

## TG Series

### Toggle Valves



#### Design & Engineering

- Maximum working pressure to 450psig (31 bar)
- Quick opening and closing
- Manual and pneumatically actuated
- Straight, angle patterns
- 316 stainless steel and brass body construction
- 100% factory tested

# Toggle Valves

## Introduction

Hy-Lok's Toggle Valves are designed for quick acting and positive on-off control of media in moderate pressure and temperature applications.

## Features

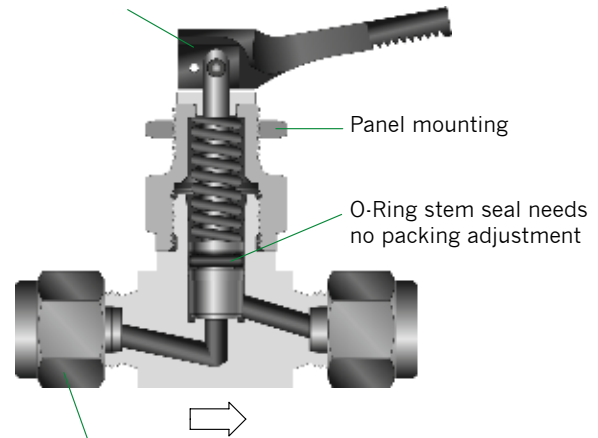
- Quick opening and closing
- Straight and angle patterns available
- Available in stainless steel or brass
- Black nylon handle standard
- Pneumatic actuation
- Choice of Hy-Lok tube fitting, female NPT and male NPT end connections
- Orifice Range - from 0.080 to 0.250 in. (2.0 to 6.4mm)
- Panel mount nut standard

## Technical Data

Series	Orifice	Pressure Rating at 100 °F (37 °C)	Temperature Rating
TG1	0.080 (2.0)	300 psig (20 bar)	-20 °F to 200 °F (-28 °C to 93 °C)
TG2	0.125 (3.2)	300 psig (20 bar)	
TG3	0.250 (6.4)	200 psig (13 bar)	

Ratings based on manual valve. See Pneumatic Actuators, page 4, for ratings of valves with pneumatic actuators.

Toggle handle for quick snap to open or close



Hy-Lok tube fitting, male / female ISO, male / female NPT end connectors

## Testing

- Every toggle valve is tested with nitrogen at 1.1 times the working pressure to a max leak rate of 0.1 SCCM.
- Hydrostatic shell test is performed at 1.5 times the working pressure.
- Optional tests are available upon request.

## Material of Construction

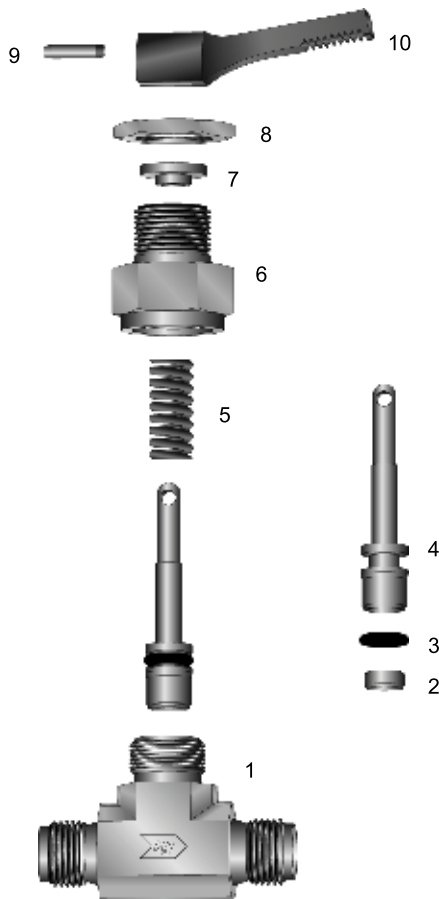
No.	Component	Valve Body Materials	
		Stainless Steel	Brass
		Material Grade / ASTM Specification	
1	Body	SS316 / A182	Brass / B283
2	Stem Tip	PTFE	
3	Stem O-Ring	Viton	
4	Stem	SS316/A479	
5	Spring	SS302	
6	Packing Nut	SS316 / A479	Brass / B16
7	Washer	Nylon	
8	Panel Nut	SS316 / A479	Brass / B16
9	Pin	SS302	
10	Handle	Nylon	

Wetted parts numbered in green. Molybdenum disulfide and fluoro-carbon based lubricant is used.

## Low-Temperature Service

Material		Temperature Rating
O-ring	Handle	
Buna-C	Stainless Steel	-65 °F to 200 °F (-53 °C to 93 °C)

See the Materials of Construction for other materials of construction.



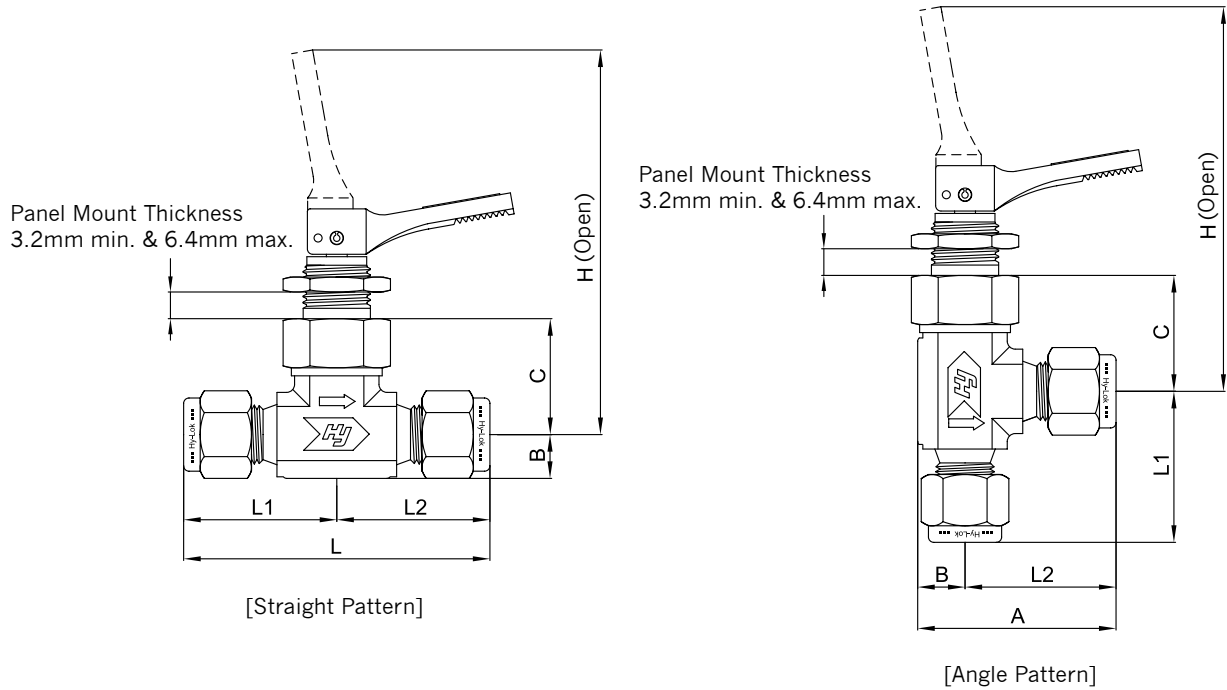
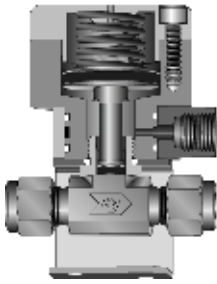


Table of Dimensions

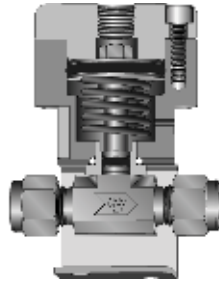
Basic Part No.		Orifice in. (mm)	Cv	End Connection		Dimensions, in. (mm)					
				Inlet	Outlet	L	L1	L2	A	B	C
TG1	H -2T-	0.08 (2.0)	0.11	1/8" Hy-Lok	1/8" Hy-Lok	1.96 (49.8)	0.98 (24.9)	1.30 (32.9)	0.31 (8.0)	0.86 (21.9)	2.84 (72.2)
	H -3M-			3mm Hy-Lok	3mm Hy-Lok						
	M -2N-			1/8" Male NPT	1/8" Male NPT	1.50 (38.1)	0.75 (19.0)	1.06 (27.0)			
	MH -2N2T-			1/8" Male NPT	1/8" Hy-Lok	1.73 (43.9)	0.75 (19.0)	0.98 (24.9)			
TG2	H -4T-	0.125 (3.2)	0.20	1/4" Hy-Lok	1/4" Hy-Lok	2.26 (57.4)	1.13 (28.7)	1.45 (36.9)	0.32 (8.2)	0.85 (21.7)	2.83 (72.0)
	H -6M-			6mm Hy-Lok	6mm Hy-Lok						
	H -8M-			8mm Hy-Lok	8mm Hy-Lok	2.22 (56.4)	1.11 (28.2)	1.43 (36.4)			
	F -2N-			1/8" Female NPT	1/8" Female NPT	1.63 (41.4)	0.81 (20.6)	1.13 (28.8)			
	M -2N-			1/8" Male NPT	1/8" Male NPT	1.72 (43.7)	0.86 (21.8)	1.18 (30.0)	0.37 (9.5)		
	M -4N-			1/4" Male NPT	1/4" Male NPT	1.96 (49.8)	0.98 (24.9)	1.35 (34.4)			
	MH -4N4T-			1/4" Male NPT	1/4" Hy-Lok	2.11 (53.6)	0.98 (24.9)	1.13 (28.7)	1.50 (38.2)		
	MF -2N-			1/8" Male NPT	1/8" Female NPT	1.63 (41.4)	0.81 (20.6)	1.13 (28.8)	0.32 (8.2)		
TG3	H -6T-	0.25 (6.4)	0.70	3/8" Hy-Lok	3/8" Hy-Lok	2.58 (65.5)	1.29 (32.8)	1.80 (45.8)	0.51 (13.0)	1.06 (26.9)	3.56 (90.4)
	H -8T-			1/2" Hy-Lok	1/2" Hy-Lok						
	H -10M-			10mm Hy-Lok	10mm Hy-Lok	2.72 (69.1)	1.36 (34.5)	1.87 (47.5)			
	H -12M-			12mm Hy-Lok	12mm Hy-Lok	2.92 (74.2)	1.46 (37.1)	1.97 (50.1)			
	F -4N-			1/4" Female NPT	1/4" Female NPT	2.12 (53.8)	1.06 (26.9)	1.57 (39.9)			
	M -6N-			3/8" Male NPT	3/8" Male NPT	2.25 (57.2)	1.12 (28.4)	1.63 (41.4)			

Dimensions shown with Hy-Lok nuts in finger-tight position, where applicable.

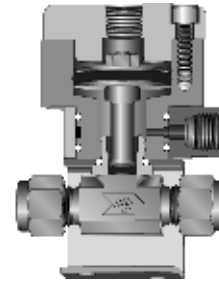
## Pneumatically Actuated Valves



[Normally Closed]



[Normally Open]



[Double Acting]

### Features

- Valve and actuator are fully assembled
- O-ring stem seal - no packing adjustment required
- Actuator material is aluminum
- Reliable piston design for enhanced cycle life
- Low actuation pressure
- Rotatable actuator port allows easy installation

### Actuator Types

Type	Material		
	O-ring	Stem Tip	Washer
Standard	Viton	PTFE	Nylon
Low temperature	Buna-C	PTFE	
High temperature	Viton	PEEK	PEEK

### Actuation Modes

- Normally closed : Air opens, spring closes
- Normally open : Air closes, spring opens
- Double acting : Air opens and closes

### Material of Construction

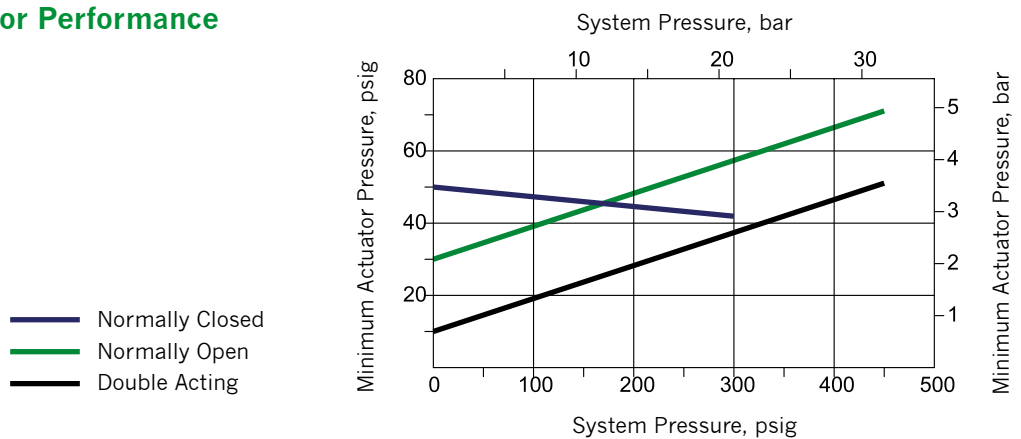
No.	Component	Material
1	Cover	Black anodized aluminum
2	Housing	
3	Port	
4	Piston	Aluminum
5	Bolt	SS304
6	Spring	SS302
7	O-ring	Viton
8	Mounting Bracket	SS304

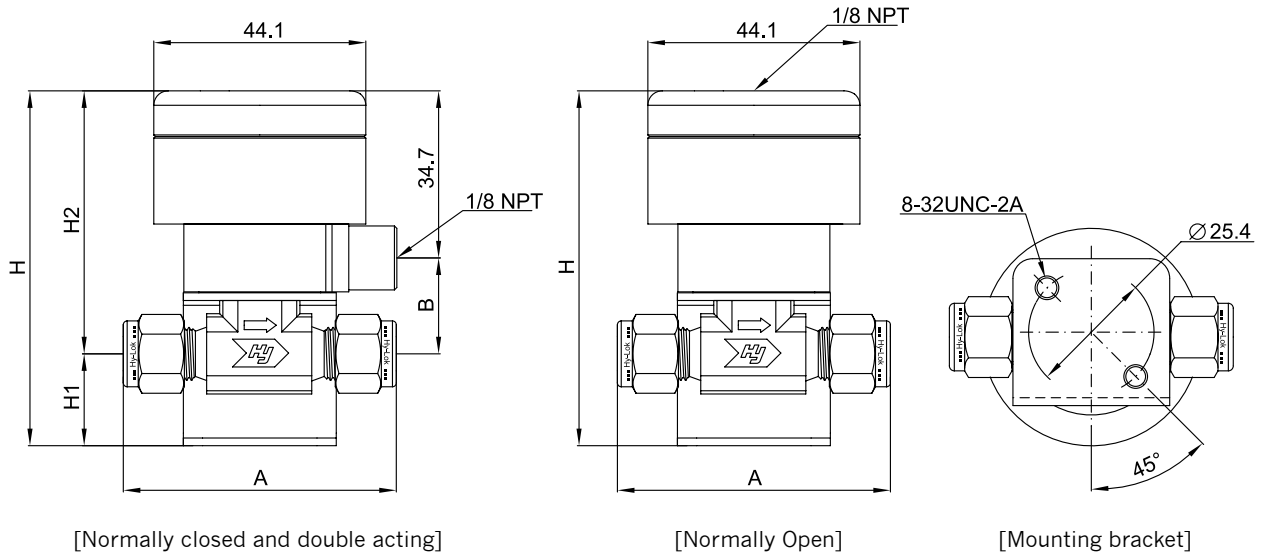
See page 2 for other materials of construction.

### Technical Data

Actuator Type	Temperature Rating F (°C)	Working Pressure, psig (bar)			Actuator Pressure Rating, psig (bar)
		Normally Closed	Normally Open	Double Acting	
Standard	-20 to 200 (-28 to 93)	300 (20.6)	450 (31.0)	450 (31.0)	150 (10.3)
Low temperature	-65 to 200 (-53 to 93)				
High temperature	-20 to 400 (-28 to 204)				

### Pneumatic Actuator Performance





[Normally closed and double acting]

[Normally Open]

[Mounting bracket]

**Table of Dimensions**

Basic Part No.			Orifice in. (mm)	Cv	End Connection		Dimensions, in. (mm)				
					Inlet	Outlet	A	B	H	H1	H2
TG1	H	-2T-	0.08 (2.0)	0.11	1/8" Hy-Lok	1/8" Hy-Lok	1.96 (49.8)	0.79 (20.1)	2.90 (73.8)	0.75 (19.0)	2.16 (54.8)
	M	-2N-			1/8" Male NPT	1/8" Male NPT	1.50 (38.1)				
	MH	-2N2T-			1/8" Male NPT	1/8" Hy-Lok	1.73 (43.9)				
TG2	H	-4T-	0.125 (3.2)	0.20	1/4" Hy-Lok	1/4" Hy-Lok	2.26 (57.4)	0.78 (19.9)	2.90 (73.8)	0.76 (19.2)	2.15 (54.6)
	H	-6M-			6mm Hy-Lok	6mm Hy-Lok	2.22 (56.4)				
	H	-8M-			8mm Hy-Lok	8mm Hy-Lok	2.22 (56.4)				
	F	-2N-			1/8" Female NPT	1/8" Female NPT	1.63 (41.4)				
	M	-4N-			1/4" Male NPT	1/4" Male NPT	1.96 (49.8)				
	MH	-4N4T-			1/4" Male NPT	1/4" Hy-Lok	2.11 (53.6)				

Dimensions shown with Hy-Lok nuts in finger-tight position, where applicable.

**Actuator Mode designator**

Actuation Mode	Designator
Normally closed	-PC
Normally open	-PO
Double acting	-PD

**Actuator Type designator**

Actuation Type	Designator
Standard	Blank
Low temperature	-LT
High temperature	-HT

**Valves without Mounting Brackets**

Standard actuator assembly includes a mounting bracket.

If the mounting bracket is not required, a replacement spacer washer is available as an option. To order, add -W to the ordering number.

Example: TG1H-4T-PC-W

## Options and Accessories

### Handle Positioner

This option keeps handle aligned in proper position.  
 Note : positioner can not be used with a spring return pin.  
 To order, add -HP to the valve ordering number.



### Spring Return Pin

The Spring Return Pin prevents the handle from locking in the open position. It cannot be used with the handle positioner. To order, add -SP as a suffix to the valve ordering number.

## Maintenance Kits

### Handle Kits



[Contain Handle and Pin]

Series	Orifice in. (mm)	Basic ordering number
TG1	0.08 (2.0)	KIT - TG0 - HD - *
TG2	0.125 (3.2)	
TG3	0.25 (6.4)	KIT - TG2 - HD - *

\* For a complete ordering number, add the colored nylon handle designator to the basic ordering number.

### Seal and Stem Kits



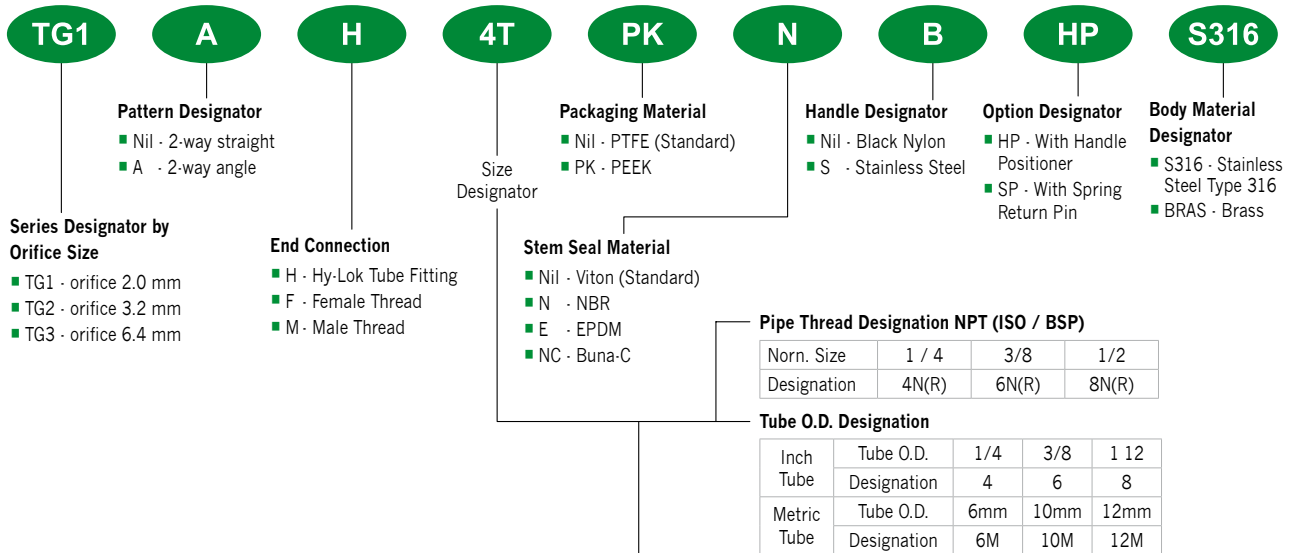
[Contain Stem, Tip and O-ring]

Series	Orifice in. (mm)	Basic ordering number
TG1	0.08 (2.0)	KIT - TG0 - S - *
TG2	0.125 (3.2)	
TG3	0.25 (6.4)	KIT - TG2 - S - *

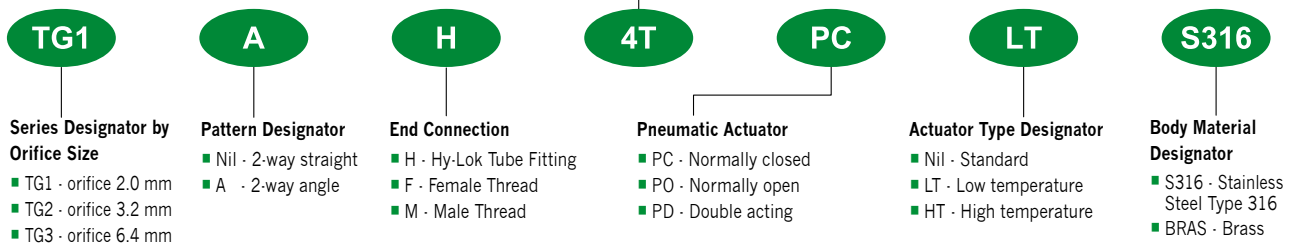
\* For a complete ordering number, add the O-ring materials designator to the basic ordering number.

# Ordering Information

## How to Order Manual Toggle Valves



## How to Order Actuated Toggle Valves



### Safety in Valve Selection

Proper installation, material compatibility, operation and maintenance of these valves are the responsibility of the user. The total system design must be taken into consideration to insure optimal performance and safety.

