

HiFLUX

High Pressure Valves & Fittings



HIGH SERVICE
HIGH QUALITY
HIGH PERFORMANCE
High Pressure equipment

HIFLUX

CONTENTS

Hydrogen Fuel Station Needle Valve	05
High Pressure Needle Valve	06
3way/2stem Needle Valve	11
High Pressure Check Valve & Line Filter	12
High Pressure Fitting	14
High Pressure Fitting Accessory	16
Tube Cap / Oil Based Thread Lubricant	17
Safety Head & Rupture Disc	18
High Pressure Ball Valve	19
Relief Valve - Factory Set	22
Relief Valve - Field Adjustable	23
Relief Valve - Proportional Type	25
Air Operated Valve	27
Wellhead Gauge Valve	30
Bleed Valve	31
Double Block and Bleed Valve	32
High Temperature Valve	33
Control Valve	34
High Pressure Tube	35
High Pressure Nipple	36
Tooling Set	37
Tube Support	38
High Pressure Union & Adapter	40
High Pressure Manifold Block	46
Regulator	48
Air Operating BPR	50
Pressure Gauge / Thermocouples	51
Lok Fitting & Valve	52
Piping Materials	53
Port Type	56
Technical Information	60

HIFLUX



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 *Kim Hyeon Hyo*

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



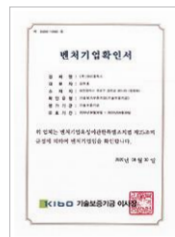
Certificate of Corporate Research Institute



Certificate of Small and Medium Enterprise



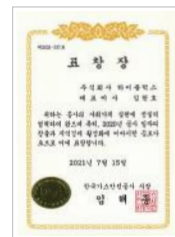
Certificate of Materials/Parts/Equipment Specialist Enterprise



Certificate of Venture Enterprise



Hydrogen Association Membership Card



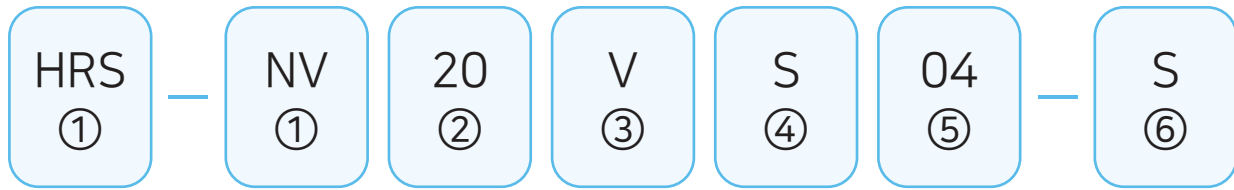
Gas Safety Corporation Award



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 04 : 1/4 inch	Needle Valve Control Valve Air Operated Valve High Temperature Valve
NV : Needle Valve	07 : 7,500 psi	Check Valve - O : O-Ring Type - B : Ball Type	H : Hastelloy	06 : 3/8 inch	- S : Straight Type - A : Angle Type
CV : Check Valve	15 : 15,000 psi	Ball Valve - 03 : Orifice 4.8mm - 05 : Orifice 8mm	HC : Hastelloy C276 Wetted Part	08 : 1/2 inch 09 : 9/16 inch	- O : 3way/1on Type - T : 3way/2on Type - D : 3way 2stem Type
BV : Ball Valve	20 : 20,000 psi	Control Valve Air Operated Valve - O : Normal-Open Type - C : Normal-Closed Type	IN : Inconel 600	12 : 3/4 inch	Ball Valve - 20-90 : 2way - 3-180 : 3way Switching - 3-90 : 3way Diverting
ABV : Actuator Ball Valve	30 : 30,000 psi	Relief Valve - FS : Factory Set - FA : Field Adjustable - PP : Proportional Type	IN625 : Inconel 625	16 : 1 inch 15 : 15A	Relief Valve Field Adjustable - 1 : 1 Inlet - 2 : 2 Inlet
AOV : Air Operated Valve	60 : 60,000 psi	Fitting - E : Elbow Type - T : Tee Type - C : Cross Type	IN825 : Inconel 825	25 : 25A	Proportional Type - N : NPT Inlet port
RV : Relief Valve	100 : 100,000 psi	Fitting Accessory - A : Adapter - S : Sleeve - G : Gland - R : Collar - T : Collet	NI : Nickel 200		Fitting Accessory - AV : Anti-Vibration Type
SH : Safety Head	150 : 150,000 psi		TI : Titanium		GPR - N : Normal Type - P : Panel Type
CON : Control Valve	N : NPT P : PT				
HV : High Temperature Valve					
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.

High Pressure Check Valve & Line Filter

A valve that prevents the backflow of gas or liquid



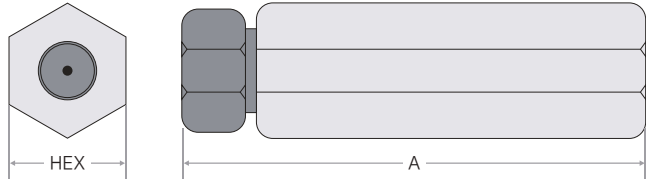
A check valve is a valve that prevents the backflow of fluid, and is manufactured to block the flow in one direction and allow the flow in the opposite direction to proceed freely. The HIFLUX check valve uses a ball or O-ring in the sealing area to reliably prevent the backflow, and can be used for both gas and liquid. It is classified by pressure, port size, and type, so you can use it according to the specifications you want.

Features

- 2 types of sealing (O-Ring Type, Ball Type)
- 2~90µm 2 types of sealing type filter element (Cup Type)
- Easy O-Ring and Ball replacement
- Stainless Steel 316 cold material used
- Cone and Thread Connection to prevent gas liquid leaking.
- Valve that prevents backflow of gas and liquid and facilitates one-way transport

Pressure	Tube Size	Check Valve		Line Filter
		Sealing Type		Element Type
		O-Ring	Ball	Cup
15,000 psi	1/8"	CV150S02	CV15BS02	FL15CS02
	1/4"	CV150S04	CV15BS04	FL15CS04
	3/8"	CV150S06	CV15BS06	FL15CS06
10,000 psi	1/2"	CV100S08	CV10BS08	FL10CS08
20,000 psi	1/4"	CV200S04	CV20BS04	FL20CS04
	3/8"	CV200S06	CV20BS06	FL20CS06
	9/16"	CV200S09	CV20BS09	FL20CS09
	3/4"	CV200S12	CV20BS12	FL20CS12
30,000 psi	1"	CV200S16	CV20BS16	FL20CS16
	1/8"	CV300S02	CV30BS02	FL30CS02
60,000 psi	1"	CV300S16	CV30BS16	FL30CS16
	1/4"	CV600S04	CV60BS04	FL60CS04
100,000 psi	3/8"	CV600S06	CV60BS06	FL60CS06
	9/16"	CV600S09	CV60BS09	FL60CS09
	1/4"		CV100BS04	
	3/8"		CV100BS06	

▶ [O-Ring Type]

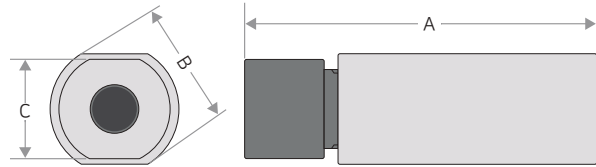
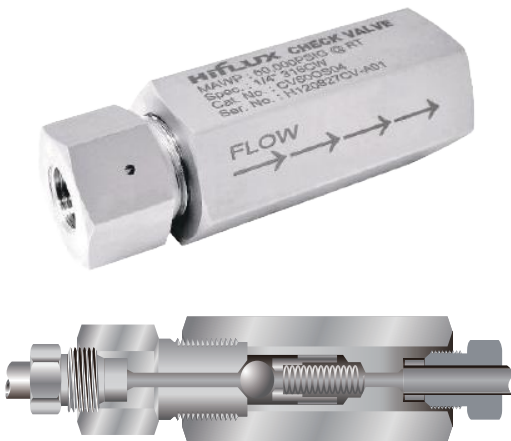


< 15,000 ~ 60,000 psi >

(Unit : mm)

Catalog No	Pressure Rating	Port Type	Tube Size	Orifice Size	Dimensions	
					A	HEX
CV150S02	15,000 psi	H1502	1/8"	1.4	68	22
CV15BS02			1/4"	3.2	81	25.4
CV150S04		H1504	1/4"	3.2	81	25.4
CV15BS04			3/8"	5	93	36
CV150S06		H1506	3/8"	5	93	36
CV15BS06			1/2"	5	108	41
CV100S08	10,000 psi	H1008	1/2"	5	108	41
CV10BS08			1/4"	2.8	77	25.4
CV200S04	20,000 psi	H2004	1/4"	2.8	77	25.4
CV20BS04			3/8"	5.2	91	25.4
CV200S06		H2006	3/8"	5.2	91	25.4
CV20BS06			9/16"	5	107	35
CV200S09		H2009	9/16"	5	107	35
CV20BS09			3/4"	11.1	131	36
CV200S12	H2012	3/4"	11.1	131	36	
CV20BS12		1"	7	167	55	
CV200S16	H2016	1"	7	167	55	
CV20BS16		1/8"	1.2	69	20.6	
CV300S02	30,000 psi	H3002	1/8"	1.2	69	20.6
CV30BS02			1"			
CV300S16		H3016	1"			
CV600S04	60,000 psi	H6004	1/4"	2.4	85	32
CV60BS04			3/8"	3.2	102.6	36
CV600S06		H6006	3/8"	3.2	102.6	36
CV60BS06			9/16"	4.8	118	38
CV600S09		H6009	9/16"	4.8	118	38
CV60BS09						

▶ [Ball Type]



< 100,000 psi >

(Unit : mm)

Catalog No	Pressure Rating	Port Type	Tube Size	Orifice Size	Dimensions		
					A	B	C
CV100BS04	100,000 psi	H10004	1/4"	2.4	103.1	Ø42	32
CV100BS06			3/8"	2.4	114.5	Ø42	32

※ 100,000 psi check valve does not have O-ring type.

▶ [Filter Element (Cup Type)]



(Unit : mm)

Catalog No	Pressure Rating	Port Type	Tube Size	Orifice Size	Dimensions	
					A	HEX
FL15CS02	15,000 psi	H1502	1/8"	1.4	68	22
FL15CS04			1/4"	3.2	81	25.4
FL15CS06		H1506	3/8"	5	93	36
FL10CS08	10,000 psi	H1008	1/2"	5	108	41
FL20CS04			20,000 psi	H2004	1/4"	2.8
FL20CS06	3/8"	5.2			91	25.4
FL20CS09	H2009	9/16"		7.9	107	35
FL20CS12		3/4"		11.1	131	36
FL20CS16	H2016	1"		7	167	55
FL30CS02		H3002		1/8"	1.2	69
FL30CS16	H3016		1"			
FL60CS04	60,000 psi	H6004	1/4"	2.4	85	32
FL60CS06			3/8"	3.2	102.6	36
FL60CS09		H6009	9/16"	4.8	118	38

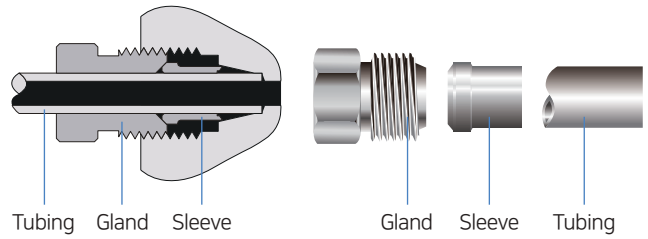
All dimensions are for reference only and may differ from the actual size.
NPT, PT standard and specification production possible.
(please contact customer service center)

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.



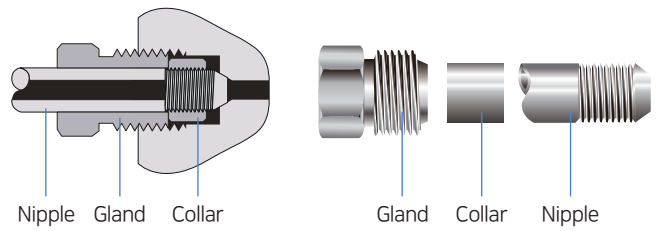
H1008 10,000psi - 1/2"	H1506 15,000psi - 3/8"	H1504 15,000psi - 1/4"	H1502 15,000psi - 1/8"

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.



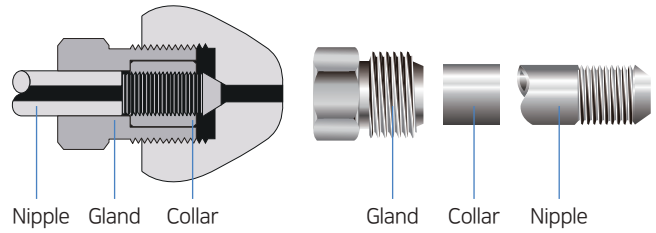
H2004 20,000psi - 1/4"	H2006 20,000psi - 3/8"	H2009 20,000psi - 9/16"	H2012 20,000psi - 3/4"	H2016 20,000psi - 1"
<p>7/16"-20 12.7 60° Ø4.8 Ø2.8</p>	<p>9/16"-18 15.8 Ø7.9 Ø5.2</p>	<p>13/16"-16 19 Ø12.8 Ø7.9</p>	<p>3/4"-14 23.9 Ø15.8 Ø11.1</p>	<p>1-3/8"-12 33.3 Ø22.4 Ø14.3</p>
<p>12 HEX 16</p>	<p>16 HEX 20</p>	<p>22 HEX 25</p>	<p>30 HEX 29</p>	<p>36 HEX 29</p>
<p>Ø9.5 5.5 1/4"-28 LH</p>	<p>Ø11.9 6.4 3/8"-24 LH</p>	<p>Ø18.3 8 9/16"-18 LH</p>	<p>Ø23.8 9.5 3/4"-16 LH</p>	<p>Ø31 12.5 1"-14 LH</p>
<p>Ø6.35 26.5 Ø9.3 Ø3.57</p>	<p>Ø9.53 32 Ø11.7 Ø6.35</p>	<p>Ø14.29 42 Ø18.1 Ø10.32</p>	<p>Ø19.05 45.5 Ø23.6 Ø14.29</p>	<p>Ø25.4 60 Ø30.7 Ø18.26</p>
<p>1/4"-28 LH 9 Ø3.57 Ø2.77</p>	<p>3/8"-24 LH 11 Ø6.35 Ø5.16</p>	<p>9/16"-18 LH 13 Ø10.32 Ø7.92</p>	<p>3/4"-16 LH 16 Ø14.29 Ø11.12</p>	<p>1"-14 LH 20 Ø18.26 Ø14.27</p>

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.



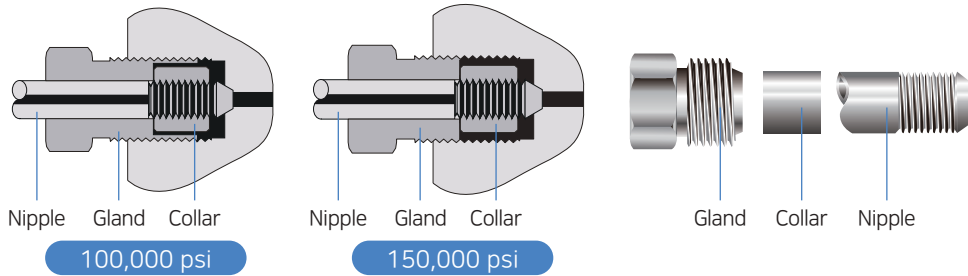
H3002 30,000psi - 1/8"	H3016 30,000psi - 1"	H6004 60,000psi - 1/4" (M : Metric)	H6006 60,000psi - 3/8" (M : Metric)	H6009 60,000psi - 9/16" (M : Metric)

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"

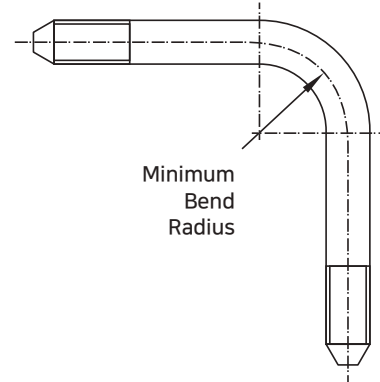
Technical Information

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%



HIFLUX[®]

HIFLUX Co., LTD



361-23, Gapcheon-ro, Yuseong-gu, Daejeon,
34037, Republic of Korea

Phone & Fax



TEL. +82-42-933-5670
FAX. +82-0303-0799-1241

E-mail & Online



E-mail. sales@hiflux.com
Web. www.hiflux.net
Shopping Mall. www.hifluxshop.com

