



82-100 Series

Bronze 3-Piece Full Port Ball Valve

Threaded, 600 psig WOG, Cold Non-Shock. 150 psig Saturated Steam.
 Vacuum Service to 29 inches Hg.
 Federal Specification: WW-V-35C, Type: II, Composition: BZ, Style: 1.
 MSS SP-110; Ball Valve Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends.

FEATURES

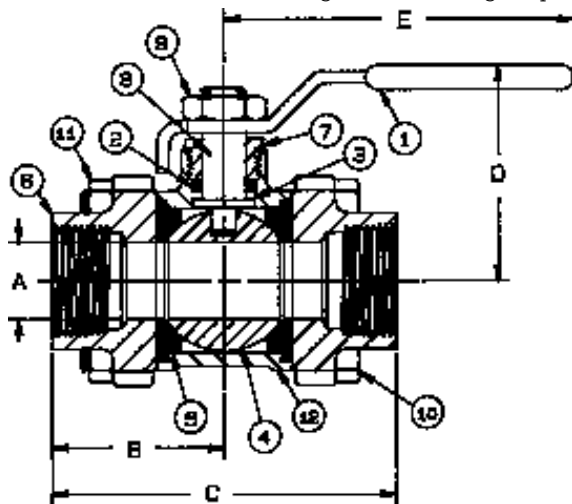
- Full port configuration
- RPTFE seats and seals
- In-line repairable
- Blow-out-proof stem design
- Adjustable packing gland

STANDARD MATERIAL LIST

1. Lever and grip	Steel, zinc plated w/vinyl	10. Body bolt	Steel, zinc plated
2. Stem packing	RPTFE	11. Hex nut	Steel, zinc plated
3. Stem bearing	RPTFE	12. Body	B584-C84400
4. Ball	B16, chrome plated (except 3" & 4")		
5. Seat (2)	RPTFE		
6. End cap (2)	B16 (1/4" to 3/8") B584-C84400 (1/2" to 4")		
7. Gland nut	B16		
8. Stem	B16 (except 3" & 4")		
9. Lever nut	Steel, zinc plated		

VARIATIONS AVAILABLE:

82-140 Series (316 SS Ball & Stem)
 82-150 Series (Original Balancing Stop)



BRONZE 3-PIECE FULL PORT BALL VALVE

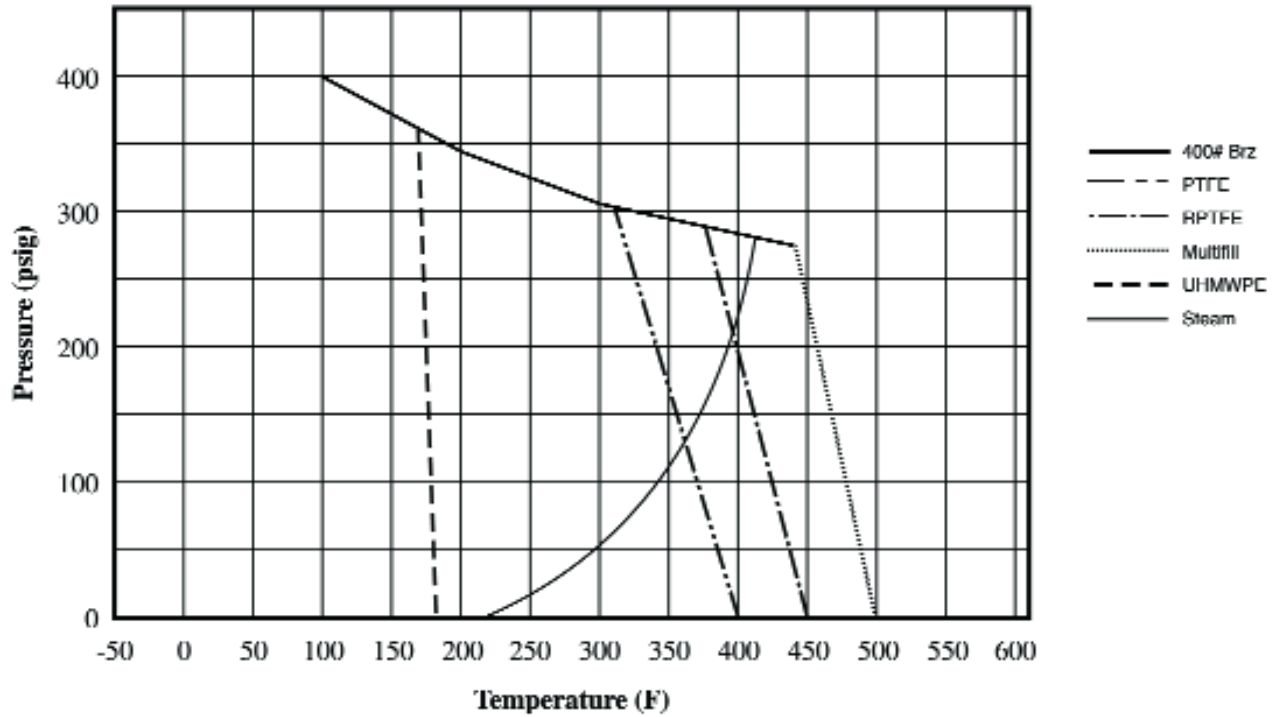
NUMBER	SIZE	A	B	C	D	E	Wt.
82-101-01	1/4"	.43	1.28	2.56	1.81	3.87	1.02
82-102-01	3/8"	.50	1.28	2.56	1.81	3.87	1.04
82-103-01	1/2"	.62	1.40	2.81	1.93	4.87	1.55
82-104-01	3/4"	.81	1.71	3.43	2.18	4.87	2.27
82-105-01	1"	1.00	1.93	3.87	2.62	5.50	3.28
82-106-01	1-1/4"	1.25	2.37	4.75	2.87	5.50	5.62
82-107-01	1-1/2"	1.50	2.62	5.25	3.37	8.00	8.07
82-108-01	2"	2.00	3.01	6.03	3.68	8.00	14.42
82-109-01	2-1/2"	2.50	3.62	7.25	5.14	9.75	26.61
82-140-01	3"	3.00	4.00	8.00	6.77	18.00	42.24
82-14A-01	4"	4.00	5.50	11.00	8.26	18.00	88.40

OPTIONS AVAILABLE:

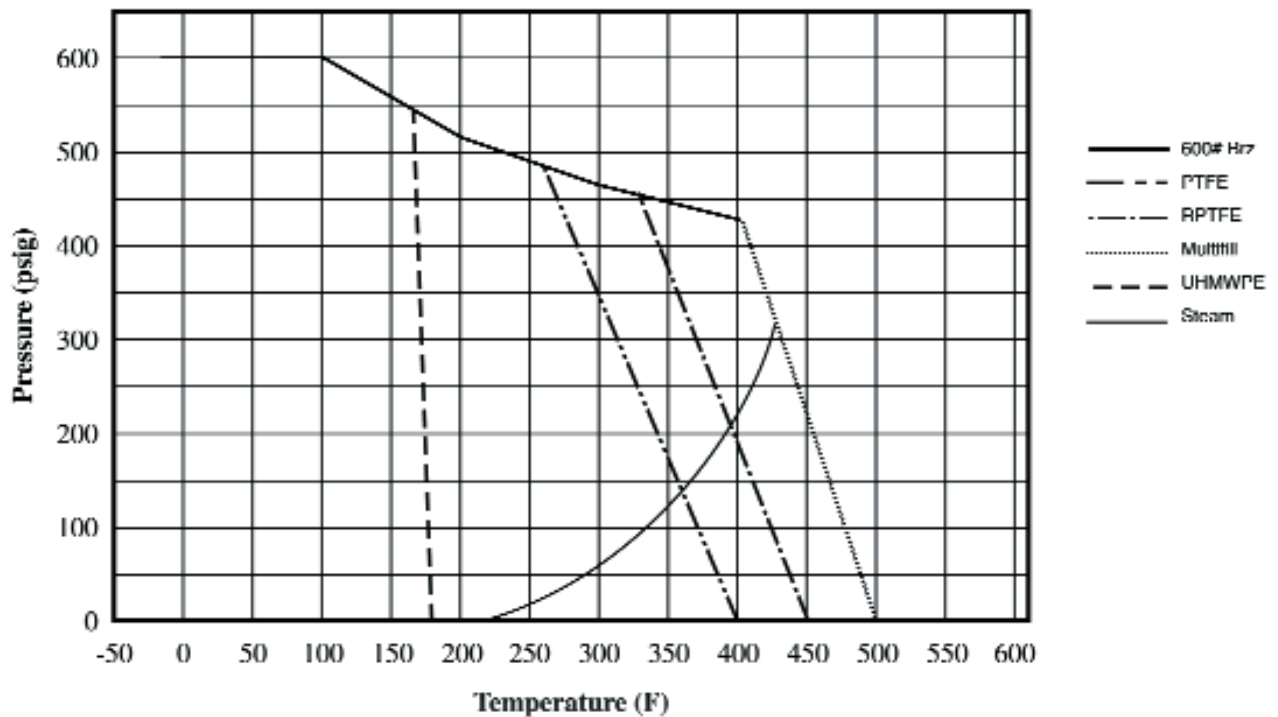
(SUFFIX)	OPTION	SIZES
-02-	Static Grounded	1/4" to 4"
-03-	1-1/4" Stem Extension	1/4" to 2"
-04-	2-1/4" Stem Extension	1/4" to 2"
-05-	Plain Ball	1/4" to 4"
-07-	Tee Handle	1/4" to 2"
-08-	90° Reversed Stem	1/4" to 4"
-10-	SS Lever & Nut	1/4" to 4"
-14-	Vented Ball (see page J-2)	1/4" to 4"
-15-	Round Handle	1/4" to 2"
-16-	Vertical Chain Lever	1/2" to 2"
-18-	Plain Yellow Grip	1/4" to 2"
-19-	Lock Plate	1/4" to 4"
-20-	Slot Vented Ball	1/4" to 4"
-21-	UHMWPE Seats	1/4" to 4"
-23-	Tank Flange	2" ONLY
-24-	Graphite Stem Packing	1/4" to 4"
-27-	Latch Lock Lever	1/2" to 2"
-30-	CamLock Handle	1/4" to 1-1/4"
-32-	SS Tee Handle & Nut	1/4" to 2"
-35-	PTFE Trim	1/4" to 4"
-39-	SS Hi-Rise Locking Wheel Handle, SS Nut	1/4" to 1-1/4"
-40-	Cyl-Loc & Grounded	1/4" to 1/2"
-45-	Less Lever & Nut	1/4" to 4"
-46-	Latch-Lock Lever - Lock in Closed Position Only	1/2" to 2"
-47-	SS Oval Latch-Lock Handle & Nut	1/4" to 3/4"
-48-	SS Oval Handle (No Latch) & Nut	1/4" to 2"
-49-	Assembled Dry	1/4" to 4"
-50-	2-1/4" CS Locking Stem Extension	1/4" to 2"
-56-	Multifill Seats & Graphite Packing	1/4" - 4"
-57-	Oxygen Cleaned	1/4" to 4"
-58-	Chain Lever - Horizontal	1/2" to 2"
-59-	SS External Trim - 3-pc. Valves	1/4" to 4"
-60-	Grounded Ball & Stem	1/4" to 4"
-63-	NPT x Solder/Socket Weld	3/8" to 4"
-P01-	BSP (Parallel) Thread Connection	1/4" to 4"
-T01-	BSPT (Tapered) Thread Connection	1/4" to 4"

For Pressure/Temperature Ratings,
 Refer to Page M-8, Graph No. 4

400# Bronze P-T Rating (Graph 3)



600# Bronze P-T Rating (Graph 4)



FLOW DATA

For Apollo® and Saturn® Ball Valves

The listed Cv "factors" are derived from actual flow testing, in the Apollo® Ball Valve Division, Conbraco Industries, Inc., Pageland, South Carolina. These tests were completed using standard "off the shelf" valves with no special preparation and utilizing standard schedule 40 pipe. It should be understood that these factors are for the valve only and also include the connection configuration. The flow testing is done utilizing water as a fluid media and is a direct statement of the gallons of water flowed per minute with a 1 psig pressure differential across the valve/connection unit. Line pressure is not a factor. Because the Cv is a factor, the formula can be used to estimate flow of most media for valve sizing.

Flow of Liquid

$$Q = Cv \sqrt{\frac{\Delta P}{SpGr}}$$

or $\Delta P = \frac{(Q)^2 (SpGr)}{(Cv)^2}$

Where:
 Q = flow in US gpm
 ΔP = pressure drop (psig)
 SpGr = specific gravity at flowing temperature
 Cv = valve constant

Flow of Gas

$$Q = 1360 Cv \sqrt{\frac{(\Delta P)}{(SpGr) (P_1) (T)}}$$

or $\Delta P = 5.4 \times 10^{-7} (SpGr)$

Where:
 Q = flow in SCFH
 ΔP = pressure drop (psi g)
 SpGr = specific gravity (based on air = 1.0)
 P₁ = outlet pressure-psia (psig + 14.7)
 T = (temp. °F + 460)

Cv FACTORS SERIES:

70-100, 71-100, 71AR, 73A-100, 74-100, 76-100, 76AR, 80-100, 81-100, 89-100

SIZE	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
OPEN 90°	8.4	7.2	15	30	43	48	84	108	503	370	670

Cv FACTORS

76F, 77, 77AR, 77C, 77D SERIES

SIZE	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"
OPEN 90°	8.1	15	15	51	68	125	177	389	503

Cv FACTORS

82-100/200, 83R-100/200/700, 86R-100/200/700, 83-500/600, 86-500/600/900 SERIES

SIZE	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
OPEN 90°	8.1	14	26	51	68	120	170	376	510	996	1893

Cv FACTORS

83A/83B, 86A/86B SERIES

SIZE	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
OPEN 90°	8.1	14	26	51	68	120	170	376