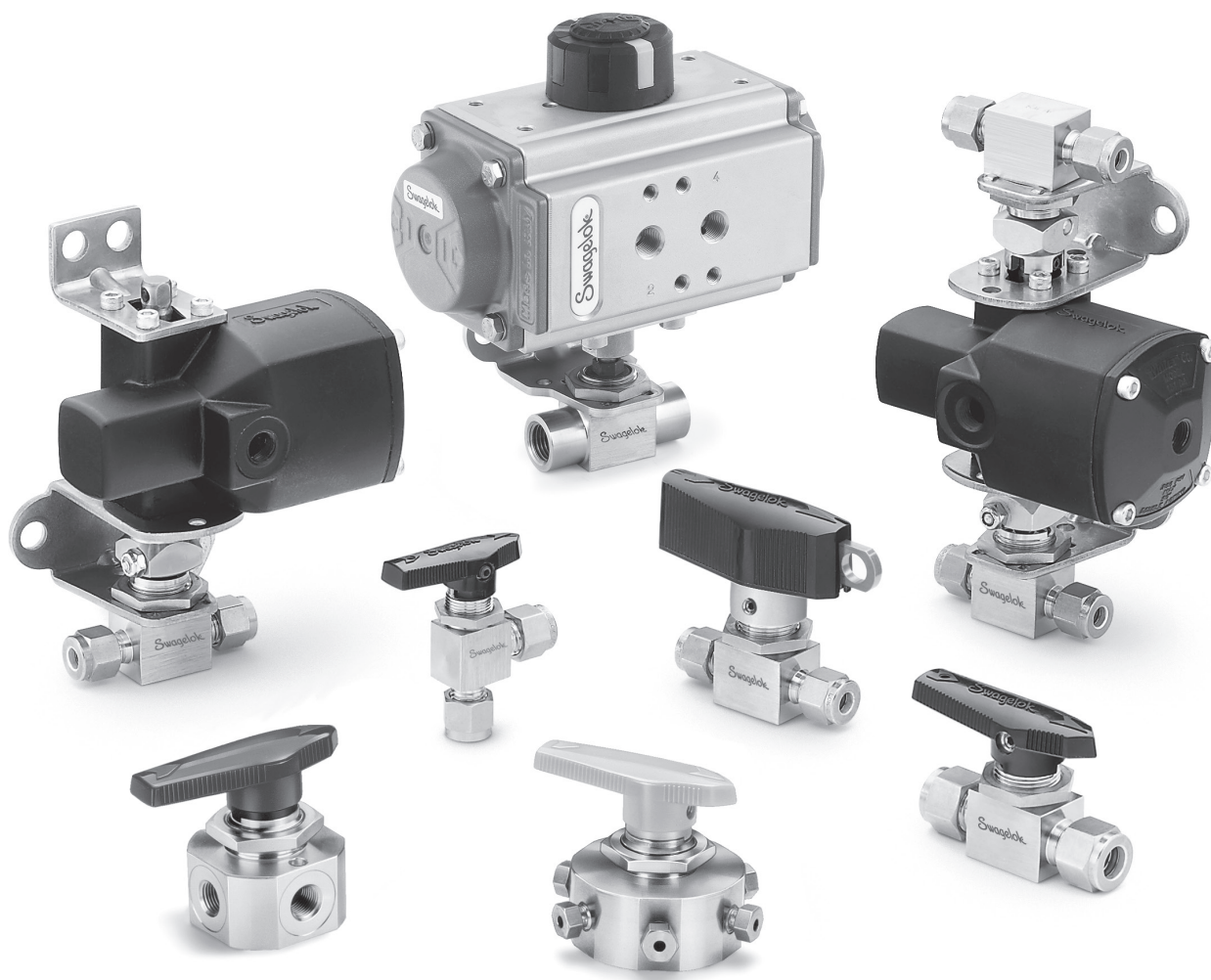


One-Piece Instrumentation Ball Valves



40G Series and 40 Series

- On-off, switching, and crossover flow paths
- Working pressures up to 3000 psig (206 bar)
- Temperatures from -65 to 300°F (-53 to 148°C)
- Environmental and heated-process applications
- 1/16 to 3/4 in. and 3 to 12 mm end connections

Contents

Swagelok® Instrumentation Ball Valves	2
Important Information About Swagelok Instrumentation Ball Valves	2
Features	3
Materials of Construction	4
Pressure-Temperature Ratings	5
On-Off (2-Way) Valves	6
Switching (3-Way) Valves	8
Switching (5-Way and 7-Way) Valves (40 Series)	10
Crossover (4-Way and 6-Way) Valves (40 Series)	11
Flow Data at 70°F (20°C)	12
Testing	12
Low Fugitive Emissions	12
Cleaning and Packaging	12
Handle Options	13
Vent Port and Stem Extension Options	15
Accessories	15
Pneumatic Actuators	16
ISO 5211-Compliant Pneumatic Actuators	19
Options for Pneumatic Actuators	21
Electric Actuators	22
Process Options	23
Service Options	23
Flow Path Options	24
Ordering Multiple Options and Accessories	28

Swagelok Instrumentation Ball Valves

Swagelok one-piece instrumentation ball valves have been well accepted and widely used in a variety of industries for many years.

Both the original Swagelok 40 series and the newer 40G series valves accommodate a wide range of actuator, flow path, and handle options, as well as offer ease of packing adjustment while inline.

40G Series and 40 Series Comparison

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 ^① , or UHMWPE ^①	PTFE, PFA ^{①③} , Modified PTFE ^{①②} , or UHMWPE ^①	PTFE or PFA ^①
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)		
	UHMWPE packing –65 to 150 (–53 to 65)	Live-loaded PFA or UHMWPE packing: –65 to 150 (–53 to 65)	Live-loaded PFA Modified PTFE, or UHMWPE packing: –65 to 150 (–53 to 65)	Live-loaded PFA packing: –65 to 150 (–53 to 65)
Flow Coefficients (C_v)	0.08 to 2.4	0.05 to 2.4	0.70 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)

① Live-loaded PFA and UHMWPE packing materials. See **40T and 40E Series for Low-Temperature Service**, page 3.

② For 2-way, 3-way, 4-way, and 5-way valves.

③ For 6-way and 7-way valves.

Important Information About Swagelok Instrumentation Ball Valves

- ⚠ **Swagelok ball valves are designed to be used in a fully open or fully closed position.**
- ⚠ **Valves that have not been cycled for a period of time may have a higher initial actuation torque.**
- ⚠ **A packing adjustment may be required periodically to increase service life and to prevent leakage.**

- Service instructions are shipped with each 40G series and 40 series valve.
- 40G and 40 series valves are factory tested with nitrogen at 1000 psig (69 bar), or the rated pressure if lower than 1000 psig (69 bar).
- 40 series valve packing must be readjusted for service at higher than test pressure.
- See page 12 for standard production tests and page 23 for optional production tests.
- Instrumentation ball valves exposed to dynamic temperature conditions before installation may lose their initial packing load. Packing adjustment may be needed.

- 41G and 42G series valves require an 8 mm deep-well socket and 43G series valves require a 9 mm deep-well socket to adjust the packing bolt.
- 41 and 42 series valves require a 3/8 in. open-ended wrench; 44 series valves require a 1/2 in. open-ended wrench; and 45 series valves require a 5/8 in. open-ended wrench to adjust the packing bolt.
- 43 series valves require an adapter to adjust the packing bolt. Ordering number: **MS-WK-43**

Features

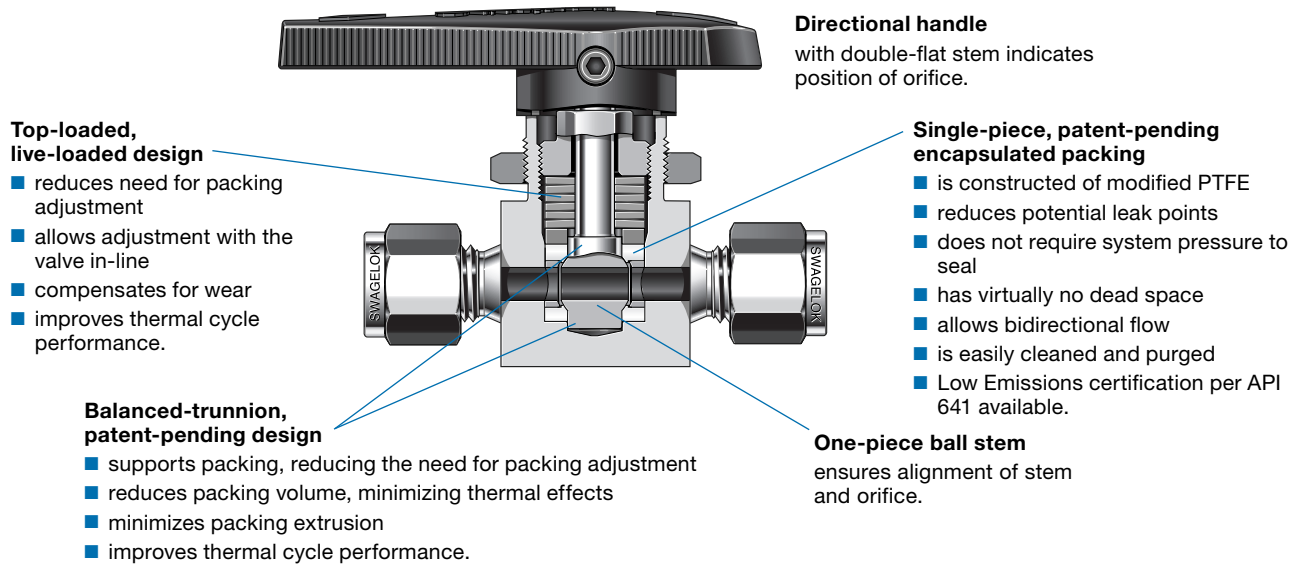
40G Series

Swagelok 41G, 42G, and 43G series valves easily replace original stainless steel 41, 42, and 43 series valves.

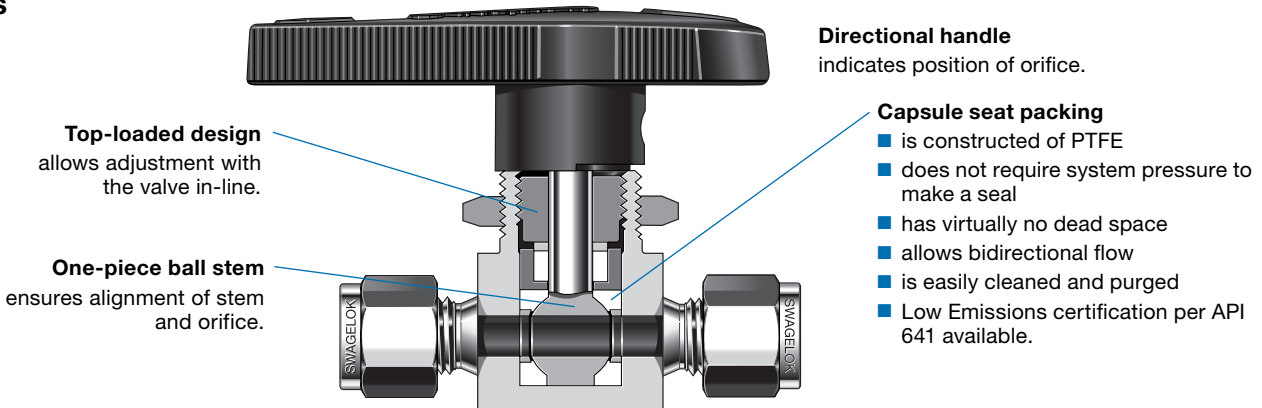
- Equivalent dimensions
- Comparable materials of construction

Couplings must be replaced on actuated valves. See pages 18 and 20.

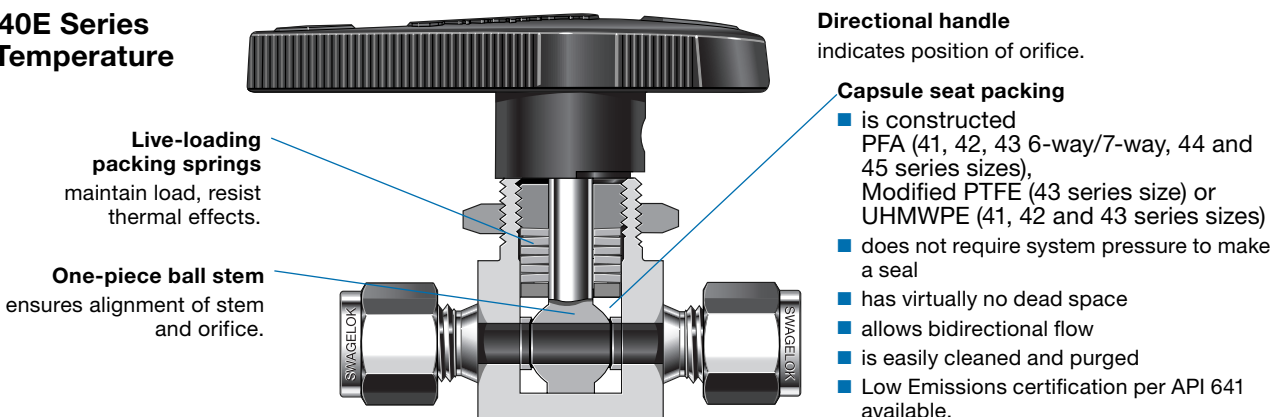
Swagelok 44 and 45 series valves remain available in stainless steel; the full range of 40 series sizes is available in brass and alloy 400.



40 Series



40T and 40E Series for Low-Temperature Service



Materials of Construction

40G Series

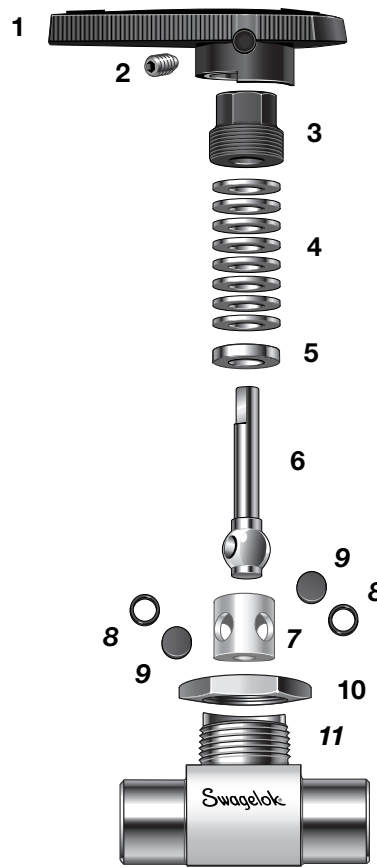
Component	Stainless Steel Valve Body Material	
	Material Grade/ASTM Specification	
1 Handle	Nylon with powdered metal 300 series SS insert	
2 Set screw	S17400/A564	
3 Packing bolt	Powdered metal 300 series SS	
4 Springs ^①	S17700/A693	
5 Gland	Powdered metal 300 series SS	
6 Ball stem	316 SS/A276	
7 Packing	Modified PTFE/D1710 type 1, Grade 1, Class B or UHMWPE/D4020	
8 Side rings	Powdered metal 300 series SS/B783 ^②	
9 Side discs		
10 Panel nut	Powdered metal 300 series SS/B783	
11 Body ^③	316 SS/A276 and A479	
Wetted lubricant	Silicone-based	
Nonwetted lubricant	Molybdenum disulfide with hydrocarbon binder coating	

Wetted components listed in *italics*.

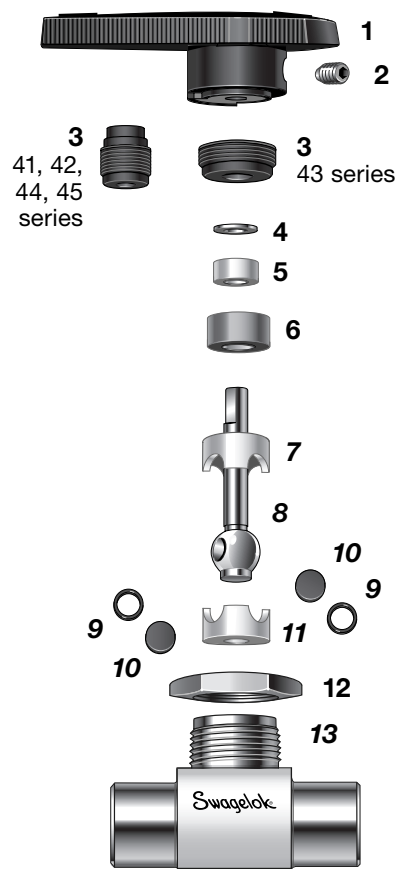
① 41G and 42G series: 8 springs; 43G series: 6 springs.

② B783 specification not available on 41G and 42G series; standard on 43G series.

③ Bodies with VCO[®] end connections and modified PTFE packing have fluorocarbon FKM O-rings; bodies with VCO end connections and UHMWPE packing have ethylene propylene O-rings.



40 Series



Component	Valve Body Materials		
	Stainless Steel	Brass	Alloy 400
	Material Grade/ASTM Specification		
1 Handle	Nylon with brass insert (41, 42, 43 and 44 series) Nylon with powdered metal 300 series SS insert (45 series)		
2 Set screw	S17400 SS/A564		
3 Packing bolt	Powdered metal 300 series SS or 316 SS/A276, A479	Brass CDA 360/B16	Alloy 400/B164
4 Upper gland	316 SS/A240	41, 42, 45 series: brass 260/B36; 43, 44 series: 316 SS/A240	Alloy 400/B127
5 Bushing	PTFE/D1710		
6 Lower gland	Powdered metal 300 series SS	Brass CDA 360/B16	Alloy 400/B164
7 Upper packing	PTFE/D1710		
8 Ball stem	316 SS/A276	Brass CDA 360/B16 ^①	Alloy 400/B164
9 Side rings	Fluorocarbon-coated powdered metal 300 series SS/B783	Fluorocarbon-coated brass powdered metal ^①	Fluorocarbon-coated alloy 400 powdered metal
10 Side discs			
11 Lower packing	PTFE/D1710		
12 Panel nut	Powdered metal 300 series SS/B783	Brass CDA 360/B16	Powdered metal 300 series SS/B783
13 Body ^②	316 SS/A276, A479	Brass CDA 356 or 360/B16	Alloy 400/B164
Wetted lubricant	41, 42, 43 series: silicone-based; 44, 45 series: silicone- and fluorinated-based		
Nonwetted lubricant	Molybdenum disulfide with hydrocarbon binder coating		

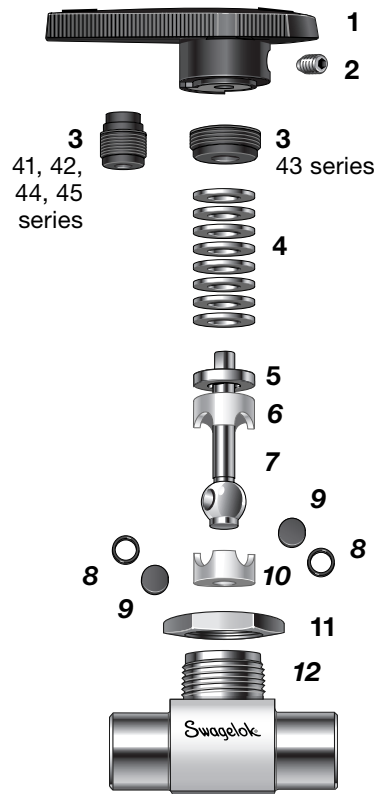
Wetted components listed in *italics*.

① 4-way, 5-way, 6-way, and 7-way valves contain stainless steel stem, rings, and discs.

② Bodies with VCO end connections have fluorocarbon FKM O-rings.

Materials of Construction

40T and 40E Series for Low-Temperature Service



Component	Valve Body Materials		
	Stainless Steel	Brass	Alloy 400
	Material Grade/ASTM Specification		
1 Handle	Nylon with brass insert (41, 42, 43 and 44 series) Nylon with powdered metal 300 series SS insert (45 series)		
2 Set screw	S17400 SS/A564		
3 Packing bolt	Powdered metal 300 series SS or 316 SS/A276, A479	Brass CDA 360/B16	Alloy 400/B164
4 Springs ^①	Molybdenum disulfide-coated S17700 SS/A693		
5 Gland	Powdered metal 300 series SS		
6 Upper packing	41T, 42T, 43T 6-way/7-way, 44T and 45T: PFA/D3307; 43T: Modified PTFE/D1710 type 1, Grade 1, Class B; 40E: UHMWPE/D4020		
7 Ball stem	316 SS/A276 and A479		Alloy 400/B164
8 Side rings	40T: fluorocarbon-coated powdered metal 300 series SS/B783;		Fluorocarbon-coated alloy 400 powdered metal
9 Side discs	40E: 300 series powdered metal SS/B783		
10 Lower packing	41T, 42T, 43T 6-way/7-way, 44T and 45T: PFA/D3307; 43T: Modified PTFE/D1710 type 1, Grade 1, Class B; 40E: UHMWPE/D4020		
11 Panel nut	Powdered metal 300 series SS/B783	Brass CDA 360/B16	Powdered metal 300 series SS/B783
12 Body ^②	316 SS/A276, A479	Brass CDA 360/B16	Alloy 400/B164
Wetted lubricant	40T: hydrocarbon- and silicone-based ^③ ; 40E: hydrocarbon-based		
Nonwetted lubricant	Molybdenum disulfide with hydrocarbon binder coating		

Wetted components listed in *italics*.

① 41 and 42 series—8 springs; 43 series—6 springs; 44 and 45 series—4 springs.

② 40T body with VCO fittings has fluorocarbon FKM O-rings; 40E body with VCO fittings has ethylene propylene O-rings.

③ 44T and 45T—hydrocarbon-based and silicone- and fluorinated-based.

Pressure-Temperature Ratings

The 40G series valve is designed for thermal cycling in both environmental and heated-process applications.

Ratings shown below apply to on-off (2-way) and switching (3-way) valves. Ratings for switching (5-way and 7-way) and crossover (4-way and 6-way) valves are shown on pages 10 and 11, respectively.

Temperature ratings are limited to 150°F (65°C) max with UHMWPE packing.

Valve Series	40G		40			40T and 40E		
Packing Material	Modified PTFE UHMWPE ^①		PTFE			Live-Loaded PFA (41T, 42T, 43T 6-way/7-way, 44T and 45T Series) Live-Loaded Modified PTFE (43T Series) Live-Loaded UHMWPE (40E Series) ^①		
Valve Size (Configuration)	41G, 42G (Straight, Angle, 3-Way); 43G (Angle, 3-Way)	43G (Straight)	41, 42 (Straight, Angle, 3-Way); 43 (Angle, 3-Way); 44, 45 (Straight)	43 (Straight)	44, 45 (Angle, 3-Way)	41, 42 (Straight, Angle, 3-Way); 43 (Angle, 3-Way); 44, 45 (Straight)	43 (Straight)	44, 45 (Angle, 3-Way)
Temperature °F (°C)	Working Pressure, psig (bar)							
-65 (-53) to 50 (10)	2500 (172)	3000 (206)	—	—	—	2500 (172)	3000 (206)	1500 (103)
50 (10) to 150 (65)	2500 (172)	3000 (206)	2500 (172)	3000 (206)	1500 (103)	2500 (172)	3000 (206)	1500 (103)
200 (93)	2500 (172)	2800 (193)	—	—	—	—	—	—
250 (121)	2500 (172)	2650 (182)	—	—	—	—	—	—
300 (148)	2500 (172)	2500 (172)	—	—	—	—	—	—

Pressure ratings for valves with Swagelok tube fitting ends may be lower due to the tubing pressure rating. Refer to *Tubing Data* catalog, [MS-01-107](#), for additional information.

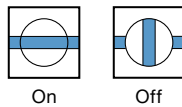
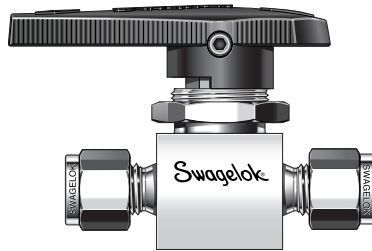
① Temperature ratings are limited to 150°F (65°C) max with UHMWPE packing.

On-Off (2-Way) Valves

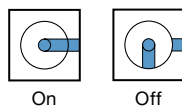
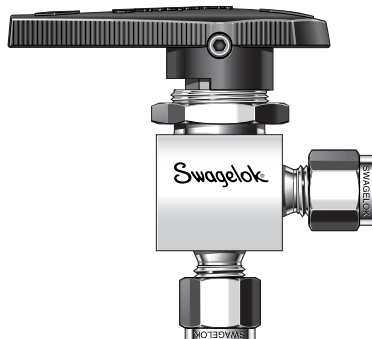
Flow Patterns

Straight and Angle Patterns for On-Off Service

Straight Pattern



Angle Pattern



Ordering Information

40G Series Valves

Select a 40G series ordering number from the **40G Series Complete Ordering Number** column, shaded blue.

Example: **SS-41GS1**

To order a valve with UHMWPE packing, insert **E** into the valve ordering number.

Example: **SS-41GES1**

40 Series Valves

Add a body material designator to a 40 series basic ordering number from the **40 Series Basic Ordering Number** column, shaded gray.

Material	Valve Series	Designator
316 SS	44, 45	SS
Alloy 400	41, 42, 43, 44, 45	M
Brass	41, 42, 43, 44, 45	B

Examples: **M-42S4**
SS-44S6

40T and 40E Series Valves

Insert a seat packing material designator.

Material	Valve Series	Designator
PFA	41, 42, 44, 45	T
Modified PTFE	43	T
UHMWPE	41, 42, 43	E

Examples: **M-42ES4**
SS-44TS6

Angle-Pattern Valves

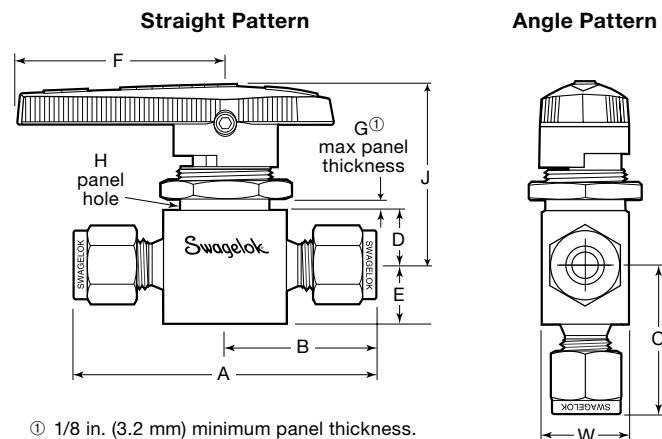
Angle-pattern valves have the same options and accessories as straight-pattern valves; the pressure-temperature ratings (page 5), flow coefficients, and dimensions are different.

To order an angle-pattern valve, add **-A** to ordering number of a valve with the C dimension listed.

Examples: **SS-43GS4-A**
SS-44S6-A

Dimensions

Dimensions are for reference only and are subject to change. Dimensions shown with Swagelok tube fitting nuts finger-tight.



① 1/8 in. (3.2 mm) minimum panel thickness.

On-Off (2-Way) Valves

End Connections		C _v		40G Series Complete Ordering Number	40 Series Basic Ordering Number	Orifice in. (mm)	Dimensions in. (mm)									
Inlet/Outlet	Size	Straight	Angle				A	B	C	D	E	F	G	H	J	W
Fractional Swagelok tube fittings	1/16 in.	0.10	—	SS-41GS1	-41S1	0.052 (1.32)	1.68 (42.7)	0.84 (21.3)	—	0.34 (8.6)	0.28 (7.1)	1.12 (28.4)	1/4 (6.4)	19/32 (15.1)	1.36 (34.5)	0.58 (14.7)
	1/8 in.	0.20	0.15	SS-41GS2	-41S2	0.093 (2.36)	2.01 (51.1)	1.01 (25.7)	0.97 (24.6)	0.34 (8.6)	0.28 (7.1)	1.12 (28.4)	1/4 (6.4)	19/32 (15.1)	1.36 (34.5)	0.58 (14.7)
	1/4 in.	0.60	0.35	SS-42GS4	-42S4	0.125 (3.18)	2.21 (56.1)	1.10 (27.9)	1.07 (27.2)	0.34 (8.6)	0.28 (7.1)	1.12 (28.4)	1/4 (6.4)	19/32 (15.1)	1.36 (34.5)	0.58 (14.7)
		1.4	0.90	SS-43GS4	-43S4	0.187 (4.75)	2.39 (60.7)	1.20 (30.5)	1.17 (29.7)	0.44 (11.2)	0.38 (9.7)	1.53 (38.9)	3/16 (4.8)	25/32 (19.8)	1.47 (37.3)	0.78 (19.8)
	3/8 in.	1.5	0.90	SS-43GS6	-43S6	0.187 (4.75)	2.58 (65.5)	1.29 (32.8)		0.44 (11.2)	0.38 (9.7)	1.53 (38.9)	3/16 (4.8)	25/32 (19.8)	1.47 (37.3)	0.78 (19.8)
		6.0	2.0	—	-44S6	0.281 (7.14)	3.05 (77.5)	1.52 (38.6)	1.43 (36.3)	0.56 (14.2)		2.00 (50.8)	3/8 (9.5)	1 1/8 (28.6)	2.07 (52.6)	1.12 (28.4)
	1/2 in.	1.1	—	SS-43GS8	—	0.187 (4.75)	2.80 (71.1)	1.40 (35.5)	—	0.44 (11.2)	0.38 (9.7)	1.53 (38.9)	3/16 (4.8)	25/32 (19.8)	1.47 (37.3)	0.78 (19.8)
		12	4.6	—	-45S8	0.406 (10.3)	3.92 (99.6)	1.96 (49.8)	1.74 (44.2)	0.69 (17.5)		3.00 (76.2)	3/8 (9.5)	1 1/2 (38.1)	2.49 (63.2)	1.50 (38.1)
	3/4 in.	6.4	3.8	—	-45S12	0.406 (10.3)	3.92 (99.6)	1.96 (49.8)	1.74 (44.2)	0.69 (17.5)		3.00 (76.2)	3/8 (9.5)	1 1/2 (38.1)	2.49 (63.2)	1.50 (38.1)
Metric Swagelok tube fittings	3 mm	0.20	0.15	SS-41GS3MM	-41S3MM	0.093 (2.36)	2.01 (51.1)	1.01 (25.7)	0.97 (24.6)	0.34 (8.6)	0.28 (7.1)	1.12 (28.4)	1/4 (6.4)	19/32 (15.1)	1.36 (34.5)	0.58 (14.7)
	6 mm	0.60	0.35	SS-42GS6MM	-42S6MM	0.125 (3.18)	2.21 (56.1)	1.10 (27.9)	1.07 (27.2)	0.34 (8.6)	0.28 (7.1)	1.12 (28.4)	1/4 (6.4)	19/32 (15.1)	1.36 (34.5)	0.58 (14.7)
		1.4	0.90	SS-43GS6MM	-43S6MM	0.187 (4.75)	2.39 (60.7)	1.20 (30.5)	1.17 (29.7)	0.44 (11.2)	0.38 (9.7)	1.53 (38.9)	3/16 (4.8)	25/32 (19.8)	1.47 (37.3)	0.78 (19.8)
	8 mm	1.5	0.90	SS-43GS8MM	-43S8MM	0.187 (4.75)	2.46 (62.5)	1.23 (31.2)	1.20 (30.5)	0.44 (11.2)	0.38 (9.7)	1.53 (38.9)	3/16 (4.8)	25/32 (19.8)	1.47 (37.3)	0.78 (19.8)
	10 mm	6.0	2.0	—	-44S10MM	0.281 (7.14)	3.07 (78.0)	1.53 (38.9)	1.43 (36.3)	0.56 (14.2)		2.00 (50.8)	3/8 (9.5)	1 1/8 (28.6)	2.07 (52.6)	1.12 (28.4)
	12 mm	12	4.6	—	-45S12MM	0.406 (10.3)	3.92 (99.6)	1.96 (49.8)	1.74 (44.2)	0.69 (17.5)		3.00 (76.2)	3/8 (9.5)	1 1/2 (38.1)	2.49 (63.2)	1.50 (38.1)
Female NPT	1/8 in.	0.50	0.30	SS-42GF2	-42F2	0.125 (3.18)	1.63 (41.4)	0.81 (20.6)		0.34 (8.6)	0.28 (7.1)	1.12 (28.4)	1/4 (6.4)	19/32 (15.1)	1.36 (34.5)	0.58 (14.7)
		1.2	0.70	SS-43GF2	-43F2	0.187 (4.75)	2.00 (50.8)	1.00 (25.4)		0.44 (11.2)	0.38 (9.7)	1.53 (38.9)	3/16 (4.8)	25/32 (19.8)	1.47 (37.3)	0.78 (19.8)
	1/4 in.	0.90	0.75	SS-43GF4	-43F4	0.187 (4.75)	2.06 (52.3)	1.03 (26.2)		0.44 (11.2)	0.38 (9.7)	1.53 (38.9)	3/16 (4.8)	25/32 (19.8)	1.47 (37.3)	0.78 (19.8)
		3.0	1.7	—	-44F4	0.281 (7.14)	2.50 (63.5)	1.25 (31.8)		0.56 (14.2)		2.00 (50.8)	3/8 (9.5)	1 1/8 (28.6)	2.07 (52.6)	1.12 (28.4)
	3/8 in.	2.6	1.5	—	-44F6	0.281 (7.14)	2.50 (63.5)	1.25 (31.8)		0.56 (14.2)		2.00 (50.8)	3/8 (9.5)	1 1/8 (28.6)	2.07 (52.6)	1.12 (28.4)
	1/2 in.	6.3	3.5	—	-45F8	0.406 (10.3)	3.12 (79.2)	1.56 (39.6)		0.69 (17.5)		3.00 (76.2)	3/8 (9.5)	1 1/2 (38.1)	2.49 (63.2)	1.50 (38.1)
Female ISO/BSP tapered	1/4 in.	0.90	—	SS-43GF4RT	-43F4RT	0.187 (4.75)	2.06 (52.3)	1.03 (26.2)	—	0.44 (11.2)	0.38 (9.7)	1.53 (38.9)	3/16 (4.8)	25/32 (19.8)	1.47 (37.3)	0.78 (19.8)
	3/8 in.	2.6		—	-44F6RT	0.281 (7.14)	2.50 (63.5)	1.25 (31.8)		0.56 (14.2)		2.00 (50.8)	3/8 (9.5)	1 1/8 (28.6)	2.07 (52.6)	1.12 (28.4)
	1/2 in.	6.3		—	-45F8RT	0.406 (10.3)	3.12 (79.2)	1.56 (39.6)		0.69 (17.5)		3.00 (76.2)	3/8 (9.5)	1 1/2 (38.1)	2.49 (63.2)	1.50 (38.1)
Male NPT	1/4 in.	1.2	0.75	SS-43GM4	-43M4	0.187 (4.75)	2.00 (50.8)	1.00 (25.4)	1.03 (26.2)	0.44 (11.2)	0.38 (9.7)	1.53 (38.9)	3/16 (4.8)	25/32 (19.8)	1.47 (37.3)	0.78 (19.8)
Male NPT/ Swagelok tube fitting	1/4 in.	1.6	0.75	SS-43GM4-S4	-43M4-S4	0.187 (4.75)	2.20 (55.9)	1.20 (30.5)	1.03 (26.2)	0.44 (11.2)	0.38 (9.7)	1.53 (38.9)	3/16 (4.8)	25/32 (19.8)	1.47 (37.3)	0.78 (19.8)
VCO fittings	1/4 in.	0.60	0.35	SS-42GVCO4	-42VCO4	0.125 (3.18)	1.75 (44.4)	0.88 (22.4)	0.94 (23.9)	0.44 (11.2)	0.38 (9.7)	1.12 (28.4)	1/8 (3.2)	19/32 (15.1)	1.36 (34.5)	0.78 (19.8)
		2.4	0.90	SS-43GVCO4	-43VCO4	0.187 (4.75)	1.88 (47.8)	0.94 (23.9)				1.53 (38.9)	3/16 (4.8)	25/32 (19.8)	1.47 (37.3)	
Integral male VCR® fittings	1/4 in.	0.60	0.35	SS-42GVCR4	-42VCR4	0.125 (3.18)	2.13 (54.1)	1.06 (26.9)	1.09 (27.7)	0.44 (11.2)	0.38 (9.7)	1.12 (28.4)	1/8 (3.2)	19/32 (15.1)	1.36 (34.5)	0.78 (19.8)
		2.4	0.90	SS-43GVCR4	-43VCR4	0.187 (4.75)		1.53 (38.9)	3/16 (4.8)			25/32 (19.8)	1.47 (37.3)			
	1/2 in.	6.0	—	—	-44VCR8 ^①	0.281 (7.14)	2.88 (73.2)	1.44 (36.6)	—	0.56 (14.2)		2.00 (50.8)	3/8 (9.5)	1 1/8 (28.6)	2.07 (52.6)	1.50 (38.1)
		12		—	-45VCR8 ^①	0.406 (10.3)	3.12 (79.2)	1.56 (39.6)		0.69 (17.5)		3.00 (76.2)	3/8 (9.5)	1 1/2 (38.1)	2.49 (63.2)	

① Not recommended for panel mounting.

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 (41, 42, 43 6-way/7-way, 44, and 45 series)

Live-loaded Modified PTFE (43 series only)

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)