

# Distribution Block Valves

## D60 Series

### Features

#### Integrated Distribution Block Valves

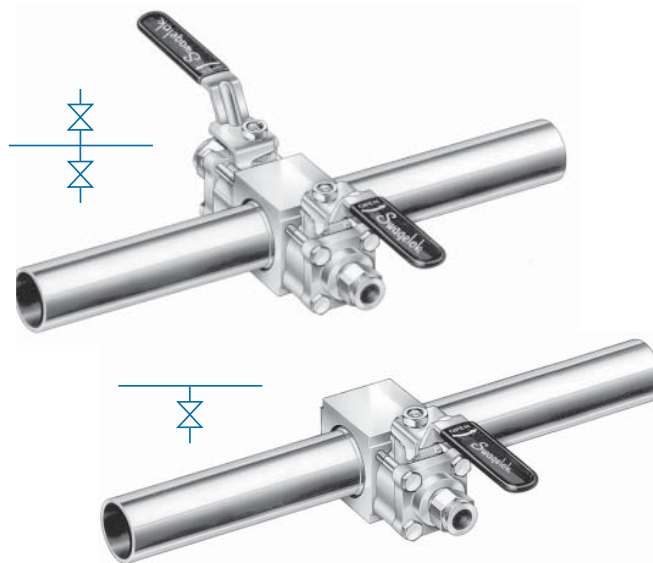
- eliminate the need to fabricate assemblies from separate components
- are stronger than brazed assemblies, enhancing system structural integrity
- offer lower internal volume
- provide flexibility for different system layouts.

#### Main Line Tubing

- is available in a range of sizes to match commonly used headers
- provides straight, unrestricted flow through block
- can be welded directly to header without disassembling valves.

#### Gaugeable Swagelok® Tube Fitting Branch Connections

- provide a leak-tight seal without system shutdown and prefabrication expenses associated with brazing
- are available in a range of sizes to match branch tubing.



### Materials of Construction

Wetted Component	Material Grade/ ASTM Specification
Main line tubing	316L SS welded/A269 (4 in. OD); 316L SS seamless/A213 (1/2 to 2 in. OD)
Block	316L SS/A276
Seat, top and bottom stem packing	Reinforced PTFE; other materials available
Body	316 SS/A479 or CF3M/A351
Stem bearings (2)	Alloy X-750/AMS 5542
Stem, ball	316 SS/A276
Support rings (2)	316 SS/A240
Coned-disc springs (2)	Strain-hardened 316 SS/A240
Flange seals (2)	Fluorocarbon FKM
Flanges (2)	316L SS/A479 or CF3M/A351
Lubricants	Silicone-based and PTFE-based; other lubricants available

For detailed product data, including additional seat materials and nonwetted materials of construction, see the Swagelok Ball Valves, General Purpose and Special Application—60 Series catalog, MS-01-146.

### Pressure-Temperature Ratings

Main Line Tubing Size, in.	4 × 0.083	2 × 0.065	1 1/2 × 0.065	1 × 0.065	3/4 × 0.065 1/2 × 0.049
Series	D67T, D68T	D63T			D62T
Temperature, °F (°C)	Working Pressure, psig (bar)				
-20 (-28) to 100 (37)	530 (36.5)	990 (68.2)	1300 (89.5)	2000 (137)	2200 (151)
150 (65)	480 (33.0)	910 (62.6)	1190 (81.9)	1850 (127)	1850 (127)
200 (93)	440 (30.3)	830 (57.1)	1090 (75.1)	1500 (103)	1500 (103)
250 (121)	420 (28.9)	790 (54.4)	1040 (71.6)	1150 (79.2)	1150 (79.2)
300 (148)	400 (27.5)	750 (51.6)	800 (55.1)	800 (55.1)	800 (55.1)
350 (176)	380 (26.1)	560 (38.5)	560 (38.5)	560 (38.5)	560 (38.5)
400 (204)	330 (22.7)	330 (22.7)	330 (22.7)	330 (22.7)	330 (22.7)
450 (232)	100 (6.8)	100 (6.8)	100 (6.8)	100 (6.8)	100 (6.8)

Pressure ratings may be limited by the main line tubing.

### Testing

Every Swagelok D60 series distribution block valve is factory tested with nitrogen at 1000 psig (69 bar) or its maximum rated pressure if less than 1000 psig (69 bar). Seats have a maximum allowable leak rate of 0.1 std cm<sup>3</sup>/min. Shell testing is performed to a requirement of no detectable leakage with a liquid leak detector.

### Cleaning and Packaging

All Swagelok D60 series distribution block valves are cleaned in accordance with Swagelok *Standard Cleaning and Packaging (SC-10)*, MS-06-62.

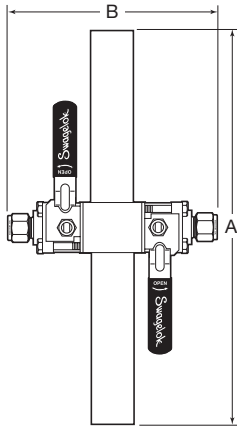
### Oxygen Service Hazards

For more information about hazards and risks of oxygen-enriched systems, see the Swagelok *Oxygen System Safety* technical report, MS-06-13.

## Ordering Information and Dimensions

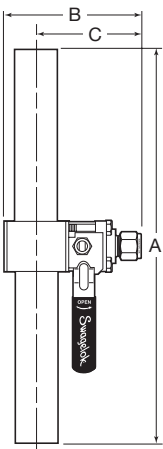
Select an ordering number. See the Swagelok *Ball Valves, General Purpose and Special Application—60 Series* catalog, MS-01-146, for valve dimensions. Dimensions are for reference only and are subject to change.

### Double Horizontal Cross



Main Line Tubing Size in.	Branch Swagelok Tube Fitting Size	Orifice in. (mm)	Ordering Number	Dimensions, in. (mm)	
				A	B
4 × 0.083	2 in.	1.500 (38.1)	SS-D68TTE16S32	23.0 (584)	17.2 (437)
	1 1/2 in.	1.250 (31.8)	SS-D67TTE16S24		14.4 (365)
2 × 0.065	3/4 in.	0.516 (13.1)	SS-D63TTE8S12	13.0 (330)	8.19 (208)
	1/2 in.	0.411 (10.4)	SS-D63TTE8S8		
1 1/2 × 0.065	3/4 in.	0.516 (13.1)	SS-D63TTE6S12	13.0 (330)	7.13 (181)
	1/2 in.	0.411 (10.4)	SS-D63TTE6S8		6.94 (176)
	3/8 in.	0.281 (7.1)	SS-D63TTE6S6		
1 × 0.065	3/4 in.	0.516 (13.1)	SS-D63TTE4S12	13.0 (330)	6.88 (175)
	1/2 in.	0.411 (10.4)	SS-D63TTE4S8		6.69 (170)
	3/8 in.	0.281 (7.1)	SS-D63TTE4S6		
3/4 × 0.065	3/8 in.	0.281 (7.1)	SS-D62TTE3S6	9.00 (229)	5.19 (132)
	1/4 in.	0.187 (4.8)	SS-D62TTE3S4		
1/2 × 0.049	3/8 in.	0.281 (7.1)	SS-D62TTE2S6	7.00 (178)	5.19 (132)
	1/4 in.	0.187 (4.8)	SS-D62TTE2S4		

### Single Horizontal Cross



Main Line Tubing Size in.	Branch Swagelok Tube Fitting Size	Orifice in. (mm)	Ordering Number	Dimensions, in. (mm)		
				A	B	C
4 × 0.083	2 in.	1.500 (38.1)	SS-D68TAA16S32	23.0 (584)	11.6 (295)	8.63 (219)
	1 1/2 in.	1.250 (31.8)	SS-D67TAA16S24		10.2 (259)	7.19 (183)
2 × 0.065	3/4 in.	0.516 (13.1)	SS-D63TAA8S12	13.0 (330)	5.97 (152)	4.06 (103)
	1/2 in.	0.411 (10.4)	SS-D63TAA8S8			
1 1/2 × 0.065	3/4 in.	0.516 (13.1)	SS-D63TAA6S12	13.0 (330)	4.69 (119)	6.56 (90.4)
	1/2 in.	0.411 (10.4)	SS-D63TAA6S8		4.56 (116)	3.44 (87.4)
	3/8 in.	0.281 (7.1)	SS-D63TAA6S6			
1 × 0.065	3/4 in.	0.516 (13.1)	SS-D63TAA4S12	13.0 (330)	4.44 (113)	3.44 (87.4)
	1/2 in.	0.411 (10.4)	SS-D63TAA4S8		4.31 (109)	3.31 (84.1)
	3/8 in.	0.281 (7.1)	SS-D63TAA4S6			
3/4 × 0.065	3/8 in.	0.281 (7.1)	SS-D62TAA3S6	9.00 (229)	3.31 (84.1)	2.56 (65.0)
	1/4 in.	0.187 (4.8)	SS-D62TAA3S4			
1/2 × 0.049	3/8 in.	0.281 (7.1)	SS-D62TAA2S6	7.00 (178)	3.31 (84.1)	2.56 (65.0)
	1/4 in.	0.187 (4.8)	SS-D62TAA2S4			

## Options and Accessories

### Valve Handles

For information on locking handles, oval handles, and colored handle sleeves, see the Swagelok *Process Ball Valve Handle Options* catalog, MS-01-137.

### Tube Stubs and Metric Tubing

Contact your authorized Swagelok sales and service representative for information about valves with metric tubing and valves with branch line tube stub end connections.

#### Safe Product Selection

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

**Caution: Do not mix or interchange parts with those of other manufacturers.**

### Special Cleaning and Packaging (SC-11)

To order D60 series valves with optional cleaning and packaging accordance with Swagelok *Special Cleaning and Packaging (SC-11)*, MS-06-63, to ensure compliance with product cleanliness requirements stated in ASTM G93 Level C, add **-SC11** to the valve ordering number.

Example: SS-D68TTE16S32-**SC11**

### Warranty Information

Swagelok products are backed by The Swagelok Limited Lifetime Warranty. For a copy, visit [swagelok.com](http://swagelok.com) or contact your authorized Swagelok representative.