

# Swagelok 40G and 40 Series Quick Reference Guide

## Swagelok Instrumentation Ball Valves

The 40 series one-piece instrumentation ball valve has performed reliably for nearly 40 years in multiple industries. Swagelok modified the valve construction and developed an innovative assembly process.

The result is the 40G series ball valve which features an expanded operating temperature rating, improved thermal cycling capabilities, and reduced potential for leaks.

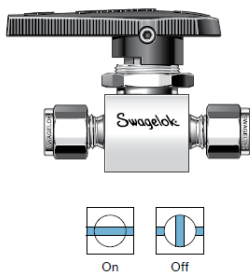


- On-off, switching, and crossover flow paths (see below)
- Working pressures up to 3000 psig (206 bar)
- Temperatures from -65 to 300°F (-53 to 148°C)
- 1/16 to 3/4 in. and 3 to 12 mm end connections
- All 40 and 40G valves have a panel mount nut standard

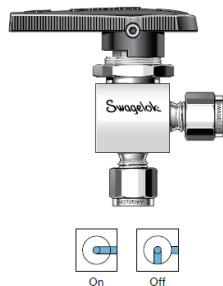
## Flow Patterns Available

### On-Off (2-Way) Valves

#### Straight Pattern

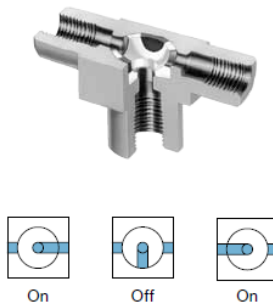
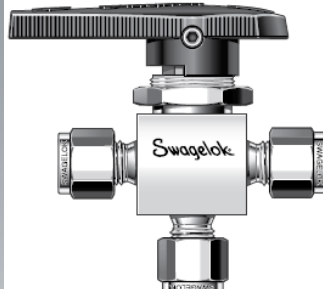


#### Angle Pattern



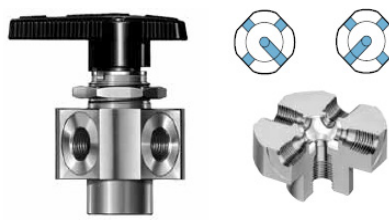
### Switching (3-Way) Valves

#### On-Off Switching

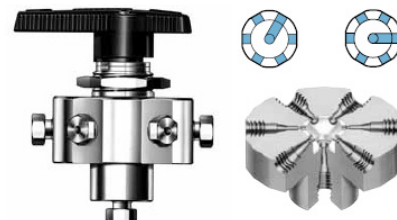


### Switching (5-Way and 7-Way) Valves

#### 5-Way Valve



#### 7-Way Valve



### Crossover (4-Way and 6-Way) Valves

#### 4-Way Valve



#### 6-Way Valve



Feature	Valve Series		
	41G, 42G, 43G	41, 42, 43	44, 45
Valve Body Materials	Stainless steel	Brass, alloy 400	Stainless steel, brass, alloy 400
Packing Materials	Modified PTFE or UHMWPE	PTFE, PFA <sup>①</sup> , or UHMWPE <sup>①</sup>	PTFE or PFA <sup>①</sup>
Working Pressure psig (bar)	Up to 3000 (206), depending on valve size. See page 5.		
Temperature Rating °F (°C)	Modified PTFE packing -65 to 300 (-53 to 148)	PTFE packing: 50 to 150 (10 to 65)	PTFE packing: 50 to 150 (10 to 65)
	UHMWPE packing -65 to 150 (-53 to 65)	Live-loaded PFA or UHMWPE packing: -65 to 150 (-53 to 65)	Live-loaded PFA packing: -65 to 150 (-53 to 65)
Flow Coefficients (C <sub>v</sub> )	0.08 to 2.4	0.05 to 2.4	1.5 to 12
End Connection Sizes	1/16 to 3/8 in.; 3 to 8 mm		3/8 to 3/4 in.; 8 to 12 mm
Flow Patterns	On-off (2-way); switching (3-way)	On-off (2-way); switching (3-way, 5-way and 7-way); crossover (4-way and 6-way)	On-off (2-way); switching (3-way and 5-way); crossover (4-way)

For product technical data and more information, see the following catalog:  
One-Piece Instrumentation Ball Valves, 40G and 40 Series, MS-02-331.

For product technical data and to reference the page numbers noted below, see the following catalog:  
One-Piece Instrumentation Ball Valves, 40G and 40 Series, MS-02-331.

## Ordering Multiple Options and Accessories

Swagelok 40G series and 40 series instrumentation ball valves are available with a wide variety of options and accessories that enable valve configurations customized to meet specific system requirements. Just insert or add designators as shown.

### Typical Ordering Number

1 2 3 4 5 6 7  
SS - 43G E V L S4 -LL-RD

#### 1 Body Material

B = Brass (40 series only)  
M = Alloy 400 (40 series only)  
SS = 316 stainless steel (40G series,  
44 series, 45 series)

#### 2 Valve Series

**On-Off (2-Way)** (page 6)  
41G, 42G, 43G,  
41, 42, 43, 44, 45  
**Switching (3-Way)** (page 8)  
41GX, 42GX, 43GX,  
41X, 42X, 43X, 44X, 45X  
**Switching (5-Way)** (page 10)  
43Z, 45Z  
**Switching (7-Way)** (page 10)  
43Z6  
**Crossover (4-Way)** (page 11)  
43Y, 45Y  
**Crossover (6-Way)** (page 11)  
43Y6

#### 3 Packing Material

**40G Series**  
E = UHMWPE  
None = modified PTFE  
**40 Series**  
None = PTFE  
**40T and 40E Series**  
E = Live-loaded UHMWPE (41,  
42, 43 series sizes only)  
T = Live-loaded PFA (all sizes)

#### 4 Optional Vent Port

V = Vent port (page 15)

#### 5 Optional Flow Path

H, L, HH, HL (page 24)

#### 6 End Connections, Size

##### Swagelok Tube Fittings

Fractional, in.

S1 = 1/16  
S2 = 1/8  
S4 = 1/4  
S6 = 3/8  
S8 = 1/2  
S12 = 3/4

Metric, mm

S3MM = 3  
S6MM = 6  
S8MM = 8  
S10MM = 10  
S12MM = 12

##### Female NPT

F2 = 1/8 in.  
F4 = 1/4 in.  
F6 = 3/8 in.  
F8 = 1/2 in.

##### Female ISO/BSP Tapered

F4RT = 1/4 in.  
F6RT = 3/8 in.  
F8RT = 1/2 in.

##### Male NPT

M4 = 1/4 in.

##### Male NPT to

##### Swagelok Tube Fitting

M4-S4 = 1/4 in.

##### VCO Fittings

VCO4 = 1/4 in.

##### Integral Male VCR Fittings

VCR4 = 1/4 in.  
VCR8 = 1/2 in.

#### 7 Options and Accessories

Add multiple designators in alphanumeric order. Not all options available for all valves. See pages cited below.

-A = Angle-pattern body (page 6)

-BL, -GR, -OG, -RD, -YW = Nylon directional handle colors (page 13)

-K, -SHD, -SH, -BKB, -NH, -NHS, -LH, -LL, -LLC = Handle options (pages 13 and 21)

-WVS2, -WVS4, . . . -WVS8M = Swagelok tube fitting vent port connections (page 15)

-WV4T49-2, -WV6MT10-50M = Tube stub vent port connections (page 15)

-SE2, -SE4, -SE6 = Stem extensions (page 15)

-WN1, -WN2 = Directional name plates (page 15)

-PT, -W20, -W31 = Production tests (page 23)

-SC11 = Special cleaning and packaging (page 23)

-1466 = No lubrication/special cleaning and packaging (page 23)

