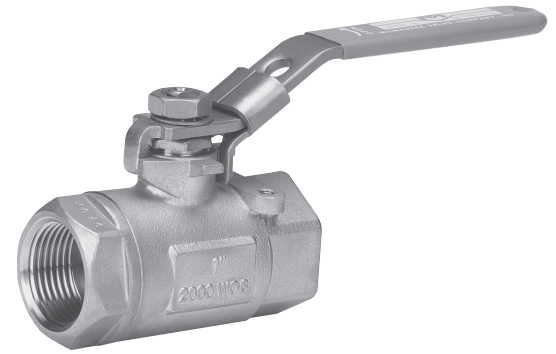


20/22 Series Ball Valve

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 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.

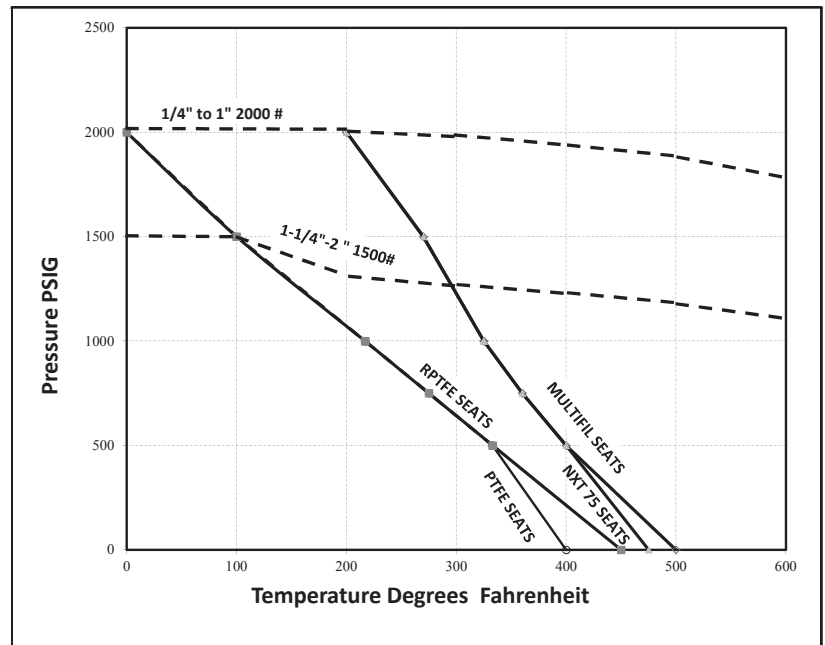
Operators Available

- 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/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



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-Fil 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 - Assembled 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)

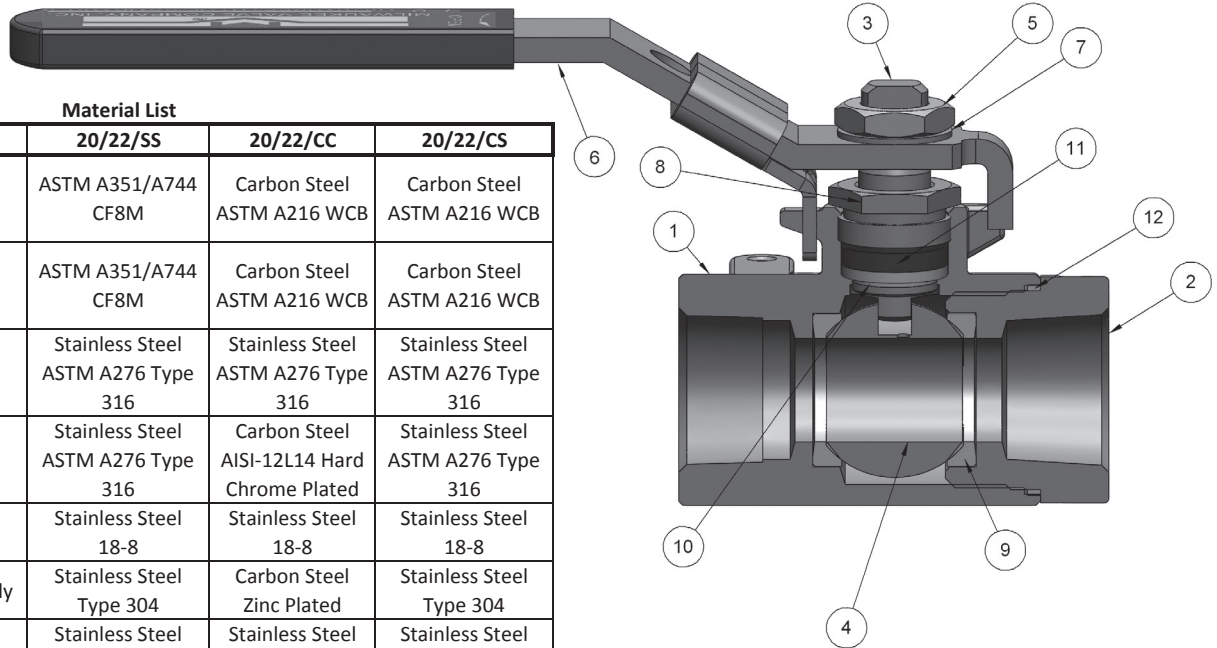
Teflon is a registered trademark of Dupont.

The information presented on this sheet is correct at time of publication. Milwaukee Valve reserves the right to change design and/or materials without notice. For our Installation, Operation and Maintenance Manual and the most current product information go to www.milwaukeevalve.com.

⚠ State of California Prop 65 **WARNING:** Cancer and Reproductive Harm. For more information visit www.p65warnings.ca.gov.

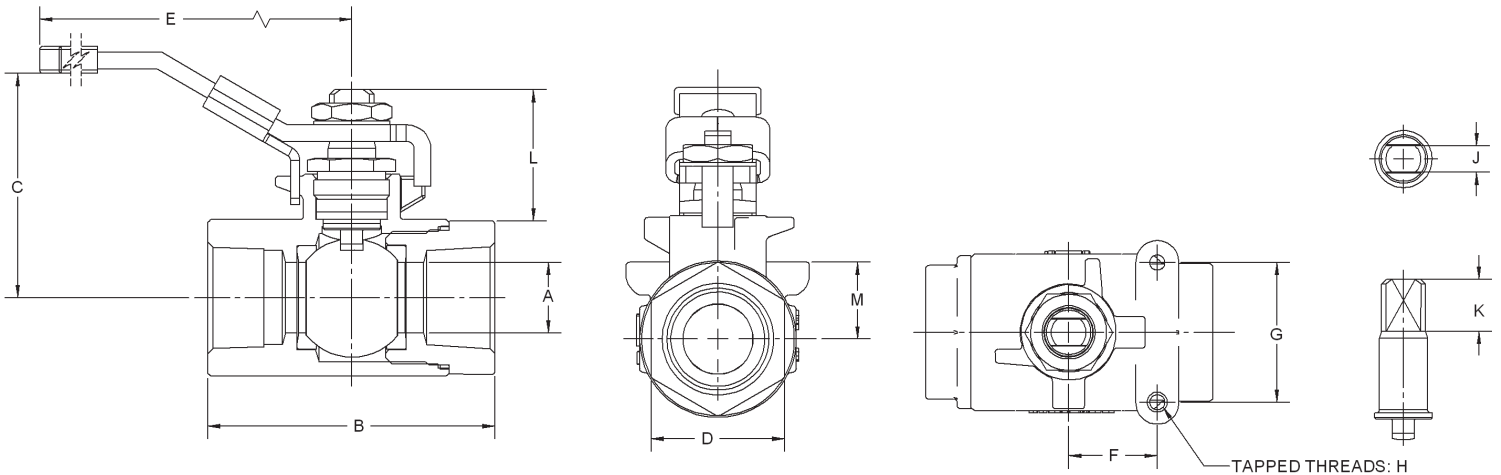


20CC/CS/SS and 22CC/CS/SS NPT Ball Valve



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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