

# SECTION F CONTENTS

## UNION END VALVES

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# 70-300 Series

## Single Union End Bronze Ball Valve

Threaded, Single Union End, 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: 3.

MSS SP-110; Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends.

### FEATURES

- Chromium plated ball
- RPTFE seats and stuffing box ring
- Fluorocarbon O-Ring sealed single union requires only light torque to seal
- Blow-out-proof stem design
- Adjustable packing gland

### STANDARD MATERIAL LIST

1. Lever and grip	Steel, zinc plated w/vinyl	8. Stem	B16
2. Stem packing	RPTFE	9. Lever nut	Steel, zinc plated
3. Stem bearing	RPTFE	10. Body seal (1-1/4" to 2")	PTFE
4. Ball	B16, chrome plated	11. Body	B584-C84400
5. Seat (2)	RPTFE	12. Tailpiece	B16 or B584-C84400
6. Retainer	B16 (1/4" to 1-1/2")	13. Union nut	B16 or B584-C84400
	B584-C84400 (2")	14. Union seal	Fluorocarbon
7. Gland nut	B16		

### VARIATIONS AVAILABLE:

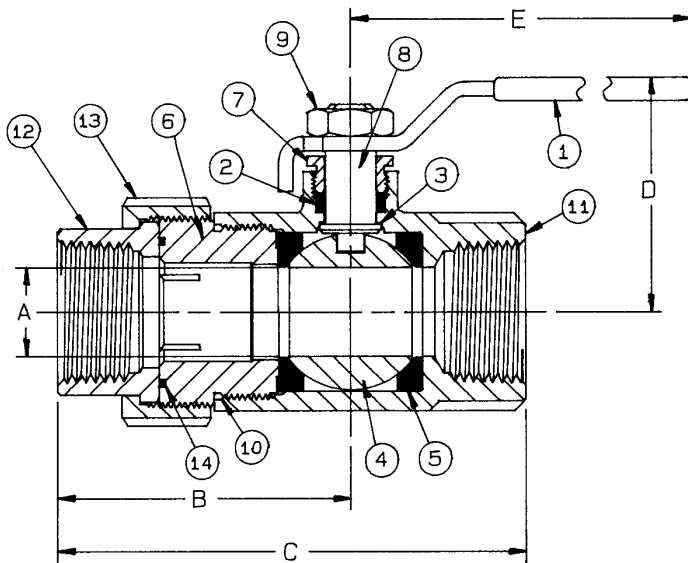
70-320 Series (Adjustable Stop Lever)

70-340 Series (316 SS Ball & Stem)

70-350 Series (Balancing Stop)

### OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Stem Grounded	1/4" to 2"
-03-	1-1/4" CS Stem Extension	1/4" to 2"
-04-	2-1/4" CS Stem Extension	1/4" to 2"
-05-	Plain Ball	1/4" to 2"
-07-	Steel Tee Handle	1/4" to 2"
-08-	90° Reversed Stem	1/4" to 2"
-10-	SS Lever & Nut	1/4" to 2"
-14-	Side Vented Ball (Uni-Directional)	1/4" to 2"
-15-	Wheel Handle, Steel	1/4" to 2"
-16-	Chain Lever - Vertical	3/4" to 2"
-17-	Rough Chrome Plated - Bronze Valves	1/4" to 2"
-18-	Plain Yellow Grip	1/4" to 2"
-20-	Slot Vented Ball (Bi-Directional) - Bronze Valves	1/4" to 2"
-21-	UHMWPE Seats (Non-PTFE)	1/4" to 2"
-24-	Graphite Packing	1/4" to 2"
-27-	SS Latch-Lock Lever & Nut	1/4" to 2"
-30-	Cam-Lock and Grounded	1/4" to 2"
-32-	SS Tee Handle & Nut	1/4" to 2"
-35-	VTFE Trim	1/4" to 2"
-45-	Less Lever & Nut	1/4" to 2"
-46-	Latch-Lock Lever - Lock in Closed Position Only	1/4" to 2"
-48-	SS Oval Handle (No Latch) & Nut	1/4" to 2"
-49-	Assembled Dry	1/4" to 2"
-50-	2-1/4" CS Locking Stem Extension	1/4" to 2"
-56-	Multifill Seats & Packing	1/4" to 2"
-57-	Oxygen Cleaned	1/4" to 2"
-58-	Chain Lever - Horizontal	3/4" to 2"
-60-	Grounded Ball & Stem	1/4" to 2"
-63-	NPT x Solder/Socket Weld	3/8" to 2"



BRONZE UNION END BALL VALVE

NUMBER	SIZE	A	B	C	D	E	Wt.
70-301-01	1/4"	.37	1.90	2.93	1.75	3.87	.86
70-302-01	3/8"	.37	1.90	2.93	1.75	3.87	.84
70-303-01	1/2"	.50	2.00	3.09	1.75	3.87	.99
70-304-01	3/4"	.68	2.46	3.96	2.12	4.87	1.91
70-305-01	1"	.87	2.78	4.46	2.25	4.87	2.42
70-306-01	1-1/4"	1.00	2.68	4.68	2.62	5.50	4.27
70-307-01	1-1/2"	1.25	2.87	5.06	3.05	8.00	5.82
70-308-01	2"	1.50	3.25	5.59	3.24	8.00	8.55

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



# 70-400 Series

## Single Union End Solder Bronze Ball Valve

Solder Ends, Single Union End, 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: 3.

MSS SP-110; Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends.

### FEATURES

- Chromium plated ball
- RPTFE seats and stuffing box ring
- Fluorocarbon O-Ring sealed single union requires only light torque to seal
- Blow-out-proof stem design
- Adjustable packing gland

### STANDARD MATERIAL LIST

1. Lever and grip	Steel, zinc plated w/vinyl	8. Stem	B16
2. Stem packing	RPTFE	9. Lever nut	Steel, zinc plated
3. Stem bearing	RPTFE	10. Body seal (1-1/4" to 2")	PTFE
4. Ball	B16, chrome plated	11. Body	B584-C84400
5. Seat (2)	RPTFE	12. Tailpiece	B16 or B584-C84400
6. Retainer	B16 or B584-C84400	13. Union nut	B16 or B584-C84400
7. Gland nut	B16	14. Union seal	Fluorocarbon

### VARIATIONS AVAILABLE:

70-420 Series (Adjustable Stop Lever)

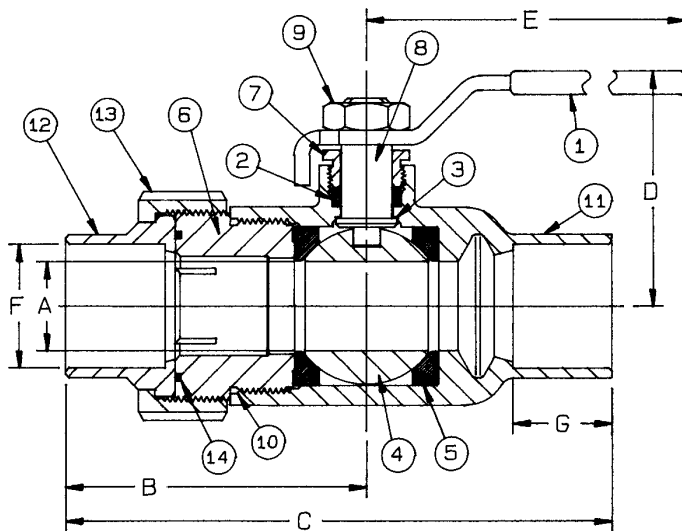
70-440 Series (316 SS Ball & Stem)

70-450 Series (Balancing Stop)

The 70-400 is designed to be soft soldered into lines without disassembly. This allows a tested valve to be installed without disturbing the seats and seals in any way. Soldering temperature not to exceed 500°F.

### OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Stem Grounded	3/8" to 2"
-03-	1-1/4" CS Stem Extension	3/8" to 2"
-04-	2-1/4" CS Stem Extension	3/8" to 2"
-05-	Plain Ball	3/8" to 2"
-07-	Steel Tee Handle	3/8" to 2"
-08-	90° Reversed Stem	3/8" to 2"
-10-	SS Lever & Nut	3/8" to 2"
-14-	Side Vented Ball (Uni-Directional)	3/8" to 2"
-15-	Wheel Handle, Steel	3/8" to 2"
-16-	Chain Lever - Vertical	3/4" to 2"
-17-	Rough Chrome Plated - Bronze Valves	3/8" to 2"
-18-	Plain Yellow Grip	3/8" to 2"
-20-	Slot Vented Ball (Bi-Directional) - Bronze Valves	3/8" to 2"
-21-	UHMWPE Seats (Non-PTFE)	3/8" to 2"
-24-	Graphite Packing	3/8" to 2"
-27-	SS Latch-Lock Lever & Nut	3/8" to 2"
-30-	Cam-Lock and Grounded	3/8" to 2"
-32-	SS Tee Handle & Nut	3/8" to 2"
-35-	VTPE Trim	3/8" to 2"
-45-	Less Lever & Nut	3/8" to 2"
-46-	Latch-Lock Lever - Lock in Closed Position Only	3/8" to 2"
-48-	SS Oval Handle (No Latch) & Nut	3/8" to 2"
-49-	Assembled Dry	3/8" to 2"
-50-	2-1/4" CS Locking Stem Extension	3/8" to 2"
-56-	Multifill Seats & Packing	3/8" to 2"
-57-	Oxygen Cleaned	3/8" to 2"
-58-	Chain Lever - Horizontal	3/4" to 2"
-60-	Grounded Ball & Stem	3/8" to 2"
-63-	NPT x Solder/Socket Weld	3/8" to 2"



SINGLE UNION END  
SOLDER BRONZE BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	Wt.
70-402-01	3/8"	.37	1.81	3.09	1.75	3.87	.503	.37	.85
70-403-01	1/2"	.50	2.00	3.43	1.75	3.87	.628	.50	1.02
70-404-01	3/4"	.68	2.62	4.56	2.06	4.78	.878	.75	1.93
70-405-01	1"	.87	2.81	5.06	2.25	4.78	1.129	.90	2.42
70-406-01	1-1/4"	1.00	2.87	5.18	2.62	5.50	1.378	.96	4.11
70-407-01	1-1/2"	1.25	2.92	5.53	3.10	8.00	1.629	1.09	5.44
70-408-01	2"	1.50	3.50	6.75	3.24	8.00	2.129	1.34	7.77

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



# 73-300 Series

## Carbon Steel Double Union End Ball Valve

Threaded, 3000 psig WOG, Cold Non-Shock, 150 psig Saturated Steam.  
Vacuum Service to 29 inches Hg.

Federal Specification: WW-V-35C, Type II, Composition: CS, Style: 1

MSS SP-110; Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends.

### FEATURES

- Heavy duty quarter turn lever
- RPTFE seats and seals
- Steel barstock design
- Easy installation and maintenance
- Blow-out-proof stem design
- Adjustable packing gland
- Chromium plated ball
- Nitride corrosion protection

### UL LISTINGS @ 250 PSIG MAX



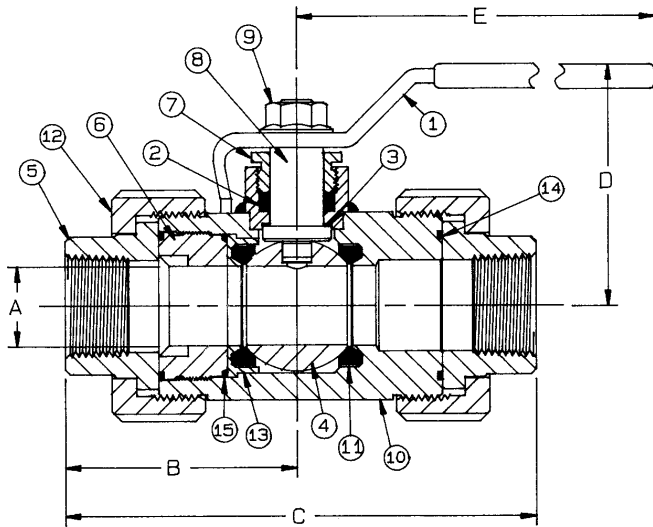
LISTED

- Guide YRPV: Gas shutoff valve for use with natural and manufactured gases.
- Guide YSDT: LP gas shutoff valve.
- Guide YRBX: Flammable liquid shutoff valve.

Note: Listings apply ONLY to the standard -01 valves.

### STANDARD MATERIAL LIST

1. Lever and grip	Steel, zinc plated w/vinyl	9. Lever nut	Steel, zinc plated
2. Stem packing	RPTFE	10. Body	A108-CS
3. Stem bearing	RPTFE	11. Seat (2)	RPTFE
4. Ball	A108-CS chrome plated	12. Union nut (2)	A108-CS
5. Tailpiece (2)	A108-CS	13. Seat holder	A108-CS
6. Retainer	A108-CS	14. Union seal (2)	RPTFE
7. Gland nut	A108-CS	15. Retainer seal	RPTFE
8. Stem	A108-CS chrome plated		



CARBON STEEL DOUBLE UNION END BALL VALVE

NUMBER	SIZE	A	B	C	D	E	Wt.
73-301-01	1/4"	.43	2.50	5.00	2.50	5.62	3.51
73-302-01	3/8"	.57	2.50	5.00	2.50	5.62	3.45
73-303-01	1/2"	.62	2.50	5.00	2.50	5.62	3.35
73-304-01	3/4"	.81	2.71	5.31	2.62	5.62	4.48
73-305-01	1"	1.00	2.96	6.06	3.12	6.62	7.04
73-306-01	1-1/4"	1.25	2.87	6.12	3.43	8.00	9.96
73-307-01	1-1/2"	1.50	3.46	7.12	3.56	8.00	14.83
73-308-01	2"	1.75	3.75	7.50	4.18	9.00	20.50

### VARIATIONS AVAILABLE:

73-340 Series (316 SS Ball & Stem)

### OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Stem Grounded	1/4" to 2"
-07-	Steel Tee Handle	1/4" to 1-1/2"
-08-	90° Reversed Stem	1/4" to 2"
-14-	Side Vented Ball (Uni-Directional)	1/4" to 2"
-15-	Wheel Handle, Steel	1/4" to 1"
-18-	Plain Yellow Grip	1/4" to 2"
-19-	Lock Plate	1/4" to 2"
-21-	UHMWPE Seats (Non-PTFE)	1/4" to 2"
-22-	Viton Union Seals	1/4" to 2"
-29-	Graphite Packing & Seals	1/4" to 2"
-45-	Less Lever & Nut	1/4" to 2"
-60-	Grounded Ball & Stem	1/4" to 2"
-63-	Threaded x Socket Weld	1/2" to 2"
-64-	250# Steam Trim	1/4" to 2"
-P01-	BSPP (Parallel) Thread Connection	1/4" to 2"
-T01-	BSPT (Tapered) Thread Connection	1/4" to 2"

**For Pressure/Temperature Ratings,  
Refer to Page M-13, Graph No. 15**



# 73-400 Series

## Carbon Steel Double Union End Socket Weld Ball Valve

Socket Weld End, 3000 psig WOG, Cold Non-Shock, 150 psig Saturated Steam.

Vacuum Service to 29 inches Hg.

Federal Specification: WW-V-35C, Type II, Composition: CS, Style: 1

MSS SP-110; Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends.

### FEATURES

- Heavy duty quarter turn lever
- RPTFE seats and seals
- Steel barstock design
- Easy installation and maintenance
- Blow-out-proof stem design
- Adjustable packing gland
- Chromium plated ball
- Nitride corrosion protection

### UL LISTINGS @ 250 PSIG MAX

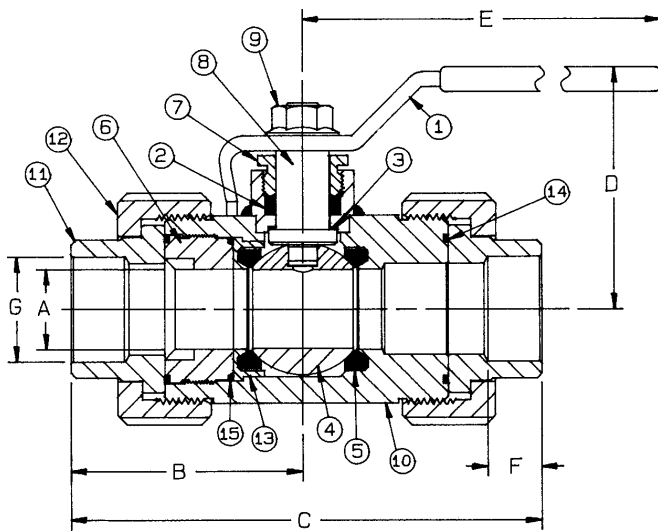


- Guide YRPV: Gas shutoff valve for use with natural and manufactured gases.
- Guide YSDT: LP gas shutoff valve.
- Guide YRBX: Flammable liquid shutoff valve.

Note: Listings apply ONLY to the standard -01 valves.

### STANDARD MATERIAL LIST

- |                   |                            |                    |                    |
|-------------------|----------------------------|--------------------|--------------------|
| 1. Lever and grip | Steel, zinc plated w/vinyl | 9. Lever nut       | Steel, zinc plated |
| 2. Stem packing   | RPTFE                      | 10. Body           | A108-CS            |
| 3. Stem bearing   | RPTFE                      | 11. Tail piece (2) | A108-1018          |
| 4. Ball           | A108-CS chrome plated      | 12. Union nut (2)  | A108-CS            |
| 5. Seat (2)       | RPTFE                      | 13. Seat holder    | A108-CS            |
| 6. Retainer       | A108-CS                    | 14. Union seal (2) | RPTFE              |
| 7. Gland nut      | A108-CS                    | 15. Retainer seal  | RPTFE              |
| 8. Stem           | A108-CS chrome plated      |                    |                    |



CARBON STEEL DOUBLE UNION END  
SOCKET WELD BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	Wt.
73-403-01	1/2"	.62	2.50	5.00	2.50	5.62	.43	.855	3.35
73-404-01	3/4"	.81	2.71	5.31	2.62	5.62	.56	1.065	4.48
73-405-01	1"	1.00	2.93	6.06	3.12	6.62	.68	1.330	7.04
73-406-01	1-1/4"	1.25	2.87	6.12	3.43	8.00	.81	1.675	9.96
73-407-01	1-1/2"	1.50	3.46	7.12	3.56	8.00	.81	1.915	14.83
73-408-01	2"	1.75	3.75	7.50	4.18	9.00	1.06	2.406	20.50

### VARIATIONS AVAILABLE:

73-440 Series (316 SS Ball & Stem)

### OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Stem Grounded	1/2" to 2"
-07-	Steel Tee Handle	1/2" to 1-1/2"
-08-	90° Reversed Stem	1/2" to 2"
-14-	Side Vented Ball (Uni-Directional)	1/2" to 2"
-15-	Wheel Handle, Steel	1/2" to 1"
-18-	Plain Yellow Grip	1/2" to 2"
-19-	Lock Plate	1/2" to 2"
-21-	UHMWPE Trim (non-PTFE)	1/2" to 2"
-22-	Viton Union Seals	1/2" to 2"
-29-	Graphite Packing & Seals	1/2" to 2"
-45-	Less Lever & Nut	1/2" to 2"
-60-	Grounded Ball & Stem	1/2" to 2"
-64-	250# Steam Trim	1/2" to 2"

**For Pressure/Temperature Ratings,  
Refer to Page M-13, Graph No. 15**



# 76-300 Series

## Double Union End Stainless Steel Ball Valve

Threaded, 1/2" to 1" 2000 psig WOG, 1-1/4" to 2" 1500 psig WOG. Cold Non-Shock.

150 psig Saturated Steam, Vacuum Service to 29 inches Hg.

Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

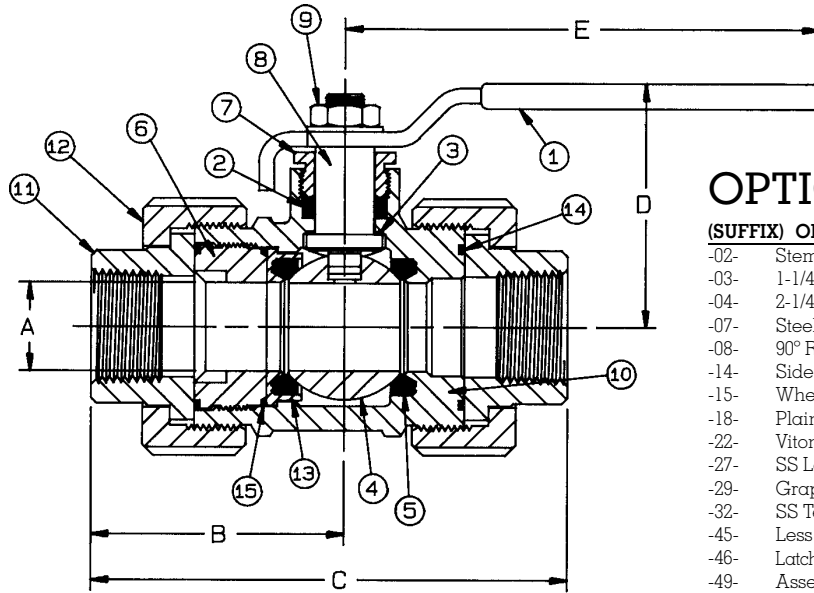
MSS SP-110; Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends.

### FEATURES

- Heavy duty quarter turn handles
- RPTFE seats and seals
- Blow-out-proof stem design
- Adjustable packing gland

### STANDARD MATERIAL LIST

1. Lever and grip	304 SS w/vinyl	9. Lever nut	18-8 SS
2. Stem packing	RPTFE	10. Body	A351-CF8M
3. Stem bearing	RPTFE	11. Tailpiece (2)	A276-316
4. Ball	A276-316	12. Union nut (2)	Nitride A108-CS
5. Seat (2)	RPTFE	13. Seat holder	A276-316
6. Retainer	A276-316	14. Union seal (2)	RPTFE
7. Gland nut	A276-316	15. Retainer seal	RPTFE
8. Stem	A276-316		



### OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Stem Grounded	1/2" to 2"
-03-	1-1/4" CS Stem Extension	1/2" to 1-1/2"
-04-	2-1/4" CS Stem Extension	1/2" to 1-1/2"
-07-	Steel Tee Handle	1/2" to 1-1/2"
-08-	90° Reversed Stem	1/2" to 2"
-14-	Side Vented Ball (Uni-Directional)	1/2" to 2"
-15-	Wheel Handle, Steel	1/2" to 1-1/2"
-18-	Plain Yellow Grip	1/2" to 2"
-22-	Viton Union Seals	1/2" to 2"
-27-	SS Latch-Lock Lever & Nut	1/2" to 1-1/2"
-29-	Graphite Packing & Seals	1/2" to 2"
-32-	SS Tee Handle & Nut	1/2" to 1-1/2"
-45-	Less Lever & Nut	1/2" to 2"
-46-	Latch-Lock Lever - Lock in Closed Position Only	1/2" to 1-1/2"
-49-	Assembled Dry	1/2" to 2"
-57-	Oxygen Cleaned	1/2" to 2"
-60-	Grounded Ball & Stem	1/2" to 2"
-63-	Threaded Socket Weld	1/2" to 2"
-64-	250# Steam Trim	1/2" to 2"
-P01-	BSPP (Parallel) Thread Connection	1/2" to 2"
-T01-	BSPT (Tapered) Thread Connection	1/2" to 2"

### STAINLESS STEEL DOUBLE UNION END BALL VALVE

NUMBER	SIZE	A	B	C	D	E	Wt.
76-303-01	1/2"	.62	2.27	4.33	2.12	4.87	2.88
76-304-01	3/4"	.81	2.46	4.51	2.31	4.87	3.81
76-305-01	1"	1.00	2.89	5.45	2.75	5.50	5.98
76-306-01	1-1/4"	1.25	2.88	5.32	2.97	5.50	8.47
76-307-01	1-1/2"	1.50	3.43	6.43	3.39	7.87	12.61
76-308-01	2"	1.75	3.75	6.87	4.12	9.87	16.88

**For Pressure/Temperature Ratings,  
Refer to Page M-12, Graph No. 14  
(1/2" to 1")  
Refer to Page M-11, Graph No.12  
(1-1/4" to 2")**



# 76-400 Series

## Stainless Steel Double Union End Socket Weld Ball Valve

Socket Weld, 1/2" to 1" 2000 psig WOG, 1-1/4" to 2" 1500 psig WOG. Cold Non-Shock.

150 psig Saturated Steam, Vacuum Service to 29 inches Hg.

Federal Specification: WW-V-35C, Type: II, Composition: SS, Style: 1.

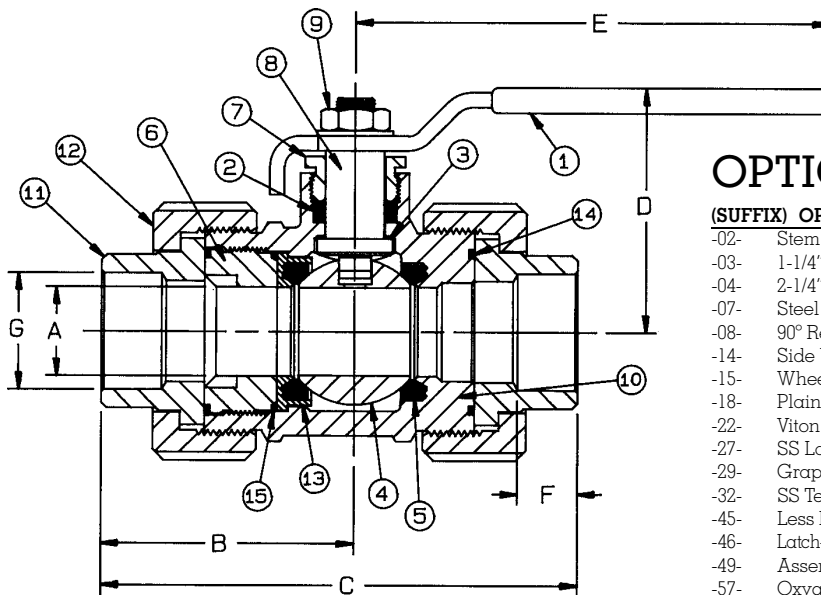
MSS SP-110; Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends.

### FEATURES

- Heavy duty quarter turn handles
- RPTFE seats and seals
- Blow-out-proof stem design
- Adjustable packing gland

### STANDARD MATERIAL LIST

1. Lever and grip	304 SS w/vinyl	9. Lever nut	18-8 SS
2. Stem packing	RPTFE	10. Body	A351-CF8M
3. Stem bearing	RPTFE	11. Tailpiece (2)	A276-316
4. Ball	A276-316	12. Union nut (2)	Nitride steel
5. Seat (2)	RPTFE	13. Seat holder	A276-316
6. Retainer	A276-316	14. Union seal (2)	RPTFE
7. Gland nut	A276-316	15. Retainer seal	RPTFE
8. Stem	A276-316		



### OPTIONS AVAILABLE:

(SUFFIX)	OPTION	SIZES
-02-	Stem Grounded	1/2" to 2"
-03-	1-1/4" CS Stem Extension	1/2" to 1-1/2"
-04-	2-1/4" CS Stem Extension	1/2" to 1-1/2"
-07-	Steel Tee Handle	1/2" to 1-1/2"
-08-	90° Reversed Stem	1/2" to 2"
-14-	Side Vented Ball (Uni-Directional)	1/2" to 2"
-15-	Wheel Handle, Steel	1/2" to 1-1/2"
-18-	Plain Yellow Grip	1/2" to 2"
-22-	Viton Union Seals	1/2" to 2"
-27-	SS Latch-Lock Lever & Nut	1/2" to 1-1/2"
-29-	Graphite Packing & Seals	1/2" to 2"
-32-	SS Tee Handle & Nut	1/2" to 2"
-45-	Less Lever & Nut	1/2" to 2"
-46-	Latch-Lock Lever - Lock in Closed Position Only	1/2" to 1-1/2"
-49-	Assembled Dry	1/2" to 2"
-57-	Oxygen Cleaned	1/2" to 2"
-60-	Grounded Ball & Stem	1/2" to 2"
-64-	250# Steam Trim	1/2" to 2"

### STAINLESS STEEL DOUBLE UNION END SOCKET WELD BALL VALVE

NUMBER	SIZE	A	B	C	D	E	F	G	Wt.
76-403-01	1/2"	.62	2.27	4.33	2.12	4.87	.43	.855	2.88
76-404-01	3/4"	.81	2.46	4.51	2.31	4.87	.56	1.065	3.81
76-405-01	1"	1.00	2.89	5.45	2.75	5.50	.68	1.330	5.98
76-406-01	1-1/4"	1.25	2.88	5.32	2.97	5.50	.81	1.675	8.47
76-407-01	1-1/2"	1.50	3.43	6.43	3.39	7.87	.87	1.915	12.61
76-408-01	2"	1.75	3.75	6.87	4.12	9.87	1.06	2.406	16.88

**For Pressure/Temperature Ratings,  
Refer to Page M-12, Graph No. 14  
(1/2" to 1")  
Refer to Page M-11, Graph No.12  
(1-1/4" to 2")**