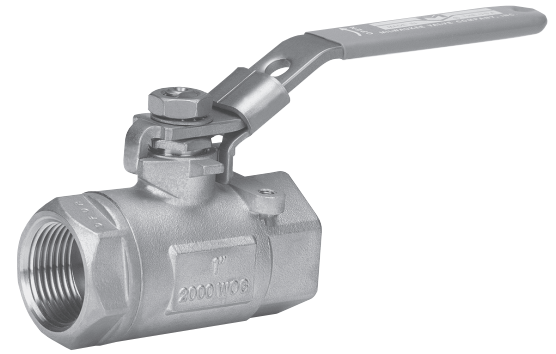


# 20/22 Series Ball Valve

## Milwaukee Valve Company

### 20CC/CS/SS and 22CC/CS/SS



## 2 Piece Standard Port NPT Ball Valve

### Features and Benefits

- Locking lever for safety lockout
- 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/except on 22 series
- NACE Compliant for sour gas service
- Blow-out proof stem
- Cantilever seat design for low operating torque
- 22 series offers sealed welded body to tailpiece construction
- Meets latest ASME, MSS-SP and ASTM specifications

### Specifications

- Valves Sizes 1/4" through 2.0"
- Meets MSS-SP-110
- Valves meet NACE MRO175
- 250 psi steam rating w/ 03 Multifil seats

### Operators Available

- Locking lever handle and ovals
- Pneumatic and Electric Actuation

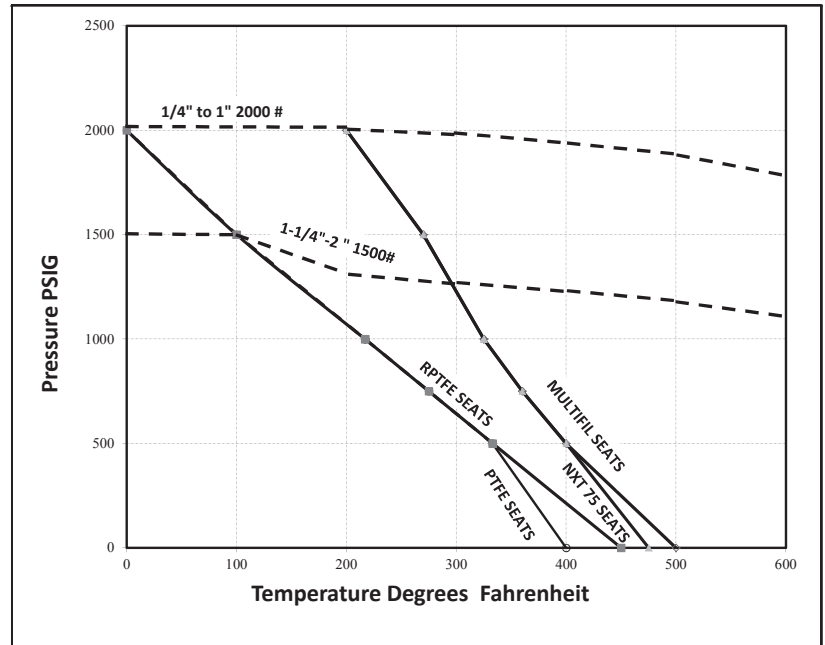
### Materials of Construction

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

VALVE SIZE	MAXIMUM BREAKAWAY TORQUE (in lbs.)	Cv
1/4 - 3/8	20	6.8
1/2	40	9.8
3/4	50	25
1	100	35
1 - 1/4	140	47
1 - 1/2	190	81
2	240	105

Pressure Ratings:	PSI
1/4" through 1"	2000
1-1/4" through 2"	1500

Valve is rated 150 psi steam @ 365°F



#### How To Order Milwaukee Valve 20 Series Two Piece Ball Valve

Series	Body Material	Ball / Stem Material	End Connection Type	Port Size	Seat Material	External Options	Internal Options	Size
XX	X	X	X	X	XX	XX	XX	XXX
20 - Two piece Adaptor Loaded	C - Carbon Steel (WCB)	S - Stainless Steel (316)	0 - FNPT	R - Reduced	N1 - NXT Standard seat 01 - Virgin PTFE 02 - Reinforced PTFE (15% Gls.) 03 - Multi-Fill PTFE (steam seat 250 psi)	LL - Stainless Latch-Lock Handle LS - SS Spring Loaded Latch Lock LO - SS Locking Spring Loaded Oval OS - Stainless Oval Handle XH - Extended Handle (2")	AD - Assemble Dry GB - Grounded Ball GS - Grounded Stem VB - Vented Ball	014 - 1/4" 038 - 3/8" 012 - 1/2" 034 - 3/4" 100 - 1" 114 - 1-1/4" 112 - 1-1/2" 200 - 2"
22 - Two piece Seal-Welded	S - Stainless Steel (CF8M)	C - Carbon Steel						

#### Example Product Numbers

20CSOR-N1-LL 34 (3/4" Two Piece Adaptor Loaded Reduced Port Carbon Steel Body, Stainless Trim, Female NPT End Pieces, NXT. Seats, SS Latch-Lock Handle.)  
 20CSOR-N1-LL-VB 34 (3/4" Two Piece Adaptor Loaded Reduced Port Carbon Steel Body, Stainless Trim, Female NPT End Pieces, NXT. Seats, SS Latch-Lock Handle, Vented Ball)

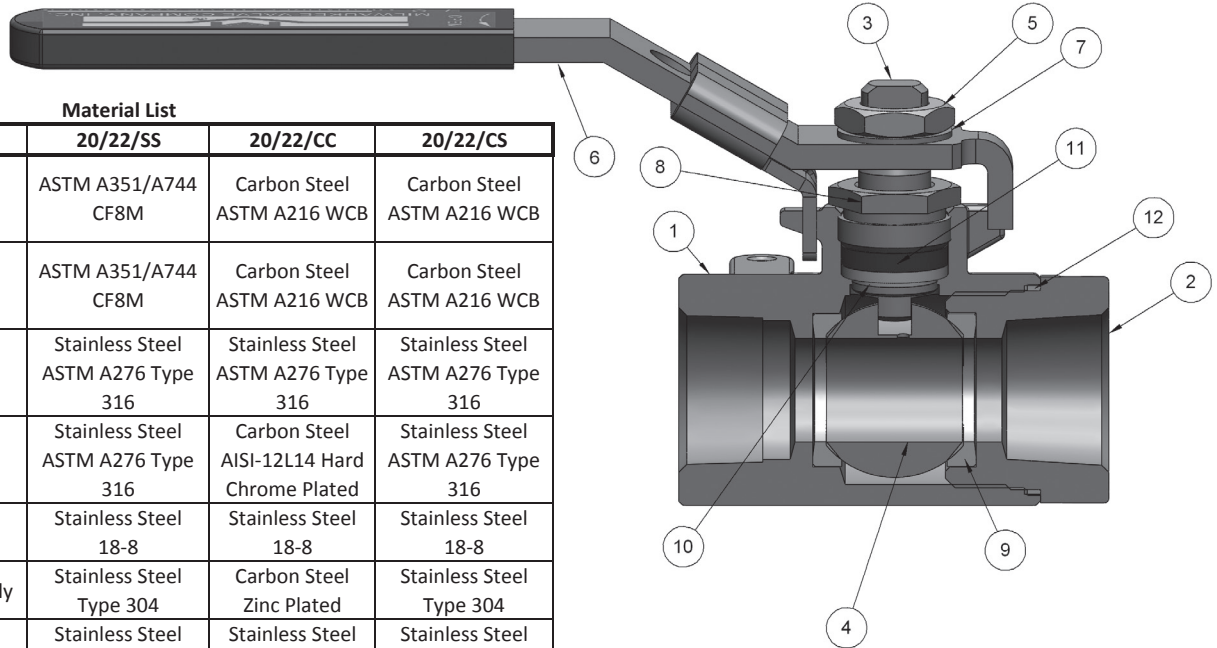
Teflon is a registered trademark of Dupont.

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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).

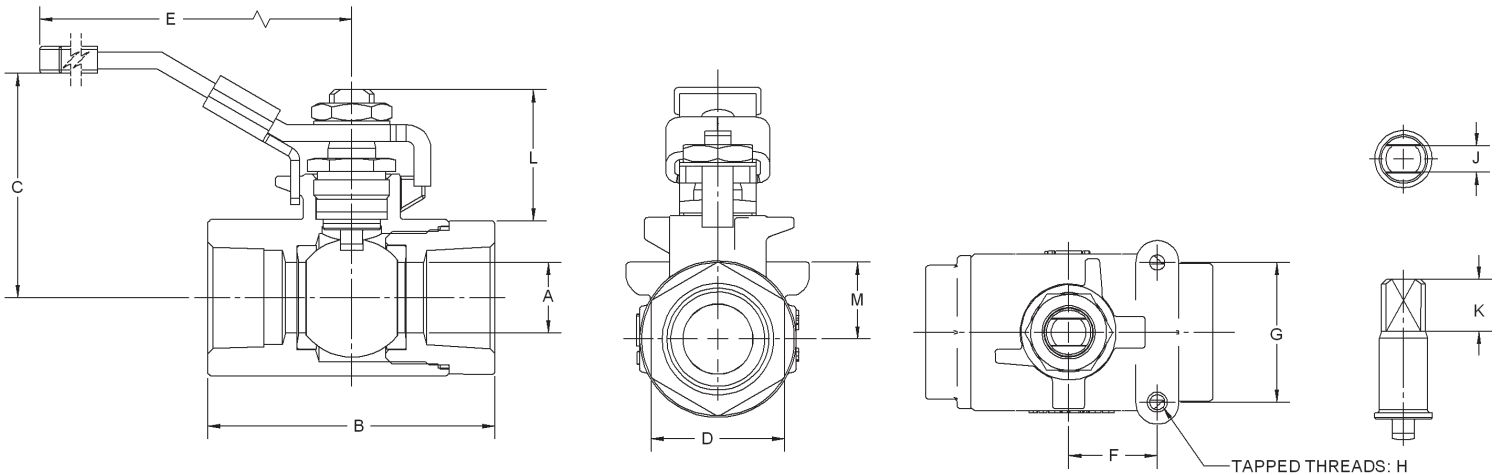


# 20CC/CS/SS and 22CC/CS/SS NPT Ball Valve



### Material List

Item	Description	20/22/SS	20/22/CC	20/22/CS
1	Body	ASTM A351/A744 CF8M	Carbon Steel ASTM A216 WCB	Carbon Steel ASTM A216 WCB
2	Tailpiece	ASTM A351/A744 CF8M	Carbon Steel ASTM A216 WCB	Carbon Steel ASTM A216 WCB
3	Stem	Stainless Steel ASTM A276 Type 316	Stainless Steel ASTM A276 Type 316	Stainless Steel ASTM A276 Type 316
4	Ball	Stainless Steel ASTM A276 Type 316	Carbon Steel AISI-12L14 Hard Chrome Plated	Stainless Steel ASTM A276 Type 316
5	Handle Nut	Stainless Steel 18-8	Stainless Steel 18-8	Stainless Steel 18-8
6	Handle Assembly	Stainless Steel Type 304	Carbon Steel Zinc Plated	Stainless Steel Type 304
7	Lock Washer	Stainless Steel Type 304	Stainless Steel Type 304	Stainless Steel Type 304
8	Packing Nut	Stainless Steel ASTM 276 Type 316	Carbon Steel AISI-12L14	Carbon Steel AISI-12L14
9	Seat	NXT75	NXT75	NXT75
10	Thrust Washer	NXT75	NXT75	NXT75
11	Packing	PTFE	PTFE	PTFE
12	Body Seal*	PTFE	PTFE	PTFE



### DIMENSIONS - INCHES AND MILLIMETERS (20/22 - SERIES BALL VALVES)

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	9.53	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	53.09	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	41.91	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	20.83	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	106.35	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	12.7	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	28.45	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		1/4-20NC		1/4-20NC		1/4-20NC	
J	0.196	4.98	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	9.91	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	22.23	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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