

Needle Valves

NB, NBH, ND, NDH, NF, NFH, NG, NGH, NR, NRG,
NT, NU, NUH, NY and NYH Series



FITOK
Valves and Fittings

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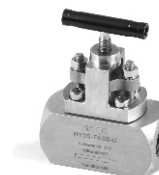
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Bar Stock Needle Valves

NB Series: Working pressure up to 6000 psig

NBH Series: Working pressure up to 10000 psig

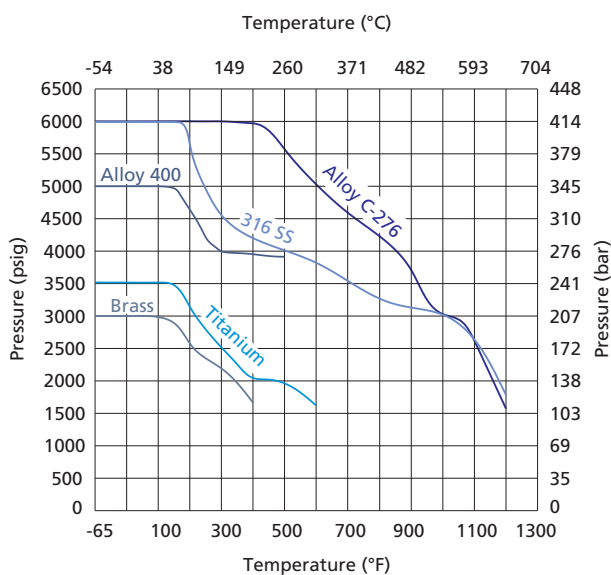


Features

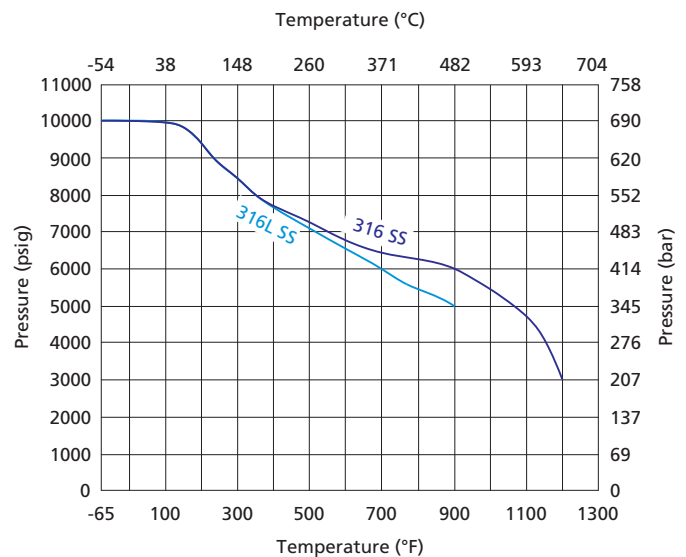
- ⦿ Cold drawn bar.
- ⦿ Two-stem design: thread hardened upper stem and smooth surface hardened lower stem.
- ⦿ Upper stem thread lubricant isolated from system media.
- ⦿ Linearly instead of helical movement of the nonrotating lower stem, avoiding galling damage to the seat and tip, as well as reducing the total friction area between the packing and the lower stem.
- ⦿ Safety back seating seal in fully open position.
- ⦿ Panel mounting available.
- ⦿ Steady and durable fastening of the handle by double lock-pins.
- ⦿ Handle color options are available.
- ⦿ Leak-tight performance testing for every valve with nitrogen/air at the maximum working pressure, but not higher than 6000 psig.
- ⦿ Working pressure up to:
 - NB Series—Stainless steel: 6000 psig (414 bar)
 - Alloy C-276: 6000 psig (414 bar)
 - Alloy 400: 5000 psig (345 bar)
 - Titanium: 3500 psig (241 bar)
 - Brass: 3000 psig (207 bar)
 - NBH Series—Stainless steel: 10000 psig (690 bar)
- ⦿ Working temperature:
 - PTFE: -65°F to 450°F (-54°C to 232°C)
 - PEEK: -65°F to 500°F (-54°C to 260°C)
 - Graphite: -65°F to 1200°F (-54°C to 649°C)

Pressure vs. Temperature

NB Series



NBH Series

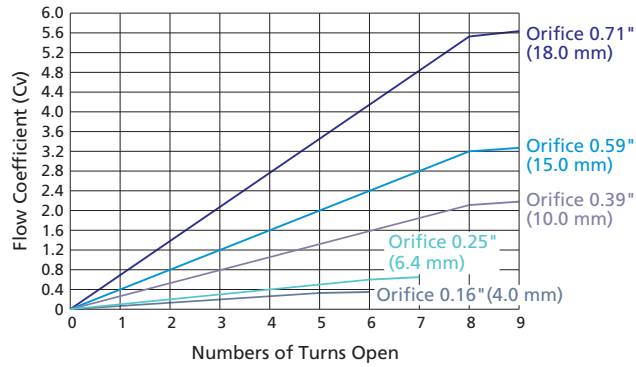


1. Graphs are based on graphite stem packing.
2. Soft suitable for NB series only, 200°F (93°C) max. with PCTFE stem tip (soft tip).
3. Contact the authorized representative or FITOK Group for curve graph of other materials.

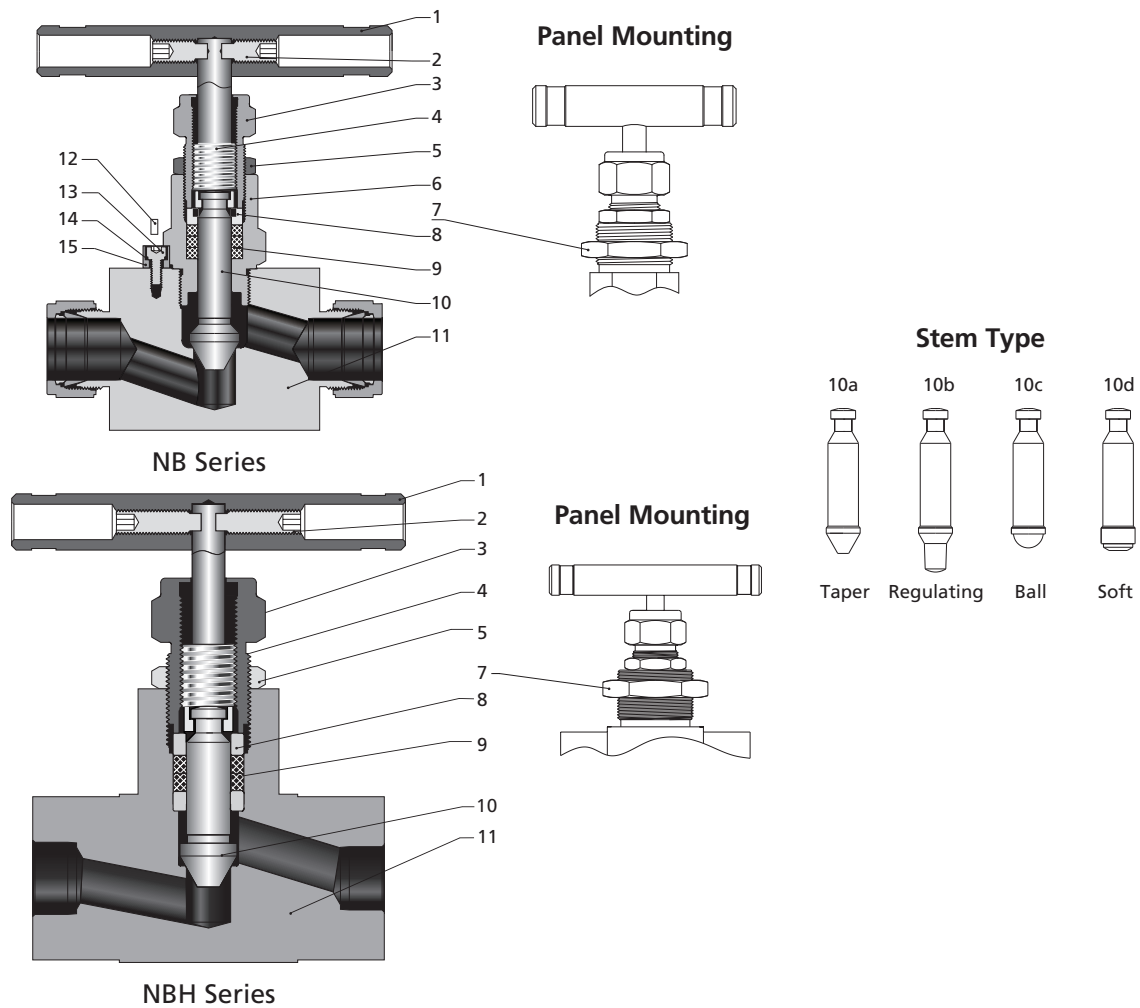
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Flow Data at 100°F (38°C)

Regulating Stem



Standard Materials of Construction

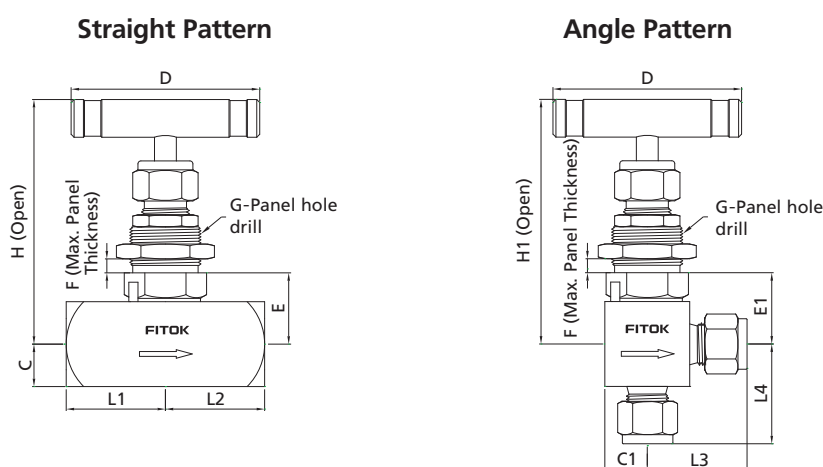


Item	Component	Valve Body Material				
		316 SS	Alloy 400	Titanium	Alloy C-276	Brass
1	Handle	Anodized aluminum or stainless steel or black knob				
2	Set Screw	Stainless steel				
3	Packing Bolt	304 SS/A276			Brass C36000/B16	
4	Upper Stem	316 SS/A276				
5	Lock Nut	Stainless steel				
6	Bonnet	316 SS/A479	Alloy 400/B164	Titanium Gr 4/B348	Alloy C-276/B574	Brass C36000/B16

Item	Component	Valve Body Material				
		316 SS	Alloy 400	Titanium	Alloy C-276	Brass
7	Panel Nut	Stainless steel				Brass C36000/B16
8	Gland	316 SS/A276				
9	Packing	PTFE or PEEK or graphite				
10a 10b 10c 10d	Lower Stem	Chrome-plated 316 SS/A276	Alloy 400/B164	Titanium Gr 4/B348	Alloy C-276/B574	Chrome-plated 316 SS/A276
11	Body	316 SS/A479	Alloy 400/B164	Titanium Gr 4/B348	Alloy C-276/B574	Brass C36000/B16
	Seat	Same as Body				
12	Lock Pin	Stainless steel				
13	Screw	Stainless steel				
14	Spring Washer	Stainless steel				
15	Bush	Stainless steel				
	Lubricant	Molybdenum disulfide-based				

- Item 12 is applied in valves with orifice size 4.0 & 6.0mm. For valves with orifice size 10.0, 15.0 & 18.0mm, item 13, 14 & 15 are used instead of item 12.
- Contact the authorized representative or FITOK Group for valves of other materials.

Dimensions



© NB series valves are standard without panel mounting. To order valves with panel mounting as illustrated, add -Y to the ordering number. Example: NBSS-FNS2-7-Y

Dimensions of NB Series

Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)												
	Inlet	Outlet			L1	L2	L3	L4	C	C1	D	E	E1	F	G	H	H1
NB□□-FNS2-7	1/8 Female NPT	1/8 Female NPT	0.16 (4.0)	0.35	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	0.56 (14.3)	0.50 (12.7)	0.50 (12.7)	2.17 (55)	0.84 (21.4)	0.84 (21.4)	0.25 (6.4)	0.77 (19.6)	2.85 (72.4)	2.85 (72.4)
NB□□-FNS4-7	1/4 Female NPT	1/4 Female NPT			1.06 (26.9)	1.06 (26.9)											
NB□□-NS4-7	1/4 Male NPT	1/4 Male NPT			1.03 (26.2)	1.03 (26.2)	1.06 (26.9)	1.06 (26.9)									
NB□□-NS6-7	3/8 Male NPT	3/8 Male NPT			1.19 (30.2)	1.19 (30.2)											
NB□□-FL4-7	1/4" FITOK	1/4" FITOK			1.20 (30.5)	1.20 (30.5)	1.20 (30.5)	1.20 (30.5)									
NB□□-ML6-7	6 mm FITOK	6 mm FITOK															
NB□□-ML8-7	8 mm FITOK	8 mm FITOK															
NB□□-FNS4-8	1/4 Female NPT	1/4 Female NPT	0.25 (6.4)	0.85	1.12 (28.6)	1.12 (28.6)	1.12 (28.6)	0.63 (15.9)	0.56 (14.3)	0.56 (14.3)	2.50 (63.5)	1.00 (25.4)	0.88 (22.5)	0.38 (9.7)	0.96 (24.4)	3.50 (88.9)	3.50 (88.9)
NB□□-FNS6-8	3/8 Female NPT	3/8 Female NPT			1.41 (35.8)	1.41 (35.8)	1.32 (33.6)	1.32 (33.6)									
NB□□-NS6-8	3/8 Male NPT	3/8 Male NPT															
NB□□-FL6-8	3/8" FITOK	3/8" FITOK															
NB□□-FL8-8	1/2" FITOK	1/2" FITOK															

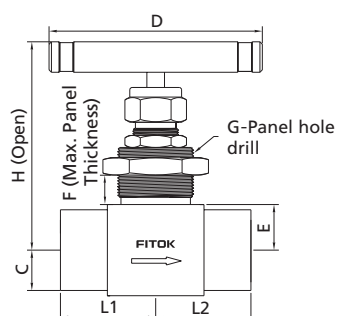
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Dimensions of NB Series

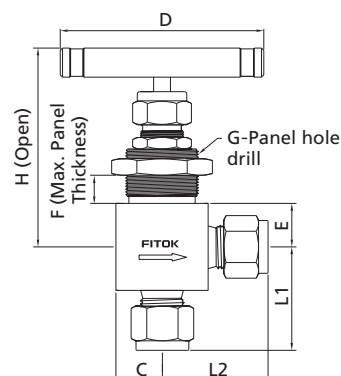
Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)														
	Inlet	Outlet			L1	L2	L3	L4	C	C1	D	E	E1	F	G	H	H1		
NB□□-ML10-8	10 mm FITOK	10 mm FITOK	0.25 (6.4)	0.85	1.42 (36.1)	1.42 (36.1)	1.33 (33.8)	1.33 (33.8)	0.56 (14.3)	0.56 (14.3)	2.50 (63.5)	1.00 (25.4)	0.88 (22.5)	0.38 (9.7)	0.96 (24.4)	3.50 (88.9)	3.50 (88.9)		
NB□□-ML12-8	12 mm FITOK	12 mm FITOK			1.52 (38.6)	1.52 (38.6)	1.42 (36.1)	1.42 (36.1)											
NB□□-ML14-8	14 mm FITOK	14 mm FITOK			1.56 (39.7)	1.56 (39.7)													
NB□□-TS6-8-G	3/8" TS	3/8" TS			1.13 (28.6)	1.13 (28.6)	1.13 (28.6)	1.13 (28.6)											
NB□□-TS8-8-G	1/2" TS	1/2" TS																	
NB□□-MTS12-8-G	12 mm MTS	12 mm MTS			1.50 (38.1)	1.50 (38.1)	1.50 (38.1)	1.50 (38.1)											
NB□□-MTS14-8-G	14 mm MTS	14 mm MTS																	
NB□□-MTS16-8-G	16 mm MTS	16 mm MTS			2.92 (74.1)	2.92 (74.1)													
NB□□-MTB14-8-G	14 mm MTB	14 mm MTB																	
NB□□-MTB16-8-G	16 mm MTB	16 mm MTB			1.50 (38.1)	1.50 (38.1)													
NB□□-UMB14-8	14 mm UMB	14 mm UMB																	
NB□□-UMB16-8	16 mm UMB	16 mm UMB			1.50 (38.1)	1.50 (38.1)													
NB□□-MS20-8	M20 x 1.5 Male Metric	M20 x 1.5 Male Metric																	
NB□□-MS22-8	M22 x 1.5 Male Metric	M22 x 1.5 Male Metric			0.39 (10.0)	2.18	1.75 (44.5)	1.75 (44.5)										1.63 (41.3)	1.50 (38.1)
NB□□-FNS8-9	1/2 Female NPT	1/2 Female NPT																	
NB□□-FNS12-9	3/4 Female NPT	3/4 Female NPT	1.50 (38.1)																
NB□□-NS12-9	3/4 Male NPT	3/4 Male NPT	1.97 (50.0)	1.97 (50.0)					1.61 (41.0)	1.61 (41.0)									
NB□□-FL12-9	3/4" FITOK	3/4" FITOK																	
NB□□-ML14-9	14 mm FITOK	14 mm FITOK	1.75 (44.5)	1.75 (44.5)															
NB□□-ML16-9	16 mm FITOK	16 mm FITOK																	
NB□□-ML18-9	18 mm FITOK	18 mm FITOK	2.98 (75.7)	2.98 (75.7)															
NB□□-MTS14-9-G	14 mm MTS	14 mm MTS																	
NB□□-MTS16-9-G	16 mm MTS	16 mm MTS	1.56 (39.7)	1.56 (39.7)															
NB□□-TS12-9-G	3/4" TS	3/4" TS																	
NB□□-MTB14-9-G	14 mm MTB	14 mm MTB	1.75 (44.5)	1.75 (44.5)															
NB□□-MTB16-9-G	16 mm MTB	16 mm MTB																	
NB□□-UMB14-9	14 mm UMB	14 mm UMB	1.75 (44.5)	1.75 (44.5)															
NB□□-MS27-9	M27 x 2 Male Metric	M27 x 2 Male Metric																	
NB□□-FNS12-6	3/4 Female NPT	3/4 Female NPT	0.59 (15.0)	3.27	1.75 (44.5)	1.75 (44.5)	1.75 (44.5)	1.14 (29.0)	1.14 (29.0)	0.88 (22.2)	5.00 (127)	1.70 (43.2)	1.43 (36.4)	0.38 (9.7)	1.28 (32.5)	5.00 (127)	4.72 (120)		
NB□□-TS16-6-G	1" TS	1" TS					1.75 (44.5)	1.75 (44.5)										1.75 (44.5)	1.75 (44.5)
NB□□-MTS25-6-G	25 mm MTS	25 mm MTS					2.35 (59.7)	2.35 (59.7)										2.35 (59.7)	2.00 (51.0)
NB□□-MTS28-6-G	28 mm MTS	28 mm MTS																	
NB□□-PS12-6-G	3/4 PS	3/4 PS					1.97 (50.0)	1.97 (50.0)											
NB□□-ML22-6	22 mm FITOK	22 mm FITOK																	
NB□□-FNS16-0	1 Female NPT	1 Female NPT	0.71 (18.0)	5.65	1.97 (50.0)	1.97 (50.0)			1.25 (31.75)	5.50 (140)						5.20 (132)			
NB□□-MTS25-0-G	25 mm MTS	25 mm MTS																	
NB□□-TS16-0-G	1" TS	1" TS																	
NB□□-MTS28-0-G	28 mm MTS	28 mm MTS																	
NB□□-PS12-0-G	3/4 PS	3/4 PS																	
NB□□-PS16-0-G	1 PS	1 PS																	

1. FITOK means FITOK double ferrule tube fittings, TS means fractional tube socket weld, MTS means metric tube socket weld, MTB means metric tube butt weld, UMB means nut + gasket + metric bulge nipple, PS means pipe socket weld.
2. For Butt or Socket end connections, please prior to choose graphite as packing material, avoiding damage non graphite packing material due to the high temperature when welding.
3. Sizes and types listed are standard. Other sizes and types are available upon request, refer to the ordering information.
4. Dimensions are shown with FITOK nuts finger-tightened. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.

Straight Pattern



Angle Pattern



© NBH series valves are standard without panel mounting. To order valves with panel mounting as illustrated, add -Y to the ordering number. Example: NBHSS-FNS2-7-Y

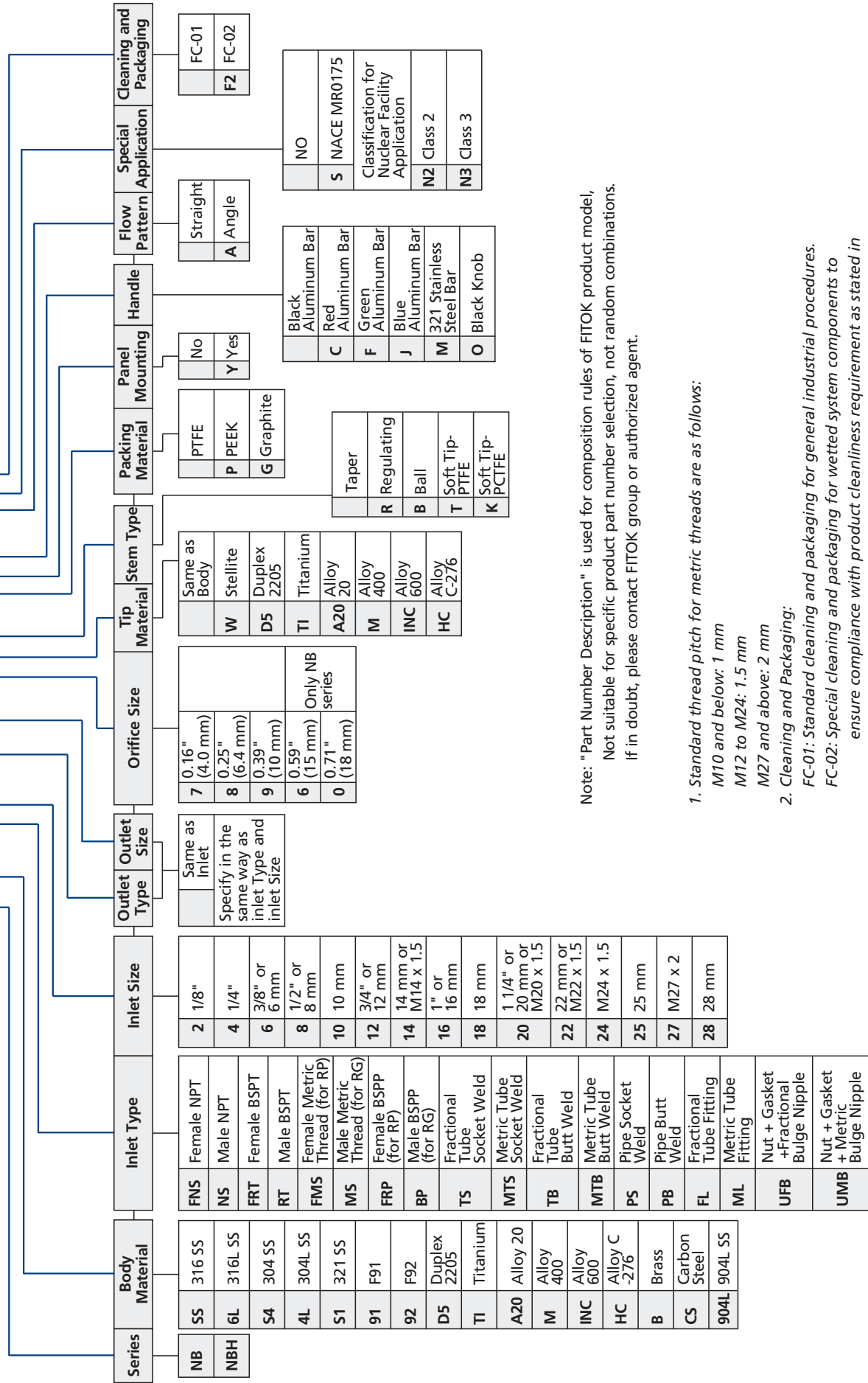
Dimensions of NBH Series

Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)							
	Inlet	Outlet			L1	L2	C	D	E	F	G	H
NBH□□-FNS2-7	1/8 Female NPT	1/8 Female NPT	0.157 (4.0)	0.35	1.13 (28.6)	1.13 (28.6)	0.53 (13.5)	2.17 (55)	0.53 (13.5)	0.25 (6.4)	0.96 (24.4)	2.85 (72.5)
NBH□□-FNS4-7	1/4 Female NPT	1/4 Female NPT										
NBH□□-NS4-7	1/4 Male NPT	1/4 Male NPT										
NBH□□-FNS4-NS4-7	1/4 Female NPT	1/4 Male NPT										
NBH□□-FL4-7	1/4" FITOK	1/4" FITOK										
NBH□□-TS4-7-G	1/4" TS	1/4" TS										
NBH□□-FNS4-8	1/4 Female NPT	1/4 Female NPT	0.236 (6.4)	0.85	1.31 (33.4)	1.31 (33.4)	0.625 (15.88)	2.50 (63.5)	0.625 (15.88)	0.38 (9.7)	1.09 (27.7)	3.50 (88.9)
NBH□□-FNS6-8	3/8 Female NPT	3/8 Female NPT										
NBH□□-NS6-8	3/8 Male NPT	3/8 Male NPT										
NBH□□-FNS8-9	1/2 Female NPT	1/2 Female NPT	0.39 (10.0)	2.18	1.56 (39.6)	1.56 (39.6)	0.875 (22.2)	3.50 (88.9)	0.875 (22.2)	0.38 (9.7)	1.28 (32.5)	4.17 (106)

1. FITOK means FITOK double ferrule tube fittings, TS means fractional tube socket weld.
2. For Butt or Socket end connections, please prior to choose graphite as packing material, avoiding damage non graphite packing material due to the high temperature when welding.
3. Sizes and types listed are standard. Other sizes and types are available upon request, refer to the ordering information.
4. Dimensions are shown with FITOK nuts finger-tightened. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group

Part Number Description

NBSS - FL8 - ML12 - 8WB - GYM - ASF2



Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. if in doubt, please contact FITOK group or authorized agent.

1. Standard thread pitch for metric threads are as follows:

- M10 and below: 1 mm
- M12 to M24: 1.5 mm
- M27 and above: 2 mm

2. Cleaning and Packaging:

- FC-01: Standard cleaning and packaging for general industrial procedures.
- FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C.

Nonrotating-stem Needle Valves

ND Series: Working pressure up to 3000 psig

NDH Series: Working pressure up to 5000 psig

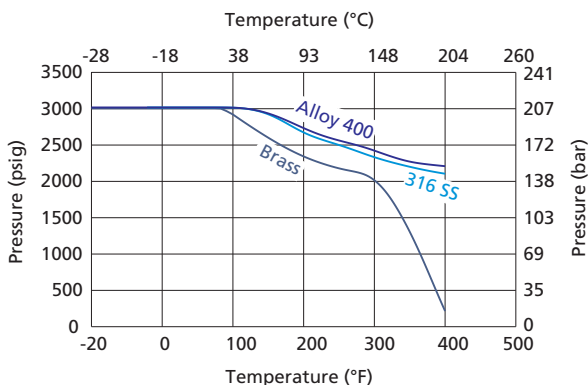
Features

- ⦿ One-piece forged body.
- ⦿ Straight and angle pattern.
- ⦿ Compact design.
- ⦿ Non-rotating stem.
- ⦿ Specially designed handle to stop contamination from entering into the valve.
- ⦿ Leak-tight performance testing for every valve with nitrogen/air at the maximum working pressure.
- ⦿ Working pressure up to:
 - ND Series—Stainless steel: 3000 psig (207 bar)
 - Brass: 3000 psig (207 bar)
 - NDH Series—Stainless steel: 5000 psig(345 bar)
- ⦿ Working temperature for stem tip:
 - PCTFE stem tip: -20°F to 200°F (-28°C to 93°C)
 - PEEK stem tip: -20°F to 450°F (-28°C to 232°C)
- ⦿ Working temperature for O-ring:
 - Fluorocarbon FKM : -20°F to 400°F (-28°C to 204°C)
 - Buna N : -20°F to 212°F (-28°C to 100°C)
 - Ethylene Propylene: -20°F to 300°F (-28°C to 148°C)

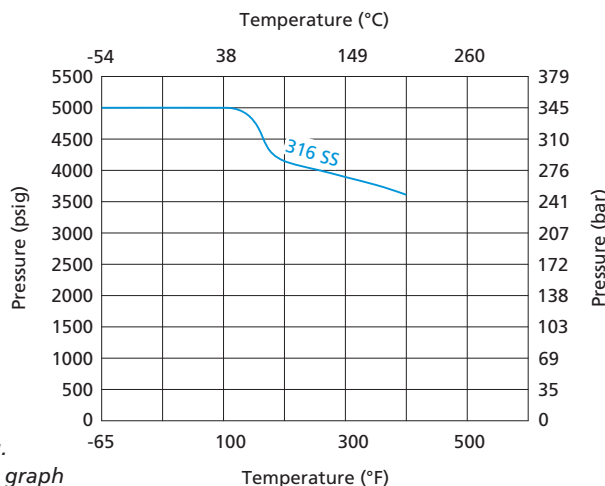


Pressure vs. Temperature

ND Series

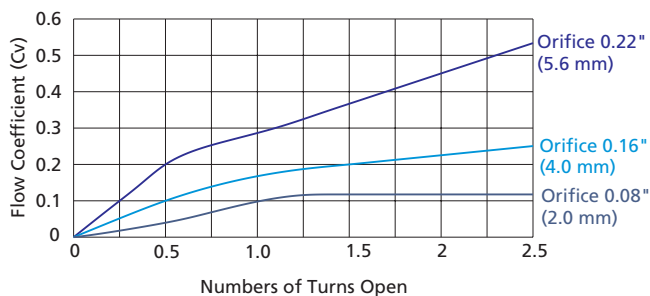


NDH Series

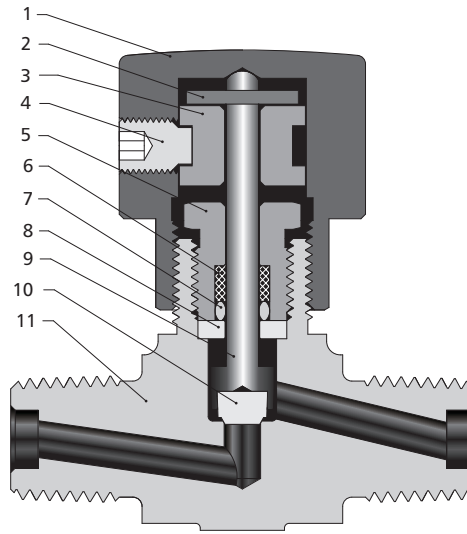


1. The graphs are based on PEEK stem tip and Fluorocarbon O-ring.
2. Contact the authorized representative or FITOK Group for curve graph of other materials.

Flow Data at 100°F (38°C)

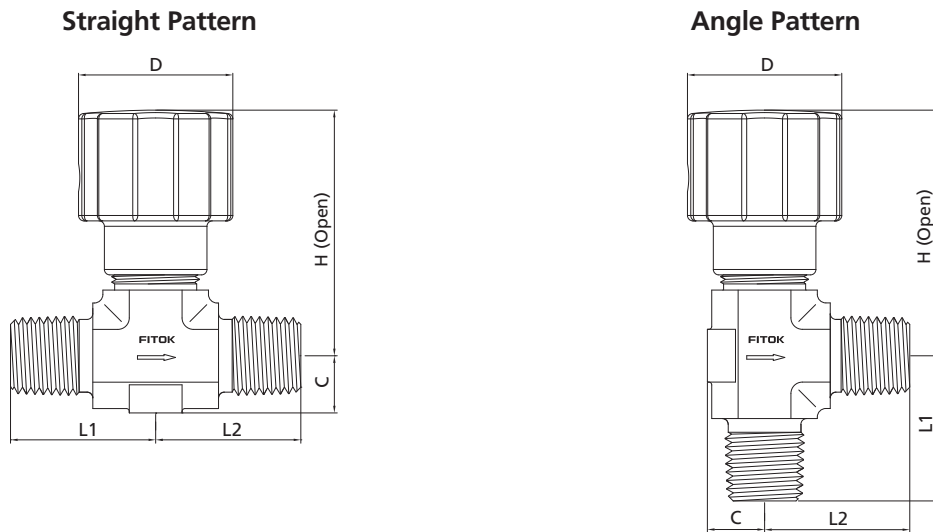


Standard Materials of Construction



Item	Component	Valve Body Material				
		316 SS	304 SS	321 SS	Brass	Alloy 400
1	Handle	Anodized aluminum				
2	Stop Pin	Stainless steel				
3	Spool	Aluminum				
4	Set Screw	Stainless steel				
5	Packing Bolt	316 SS/A276	304 SS/A276	321 SS/A276	Brass C36000/B16	Alloy 400/B164
6	Backup Ring	PTFE/D1710				
7	O-ring	Fluorocarbon FKM, Buna N or Ethylene propylene				
8	Washer	316 SS/A276				Alloy 400/B164
9	Stem	316 SS/A276				Alloy 400/B164
10	Stem Tip	PCTFE or PEEK				
11	Body	316 SS/A182	316 SS/A182	316 SS/A182	Brass C37700/B283	Alloy 400/B564
	Lubricant	Molybdenum disulfide-based				

Dimensions

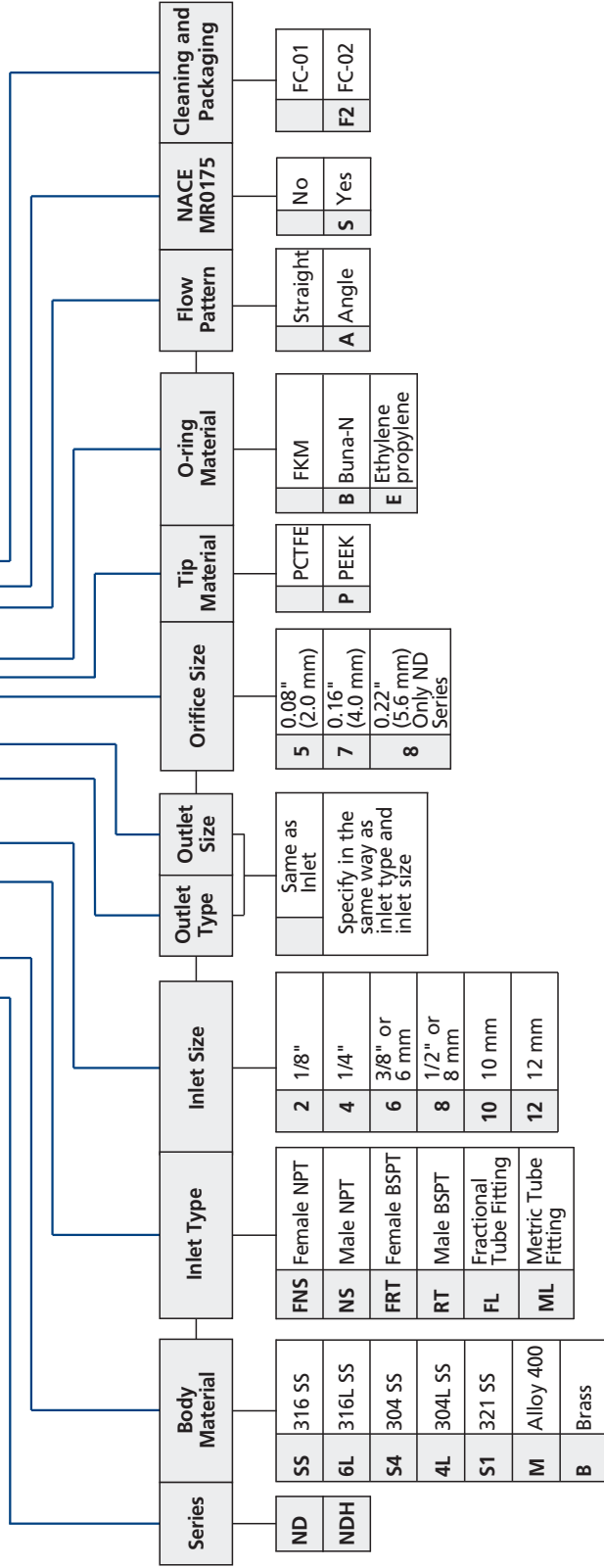


Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)				
	Inlet	Outlet			L1	L2	C	D	H
ND□□-NS2-5	1/8 Male NPT	1/8 Male NPT	0.08 (2.0)	0.12	0.81 (20.6)	0.81 (20.6)	0.32 (8.1)	1.06 (26.9)	1.86 (47.2)
ND□□-NS2-FL2-5	1/8" Male NPT	1/8" Male NPT							
ND□□-FL2-5	1/8" FITOK	1/8" FITOK			1.10 (27.9)	1.10 (27.9)			
ND□□-ML3-5	3 mm FITOK	3 mm FITOK							
ND□□-FNS2-7	1/8 Female NPT	1/8 Female NPT	0.16 (4.0)	0.27	0.98 (25.0)	0.98 (25.0)	0.39 (10.0)	1.06 (26.9)	1.86 (47.2)
ND□□-NS4-7	1/4 Male NPT	1/4 Male NPT							
ND□□-NS4-FL4-7	1/4" Male NPT	1/4" Male NPT							
ND□□-FL4-7	1/4" FITOK	1/4" FITOK			1.13 (28.7)	1.13 (28.7)			
ND□□-ML6-7	6 mm FITOK	6 mm FITOK			1.18 (30.0)	1.18 (30.0)			
ND□□-ML8-7	8 mm FITOK	8 mm FITOK							
ND□□-FNS4-8	1/4 Female NPT	1/4 Female NPT	0.22 (5.6)	0.53	1.06 (26.9)	1.06 (26.9)	0.53 (13.5)	1.12 (28.4)	2.02 (51.3)
ND□□-NS6-8	3/8 Male NPT	3/8 Male NPT			1.12 (28.6)	1.12 (28.6)			
ND□□-FL6-8	3/8" FITOK	3/8" FITOK			1.29 (32.8)	1.29 (32.8)			
ND□□-FL8-8	1/2" FITOK	1/2" FITOK			1.40 (35.6)	1.40 (35.6)			
ND□□-ML10-8	10 mm FITOK	10 mm FITOK			1.30 (33.0)	1.30 (33.0)			
ND□□-ML12-8	12 mm FITOK	12 mm FITOK			1.40 (35.6)	1.40 (35.6)			
NDH□□-NS2-5	1/8 Male NPT	1/8 Male NPT			0.08 (2.0)	0.12			
NDH□□-FL2-5	1/8" FITOK	1/8" FITOK							
NDH□□-ML3-5	3 mm FITOK	3 mm FITOK	1.10 (27.9)	1.10 (27.9)					
NDH□□-NS4-7	1/4" Male NPT	1/4" Male NPT	0.16 (4.0)	0.27	0.98 (25.0)	0.95 (25.0)	0.39 (10.0)	1.06 (26.9)	1.98 (50.2)
NDH□□-FL4-7	1/4" FITOK	1/4" FITOK			1.13 (28.7)	1.13 (28.7)			
NDH□□-ML6-7	6 mm FITOK	6 mm FITOK							

1. FITOK means FITOK double ferrule tube fittings.
2. Sizes and types listed are standard. Other sizes and types are available upon request, refer to the ordering information.
3. Dimensions are shown with FITOK nuts finger-tightened. All dimensions are for reference only and are subject to change.
For dimensions not shown above, please contact the authorized representative of FITOK Group.

Part Number Description

NDSS - FNS4 - ML8 - 7PE - ASF2



Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK group or authorized agent.

- Standard thread pitch for metric threads are as follows:
 M10 and below: 1 mm
 M12 to M24: 1.5 mm
 M27 and above: 2 mm
 Standard thread pitch should be ignored in the ordering number, others should be specified.
- Cleaning and Packaging:
 FC-01: Standard cleaning and packaging for general industrial procedures.
 FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C.

Forged Needle Valves

NF Series: Working pressure up to 6000 psig

NFH Series: Working pressure up to 10000 psig

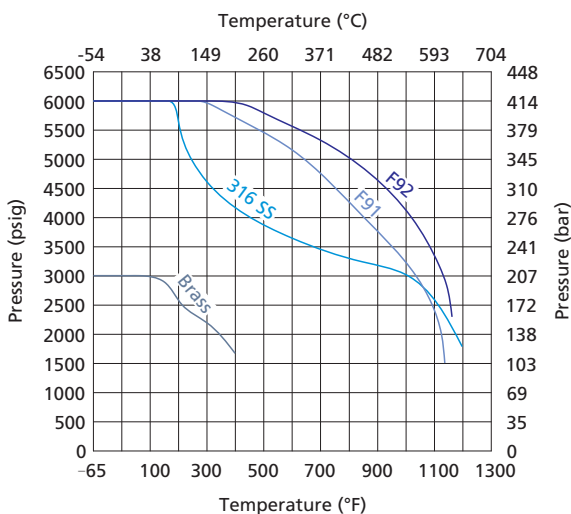
Features

- ⦿ One-piece forged body.
- ⦿ Two-stem design: thread hardened upper stem and smooth surface hardened lower stem.
- ⦿ Upper stem thread lubricant isolated from system media.
- ⦿ Linearly instead of helical movement of the nonrotating lower stem, avoiding galling damage to the seat and tip, as well as reducing the total friction area between the packing and the lower stem.
- ⦿ Panel mounting available as an option.
- ⦿ Steady and durable fastening of the handle by double lock-pins.
- ⦿ Handle color options are available
- ⦿ Leak-tight performance testing for every valve with nitrogen/air at the maximum working pressure, but not higher than 6000 psig.
- ⦿ Working pressure up to:
 - NF Series—Stainless steel: 6000 psig (414 bar)
 - Alloy C-276: 6000 psig (414 bar)
 - Alloy 400: 5000 psig (345 bar)
 - Titanium: 3500 psig (241 bar)
 - Brass: 3000 psig (207 bar)
- ⦿ NFH Series—Stainless steel: 10000 psig (690 bar)
- ⦿ Working temperature:
 - PTFE: -65°F to 450°F (-54°C to 232°C)
 - PEEK: -65°F to 500°F (-54°C to 260°C)
 - Graphite: -65°F to 1200°F (-54°C to 649°C)

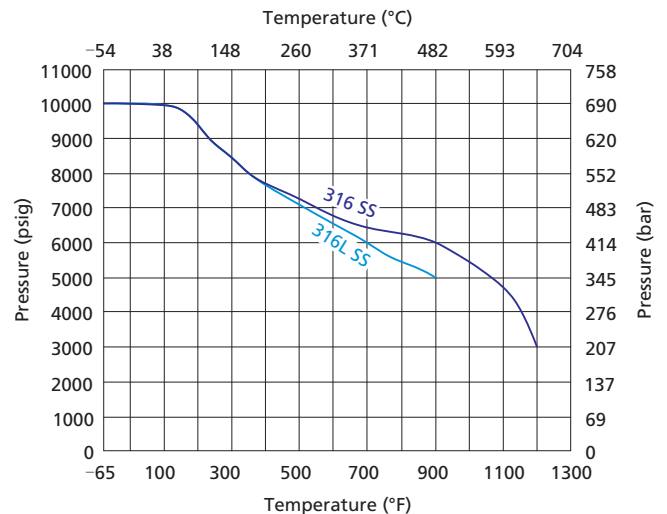


Pressure vs. Temperature

NF Series



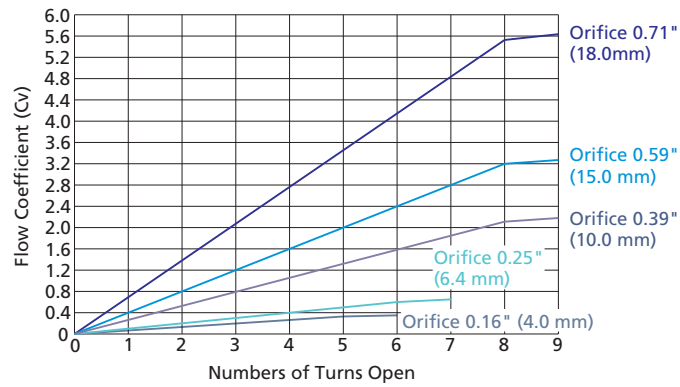
NFH Series



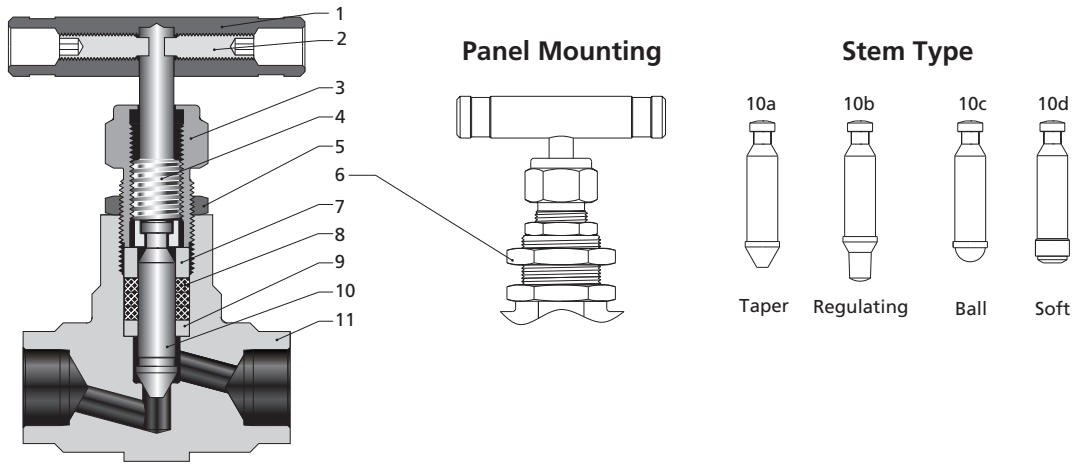
1. Graphs are based on graphite stem packing.
2. Suitable for NF series only, 200°F (93°C) max. with PCTFE stem tip (soft tip).
3. Contact the authorized representative or FITOK Group for curve graph of other materials.

Flow Data at 100°F (38°C)

Regulating Stem

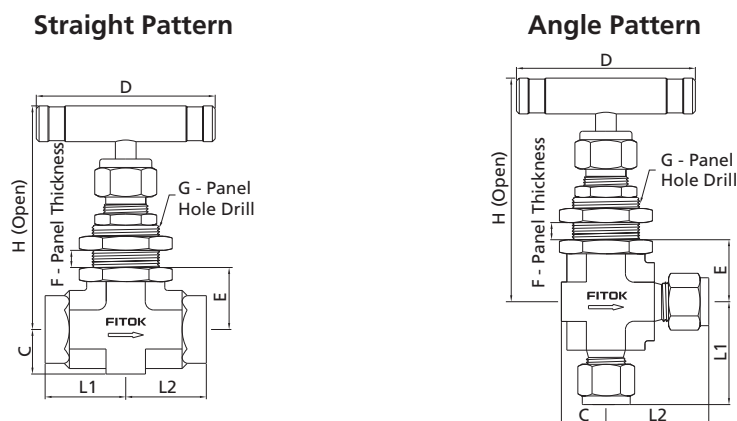


Standard Materials of Construction



Item	Component	Valve Body Material		
		316 SS	F91	Brass
1	Handle	Anodized aluminum or stainless steel or black knob		
2	Set Screw	Stainless steel		
3	Packing Bolt	304 SS/A276	F91/A182	Brass C36000/B16
4	Upper Stem	316 SS/A276		
5	Lock Nut	Stainless steel	1020/A108	Brass C36000/B16
6	Panel Nut	Stainless steel	1020/A108	Brass C36000/B16
7	Gland	316 SS/A276		Brass C36000/B16
8	Packing	PTFE or PEEK or graphite		
9	Packing Washer	316 SS/A276		Brass C36000/B16
10a 10b 10c 10d	Lower Stem	Chrome-plated 316 SS/A276		
11	Body	316 SS/A182	F91/A182	Brass C37700/B283
	Seat	Same as Body		
	Lubricant	Molybdenum disulfide-based		

Dimensions



© NF series valves are standard without panel mounting. To order valves with panel mounting as illustrated, add -Y to the ordering number. Example: NF55-FNS2-7-Y

Dimensions of NF Series

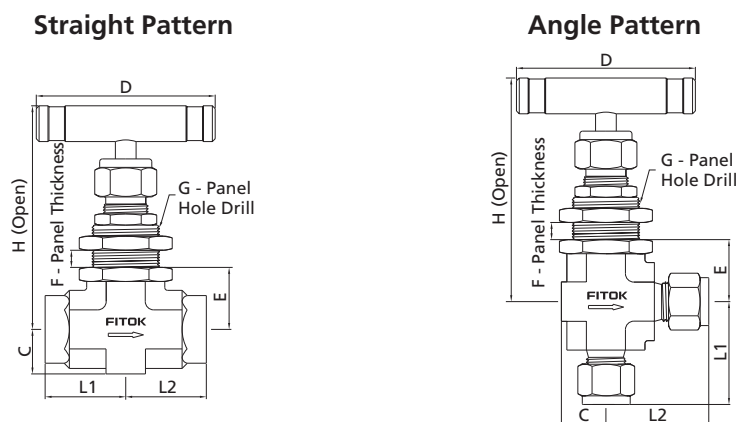
Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)							
	Inlet	Outlet			L1	L2	H	D	C	E	F	G
NF□□-FNS2-7	1/8 Female NPT	1/8 Female NPT	0.16 (4.0)	0.35	1.00 (25.4)	1.00 (25.4)	2.85 (72.5)	2.17 (55)	0.53 (13.5)	0.71 (18.0)	0.25 (6.4)	0.77 (19.6)
NF□□-FNS4-7	1/4 Female NPT	1/4 Female NPT			1.03 (26.2)	1.03 (26.2)						
NF□□-FL4-7	1/4" FITOK	1/4" FITOK			1.22 (30.9)	1.22 (30.9)						
NF□□-ML6-7	6 mm FITOK	6 mm FITOK			1.25 (31.75)	1.25 (31.75)						
NF□□-ML8-7	8 mm FITOK	8 mm FITOK			1.03 (26.2)	1.03 (26.2)						
NF□□-NS4-7	1/4 Male NPT	1/4 Male NPT			1.13 (28.6)	1.13 (28.6)						
NF□□-NS6-7	3/8 Male NPT	3/8 Male NPT										
NF□□-FO4-7	1/4" Male FO	1/4" Male FO										
NF□□-FR4-7	1/4" Male FR	1/4" Male FR										
NF□□-FNS4-8	1/4 Female NPT	1/4 Female NPT	0.25 (6.4)	0.85	1.13 (28.6)	1.13 (28.6)	3.38 (85.8)	2.50 (63.5)	0.62 (15.8)	0.87 (22.0)	0.38 (9.7)	0.96 (24.4)
NF□□-FNS6-8	3/8 Female NPT	3/8 Female NPT			1.42 (36.1)	1.42 (36.1)						
NF□□-NS6-8	3/8 Male NPT	3/8 Male NPT			1.44 (36.5)	1.44 (36.5)						
NF□□-FL6-8	3/8" FITOK	3/8" FITOK			1.53 (38.9)	1.53 (38.9)						
NF□□-ML10-8	10 mm FITOK	10 mm FITOK			1.56 (39.7)	1.56 (39.7)						
NF□□-ML12-8	12 mm FITOK	12 mm FITOK			1.26 (32.0)	1.26 (32.0)						
NF□□-ML14-8	14 mm FITOK	14 mm FITOK			1.50 (38.1)	1.50 (38.1)						
NF□□-FNS8-8	1/2 Female NPT	1/2 Female NPT			1.53 (38.9)	1.53 (38.9)						
NF□□-NS8-8	1/2 Male NPT	1/2 Male NPT			1.13 (28.6)	1.13 (28.6)						
NF□□-FL8-8	1/2" FITOK	1/2" FITOK			1.50 (38.1)	1.50 (38.1)						
NF□□-TS6-8-G	3/8" TS	3/8" TS			2.92 (74.1)	2.92 (74.1)						
NF□□-TS8-8-G	1/2" TS	1/2" TS			1.13 (28.6)	1.13 (28.6)						
NF□□-MTS12-8-G	12 mm MTS	12 mm MTS			1.50 (38.1)	1.50 (38.1)						
NF□□-MTS14-8-G	14 mm MTS	14 mm MTS			1.50 (38.1)	1.50 (38.1)						
NF□□-MTS16-8-G	16 mm MTS	16 mm MTS			1.50 (38.1)	1.50 (38.1)						
NF□□-MTB14-8-G	14 mm MTB	14 mm MTB			1.50 (38.1)	1.50 (38.1)						
NF□□-MTB16-8-G	16 mm MTB	16 mm MTB	1.50 (38.1)	1.50 (38.1)								
NF□□-UMB14-8	14 mm UMB	14 mm UMB	1.50 (38.1)	1.50 (38.1)								
NF□□-UMB16-8	16 mm UMB	16 mm UMB	1.50 (38.1)	1.50 (38.1)								
NF□□-FO8-8	1/2" Male FO	1/2" Male FO	1.13 (28.6)	1.13 (28.6)								
NF□□-FR8-8	1/2" Male FR	1/2" Male FR	1.56 (39.7)	1.56 (39.7)								
NF□□-MS20-8	M20 x 1.5 Male Metric	M20 x 1.5 Male Metric	1.50 (38.1)	1.50 (38.1)								

14 Needle Valves

Dimensions of NF Series

Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)							
	Inlet	Outlet			L1	L2	H	D	C	E	F	G
NF□□-MS22-8	M22 x 1.5 Male Metric	M22 x 1.5 Male Metric	0.25 (6.4)	0.85	1.50 (38.1)	1.50 (38.1)	3.38 (85.8)	2.50 (63.5)	0.62 (15.8)	0.87 (22.0)	0.38 (9.7)	0.96 (24.4)
NF□□-FNS8-9	1/2 Female NPT	1/2 Female NPT	0.39 (10.0)	2.18	1.56 (39.7)	1.56 (39.7)	3.86 (98.0)	3.50 (88.9)	0.86 (22.5)	1.10 (28.3)	0.38 (9.7)	1.08 (27.5)
NF□□-FNS12-9	3/4 Female NPT	3/4 Female NPT							0.86 (22.5)			
NF□□-NS8-9	1/2 Male NPT	1/2 Male NPT							0.76 (19.4)			
NF□□-NS12-9	3/4 Male NPT	3/4 Male NPT										
NF□□-FL12-9	3/4" FITOK	3/4" FITOK			1.97 (50.0)	1.97 (50.0)						
NF□□-ML14-9	14 mm FITOK	14 mm FITOK										
NF□□-ML16-9	16 mm FITOK	16 mm FITOK			1.56 (39.7)	1.56 (39.7)						
NF□□-ML18-9	18 mm FITOK	18 mm FITOK										
NF□□-ML20-9	20 mm FITOK	20 mm FITOK			3.86 (98.0)	3.50 (88.9)						
NF□□-MTS14-9-G	14 mm MTS	14 mm MTS										
NF□□-MTS16-9-G	16 mm MTS	16 mm MTS			1.56 (39.7)	1.56 (39.7)						
NF□□-MTS18-9-G	18 mm MTS	18 mm MTS										
NF□□-TS12-9-G	3/4" TS	3/4" TS			0.86 (22.5)							
NF□□-PS8-9-G	1/2 PS	1/2 PS										
NF□□-MTB16-9-G	16 mm MTB	16 mm MTB			2.98 (75.7)	2.98 (75.7)						
NF□□-UMB14-9	14 mm UMB	14 mm UMB										
NF□□-UMB16-9	16 mm UMB	16 mm UMB	1.56 (39.7)	1.56 (39.7)								
NF□□-FO12-9	3/4" Male FO	3/4" Male FO										
NF□□-FR12-9	3/4" Male FR	3/4" Male FR	0.76 (19.4)									
NF□□-MS27-9	M27 x 2 Male Metric	M27 x 2 Male Metric										
NF□□-FNS12-6	3/4 Female NPT	3/4 Female NPT	0.59 (15.0)	3.27	1.97 (50.0)	1.97 (50.0)	5.00 (127)	5.00 (127)	1.08 (27.5)	1.61 (41.0)	0.38 (9.7)	1.45 (36.8)
NF□□-TS16-6-G	1" TS	1" TS										
NF□□-MTS25-6-G	25 mm MTS	25 mm MTS										
NF□□-MTS28-6-G	28 mm MTS	28 mm MTS										
NF□□-PS12-6-G	3/4 PS	3/4 PS			2.35 (59.7)	2.35 (59.7)						
NF□□-PB12-6-G	3/4 PB	3/4 PB										
NF□□-FL12-6	3/4" FITOK	3/4" FITOK			5.33 (135.4)	5.00 (127)						
NF□□-FL16-6	1" FITOK	1" FITOK										
NF□□-ML20-6	20 mm FITOK	20 mm FITOK			1.97 (50.0)	1.97 (50.0)						
NF□□-ML22-6	22 mm FITOK	22 mm FITOK										
NF□□-ML25-6	25 mm FITOK	25 mm FITOK	1.08 (27.5)	1.61 (41.0)								
NF□□-FNS16-0	1 Female NPT	1 Female NPT										
NF□□-TS16-0-G	1" TS	1" TS	0.38 (9.7)	1.45 (36.8)								
NF□□-MTS25-0-G	25 mm MTS	25 mm MTS										
NF□□-MTS28-0-G	28 mm MTS	28 mm MTS	0.71 (18.0)	5.65								
NF□□-PS12-0-G	3/4 PS	3/4 PS										
NF□□-PB16-0-G	1 PB	1 PB										

1. FITOK means FITOK double ferrule tube fittings, FO means O-ring seal fittings, FR means metal gasket seal fittings, TS means fractional tube socket weld, MTS means metric tube socket weld, MTB means metric tube butt weld, UMB means nut + gasket + metric bulge nipple, PS means pipe socket weld, PB means pipe butt weld.
2. For Butt or Socket end connections, please prior to choose graphite as packing material, avoiding damage non graphite packing material due to the high temperature when welding.
3. Sizes and types listed are standard. Other sizes and types are available upon request, refer to the ordering information.
4. Dimensions are shown with FITOK nuts finger-tightened. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.



© NFH series valves are standard without panel mounting. To order valves with panel mounting as illustrated, add -Y to the ordering number. Example: NFHSS-FNS2-7-Y

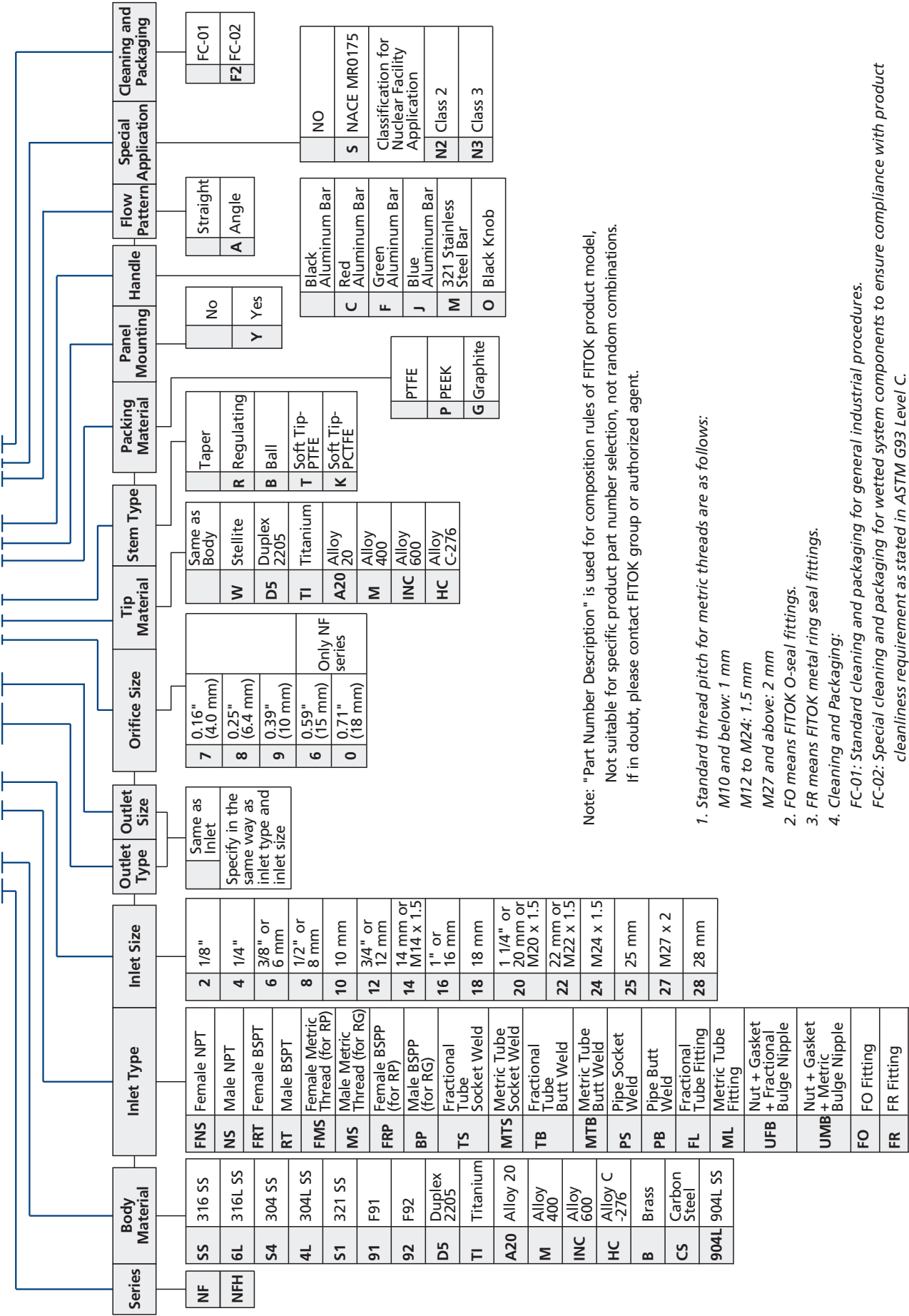
Dimensions of NFH Series

Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)							
	Inlet	Outlet			L1	L2	H	D	C	E	F	G
NFH□□-FNS2-7	1/8 Female NPT	1/8 Female NPT	0.16 (4.0)	0.35	1.00 (25.4)	1.00 (25.4)	2.85 (72.5)	2.17 (55.0)	0.62 (15.8)	0.76 (19.4)	0.25 (6.4)	0.77 (19.6)
NFH□□-FNS4-7	1/4 Female NPT	1/4 Female NPT			1.06 (26.2)	1.06 (26.2)						
NFH□□-NS4-7	1/4 Male NPT	1/4 Male NPT			1.22 (30.9)	1.22 (30.9)						
NFH□□-FNS4-NS4-7	1/4 Female NPT	1/4 Male NPT			1.06 (26.2)	1.22 (30.9)						
NFH□□-FL4-7	1/4" FITOK	1/4" FITOK			1.41 (35.8)	1.41 (35.8)						
NFH□□-TS4-7-G	1/4" TS	1/4" TS			1.06 (26.2)	1.06 (26.2)						
NFH□□-FNS4-8	1/4 Female NPT	1/4 Female NPT	0.25 (6.4)	0.85	1.12 (28.6)	1.12 (28.6)	3.38 (85.8)	2.50 (63.5)	0.76 (19.4)	0.87 (22.0)	0.38 (9.7)	0.96 (24.4)
NFH□□-FNS6-8	3/8 Female NPT	3/8 Female NPT			1.50 (38.1)	1.50 (38.1)						
NFH□□-NS6-8	3/8 Male NPT	3/8 Female NPT										

1. FITOK means FITOK double ferrule tube fittings, TS means fractional tube socket weld.
2. For Butt or Socket end connections, please prior to choose graphite as packing material, avoiding damage non graphite packing material due to the high temperature when welding.
3. Sizes and types listed are standard. Other sizes and types are available upon request, refer to the ordering information.
4. Dimensions are shown with FITOK nuts finger-tightened. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.

Part Number Description

NFS4 - TS16 - MTS25 - 6WR - GYM - ASF2



Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK group or authorized agent.

- Standard thread pitch for metric threads are as follows:
 M10 and below: 1 mm
 M12 to M24: 1.5 mm
 M27 and above: 2 mm
- FO means FITOK O-seal fittings.
- FR means FITOK metal ring seal fittings.
- Cleaning and Packaging:
 FC-01: Standard cleaning and packaging for general industrial procedures.
 FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C.

General Purpose Needle Valves

NG Series: Working pressure up to 3000 psig

NGH Series: Working pressure up to 5000 psig

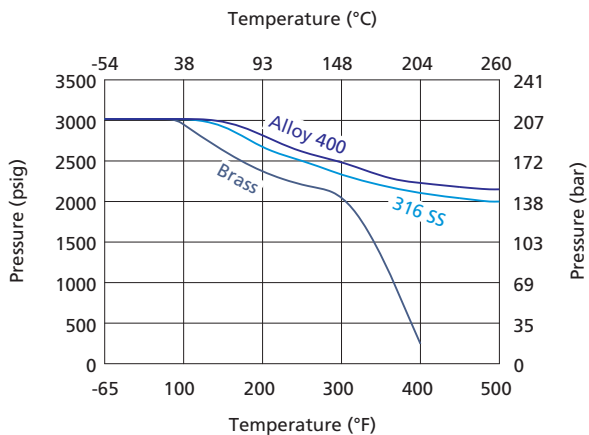
Features

- ⦿ One-piece forged body.
- ⦿ Easy external adjustments by packing nut.
- ⦿ Live-loaded packing system.
- ⦿ Handle of different colors available for option.
- ⦿ Compact design.
- ⦿ Panel mounting available as an option.
- ⦿ Leak-tight performance testing for every valve with nitrogen/air at the maximum working pressure.
- ⦿ Working pressure up to:
 - NG Series—Stainless steel, Brass, Alloy 400: 3000 psig (207 bar)
 - NGH Series—Stainless steel: 5000 psig (345 bar)
- ⦿ Working temperature:
 - PTFE: -65°F to 450°F (-54°C to 232°C)
 - PEEK: -65°F to 500°F (-54°C to 260°C)

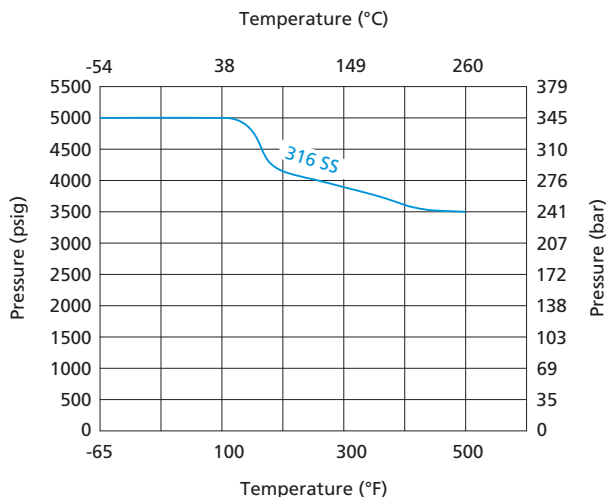


Pressure vs. Temperature

NG Series



NGH Series

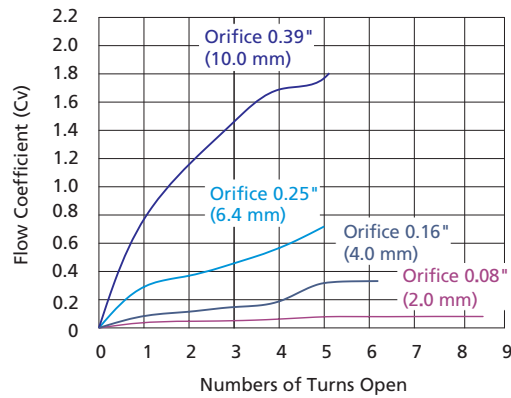


1. Graphs are based on PEEK stem packing.
2. 200°F (93°C) max with PCTFE stem tip (soft tip).
3. Contact the authorized representative or FITOK Group for curve graph of other materials.

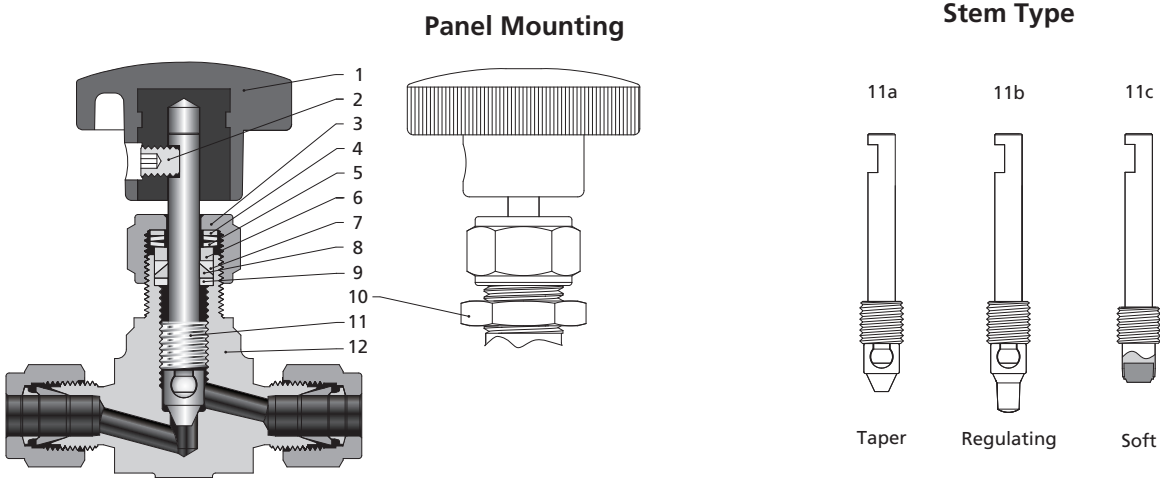
18 Needle Valves

Flow Data at 100°F (38°C)

Regulating Stem



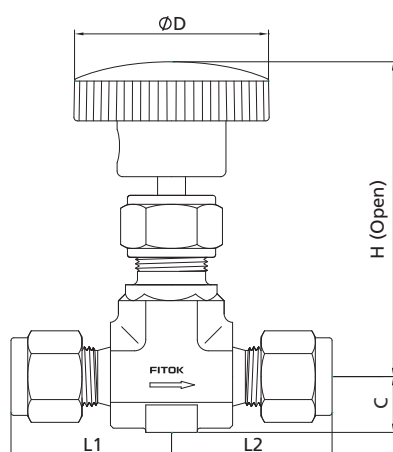
Standard Materials of Construction



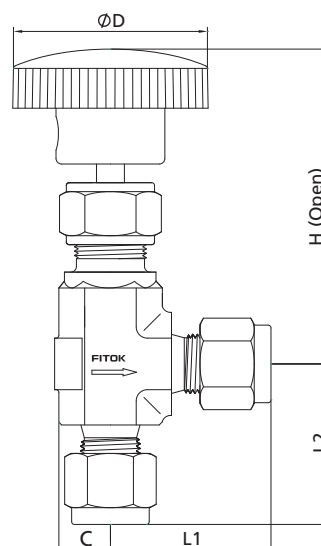
Item	Component	Valve Body Material		
		316 SS	Brass	Alloy
1	Handle	Anodized aluminum or stainless steel or black knob		
2	Set Screw	Stainless steel		
3	Packing Bolt	304 SS/A276	Brass C36000/B16	Alloy 400/B164
4	Washer	316 SS/A276		
5	Packing Spring	S17700/A693		
6	Washer	316 SS/A276		
7	Upper Packing	PTFE/PEEK		
8	Lower Packing			
9	Packing Washer	316 SS/A276		
10	Panel Nut	Stainless steel		
11a	Stem	Chrome-plated 316 SS/A276		
11b	Stem	Chrome-plated 316 SS/A276		
11c	Stem	316 SS/A276		
	Stem Tip	PCTFE/D1430 or PEEK		
12	Body	316 SS/A182	Brass C37700/B283	Alloy 400/B564
	Lubricant	Molybdenum disulfide-based		

Dimensions

Straight Pattern



Angle Pattern



Dimensions of NG Series

Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)								
	Inlet	Outlet			L1	L2	C	D	H				
NG□□-NS2-5	1/8 Male NPT	1/8 Male NPT	0.08 (2.0)	0.09	0.75 (19.05)	0.75 (19.05)	0.31 (7.9)	1.00 (25.4)	2.28 (57.9)				
NG□□-FNS2-5	1/8 Female NPT	1/8 Female NPT			0.81 (20.6)	0.81 (20.6)							
NG□□-FL2-5	1/8" FITOK	1/8" FITOK			0.98 (25.0)	0.98 (25.0)							
NG□□-ML3-5	3 mm FITOK	3 mm FITOK											
NG□□-FNS2-7	1/8 Female NPT	1/8 Female NPT	0.16 (4.0)	0.35	0.81 (20.6)	0.81 (20.6)	0.39 (9.9)	1.38 (35.0)	2.50 (63.5)				
NG□□-NS4-7	1/4 Male NPT	1/4 Male NPT			0.98 (25.0)	0.98 (25.0)							
NG□□-FL4-7	1/4" FITOK	1/4" FITOK			1.13 (28.7)	1.13 (28.7)							
NG□□-ML6-7	6 mm FITOK	6 mm FITOK			1.17 (29.7)	1.17 (29.7)							
NG□□-ML8-7	8 mm FITOK	8 mm FITOK											
NG□□-UMB6-7	6 mm UMB	6 mm UMB			2.24 (57.0)	2.24 (57.0)							
NG□□-FNS4-8	1/4 Female NPT	1/4 Female NPT	0.25 (6.4)	0.70	1.06 (26.9)	1.06 (26.9)	0.53 (13.5)	1.88 (47.8)	2.97 (75.4)				
NG□□-FNS6-8	3/8 Female NPT	3/8 Female NPT					0.62 (15.8)						
NG□□-NS6-8	3/8 Male NPT	3/8 Male NPT			1.12 (28.4)	1.12 (28.4)	0.53 (13.5)						
NG□□-NS8-8	1/2 Male NPT	1/2 Male NPT			1.50 (38.1)	1.50 (38.1)	0.62 (15.8)						
NG□□-FL6-8	3/8" FITOK	3/8" FITOK			1.29 (32.8)	1.29 (32.8)							
NG□□-FL8-8	1/2" FITOK	1/2" FITOK			1.40 (35.6)	1.40 (35.6)	0.53 (13.5)						
NG□□-ML10-8	10 mm FITOK	10 mm FITOK			1.30 (33.0)	1.30 (33.0)							
NG□□-ML12-8	12 mm FITOK	12 mm FITOK			1.40 (35.6)	1.40 (35.6)							
NG□□-ML14-8	14 mm FITOK	14 mm FITOK			1.56 (39.7)	1.56 (39.7)	0.62 (15.8)						
NG□□-MS20-8	M20 x 1.5 Male Metric	M20 x 1.5 Male Metric			1.50 (38.1)	1.50 (38.1)							
NG□□-UMB10-8	10 mm UMB	10 mm UMB					2.60 (66.0)			2.60 (66.0)	0.53 (13.5)		
NG□□-UMB14-8	14 mm UMB	14 mm UMB											

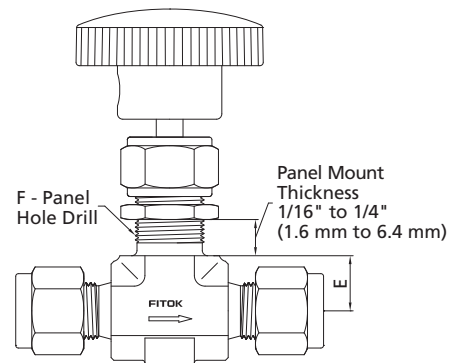
Dimensions of NG Series

Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)				
	Inlet	Outlet			L1	L2	C	D	H
NG□□-FNS8-9	1/2 Female NPT	1/2 Female NPT	0.39 (10.0)	1.80	1.56 (39.7)	1.56 (39.7)	0.76 (19.4)	3.50 (88.9)	3.37 (85.7)
NG□□-FNS12-9	3/4 Female NPT	3/4 Female NPT			1.63 (41.3)	1.63 (41.3)	0.89 (22.5)		
NG□□-NS12-9	3/4 Male NPT	3/4 Male NPT			1.90 (48.3)	1.90 (48.3)	0.76 (19.4)		
NG□□-FL8-9	1/2" FITOK	1/2" FITOK							
NG□□-FL12-9	3/4" FITOK	3/4" FITOK							
NG□□-ML14-9	14 mm FITOK	14 mm FITOK							

1. FITOK means FITOK double ferrule tube fittings, UMB means nut + gasket + metric bulge nipple.
2. Sizes and types listed are standard. Other sizes and types are available upon request, refer to the ordering information.
3. Dimensions are shown with FITOK nuts finger-tightened. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.

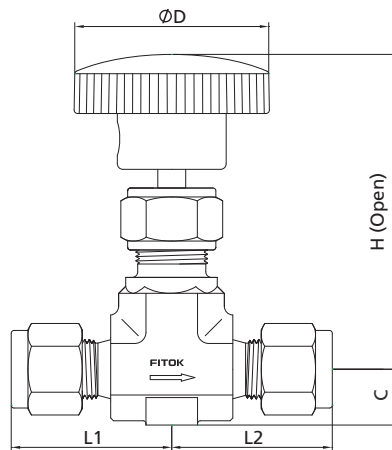
Panel Mount Dimensions of NG Series

Orifice in.(mm)	Dimension, in.(mm)	
	E	F
0.08 (2.0)	0.44 (11.2)	0.47 (11.9)
0.16 (4.0)	0.44 (11.2)	0.53 (13.5)
0.25 (6.4)	0.50 (12.7)	0.78 (19.8)
0.39 (10.0)	0.75 (19.1)	1.03 (26.2)

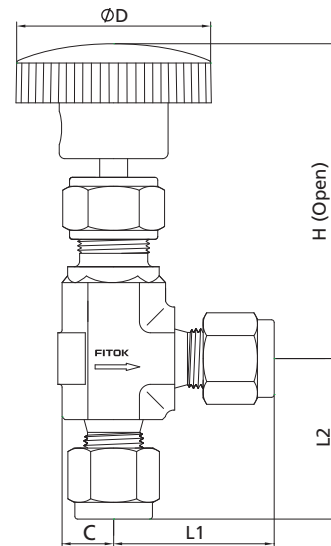


1. NG series valves are standard without panel mounting.
2. To order valves with panel mounting as illustrated, add -Y to the ordering number. Example: NGSS-NS2-5-Y

Straight Pattern



Angle Pattern



Dimensions of NGH Series

Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)				
	Inlet	Outlet			L1	L2	C	D	H
NGH□□-NS2-5	1/8 Male NPT	1/8 Male NPT	0.08 (2.0)	0.09	0.75 (19.0)	0.75 (19.0)	0.31 (7.9)	1.00 (25.4)	2.28 (57.9)
NGH□□-FNS2-5	1/8 Female NPT	1/8 Female NPT			0.81 (20.6)	0.81 (20.6)			
NGH□□-FL2-5	1/8" FITOK	1/8" FITOK			0.98 (25.0)	0.98 (25.0)			
NGH□□-ML3-5	3 mm FITOK	3 mm FITOK							
NGH□□-FNS2-7	1/8 Female NPT	1/8 Female NPT	0.16 (4.0)	0.35	0.81 (20.6)	0.81 (20.6)	0.39 (9.9)	1.38 (35.0)	2.50 (63.5)
NGH□□-NS4-7	1/4 Male NPT	1/4 Male NPT			0.98 (25.0)	0.98 (25.0)			
NGH□□-FL4-7	1/4" FITOK	1/4" FITOK			1.13 (28.7)	1.13 (28.7)			
NGH□□-ML6-7	6 mm FITOK	6 mm FITOK			1.17 (29.7)	1.17 (29.7)			
NGH□□-ML8-7	8 mm FITOK	8 mm FITOK							
NGH□□-UMB6-7	6 mm UMB	6 mm UMB			2.24 (57.0)	2.24 (57.0)			
NGH□□-FNS4-8	1/4 Female NPT	1/4 Female NPT	0.25 (6.4)	0.70	1.06 (26.9)	1.06 (26.9)	0.53 (13.5)	1.88 (47.8)	2.97 (75.4)
NGH□□-FNS6-8	3/8" Female NPT	3/8" Female NPT					0.62 (15.8)		
NGH□□-NS6-8	3/8 Male NPT	3/8 Male NPT			1.12 (28.4)	1.12 (28.4)	0.53 (13.5)		
NGH□□-NS8-8	1/2 Male NPT	1/2 Male NPT			1.50 (38.1)	1.50 (38.1)	0.62 (15.8)		
NGH□□-FL6-8	3/8" FITOK	3/8" FITOK			1.29 (32.8)	1.29 (32.8)			
NGH□□-FL8-8	1/2" FITOK	1/2" FITOK			1.40 (35.6)	1.40 (35.6)			
NGH□□-ML10-8	10 mm FITOK	10 mm FITOK			1.30 (33.0)	1.30 (33.0)	0.53 (13.5)		
NGH□□-ML12-8	12 mm FITOK	12 mm FITOK			1.40 (35.6)	1.40 (35.6)			
NGH□□-ML14-8	14 mm FITOK	14 mm FITOK			1.56 (39.7)	1.56 (39.7)	0.62 (15.8)		
NGH□□-MS20-8	M20 x 1.5 Male Metric	M20 x 1.5 Male Metric			1.50 (38.1)	1.50 (38.1)			
NGH□□-UMB10-8	10 mm UMB	10 mm UMB			2.60 (66.0)	2.60 (66.0)	0.53 (13.5)		
NGH□□-UMB14-8	14 mm UMB	14 mm UMB							

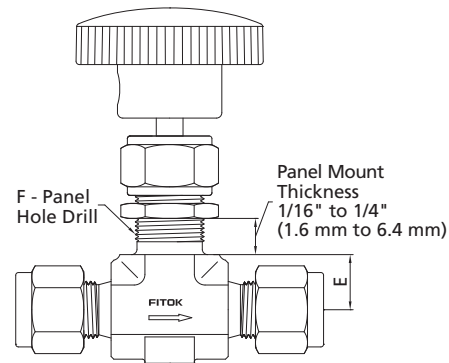
Dimensions of NGH Series

Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)				
	Inlet	Outlet			L1	L2	C	D	H
NGH□□-FNS8-9	1/2 Female NPT	1/2 Female NPT	0.39 (10.0)	1.80	1.56 (39.7)	1.56 (39.7)	0.76 (19.4)	3.50 (88.9)	3.37 (85.7)
NGH□□-FNS12-9	3/4 Female NPT	3/4 Female NPT			1.63 (41.3)	1.63 (41.3)	0.89 (22.5)		
NGH□□-NS12-9	3/4 Male NPT	3/4 Male NPT			1.90 (48.3)	1.90 (48.3)	0.76 (19.4)		
NGH□□-FL8-9	1/2" FITOK	1/2" FITOK							
NGH□□-FL12-9	3/4" FITOK	3/4" FITOK							
NGH□□-ML14-9	14 mm FITOK	14 mm FITOK							

1. FITOK means FITOK double ferrule tube fittings, UMB means nut + gasket + metric bulge nipple.
2. Sizes and types listed are standard. Other sizes and types are available upon request, refer to the ordering information.
3. Dimensions are shown with FITOK nuts finger-tightened. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.

Panel Mount Dimensions of NGH Series

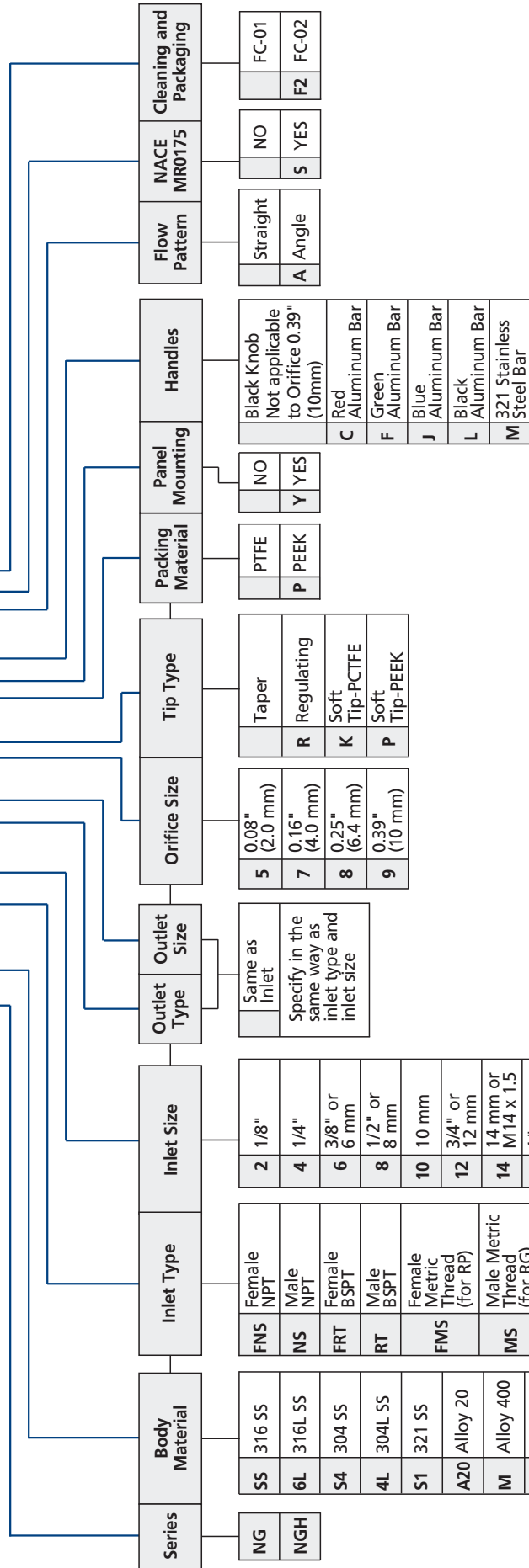
Orifice in.(mm)	Dimension, in.(mm)	
	E	F
0.08 (2.0)	0.44 (11.2)	0.47 (11.9)
0.16 (4.0)	0.44 (11.2)	0.53 (13.5)
0.25 (6.4)	0.50 (12.7)	0.78 (19.8)
0.39 (10.0)	0.75 (19.1)	1.03 (26.2)



1. NGH series valves are standard without panel mounting.
2. To order valves with panel mounting as illustrated, add -Y to the ordering number. Example: NGHSS-NS2-5-Y

Part Number Description

NGS4 - FNS8 - FL8 - 9P - PYM - ASF2



Note: "Part Number Description" is used for composition rules of FITOK product model.
 Not suitable for specific product part number selection, not random combinations.
 If in doubt, please contact FITOK group or authorized agent.

- Standard thread pitch for metric threads are as follows:
 M10 and below: 1 mm
 M12 to M24: 1.5 mm
 M27 and above: 2 mm
 Standard thread pitch should be ignored in the ordering number, others should be specified.
 For Orifice 0.39" (10 mm) needle valves, the option of black knob handle is unavailable.
 If handle designator is void, a black anodized Aluminum bar handle should be equipped.
- Cleaning and Packaging:
 FC-01: Standard cleaning and packaging for general industrial procedures.
 FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C.

Rising Plug Valves

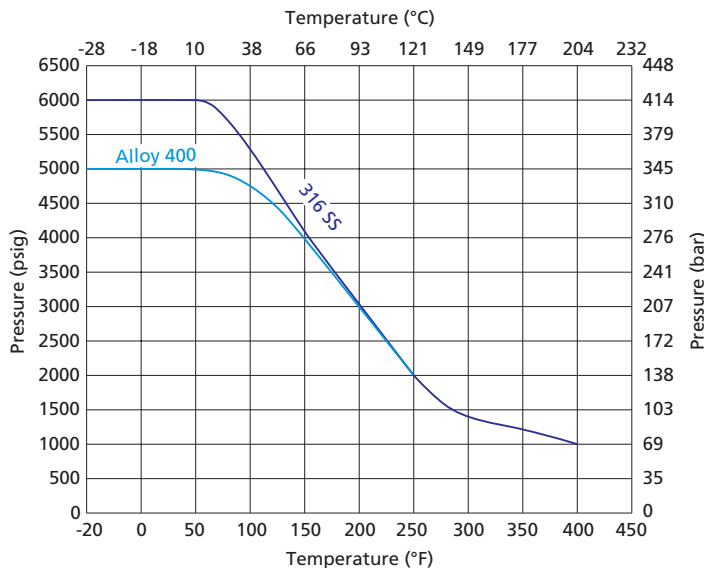
NR Series NRG (With gauge port) Series

Features

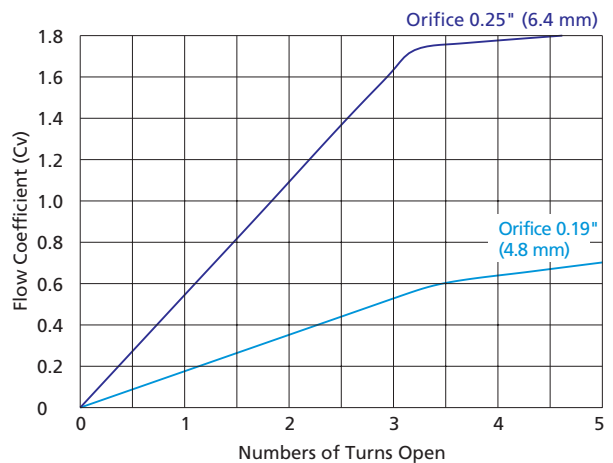
- ⦿ Cold drawn square bar.
- ⦿ Nonrotating stem for longer seat life.
- ⦿ Roddable, straight through flow path for maximum flow with minimum pressure drop.
- ⦿ Stem thread lubricant isolated from system media.
- ⦿ Replaceable seat and stem tip design.
- ⦿ Stem thread protected from outside contamination by PTFE ring in the gland.
- ⦿ Panel mounting available as an option.
- ⦿ Steady and durable fastening of the handle by double lock-pins.
- ⦿ Handle color options are available.
- ⦿ Leak-tight performance testing for every valve with nitrogen/air at the maximum working pressure.
- ⦿ Working pressure up to:
 - Stainless steel: 6000 psig (414 bar)
 - Alloy 400: 5000 psig (345 bar)
- ⦿ Working temperature for seat:
 - Acetal: -20°F to 250°F (-28°C to 121°C)
 - PEEK: -20°F to 400°F (-28°C to 204°C)
- ⦿ Working temperature for O-ring:
 - Fluorocarbon FKM: -20°F to 400°F (-28°C to 204°C)
 - Buna N: -20°F to 212°F (-28°C to 100°C)
 - Ethylene Propylene: -20°F to 148°F (-28°C to 300°C)



Pressure vs. Temperature

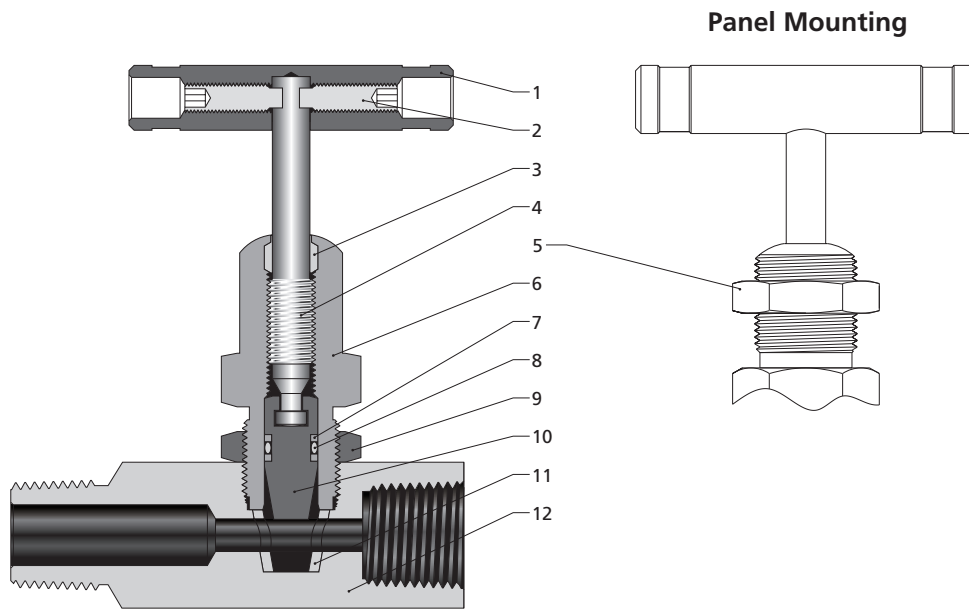


Flow Data at 100°F (38°C)



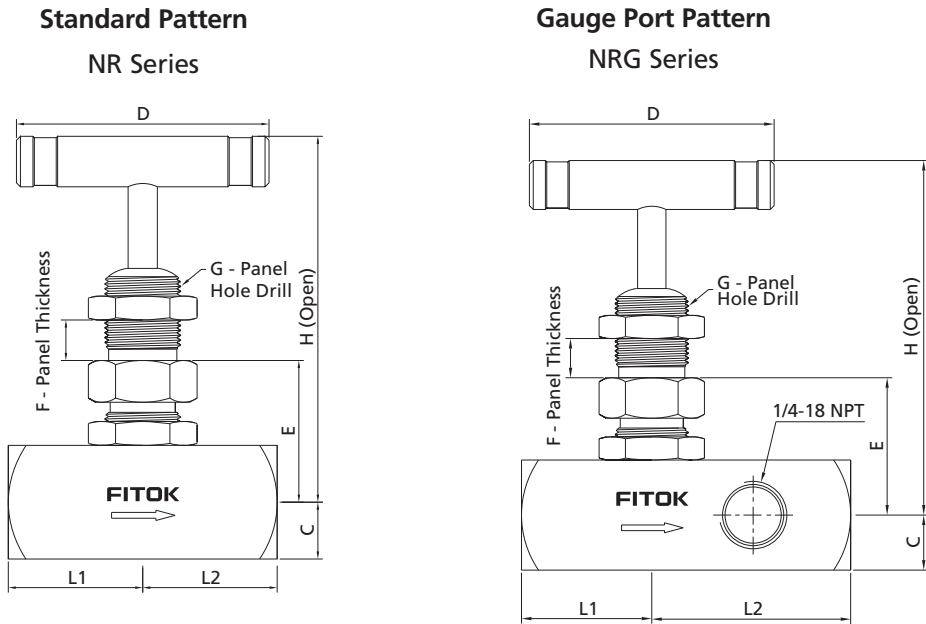
1. Graphs are based on PEEK seat and Fluorocarbon O-ring.
 2. Contact the authorized representative or FITOK Group for curve graph of other materials.

Standard Materials of Construction



Item	Component	Valve Body Material			
		316 SS	304 SS	321 SS	Alloy 400
1	Handle	Anodized aluminum or stainless steel or black knob			
2	Set Screw	Stainless steel			
3	Wiper Ring	PTFE/D1710			
4	Upper Stem	316 SS/A276			Alloy 400/B164
5	Panel Nut	Stainless steel			
6	Bonnet	316 SS/A479	304 SS/A479	321 SS/A479	Alloy 400/B164
7	Backup Ring	PTFE/D1710			
8	O-ring	Fluorocarbon FKM, Buna N or Ethylene propylene			
9	Lock Nut	Stainless steel			
10	Stem Tip	316 SS/A276	304 SS/A276	321 SS/A276	Alloy 400/B164
11	Seat	Acetal or PEEK			
12	Body	316 SS/A479	304 SS/A479	321 SS/A479	Alloy 400/B164
	Lubricant	Molybdenum disulfide-based			

Dimensions

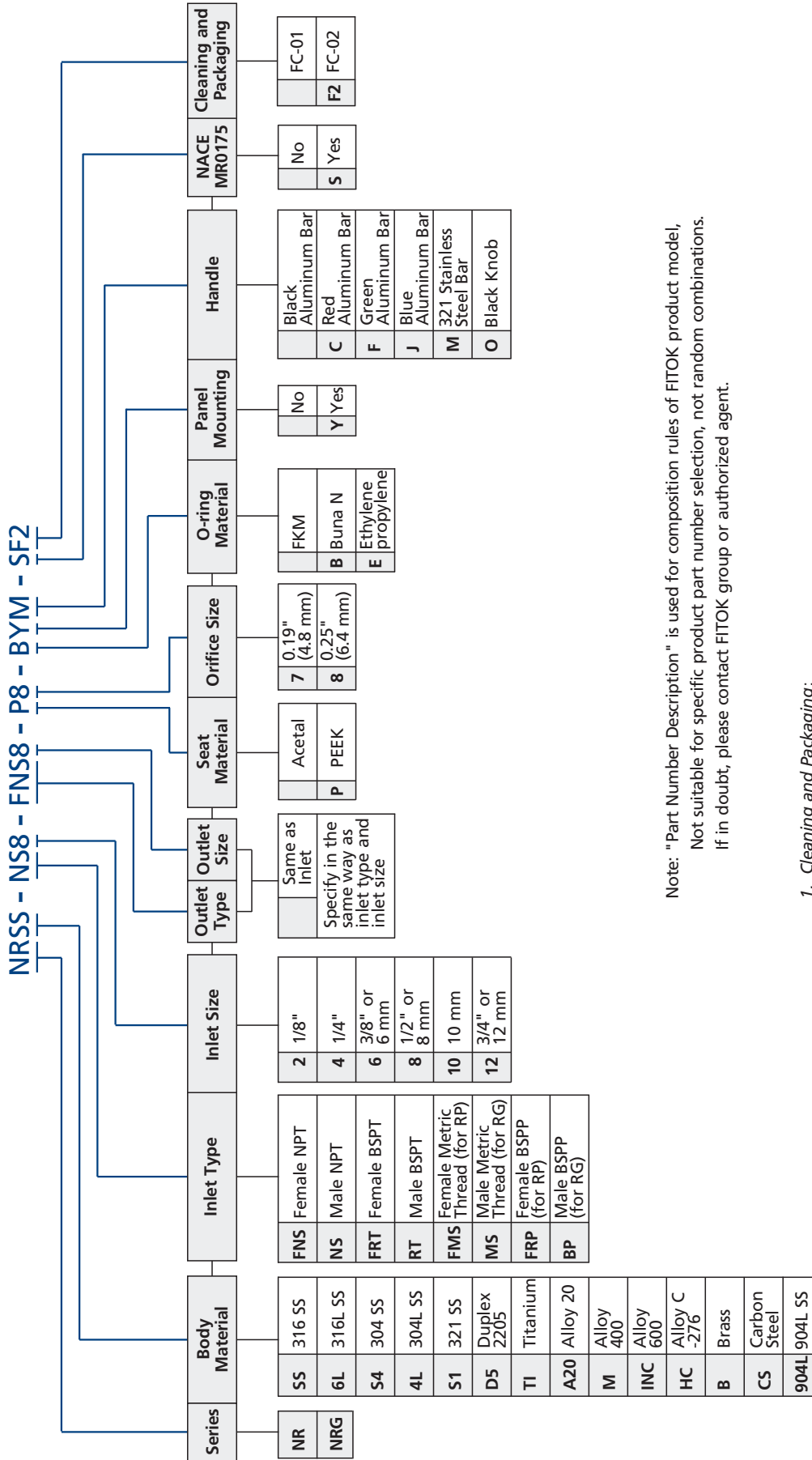


© NR series valves are standard without panel mounting. To order valves with panel mounting as illustrated, add -Y to the ordering number. Example: NRSS-FNS4-7-Y

Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)							
	Inlet	Outlet			L1	L2	C	D	E	F	G	H
NR □□-FNS4-7	1/4 Female NPT	1/4 Female NPT	0.19 (4.8)	0.63	1.12 (28.4)	1.12 (28.4)	0.44 (11.1)	2.17 (55.0)	1.28 (32.5)	0.38 (9.7)	0.77 (19.6)	3.77 (95.8)
NR □□-NS4-FNS4-7	1/4 Male NPT	1/4 Female NPT			1.78 (45.2)		1.34 (34.0)					
NR □□-NS8-FNS4-7	1/2 Male NPT	1/4 Female NPT			1.89 (48.0)	0.50 (12.7)						
NRG □□-FNS4-7	1/4 Female NPT	1/4 Female NPT			1.12 (28.4)	1.75 (44.4)						
NRG □□-NS8-FNS4-7	1/2 Male NPT	1/4 Female NPT	3.12 (79.2)	1.80	1.33 (33.8)	0.56 (14.3)	2.50 (63.5)	1.40 (35.5)	0.38 (9.7)	0.77 (19.6)	3.83 (97.3)	
NR □□-FNS8-8	1/2 Female NPT	1/2 Female NPT	2.16 (54.9)									
NR □□-NS8-FNS8-8	1/2 Male NPT	1/2 Female NPT	3.33 (84.6)									
NR □□-NS12-FNS8-8	3/4 Male NPT	1/2 Female NPT	2.25 (57.2)									
NRG □□-FNS8-8	1/2 Female NPT	1/2 Female NPT										
NRG □□-NS12-FNS8-8	3/4 Male NPT	1/2 Female NPT										

- Sizes and types listed are standard. Other sizes and types are available upon request.
- For dimensions not shown above, please contact the authorized representative or FITOK Group.

Part Number Description



Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK group or authorized agent.

1. *Cleaning and Packaging:*
 FC-01: Standard cleaning and packaging for general industrial procedures.
 FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C.

Toggle Valves

NT Series

Features

- ⦿ One piece forged body.
- ⦿ Straight and angle pattern.
- ⦿ Compact design.
- ⦿ Quick opening or closing.
- ⦿ Nonrotating stem tip.
- ⦿ Panel mounting available.
- ⦿ Leak-tight performance testing for every valve with nitrogen/air at the maximum working pressure.
- ⦿ Working pressure up to: 300 psig (20.7 bar)

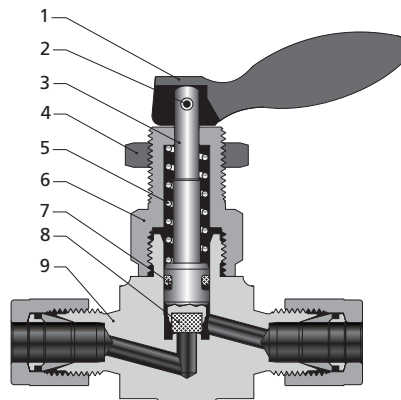


Technical Data

Orifice in.(mm)	Working Pressure at 100°F (38°C)
0.08 (2.0)	300 psig (20.7 bar)
0.125 (3.2)	
0.25 (6.4)	200 psig (13.7 bar)

O-ring Material	Temperature Rating
FKM(Standard)	-20°F to 400°F (-28°C to 204°C)
Buna N	-20°F to 212°F (-28°C to 100°C)
Ethylene Propylene	-20°F to 300°F (-28°C to 148°C)

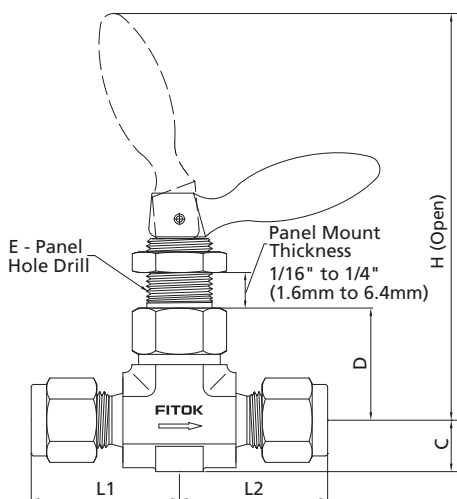
Standard Materials of Construction



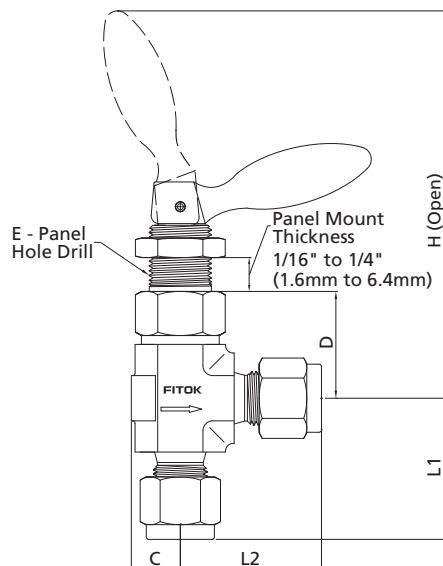
Item	Component	Valve Body Material			
		316 SS	304 SS	321 SS	Brass
1	Handle	Stainless steel			
2	Pin	Stainless steel			
3	Stem	316 SS/A276	304 SS/A276		316 SS/A276
4	Panel Nut	Stainless steel			Brass C36000/B16
5	Spring	PTFE-plated S17700/A313			
6	Bonnet	304 SS/A276	304 SS/A276	304 SS/A276	Brass C36000/B16
7	O-ring	Fluorocarbon FKM or Buna or Ethylene propylene			
8	Stem Tip	PTFE/D1710			
9	Body	316 SS/A182	304 SS/A182	321 SS/A182	Brass C37700/B283
Lubricant		Molybdenum disulfide-based			

Dimensions

Straight Pattern



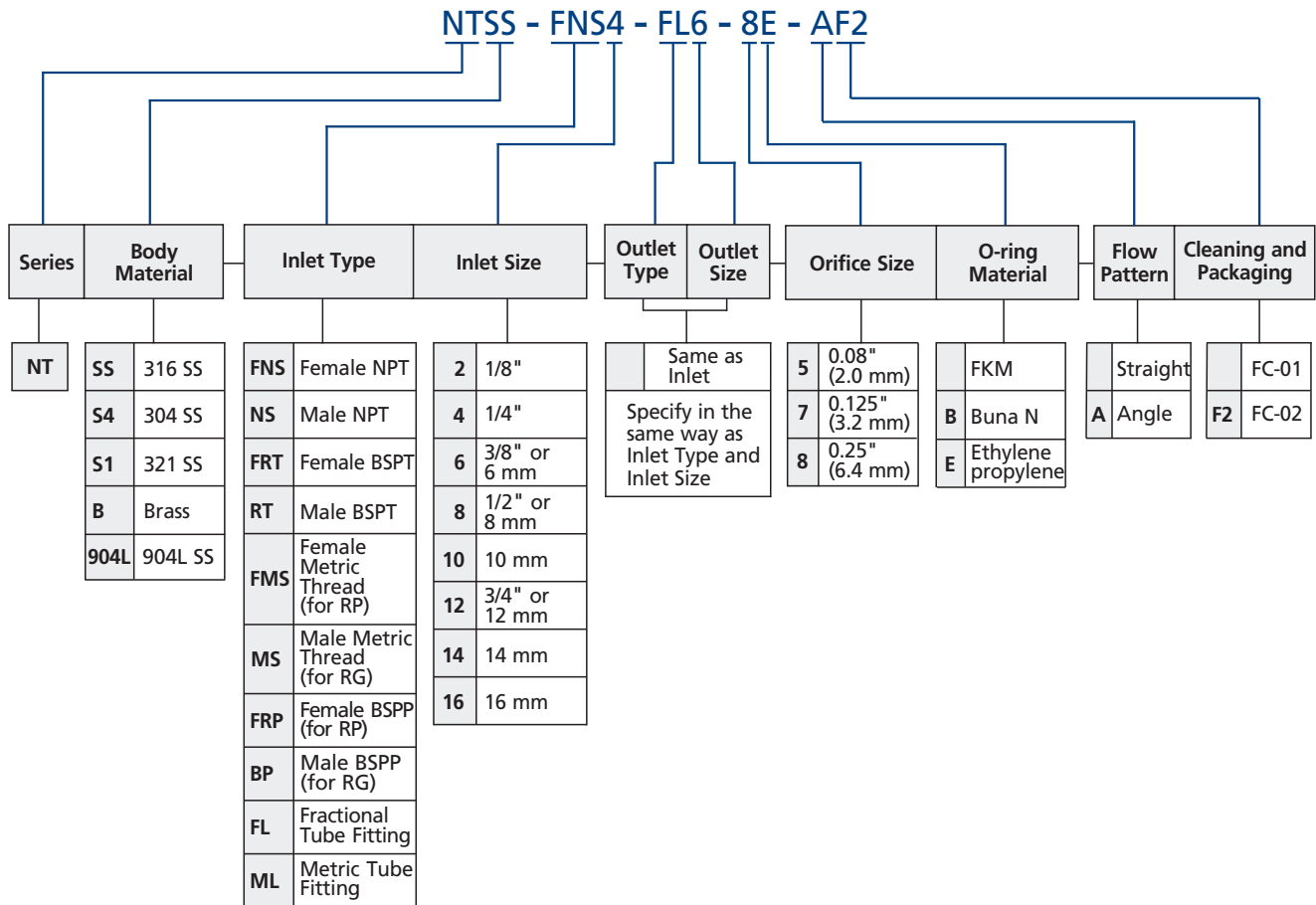
Angle Pattern



Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)					
	Inlet	Outlet			L1	L2	C	D	E	H
NT□□-NS2-5	1/8 Male NPT	1/8 Male NPT	0.08 (2.0)	0.11	0.75 (19.05)	0.75 (19.05)	0.32 (8.2)	0.85 (21.7)	0.53 (13.5)	2.83 (71.9)
NT□□-NS2-FL2-5	1/8 Male NPT	1/8" FITOK			0.75 (19.05)	0.98 (25.0)				
NT□□-FL2-5	1/8" FITOK	1/8" FITOK			0.98 (25.0)	0.98 (25.0)				
NT□□-ML3-5	3 mm FITOK	3 mm FITOK	0.125 (3.2)	0.20	0.81 (20.6)	0.81 (20.6)	0.39 (10.0)	0.85 (21.7)	0.53 (13.5)	2.83 (71.9)
NT□□-FNS2-7	1/8 Female NPT	1/8 Female NPT			0.86 (21.8)	0.86 (21.8)				
NT□□-NS2-7	1/8 Male NPT	1/8 Male NPT			0.98 (25.0)	0.98 (25.0)				
NT□□-NS4-7	1/4 Male NPT	1/4 Male NPT			0.98 (25.0)	0.98 (25.0)				
NT□□-NS4-FL4-7	1/4 Male NPT	1/4" FITOK			1.13 (28.7)	1.13 (28.7)				
NT□□-FL4-7	1/4" FITOK	1/4" FITOK								
NT□□-ML6-7	6 mm FITOK	6 mm FITOK								
NT□□-ML8-7	8 mm FITOK	8 mm FITOK								
NT□□-FNS4-8	1/4 Female NPT	1/4 Female NPT			0.25 (6.4)	0.70				
NT□□-FNS6-8	3/8 Female NPT	3/8 Female NPT	1.12 (28.4)	1.12 (28.4)						
NT□□-NS6-8	3/8 Male NPT	3/8 Male NPT	1.29 (32.8)	1.29 (32.8)						
NT□□-FL6-8	3/8" FITOK	3/8" FITOK	1.40 (35.6)	1.40 (35.6)						
NT□□-FL8-8	1/2" FITOK	1/2" FITOK	1.36 (34.5)	1.36 (34.5)						
NT□□-ML10-8	10 mm FITOK	10 mm FITOK	1.46 (37.1)	1.46 (37.1)						
NT□□-ML12-8	12 mm FITOK	12 mm FITOK								

1. FITOK means FITOK double ferrule tube fittings, ISO means metric thread,
2. Sizes and types listed are standard. Other sizes and types are available upon request, refer to the ordering information.
3. Dimensions are shown with FITOK nuts finger-tightened. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative of FITOK Group.

Part Number Description



Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK group or authorized agent.

1. Standard thread pitch for metric threads are as follows:

M10 and below: 1 mm

M12 to M18: 1.5 mm

Standard thread pitch should be ignored in the ordering number, others should be specified.

2. Cleaning and Packaging:

FC-01: Standard cleaning and packaging for general industrial procedures.

FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C.

Union Bonnet Needle Valves

NU Series: Working pressure up to 6000 psig

NUH Series: Working pressure up to 10000 psig

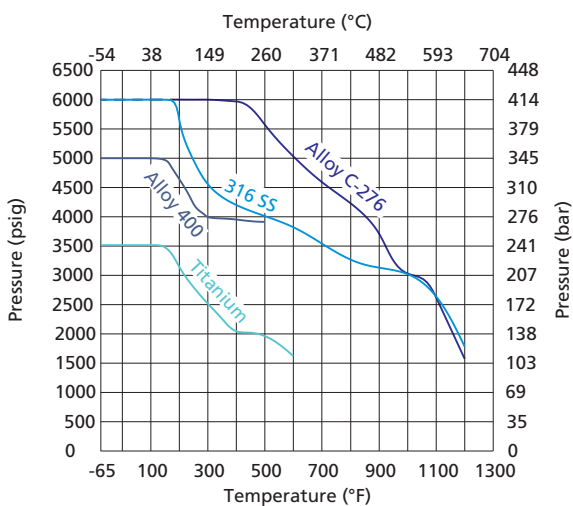
Features

- ⦿ One-piece forged body
- ⦿ Two-stem design: thread hardened upper stem and smooth surface hardened lower stem.
- ⦿ Accidental valve disassembly disabled by union bonnet construction.
- ⦿ Upper stem thread lubricant isolated from system media.
- ⦿ Linearly instead of helical movement of the nonrotating lower stem, avoiding galling damage to the seat and tip, as well as reducing the total friction area between the packing and the lower stem.
- ⦿ Safety back seating seal in fully open position.
- ⦿ Panel mounting available.
- ⦿ Steady and durable fastening of the handle by double lock-pins.
- ⦿ Handle color options are available.
- ⦿ Leak-tight performance testing for every valve with nitrogen/air at the maximum working pressure, but not higher than 6000 psig.
- ⦿ Working pressure up to:
 - NU series—Stainless steel: 6000 psig (414 bar)
 - Alloy C-276: 6000 psig (414 bar)
 - Alloy 400: 5000 psig (345 bar)
 - Titanium: 3500 psig (241 bar)
- ⦿ NUH series—Stainless steel: 10000 psig (690 bar)
- ⦿ Working temperature:
 - PTFE: -65°F to 450°F (-54°C to 232°C)
 - PEEK: -65°F to 500°F (-54°C to 260°C)
 - Graphite: -65°F to 1200°F (-54°C to 649°C)

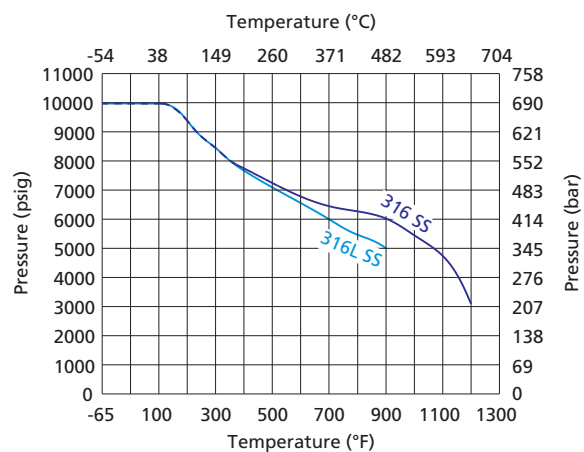


Pressure vs. Temperature

NU Series



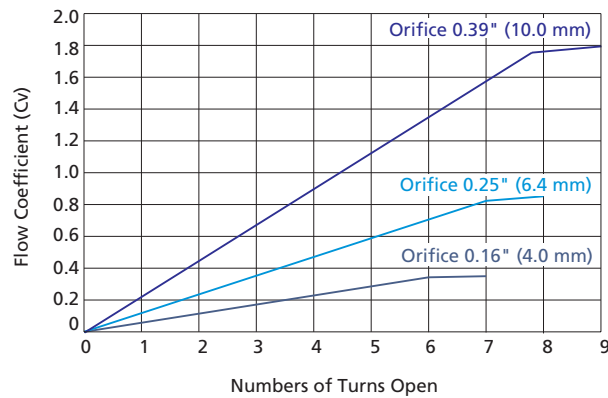
NUH Series



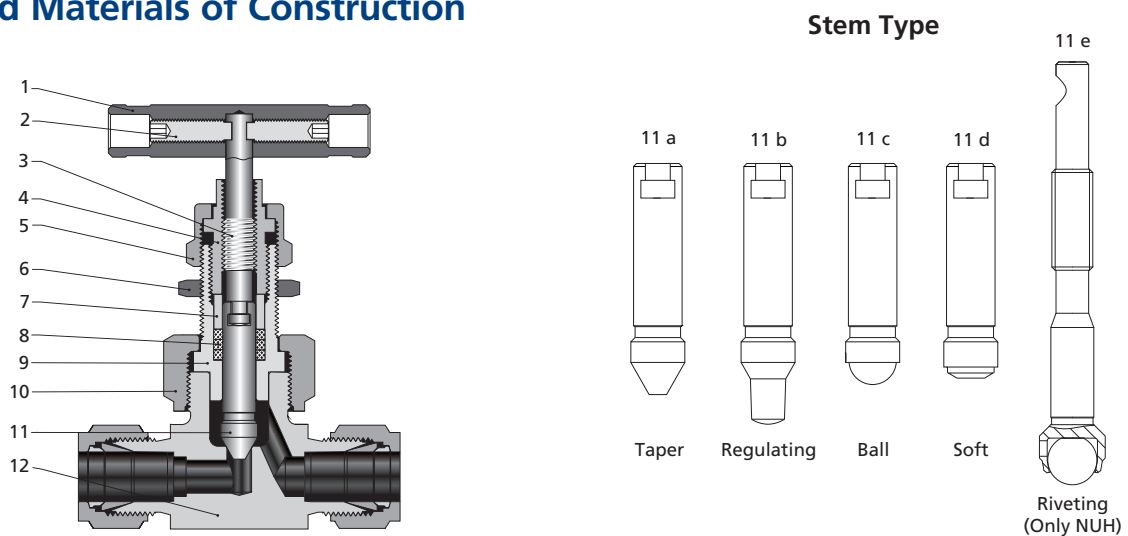
1. Graphs are based on graphite stem packing.
2. Suitable for NU series only, 200°F (93°C) max. with PCTFE stem tip (soft tip).
3. Contact the authorized representative or FITOK Group for curve graph of other materials.

Flow Data at 100°F (37°C)

Regulating Stem



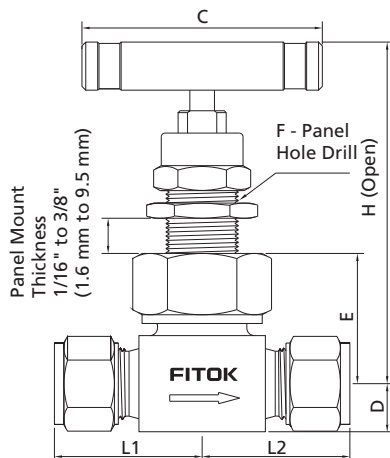
Standard Materials of Construction



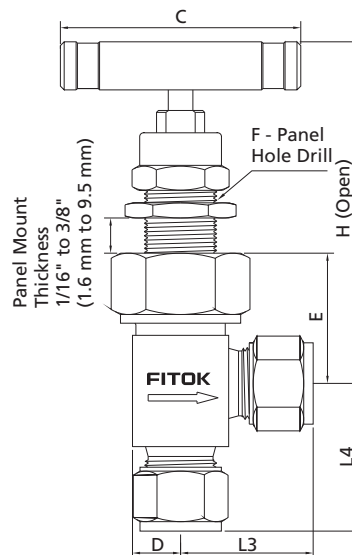
Item	Component	Valve Body Material			
		316 SS	Alloy 400	Titanium	Alloy C-276
1	Handle	Anodized aluminium or stainless steel or black knob			
2	Set Screw	Stainless steel			
3	Upper Stem	316 SS/A276			
4	Packing Bolt	304 SS/A276			
5	Lock Nut	316 SS/A276			
6	Panel Nut	Stainless steel			
7	Gland	316 SS/A276			
8	Packing	PTFE or PEEK or graphite			
9	Bonnet	316 SS/A479	Alloy 400/B164	Titanium Gr 4/B348	Alloy C-276/B574
10	Union Nut	316 SS/A276			
11a 11b 11c 11d 11e	Lower Stem	Chrome-plated 316 SS/A276	Alloy 400/B164	Titanium Gr 4/B348	Alloy C-276/B574
12	Body	316 SS/A182	Alloy 400/B164, B127, B564	Titanium Gr 4/B348 or titanium Gr 4/B381	Alloy C-276/B564
	Seat	Same as Body			
	Lubricant	Molybdenum disulfide-based			

Dimensions

Straight Pattern



Angle Pattern



Dimensions of NU Series

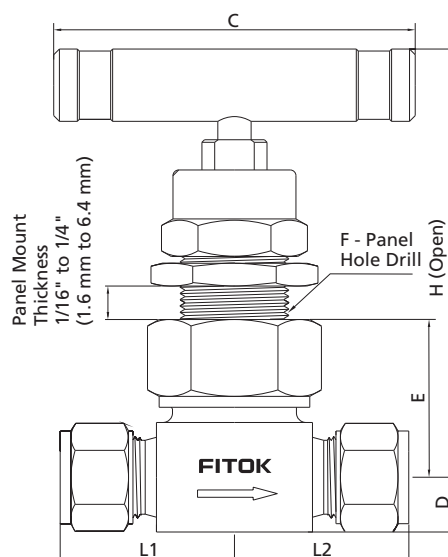
Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)												
	Inlet	Outlet			L1	L2	L3	L4	C	D	E	F	H				
NU□□-FNS2-7	1/8 Female NPT	1/8 Female NPT	0.16 (4.0)	0.35	1.00 (25.4)	1.00 (25.4)	0.89 (22.6)	1.00 (25.4)	1.75 (44.5)	0.39 (9.9)	1.09 (27.7)	0.59 (15.1)	3.04 (77.2)				
NU□□-FNS4-7	1/4 Female NPT	1/4 Female NPT			1.03 (26.2)	1.03 (26.2)											
NU□□-NS4-FNS4-7	1/4 Male NPT	1/4 Female NPT			1.00 (25.4)	1.03 (26.2)											
NU□□-NS4-7	1/4 Male NPT	1/4 Male NPT			1.00 (25.4)	1.00 (25.4)											
NU□□-NS6-7	3/8 Male NPT	3/8 Male NPT			1.03 (26.2)	1.03 (26.2)	0.89 (22.6)										
NU□□-FRP4-7	1/4 Female BSPP	1/4 Female BSPP			1.00 (25.4)	1.22 (30.9)											
NU□□-NS4-FL4-7	1/4 Male NPT	1/4" FITOK			1.03 (26.2)	1.22 (30.9)	1.14 (28.8)										
NU□□-FNS4-FL4-7	1/4 Female NPT	1/4" FITOK			1.22 (30.9)	1.22 (30.9)											
NU□□-FL4-7	1/4" FITOK	1/4" FITOK			0.91 (23.1)	0.91 (23.1)	0.88 (22.4)							1.19 (30.2)			
NU□□-ML6-7	6 mm FITOK	6 mm FITOK			1.03 (26.2)	1.03 (26.2)											
NU□□-ML8-7	8 mm FITOK	8 mm FITOK			1.41 (35.9)	1.41 (35.9)									2.50 (63.5)	0.50 (12.7)	1.34 (34.0)
NU□□-TS4-7-G	1/4" TS	1/4" TS			1.03 (26.2)	1.03 (26.2)											
NU□□-FO4-7	1/4" Male FO	1/4" Male FO			1.52 (38.6)	1.52 (38.6)											
NU□□-FR4-7	1/4" Male FR	1/4" Male FR			1.42 (36.1)	1.42 (36.1)											
NU□□-FNS4-8	1/4 Female NPT	1/4 Female NPT	1.13 (28.6)	1.13 (28.6)													
NU□□-FNS6-8	3/8 Female NPT	3/8 Female NPT	1.06 (26.9)	1.13 (28.6)													
NU□□-NS6-8	3/8 Male NPT	3/8 Male NPT	1.41 (35.9)	1.41 (35.9)	1.29 (32.8)	1.66 (42.2)											
NU□□-FL6-8	3/8" FITOK	3/8" FITOK	1.52 (38.6)	1.52 (38.6)													
NU□□-FL8-8	1/2" FITOK	1/2" FITOK	1.40 (35.6)	1.65 (41.9)	1.30 (33.0)	1.55 (39.4)											
NU□□-ML10-8	10 mm FITOK	10 mm FITOK	1.42 (36.1)	1.30 (33.0)													

34 Needle Valves

Dimensions of NU Series

Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)																												
	Inlet	Outlet			L1	L2	L3	L4	C	D	E	F	H																				
NU □□-ML12-8	12 mm FITOK	12 mm FITOK	0.25 (6.4)	0.86	1.52 (38.6)	1.52 (38.6)	1.40 (35.6)	1.65 (41.9)	2.50 (63.5)	0.50 (12.7)	1.34 (34.0)	0.78 (19.8)	3.70 (94.0)																				
NU □□-ML14-8	14 mm FITOK	14 mm FITOK																															
NU □□-ML16-8	16 mm FITOK	16 mm FITOK																															
NU □□-TS6-8-G	3/8" TS	3/8" TS																															
NU □□-TS8-8-G	1/2" TS	1/2" TS																															
NU □□-PS4-8-G	1/4 PS	1/4 PS																															
NU □□-MTS12-8-G	12 mm MTS	12 mm MTS			1.13 (28.6)	1.13 (28.6)	1.00 (25.4)	1.13 (28.6)																									
NU □□-MTS14-8-G	14 mm MTS	14 mm MTS			2.92 (74.1)	2.92 (74.1)	2.55 (64.7)	2.92 (74.1)																									
NU □□-MTS16-8-G	16 mm MTS	16 mm MTS																															
NU □□-MTB14-8-G	14 mm MTB	14 mm MTB			1.13 (28.6)	1.13 (28.6)	—	—																									
NU □□-MTB16-8-G	16 mm MTB	16 mm MTB			1.56 (39.6)	1.56 (39.6)	—	—																									
NU □□-UMB14-8	14 mm UMB	14 mm UMB			1.50 (38.1)	1.50 (38.1)	1.13 (28.6)	1.50 (38.1)																									
NU □□-FO8-8	1/2" Male FO	1/2" Male FO			0.39 (10.0)	1.8	1.56 (39.6)	1.56 (39.6)						1.56 (39.6)	1.56 (39.6)	3.50 (88.9)	0.63 (16.0)	1.82 (46.2)	1.03 (26.2)	4.76 (121)													
NU □□-FR8-8	1/2" Male FR	1/2" Male FR																															
NU □□-MS20-8	M20 x 1.5 Male Metric	M20 x 1.5 Male Metric																															
NU □□-MS22-8	M22 x 1.5 Male Metric	M22 x 1.5 Male Metric																															
NU □□-NS8-9	1/2 Male NPT	1/2 Male NPT																			1.63 (41.3)	1.63 (41.3)	—	—	0.87 (22.2)	2.07 (52.6)	5.00 (127)						
NU □□-FNS8-9	1/2 Female NPT	1/2 Female NPT																			1.97 (50.0)	1.97 (50.0)	1.68 (42.7)	2.08 (52.8)									
NU □□-FNS12-9	3/4 Female NPT	3/4 Female NPT																															
NU □□-NS12-9	3/4 Male NPT	3/4 Male NPT																							2.98 (75.7)	2.98 (75.7)	—	—					
NU □□-FL8-9	1/2" FITOK	1/2" FITOK																															
NU □□-FL12-9	3/4" FITOK	3/4" FITOK	1.56 (39.7)	1.56 (39.7)					1.31 (33.3)	1.69 (42.9)																							
NU □□-ML14-9	14 mm FITOK	14 mm FITOK	2.98 (75.7)	2.98 (75.7)					—	—																							
NU □□-ML16-9	16 mm FITOK	16 mm FITOK																															
NU □□-ML18-9	18 mm FITOK	18 mm FITOK									1.56 (39.7)	1.56 (39.7)	—												—								
NU □□-ML20-9	20 mm FITOK	20 mm FITOK									1.56 (39.7)	1.56 (39.7)	—												—								
NU □□-MTS14-9-G	14 mm MTS	14 mm MTS																															
NU □□-MTS16-9-G	16 mm MTS	16 mm MTS																								1.56 (39.7)	1.56 (39.7)	—	—				
NU □□-TS8-9-G	1/2" TS	1/2" TS																															
NU □□-TS12-9-G	3/4" TS	3/4" TS																												1.56 (39.7)	1.56 (39.7)	—	—
NU □□-MTB16-9-G	16 mm MTB	16 mm MTB																															
NU □□-UMB14-9	14 mm UMB	14 mm UMB																															
NU □□-FO12-9	3/4" Male FO	3/4" Male FO																															
NU □□-FR8-9	1/2" Male FR	1/2" Male FR			1.56 (39.7)	1.56 (39.7)	—	—																									
NU □□-MS27-9	M27 x 2 Male Metric	M27 x 2 Male Metric																															

1. FITOK means FITOK double ferrule tube fittings, FO means O-ring seal fittings, FR means metal gasket seal fittings JS means fractional tube socket weld, MTS means metric tube socket weld, MTB means metric tube butt weld, UMB means nut + gasket + metric bulge nipple, PS means pipe socket weld
2. For Butt or Socket end connections, please prior to choose graphite as packing material, avoiding damage non graphite packing material due to the high temperature when welding.
3. Sizes and types listed are standard. Other sizes and types are available upon request.
4. Dimensions are shown with FITOK nuts finger-tightened. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.



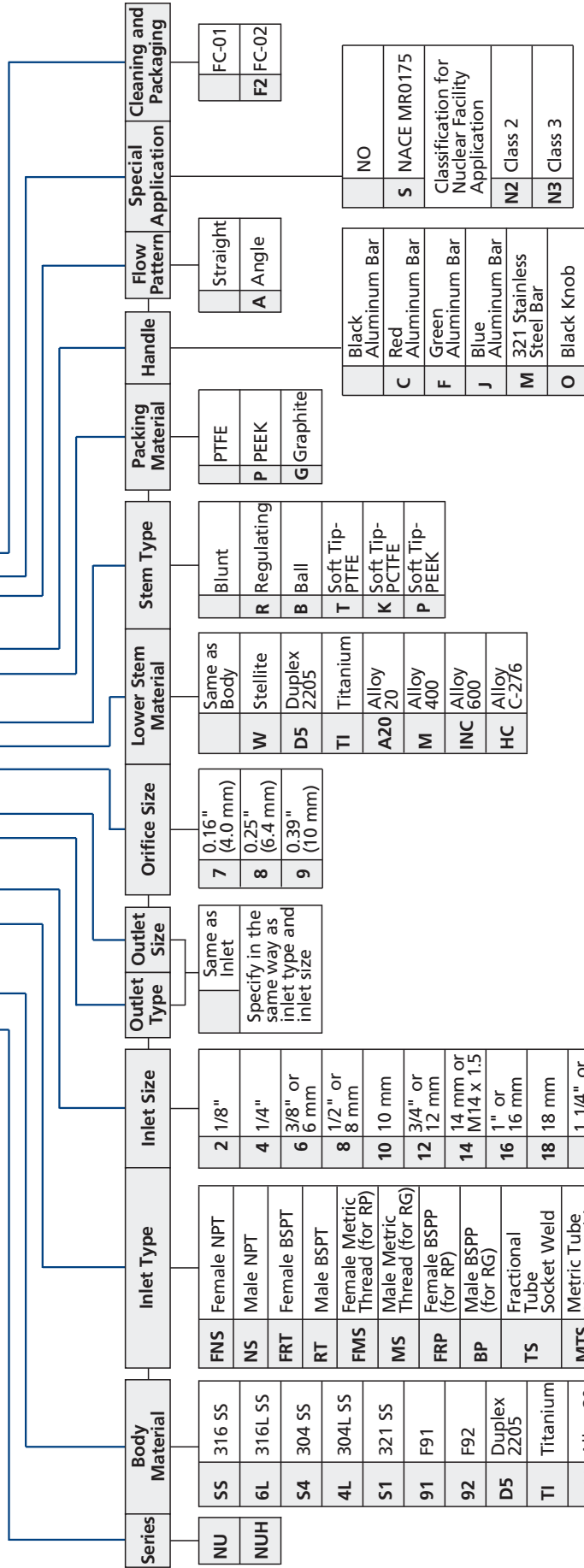
Dimensions of NUH Series

Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)						
	Inlet	Outlet			L1	L2	C	D	E	F	H
NUH□□-FNS2-7	1/8 Female NPT	1/8 Female NPT	0.16 (4.0)	0.35	1.13 (28.6)	1.13 (28.6)	2.50 (63.5)	0.50 (12.7)	1.34 (34.1)	0.78 (19.8)	3.42 (86.9)
NUH□□-FNS4-7	1/4 Female NPT	1/4 Female NPT									
NUH□□-NS4-FNS4-7	1/4 Male NPT	1/4 Female NPT									
NUH□□-NS4-7	1/4 Male NPT	1/4 Male NPT									
NUH□□-NS4-FL4-7	1/4 Male NPT	1/4" FITOK									
NUH□□-FNS4-FL4-7	1/4 Female NPT	1/4" FITOK									
NUH□□-FL4-7	1/4" FITOK	1/4" FITOK									
NUH□□-TS4-7-G	1/4" TS	1/4" TS	1.13 (28.6)	1.13 (28.6)	2.50 (63.5)	0.50 (12.7)	1.34 (34.1)	0.78 (19.8)	3.42 (86.9)		
NUH□□-FNS4-8	1/4 Female NPT	1/4 Female NPT									
NUH□□-NS8-8	1/2 Male NPT	1/2 Male NPT	0.25 (6.4)	0.86	1.56 (39.6)	1.56 (39.6)	3.50 (88.9)	0.63 (16.0)	1.77 (45.0)	1.03 (26.2)	4.09 (104)
NUH□□-TS8-8	1/2" TS	1/2" TS									
NUH□□-MTS12-8	12 mm MTS	12 mm MTS									

1. FITOK means FITOK double ferrule tube fittings, TS means fractional tube socket weld
2. For Butt or Socket end connections, please prior to choose graphite as packing material, avoiding damage non graphite packing material due to the high temperature when welding.
3. Sizes and types listed are standard. Other sizes and types are available upon request.
4. Dimensions are shown with FITOK nuts finger-tightened. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative of FITOK Group.

Part Number Description

NUSS - FNS6 - FL6 - 8WB - GM - ASF2



Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK group or authorized agent.

1. Standard thread pitch for metric threads are as follows:

M10 and below: 1 mm

M12 to M24: 1.5 mm

M27 and above: 2 mm

Standard thread pitch should be ignored in the ordering number, others should be specified.

2. FO means FITOK O-seal fittings.

3. FR means FITOK metal ring seal fittings.

4. Cleaning and Packaging:

FC-01: Standard cleaning and packaging for general industrial procedures.

FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C.

Outside Screw and Yoke (OS&Y) Needle Valves

NY Series: Working pressure up to 6000 psig

NYH Series: Working pressure up to 10000 psig

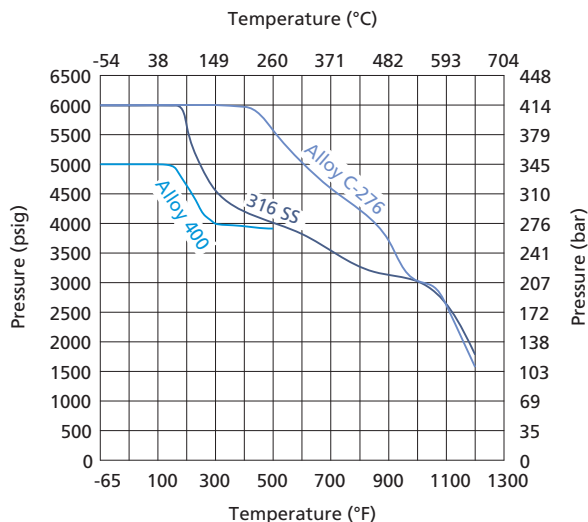
Features

- ⦿ Cold drawn bar.
- ⦿ Standard seat diameter 0.16" (4mm). Cv: 0.35 standard.
- ⦿ Hardened stem threads prevent galling.
- ⦿ Stem threads completely isolated from system media.
- ⦿ Linearly instead of helical movement of the nonrotating lower stem, avoiding galling damage to the seat and tip, as well as reducing the total friction area between the packing and the lower stem.
- ⦿ Externally adjustable gland, independent of spindle thread.
- ⦿ Self centering nonrotating spindle tip for bubble tight shut off.
- ⦿ Steady and durable fastening of the handle by double lock-pins.
- ⦿ Base mount option.
- ⦿ Leak-tight performance testing for every valve with nitrogen/air at 6000 psig.
- ⦿ Working pressure up to:
 - NY Series—Stainless steel: 6000 psig (414 bar)
 - Alloy C-276: 6000 psig (414 bar)
 - Alloy 400: 5000 psig (345 bar)
 - NYH Series—Stainless steel: 10000 psig (690 bar)
- ⦿ Working temperature:
 - PTFE: -65°F to 450°F (-54°C to 232°C)
 - PEEK: -65°F to 500°F (-54°C to 260°C)
 - Graphite: -65°F to 1200°F (-54°C to 649°C)

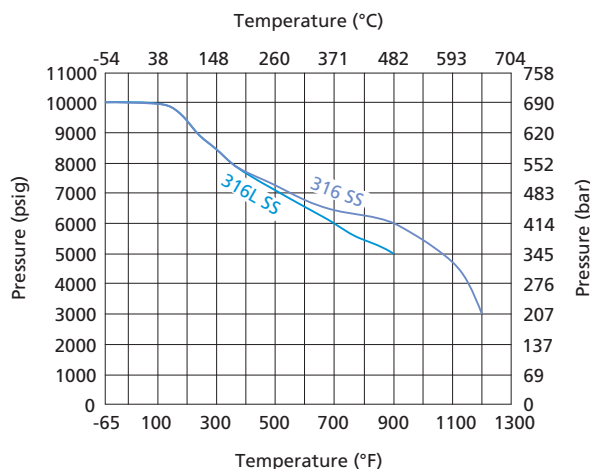


Pressure vs. Temperature

NY Series



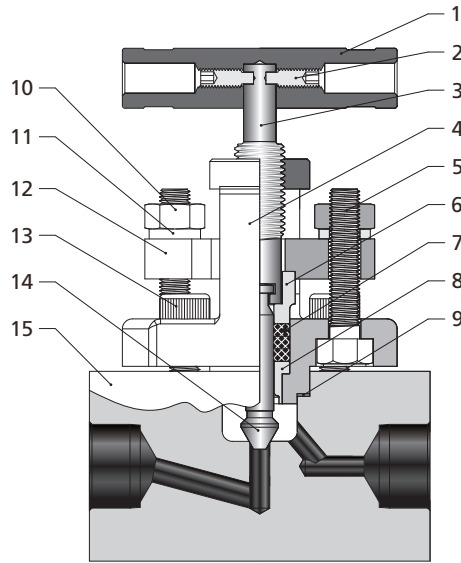
NYH Series



1. Graphs are based on graphite stem packing.

2. Contact the authorized representative or FITOK Group for curve graph of other materials.

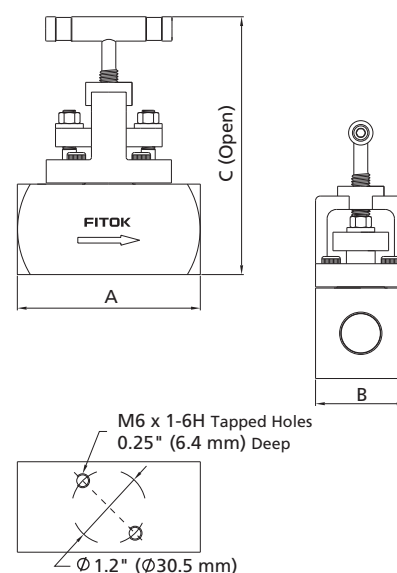
Standard Materials of Construction



Item	Component	Valve Body Material
		316 SS
1	Handle	Anodized aluminum or stainless steel
2	Set Screw	Stainless steel
3	Upper Stem	316 SS/A276
4	Yoke	316 SS/A182
5	Bolts	Stainless steel
6	Packing Washer	316 SS/A276
7	Packing	PTFE or PEEK or graphite
8	Packing Washer	316 SS/A276
9	Joint Seal	316 SS/A276
10	Nuts	Stainless steel
11	Gaskets	Stainless steel
12	Gland bridge	316 SS/A182
13	Bolts	Stainless steel
14	Lower Stem	Chrome-plated 316 SS/A276
15	Body	316 SS/A479
	Lubricant	Molybdenum disulfide-based

Dimensions of NY Series

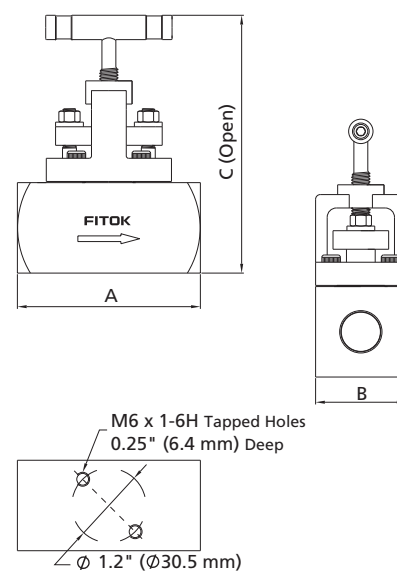
Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)		
	Inlet	Outlet			A	B	C
NY□□-FNS4	1/4 Female NPT	1/4 Female NPT	0.16 (4.0)	0.35	2.69 (68.2)	1.50 (38.1)	4.04 (102.7)
NY□□-NS4	1/4 Male NPT	1/4 Male NPT			2.95 (75.0)		
NY□□-NS4-FNS4	1/4 Male NPT	1/4 Female NPT			2.72 (69.2)		
NY□□-FNS6	3/8 Female NPT	3/8 Female NPT			2.93 (75.0)		
NY□□-NS6	3/8 Male NPT	3/8 Male NPT			3.00 (76.2)		
NY□□-FNS8	1/2 Female NPT	1/2 Female NPT			3.27 (82.0)		
NY□□-NS8	1/2 Male NPT	1/2 Male NPT			3.00 (76.2)		
NY□□-NS8-FNS8	1/2 Male NPT	1/2 Female NPT			3.54 (89.8)		
NY□□-PS8-G	1/2 PS	1/2 PS			3.44 (87.4)		
NY□□-PB8-G	1/2 PB	1/2 PB			3.50 (88.9)		
NY□□-FL4	1/4" FITOK	1/4" FITOK			3.78 (96.0)		
NY□□-FL6	3/8" FITOK	3/8" FITOK			3.44 (87.4)		
NY□□-FL8	1/2" FITOK	1/2" FITOK			3.78 (96.0)		
NY□□-ML6	6 mm FITOK	6 mm FITOK			3.44 (87.4)		
NY□□-ML8	8 mm FITOK	8 mm FITOK			3.78 (96.0)		
NY□□-ML12	12 mm FITOK	12 mm FITOK					



1. FITOK means FITOK double ferrule tube fittings, PS means pipe socket weld, PB means pipe butt weld.
2. For Butt or Socket end connections, please prior to choose graphite as packing material, avoiding damage non graphite packing material due to the high temperature when welding.
3. Sizes and types listed are standard. Other sizes and types are available upon request, refer to the ordering information.
4. Dimensions are shown with FITOK nuts finger-tightened. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.

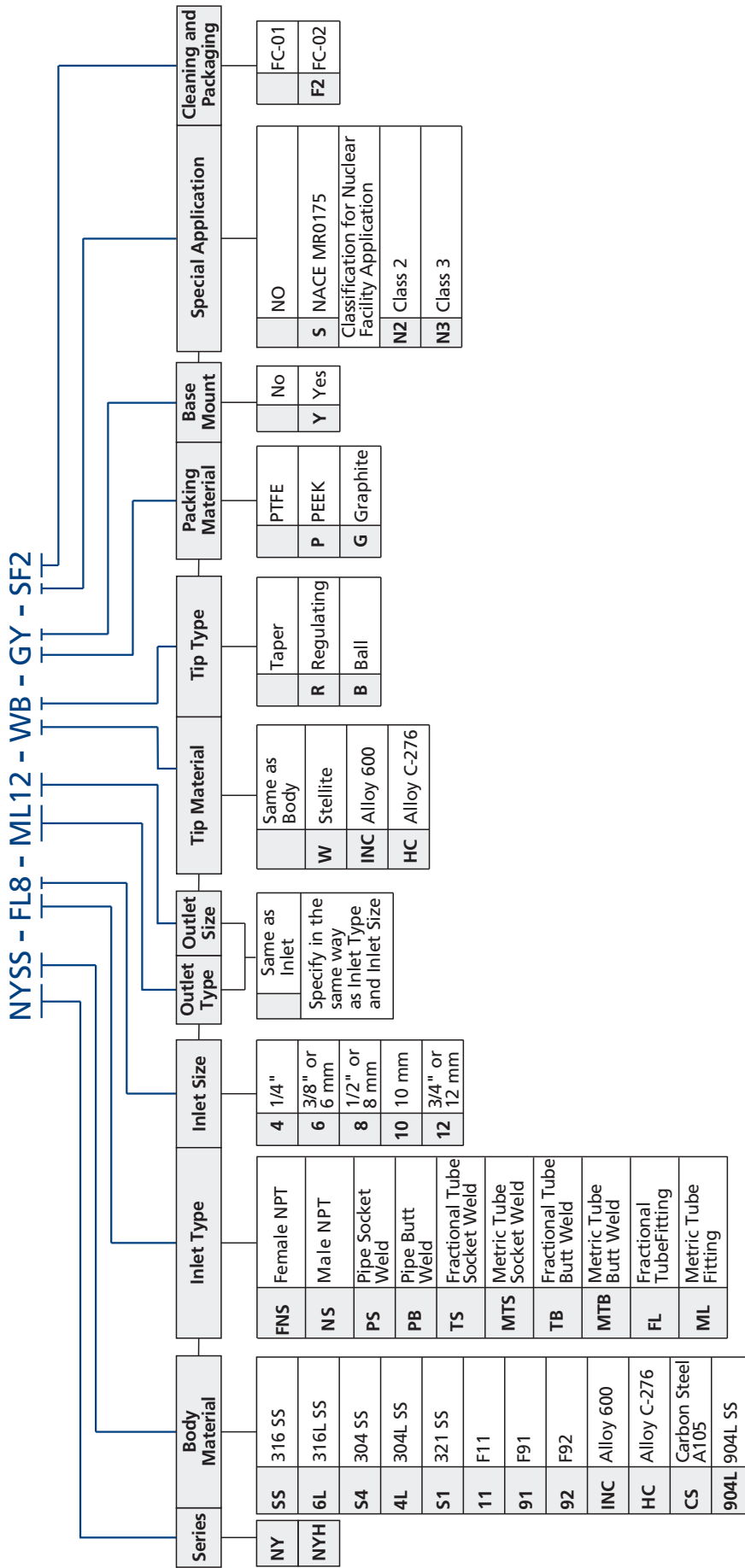
Dimensions of NYH Series

Basic Ordering Number	Connection Type and Size		Orifice in.(mm)	Cv	Dimension, in.(mm)		
	Inlet	Outlet			A	B	C
NYH□□-FNS4	1/4 Female NPT	1/4 Female NPT	0.16 (4.0)	0.35	2.69 (68.2)	1.50 (38.1)	4.04 (102.7)
NYH□□-NS4	1/4 Male NPT	1/4 Male NPT			2.95 (75.0)		
NYH□□-FNS4-NS4	1/4 Female NPT	1/4 Male NPT			2.72 (69.2)		
NYH□□-FL4	1/4" FITOK	1/4" FITOK			3.44 (87.4)		
NYH□□-TS4-G	1/4" TS	1/4" TS			2.69 (68.2)		
NYH□□-FNS6	3/8 Female NPT	3/8 Female NPT			3.00 (76.2)		
NYH□□-NS6	3/8 Male NPT	3/8 Male NPT					
NYH□□-FNS8	1/2 Female NPT	1/2 Female NPT					
NYH□□-NS8	1/2 Male NPT	1/2 Male NPT					



1. FITOK means FITOK double ferrule tube fittings, TS means fractional tube socket weld.
2. For Butt or Socket end connections, please prior to choose graphite as packing material, avoiding damage non graphite packing material due to the high temperature when welding.
3. Sizes and types listed are standard. Other sizes and types are available upon request, refer to the ordering information.
4. Dimensions are shown with FITOK nuts finger-tightened. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.

Part Number Description



Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK group or authorized agent.

Cleaning and Packaging:

FC-01: Standard cleaning and packaging for general industrial procedures.

FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C.

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