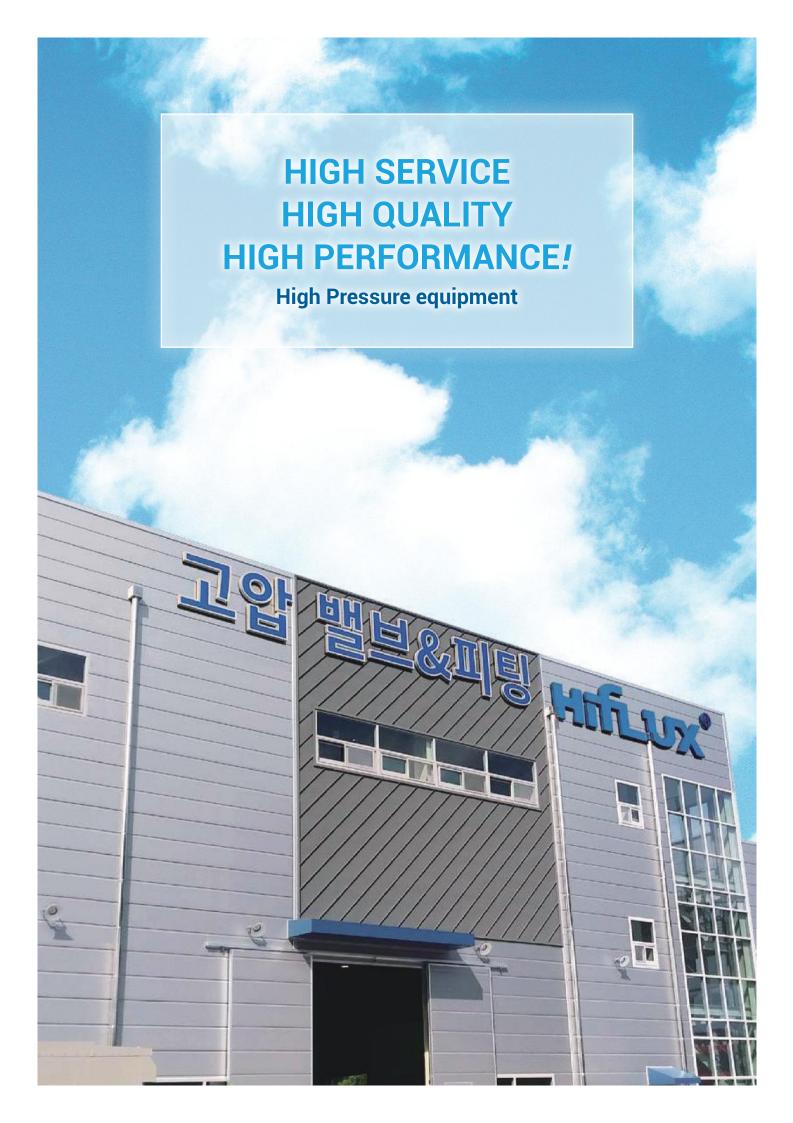


HIFLUX is based on the accumulated precision engineering & technological know-hows, high pressure equipment, required for plant valve, fitting, pressure regulator etc., manufacturing and sells.





### **CEO'S Message**

Based on years of sophisticated engineering technology, Hiflux has been working hard to localize high-temperature, high-pressure industries and open new markets and developed a range of high-pressure products to meet the needs of our customers through constant research and facility investment.

Our products are applied to general pressure to special industry applications which require up to 150,000psig ultra high pressure.

In order to become a global leader in ultra-high pressure, We will do our best to become 'HIFLUX' a company that listens carefully to customers and consistently improves products and service and contributes to enhancing quality and productivity in order to develop and grow together with our customers. Thank you.

CEO Kim Hyeon-hyo

### **HIGH PRESSURE HISTORY**

#### PASSION FOR THE FUTURE, CONSTANT CHALLENGE AND INNOVATION

Our company has been recognized for its technology by succeeding in various localization of high-pressure instruments which are difficult to manufacture in Korea through continuous research and development and facility investment for new market exploration in ultra-high pressure instruments material field. Based on technology and price competitiveness differentiated from overseas manufacturers such as Europe and USA, we are growing into a global brand by supplying domestic OEM and supplying OEM with overseas Global Waterjet manufacturer.



# DEVELOP VARIOUS HIGH PRESSURE VALVES EXPAND OVERSEAS MARKET

- Signed supply contract with Denmark and France.
- Development of High Pressure Bleed Valve, Wellhead Gauge Valve, Double Block & Bleed Valve.
- Development of high pressure ball valve 2Way / 3Way Trunnion Ball Valve.
- Development of high pressure relief valve (factory set, field adjustable, proportional type).
- Development of high pressure needle valve 3way 2stem valve.
- Signed OEM supply contract with Global Waterjet Pump manufacturer in China and Austria.
- Russia and Singapore signed contract for supply of goods.



Certificate of patent 10-2136732



ISO 9000



Certificate of patent 10-2103737



ISO 14001



Certificate of patent 10-2080599



Standard Certification (CE)



Certificate of patent 10-2080603



Research laboratory



Certificate of patent 10-2225407



confirmation



Certificate of patent 10-1151733



Trademark (HIFLUX)

# OPENING THE ONLINE MARKET PARTICIPATING IN THE DOMESTIC AND OVERSEAS FAIR

- Participated in Valve World EXPO & CONFERENCE exhibition in USA and China.
- Participated in China International Petrochemical Technology Exhibition (Cippe).
- Participated in international parts and materials industry exhibition / International nanotechnology exhibition / International marine plant exhibition every year.
- Join Open Market(Auction, Gmarket, 11st, Naver Shopping, ebay).
- Opened 'HIFLUX Shopping Mall' for the first time in the high pressure piping materials industry.





# ESTABLISHED R & D CENTER HIGH PRESSURE TECHNOLOGY LOCALIZATION

- Transfer of head office and factory to Daedeok Techno Valley.
- Acquiring 'Venture Company Certification'.
- Acquired European Integrated Standard Certification (CE).
- Acquired ISO 9001, ISO 14001 certification.
- Trademark Registration 'HIFLUX, FLUXLOK'.
- Patent Registration (7 types of high pressure valves).
- Establishment and certification of affiliated research institute.

## **Catalog Numbering System**



Simply indicate catalog number and specify option or special requirement

| NV   | 60  | V  | S   | 06  | А   |
|--|---|--|---|---|---|
| Product Value  | Pressure  | Type of Components   | Material  | Tube<br>Size  | Options   |
| NV: Needle Valve  CV: Check Valve  BV: Ball Valve  AOV: Air Operated Valve  CON: Control Valve  GV: Wellhead Gauge Valve  BLV: Bleed Valve  DBBV: Double Block & Bleed Valve  RV: Relief Valve  FT: Fitting  FA: Fitting Accessory  MF: Manifold Block  T: Tube  N: Nipple  GPR: General Pressure Regulator  HPR: High Pressure Regulator  BPR: Back Pressure Regulator  AD: Adapter  TS: Tube Support | 03: 3,000psi 07: 7,500psi 15: Sleeve Type Refer to Valve Select 20: 20,000psi 30: 30,000psi 60: 60,000psi 100: 100,000psi | Needle Valve V: Vee Stem R: Regulating Stem  Check Valve O: O-Ring Type B: Ball Type  Ball Valve O3: Orifice 4.8mm O5: Orifice 8mm  Control Valve Air Operated Valve O: Normal-Open Type C: Normal-Closed Type  Relief Valve FS: Factory Set FA: Field Adjustable PP: Proportional Type  Fitting E: Elbow Type T: Tee Type C: Cross Type  Fitting Accessory A: Adapter (20,000psi용) S: Sleeve (저압용) G: Gland R: Collar T: Collet | S: Stainless steel 316  H: Hastelloy  HC: Hastelloy C276 wetted part  IN: Inconel 600  IN625: Inconel 625  IN825: Inconel 825  NI: Nickel 200  TI: Titanium | 02: 1/8"  04: 1/4"  06: 3/8"  08: 1/2"  09: 9/16"  12: 3/4"  16: 1"  15: 15A  25: 25A | Needle Valve Control Valve Air Operated Valve S: Straight Type A: Angle Type O: 3way/1on pressure Type T: 3way/2on pressure Type  Ball Valve 2-90: 2WAY 3-180: 3WAY Switching Type 3-90: 3WAY Diverting Type Fitting Accessory AV: Anti-Vibration Type GPR N: Normal Type P: Panel Type |

#### **Example**

- NV60VS06-A: Needle Valve, 60,000psi, Vee Stem, 3/8", Angle Type.
- NV15VS04-0 : Needle Valve, 15,000psi, Vee Stem, 1/4", 3Way/1on Pressure Type.
- CON07CS15-S: Control Valve, 7,500psi, Normal-Closed, 15A, Straight Type.
- AOV60CS04-A: Air Operated Valve, 60,000psi, Normal-Closed, 1/4", Angle Type.
- FT60ES06: Fitting, 60,000psi, Elbow Type, 3/8".
- FA60GS04-AV: Fitting Accessory, 60,000psi, Gland, 1/4", Anti-Vibration Type.

## 18. High Pressure Tube





#### **I** Features

- Tube is sold in a 6000mm (6M) unit.
- Using stainless steel 316 cold material for excellent corrosion resistant.
- The operation temperature ranges from -423°F(-252°C) to 1200°F(649°C).
- If you want a water pressure test conducted, we can conduct the test based on a rule under pressure to be used.
- Suitable for chemical, oil refining, research, oil and gas companies, this product is used for various pressures.
- Our products generally are produced with Stainless steel materials, but they can be manufactured with other materials on demand so that various and gases can be used.

| (Unit : mr |  |
|------------|--|
|            |  |

| Catalag        |                    | T. I.        | Dimer        | mensions            |                    | El        |                  | (bar)                     |               |                |                |                |
|----------------|--------------------|--------------|--------------|---------------------|--------------------|-----------|------------------|---------------------------|---------------|----------------|----------------|----------------|
| Catalog<br>No. | Pressure<br>Rating | Port<br>Type | Tube<br>Size | Outside<br>Diameter | Inside<br>Diameter | Thickness | Flow<br>Area(m²) | -17.8~37.8°C<br>0~100°F   | 93°C<br>200°F | 204°C<br>400°F | 316°C<br>600°F | 343°C<br>650°F |
| T15S02         | 15,000 psi         | H1502        | 1/8"         | 3.18                | 1.32               | 0.91      | 1.29             | 1034.20                   | 1034.20       | 992.83         | 937.67         | 868.73         |
| T11S02         | 11,000 psi         | H1502        | 1/0          | 3.10                | 1.57               | 0.81      | 1.94             | 803.23                    | 751.85        | 692.91         | 682.57         | 679.12         |
| T15S04         | 15,000 psi         | H1504        | 1/4"         | 6.35                | 2.13               | 2.11      | 18.71            | 1034.16                   | 1034.16       | 992.83         | 937.67         | 868.73         |
| T11S04         | 11,500 psi         | H1504        | 1/4          | 0.55                | 3.18               | 1.57      | 7.74             | 803.23                    | 761.86        | 775.65         | 730.83         | 679.12         |
| T15S06         | 15,000 psi         | H1506        | 3/8"         | 9.53                | 3.53               | 3.00      | 47.10            | 1034.16                   | 1034.16       | 992.83         | 937.67         | 868.73         |
| T07S06         | 7,500 psi          | H1506        | 3/8          | 9.53                | 6.35               | 1.57      | 31.61            | 517.10                    | 489.52        | 444.70         | 437.81         | 417.13         |
| T10S08         | 10,000 psi         | H1008        | 1/2"         | 12.7                | 6.86               | 3.00      | 35.48            | 689.46                    | 689.46        | 665.33         | 620.52         | 579.15         |
| T05S08         | 5,500 psi          | H1008        | 1/2          | 12.7                | 9.53               | 1.57      | 70.97            | 379.21                    | 379.21        | 361.97         | 341.29         | 317.15         |
|                |                    |              |              |                     |                    |           |                  | -198~37.8°C<br>-325~100°F | 93°C<br>200°F | 204°C<br>400°F | 316°C<br>600°F | 427°C<br>800°F |
| T20S04         |                    | H2004        | 1/4"         | 6.35                | 2.77               | 1.78      | 5.81             | 1378.93                   | 1378.93       | 1327.22        | 1244.48        | 1158.30        |
| T20S06         |                    | H2006        | 3/8"         | 9.53                | 5.16               | 2.18      | 20.65            | 1378.93                   | 1378.93       | 1327.22        | 1244.48        | 1158.30        |
| T20S09         | 20,000 psi         | H2009        | 9/16"        | 14.29               | 7.92               | 3.18      | 49.03            | 1378.93                   | 1378.93       | 1327.22        | 1244.48        | 1158.30        |
| T20S12         |                    | H2012        | 3/4"         | 19.05               | 11.13              | 3.96      | 97.42            | 1378.93                   | 1378.93       | 1327.22        | 1244.48        | 1158.30        |
| T20S16         |                    | H2016        | 1"           | 25.4                | 14.27              | 5.56      | 160.0            | 1378.93                   | 1378.93       | 1327.22        | 1244.48        | 1158.30        |
| T30S02         | - 30,000 psi       | H3002        | 1/8"         | 3.18                | 1.02               | 1.08      |                  |                           |               |                |                |                |
| T30S16         | 30,000 psi         | H3016        | 1"           | 25.4                | 11.1               | 7.15      |                  |                           |               |                |                |                |
| T60S04         |                    | H6004        | 1/4"         | 6.35                | 2.11               | 2.11      | 3.23             | 4136.79                   | 4136.79       | 3981.66        | 3740.35        | 3495.59        |
| T60S06         | 60,000 psi         | H6006        | 3/8"         | 9.53                | 3.18               | 3.18      | 7.74             | 4136.79                   | 4136.79       | 3981.66        | 3740.35        | 3495.59        |
| T60S09         |                    | H6009        | 9/16"        | 14.29               | 4.78               | 4.75      | 18.06            | 4136.79                   | 4136.79       | 3981.66        | 3740.35        | 3495.59        |
| T100S04        | 100,000 psi        | H10004       | 1/4"         | 6.35                | 1.59               | 2.38      | 3.23             | 6894.64                   | 6864.64       | 6633.24        | 6230.55        | 5820.46        |
| T150S06        | 150,000 psi        | H15006       | 3/8"         | 9.53                | 1.59               | 3.97      | 7.74             | 10341.97                  | 10341.97      | 9955.87        | 9400.85        | 8738.97        |

## 19. High Pressure Nipple



For easy system setup, Cone and thread nipple

#### **I** Features

- For easy system setup, cone and thread nipple of assorted tube size.
- Using stainless steel 316 cold material for excellent corrosion resistant.
- The operation temperature ranges from -423°F(-252°C) to 1200°F(649°C).
- Can be ordered one side and both sides types & Please let us know the length you need.
- Our products generally are produced with Stainless steel materials, but they can be manufactured with other materials on demand so that various and gases can be used.



(Unit:mm)

| Catalog | Pressure    | Port   | Tube  | Dimer               | nsions             |           | Minimum | Flow  |                           | Working       | pressure ps    | i (bar)        |                |
|---------|-------------|--------|-------|---------------------|--------------------|-----------|---------|-------|---------------------------|---------------|----------------|----------------|----------------|
| No.     | Rating      | Туре   | Size  | Outside<br>Diameter | Inside<br>Diameter | Thickness | Length  |       | -198~37.8°C<br>-325~100°F | 93°C<br>200°F | 204°C<br>400°F | 316°C<br>600°F | 427°C<br>800°F |
| N20S04  |             | H2004  | 1/4"  | 6.35                | 2.77               | 1.78      | 70      | 5.81  | 1378.93                   | 1378.93       | 1327.22        | 1244.48        | 1158.30        |
| N20S06  |             | H2006  | 3/8"  | 9.53                | 5.16               | 2.18      | 88      | 20.65 | 1378.93                   | 1378.93       | 1327.22        | 1244.48        | 1158.30        |
| N20S09  | 20,000 psi  | H2009  | 9/16" | 14.29               | 7.92               | 3.18      | 110     | 49.03 | 1378.93                   | 1378.93       | 1327.22        | 1244.48        | 1158.30        |
| N20S12  |             | H2012  | 3/4"  | 19.05               | 11.13              | 3.96      | 118     | 97.42 | 1378.93                   | 1378.93       | 1327.22        | 1244.48        | 1158.30        |
| N20S16  |             | H2016  | 1"    | 25.4                | 14.27              | 5.56      | 168     | 160.0 | 1378.93                   | 1378.93       | 1327.22        | 1244.48        | 1158.30        |
| N30S02  | 20,000:     | H3002  | 1/8"  | 3.18                | 1.02               | 1.08      | 43      |       |                           |               |                |                |                |
| N30S16  | 30,000 psi  | H3016  | 1"    | 25.4                | 11.1               | 7.15      | 168     |       |                           |               |                |                |                |
| N60S04  |             | H6004  | 1/4"  | 6.35                | 2.11               | 2.11      | 74      | 3.23  | 4136.79                   | 4136.79       | 3981.66        | 3740.35        | 3495.59        |
| N60S06  | 60,000 psi  | H6006  | 3/8"  | 9.53                | 3.18               | 3.18      | 104     | 7.74  | 4136.79                   | 4136.79       | 3981.66        | 3740.35        | 3495.59        |
| N60S09  |             | H6009  | 9/16" | 14.29               | 4.78               | 4.75      | 135     | 18.06 | 4136.79                   | 4136.79       | 3981.66        | 3740.35        | 3495.59        |
| N100S04 | 100,000 psi | H10004 | 1/4"  | 6.35                | 1.59               | 2.38      | 103     | 3.23  | 6894.64                   | 6864.64       | 6633.24        | 6230.55        | 5820.46        |
| N150S06 | 150,000 psi | H15006 | 3/8"  | 9.53                | 1.59               | 3.97      | 135     | 7.74  | 10341.97                  | 10341.97      | 9955.87        | 9400.85        | 8738.97        |

As all sizes are for reference, they can be changed without any notification.

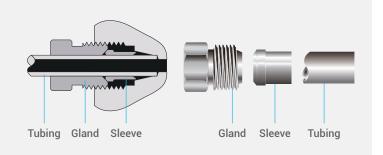




### Port Type Low Pressure Port Type

#### Sleeve Type Connections - 10,000 psi / 15,000 psi

Sleeve Type can be used in 1/8 ", 1/4", 3/8 ", 1/2" piping by fastening sleeve in gland. Tube required for connection between products can be ordered from Hiflux. Stainless steel material ensures optimum performance in high pressure environment.

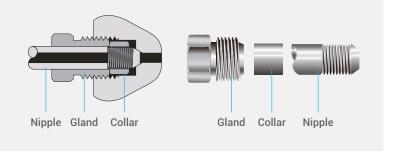


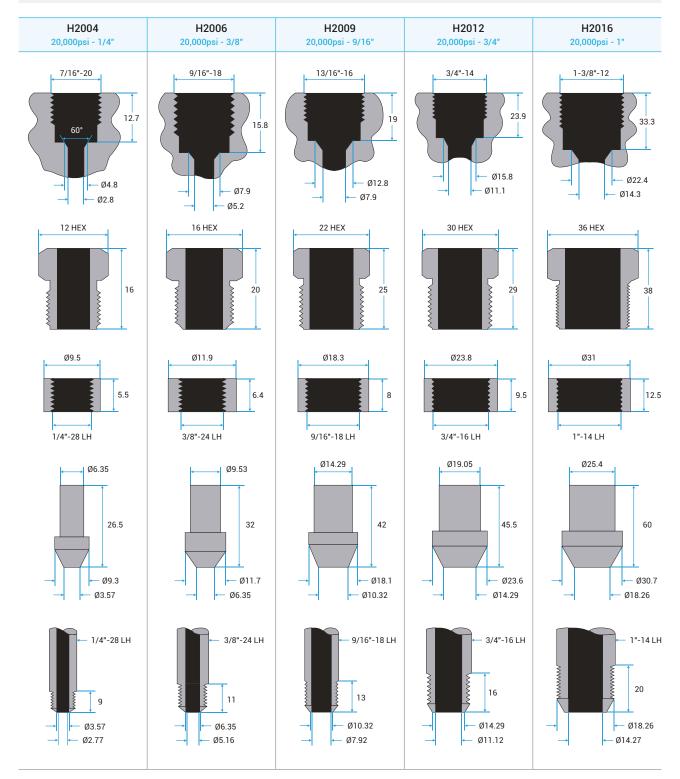
| H1008<br>10,000psi - 1/2"             | H1506<br>15,000psi - 3/8" | <b>H1504</b><br>15,000psi - 1/4" | H1502<br>15,000psi - 1/8"   |
|---------------------------------------|---------------------------|----------------------------------|-----------------------------|
| 13/16"-16N<br>20.6<br>— Ø9.5<br>— Ø13 | 5/8"-18<br>Ø9.8<br>Ø5.5   | 1/2"-20<br>17.5<br>06.5<br>04    | 3/8"-24<br>→ Ø3.3<br>→ Ø1.4 |
| 25.4 HEX                              | 17 HEX                    | 16 HEX                           | 12 HEX                      |
| Ø13<br>24                             | 19                        | 06.6                             | Ø3.3                        |
| Ø15.8<br>9.7                          | 9.6                       | Ø9.45<br>8.5                     | 7.7                         |

## Port Type Medium Pressure Port Type

#### Medium Pressure Connections - 20,000 psi

The Nipple required for connection between the products by using Collar and Nipple in the Gland can be ordered by user's desired length. you can also process directly using our Tooling Set tool.

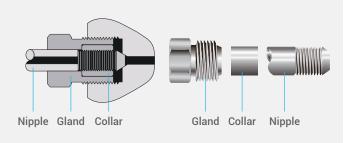




### Port Type High Pressure Port Type

#### High Pressure Connections - 30,000 psi / 60,000 psi

The Nipple required for connection between the products by using Collar and Nipple in the Gland can be ordered by user's desired length. you can also process directly using our Tooling Set tool. This cone and threaded connection is the standard for easy and fast high-pressure equipment configuration with optimum sealing and reliable performance for both liquid and gas at high pressure and temperature.

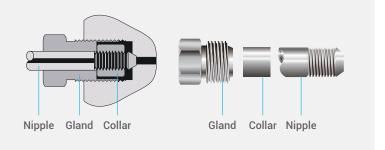


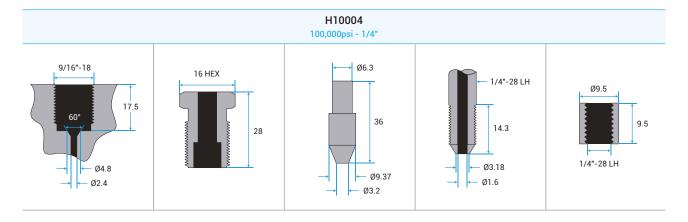
| <b>H3002</b><br>30,000psi - 1/8"   | H3016<br>30,000psi - 1"             | <b>H6004</b><br>60,000psi - 1/4" (M : Metric)       | <b>H6006</b> 60,000psi - 3/8" (M : Metric)         | <b>H6009</b><br>60,000psi - 9/16" (M : Metric) |
|------------------------------------|-------------------------------------|---|--|--|
| 1/2"-20<br>60° 111.37<br>02.4      | 1-3/8"-12<br>33.3<br>022.4<br>011.1 | 9/16"-18 (M16x1.5P)  11(11.5)  04.3(Ø5)  02.4(Ø2.4) | 3/4"-16 (M20x1.5P)<br>16(15)<br>06.6<br>03.2(Ø3.2) | 1-1/8"-12 (M26x1.5P)<br>19(15)<br>194.8        |
| 13 HEX 18                          | 36 HEX 38                           | 16 HEX(17HEX) 20(22) Ø6.3                           | 20 HEX(22HEX)<br>30(30)                            | 30 HEX(27HEX)<br>38(38)<br>Ø14.4               |
| Ø3.18  24  — Ø6.35  — Ø1.78        | Ø25.4<br>62<br>← Ø31.45<br>← Ø15.4  | 27.5<br>→ Ø9.37<br>→ Ø3.18                          | 37<br>→ Ø12.56<br>→ Ø5.56                          | 47<br>→ Ø20.7<br>→ Ø7.14                       |
| 11.12<br>→ Ø1.59                   | 23 Ø14.3                            | 1/4"-28 LH  14.3                                    | → 3/8"-24 LH<br>18.5<br>→ Ø5.56<br>→ Ø3.18         | 9/16"-18 LH  24  — Ø7.14  — Ø4.76              |
| → Ø1.02<br>Ø6.3<br>8<br>1/8"-40 LH | Ø31  12.5  1"-14 LH                 | 9.5<br>1/4"-28 LH<br>8<br>— Ø9.6<br>— Ø6.49         | 13.5<br>3/8"-24 LH<br>11.5<br>— Ø12.9<br>— Ø9.65   | 9/16"-18 LH  14.5  ← Ø20.9  ← Ø14.4            |

### Port Type Ultra High Pressure Port Type

#### Ultra High Pressure Connections - 100,000 psi

The product is tightened with collar and nipple in Gland. The applicable pipe size is as follows. This cone and threaded connection is the standard for easy and fast high-pressure equipment configuration with optimum sealing and reliable performance for both liquid and gas at high pressure and temperature.

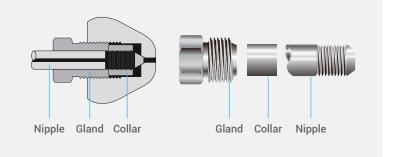


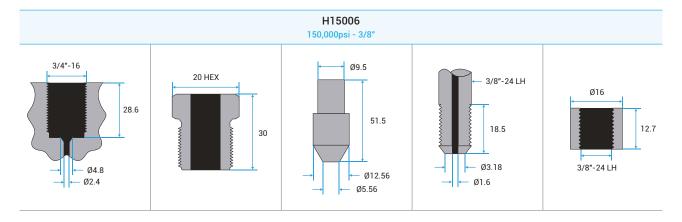


### Port Type Ultra High Pressure Port Type

#### Ultra High Pressure Connections - 150,000 psi

The product is tightened with collar and nipple in Gland. The applicable pipe size is as follows. This cone and threaded connection is the standard for easy and fast high-pressure equipment configuration with optimum sealing and reliable performance for both liquid and gas at high pressure and temperature.

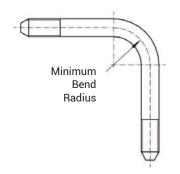




# Technical Information Recommended Torque

#### [Recommended Minimum Bend Radius]

| Tubing Size O.D. x I.D.<br>in. (mm) | Tubing Pressure<br>psi (bar) @ R.T. | Recommended Minimum<br>Bend Radius in. (mm) |
|-------------------------------------|-------------------------------------|---|
| 1/4 inch (6.35 x 2.77)              | 20,000 (1,370)                      | 1.25 (31.8)                                 |
| 3/8 inch (9.53 x 5.16)              | 20,000 (1,370)                      | 1.75 (44.5)                                 |
| 9/16 inch (14.29 x 7.92)            | 20,000 (1,370)                      | 2.63 (66.8)                                 |
| 3/4 inch (19.05 x 11.13)            | 20,000 (1,370)                      | 3.50 (88.9)                                 |
| 1 inch (25.4 x 14.27)               | 20,000 (1,370)                      | 4.63 (117.6)                                |
| 1 inch (25.4 x 11.13)               | 30,000 (2,060)                      | 4.63 (117.6)                                |
| 1/4 inch (6.35 x 2.11)              | 60,000 (4,130)                      | 1.25 (31.8)                                 |
| 3/8 inch (9.53 x 3.18)              | 60,000 (4,130)                      | 1.75 (44.5)                                 |
| 9/16 inch (14.29 x 4.78)            | 60,000 (4,130)                      | 2.63 (66.8)                                 |



As all sizes are for reference, they can be changed without any notification.

#### **HIFLUX - Recommended Torque (Valves Minimum Packing Stem Gland Torque)**

| Valve<br>Pressure Series | Port<br>Type | Tube Size<br>(PSI) | Stem Gland<br>HEX (mm) | Minimum Torque<br>(kg.f-cm) |
|--------------------------|--------------|--------------------|------------------------|-----------------------------|
|                          | H1502        | 1/8 Inch (15,000)  | 13                     | 170                         |
| 10,000 PSI               | H1504        | 1/4 Inch (15,000)  | 17                     | 550                         |
| 15,000 PSI               | H1506        | 3/8 Inch (15,000)  | 17                     | 550                         |
|                          | H1008        | 1/2 Inch (10,000)  | 24                     | 800                         |
|                          | H2004        | 1/4 Inch (20,000)  | 17                     | 550                         |
|                          | H2006        | 3/8 Inch (20,000)  | 17                     | 550                         |
| 20,000 PSI               | H2009        | 9/16 Inch (20,000) | 22                     | 1100                        |
|                          | H2010        | 3/4 Inch (20,000)  | 30                     | 3,500                       |
|                          | H2012        | 1 Inch (20,000)    | 41                     | 5,000                       |
|                          | H3002        | 1/8 Inch (30,000)  | 13                     | 500                         |
| 00 000 POI               | H6004        | 1/4 Inch (30,000)  | 20                     | 550                         |
| 30,000 PSI               | H6006        | 3/8 Inch (30,000)  | 20                     | 550                         |
|                          | H6009        | 9/16 Inch (30,000) | 20                     | 550                         |
|                          | H6004        | 1/4 Inch (60,000)  | 20                     | 670                         |
| 60,000 PSI               | H6006        | 3/8 Inch (60,000)  | 20                     | 670                         |
|                          | H6009        | 9/16 Inch (60,000) | 20                     | 670                         |
| 100,000 PSI              | H10004       | 1/4 Inch (100,000) | 24                     | 1250                        |
| 150,000 PSI              | H15006       | 3/8 Inch (150,000) | 24                     | 1870                        |
|                          | HFN02        | 1/8 Inch (15,000)  | 13                     | 500                         |
|                          | HFN04        | 1/4 Inch (15,000)  | 17                     | 550                         |
| 10,000 & 15,000 PSI      | HFN06        | 3/8 Inch (15,000)  | 17                     | 550                         |
| NPT TYPE                 | HFN08        | 1/2 Inch (15,000)  | 22                     | 1100                        |
|                          | HFN10        | 3/4 Inch (10,000)  | 41                     | -                           |
|                          | HFN12        | 1 Inch (10,000)    | 41                     | -                           |

