

HiFLUX

High Pressure Valves & Fittings



HIGH SERVICE
HIGH QUALITY
HIGH PERFORMANCE
High Pressure equipment

Hiflux

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Passion for a high-pressure future, constant challenge and innovation

HIFLUX Co., Ltd. has been recognized for its technological prowess by successfully producing various of high-pressure piping materials that are difficult to manufacture domestically through continuous R&D and facility investment to open up new markets in the ultra-high pressure piping materials sector.

Based on differentiated technological prowess and price competitiveness compared to overseas manufacturers in Europe and the United States, it is growing into a global brand by concluding OEM supply contracts with domestic OEM suppliers and overseas global waterjet manufacturers.

In addition, in order to open up new markets, we have developed air-operated valves, high-pressured pressure regulators, back pressure regulators, and other fittings for various purposes and pressure-specific accessories, and now our products are being applied to mass production facilities in various industries.

Expanding R&D investment to achieve carbon neutrality

In order to contribute to carbon neutrality, HIFLUX has researched and developed manual valves for hydrogen refueling stations with pure domestic capital and technology, obtained KS certification, and is currently being supplied to hydrogen refueling station plant sites. It is also developing check valves and pneumatic valves (AOV) KS propulsion and valves for liquefied hydrogen.

In addition, based on its technology related to high-pressure piping for hydrogen refueling stations, it was selected as a hydrogen specialized company by the Ministry of Trade, Industry and Energy in 2024. We will continue to do our best to contribute to the development of the hydrogen industry through steady investment and marketing.

We will always listen to our customers' voices and contribute to productivity and quality improvement through continuous product improvement and service provision, and strive to become HIFLUX that can grow and develop together with our customers.

Thank you.

HIFLUX Co., Ltd. | CEO

Overview

| | | | |
|-----------------------|--|---------------|--|
| Company name | HIFLUX Co., Ltd. | CEO | Kim Hyeon Hyo |
| Date of Establishment | May 26, 2010 | Business Area | Various valves, hydraulic equipment, pumps, etc |
| Address | (34037) Da Dong, 361-33, Gapcheon-ro, Yuseong-gu, Daejeon, Republic of Korea | Telephone | +82 042-933-5670 (Extension number 1.Technical Sales Department 2.Design Department 3.Public Relations Department 4.Purchasing Department 5.Production Department) |
| E-mail | Technical Sales Dept : sales@hiflux.com Promotion Dept : min@hiflux.com | Main Product | Needle Valve, Check Valve, Ball Valve, Relief Valve, Air Operated Valve, High-Temp Valve, Control Valve, Fitting, Fitting Accessory, Tube, Nipple, Regulator, Union, Adapter, Tube Support, Radiating Pipe, Pressure Gauge, Tooling Set, Lok Type Products |

HIFLUX HISTORY

2024.05. Selected as a 'Hydrogen Specialist Company' by Government
 2023.10. Acquired 'KS certification for manual valve for hydrogen refueling station' by KGS
 2023.05. KS Q ISO 45001 certification
 2023.05. Selected as a 2023 HIFLUX Small Giant Company
 2021.08. Patent (Double-sealed check valve) acquired
 2021.07. Received a commendation from KGS
 2021.03. Patent (High-pressure valve) acquired
 2020.07. 'Material/Component/Equipment Specialist Company Confirmation' acquired
 2020.07. Patent (High-temperature/high-pressure valve) acquired
 2020.06. R&D (Valve and fittings for H70 hydrogen refueling stations)
 2020.04. Patent (Valves including stem carriers) acquired
 2020.02. 2 types of valve patents acquired
 2019.01. Joined the Korea Hydrogen Industry Association
 2018.09. Moved to new headquarters and factory in Daedeok Techno Valley
 2018.08. Acquired 'Venture Business Certification' from the Technology Guarantee Fund
 2018.02. HIFLUX acquired European Standard Certification (CE)
 2016.09. Self-developed 3 types of high-pressure valves
 2016.04. Self-developed high-pressure Trunnion Ball Valve
 2015.11. Self-developed high-pressure relief valve
 2015.11. Factory expansion
 2015.10. High pressure manifold block, high pressure ball valve self-development
 2015.08. High pressure relief valve, high pressure needle valve self-development
 2014.07. Corporate research institute certification
 2013.10. KS Q ISO 9001 certification, KS I ISO 14001 certification
 2010.05. Establishment of HIFLUX

Certification Patents



Certificate of Hydrogen Specialist Company



KS Certificate of Needle valve for Hydrogen Station



ISO 9001, 14001, 45001 (Quality, Environment, Health)



CE Certifications



Certificate of Corporate Research Institute



Certificate of Small and Medium Enterprise



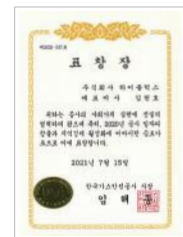
Certificate of Materials/Parts/Equipment Specialist Enterprise



Certificate of Venture Enterprise



Hydrogen Association Membership Card



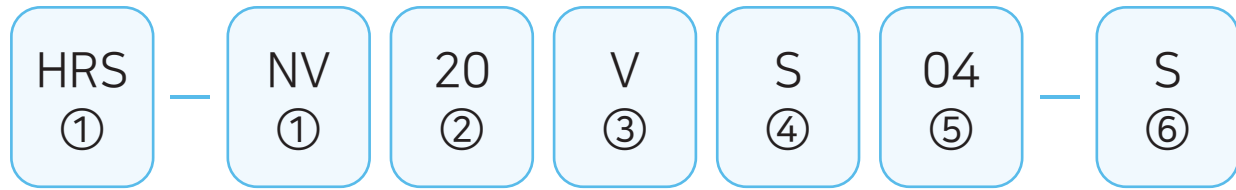
Gas Safety Corporation Award



Patent Certificate / Trademark Registration Certificate

Catalog Numbering System

simply indicate catalog number and specify option or special requirement



| ① Products | ② Pressure | ③ Type of Components | ④ Material | ⑤ Tube Size | ⑥ Options |
|---|----------------------|---|------------------------------------|----------------|---|
| HRS-NV : Hydrogen Refueling System Needle Valve | 03 : 3,000 psi | Needle Valve - V : Vee Stem - R : Regulating Stem | S : Stainless Steel 316 | 02 : 1/8 inch | Needle Valve Control Valve |
| NV : Needle Valve | 07 : 7,500 psi | Check Valve - O : O-Ring Type - B : Ball Type | H : Hastelloy | 04 : 1/4 inch | Air Operated Valve High Temperature Valve |
| CV : Check Valve | 15 : 15,000 psi | Ball Valve - 03 : Orifice 4.8mm - 05 : Orifice 8mm | HC : Hastelloy C276 Wetted Part | 06 : 3/8 inch | - S : Straight Type - A : Angle Type |
| BV : Ball Valve | 20 : 20,000 psi | Control Valve Air Operated Valve - O : Normal-Open Type - C : Normal-Closed Type | IN : Inconel 600 | 08 : 1/2 inch | - O : 3way/1on Type - T : 3way/2on Type - D : 3way 2stem Type |
| ABV : Actuator Ball Valve | 30 : 30,000 psi | Relief Valve - FS : Factory Set - FA : Field Adjustable - PP : Proportional Type | IN625 : Inconel 625 | 09 : 9/16 inch | Ball Valve - 20-90 : 2way - 3-180 : 3way Switching - 3-90 : 3way Diverting |
| AOV : Air Operated Valve | 60 : 60,000 psi | Fitting - E : Elbow Type - T : Tee Type - C : Cross Type | IN825 : Inconel 825 | 12 : 3/4 inch | Relief Valve Field Adjustable - 1 : 1 Inlet - 2 : 2 Inlet |
| RV : Relief Valve | 100 : 100,000 psi | Fitting Accessory - A : Adapter - S : Sleeve - G : Gland - R : Collar - T : Collet | NI : Nickel 200 | 16 : 1 inch | Proportional Type - N : NPT Inlet port |
| SH : Safety Head | 150 : 150,000 psi | | TI : Titanium | 15 : 15A | Fitting Accessory - AV : Anti-Vibration Type |
| CON : Control Valve | N : NPT | | | 25 : 25A | GPR - N : Normal Type - P : Panel Type |
| HV : High Temperature Valve | P : PT | | | | |
| GV : Wellhead Gauge Valve | | | | | |
| BLV : Bleed Valve | | | | | |
| DBBV : Double Block and Bleed Valve | | | | | |
| FT : Fitting | | | | | |
| FA : Fitting Accessory | | | | | |
| MF : Manifold Block | | | | | |
| FATC : Tube Cap | | | | | |
| T : Tube | | | | | |
| N : Nipple | | | | | |
| A : Adapter | | | | | |
| BPR : Back Pressure Regulator | | | | | |
| HPR : High Pressure Regulator | | | | | |
| GPR : General Pressure Regulator | | | | | |
| ABPR : Air Operating Back Pressure Regulator | | | | | |

➤ Example

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

Tube Cap

Tube Cap is a product used for pressure testing of tubes and finishing of pipes



(Unit : mm)

Features

- Tube Size: 1/4", 3/8", 9/16"
- Packing designed for reliable sealing
- STS 316
- Simple construction
- Easy closing method

| Catalog No | Pressure Rating | Tube Size | Dimensions | |
|------------|-----------------|-----------|------------|------|
| | | | A | B |
| FATC15S02 | 15,000 psi | 1/8" | 12.7 | 16 |
| FATC15S04 | | 1/4" | 16 | 25.5 |
| FATC15S06 | | 3/8" | 20 | 28 |
| FATC10S08 | 10,000 psi | 1/2" | 25.4 | 32 |
| FATC20S04 | 20,000 psi | 1/4" | 16 | 21 |
| FATC20S06 | | 3/8" | 19 | 30 |
| FATC20S09 | | 9/16" | 25.4 | 35 |
| FATC20S12 | | 3/4" | 36 | 44.5 |
| FATC20S16 | | 1" | 46 | 57.5 |
| FATC20S04 | 60,000 psi | 1/4" | 20 | 19 |
| FATC20S06 | | 3/8" | 25.4 | 27 |
| FATC20S09 | | 9/16" | 36 | 40 |

All dimensions are for reference only and may differ from actual size.

Oil Based Thread Lubricant

Special grease for long-term lubrication, blended with oil-based PTFE

Blue lube is a special grease mixed with oil-based PTFE as a thread lubricant. It is used in various ways such as stainless steel, general metals, titanium, aluminum, and nickel-based alloys, and when screwing, it lowers the torque due to the solid lubricant on the fastening surface, and prevents wear and seizure. In addition, it can maintain lubrication ability even in a water (moisture) atmosphere, and has excellent anti-oxidation and anti-corrosion performance.

(Application - various stainless steel, carbon steel, titanium, aluminum, and special alloys)



Features

- Long-term lubrication grease
- Prevents screw sticking
- Oil-based lubricant that does not flow easily in water
- Maintains low torque during screw assembly
- Excellent wear resistance
- Excellent anti-oxidation and anti-corrosion performance
- Usable temperature range: -35 to 204°C
- Contains PTFE

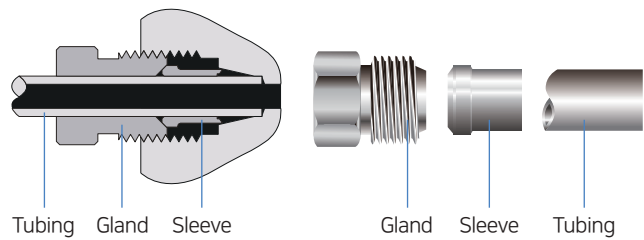
※ Product handling precautions - It is difficult to use in areas where halogen, freon, nitrogen dioxide, strong acids, or strong bases come into contact. It can be used as a replacement for existing similar overseas products (Blue Goop).

Port Type

Low Pressure Port Type

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

Sleeve Type is a method of attaching a sleeve inside a gland and can be used on 1/8", 1/4", 3/8", and 1/2" pipes. The tubes used for connecting products can be ordered from HIFLUX Mall and are made of stainless steel to ensure optimal performance in high-pressure environments.



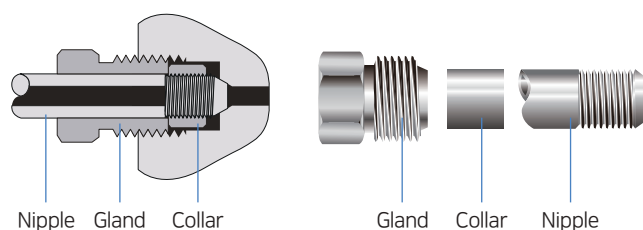
| H1008 10,000psi - 1/2" | H1506 15,000psi - 3/8" | H1504 15,000psi - 1/4" | H1502 15,000psi - 1/8" |
|---------------------------|---------------------------|---------------------------|---------------------------|
| | | | |
| | | | |
| | | | |
| | | | |

Port Type

Medium Pressure Port Type

➤ Medium Pressure Connections - 20,000 psi

Products are connected using Collar and Nipple within the Gland, and the Nipple required for connecting products can be ordered in the desired length by the user, and can also be processed directly using our tooling set.



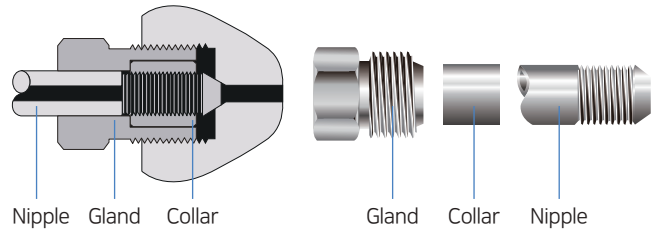
| H2004 20,000psi - 1/4" | H2006 20,000psi - 3/8" | H2009 20,000psi - 9/16" | H2012 20,000psi - 3/4" | H2016 20,000psi - 1" |
|---------------------------|---------------------------|----------------------------|---------------------------|-------------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

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.



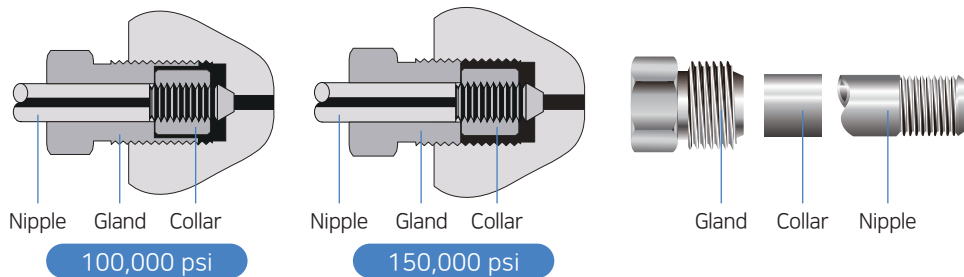
| H3002 30,000psi - 1/8" | H3016 30,000psi - 1" | H6004 60,000psi - 1/4" (M : Metric) | H6006 60,000psi - 3/8" (M : Metric) | H6009 60,000psi - 9/16" (M : Metric) |
|---------------------------|-------------------------|--|--|---|
| | | | | |

Port Type

Ultra High Pressure Port Type

Ultra High Pressure Connections - 100,000 psi / 150,000 psi

The product is connected using a collar and nipple within the gland, and the corresponding pipe sizes are as follows. This Cone and Thread method connection is the optimal sealing method, and it provides reliable performance for both liquids and gases at high pressures and temperatures, and is the standard for easy and quick high-pressure equipment configuration.



| H10004 100,000psi - 1/4" | H10006 100,000psi - 3/8" | H10009 100,000psi - 9/16" | H15006 150,000psi - 3/8" |
|-----------------------------|-----------------------------|------------------------------|-----------------------------|
| | | | |

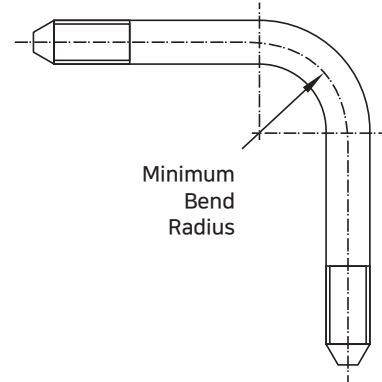
Technical Information

Recommended Torque

➤ Recommended Minimum Bend Radius

| Tubing Size O.D. x I.D. in. (mm) | Tubing Pressure psi (bar) @ R.T. | Recommended Minimum 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) |

All dimensions are for reference only and may differ from actual size.



➤ HIFLUX Needle Valve Assembly Torque Chart

| Valve Pressure Series | Port Type | Tube Size (PSI) | Stem Gland HEX (mm) | Minimum Torque (kg.f-cm) |
|---------------------------------|-----------|---------------------|------------------------|-----------------------------|
| 10,000 PSI 15,000 PSI | H1502 | 1/8 Inch (15,000) | 13 | 170 |
| | H1504 | 1/4 Inch (15,000) | 17 | 550 |
| | H1506 | 3/8 Inch (15,000) | 17 | 550 |
| | H1008 | 1/2 Inch (15,000) | 24 | 800 |
| 20,000 PSI | H2004 | 1/4 Inch (20,000) | 17 | 550 |
| | H2006 | 3/8 Inch (20,000) | 17 | 550 |
| | 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 |
| 30,000 PSI | H3002 | 1/8 Inch (30,000) | 13 | 500 |
| | H6004 | 1/4 Inch (30,000) | 20 | 550 |
| | H6006 | 3/8 Inch (30,000) | 20 | 550 |
| | H6009 | 9/16 Inch (30,000) | 20 | 550 |
| 60,000 PSI | H6004 | 1/4 Inch (60,000) | 20 | 670 |
| | 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 |
| | H10006 | 3/8 Inch (100,000) | 24 | 1250 |
| | H10009 | 9/16 Inch (100,000) | 24 | 1250 |
| 150,000 PSI | H15006 | 3/8 Inch (150,000) | 24 | 1870 |
| 10,000 & 15,000 PSI NPT TYPE | HFN02 | 1/8 Inch (15,000) | 13 | 500 |
| | HFN04 | 1/4 Inch (15,000) | 17 | 550 |
| | HFN06 | 3/8 Inch (15,000) | 17 | 550 |
| | HFN08 | 1/2 Inch (15,000) | 22 | 1100 |
| | HFN10 | 3/4 Inch (10,000) | 41 | - |
| | HFN12 | 1 Inch (10,000) | 41 | - |

Torque values apply to glass-impregnated Teflon packaging and may vary by ±10%



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