

# BRONZE AND BRASS BALL VALVES

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⚠ State of California Prop 65 **WARNING:** Cancer and Reproductive Harm. For more information visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

# 8100/8111\* 3/4"-1 1/4"

Brass Flange Ball Valve

Two Piece • Full Port

600 WOG

8100 Threaded Ends/8111 Solder Ends

Sold In Packages of 2

Kit Includes 4 Bolts & Nuts, Plus T-Handle (1)

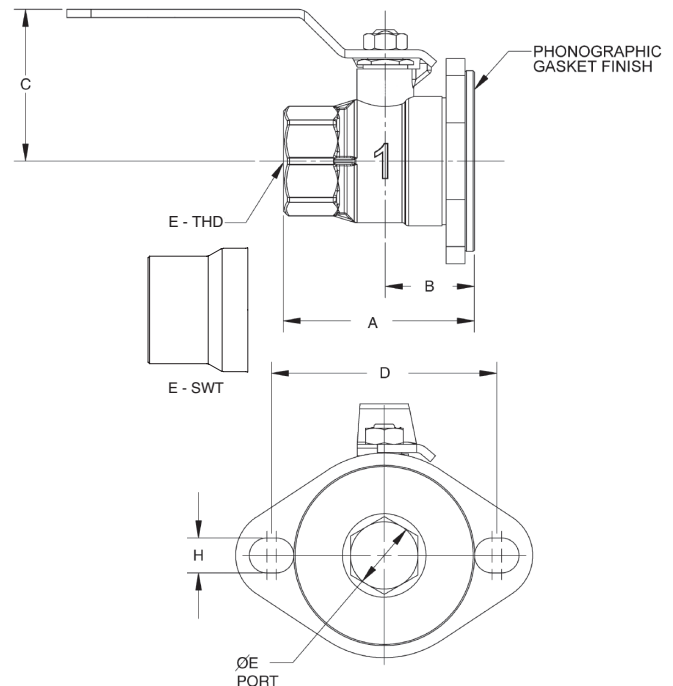
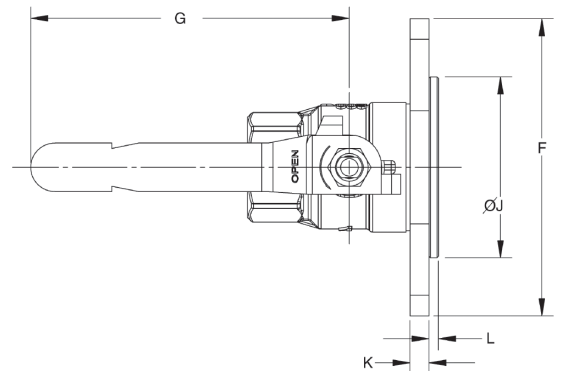
Blow-Out Proof Stem

MSS SP-110, ASME A112.4.14

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	Brass with Nickel chrome Plating	B283
4	Ball Seal	PTFE	Comercial
5	Stem	Brass	B124
6	O-Ring	Buna-N	D2006
7	Thrust Washer	PTFE	Commercial
8	Gland Nut	Brass	B124
9	Packing	PTFE	Commercial
10	Handle	Zinc Plated Steel	Commercial
11	Hand Grip	Zinc Plated Steel	Commercial

\*Not intended for use in potable water.



## DIMENSIONS

	UNITS	3/4" DN20	1" DN25	1-1/4" DN32
A	INCHES	2.50	2.81	2.99
O.V.L./THD	mm	64	71	76
A	INCHES	2.69	3.13	3.38
O.V.L./SWT	mm	68	80	86
B	INCHES	1.24	1.32	1.32
	mm	31	34	34
C	INCHES	1.95	2.12	2.31
	mm	50	54	59
D	INCHES	3.29	3.29	3.29
	mm	84	84	84
E	INCHES	0.75	1.00	1.25
PORT DIA.	mm	19	25	32
F	INCHES	4.33	4.33	4.33
FLANGE DIA.	mm	110	110	110
G	INCHES	4.72	4.72	4.72
	mm	120	120	120
H	INCHES	0.51	0.51	0.51
MTG. HOLE	mm	13	13	13
J	INCHES	2.67	2.67	2.67
	mm	68	68	68
K	INCHES	0.28	0.28	0.28
	mm	7	7	7
L	INCHES	0.14	0.14	0.14
	mm	4	4	4

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# 8201\* 1/4"-4"

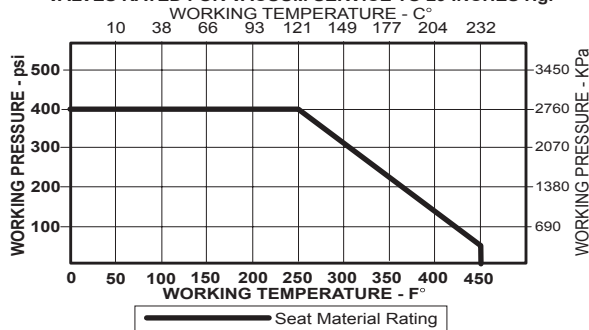
**Brass Ball Valve**  
**Two Piece**  
**Standard Port (1/2" - 4") Full Port (1/4" - 3/8")**  
**400 WOG**  
**Threaded Ends**  
**Blow-Out Proof Stem**  
**MSS SP-110**

## MATERIALS LIST

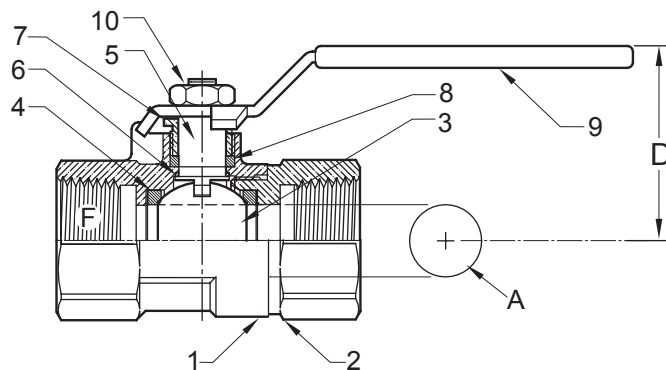
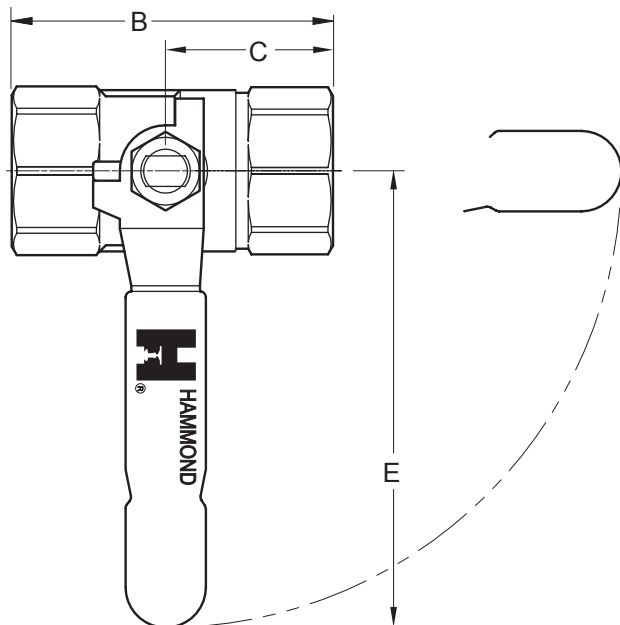
ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	Brass, CP	B283
		Brass CP, Cast	B584
4	Seat	PTFE	
5	Stem	Brass	B124
6	Thrust Washer	PTFE	
7	Gland Nut	Brass	B16
8	Gland Packing	PTFE	
9	Handle	Steel w/ Zinc Plating	Commercial
10	Handle Nut	Brass	B16

## PRESSURE - TEMPERATURE DATA

VALVES RATED FOR VACUUM SERVICE TO 29 INCHES Hg.



\*Not intended for use in potable water.



## DIMENSIONS

	UNITS	1/4" DN6	3/8" DN10	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50	2-1/2" DN65	3" DN80	4" DN100
A (DIA)	INCHES	0.31	0.31	0.39	0.59	0.76	0.98	1.26	1.50	2.00	2.52	2.95
	mm	8	8	10	15	19	25	32	38	51	64	75
B	INCHES	1.65	1.65	2.30	2.55	3.05	3.43	3.76	4.21	5.50	6.22	7.31
	mm	42	42	58	65	78	87	96	107	140	158	186
C	INCHES	0.83	0.83	1.15	1.28	1.53	1.72	1.88	2.11	2.75	3.11	3.66
	mm	21	21	29	33	39	44	48	54	70	80	93
D	INCHES	1.38	1.38	1.50	1.61	2.00	2.17	2.72	2.87	3.66	4.02	4.33
	mm	35	35	38	41	51	55	69	73	93	102	110
E	INCHES	3.31	3.31	3.31	3.31	4.65	4.65	5.28	5.28	7.87	7.87	7.87
	mm	84	84	84	84	118	118	134	134	200	200	200
F	THREAD SIZE	1/4" NPT	3/8" NPT	1/2" NPT	3/4" NPT	1" NPT	1-1/4" NPT	1-1/2" NPT	2" NPT	2-2/1" NPT	3" NPT	4" NPT
Cv		9	9	12	18	40	72	112	161	287	448	645

Note: DN (Diameter Nominal) = Metric equivalent size.

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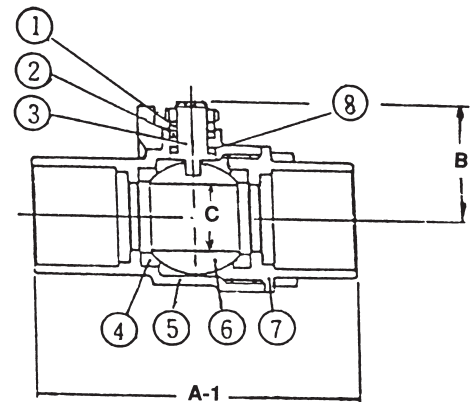
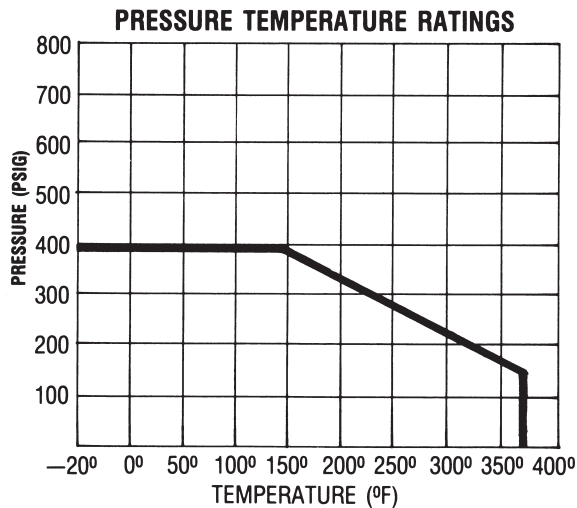
# 8201-15/8211-15\* 1/2"-1"

Brass Ball Valve  
Two Piece  
Standard Port  
400 WOG  
Threaded or Solder Ends  
Blow-Out Proof Stem

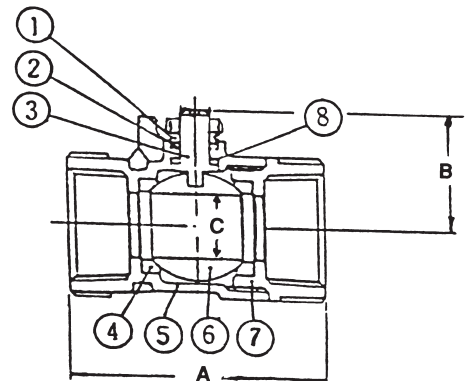
## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	FOLLOWER	BRASS	ASTM B124, C37700
2	STEM PACKING	TFE	
3	STEM PACKING	BRASS	ASTM B124, C37700
4	SEAT	TFE	
5	BODY	FORGED BRASS	ASTM B283, C37770
6	BALL	BRASS, CP	ASTM B283, C37770
7	END PIECE	FORGED BRASS	ASTM B283, C37770
8	THRUST WASHER	TFE	ASTM B283, C37770

\*Not intended for use in potable water.



**8211-15 Solder**



**8201-15 Threaded**

## DIMENSIONS

	UNITS	A	A-1	B	C	C <sub>V</sub>	TORQUE IN LBS.
1/2	INCHES	1.84	2.05	0.94	0.41	6.8	20
	mm	47	52	24	10		
3/4	INCHES	2.16	2.81	1.06	0.59	14	30
	mm	55	71	27	15		
1	INCHES	2.63	3.25	1.41	0.78	28	50
	mm	67	83	36	20		

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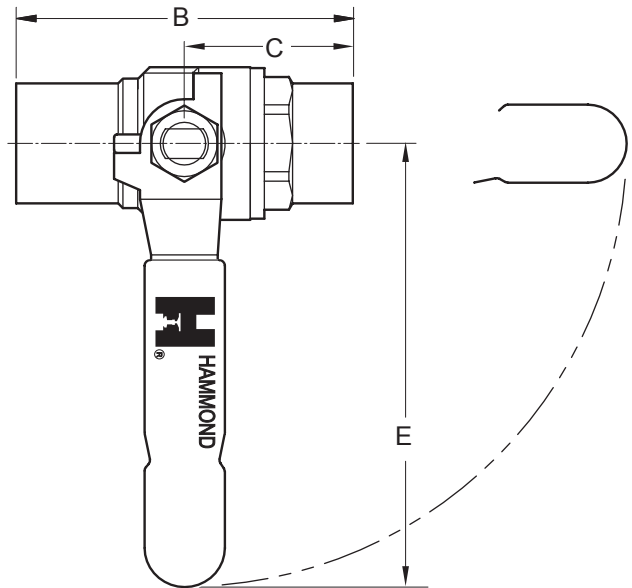
# 8211\* 3/8"-3"

Brass Ball Valve  
Two Piece  
Standard Port  
400 WOG  
Solder Ends  
Blow-Out Proof Stem  
MSS SP-110

## MATERIALS LIST

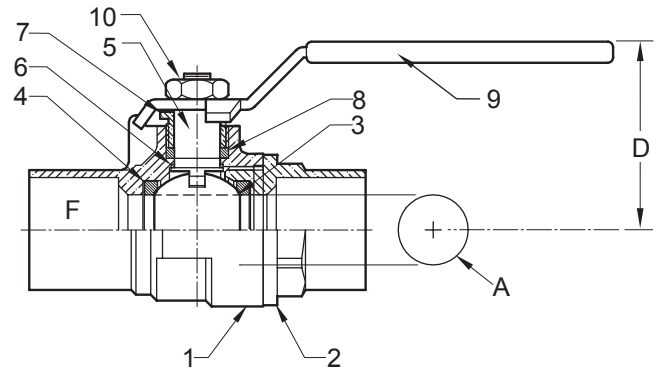
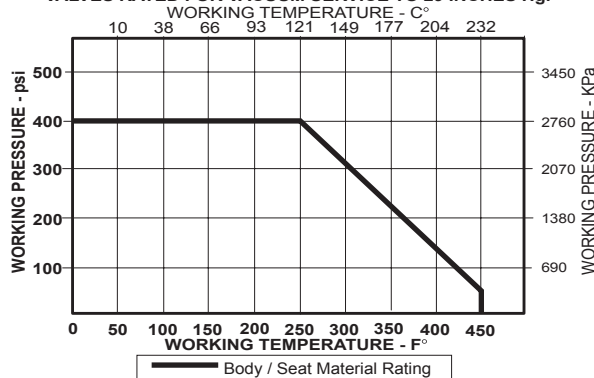
ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	Brass, CP	B283
		Brass CP, Cast	B584
4	Seat	PTFE	
5	Stem	Brass	B124
6	Thrust Washer	PTFE	
7	Gland Nut	Brass	B16
8	Gland Packing	PTFE	
9	Handle	Steel w/ Zinc Plating	Commercial
10	Handle Nut	Brass	B16

\*Not intended for use in potable water.



## PRESSURE - TEMPERATURE DATA

VALVES RATED FOR VACUUM SERVICE TO 29 INCHES Hg.



## DIMENSIONS

	UNITS	3/8" DN10	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50	2-1/2" DN65	3" DN80
A (DIA)	INCHES	0.31	0.39	0.59	0.76	0.98	1.26	1.50	2.00	2.52
	mm	8	10	15	19	25	32	38	51	64
B	INCHES	1.75	2.19	2.83	3.44	3.85	4.43	5.23	5.94	6.97
	mm	45	56	72	87	98	113	133	151	177
C	INCHES	0.88	1.14	1.42	1.72	1.93	2.23	2.62	2.97	3.49
	mm	22	29	36	44	49	57	67	75	89
D	INCHES	1.38	1.50	1.61	2.00	2.17	2.72	2.87	3.66	4.02
	mm	35	38	41	51	55	69	73	93	102
E	INCHES	3.31	3.31	3.31	4.65	4.65	5.28	5.28	7.87	7.87
	mm	84	84	84	118	118	134	134	200	200
F	TUBE SIZE Ø	0.51	0.63	0.88	1.13	1.38	1.63	2.13	2.63	3.13
Cv		9	12	18	40	72	112	161	287	448

Note: DN (Diameter Nominal) = Metric equivalent size.

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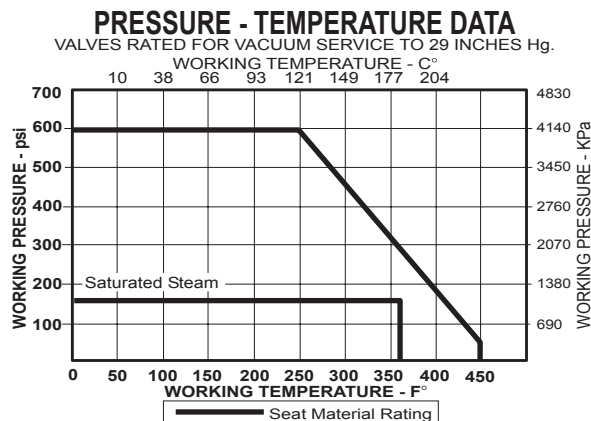
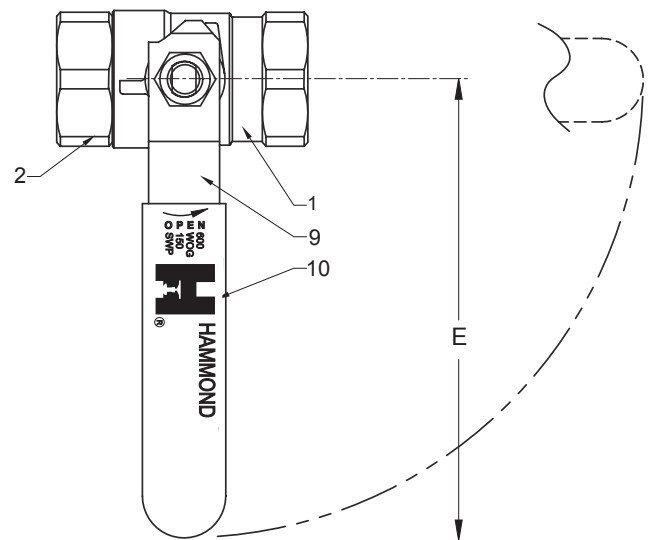
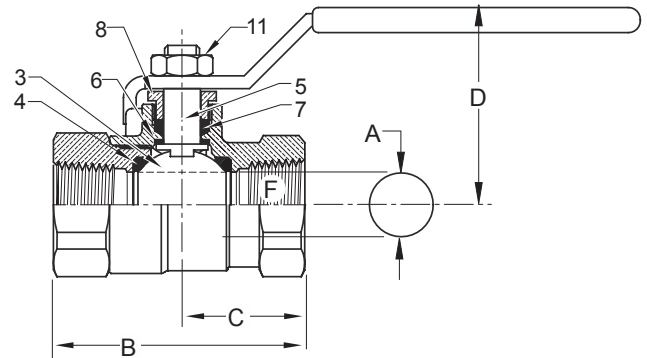
# 8301A/8303A\* 1/4"-2"

**Bronze Ball Valve  
Two Piece  
Full Port  
600 WOG/150 SWP (1)  
Threaded Ends  
Blow-Out Proof Stem  
MSS SP-110**

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Cast Bronze	B584
2	Tailpiece	Brass	B283
		Cast Bronze (1 1/4" & up)	B584
3	Ball	Brass w/Hard Chrome Plating	B16
		316 Stainless Steel (B8303A)	A276
4	Seat	RPTFE, 15% Glass Filled	
5	Stem	Brass	B16
		316 Stainless Steel (8303A)	A276
6	Thrust Washer	RPTFE, 25% Glass Filled	
7	Packing	PTFE	
8	Packing Nut	Brass	B16
9	Handle	Steel w/Zinc Plating	Commercial
10	Hand Grip	Vinyl	
11	Handle Nut	Steel w/Zinc Plating	Commercial

**\*Not intended for use in potable water.**



## DIMENSIONS

	UNITS	1/4" DN10	3/8" DN10	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50
A (DIA)	INCHES	0.38	0.38	0.50	0.76	1.06	1.31	1.56	2.00
	mm	10	10	13	19	27	33	40	51
B	INCHES	1.86	1.86	2.19	2.59	3.32	3.77	4.28	5.10
	mm	46	46	54	66	84	96	109	130
C	INCHES	1.00	1.00	1.10	1.30	1.59	1.81	2.06	2.37
	mm	25	25	27	33	40	46	52	60
D	INCHES	1.78	1.81	1.91	2.32	2.68	2.82	3.00	3.36
	mm	44	44	47	59	68	72	76	85
E	INCHES	3.82	3.82	3.82	4.55	6.33	6.33	6.33	7.19
	mm	94	94	94	116	161	161	161	183
F	THREAD SIZE	1/4" NPT	3/8" NPT	1/2" NPT	3/4" NPT	1" NPT	1-1/4" NPT	1-1/2" NPT	2" NPT
Cv		7	7	13	30	61	110	185	360

Note: DN (Diameter Nominal) = Metric equivalent size.

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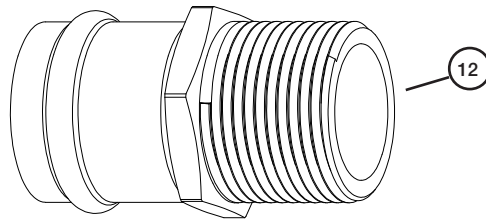
# 8301A/8303A\* P2 ½"-2"



**Bronze Ball Valve**  
**Two Piece**  
**Full Port**  
**200 psig @ 250°F†**  
**Press x Press Ends**  
**Blow-Out Proof Stem**  
**MSS SP-110**

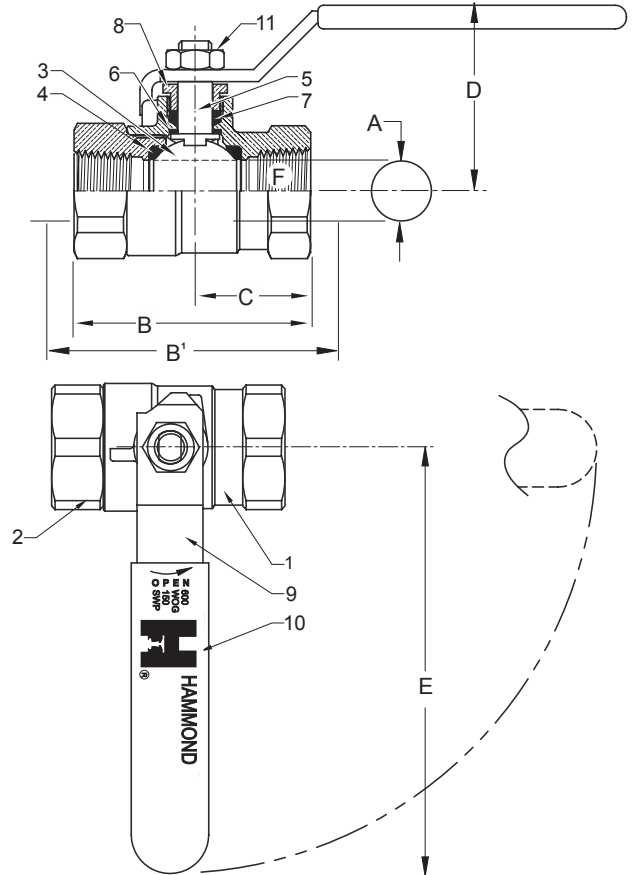
## MATERIAL LIST

ITEM	PART	MATERIAL	ASTM SPEC
1	Body	Cast Bronze	B584
2	Tailpiece	Brass	B283
		Cast Bronze (1 1/4" & up)	B584
3	Ball	Brass w/Hard Chrome Plating	B16
		316 Stainless Steel (8303A P2)	A276
4	Seat	RPTFE, 15% Glass Filled	
5	Stem	Brass	B16
		316 Stainless Steel (8303A P2)	A276
6	Thrust Washer	RPTFE, 25% Glass Filled	
7	Packing	PTFE	
8	Packing Nut	Brass	B16
9	Handle	Steel w/Zinc Plating	Commercial
10	Hand Grip	Vinyl	
11	Handle Nut	Steel w/Zinc Plating	Commercial
12	Press Adapters	Brass Fitting w/EPDM O-Ring	B283



Press End Adapter (4151 Series)

**\*Not intended for use in potable water.**



## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50
A (DIA)	INCHES	0.50	0.76	1.06	1.31	1.56	2.00
	mm	13	19	27	33	40	51
STD INSERTION DEPTH	INCHES	0.87	0.98	0.98	1.02	1.42	1.58
	mm	22	25	25	26	36	40
B	INCHES	2.19	2.59	3.32	3.77	4.28	5.10
	mm	54	66	84	96	109	130
B <sup>1</sup>	INCHES	5.19	6.17	7.32	7.84	8.76	11.10
	mm	132	157	186	199	228	282
C	INCHES	1.10	1.30	1.59	1.81	2.06	2.37
	mm	27	33	40	46	52	60
D	INCHES	1.91	2.32	2.68	2.82	3.00	3.36
	mm	47	59	68	72	76	85
E	INCHES	3.82	4.55	6.33	6.33	6.33	7.19
	mm	94	116	161	161	161	183
F	THREAD SIZE	1/2" NPT	3/4" NPT	1" NPT	1-1/4" NPT	1-1/2" NPT	2" NPT
Cv		13	30	61	110	185	360

Note: DN (Diameter Nominal) = Metric equivalent size.

†Non-Shock

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# 8311A/8313A\* 3/8"-2"

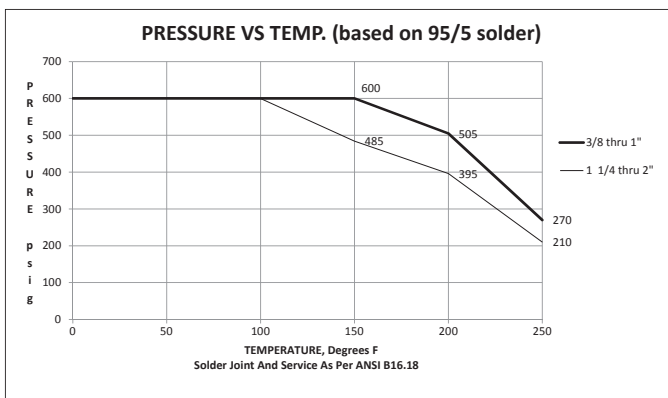
**Bronze Ball Valve  
Two Piece  
Full Port  
600 WOG  
Solder Ends  
Blow-Out Proof Stem  
MSS SP-110**

## MATERIALS LIST

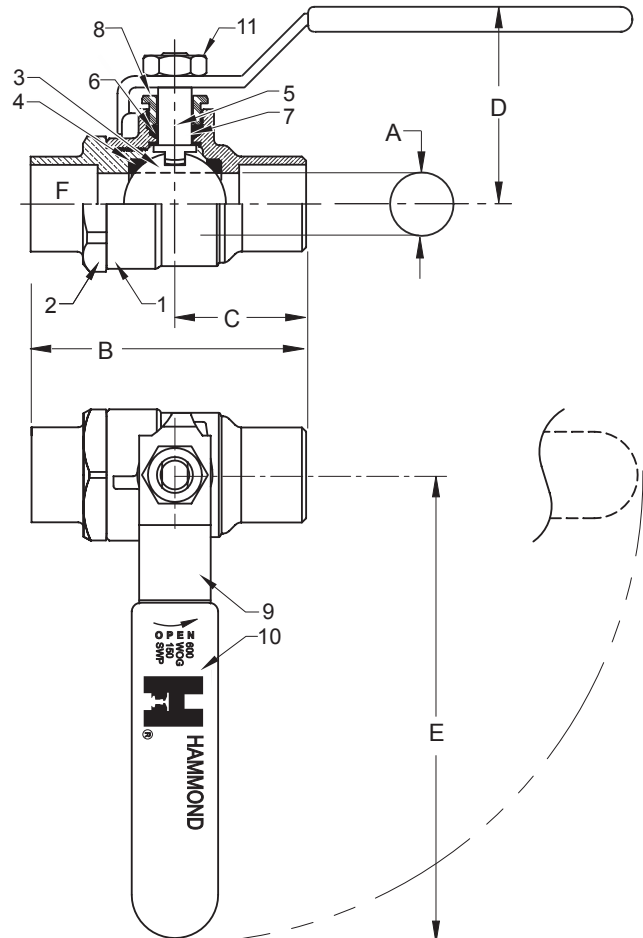
ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Cast Bronze	B584
2	Tailpiece	Brass	B283
		Cast Bronze (1 1/4" & up)	B584
3	Ball	Brass w/Hard Chrome Plating	B16
		316 Stainless Steel (1)	A276
4	Seat	RPTFE, 15% Glass Filled	
5	Stem	Brass	B16
		316 Stainless Steel (1)	A276
6	Thrust Washer	RPTFE, 25% Glass Filled	
7	Packing	PTFE	
8	Packing Nut	Brass	B16
9	Handle	Steel w/Zinc Plating	Commercial
10	Hand Grip	Vinyl	Commercial
11	Handle Nut	Steel w/Zinc Plating	Commercial

(1) Ball and stem are stainless for 8313A.

## PRESSURE - TEMPERATURE DATA VALVES RATED FOR VACUUM SERVICE TO 29 INCHES Hg.



**\*Not intended for use in potable water.**



## DIMENSIONS

	UNITS	3/8" DN10	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50
A (DIA)	INCHES	0.38	0.50	0.76	1.06	1.31	1.56	2.00
	mm	10	13	19	27	32	40	51
B	INCHES	2.05	2.39	3.17	3.75	5.00	6.00	6.75
	mm	52	61	81	95	127	152	172
C	INCHES	0.91	1.07	1.50	1.79	2.49	3.00	3.37
	mm	23	27	38	46	63	76	86
D	INCHES	1.80	1.87	2.19	2.67	2.82	2.99	3.51
	mm	44	46	56	68	72	76	89
E	INCHES	3.80	3.80	4.56	6.31	6.31	6.31	7.19
	mm	97	97	116	160	160	160	183
F	TUBE SIZEØ	0.51	0.63	0.88	1.13	1.38	1.63	2.13
Cv		7	15	35	60	110	185	360

Note: DN (Diameter Nominal) = Metric equivalent size.

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⚠ State of California Prop 65 **WARNING:** Cancer and Reproductive Harm. For more information visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



# 8501/8503\* 1/4"-3"

**Bronze Ball Valve**  
**Two Piece**  
**Standard Port (1"-3") Full Port (1/4"-3/4")**  
**600 WOG/150 SWP (1)**  
**Threaded Ends**  
**Blow-Out Proof Stem**  
**MSS SP-110**

## MATERIALS LIST

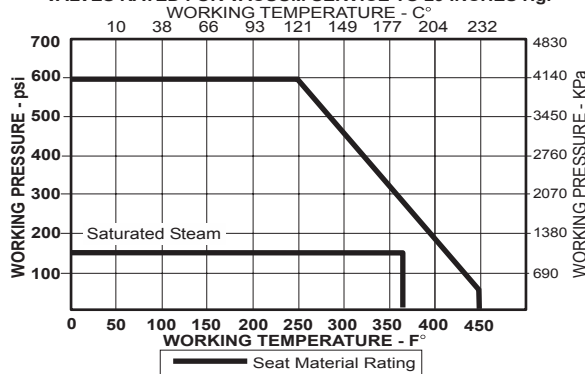
ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Cast Bronze	B584
2	Tailpiece	Brass	B283
		Cast Bronze (1 1/4" & up)	B584
3	Ball	Brass w/Hard Chrome Plating	B16
		316 Stainless Steel (2)	A276
4	Seat	RPTFE, 15% Glass Filled	
5	Stem	Brass	B16
		316 Stainless Steel (2)	A276
6	Thrust Washer	RPTFE, 25% Glass Filled	
7	Packing	PTFE	
8	Packing Nut	Brass	B16
9	Handle	Steel w/Zinc Plating	Commercial
10	Hand Grip	Vinyl	
11	Handle Nut	Steel w/Zinc Plating	Commercial

(1) Hammond Valve recommends the use of Stainless steel ball and stem for steam applications. Please consult factory for more information.

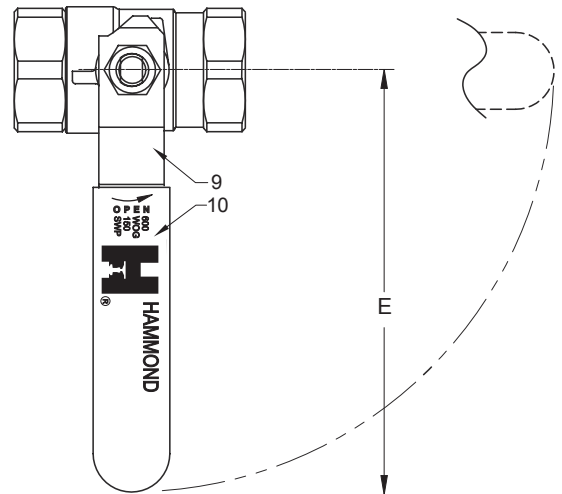
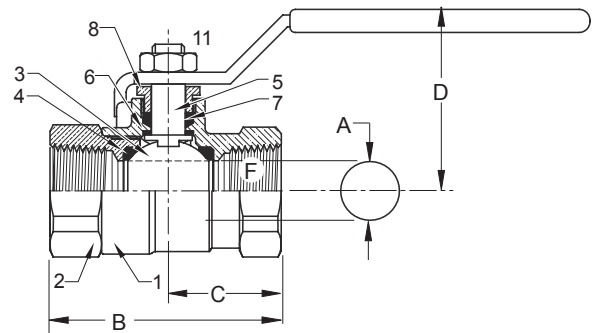
(2) Stem is stainless for 8503 and 2-1/2"-3" 8501

## PRESSURE - TEMPERATURE DATA

VALVES RATED FOR VACUUM SERVICE TO 29 INCHES Hg.



\*Not intended for use in potable water.



## DIMENSIONS

	UNITS	1/4" DN6	3/8" DN10	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50	2-1/2" DN65	3" DN80
A (DIA)	INCHES	0.38	0.38	0.50	0.76	0.88	1.06	1.31	1.56	2.00	2.31
	mm	10	10	13	19	22	27	33	40	51	59
B	INCHES	1.86	1.86	2.19	2.59	3.17	3.50	3.96	4.30	5.56	6.20
	mm	46	46	54	66	78	86	97	105	136	152
C	INCHES	1.00	1.00	1.10	1.30	1.58	1.74	1.97	2.15	2.79	3.10
	mm	25	25	27	32	39	43	48	53	68	76
D	INCHES	1.78	1.81	1.91	2.08	2.25	2.66	2.84	3.00	3.47	3.90
	mm	44	44	47	51	55	65	70	74	85	96
E	INCHES	3.81	3.81	3.81	4.56	4.56	6.31	6.31	7.19	7.19	7.19
	mm	93	93	93	112	112	155	155	176	176	176
F	THREAD SIZE	1/4" NPT	3/8" NPT	1/2" NPT	3/4" NPT	1" NPT	1-1/4" NPT	1-1/2" NPT	2" NPT	2-1/2" NPT	3" NPT
Cv		7	7	13	30	38	61	87	121	228	305

Note: DN (Diameter Nominal) = Metric equivalent size.

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# 8501/8503\* P2 1/2"-3"



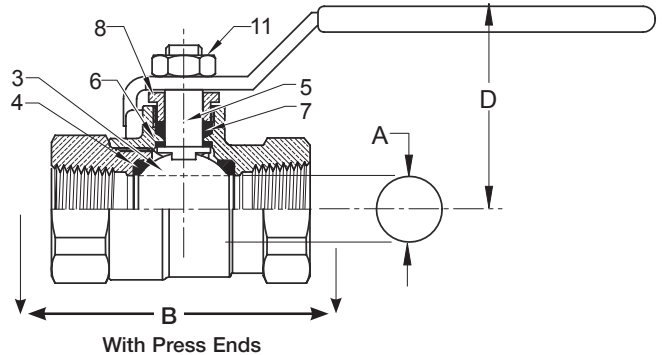
**Bronze Ball Valve**  
**Two Piece**  
**Standard Port (1"-3") Full Port (1/2"-3/4")**  
**200 psig @ 250°F†**  
**Press x Press Ends**  
**Press x Threaded Ends Available (Consult Factory)**  
**Blow-Out Proof Stem**  
**Conforms to MSS SP-110**

\*Not intended for use in potable water.

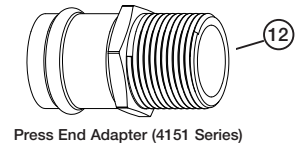
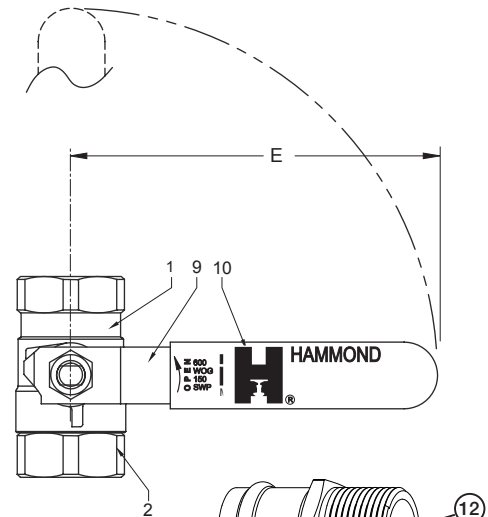
## MATERIAL LIST

ITEM	PART	MATERIAL	ASTM SPEC
1	Body	Cast Bronze	B584 C84400
2	Tailpiece	Brass	B283 C37700
		Cast Bronze (1 1/4" & up)	B584 C84400
3	Ball	Brass w/Hard Chrome Plating	B283 C37700
		316 Stainless Steel (1)	A276 S31600
4	Seat	RPTFE, 15% Glass filled	
5	Stem	Brass	B21 C46400 H02
		316 Stainless Steel (1)	A276 S31600
6	Thrust Washer	RPTFE, 25% Glass Filled	
7	Packing	PTFE	
8	Packing Nut	Brass	B16 C36000 H02
9	Handle	Steel w/Zinc Plating	Commercial
10	Handle Grip	Vinyl	
11	Handle Nut	Steel w/Zinc Plating	Commercial
12	Press Adapters	Brass Fitting w/EPDM O-Ring (1/2" - 2")	B283 C27450
		Copper (2 1/2" - 3")	B88
13	O-Ring	EPDM	
14	Backing Seal	Acetal	
15	Backing Ring	304 Stainless Steel	A276

(1) Ball and stem are stainless for 8503 P2



Note: 2 1/2" & 3" are built from 8511/8513

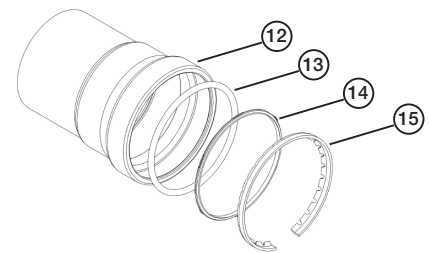


## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50	2-1/2" DN65	3" DN80
A (DIA)	INCHES	0.50	0.76	0.88	1.07	1.32	1.57	2.00	2.31
	mm	13	19	22	27	33	40	51	59
STD Insertion	INCHES	0.87	0.98	0.98	1.02	1.42	1.58	1.80	2.10
	mm	22	25	25	26	36	40	46	53
B	INCHES	5.19	6.17	7.17	7.57	8.44	10.30	12.02	13.94
	mm	132	157	182	192	214	262	305	354
D	INCHES	1.91	2.32	2.68	2.82	3.00	3.36	3.47	3.88
	mm	47	59	68	72	76	85	88	99
E	INCHES	3.82	4.55	4.56	6.33	6.33	7.19	7.19	7.19
	mm	94	116	116	161	161	183	183	183

Note: DN (Diameter Nominal)=Metric equivalent size.

†Non-Shock



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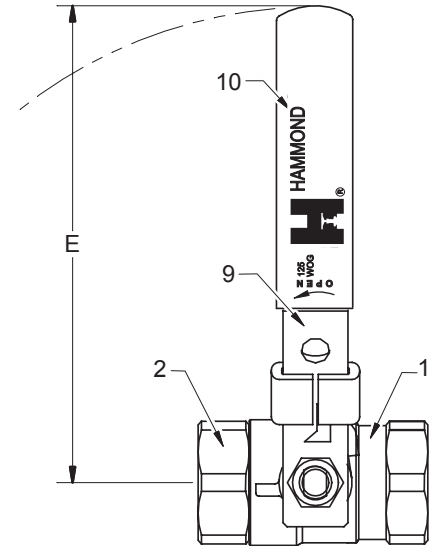
# 8501E\* 1/4"-2"

**Bronze Ball Valve**  
**Two Piece**  
**Standard Port (1"-2") Full Port (1/4"-3/4")**  
**Safety Exhaust**  
**Locking Handle**  
**Blow-Out Proof Stem**  
**MSS SP-110**

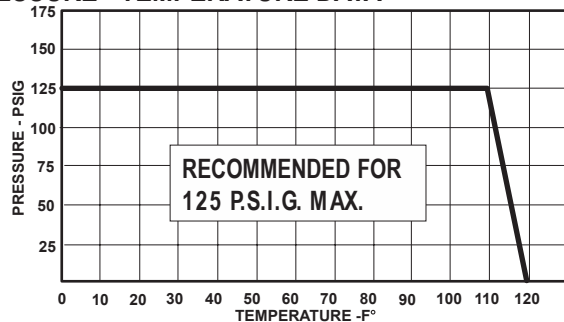
## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Cast Bronze	B584
2	Tailpiece	Brass	B283
		Cast Bronze (1 1/4" & up)	B584
3	Ball	Brass w/Hard Chrome Plating	B16
4	Seat	RPTFE, 15% Glass Filled	
5	Stem	Brass	B16
6	Thrust Washer	RPTFE, 25% Glass Filled	
7	Packing	PTFE	
8	Packing Nut	Brass	B16
9	Handle	Steel w/Zinc Plating	Commercial
10	Hand Grip	Vinyl	
11	Handle Nut	Steel w/Zinc Plating	Commercial

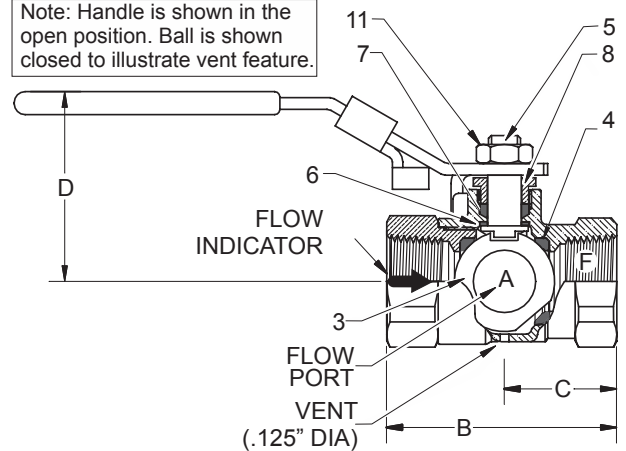
\*Not intended for use in potable water.



## PRESSURE - TEMPERATURE DATA



Note: Handle is shown in the open position. Ball is shown closed to illustrate vent feature.



## DIMENSIONS

	UNITS	1/4" DN10	3/8" DN10	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50
A (DIA)	INCHES	0.38	0.38	0.5	0.76	0.88	1.06	1.31	1.56
	mm	10	10	13	19	22	27	33	40
B	INCHES	1.86	1.86	2.19	2.59	3.17	3.50	3.96	4.30
	mm	47	47	55	66	80	89	101	109
C	INCHES	1	1	1.10	1.30	1.58	1.74	1.97	2.15
	mm	25	25	27	33	40	44	50	55
D	INCHES	1.81	1.81	1.91	2.08	2.25	2.66	2.84	3.00
	mm	46	46	48	53	57	67	72	76
E	INCHES	3.82	3.82	3.82	4.84	4.84	6.35	6.35	7.20
	mm	97	97	97	123	123	161	161	183
F	THREAD SIZE	1/4" NPT	3/8" NPT	1/2" NPT	3/4" NPT	1" NPT	1-1/4" NPT	1-1/2" NPT	2" NPT
Cv		7	7	12	30	38	61	87	121

Note: DN (Diameter Nominal) = Metric equivalent size.

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# 8501H/8511H\* 1/2"-3/4"

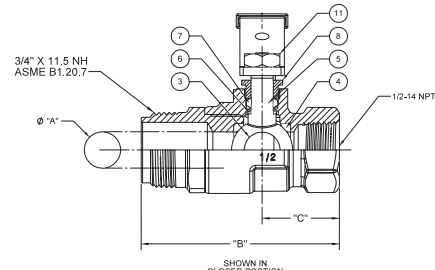
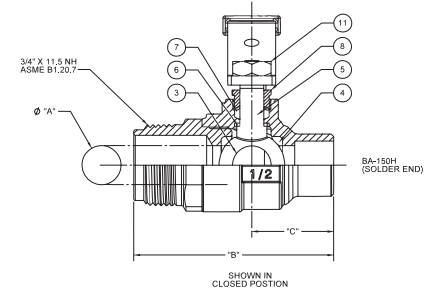
**Bronze Ball Valve  
Two Piece  
Full Port  
Threaded x 3/4" Hose End (8501H)  
Solder x 3/4" Hose End (8511H)  
Dust Cap and Chain  
Blow-Out Proof Stem  
MSS SP-110**

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Bronze	B584
2	Tailpiece	Brass	B16
3	Ball	Brass w/Hard Chrome Plating	B16
4	Seat	RPTFE, 15% Glass Filled	
5	Stem	Brass	B16
6	Thrust Washer	RPTFE, 25% Glass Filled	
7	Packing	PTFE	
8	Packing Nut	Brass	B16
9	Handle	Steel w/Zinc Plating	Commercial
10	Hand Grip	Vinyl	
11	Handle Nut	Steel w/Zinc Plating	Commercial
12	Dust Cap	Polypropylene	
13	Gasket	EPDM	
14	Chain	Brass Bead	

NOTE: Pressure / Temperature ratings shown are for valve only.  
Hose side pressure and temperature limit is based on connected hose  
and is the users responsibility.

**\*Not intended for use in potable water.**

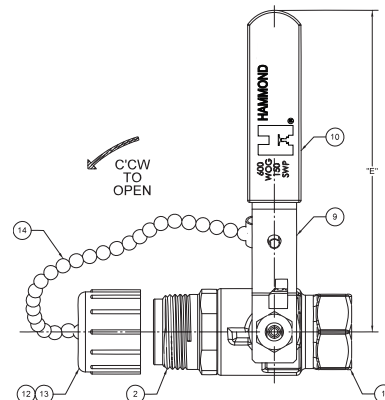


**Do not pressurize cap.  
Pressure not to exceed 40 psi.**

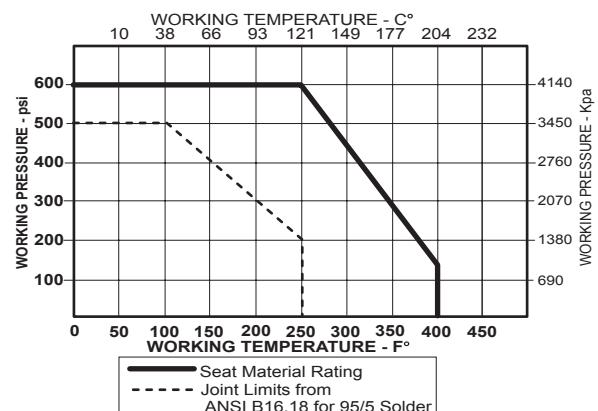
## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20
ØA	INCHES	0.50	0.76
	mm	13	19
B (8501H)	INCHES	2.70	2.90
	mm	69	74
B' (8511H)	INCHES	2.55	3.05
	mm	65	78
C (8501H)	INCHES	1.10	1.30
	mm	28	33
C' (8511H)	INCHES	1.10	1.45
	mm	28	37
D	INCHES	1.88	2.14
	mm	48	54
E	INCHES	3.81	4.62
	mm	97	117
F	THREADED INLET	NPT	NPT
Cv		13	30

Note: DN (Diameter Nominal) =  
Metric equivalent size.



## PRESSURE - TEMPERATURE DATA (See Note)



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# 8501H/8503H P1 1/2"-3/4"



**Bronze Ball Valve  
Two Piece  
Full Port  
200 psig @ 250°F†  
Press x Hose End  
Dust Cap and Chain  
Blow-Out Proof Stem  
Conforms to MSS SP-110**

## MATERIAL LIST

ITEM	PART	MATERIAL	ASTM SPEC
1	Body	Bronze	B584
2	Tailpiece	Brass	B16
3	Ball	Brass w/Hard Chrome Plating	B16
		316 Stainless Steel (1)	A276
4	Seat	RPTFE, 15% Glass Filled	
5	Stem	Brass	B16
		316 Stainless Steel (1)	A276
6	Thrust Washer	RPTFE, 25% Glass Filled	
7	Packing	PTFE	
8	Packing Nut	Brass	B16
9	Handle	Steel w/Zinc Plating	Commercial
10	Hand Grip	Vinyl	
11	Handle Nut	Steel w/Zinc Plating	Commercial
12	Dust Cap	Polypropylene	
13	Gasket	EPDM	
14	Chain	Brass Bead	
15	Press Adapters	Brass Fitting w/EPDM O-Ring	B283

+NON-SHOCK

(1) Ball & Stem are stainless steel for 8503H P1

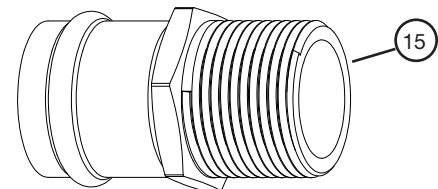
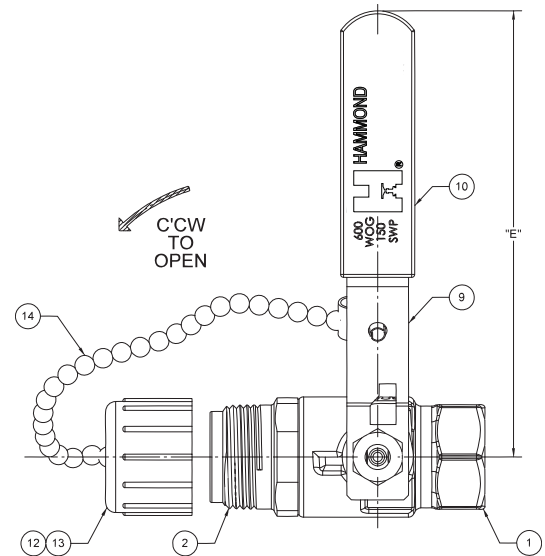
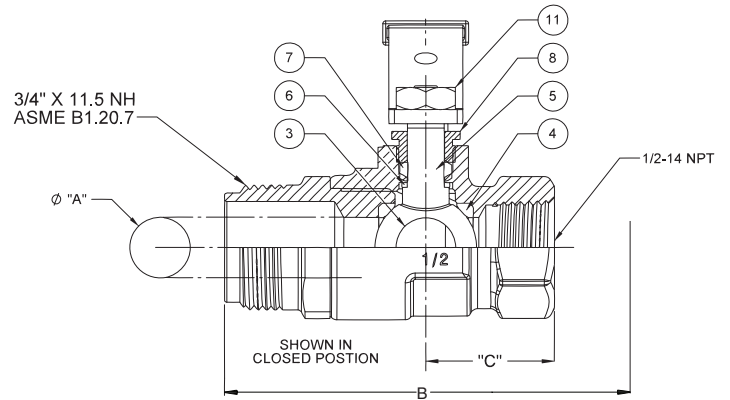
**Do not pressurize cap.  
Pressure not to exceed 40 psi.**

## DIMENSIONS

	UNITS	1/2"	3/4"
		DN15	DN20
A	INCHES mm	0.50 13	.76 19
B	INCHES mm	2.70 69	2.90 74
STD INSERTION DEPTH	INCHES mm	.87 22	.98 25
C	INCHES mm	1.10 28	1.30 33
D	INCHES mm	1.88 48	2.14 54
E	INCHES mm	3.81 97	4.62 117
F	THREAD INLET	NPT	NPT
Cv		13	30

Note: DN (Diameter Nominal) =  
Metric equivalent size.

**\*Not intended for use in potable water.**



Press End Adapter (4151 Series)

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# 8501M\* 1/4"-2"

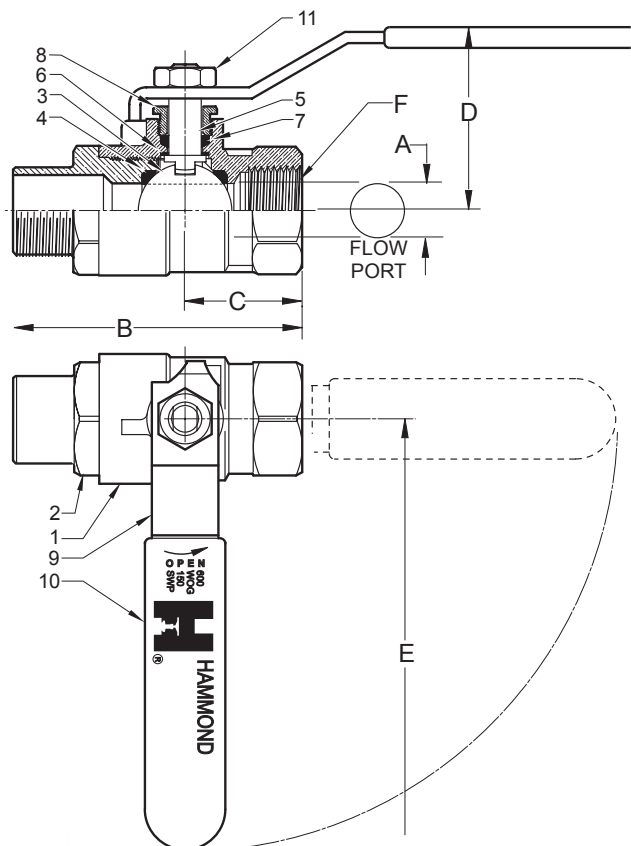
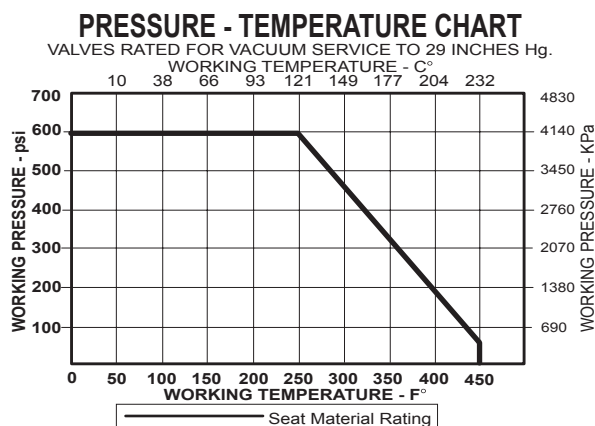
**Bronze Ball Valve**  
**Two Piece**  
**Standard Port (1"-2") Full Port (1/4"-3/4")**  
**600 WOG/150 SWP\***  
**FNPT x MNPT Connections**  
**Blow-Out Proof Stem**  
**MSS SP-110**

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Cast Bronze	B584
2	Tailpiece	Brass/Bronze (1" & up)	B16/B584
3	Ball	Brass w/Hard Chrome Plating	B16
4	Seat	RPTFE, 15% Glass Filled	
5	Stem	Brass	B16
6	Thrust Washer	RPTFE, 25% Glass Filled	
7	Packing	PTFE	
8	Packing Nut	Brass	B16
9	Handle	Steel w/Zinc Plating	Commercial
10	Hand Grip	Vinyl	
11	Handle Nut	Steel w/Zinc Plating	Commercial

\* Please consult factory for more information regarding steam applications.

\*Not intended for use in potable water.



## DIMENSIONS

	UNITS	1/4" DN6	3/8" DN10	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50
A (DIA)	INCHES	0.38	0.38	0.50	0.76	0.88	1.06	1.31	1.56
	mm	10	10	13	19	22	27	33	40
B	INCHES	2.50	2.52	2.80	3.22	3.64	4.24	4.69	4.95
	mm	64	64	71	82	93	108	119	126
C	INCHES	1.00	1.00	1.09	1.30	1.59	1.75	1.97	2.15
	mm	25	25	28	33	40	45	50	55
D	INCHES	1.76	1.76	1.87	2.20	2.28	2.67	2.77	3.00
	mm	45	45	48	56	58	68	70	77
E	INCHES	3.79	3.79	3.80	4.55	4.54	6.32	6.32	7.20
	mm	96	96	96	116	115	161	161	183
F	THREAD SIZE	1/4" NPT	3/8" NPT	1/2" NPT	3/4" NPT	1" NPT	1-1/4" NPT	1-1/2" NPT	2" NPT
Cv		11	11	17	30	40	52	90	115

Note: DN (Diameter Nominal) = Metric equivalent size.

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# 8503H/8513H\* 1/2"-3/4"

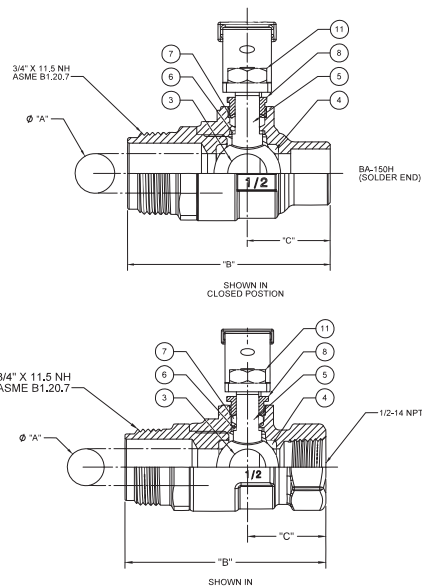
**Bronze Ball Valve  
Two Piece  
Full Port  
Threaded x 3/4" Hose End (8503H)  
Solder x 3/4" Hose End (8513H)  
Dust Cap and Chain  
Blow-Out Proof Stem  
MSS SP-110**

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Bronze	B584
2	Tailpiece	Brass	B16
3	Ball	316 Stainless Steel	A276
4	Seat	RPTFE, 15% Glass Filled	
5	Stem	316 Stainless Steel	A276
6	Thrust Washer	RPTFE, 25% Glass Filled	
7	Packing	PTFE	
8	Packing Nut	Brass	B16
9	Handle	Steel w/Zinc Plating	Commercial
10	Hand Grip	Vinyl	
11	Handle Nut	Steel w/Zinc Plating	Commercial
12	Dust Cap	Polypropylene	
13	Gasket	EPDM	
14	Chain	Brass Bead	

NOTE: Pressure / Temperature ratings shown are for valve only.  
Hose side pressure and temperature limit is based on connected hose and is the users responsibility.

**\*Not intended for use in potable water.**

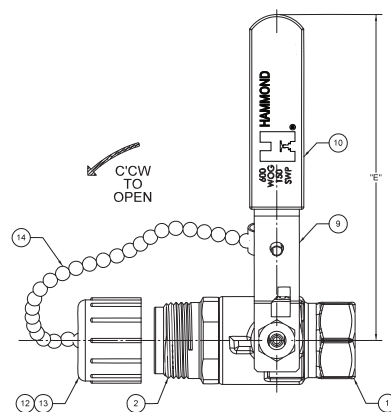


**Do not pressurize cap.  
Pressure not to exceed 40 psi.**

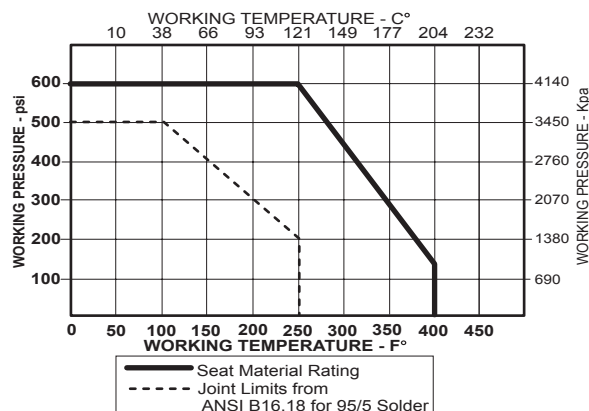
## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20
ØA	INCHES	0.50	0.76
	mm	13	19
B (8503H)	INCHES	2.70	2.90
	mm	69	74
B' (8513H)	INCHES	2.55	3.05
	mm	65	78
C (8503H)	INCHES	1.10	1.30
	mm	28	33
C' (8513H)	INCHES	1.10	1.45
	mm	28	37
D	INCHES	1.88	2.14
	mm	48	54
E	INCHES	3.81	4.62
	mm	97	117
F	THREADED INLET	NPT	NPT
Cv		13	30

Note: DN (Diameter Nominal) =  
Metric equivalent size.



## PRESSURE - TEMPERATURE DATA (See Note)



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⚠ State of California Prop 65 **WARNING:** Cancer and Reproductive Harm. For more information visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



# 8511/8513\* 3/8"-3"

**Bronze Ball Valve**  
**Two Piece**  
**Standard Port (1"-3") Full Port (3/8"-3/4")**  
**600 WOG**  
**Solder Ends**  
**Blow-Out Proof Stem**  
**MSS SP-110**

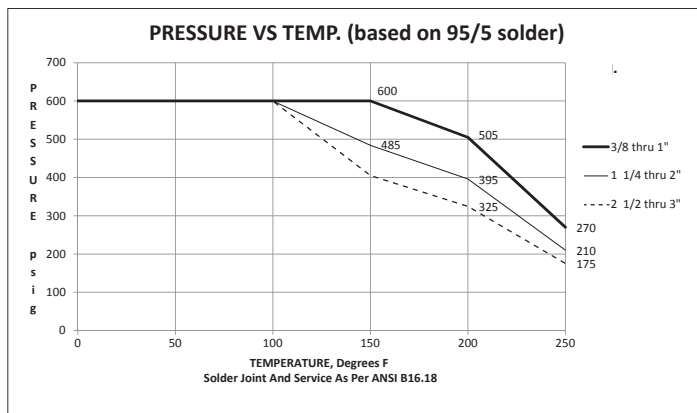
## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Cast Bronze	B584
2	Tailpiece	Brass	B283
		Cast Bronze (1 1/4" & up)	B584
3	Ball	Brass w/Hard Chrome Plating	B16
		316 Stainless Steel (1)	A276
4	Seat	RPTFE, 15% Glass Filled	
5	Stem	Brass	B16
		316 Stainless Steel (1)	A276
6	Thrust Washer	RPTFE, 25% Glass Filled	
7	Packing	PTFE	
8	Packing Nut	Brass	B16
9	Handle	Steel w/Zinc Plating	Commercial
10	Hand Grip	Vinyl	
11	Handle Nut	Steel w/Zinc Plating	Commercial

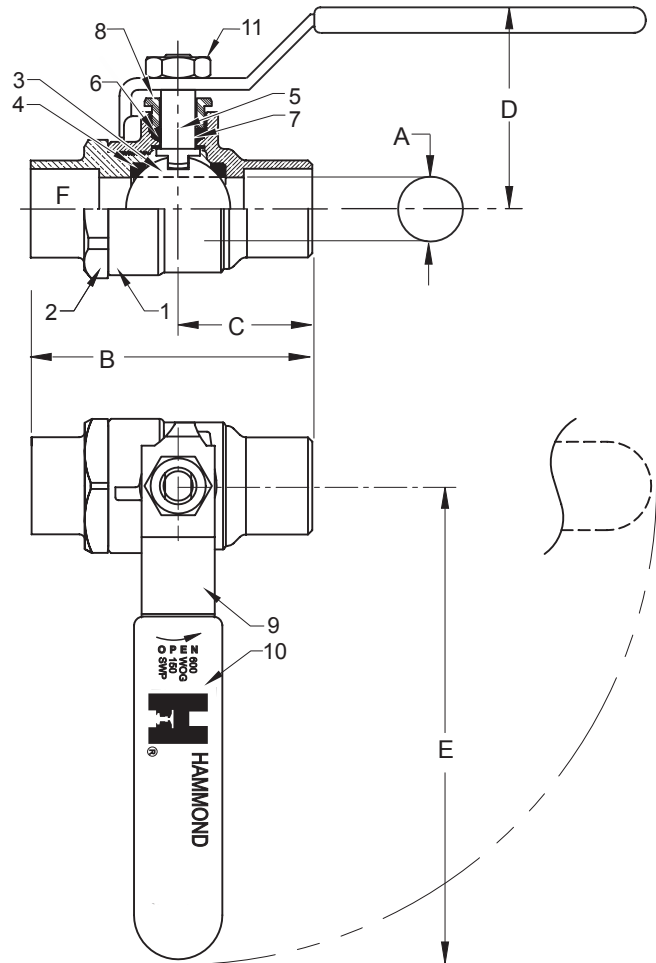
(1) Stem is stainless for 8513 and 2-1/2"-3" 8511.

## PRESSURE - TEMPERATURE DATA

VALVES RATED FOR VACUUM SERVICE TO 29 INCHES Hg.



\*Not intended for use in potable water.



## DIMENSIONS

	UNITS	3/8" DN10	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50	2-1/2" DN65	3" DN80
A (DIA)	INCHES	0.38	0.50	0.76	0.88	1.06	1.31	1.56	2.00	2.31
	mm	10	13	19	22	27	33	40	51	59
B	INCHES	2.05	2.39	3.17	3.71	4.54	5.00	6.25	7.34	8.16
	mm	52	61	81	91	111	123	153	180	200
C	INCHES	0.90	1.07	1.50	1.76	2.27	2.50	3.13	3.67	4.07
	mm	22	26	38	43	56	61	77	90	100
D	INCHES	1.80	1.89	2.13	2.29	2.67	2.85	3.02	3.47	3.88
	mm	44	46	52	56	65	70	74	85	95
E	INCHES	3.81	3.81	4.56	4.56	6.31	6.31	7.19	7.19	7.19
	mm	97	97	116	116	160	160	183	183	183
F	TUBE SIZE	0.51	0.63	0.88	1.13	1.38	1.63	2.13	2.63	3.13
Cv		7	13	35	38	61	87	121	228	305

Note: DN (Diameter Nominal) = Metric equivalent size.

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# 8604/8603\* 1/4"-3"

**Bronze Ball Valve  
Three Piece  
Full Port  
600 WOG/150 SWP (1)  
Threaded Ends  
Blow-Out Proof Stem  
MSS SP-110**

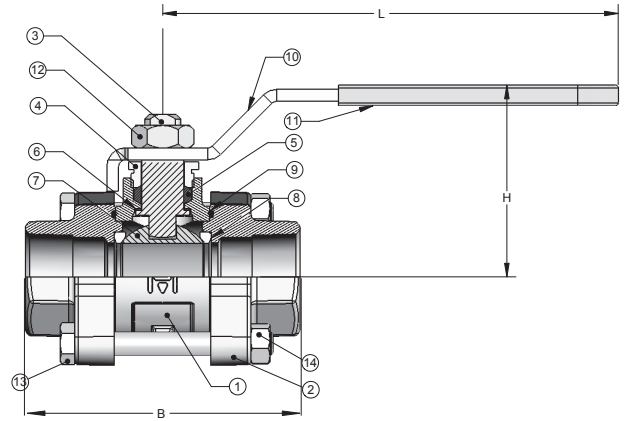
## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Cast Bronze	B584
2	End Cap	Bronze	B584
3	Stem	Brass	B16
		316 Stainless Steel (2)	A276
4	Packing Nut	Brass	B16
5	Packing	PTFE	
6	Thrust Washer	RPTFE, 25% Glass Filled	
7	Ball	CP Brass	B283
		316 Stainless Steel (2)	A276
8	Seat	RPTFE, 15% Glass Filled	
9	O-Ring	Viton	Commercial
10	Handle	Steel w/Zinc Plating	Commercial
11	Handle Grip	Vinyl	Commercial
12	Handle Nut	Steel w/Zinc Plating	Commercial
13	Bolt	Steel w/Zinc Plating	Commercial
14	Nut	Steel w/Zinc Plating	Commercial

(1) Hammond Valve recommends the use of Stainless Steel ball and stem for steam applications. Please consult factory for more information.

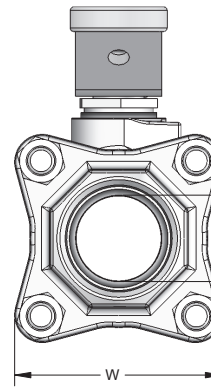
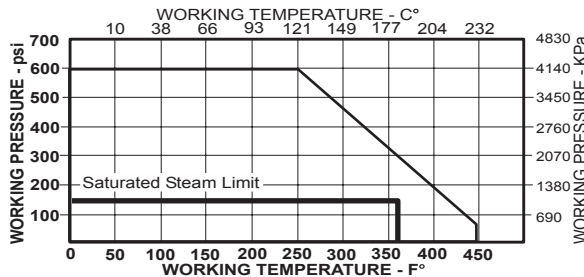
(2) Ball and stem are stainless for 8603

**\*Not intended for use in potable water.**

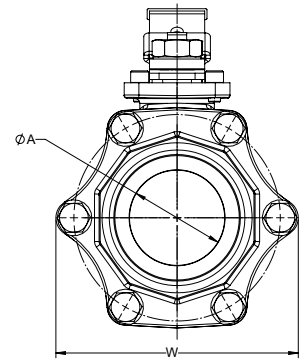


## PRESSURE and TEMPERATURE CHART

VALVES RATED FOR VACUUM SERVICE TO 29 INCHES Hg.



1/4"-2" Sizes



2-1/2"-3" Sizes

## DIMENSIONS

	UNITS	1/4" DN6	3/8" DN10	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50	2-1/2" DN 65	3" * DN 80
A	INCHES	0.38	0.45	0.50	0.75	1.00	1.25	1.50	2.00	2.50	2.50
	mm	10	11	13	19	25	32	38	51	64	64
B	INCHES	2.68	2.68	3.03	3.56	3.82	4.86	5.06	5.90	7.00	7.00
	mm	68	68	77	90	97	123	129	150	178	178
H	INCHES	1.85	1.85	1.85	2.20	2.65	2.79	2.97	3.47	5.44	5.44
	mm	47	47	47	56	67	71	75	88	138	138
L	INCHES	4.03	4.03	4.06	4.58	6.30	6.32	7.20	7.20	8.00	8.00
	mm	102	102	103	116	160	161	183	183	203	203
W	INCHES	1.95	1.95	1.95	2.19	2.48	3.00	3.13	3.78	6.25	6.25
	mm	50	50	50	56	63	76	80	96	159	159
F	THREAD SIZE	1/4" NPT	3/8" NPT	1/2" NPT	3/4" NPT	1" NPT	1-1/4" NPT	1-1/2" NPT	2" NPT	2-1/2" NPT	3" NPT
Cv		7	7	17	31	60	110	185	360	390	390

Note: DN (Diameter Nominal) = Metric equivalent size.

\* 3" is Standard Port.

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# 8604/8603\* P2 1/2"-2"



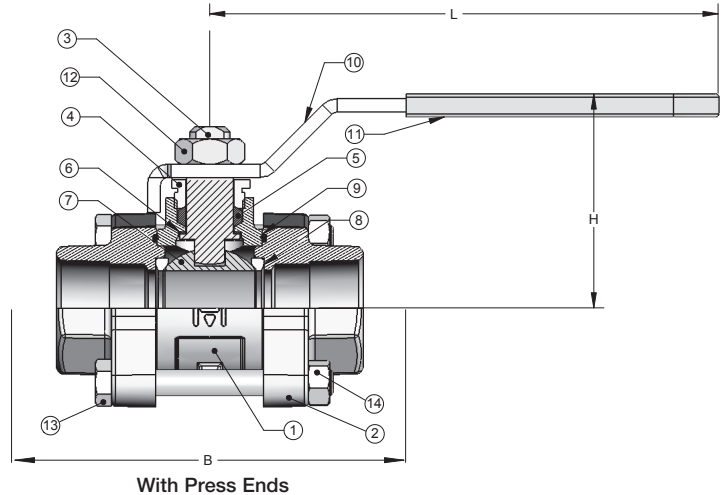
**Bronze Ball Valve**  
**Three Piece**  
**Full Port**  
**200 psig @ 250°F†**  
**Press x Press Ends**  
**Press x Threaded Ends Available (Consult Factory)**  
**Blow-Out Proof Stem**  
**Conforms to MSS SP-110**

\*Not intended for use in potable water.

## MATERIAL LIST

ITEM	PART	MATERIAL	ASTM SPEC
1	Body	Bronze	B584
2	End Cap	Bronze	B584
3	Stem	Brass	B16
		316 Stainless Steel (1)	A276
4	Packing Nut	Brass	B16
5	Packing	PTFE	
6	Thrust Washer	RPTFE, 25% Glass Filled	
7	Ball	CP Brass	B283
		316 Stainless Steel (1)	A276
8	Seat	RPTFE, 15% Glass Filled	
9	O'Ring	Viton	Commercial
10	Handle	Steel w/Zinc Plating	Commercial
11	Hand Grip	Vinyl	Commercial
12	Handle Nut	Steel w/Zinc Plating	Commercial
13	Bolt	Steel w/Zinc Plating	Commercial
14	Nut	Steel w/Zinc Plating	Commercial
15	Press Adapters	Brass Fitting w/EPDM O-Ring	B283

(1) Ball & Stem are stainless steel for 8603 P2

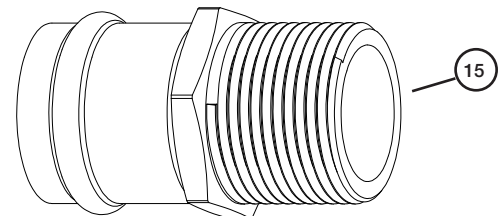
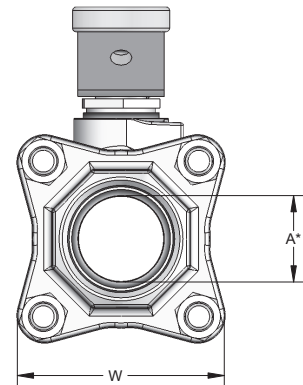


## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50
A (DIA)	INCHES	0.50	0.75	1.00	1.25	1.50	2.00
	mm	13	19	25	32	38	51
STD INSERTION DEPTH	INCHES	0.87	0.98	0.98	1.02	1.42	1.58
	mm	22	25	25	26	36	40
B	INCHES	6.03	7.14	7.82	8.93	9.54	11.9
	mm	153	181	199	227	242	302
H	INCHES	1.85	2.20	2.65	2.79	2.97	3.47
	mm	47	56	67	71	75	88
L	INCHES	4.06	4.58	6.30	6.32	7.20	7.20
	mm	103	116	160	161	183	183
W	INCHES	1.95	2.19	2.48	3.00	3.13	3.78
	mm	50	56	63	76	80	96
F	THREAD SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		NPT	NPT	NPT	NPT	NPT	NPT
Cv	INCHES	17	31	60	110	185	360

Note: DN (Diameter Nominal) = Metric equivalent size.

+Non-Shock



Press End Adapter (4151 SERIES)

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# 8614/8613\* 3/8"-3"

**Bronze Ball Valve  
Three Piece  
Full Port  
600 WOG  
Solder Ends  
Blow-Out Proof Stem  
MSS SP-110**

## MATERIALS LIST

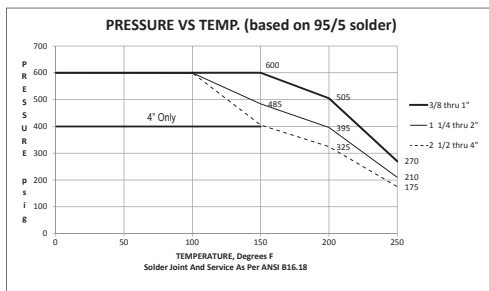
ITEM	PART	MODEL/SIZE	MATERIALS	ASTM SPEC.
1	Body	8614/8613	Cast Bronze	B584
2	Tailpiece	8614/8613	Bronze	B584
3	Ball	8614	Chrome Plated Brass	B16
		8613	316 Stainless Steel (1)	A276
4	Packing	8614	Brass	B16
		8613	316 Stainless Steel (1)	A276
5	O-Ring	8614/8613	Viton	MIL-R-83248
6	Seat	8614/8613	15% Glass RPTFE	
7	Thrust, Washer	8614/8613	25% Glass RPTFE	
8	Packing, Male	2-1/2"-3"	PTFE (2 1/2" - 3")	
	Packing	3/8"-2"	PTFE (3/8" - 2")	
9	Packing, "V"	8614/8613	PTFE	
10	Packing, Female	8614/8613	PTFE	
11	Packing Follower	8614/8613	Brass	B16
12	Hex Jam Nut	8614/8613	Stainless Steel	Commercial
13	Nut Locker	8614/8613	S.S. Type 301/302	
14	Washer, Internal Tooth	8614/8613	Stainless Steel	Commercial
15	Belleville, Washer	8614/8613	S.S. 17-7 PH	Commercial
16	Hex Head Cap Screw	8614/8613	SAE, Grade 8	Commercial
17	Socket Head Cap Screw	2-1/2"-3"	Commercial Carbon Steel	Zinc Plated
18	Handle Assy	8614/8613	-	-
19	Gland Nut	3/8"-2"	Brass	B16
20	Hex Nut	3/8"-2"	Commercial	SAE 5140

(1) Ball and stem are stainless for 8613

## PRESSURE and TEMPERATURE CHART

VALVES RATED FOR VACUUM SERVICE TO 29 INCHES Hg.

— Seat Material Rating  
--- Solder Joints per ANSI B16.18



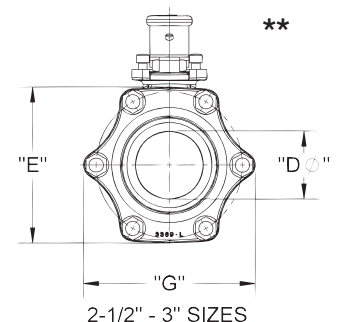
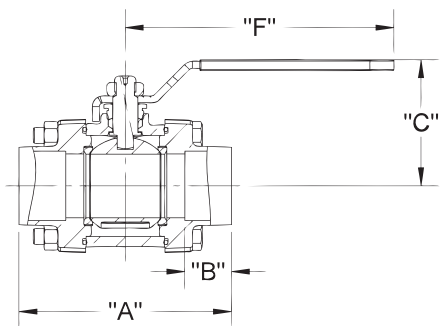
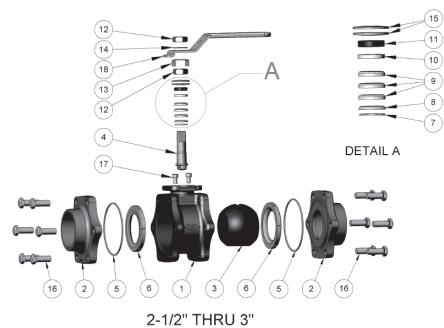
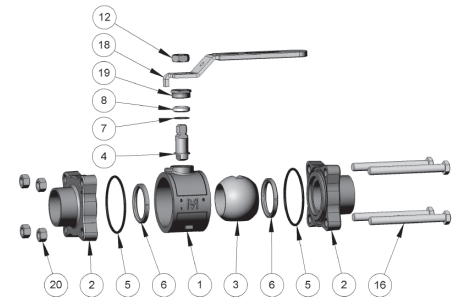
## DIMENSIONS

	UNITS	3/8" DN10	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50	2-1/2" DN65	3" DN80
A	INCHES	2.68	3.02	3.56	3.81	4.66	5.00	5.70	7.01	7.01
	mm	68	77	90	97	118	127	145	178	178
B	INCHES	0.44	0.51	0.76	0.92	0.98	1.10	1.35	1.48	1.67
	mm	11	13	19	23	25	28	34	38	42
C	INCHES	1.85	1.85	2.20	2.65	2.79	2.97	3.47	5.44	5.44
	mm	47	47	56	67	71	75	88	138	138
D	INCHES	0.45	0.50	0.75	1.00	1.25	1.50	2.00	2.50	2.50
	mm	11	13	19	25	32	38	51	64	64
E	INCHES	1.32	1.32	2.13	2.41	2.94	3.13	3.86	5.74	5.74
	mm	34	34	54	61	75	80	98	146	146
F	INCHES	3.80	3.80	4.55	6.32	6.32	6.32	7.20	8.10	8.10
	mm	96	96	116	160	160	160	183	206	206
G	INCHES	1.92	1.92	2.13	2.41	2.94	3.13	3.86	6.31	6.31
	mm	49	49	54	61	75	80	98	160	160
Cv		7	17	31	60	110	185	360	390	390

\*3" is standard Port.

\*\*2-1/2" & 3" Only.

**\*Not intended for use in potable water.**



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# 8614-22/8613-22\* 1/2"-3"

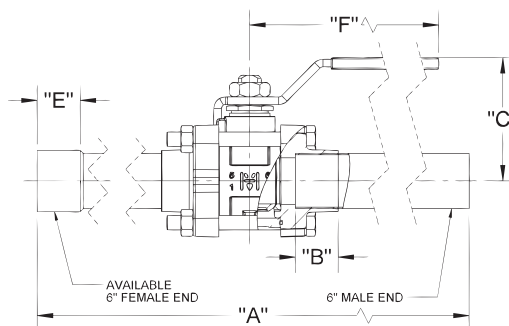
**Bronze Ball Valve  
Three Piece  
Full Port  
600 WOG  
Extended Tube Ends  
Inline Repairable  
Blow-Out Proof Stem  
MSS SP-110**

## MATERIALS LIST

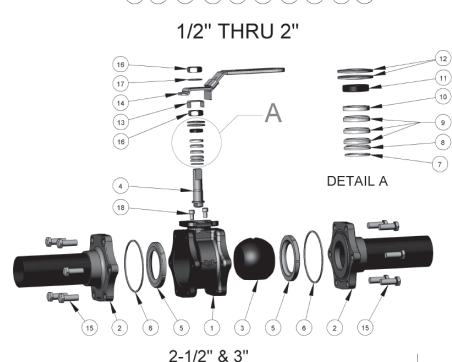
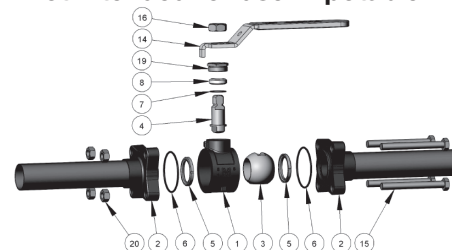
ITEM	PART	MODEL/SIZE	MATERIALS	ASTM SPEC.
1	Body	8614-22/8613-22	Bronze	B584
2	Sil. Braised Stub, Male	8614-22/8613-22	Bronze, Copper Tube	
3	Ball	8614-22	Chrome Plated Brass	B16
		8613-22	316 Stainless Steel (1)	A276
4	Stem	8614-22	Brass	B16
		8614-22/8613-22	316 Stainless Steel (1)	A276
5	Seat	8614-22/8613-22	15% Glass RPTFE	
6	O-Ring	8614-22/8613-22	Viton	MIL-R-83248
7	Washer, Thrust	8614-22/8613-22	25% Glass RPTFE	
8	Packing	8614-22/8613-22	PTFE	
	Packing, Male	8614-22/8613-22	PTFE	
9	Packing, "V"	8614-22/8613-22	PTFE	
10	Packing, Female	8614-22/8613-22	PTFE	
11	Packing Follower	8614-22/8613-22	Brass	B16
12	Washer, Belleville	8614-22/8613-22	17-7 PH S.S.	Commercial
13	Nut Locker	8614-22/8613-22	S.S. 301	Commercial
14	Handle Assy	8614-22/8613-22	-	
15	Hex Head Cap Screw	8614-22/8613-22	SAE, Grade 8	Commercial
16	Nut, Jam	8614-22/8613-22	Steel, Zinc Plating	Commercial
17	Washer, Internal Tooth	8614-22/8613-22	Stainless Steel	Commercial
18	Socket Head Cap Screw	2-1/2"-3"	Commercial Carbon Steel	Zinc Plated
19	Gland Nut	1/2"-2"	Brass	B16
20	Hex Nut	1/2"-2"	Commercial	SAE 5140

(1) Ball and stem are stainless for 8613-22

\*\* Pressure temperature charts contain valve seat (1) Ball and stem are stainless for 350STE and body ratings for standard valves. Solder end valves are de-rated by the limitations of the joint as specified in ASME 16.18. Brazing installations can be likewise derated. Consult ASME 16.18 and the American Welding Society for the actual joint ratings of the material being used for the specific application. Pressure and Temperature ratings may be further derated in accordance with the pressure rating associated with the type of copper tube used for the stub end. Call the factory for accurate application data.



\*Not intended for use in potable water.

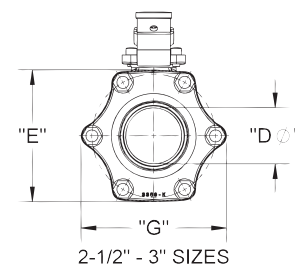
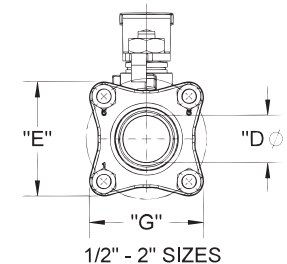


## DIMENSIONS

	UNITS	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
A	INCHES	13.84	13.92	13.95	14.82	15.10	15.50	19.01	19.01
	mm	352	354	354	376	384	394	483	483
B	INCHES	3.02	3.56	3.81	4.66	5.00	5.70	7.01	7.01
	mm	77	90	97	118	127	145	178	178
C	INCHES	1.85	2.20	2.65	2.80	2.97	3.47	5.39	5.39
	mm	47	56	67	71	75	88	137	137
ØD	INCHES	0.50	0.75	1.00	1.25	1.50	2.00	2.44	2.91
	mm	13	19	25	32	38	51	62	74
E	INCHES	1.32	2.13	2.41	2.94	3.13	3.86	5.74	5.74
	mm	34	54	61	75	80	98	146	146
F	INCHES	1.92	2.13	2.41	2.94	3.13	3.86	6.31	6.31
	mm	49	54	61	75	80	98	160	160
G	INCHES	3.80	4.56	6.32	6.32	6.32	7.20	8.10	8.10
	mm	97	116	161	161	161	183	206	206
Cv		17	31	60	110	185	360	390	390

Note: DN (Diameter Nominal) = Metric equivalent size.

\* Designed for soft solder or brazed installation without disassembly.



## Available Options

- Male Tube Ends - Type "K" (Standard)
- Female Tube Ends - Type "L" (-F)
- Cleaned For Oxygen Service In Accordance With NFPA 99C (-OC)
- Stainless-Steel Ball And Stem (-S)
- Stainless-Steel Locking Lever (-LD)
- Oval Handle (-OH)
- Oval Locking Handle (-LO)
- Stem Extension (-XH)
- Stainless-Steel Lever Handle (-SH)
- Gauge Ports

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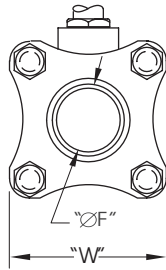
⚠ State of California Prop 65 **WARNING:** Cancer and Reproductive Harm. For more information visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



# 8614-22-G/8613-22-G\* ½"-2"

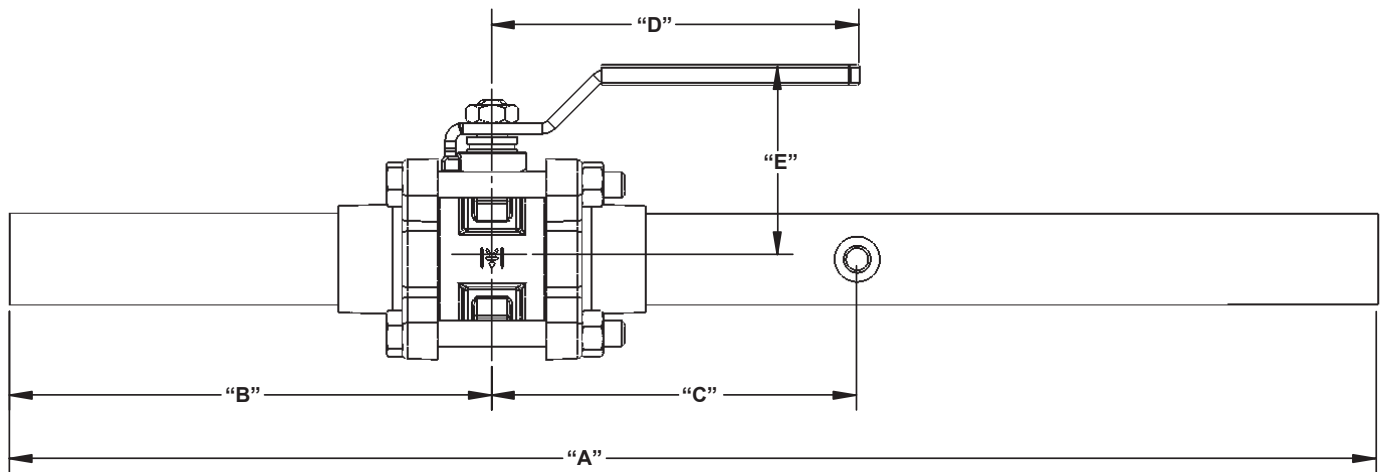
**Bronze Ball Valve  
Three Piece  
Full Port  
600 WOG  
Extended Tube Ends with 1/8" NPT Gauge Port  
Inline Repairable  
Blow-Out Proof Stem  
MSS SP-110**

**\*Not intended for use in potable water.**



## Available Options

- Male Tube Ends - Type "K" (Standard)
- Female Tube Ends - Type "L" (-F)
- Cleaned For Oxygen Service In Accordance With NFPA 99C (-OC)
- Stainless-Steel Ball And Stem (-S)
- Stainless-Steel Locking Lever (-LD)
- Oval Handle (-OH)
- Oval Locking Handle (-LO)
- Stem Extension (-XH)
- Stainless-Steel Lever Handle (-SH)



## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50
A	INCHES	21.00	21.00	21.00	21.00	21.00	21.00
	mm	533	533	533	533	533	533
B	INCHES	6.90	7.00	7.00	7.40	7.60	7.70
	mm	175	178	178	188	193	196
C	INCHES	6.40	6.10	5.90	5.50	5.40	5.00
	mm	163	155	150	140	137	127
D	INCHES	3.80	4.80	4.80	6.50	7.40	7.40
	mm	97	122	122	165	188	188
E	INCHES	1.60	2.30	2.40	2.80	3.10	3.60
	mm	41	58	61	71	79	91
F	INCHES	0.50	0.75	1.00	1.25	1.50	2.00
	mm	13	19	25	32	38	51
G	INCHES	1.90	2.20	2.50	3.00	3.00	4.00
	mm	48	56	64	76	76	102
Cv		17	31	60	110	185	360

Note: DN (Diameter Nominal) = Metric equivalent size.

\*\* Pressure temperature charts contain valve seat (1) Ball and stem are stainless for 350STE and body ratings for standard valves. Solder end valves are de-rated by the limitations of the joint as specified in ASME 16.18. Brazing installations can be likewise derated. Consult ASME 16.18 and the American Welding Society for the actual joint ratings of the material being used for the specific application. Pressure and Temperature ratings may be further derated in accordance with the pressure rating associated with the type of copper tube used for the stub end. Call the factory for accurate application data.

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⚠ State of California Prop 65 **WARNING:** Cancer and Reproductive Harm. For more information visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

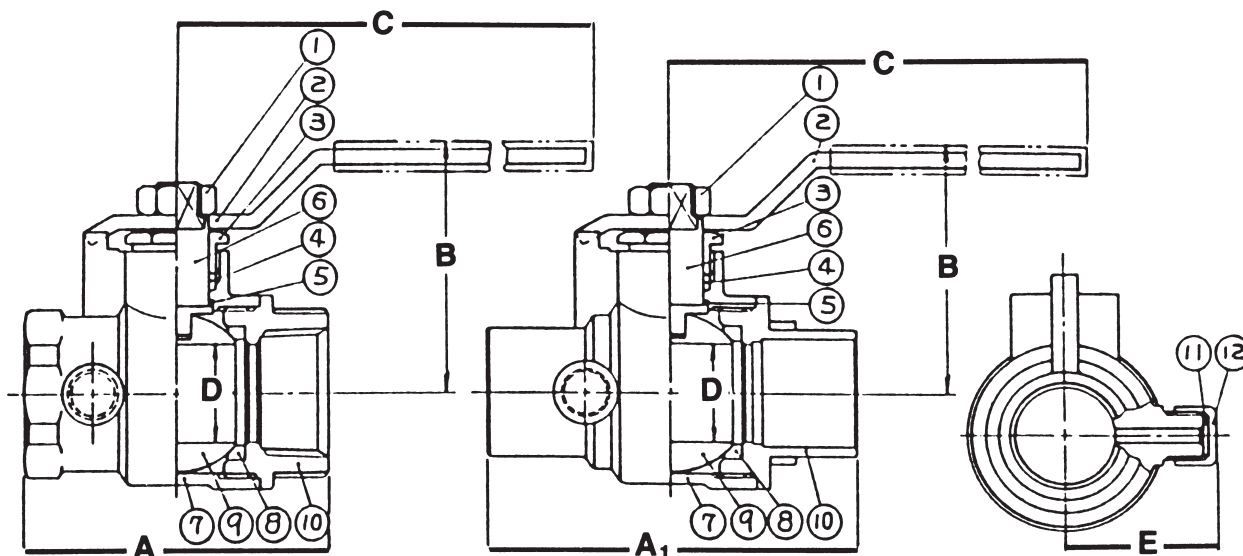
# 8701/8711\* 1/2"-1"

Drainable Brass Ball Valve  
Two Piece  
Full Port  
600 psig WOG  
Threaded or Solder Ends  
Blow-Out Proof Stem  
ASME A112.4.14

## MATERIALS LIST

\*Not intended for use in potable water.

ITEM	PART	MATERIALS	ASTM SPEC.
1	HANDLE NUT	STEEL, ZINC PLATED	AISI TYPE 1010
2	HANDLE, PLASTIC COATED	STEEL, ZINC PLATED	AISI TYPE 1010
3	STUFFING NUT	BRASS ROD	ASTM B124,C37700
4	PACKING RING	TFE	
5	THRUST WASHER	TFE	
6	STEM	BRASS ROD	ASTM B124,C37700
7	BODY	BRASS FORGING	ASTM B283,C37700
8	BALL SEALS	TFE	
9	BALL/CHROME	BRASS FORGING	ASTM B283,C37700
10	END PIECE	BRASS FORGING	ASTM B283,C37700
11	DRAIN CAP WASHER	PLASTIC	POLYETHYLENE
12	DRAIN CAP	BRASS FORGING	ASTM B283,C37700



**8701 Threaded**

**8711 Solder**

## DIMENSIONS

	UNITS	A	A-1	B	C	D	E	Cv	TORQUE IN LBS.
1/2	INCHES	2	2.13	1.53	3.31	0.5	1	18	32
	mm	51	54	39	84	13	25		
3/4	INCHES	2.44	2.91	2	4.66	0.78	1.19	34	50
	mm	62	74	51	118	20	30		
1	INCHES	3	3.53	2.16	4.66	1	1.38	57	60
	mm	76	90	55	118	25	35		

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# 8901\* 1/4"-4"



**Brass Ball Valve**  
**Two Piece**  
**Full Port**  
**600 WOG (1/4" - 3") 400 WOG (4")**  
**Threaded Ends**  
**Blow-Out Proof Stem**  
**MSS SP-110, ASME A112.4.14**

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	CP Brass (1/4" - 1 1/4") CP Brass, Cast (1 1/2" - 4")	B283 B584
4	Ball Seal	PTFE	Commercial
5	Stem	Brass	B124
6	O-Ring	Buna-N	D2006
7	Thrust Washer	PTFE	Commercial
8	Gland Nut	Brass	B16
9	Packing	PTFE	Commercial
10	Handle	Zinc Plated Steel	Commercial
11	Handle Nut	Zinc Plated Steel	Commercial
12	Body Seal (4" Only)	PTFE	Commercial

**\*Not intended for use in potable water.**

### CSA Listed (1/2" - 2")

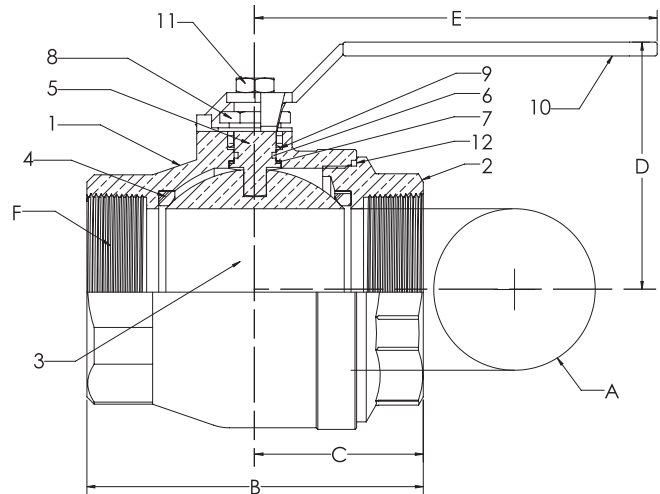
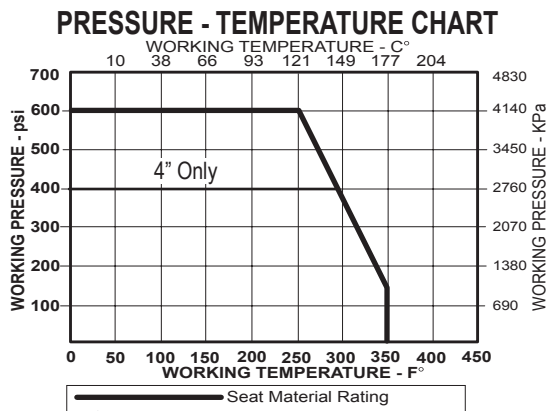
- Class 3371-08: ANSI Z21.15/CSA 9.1, 1/2 psi
- Class 3371-12: CGA CR91-002, 5 psi
- Class 3371-88: ANSI Z21.15/CSA 9.1, 1/2 psi
- Class 3371-92: ASME B16.44, 5 psi

### UL Listed (1/4" - 2")

- UL 842 (YRPV) Gas Shutoff
  - UL 842 (MHKZ / MHKZ7) Manual Valves
  - UL 842 (YRBX7) Flammable Liquid Shutoff
  - UL 125 (YSDT / YSDT7) LP-Gas Shutoff
  - UL 1477 (YQNZ / YQNZ7) Compressed Gas Shutoff
- Note the suffix '7' refers to certification for Canada*

### FM Approved (1/4" - 2")

- FM 1140, 600 psi



## DIMENSIONS

	UNITS	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
A (DIA)	INCHES	0.39	0.39	0.51	0.76	1.00	1.26	1.50	2.00	2.48	2.95	3.94
	mm	10	10	13	19	25	32	38	51	63	75	100
B	INCHES	1.87	1.87	2.25	2.62	3.06	3.50	3.75	4.38	5.16	6.00	8.20
	mm	47	47	57	67	78	89	95	111	131	152	208
C	INCHES	0.95	0.95	1.12	1.31	1.52	1.73	1.87	2.19	2.58	3.00	4.11
	mm	24	24	28	33	39	44	47	56	66	76	104
D	INCHES	1.42	1.42	1.46	1.93	2.10	2.33	2.52	2.96	3.94	4.37	5.93
	mm	36	36	37	49	53	59	64	75	100	111	151
E	INCHES	3.27	3.27	3.27	4.45	4.45	5.24	5.24	7.01	7.87	7.87	9.65
	mm	83	83	83	113	113	133	133	178	200	200	245
F	THREAD SIZE	1/4" NPT	3/8" NPT	1/2" NPT	3/4" NPT	1" NPT	1-1/4" NPT	1-1/2" NPT	2" NPT	2-1/2" NPT	3" NPT	4" NPT
Cv		12	12	18	40	72	112	161	287	307	323	584

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# 8911\* 1/2"-4"

**Brass Ball Valve**  
**Two Piece**  
**Full Port**  
**600 WOG (1/2" - 3") 400 WOG (4")**  
**Solder Ends**  
**Blow-Out Proof Stem**  
**MSS SP-110, ASME A112.4.14**

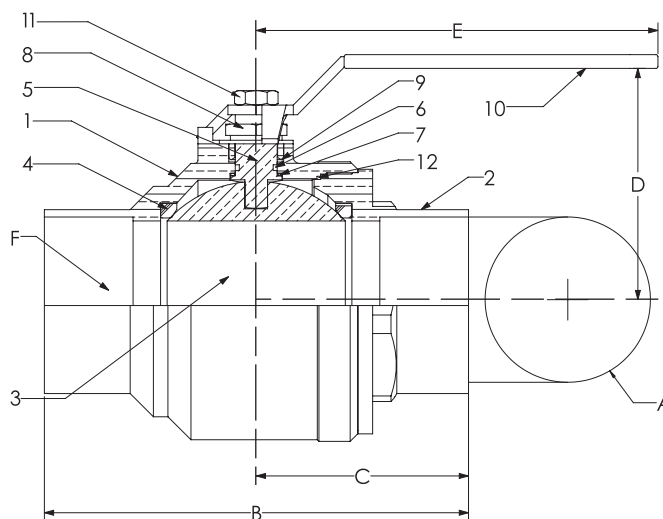
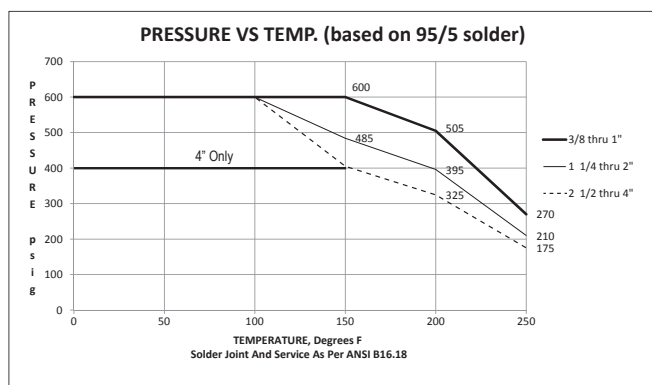
## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	CP Brass (1/2" - 1 1/4")	B283
		CP Brass, Cast (1 1/2" - 4")	B584
4	Ball Seal	PTFE	Commercial
5	Stem	Brass	B124
6	O-Ring	Buna-N	D2006
7	Thrust Washer	PTFE	Commercial
8	Gland Nut	Brass	B16
9	Packing	PTFE	Commercial
10	Handle	Zinc Plated Steel	Commercial
11	Handle Nut	Zinc Plated Steel	Commercial
**12	Body Seal	PTFE	Commercial

**\*Not intended for use in potable water.**  
**\*\*4" Valve Only**

## PRESSURE - TEMPERATURE CHART

VACUUM SERVICE TO 29 INCHES Hg.



## DIMENSIONS

	UNITS	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
A	INCHES	0.50	0.76	1.00	1.26	1.50	2.00	2.48	2.95	3.94
	mm	13	19	25	32	38	51	63	75	100
B	INCHES	2.28	3.10	3.56	4.13	4.64	5.75	7.25	8.25	10.33
	mm	58	79	90	105	118	146	184	210	262
C	INCHES	1.14	1.55	1.78	2.06	2.32	2.87	3.62	4.12	5.17
	mm	29	39	45	52	59	73	92	105	131
D	INCHES	1.46	1.93	2.10	2.33	2.52	2.96	3.94	4.37	5.96
	mm	37	49	53	59	64	75	100	111	151
E	INCHES	3.27	4.45	4.45	5.24	5.24	7.01	7.87	7.87	9.65
	mm	83	113	113	133	133	178	200	200	245
F	TUBE SIZE	0.63	0.88	1.13	1.38	1.63	2.13	2.63	3.13	4.13
Cv		18	40	72	112	161	287	307	323	584

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# BA-480B\* 1/2"-3"



Tested and Certified by IAMPO R&T to:  
NSF/ANSI/CAN Z1157.  
1/2" through 2" Only.

Brass Ball Valve

Two Piece

Full Port

250 psig (1/2" - 2") @250°F†

200 psig (2-1/2" - 3") @250°F†

Press x Press Ends

Blow-Out Proof Stem

† Non-Shock

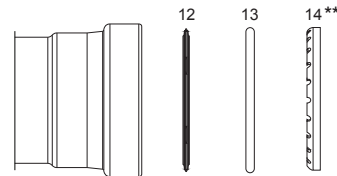
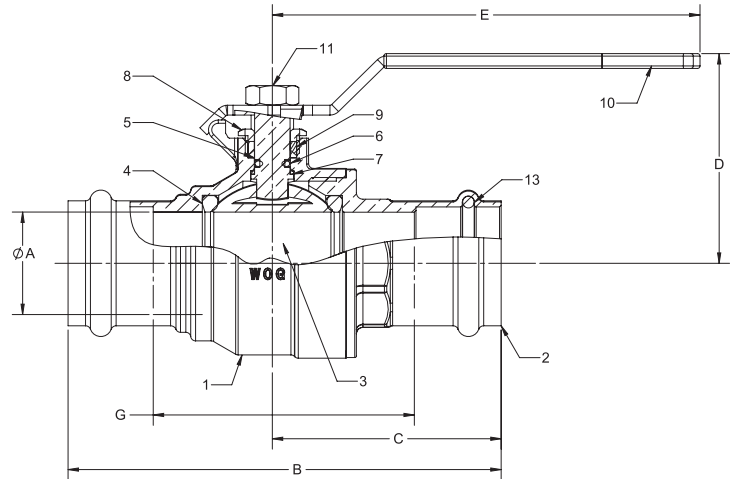
\*Not intended for use in potable water.

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	CP Brass Ball	B283
4	Ball Seat	RPTFE	Commercial
5	Stem	Brass	B124
6	Stem O-Ring	Buna-N	
7	Thrust Washer	PTFE	Commercial
8	Gland Nut	Brass	B124
9	Packing	PTFE	Commercial
10	Handle	Steel x/Zinc Plating	Commercial
11	Handle Nut	Steel x/Zinc Plating	Commercial
12	Tube O-Ring	EPDM	Commercial
13**	Backing Ring	Plastic	Commercial
14**	Gripping Ring	Stainless Steel	Commercial

\* UltraPress Valves are designed and qualified for use in copper tubing systems only, Types K, L, & M per ASTM B88.

\*\* For Installation Instructions please see engineering section on website.



\*\* 2 1/2" & 3" Requires XLC installation jaws.

## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50	2-1/2" DN65	3" DN80
A	INCHES	0.51	0.76	0.98	1.26	1.5	2.01	2.48	2.95
	mm	13	19	25	32	38	51	63	75
B	INCHES	3.16	3.71	4.28	5.2	6.31	7.44	8.23	9.13
	mm	80	94	109	132	160	189	209	232
C	INCHES	1.63	1.92	2.18	2.75	3.4	3.96	4.33	4.8
	mm	41	49	55	70	86	101	110	122
D	INCHES	1.62	2.01	2.21	2.46	2.62	3.13	3.86	4.21
	mm	41	51	56	63	67	80	98	107
E	INCHES	3.15	4.33	4.33	5.12	5.12	6.89	7.87	7.87
	mm	80	110	110	130	130	175	200	200
G	INCHES	1.52	1.73	2.31	3.16	3.49	4.28	3.98	4.76
	mm	39	44	59	80	89	109	101	121
Cv		18	40	72	112	161	287	448	645

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# BA-480BH\* 1/2"-3/4"



Tested and Certified by IAMPO R&T to:  
NSF/ANSI/CAN Z1157.

Brass Ball Valve  
Two Piece  
Full Port  
250 psig @ 250°F†  
Press x Hose Ends  
Blow-Out Proof Stem

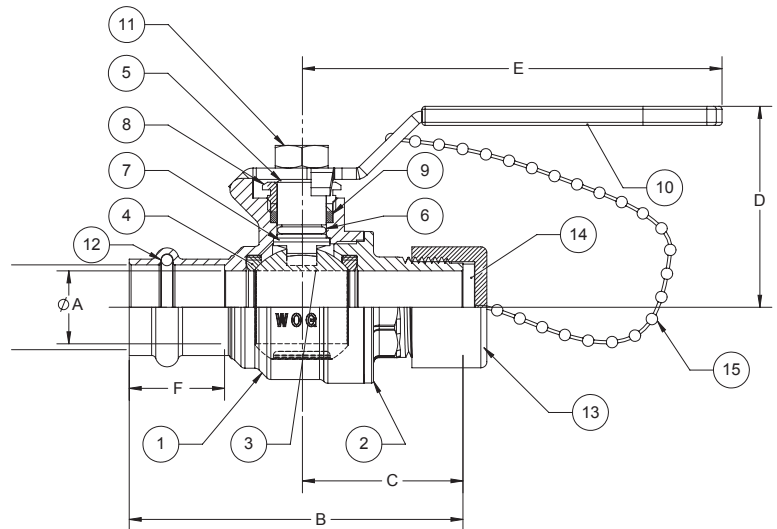
† Non-Shock

\*Not intended for use in potable water.

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	CP Brass Ball	B283
4	Ball Seat	PTFE	Commercial
5	Stem	Brass	B124
6	Stem O-Ring	Buna-N	
7	Thrust Washer	PTFE	Commercial
8	Gland Nut	Brass	B124
9	Packing	PTFE	Commercial
10	Handle	Steel x/Zinc Plating	Commercial
11	Handle Nut	Steel x/Zinc Plating	Commercial
12	Tube O-Ring	Plastic	Commercial
13	Hose Cap	Polypropylene	
14	Cap Gasket	EPDM	
15	Chain	Brass Bead	

\* UltraPress Valves are designed and qualified for use in copper tubing systems only, Types K, L, & M per ASTM B88.



**Do not pressurize cap.  
Pressure not to exceed 40 psi.**

## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20
A	INCHES	0.51	0.76
	mm	13	19
B	INCHES	3.06	3.5
	mm	78	90
C	INCHES	1.41	1.66
	mm	36	42
D	INCHES	1.62	2.01
	mm	41	51
E	INCHES	3.15	4.33
	mm	80	110
F	INCHES	0.82	0.99
	mm	21	25
Cv		18	40

NOTE: Pressure / Temperature ratings shown are for valve only. Hose side pressure and temperature limit is based on connected hose and is the users responsibility.

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# BA-480S\* 1/2"-2"



Tested and Certified by IAMPO R&T to:  
NSF/ANSI/CAN Z1157.

**Brass Ball Valve**  
**Two Piece**  
**Full Port**  
**250 psig @ 250°F†**  
**Press x Press Ends**  
**Blow-Out Proof Stem**

† Non-Shock

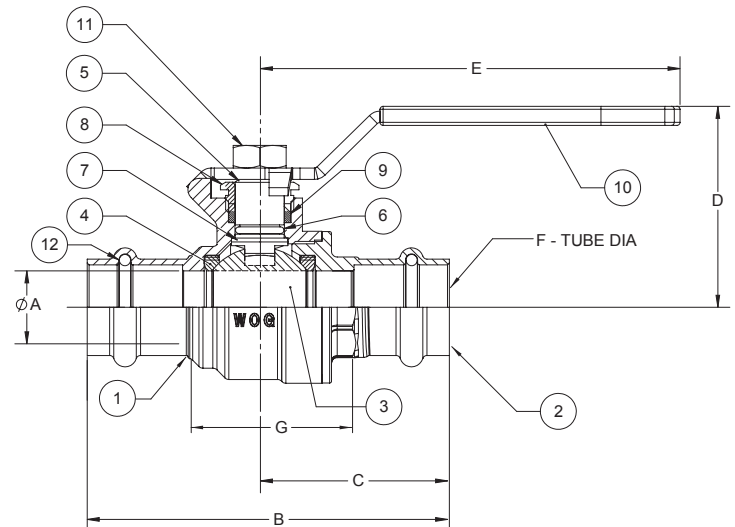
**\*Not intended for use in potable water.**

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	316 S.S.	A276
4	Ball Seat	PTFE	Commercial
5	Stem	316 S.S.	A276
6	Stem O-Ring	Buna-N	Commercial
7	Thrust Washer	PTFE	Commercial
8	Gland Nut	Brass	B124
9	Packing	PTFE	Commercial
10	Handle	Steel x/Zinc Plating	Commercial
11	Handle Nut	Steel x/Zinc Plating	Commercial

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\*\* For Installation Instructions please see engineering section on website.



## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50
A	INCHES	0.51	0.76	0.98	1.26	1.5	2.01
	mm	13	19	25	32	38	51
B	INCHES	3.16	3.71	4.28	5.2	6.31	7.44
	mm	80	94	109	132	160	189
C	INCHES	1.63	1.92	2.18	2.75	3.4	3.96
	mm	41	49	55	70	86	101
D	INCHES	1.62	2.01	2.21	2.46	2.62	3.13
	mm	41	51	56	63	67	80
E	INCHES	3.15	4.33	4.33	5.12	5.12	6.89
	mm	80	110	110	130	130	175
G	INCHES	1.52	1.73	2.31	3.16	3.49	4.28
	mm	39	44	59	80	89	109
Cv		18	40	72	112	161	287

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# BA-480SH\* 1/2"-3/4"



Tested and Certified by IAMPO R&T to:  
NSF/ANSI/CAN Z1157.

Brass Ball Valve  
Two Piece  
Full Port  
250 psig @ 250°F†  
Press x Hose Ends  
Blow-Out Proof Stem

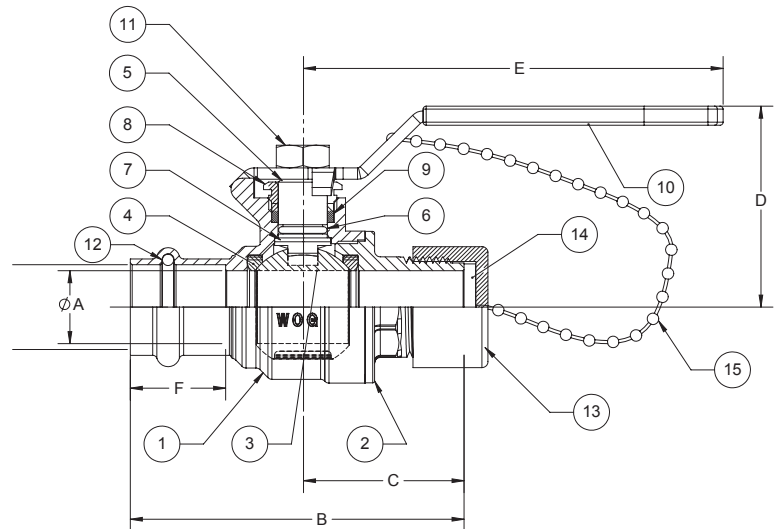
† Non-Shock

\*Not intended for use in potable water.

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	316 S.S.	A276
4	Ball Seat	PTFE	Commercial
5	Stem	316 S.S.	A276
6	Stem O-Ring	Buna-N	
7	Thrust Washer	PTFE	Commercial
8	Gland Nut	Brass	B124
9	Packing	PTFE	Commercial
10	Handle	Steel x/Zinc Plating	Commercial
11	Handle Nut	Steel x/Zinc Plating	Commercial
12	Tube O-Ring	Plastic	Commercial
13	Hose Cap	Polypropylene	
14	Cap Gasket	EPDM	
15	Chain	Brass Bead	

\* UltraPress Valves are designed and qualified for use in copper tubing systems only, Types K, L, & M per ASTM B88.



**Do not pressurize cap.  
Pressure not to exceed 40 psi.**

## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20
A	INCHES	0.51	0.76
	mm	13	19
B	INCHES	3.06	3.5
	mm	78	90
C	INCHES	1.41	1.66
	mm	36	42
D	INCHES	1.62	2.01
	mm	41	51
E	INCHES	3.15	4.33
	mm	80	110
F	INCHES	0.82	0.99
	mm	21	25
Cv		18	40

NOTE: Pressure / Temperature ratings shown are for valve only. Hose side pressure and temperature limit is based on connected hose and is the users responsibility.

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# BA-481B\* 1/2"-3"



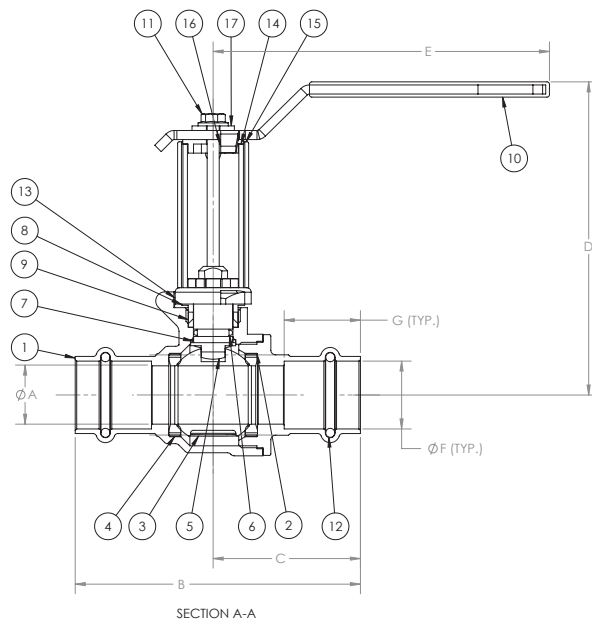
**Brass Ball Valve**  
**Two Piece**  
**Full Port**  
**200 psig @ 250°F†**  
**Press x Press Ends**  
**With Extension Stem & Memory Stop**  
**Blow-Out Proof Stem**

\*Not intended for use in potable water.

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	CP Brass Ball	B283
4	Ball Seat	PTFE	Commercial
5	Stem	Brass	B124
6	Stem O-Ring	Buna-N	
7	Thrust Washer	PTFE	Commercial
8	Gland Nut	Brass	B124
9	Packing	PTFE	Commercial
10	Handle	Steel w/Zinc Plating	B633
11	Handle Bolt	Steel w/Zinc Plating	Commercial
12	Tube O-Ring	EPDM	D2000 NSF61
13	Stem Stop Plate	Steel w/Zinc Plating	Commercial
14	Internal Extension Tube	Steel w/Zinc Plating	Commercial
15	External Extension Tube	Steel w/Zinc Plating	Commercial
16	Upper Stem Adaptor	Steel w/Zinc Plating	Commercial
17	Memory Stop	Steel w/Zinc Plating	Commercial

†UltraPress Valves are designed and qualified for use in copper tubing systems only, Types K & L per ASTM B88.



SECTION A-A

## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50	2-1/2" DN65	3" DN80
A-PORT DIA	INCHES	0.51	0.76	0.98	1.26	1.50	2.01	2.48	2.95
	mm	13	19	25	32	38	51	63	75
B	INCHES	3.16	3.71	4.28	5.20	6.31	7.44	8.23	9.13
	mm	80	94	109	132	160	189	209	232
C	INCHES	1.63	1.92	2.18	2.75	3.40	3.96	4.33	4.80
	mm	41	49	55	70	86	101	110	122
D	INCHES	3.87	4.26	4.46	4.71	4.87	5.38	6.19	6.37
	mm	98	108	113	120	124	137	157	162
E	INCHES	3.15	4.33	4.33	5.12	5.12	6.89	7.87	7.87
	mm	80	110	110	130	130	175	200	200
G	INCHES	1.52	1.73	2.31	3.16	3.49	4.28	3.98	4.76
	mm	39	44	59	80	89	109	101	121
Cv		18	40	72	112	161	287	448	645

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⚠ State of California Prop 65 **WARNING:** Cancer and Reproductive Harm. For more information visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

# BA-481S\* 1/2"-2"



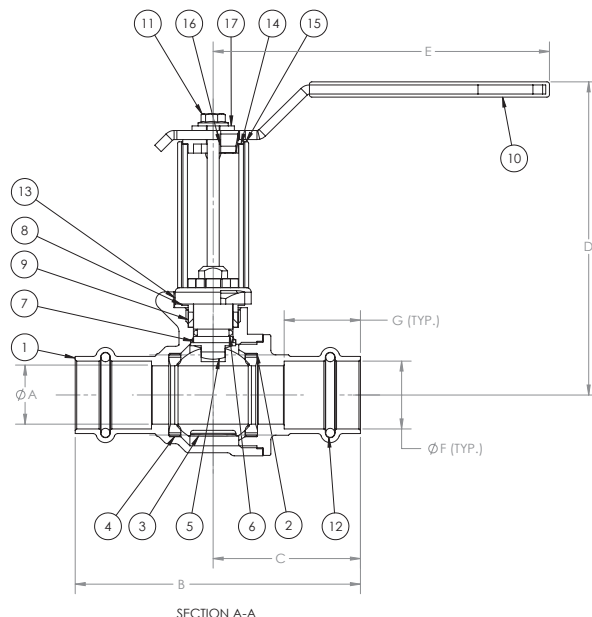
**Brass Ball Valve**  
**Two Piece**  
**Full Port**  
**200 psig @ 250°F†**  
**Press x Press Ends**  
**With Extension Stem & Memory Stop**  
**Blow-Out Proof Stem**

\*Not intended for use in potable water.

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	316 S.S.	A276
4	Ball Seat	PTFE	Commercial
5	Stem	316 S.S.	A276
6	Stem O-Ring	Buna-N	
7	Thrust Washer	PTFE	Commercial
8	Gland Nut	Brass	B124
9	Packing	PTFE	Commercial
10	Handle	Steel w/Zinc Plating	B633
11	Handle Bolt	Steel w/Zinc Plating	Commercial
12	Tube O-Ring	EPDM	D2000 NSF61
13	Stem Stop Plate	Steel w/Zinc Plating	Commercial
14	Internal Extension Tube	Steel w/Zinc Plating	Commercial
15	External Extension Tube	Steel w/Zinc Plating	Commercial
16	Upper Stem Adaptor	Steel w/Zinc Plating	Commercial
17	Memory Stop	Steel w/Zinc Plating	Commercial

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SECTION A-A

## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50
A-PORT DIA	INCHES	0.51	0.76	0.98	1.26	1.50	2.01
	mm	13	19	25	32	38	51
B	INCHES	3.16	3.71	4.28	5.20	6.31	7.44
	mm	80	94	109	132	160	189
C	INCHES	1.63	1.92	2.18	2.75	3.40	3.96
	mm	41	49	55	70	86	101
D	INCHES	3.87	4.26	4.46	4.71	4.87	5.38
	mm	98	108	113	120	124	137
E	INCHES	3.15	4.33	4.33	5.12	5.12	6.89
	mm	80	110	110	130	130	175
G	INCHES	1.52	1.73	2.31	3.16	3.49	4.28
	mm	39	44	59	80	89	109
Cv		18	40	72	112	161	287

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⚠ State of California Prop 65 **WARNING:** Cancer and Reproductive Harm. For more information visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

# BA-490B\* 1/2"-2"



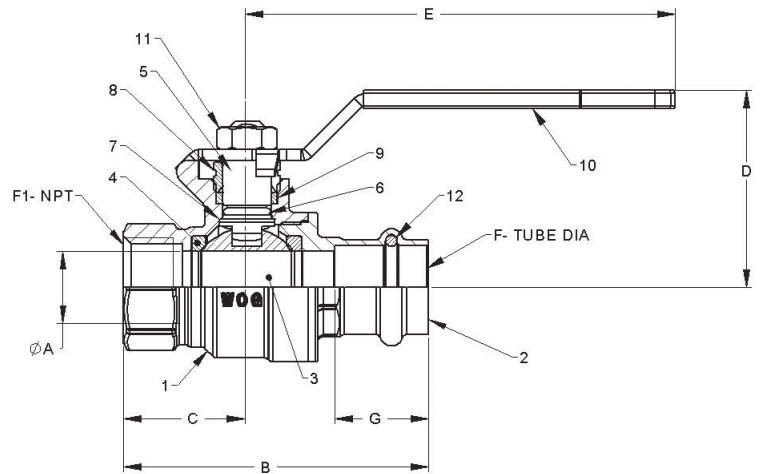
Brass Ball Valve  
Two Piece  
Full Port  
200 psig @ 250°F†  
Press x Threaded Ends  
Blow-Out Proof Stem

\*Not intended for use in potable water.

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	CP Brass Ball	B283
4	Ball Seat	PTFE	Commercial
5	Stem	Brass	B124
6	Stem O-Ring	Buna-N	
7	Thrust Washer	PTFE	Commercial
8	Gland Nut	Brass	B124
9	Packing	PTFE	Commercial
10	Handle	Steel w/Zinc Plating	Commercial
11	Handle Nut	Steel w/Zinc Plating	Commercial
12	Tube O-Ring	Plastic	D2000 NSF61

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## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50
A-PORT DIA	INCHES	0.51	0.76	0.98	1.26	1.50	2.00
	mm	13	19	25	32	38	51
B	INCHES	2.77	3.23	3.71	4.12	4.86	6.14
	mm	70	82	94	105	123	156
C	INCHES	1.14	1.31	1.53	1.71	1.88	2.19
	mm	29	33	39	43	48	56
D	INCHES	1.46	1.93	2.10	2.33	2.52	2.96
	mm	37	49	53	59	64	75
E	INCHES	3.14	4.35	4.35	5.00	5.00	6.90
	mm	80	110	110	127	127	175
F-TUBE DIA	INCHES	0.63	0.88	1.13	1.38	1.63	2.13
	mm	15	20	25	32	40	50
F1 NPT	INCHES	1/2"-14	3/4"-14	1"-11.5	1-1/4"-11.5	1-1/2"-11.5	2"-11.5
G	INCHES	0.83	1.00	1.00	1.02	1.42	1.57
	mm	21	25	25	26	36	40
Cv		18	40	72	112	161	287

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# BA-490S\* 1/2"-2"



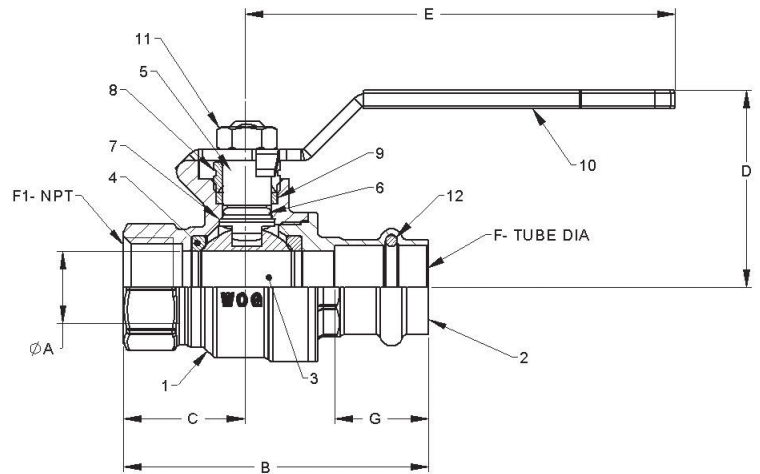
Brass Ball Valve  
Two Piece  
Full Port  
200 psig @ 250°F†  
Press x Threaded Ends  
Blow-Out Proof Stem

\*Not intended for use in potable water.

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	316 S.S.	A276
4	Ball Seat	PTFE	Commercial
5	Stem	316 S.S.	A276
6	Stem O-Ring	Buna-N	
7	Thrust Washer	PTFE	Commercial
8	Gland Nut	Brass	B124
9	Packing	PTFE	Commercial
10	Handle	Steel w/Zinc Plating	Commercial
11	Handle Bolt	Steel w/Zinc Plating	Commercial
12	Tube O-Ring	EPDM	D2000 NSF61

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## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50
A-PORT DIA	INCHES	0.51	0.76	0.98	1.26	1.50	2.00
	mm	13	19	25	32	38	51
B	INCHES	2.77	3.23	3.71	4.12	4.86	6.14
	mm	70	82	94	105	123	156
C	INCHES	1.14	1.31	1.53	1.71	1.88	2.19
	mm	29	33	39	43	48	56
D	INCHES	1.46	1.93	2.10	2.33	2.52	2.96
	mm	37	49	53	59	64	75
E	INCHES	3.14	4.35	4.35	5.00	5.00	6.90
	mm	80	110	110	127	127	175
F-TUBE DIA	INCHES	0.63	0.88	1.13	1.38	1.63	2.13
	mm	15	20	25	32	40	50
F1 NPT	Inches	1/2"-14	3/4"-14	1"-11.5	1-1/4"-11.5	1-1/2"-11.5	2"-11.5
G	INCHES	0.83	1.00	1.00	1.02	1.42	1.57
	mm	21	25	25	26	36	40
Cv		18	40	72	112	161	287

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# BA-491B\* 1/2"-2"



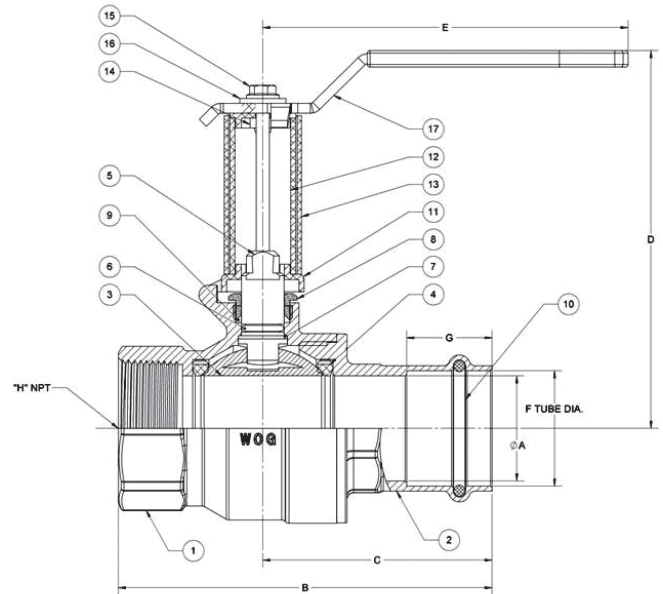
Brass Ball Valve  
Two Piece  
Full Port  
200 psig @ 250°F†  
Press x Threaded Ends  
With Extension Stem & Memory Stop  
Blow-Out Proof Stem

\*Not intended for use in potable water.

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	CP Brass Ball	B283
4	Ball Seat	PTFE	Commercial
5	Stem	Brass	B124
6	Stem O-Ring	Buna-N	
7	Thrust Washer	PTFE	Commercial
8	Gland Nut	Brass	B124
9	Packing	PTFE	Commercial
10	Handle	Steel w/Zinc Plating	B633
11	Handle Bolt	Steel w/Zinc Plating	Commercial
12	Tube O-Ring	EPDM	D2000 NSF61
13	Stem Stop Plate	Steel w/Zinc Plating	Commercial
14	Internal Extension Tube	Steel w/Zinc Plating	Commercial
15	External Extension Tube	Steel w/Zinc Plating	Commercial
16	Upper Stem Adaptor	Steel w/Zinc Plating	Commercial
17	Memory Stop	Steel w/Zinc Plating	Commercial

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## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50
A-PORT DIA	INCHES	0.51	0.76	0.98	1.26	1.50	2.01
	mm	13	19	25	32	38	51
B	INCHES	2.76	3.58	3.98	4.51	5.50	6.44
	mm	70	91	101	115	140	164
C	INCHES	1.63	1.92	2.18	2.75	3.46	3.46
	mm	41	49	55	70	88	88
D	INCHES	3.55	4.08	4.28	4.53	4.65	5.13
	mm	90	104	109	115	118	130
E	INCHES	3.28	4.38	4.38	4.38	6.97	6.97
	mm	83	111	111	111	177	177
F TUBE Ø	INCHES	0.63	0.88	1.13	1.38	1.64	2.13
	mm	16	22	29	35	42	54
G	INCHES	0.83	0.99	0.99	1.02	1.42	1.58
	mm	21	25	25	26	36	40
H	THRD SIZE	1/2" NPT	3/4" NPT	1" NPT	1-1/4" NPT	1-1/2" NPT	2" NPT
Cv		18	40	72	112	161	287

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# BA-491S\* 1/2"-2"



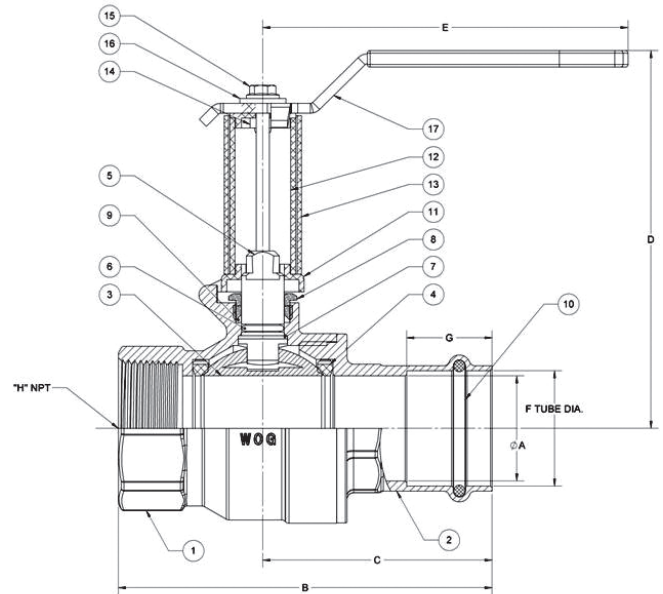
Brass Ball Valve  
Two Piece  
Full Port  
200 psig @ 250°F†  
Press x Threaded Ends  
With Extension Stem & Memory Stop  
Blow-Out Proof Stem

\*Not intended for use in potable water.

## MATERIALS LIST

ITEM	PART	MATERIALS	ASTM SPEC.
1	Body	Brass, Forged	B283
2	Tailpiece	Brass, Forged	B283
3	Ball	316 S.S.	A276
4	Ball Seat	PTFE	Commercial
5	Stem	316 S.S.	A276
6	Stem O-Ring	Buna-N	
7	Thrust Washer	PTFE	Commercial
8	Gland Nut	Brass	B124
9	Packing	PTFE	Commercial
10	Handle	Steel w/Zinc Plating	B633
11	Handle Bolt	Steel w/Zinc Plating	Commercial
12	Tube O-Ring	EPDM	D2000 NSF61
13	Stem Stop Plate	Steel w/Zinc Plating	Commercial
14	Internal Extension Tube	Steel w/Zinc Plating	Commercial
15	External Extension Tube	Steel w/Zinc Plating	Commercial
16	Upper Stem Adaptor	Steel w/Zinc Plating	Commercial
17	Memory Stop	Steel w/Zinc Plating	Commercial

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## DIMENSIONS

	UNITS	1/2" DN15	3/4" DN20	1" DN25	1-1/4" DN32	1-1/2" DN40	2" DN50
A-PORT DIA	INCHES	0.51	0.76	0.98	1.26	1.50	2.01
	mm	13	19	25	32	38	51
B	INCHES	2.76	3.58	3.98	4.51	5.50	6.44
	mm	70	91	101	115	140	164
C	INCHES	1.63	1.92	2.18	2.75	3.46	3.46
	mm	41	49	55	70	88	88
D	INCHES	3.55	4.08	4.28	4.53	4.65	5.13
	mm	90	104	109	115	118	130
E	INCHES	3.28	4.38	4.38	4.38	6.97	6.97
	mm	83	111	111	111	177	177
F TUBE Ø	INCHES	0.63	0.88	1.13	1.38	1.64	2.13
	mm	16	22	29	35	42	54
G	INCHES	0.83	0.99	0.99	1.02	1.42	1.58
	mm	21	25	25	26	36	40
H	THRD SIZE	1/2" NPT	3/4" NPT	1" NPT	1-1/4" NPT	1-1/2" NPT	2" NPT
Cv		18	40	72	112	161	287

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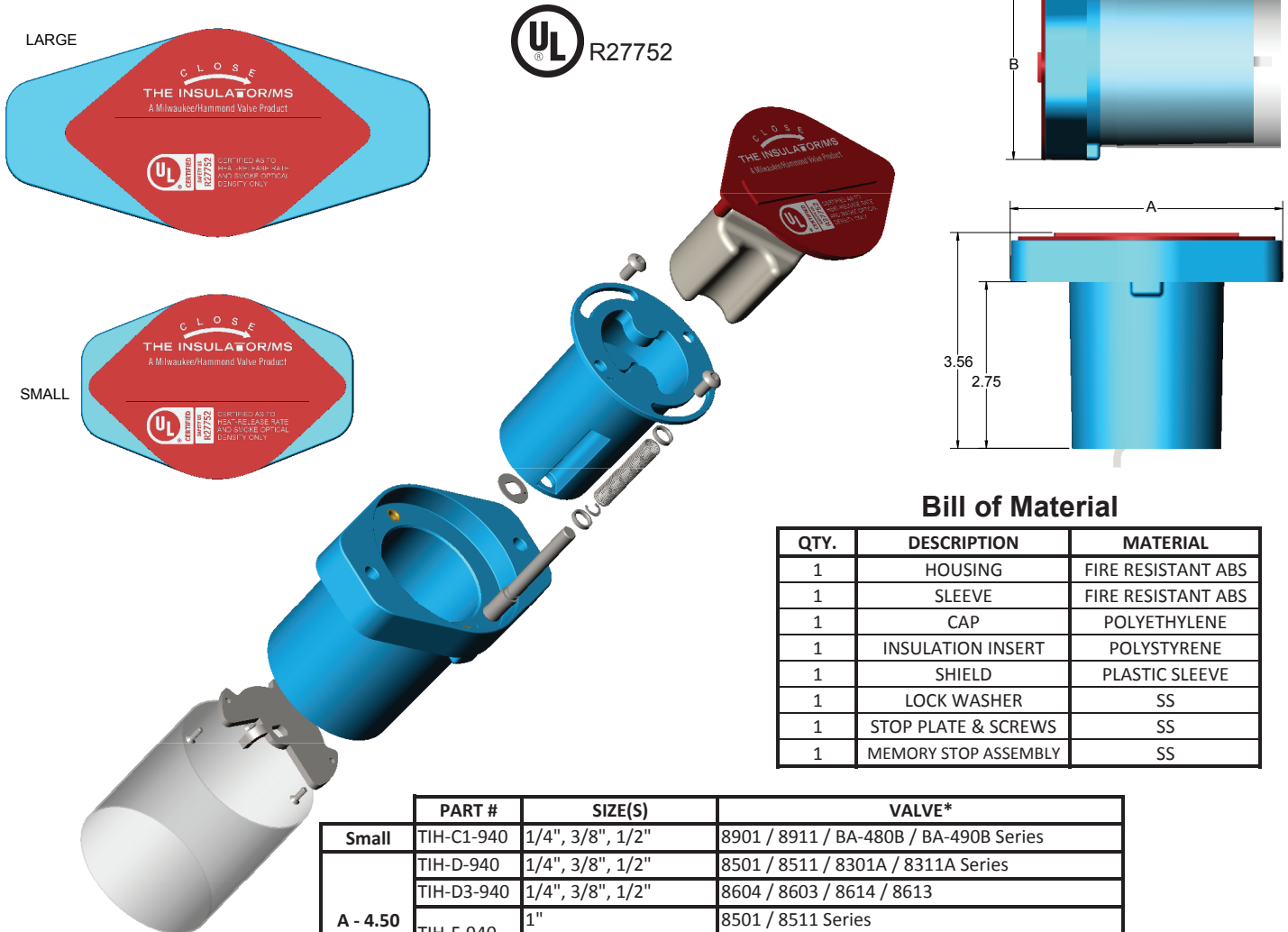
⚠ State of California Prop 65 **WARNING:** Cancer and Reproductive Harm. For more information visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

# THE INSULATOR/MS®

## Bronze & Brass Ball Valves

Hammond Valve's insulated extension handle is designed to prevent condensation and other extraneous moisture from entering your insulated piping system, while also minimizing thermal energy loss from the system via metal extension tubes, levers, and similar parts.

Our handle design incorporates a unique memory stop feature that requires no disassembly or removal of the handle to engage and make adjustments.



### Bill of Material

QTY.	DESCRIPTION	MATERIAL
1	HOUSING	FIRE RESISTANT ABS
1	SLEEVE	FIRE RESISTANT ABS
1	CAP	POLYETHYLENE
1	INSULATION INSERT	POLYSTYRENE
1	SHIELD	PLASTIC SLEEVE
1	LOCK WASHER	SS
1	STOP PLATE & SCREWS	SS
1	MEMORY STOP ASSEMBLY	SS

	PART #	SIZE(S)	VALVE*
Small	TIH-C1-940	1/4", 3/8", 1/2"	8901 / 8911 / BA-480B / BA-490B Series
	TIH-D-940	1/4", 3/8", 1/2"	8501 / 8511 / 8301A / 8311A Series
	TIH-D3-940	1/4", 3/8", 1/2"	8604 / 8603 / 8614 / 8613
A - 4.50	TIH-F-940	1"	8501 / 8511 Series
	TIH-F3-940	3/4"	8501 / 8511 / 8301A / 8311A Series
	TIH-H1-940	3/4", 1", 1 1/4", 1 1/2"	8901 / 8911 / BA-480B / BA-490B Series
	TIH-J-940	2"	8501 / 8511 Series
B - 3.06	TIH-J1-940	1 1/4", 1 1/2"	8501 / 8511 / 8301A / 8311A Series
	TIH-J3-940	1"	8301A / 8311A Series
Large	TIH-K-940	2"	8901 / 8911 / BA-480B / BA-490B Series
	TIH-K3-940	2"	8604 / 8603 / 8614 / 8613
	TIH-K-940	2"	8301A / 8311A Series
	TIH-K3-940	2"	8604 / 8603 / 8614 / 8613

To order factory assembled to the valve suffix 16

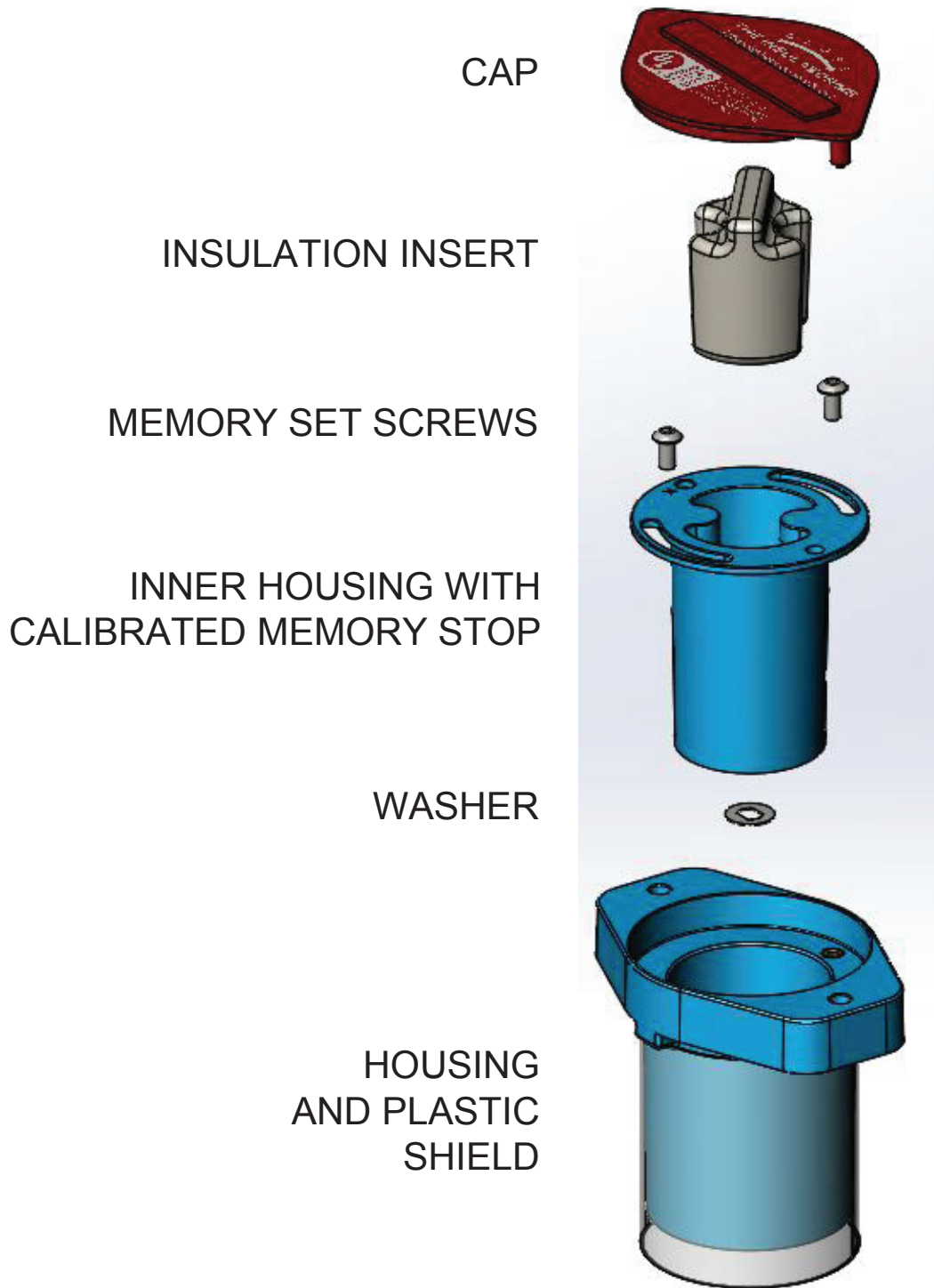
TIH handle is rated to 275°F. Installation of Solder end valves with the TIH installed: slide the plastic sleeve up to avoid contact with the valve body, wrap the TIH handle with a damp cloth to protect and draw heat away while directing the flame away from the center of the valve during heating.

\*Will fit our equivalent Ultrapure Low Lead Valves.

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# THE INSULATOR/MS<sup>®</sup> \*



\* To order factory assembled to the valve use suffix 16 (Threaded Only) Hammond Valve will not factory install Insulator/MS handle on solder end valves.

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# OPTIONS

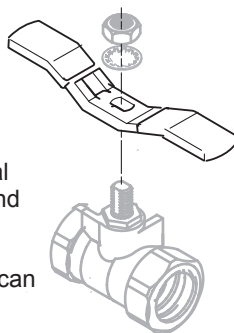
8201/8211  
8901/8911  
BA480B/BA490B

## 02 Memory Stop

The “02” Memory Stop provides an adjustable stop when the valve is used in a balancing application. The memory stop can be set to any preset opening point.

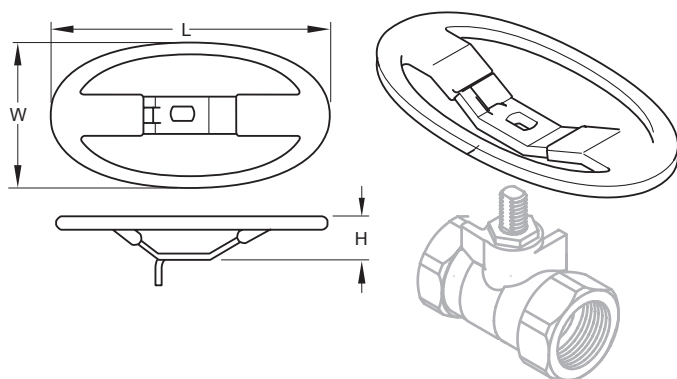
## 03 Tee Handle

Tee handles offer the same installation space savings as oval handles, with a slightly shorter end to end dimension. Tee handles require more handle force to operate, so accidental openings can be reduced.



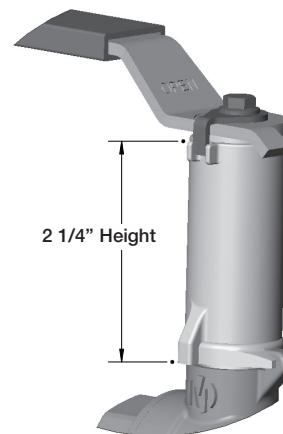
## 04 Oval Handle

Oval handles can be installed where a standard lever handle might encounter interference from adjoining piping. Oval handles can also prevent accidental valve operations, since they have less projection than a lever handle, and require more turning force to operate.



## 06 Extension Handle With Memory Stop

The “06” stem extension is simple and effective design. This option is designed for installations where pipe insulation would make standard handles inoperable.

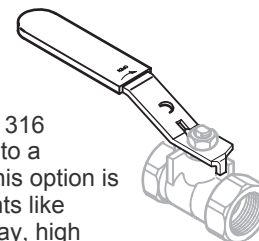


## 07 Locking Lever Handle



## 08 Stainless Steel Handle

The “08” handle option adds a 316 stainless steel handle and nut to a standard bronze ball valve. This option is intended for harsh environments like areas subject to salt water spray, high humidity, cleaning chemicals, etc.



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# OPTIONS

8301A/8303A

8501/8503

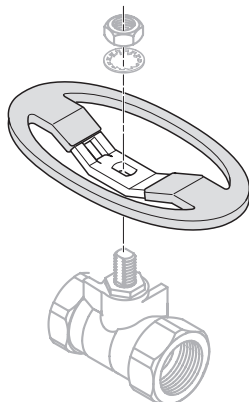
8604/8603

## 16 THE INSULATOR/MS® Extension Handle

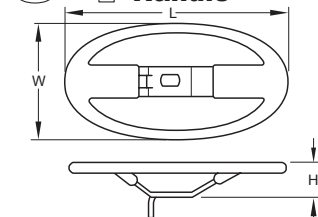
The **THE INSULATOR/MS®** extension handle is designed to prevent condensation and other extraneous moisture from entering the insulated piping system, while also minimizing thermal energy loss from the system via metal extension tubes, levers, and similar parts.



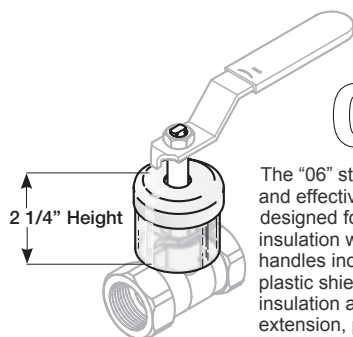
The design incorporates a unique memory stop feature that requires no disassembly or removal of the handle to engage and make adjustments.



## 04 Oval Handle



Oval handles can also prevent accidental valve operations, since they have less projection than a lever handle, and require more turning force to operate. OSHA requires the use of oval handles in many installations for safety reasons.

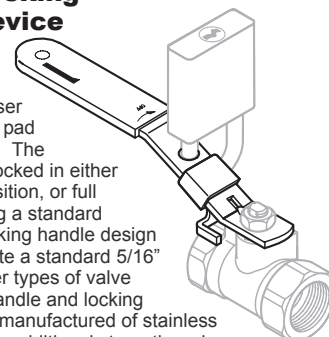


## 06 Extension Stem

The "06" stem extension is simple and effective design. This option is designed for installations where pipe insulation would make standard handles inoperable. The external plastic shield helps to keep the insulation away from the stem extension, providing years of trouble free operation.

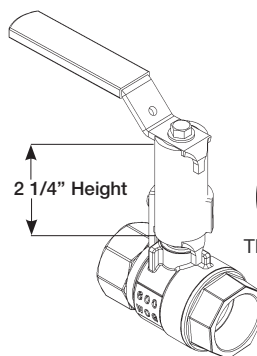
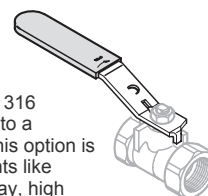
## 07 Locking Device

The "07" Locking Handle offers the end user the security of a pad lockable handle. The handle can be locked in either the full open position, or full closed by adding a standard padlock. The locking handle design will accommodate a standard 5/16" pad-lock or other types of valve lockouts. The handle and locking device are also manufactured of stainless steel material for additional strength and corrosion resistance.



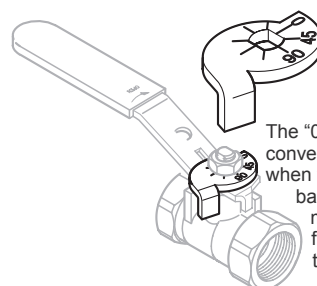
## 08 Stainless Steel Handle

The "08" handle option adds a 316 stainless steel handle and nut to a standard bronze ball valve. This option is intended for harsh environments like areas subject to salt water spray, high humidity, cleaning chemicals, etc.



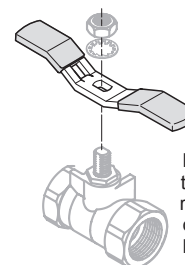
## 09 Extension Handle with Memory Stop

The "09" stem extension is all-metallic with an adjustable memory stop. This option is designed for installations where pipe insulation would make standard handles inoperable. The adjustable memory stop allows the valve opening to be limited to a preset position. This option can be ordered with or without the memory stop.



## 02 Memory Stop

The "02" Memory Stop offers the convenience of a preset stop when the valve is used in a balancing application. The memory stop can be set from the full closed position, to any preset opening point.



## 03 Tee Handle

Tee handles offer the same installation space savings as oval handles, with a slightly shorter end to end dimension. Tee handles require more handle force to operate, so accidental openings can be reduced.

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⚠ State of California Prop 65 **WARNING:** Cancer and Reproductive Harm. For more information visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



# 8400 Series Ball Valve

## Hammond Valve Company

### 8423/8433 CS/SS

## 2-piece Standard Port NPT Ball Valve



\* Valve shown with optional locking handle

### Features and Benefits

- Multiple V-Ring Stem Packing Arrangement for longer packing life
- Vent Hole in Ball Slot for Cavity Venting
- Mounting Pad for Easy Actuation
- PTFE Body Seal
- NACE Compliant for Sour Gas Service
- Blow-out Proof Stem
- Cantilever Seat Design for Low Operating Torque
- Meets Latest ASME, MSS-SP and ASTM Specifications

### Options Available

- Locking Lever Handle and Ovals
- Pneumatic and Electric Actuation

### Materials of Construction

- WCB Carbon Steel or CF8M Stainless Steel
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seats: Teflon®-75 (M-PTFE)
- Packing: PTFE/Graphite
- Handles: Stainless Steel

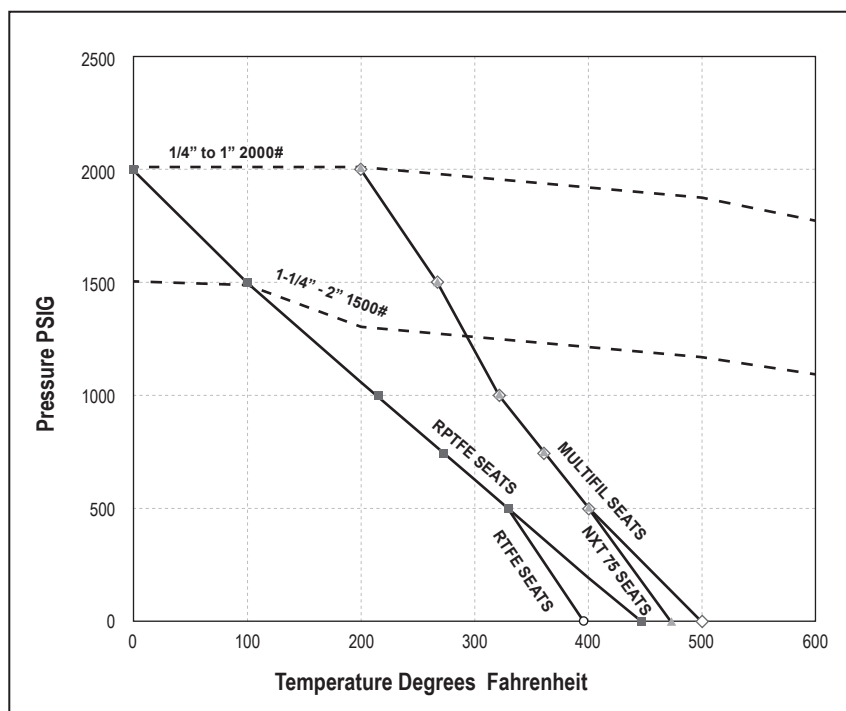
VALVE SIZE	MAXIMUM BREAKAWAY TORQUE (in lbs.)	Cv
1/4 - 3/8	20	6.8
1/2	40	9.6
3/4	50	25
1	100	35
1 - 1/4	140	47
1 - 1/2	190	81
2	240	105

### Specifications

- Valves Sizes 1/4" through 2.0"
- Meets MSS-SP-110
- Valves Meet NACE MRO175
- 250 psi Steam Rating w/ 03 Multi-Fil Seats

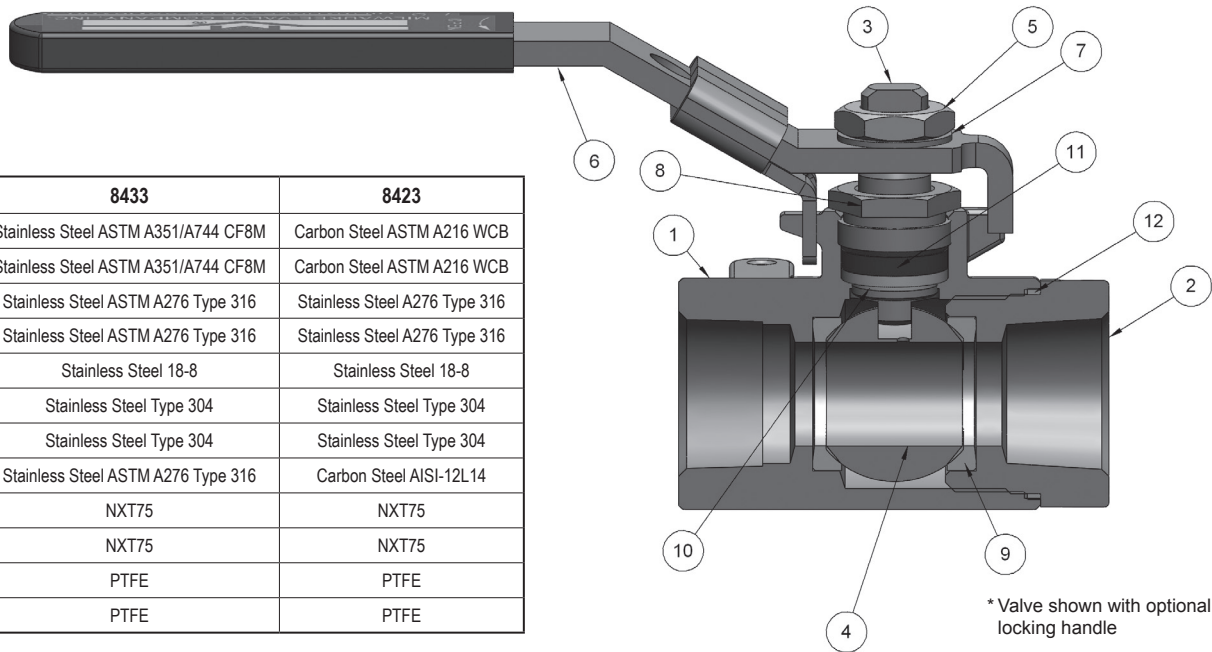
Pressure Ratings:	psi
1/4" Through 1"	2000
1-1/4" Through 2"	1500

Valve is rated 150 psi Steam @ 365°F. Multi-Fil PTFE Suitable for Steam Applications > 150 psi.



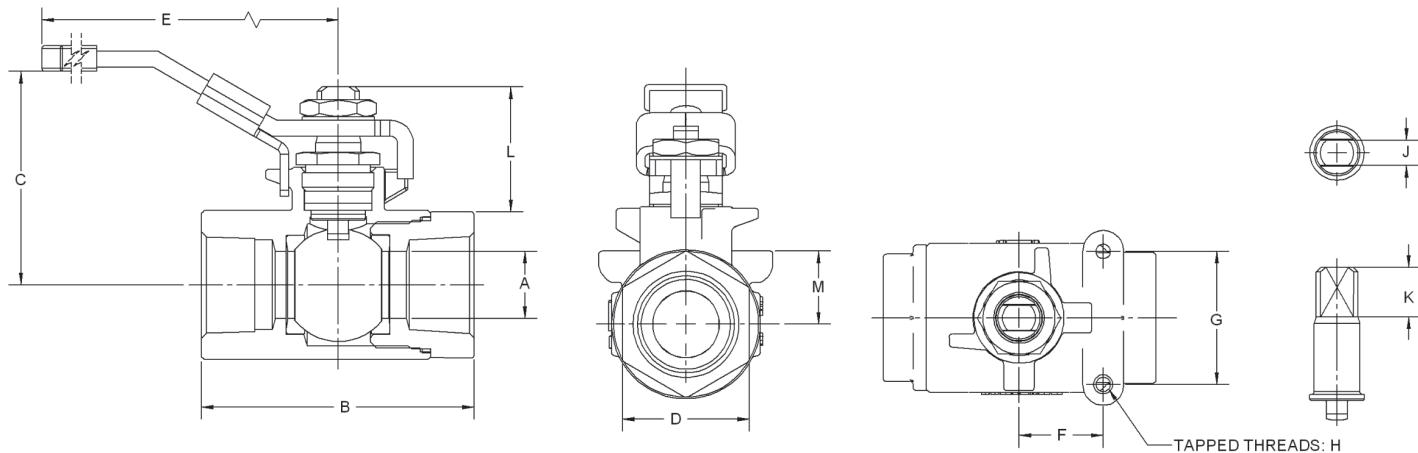
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## 8423 and 8433 NPT Ball Valve



## Material List

Item	Description	8433	8423
1	Body	Stainless Steel ASTM A351/A744 CF8M	Carbon Steel ASTM A216 WCB
2	Tailpiece	Stainless Steel ASTM A351/A744 CF8M	Carbon Steel ASTM A216 WCB
3	Stem	Stainless Steel ASTM A276 Type 316	Stainless Steel A276 Type 316
4	Ball	Stainless Steel ASTM A276 Type 316	Stainless Steel A276 Type 316
5	Handle Nut	Stainless Steel 18-8	Stainless Steel 18-8
6	Handle Assembly	Stainless Steel Type 304	Stainless Steel Type 304
7	Lock Washer	Stainless Steel Type 304	Stainless Steel Type 304
8	Packing Nut	Stainless Steel ASTM A276 Type 316	Carbon Steel AISI-12L 14
9	Seat	NXT75	NXT75
10	Thrust Washer	NXT75	NXT75
11	Packing	PTFE	PTFE
12	Body Seal*	PTFE	PTFE



### Dimensions - Inches and Millimeters (8400 - Series Ball Vavles)

SIZE	1/4"		3/8"		1/2"		3/4"		1"		1-1/4"		1-1/2"		2"	
	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM
A	0.375	9.530	0.375	9.530	0.500	12.70	0.687	17.45	0.875	22.23	1.000	25.40	1.250	31.75	1.500	38.10
B	2.090	53.090	2.090	53.090	2.360	59.94	2.800	71.12	3.250	82.04	3.620	91.95	4.060	103.12	4.650	118.11
C	1.650	41.910	1.650	41.910	1.770	44.96	2.050	52.07	2.240	56.90	2.480	62.99	2.680	68.07	2.910	73.91
D	0.820	20.830	0.820	20.830	1.060	26.92	1.340	34.04	1.620	41.15	1.880	47.75	2.250	57.15	2.750	69.85
E	4.187	106.350	4.187	106.350	4.187	106.35	5.750	146.05	5.750	146.05	7.625	193.68	7.625	193.68	7.625	193.68
F	0.500	12.700	0.500	12.700	0.500	12.70	0.870	22.01	0.870	22.01	0.930	23.62	0.930	23.62	0.930	23.62
G	1.120	28.450	1.120	28.450	1.120	28.45	1.370	34.80	1.370	34.80	1.500	38.10	1.500	38.10	1.500	38.10
H	10-24NC		10-24NC		10-24NC		10-24NC		10-24NC		10-24NC		1/4-20NC		1/4-20NC	
J	0.196	4.980	0.196	4.980	0.196	4.98	0.275	6.99	0.275	6.99	0.355	9.02	0.355	9.02	0.355	9.02
K	0.390	9.910	0.390	9.910	0.390	9.91	0.560	14.22	0.560	14.22	0.650	16.51	0.650	16.51	0.650	16.51
L	0.875	22.230	0.875	22.230	1.000	24.40	1.250	31.75	1.250	31.75	1.375	34.93	1.375	34.93	1.375	34.93

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## HAMMOND VALVE