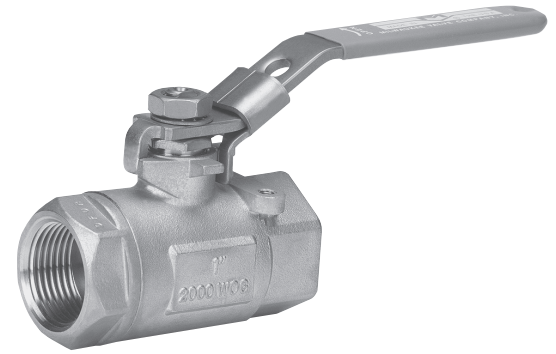


20/22 Series Ball Valve

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

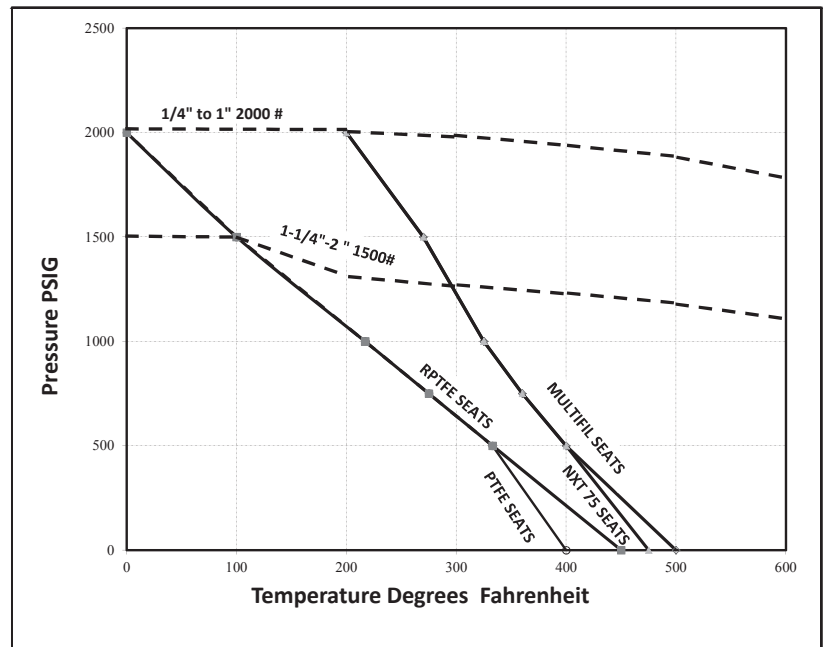
Materials of Construction

- 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 - 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"

Rev. 2

Example Product Numbers

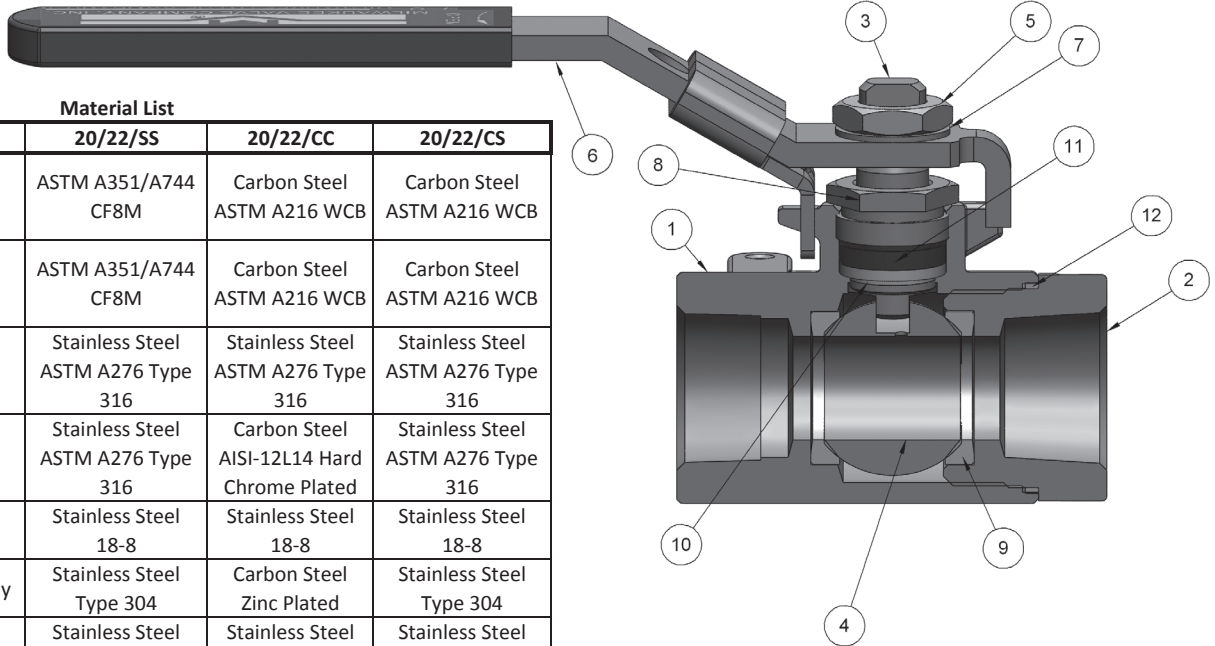
20CSOR-N1-LL 34 (3/4" Two Piece Adaptor Loaded Reduced Port Carbon Steel Body, Stainless Trim, Female NPT End Pieces, NXT. Seats, SS Latch-Lock Handle.)
 20CSOR-N1-LL-VB 34 (3/4" Two Piece Adaptor Loaded Reduced Port Carbon Steel Body, Stainless Trim, Female NPT End Pieces, NXT. Seats, SS Latch-Lock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

Teflon is a registered trademark of Dupont.

The information presented on this sheet is correct at the time of publication. Milwaukee Valve reserves the right to change design, and/or material specifications without notice. For the Installation, Operation and Maintenance Manual (IOM) see the engineering section on our website. For the most current information access www.milwaukeevalve.com

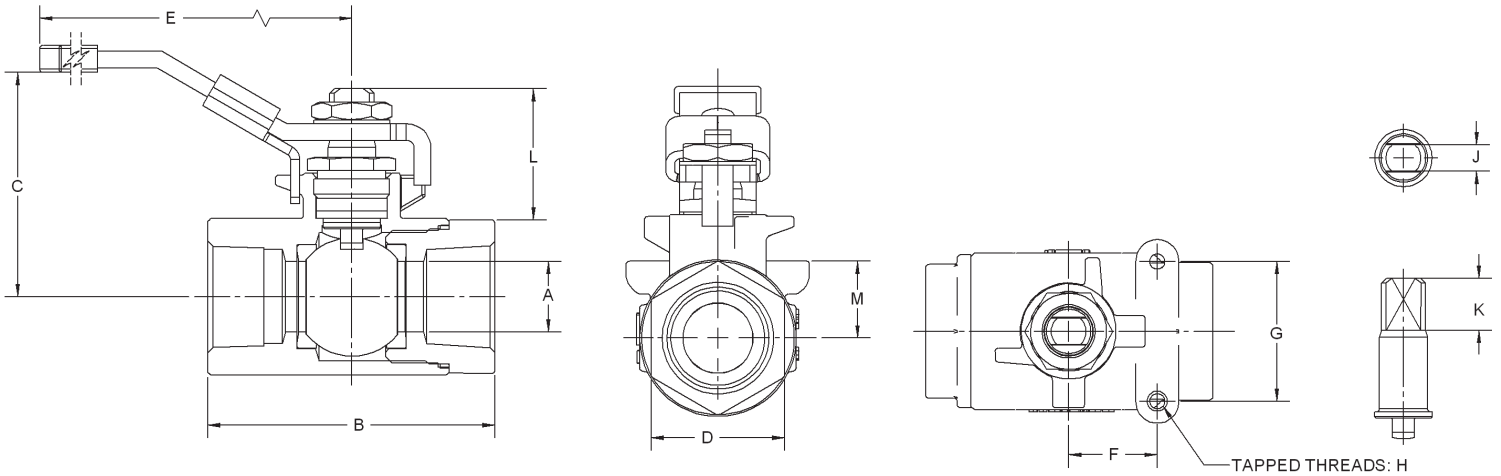


20CC/CS/SS and 22CC/CS/SS NPT Ball Valve



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

The information presented on this sheet is correct at the time of publication. Milwaukee Valve reserves the right to change design, and/or material specifications without notice. For the Installation, Operation and Maintenance Manual (IOM) see the engineering section on our website. For the most current information access www.milwaukeevalve.com