562 | 39.7 |
| BFC-F12 | 1 1/2" | 1 1/2-11 1/2 | 2.125 | 54.0 | 2.188 | 55.6 |
| BFC-F2 | 2" | 2-11 1/2 | 2.50 | 63.5 | 2.75 | 69.9 |

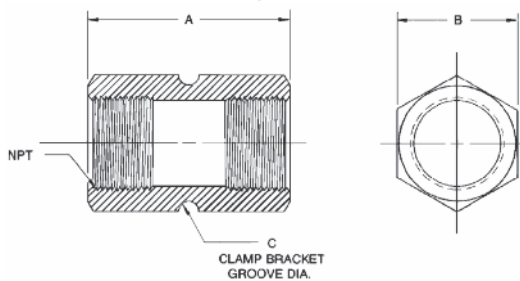
Reducing Couplings to Adapt NPT Male Hoses (304 Stainless Steel)

Material – Type 304 Stainless Steel per ASTM A276



| Part Number | Hose Size | NPT 1 | NPT 2 | A | | B | |
|-------------|-----------|--------------|--------------|--------|------|--------|------|
| | | | | Inches | MM | Inches | MM |
| BRC-F1F12 | 1 1/2" | 1-11 1/2 | 1 1/2-11 1/2 | 2.125 | 54.0 | 2.188 | 55.6 |
| BRC-F12F2 | 2" | 1 1/2-11 1/2 | 2-11 1/2 | 2.50 | 63.5 | 2.75 | 69.9 |

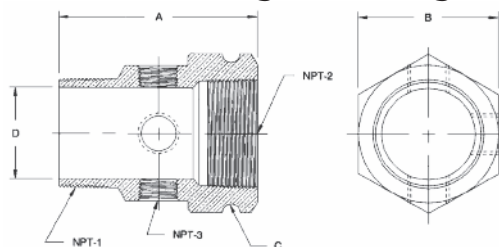
Hex Brass Coupling to Adapt Tanks for Fixed End Material – Brass per ASTM B16



| Part Number | Hose Size | NPT | A | | B | | C | |
|-------------|-----------|--------------|--------|------|----------|------|--------|------|
| | | | Inches | MM | Inches | MM | Inches | MM |
| BCH-F1 | 1" | 1-11 1/2 | 2.50 | 63.5 | 1.75 Hex | 44.5 | 1.72 | 43.7 |
| BCH-F12 | 1 1/2" | 1 1/2-11 1/2 | 2.50 | 63.5 | 2.50 Hex | 63.5 | 2.47 | 62.7 |
| BCH-F2 | 2" | 2-11 1/2 | 2.50 | 63.5 | 3.00 Hex | 76.2 | 2.97 | 73.7 |

Hex Brass Bushing with 3 Purge Ports to Adapt Trailers for Fixed End

Material – Brass per ASTM B16 shipped complete with two 1/2" Brass Pipe Plugs



| Part Number | Size | NPT | | | A | | B | | C | | D | |
|----------------|--------|--------------|--------------|--------|--------|-------|--------|------|--------|------|--------|------|
| | | 1 | 2 | 3 | Inches | MM | Inches | MM | Inches | MM | Inches | MM |
| BCH-PP-F112M12 | 1 1/2" | 1 1/2-11 1/2 | 1 1/2-11 1/2 | 1/2-14 | 4.250 | 107.9 | 2.500* | 63.5 | 2.47 | 62.7 | 1.50 | 38.1 |
| BCH-PP-F2M12 | 2" | 2-11 1/2 | 1 1/2-11 1/2 | 1/2-14 | 4.250 | 107.9 | 2.500* | 63.5 | 2.47 | 62.7 | 1.50 | 38.1 |
| BCH-PP-F2M2 | 2" | 2-11 1/2 | 2-11 1/2 | 1/2-14 | 4.250 | 107.9 | 3.000* | 76.2 | 2.97 | 73.7 | 2.00 | 50.8 |

Forged Brass Flanges | Bulk Accessories

Forged Brass Flanges 4-Bolt Hole Solder Type with Tongue

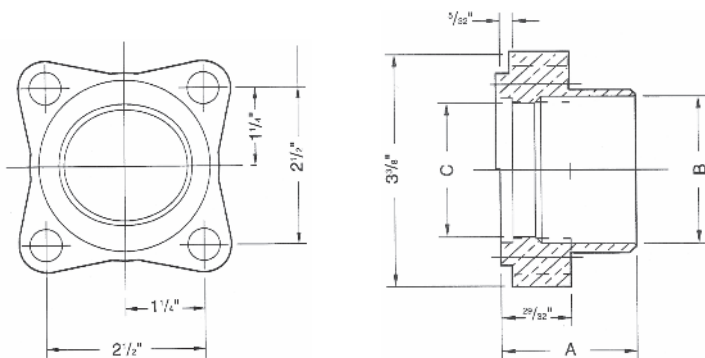
4-Bolt Hole Forged Flanges – with Tongue

Tongue Diameters: 2 3/4" x 2 7/64"

Pressure Rating: 450 PSIG

Service Temperature: -320° F to + 150° F

Material: Forged Brass CA 377, ASTM B283



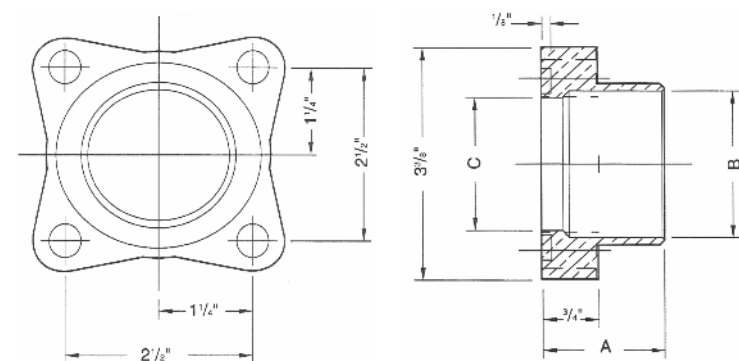
| Part Number | Size Tube O.D. | | | Dia. of Bolt Holes | Wt./Ea. |
|---------------------|----------------|--------|----------|--------------------|---------|
| | A | B | C | | |
| FLG-FBT-118 | 1 3/4" | 1 1/8" | 1 1/16" | 17/32 | 2.06 |
| FLG-FBT-158 | 1 29/32" | 1 5/8" | 1 17/32" | 17/32 | 1.94 |
| FLG-FBT-218 | 1 7/8" | 2 1/8" | 1 15/16" | 17/32 | 1.63 |
| Blind Flange | | | | | |
| FLG-FBT-BL | 1 7/8" | — | — | 17/32 | 4.00 |

* Flange size can be mixed to create a reducing union.

Forged Brass Flanges 4-Bolt Solder Type with Groove

4-Bolt Hole Forged Flanges – with Groove

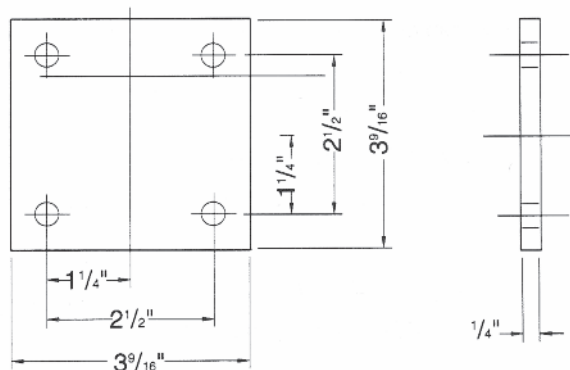
Groove Diameters: 2 25/32" x 2 1/16"



| Part Number | Size Tube O.D. | | | Dia. of Bolt Holes | Wt./Ea. |
|---------------------|----------------|--------|----------|--------------------|---------|
| | A | B | C | | |
| FLG-FBG-118 | 1 9/16" | 1 1/8" | 1 1/16" | 17/32 | 2.06 |
| FLG-FBG-158 | 1 3/4" | 1 5/8" | 1 17/32" | 17/32 | 1.94 |
| FLG-FBG-218 | 1 23/32" | 2 1/8" | 1 15/16" | 17/32 | 1.63 |
| Blind Flange | | | | | |
| FLG-FBG-BL | 1 23/32" | — | — | 17/32 | 4.00 |

* Flange size can be mixed to create a reducing union.

4-Bolt Hole Aluminum Shipping Plate



With full face Klingersil gasket

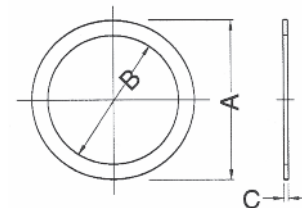
| Part Number | Dia. of Bolt Holes | Wt./Ea. |
|-------------|--------------------|---------|
| SHPL-4B-AL | 17/32 | .311 |

*Not for use in pressurized service. For pressure applications use proper mating blind flanges as described above and proper gasket materials as described below per service chart.

Gaskets

Part # BGASK-T – Oxygen Cleaned & Vacuum Packed

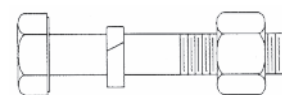
Part # BGASK-K – Not Oxygen Cleaned



| Part Number | A | B | C | Material |
|-------------|--------|---------|------|-----------------------|
| BGASK-T | 2 3/4" | 2 3/16" | .063 | 25% glass filled PTFE |
| BGASK-K | 2 3/4" | 2 3/16" | .063 | Klingersil C-4401 |

Hardware

(Suitable for Cryogenic Applications)



| Part Number | Description |
|-------------|--|
| BCOM-HB | Bolt, Hex, Hd 1/2" – 13UNC x 2 1/2 lg. |
| BCOM-HN | Nut, Hex, 1/2" – 13UNC |
| BCOM-LW | Washer, Lock, 1/2" medium spring |
| BCOM-KIT | Bolting Kit, (4) per kit, (as shown) |

ARCTIC FOX® Bulk Cryogenic Hose

Bulk Liquid Transfer Armored Cuffs / Full Armor / Non-Armored Hoses



- All Stainless Steel
- 516 to 571 PSIG MAWP Rated – SS FNTP End Fittings

This is an all-stainless steel corrugated hose with stainless steel over braid. It is ideal for cryogenic liquid bulk transfer. Light weight and flexible at cryogenic temperatures. Standard assembly has 18" long stainless steel armor casing cuffs to act as bend restrictors. Prices include 1" assemblies, normally used in micro-bulk applications. 100% leak tested.

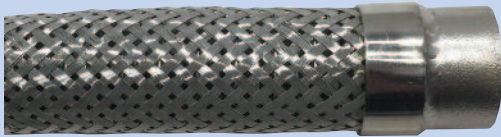


Image shown is of a Non-Armored Bulk Hose

Style Specifications

1 & 1 1/2 Inch • 100% Leak Tested

Liner: Corrugated 321 SS standard pitch

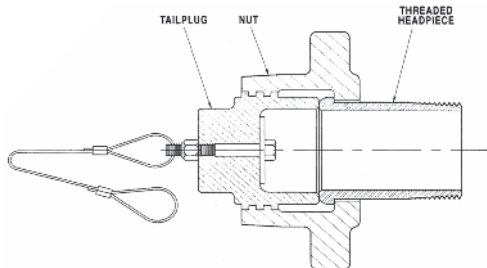
Reinforcement: Stainless steel braid

Temperature: Cryogenic to + 1500° F

Branding: Manufacturer, pressure rating, date.

Threaded Hose End Assembly

Note: All assembly numbers are for bronze nuts and naval brass headpieces. For stainless steel, order as individual items.



| Part Number | Liquid Service | Fitting Size | Hose Size | Hose End Type | CGA Designation |
|-------------------|----------------|--------------|-----------|---------------|-----------------|
| BHEA-NI-T-150-150 | Nitrogen | 1 1/2" | 1 1/2" | Threaded | NI-150 |
| BHEA-AR-T-150-150 | Argon | 1 1/2" | 1 1/2" | Threaded | AR-150 |
| BHEA-OX-T-150-150 | Oxygen | 1 1/2" | 1 1/2" | Threaded | OX-150 |

Bulk Hose with FNPT X FNPT Ends

Standard Built with 18" Armored Cuffs

Full Armor

Non-Armored

1" I.D. – 571 PSI, 1" FNPT x 1" FNPT

| Hose Length | Part # |
|-------------|------------------|
| 14' | BH-A18-11D-168F1 |
| 15' | BH-A18-11D-180F1 |
| 16' | BH-A18-11D-192F1 |
| 20' | BH-A18-11D-240F1 |

| Hose Length | Part # |
|-------------|---------------|
| 14' | BHA-11D-168F1 |
| 15' | BHA-11D-180F1 |
| 16' | BHA-11D-192F1 |
| 20' | BHA-11D-240F1 |

| Hose Length | Part # |
|-------------|--------------|
| 14' | BH-11D-168F1 |
| 15' | BH-11D-180F1 |
| 16' | BH-11D-192F1 |
| 20' | BH-11D-240F1 |

1 1/2" I.D. – 472 PSI, 1 1/2" FNPT x 1 1/2" FNPT

| Hose Length | Part # |
|-------------|----------------------|
| 14' | BH-A18-112ID-168F112 |
| 15' | BH-A18-112ID-180F112 |
| 16' | BH-A18-112ID-192F112 |
| 20' | BH-A18-112ID-240F112 |

| Hose Length | Part # |
|-------------|-------------------|
| 14' | BHA-112ID-168F112 |
| 15' | BHA-112ID-180F112 |
| 16' | BHA-112ID-192F112 |
| 20' | BHA-112ID-240F112 |

| Hose Length | Part # |
|-------------|------------------|
| 14' | BH-112ID-168F112 |
| 15' | BH-112ID-180F112 |
| 16' | BH-112ID-192F112 |
| 20' | BH-112ID-240F112 |

Bulk Hose with FNPT X MNPT Ends

Standard Built with 18" Armored Cuffs

Full Armor

Non-Armored

1" I.D. – 571 PSI, 1" FNPT x 1" MNPT

| Hose Length | Part # |
|-------------|--------------------|
| 14' | BH-A18-11D-168F1M1 |
| 15' | BH-A18-11D-180F1M1 |
| 16' | BH-A18-11D-192F1M1 |
| 20' | BH-A18-11D-240F1M1 |

| Hose Length | Part # |
|-------------|-----------------|
| 14' | BHA-11D-168F1M1 |
| 15' | BHA-11D-180F1M1 |
| 16' | BHA-11D-192F1M1 |
| 20' | BHA-11D-240F1M1 |

| Hose Length | Part # |
|-------------|----------------|
| 14' | BH-11D-168F1M1 |
| 15' | BH-11D-180F1M1 |
| 16' | BH-11D-192F1M1 |
| 20' | BH-11D-240F1M1 |

1 1/2" I.D. – 472 PSI, 1 1/2" FNPT x 1 1/2" MNPT

| Hose Length | Part # |
|-------------|--------------------------|
| 14' | BH-A18-112ID-168F112M112 |
| 15' | BH-A18-112ID-180F112M112 |
| 16' | BH-A18-112ID-192F112M112 |
| 20' | BH-A18-112ID-240F112M112 |

| Hose Length | Part # |
|-------------|-----------------------|
| 14' | BHA-112ID-168F112M112 |
| 15' | BHA-112ID-180F112M112 |
| 16' | BHA-112ID-192F112M112 |
| 20' | BHA-112ID-240F112M112 |

| Hose Length | Part # |
|-------------|----------------------|
| 14' | BH-112ID-168F112M112 |
| 15' | BH-112ID-180F112M112 |
| 16' | BH-112ID-192F112M112 |
| 20' | BH-112ID-240F112M112 |



WARNING: Products in this catalog can expose you to chemicals including Lead which is known to the State of California to cause cancer, birth defects or reproductive harm. For more information, go to <https://www.p65warnings.ca.gov>