

Hand Valves

$\frac{3}{16}$ " (4.8 mm) orifice hard-seated hand valves for pressures to 6000 and 10000 psig (414 and 689 barg)

General Application

H7 series valves are designed for safe, repetitive bubble-tight closure, simple maintenance and a long, trouble-free life. The H71 is designed to meet increasing pressures in oil and gas production, providing bubble-tight shutoff in severe operating conditions.

TECHNICAL DATA

Materials

CS, 316 SS, Monel®, Hastelloy®

Seats:

Metal

Connections

$\frac{1}{4}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ " NPT

Pressure (max):
H7:

6000 psig (414 barg)

H71:

10000 psig (689 barg)

Temperature (max):
H7:

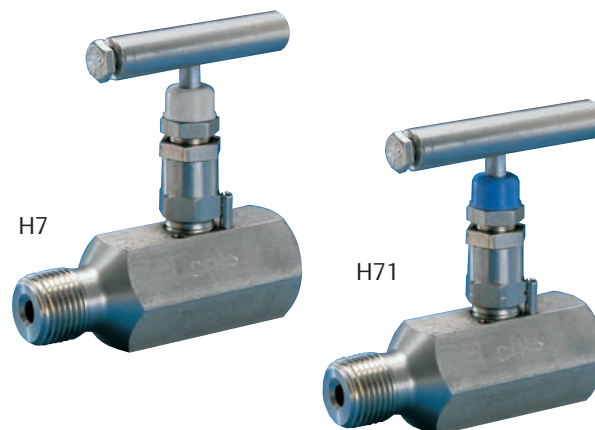
1000°F (538°C)

H71:

500°F (260°C)

Temperature (min):
316 bonnet assemble:

-70°F (-57°C)



Features

- Ball end stem eliminates seat galling, provides bubble-tight shutoff and long life. Hardened, non-rotating ball ensures perfectly aligned closure.
- Packing below threads prevents lubricant washout, thread corrosion, process contamination and eliminates galling.
- Easily adjustable PTFE packing decreases replacement downtime and increases valve life.
- Dust cover protects stem from lubricant contamination.
- Safety back seating prevents stem blowout or accidental removal and provides a metal-to-metal secondary stem seal while in the fully open position.
- ENC plated 316 SS stem prevents galling or freezing of stem threads. CS valves use a 303 SS stem for 'hard-to-soft' contact to prevent galling.
- Rolled stem and bonnet threads provide additional strength.
- Mirror stem finish in the packing area provides smooth operation and extends packing life.
- Metal-to-metal body-to-bonnet seal in constant compression prevents bonnet thread corrosion, eliminates possible tensile breakage and gives a reliable seal point.
- Metal seat can be resurfaced for longer valve life.
- Panel mount option available

H7/H71 SERIES

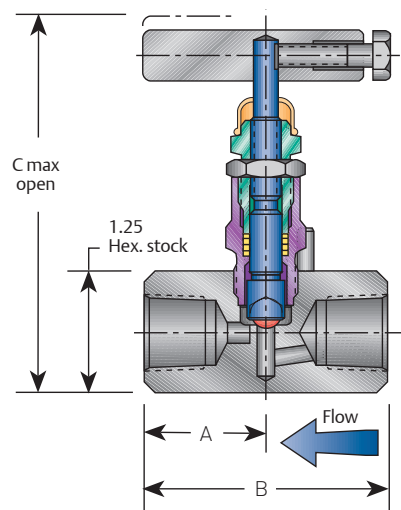
Hand Valves

H7 and H71 Specifications^[4]

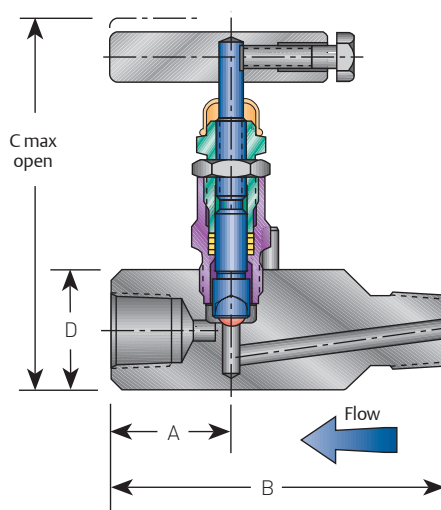
3/16 inch (4.8 mm): 6000 and 10000 psig (414 and 689 barg)

Dimension, inches (mm)

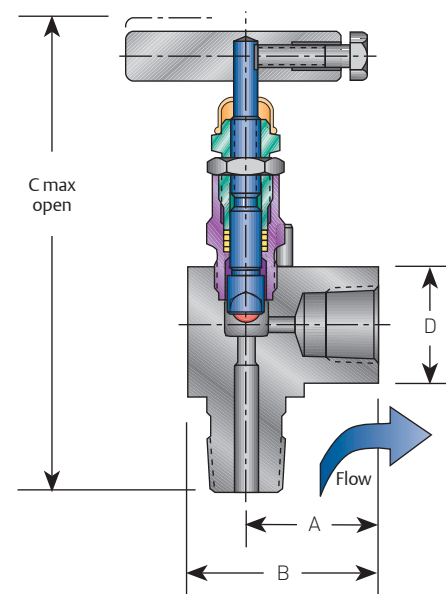
FNPT X FNPT



FNPT X MNPT



FNPT X MNPT (angle)



FNPT BY FNPT

Valve ^[1]	A	B	C ^[2] PTFE	C ^[2] GRAFOIL®
¼" F x ¼" F	1.25 (31.8)	2.50 (63.5)	3.92 (99.6)	4.57 (116.1)
½" F x ½" F ^[3]	1.50 (38.1)	3.00 (76.2)	3.92 (99.6)	4.57 (116.1)

FNPT BY MNPT

Valve ^[1]	A	B	C ^[2] PTFE	C ^[2] GRAFOIL®	D
¼" F x ½" M	1.25 (31.8)	3.50 (88.9)	3.85 (97.8)	4.50 (114.3)	1.25 (31.8)
½" F x ½" M	1.25 (31.8)	3.50 (88.9)	3.85 (97.8)	4.50 (114.3)	1.25 (31.8)
¾" F x ¾" M	1.50 (38.1)	4.50 (114.3)	4.10 (104.1)	4.75 (120.7)	1.50 (38.1)

FNPT BY MNPT (angle)

Valve	A	B	C ^[2] PTFE	C ^[2] GRAFOIL®	D
½" F x ½" M	1.40 (35.6)	2.03 (51.6)	5.00 (127.0)	5.50 (139.7)	1.75 (44.5)

NOTES

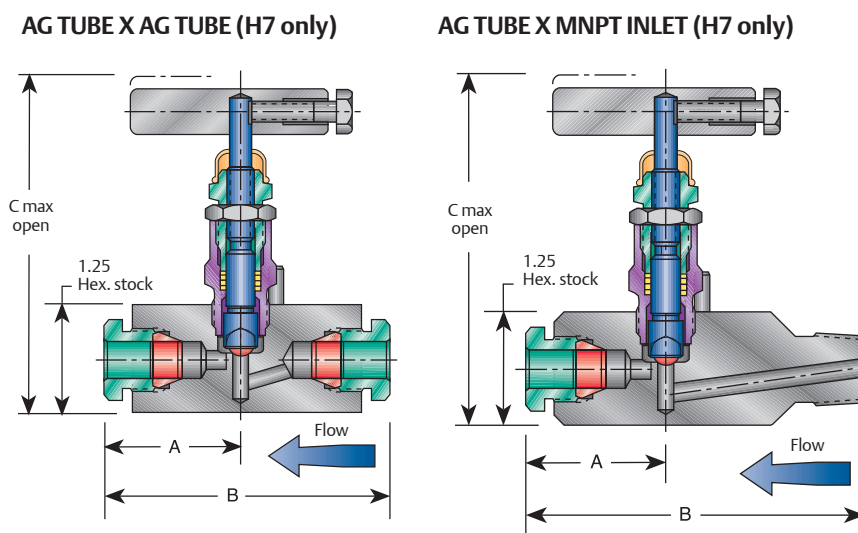
1. Approximate valve weight: 1.5 lb (0.7 kg).
2. Valve Cv 0.52 maximum.
3. The CS PTFE packed valve dimension is A-1.25; B-2.50; C-3.92
4. For Hastelloy® and -SG3 call factory for dimensions and weights.

Hand Valves

H7 and H71 Specifications^[6]

3/16 inch (4.8 mm): 6000 and 10000 psig (414 and 689 barg)

Dimension, inches (mm)



Tube Fitting by Tube Fitting (H7 only)

Valve ^[1]	A	B	C ^[2] PTFE	C ^[2] GRAFOIL®
½" T x ½" T	1.88 (47.8)	3.75 (95.3)	3.85 (97.8)	4.50 (114.3)

Tube Fitting by MNPT Inlet (H7 only)

Valve ^[1]	A	B	C ^[2] PTFE	C ^[2] GRAFOIL®
½" T x ½" M	1.88 (47.8)	4.13 (104.9)	3.85 (97.8)	4.50 (114.3)

Standard Materials

Valve	Body and bonnet ^[5]	Stem	Ball
PTFE packing (H7 and H71)			
CS	A108 ^[8]	A581 303	17-4 PH
316 SS	A479-316	A276-316	316 SS
Monel ^[3]	Monel® R405	Monel® 400	Monel® K500
SG ^[4]	A479-316	Monel® 400	Monel® K500
SG3 ^[6]	Hastelloy® C-276	Hastelloy® C-276	Elgiloy®
GRAFOIL® packing (H7 only)			
CS	A105	A581 303	17-4 PH
316 SS	A479-316	A276-316	316 SS
SG ^[4]	A479-316	Monel® 400	Monel® K500
SG3 ^[6]	Hastelloy® C-276	Hastelloy® C-276	Elgiloy®

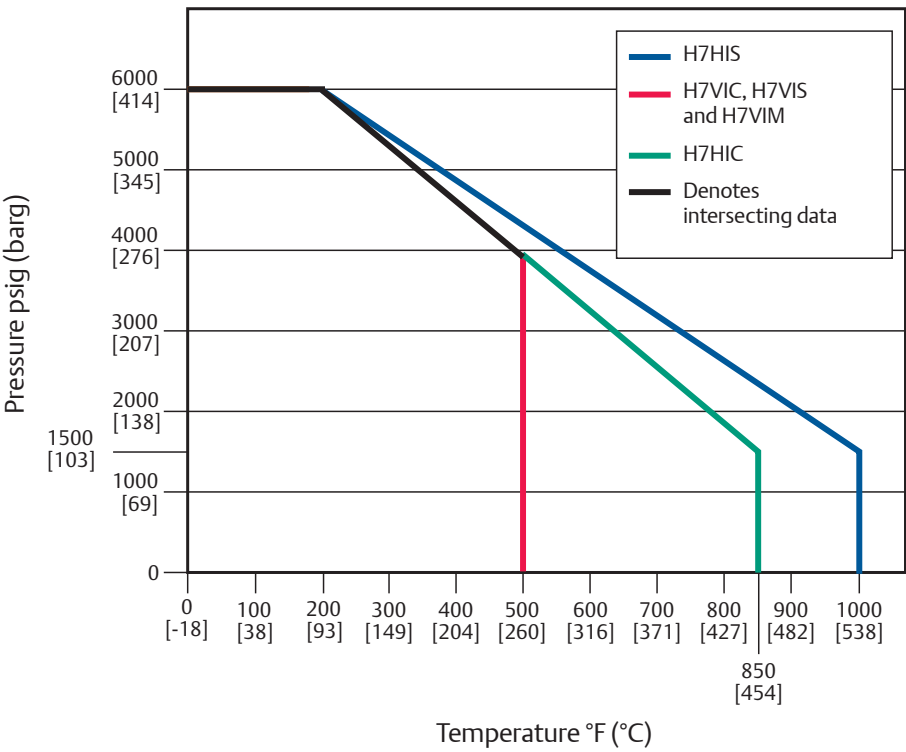
NOTES

1. Approximate valve weight: 1.5 lb [0.7 kg].
2. Valve Cv 0.52 maximum.
3. H7 only.
4. SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103.
5. CS is zinc TCP plated to prevent corrosion.
6. SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l [ppm]).
7. Elgiloy® is a registered trademark of Elgiloy Specialty Metals.
8. Welded ends on CS bodies are A105 material.

H7 SERIES

Hand Valves

Pressure vs. Temperature - H7



Pressure and Temperature Ratings - H7

Valve	PTFE packed bonnet
CS	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 200°C)
316 SS	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 200°C)
Monel®	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 200°C)
Hastelloy®	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 200°C)

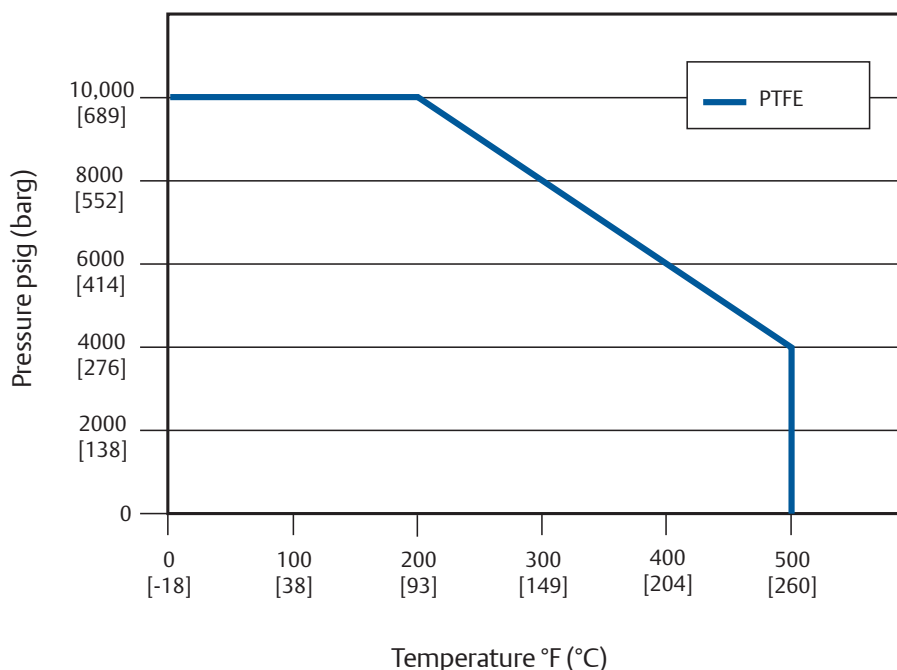
Valve	GRAFOIL® packed bonnet and Low emissions graphite packed bonnet
CS	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 850°F (103 barg at 454°C)
316 SS	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 1000°F (103 barg at 538°C)
Hastelloy®	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 850°F (103 barg at 454°C)

NOTE

316 SS valve with minimum temperature -70°F (-57°C).

Hand Valves

Pressure vs. Temperature - H71



Pressure and Temperature Ratings - H71

Valve	PTFE packed bonnet
CS, 316 SS	6000 psig at 200°F (414 barg at 93°C)
SG SG3	4000 psig at 500°F (276 barg at 200°C)

NOTE

316 SS valve with minimum temperature -70°F (-57°C).

Bonnet Assemblies

The H7 and H71 feature a metal-seated bonnet assembly which has a rotating stem with free swivel ball-type seat for long service life. The stem threads are rolled and lubricated to prevent galling and reduce operating torque. The stem seal is a patented PTFE packing which is adjustable in service. A protective dust cap is fitted to contain stem lubricant and prevent the influx of contaminants. The specially hardened ball seat is ideal for both gas and liquid service. All bonnets are assembled with a bonnet locking pin to prevent accidental removal while in service.

The high pressure H71 bonnet assembly uses a strengthened stem and bonnet and is fitted with a larger size T-bar handle.

The H7 high-temperature bonnet assembly utilizes a similarly designed stem and bonnet, incorporating adjustable graphite rings and back-up pressure rings to ensure a leak-free stem seal.

H7/H71 SERIES

Hand Valves

AGCO Tube^[1]

Integral Tube Fitting Design (H7 only)

- Proven design performance
- No tube twist on makeup
- Low torque assembly
- Male nut
 - Silver-plated to prevent galling
 - Threads are rolled for additional strength
 - Gives superior tubing support for vibration resistance
- Bubble-tight seal on make and remakes
- Fitting will hold to the burst of the tubing
- Makeup is industry standard 1¼ turns from finger tight
- Remake is ¼ turn from finger tight which brings you back to original position, then snug slightly to respring the ferrule(s) into a sealing position.

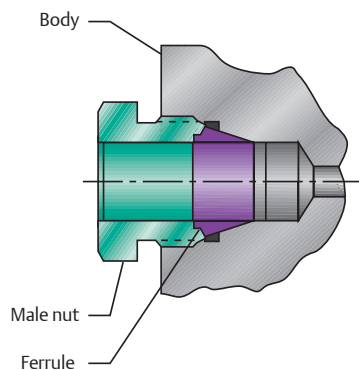
NOTE

1. AGCO tube option meets the requirements of NACE.

Available with Single or Dual Ferrule Design:

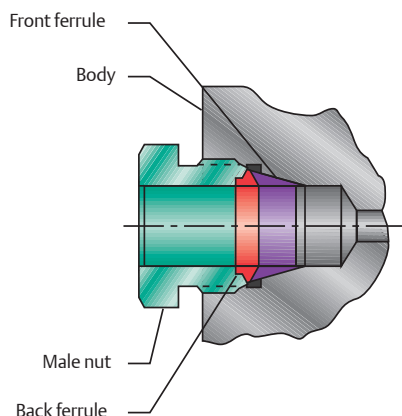
Single ferrule design

Option is ‘-() AT’



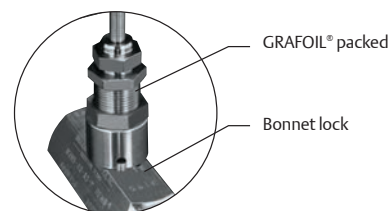
Dual ferrule design

Option is ‘-() ATD’



Bonnet Lock (BL)^[1]

The Anderson Greenwood bonnet lock prevents accidental loosening of the bonnet-to-body seal. A high-strength, short bonnet pin aligns a hex collar over the bonnet. A standard panel nut locks the collar against the valve. Tests indicate the minimum torque required to break the collar loose is greater than the torque required to twist off the handle. Available with GRAFOIL® packed bonnets only.



NOTE

1. Patent protected.

Hand Valves

Selection Guide - H7

3/16 inch (4.8 mm) orifice: 6000 psig (414 barg)

H7	V	I	S	-44Q	L	B
BASIC SERIES	PACKING	SEAT	MATERIAL	CONNECTIONS (INLET/OUTLET)	LENGTH	CONNECTION STYLES
H7	V PTFE	I Integral	C CS	2 ¼ inch FNPT x ¼ inch FNPT	L Extended male inlet for 4" insulation	B Female socket weld
	H GRAFOIL®		S 316 SS	24 ½ inch MNPT x ¼ inch FNPT		C Male socket weld
	E Low emissions graphite		M Monel®	4Q ½ inch FNPT x ½ inch FNPT		TB Female tube end
			J Hastelloy®	44Q ½ inch MNPT x ½ inch FNPT		TC Male tube stub end
				46Q ¾ inch MNPT x ½ inch FNPT		
				44QA ½ inch MNPT x ½ inch FNPT angle		
				4AT ½ inch tube x ½ inch tube		
				66Q ¾ inch MNPT x ½ inch FNPT (SST only)		

-SG

OPTIONS	
BL	Bonnet lock device
CB	Ceramic ball
HD	Hydro testing (MSS-SP-61)
LAT	Lockable anti-tamper
OC00	Oxygen cleaning (Gaseous)
OC01	Oxygen cleaning (Liquid)
OR1	O-ring packing (check factory for pressure temperature limits)
PM	Panel mount (GRAFOIL® bonnet only)
PM100	PMI body only
SG	Sour Gas meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l (ppm))
SG3	SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l (ppm)).
SS	All 316 SS construction

H71 SERIES

Hand Valves

Selection Guide - H71

3/16 inch (4.8 mm) orifice: 10000 psig (689 barg)

H71	V	I	S	-44Q	L	B
BASIC SERIES	PACKING	SEAT	MATERIAL	CONNECTIONS (INLET/OUTLET)	LENGTH	CONNECTION STYLES
H71	V PTFE	I Integral	C CS	2 ¼ inch FNPT x ¼ inch FNPT	L Extended male inlet for 4" insulation	B Female socket weld
			S 316 SS	24 ½ inch MNPT x ¼ inch FNPT		C Male socket weld
			J Hastelloy®	4Q ½ inch FNPT x ½ inch FNPT		
				44Q ½ inch MNPT x ½ inch FNPT		
				46Q ¾ inch MNPT x ½ inch FNPT		
				44QA ½ inch MNPT x ½ inch FNPT angle		

-SG

OPTIONS	
CB	Ceramic ball
HD	Hydro testing (MSS-SP-61)
OC00	Oxygen cleaning (Gaseous)
OC01	Oxygen cleaning (Liquid)
PM100	PMI body only
SG	Sour Gas meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l (ppm))
SG3	SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l (ppm)).
SS	All 316 SS construction