

Pressure-Temperature Ratings

Stockham bronze valves have been specified, installed, and are proven performers in commercial and industrial facilities internationally. The broadness and unsurpassed quality of the Stockham line appeal to consulting engineers, mechanical contractors, and industrial users alike.

QUALITY MANAGEMENT

Stockham is committed to a philosophy of total quality management. It begins with design, to comply with pertinent MSS and ASME Standards. Continuous improvement is applied in a process to improve materials and services to meet or exceed customer needs.

MATERIALS

The basic bronze pressure-containing parts conform to either the American Society for Testing and Materials Specifications B-61 or B-62. Materials for most valve parts are listed in this catalog section. Changes in materials may be made without notice.

PRESSURE-TEMPERATURE RATINGS, NONSHOCK

The pressure classes available have these rated working pressures:

Press. Class	PRESSURE-PSI					
	125	150		200	300	
End Conn.	THD	THD	FLG	THD	THD	FLG
Temp. (Deg. F)	MATERIAL					
	ASTM B-62			ASTM B-61		
-20 to						
150	200	300	225	400	1000	500
200	185	270	210	375	920	475
250	170	240	195	350	830	450
300	155	210	180	325	740	425
350	155	210	165	300	650	400
400	-	-	-	275	560	375
406	125	150	150	-	-	-
450	120	145	-	250	480	350
500	-	-	-	225	390	325
550	-	-	-	200	300	300

NOTES:

- Buna-N Disc Valves limited to 150°F Temperatures.
- PTFE and Viton Disc Valves are limited to 450°F Temperatures.
- For lower temperatures, Pressures for Temperatures -20 to 150 shall apply - Uses for low temperature shall conform to the rules of Applicable Codes under which they are to be used.
- P-T Ratings-ASME B16.24-1971.
- Some codes (i.e.-ASME BPVC, Section 1) limit the rating temperatures of B-62 material to 406°F.
- Solder End Valves are limited by temperatures which affect the strength of the solder joint. These ratings must be adjusted as below.
- Internal pressures great enough to burst castings can be developed during the formation of ice. Valves should be protected so that contained media does not freeze.
- Class 300 Valves, 2½" and 3" are rated by MSS SP-80 to 600 psi CWP maximum including B-375 bronze check valve.
- Class 200 & 300 valves made of ASTM B62 are limited to 450°F.

ADJUSTED PRESSURE RATINGS

Joints made of Copper Tube and Solder End Valves
(Pounds per square inch)
Extracted from MSS SP-80

SOLDER USED IN JOINTS	SERVICE TEMPERATURE DEGREES F	WATER, including other non-corrosive liquids and gases			SATURATED STEAM (psig)
		Valve Sizes			Valve Sizes
		¼" through 1"	1¼" through 2"	2-½" through 4"	¼" through 4"
50-50 Tin-Lead (ASTM B-32, Alloy Grade 50-A)	100	200	175	150	-
	150	150	125	100	-
	200	100	90	75	-
	250	85	75	50	15
95-5 Tin-Antimony	100	500	400	300	-
	150	400	350	275	-
	200	300	250	200	-
	250	200	175	150	15

Design: Gate, Globe & Angle Valves Classes 125, 150, 200 and 300

Gate Valves Classes 125, 150, 200 and 300

Handwheel—Strong malleable handwheels dissipate heat rapidly and are accurately fitted to stems.

Nameplate—Aluminum nameplates are used for valve identification.

Stem—Copper-silicon bronze stems have excellent corrosion resistance and superior strength.

Bonnet—Bonnets are either threaded, union, or bolted type. Ample packing chamber depth with adequate packing is provided for maximum life.

Wedge—All wedges are the tapered solid type. Wedge guides assure alignment and minimize friction on seats. Wedges are completely out of the line of flow when valves are open.

Body—Bodies have guides for close and accurate disc travel. Threaded pipe ends conform to the ASME B.1.20.1 Standard. Solder ends conform to the ASME Standard for Solder Joint Fittings B16.18. They are suitable for use with Types K, L, and M copper tubing handling nonflammable materials. End flanges of flanged valves are faced and drilled to meet ASME B16.24, the standard covering Classes 150 and 300 bronze flanges.

Seat Rings—Certain valves are furnished with stainless steel seat rings, swaged into bodies. This provides wear resistance and improves corrosion resistance and longer life.

Globe and Angle Valves Classes 125, 150, 200 and 300

Handwheel—Strong malleable handwheels dissipate heat rapidly and are accurately fitted to stems.

Nameplate—Aluminum nameplates are used for valve identification.

Stem—Copper-silicon bronze stems have excellent corrosion resistance and superior strength.

Bonnet—Bonnets are either threaded, union, or bolted type. Ample packing chamber depth with adequate packing is provided for maximum life.

Seat Ring—Renewable seats are furnished on most Class 150, 200, and 300 valves. The materials for each valve in this catalog are clearly specified.

Disc—Discs may be metal in the plug, fullway, needle-type design or PTFE. The available materials are noted on each valve page.

Body—Bodies are designed for easy flow with ample wall sections for adequate strength. Threaded pipe ends conform to the ASME B1.20.1. Solder ends conform to the ASME Standard for Solder Joint Fittings B16.18. They are used with Types K, L and M copper tubing handling nonflammable materials.

End flanges of flanged valves are faced and drilled to meet ASME B16.24, the standard covering Classes 150 and 300 bronze flanges.

Design: Swing and Lift Check Valves Classes 125, 150, 200 and 300

Body—Threaded pipe ends conform to ASME B1.20.1. Most threaded end valves can be bored for silver brazed end connections. Solder ends comply with the ASME Standard for Solder Joint Fittings B16.18 and are suitable for use with Types K, L, and M copper tubing handling nonflammable materials.

End flanges of flanged valves are faced and drilled to meet ASME B16.24.

Cap—Caps on threaded end check valves have threaded or union body connections with sturdy wrench grips.

Disc—Discs may be nonmetallic (PTFE, Viton or Buna-N) or metal (bronze). The available materials are noted on each valve page. Disc and disc holders are guided during travel by caps or bodies. The nonmetallic discs are securely fastened in disc holders and are easily replaced.

Hinge, Hinge Pin, Side Plug—Swing check hinges are mounted on type 304 hinge pins which are held in place by side plugs.

Marking—For identification, each globe and gate valve has a metal identification plate under the handwheel nut showing the Stockham figure number.

Testing—Before shipment, each and every valve is individually tested under pressure for soundness of body castings and tight closure.

Packaging—All valves are shipped in sturdy cardboard containers. This packaging protects the valves during shipment and facilitates storage.

Weights and Dimensions—Complete information on weights and dimensions is incorporated on the same pages with the valve listings. Weights and dimensions are furnished for estimating purposes only and are subject to change without notice except for basic dimensions established by accepted standards.

Cv COEFFICIENTS*

(For Estimating Purposes Only)

SIZE	GATE	GLOBE		ANGLE	CHECK		
		Std.	Needle		Y-Type Swing	Std. Swing	Lift
1/8	4.66	0.71	0.16	-	-	1.86	-
1/4	8.52	1.31	0.37	1.97	2.41	3.41	0.98
3/8	15.64	2.40	0.51	3.61	4.42	6.25	1.81
1/2	24.89	3.82	1.09	5.75	7.04	9.96	2.87
3/4	45.40	6.96	2.25	10.48	12.84	18.16	5.24
1	76.70	11.77	-	17.71	21.70	30.68	8.86
1 1/4	135.73	20.82	-	31.35	38.40	54.29	15.67
1 1/2	189.09	29.01	-	43.67	53.48	75.64	21.83
2	327.67	50.26	-	75.67	92.67	131.07	37.84
2 1/2	480.32	73.68	-	110.93	-	192.13	55.46
3	741.65	113.76	-	171.28	-	296.66	85.64

* Fully open. Cv = GPM @ 1 PSI Pressure Drop, 60°F Water