

# Instrumentation Blowdown Valves

## 6DB Series

### Features

- 316 stainless steel materials
- Union-bonnet construction for safety
- Grafoil® packing for high-temperature performance
- Swagelok® tube fitting, female NPT, and tube or pipe socket weld end connections
- Orifice of 0.250 in. (6.4 mm); flow coefficient ( $C_v$ ) of 0.86
- Designed to be used in the fully open or fully closed position

### Testing

Every 6DB series valve is factory tested with nitrogen at 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

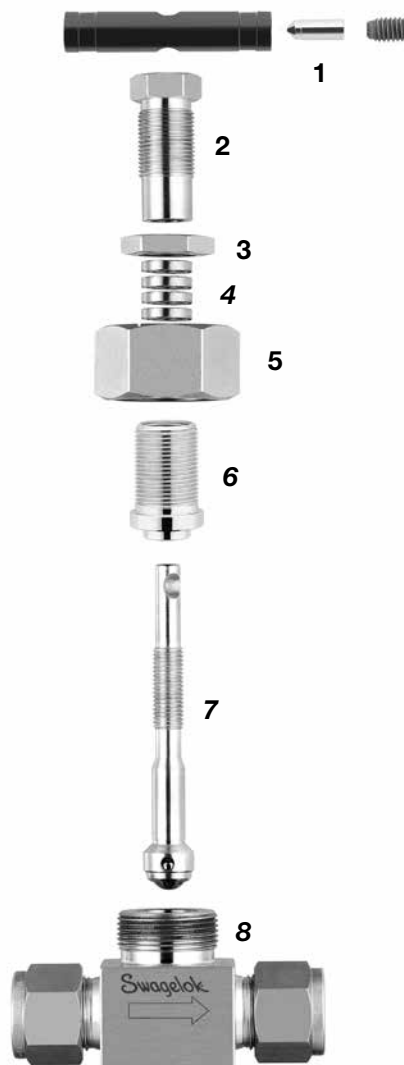
Every 6DB series valve is cleaned and packaged in accordance with Swagelok *Standard Cleaning and Packaging (SC-10)* (MS-06-62).



### Materials of Construction

Component	Material Grade/ ASTM Specification
1 Handle	Anodized aluminum 2024T/B211
Handle pin	Nickel-cadmium plated steel/A108
Set screw	Nickel-cadmium plated steel
2 Packing bolt	316 SS/A479
3 Jam nut	316 SS/A276
4 Packings	<i>Grafoil</i>
5 Union nut	316 SS/A276
6 Bonnet	316 SS/A479
7 Stem	316 SS/A276
Ball stem tip	<i>316 SS/A479 with chrome plating/B177</i>
8 Body	316 SS/A479
Lubricant	<i>Fluorinated-based with PTFE and tungsten disulfide; ball tip—hydrocarbon- based</i>

Wetted components listed in *italics*.



### Pressure-Temperature Ratings

ASME Class	2500
Material Group	2.2
Material Name	316 SS
Temperature °F (°C)	Working Pressure psig (bar)
-65 (-53) to 100 (37)	6000 (413)
200 (93)	5160 (355)
250 (121)	4910 (338)
300 (148)	4660 (321)
350 (176)	4470 (307)
400 (204)	4280 (294)
450 (232)	4130 (284)
500 (260)	3980 (274)
600 (315)	3760 (259)
650 (343)	3700 (254)
700 (371)	3600 (248)
750 (398)	3520 (242)
800 (426)	3460 (238)
850 (454)	3380 (232)
900 (482)	3280 (225)
950 (510)	3220 (221)
1000 (537)	3030 (208)
1050 (565)	3000 (206)
1100 (593)	2685 (184)
1150 (621)	2285 (157)
1200 (648)	1715 (118)

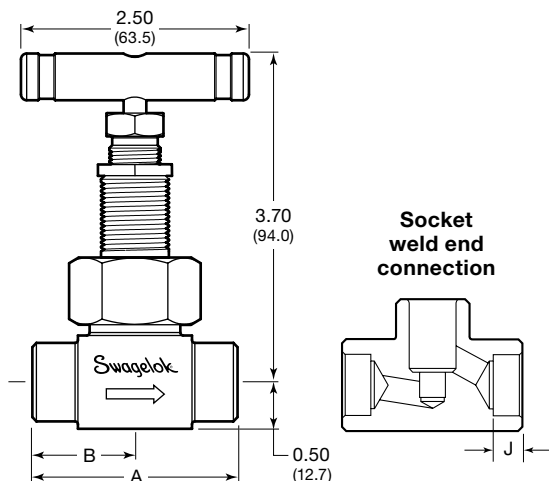
For more information about pressure ratings of valves with tube fitting end connections, see *Swagelok Tubing Data* (MS-01-107).

Maximum ratings for steam applications:  
700°F (371°C) at 3000 psig (206 bar).

## Dimensions and Ordering Information

Select an ordering number.

Dimensions, in inches (millimeters), are for reference only and are subject to change.



End Connections		Ordering Number	Dimensions, in. (mm)		
Type	Size		A	B	J
Female NPT	1/4 in.	SS-6DBF4	2.25 (57.2)	1.12 (28.4)	—
	3/8 in.	SS-6DBF6			
Swagelok tube fitting	3/8 in.	SS-6DBS6	2.83 (71.9)	1.41 (35.8)	
	1/2 in.	SS-6DBS8	3.04 (77.2)	1.52 (38.6)	
	10 mm	SS-6DBS10MM	2.85 (72.4)	1.42 (36.1)	
	12 mm	SS-6DBS12MM	3.04 (77.2)	1.52 (38.6)	
Tube socket weld	3/8 in.	SS-6DBSW6T	2.25 (57.2)	1.12 (28.4)	0.31 (7.9)
	1/2 in.	SS-6DBSW8T			0.38 (9.7)
Pipe socket weld	1/4 in.	SS-6DBSW4P			

Dimensions shown with Swagelok nuts finger-tight.

- ⚠ **A packing adjustment may be required periodically to increase service life and to prevent leakage.**
- ⚠ **Valves that have not been cycled for a period of time may have a higher initial actuation torque.**
- ⚠ **To increase service life, ensure proper valve performance, and prevent leakage, apply only as much torque as is required to achieve positive shutoff.**

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

## About this document

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### 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.**

## Warranty Information

Swagelok products are backed by The Swagelok Limited Lifetime Warranty. For a copy, visit your Swagelok Web site or contact your authorized Swagelok representative.

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