

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 cm³/min. Shell testing is performed to a requirement of no detectable leakage with a liquid leak detector.

Cleaning and Packaging

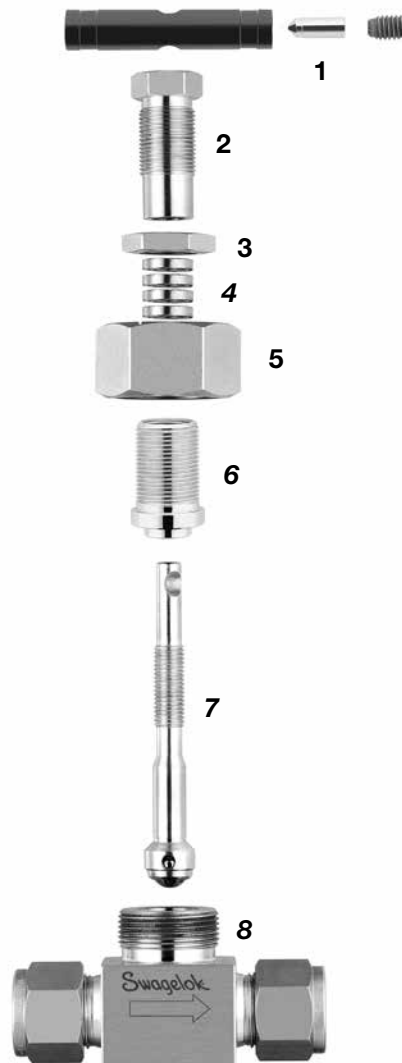
Every 6DB series valve is cleaned and packaged in accordance with Swagelok *Standard Cleaning and Packaging (SC-10)* catalog, [MS-06-62](#).



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)

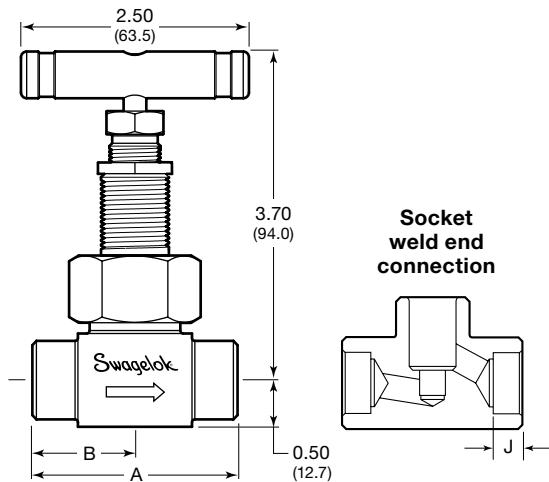
For more information about pressure ratings of valves with tube fitting end connections, refer to *Swagelok Tubing Data* catalog, [MS-01-107](#).

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.**

Introduction

Since 1947, Swagelok has designed, developed, and manufactured high-quality, general-purpose and specialty fluid system products to meet the evolving needs of global industries. Our focus is on understanding our customers' needs, finding timely solutions, and adding value with our products and services.

We are pleased to provide this global edition of the book-bound *Swagelok Product Catalog*, which compiles more than 100 separate product catalogs, technical bulletins, and reference documents into one convenient, easy-to-use volume. Each product catalog is up to date at the time of printing, with its revision number shown on the last page of the individual catalog. Subsequent revisions will supersede the printed version and will be posted on the Swagelok website and in the Swagelok electronic Desktop Technical Reference (eDTR) tool.

For more information, visit your Swagelok website or contact your authorized Swagelok sales and service representative.

Warranty Information

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

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.

WARNING

Do not mix/interchange Swagelok products or components not governed by industrial design standards, including Swagelok tube fitting end connections, with those of other manufacturers.

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