CRANE®

brands you trust.

CRANE® - Ball Valves

CRANE®

Energy Flow Solutions

www.cranecpe.com

Key Features and Index

CRANE® Ball Valves Key Features:

1. Full Material Offering: Bronze, Brass, Carbon Steel, and Stainless Steel
2. 100% Factory Testing for Quality Assurance
3. Fully-Rated and Certified

Figure Number Index

Overview

APPLICATIONS

CRANE® ball valves have gained wide acceptance in industrial segments for their accurate machining and strict testing procedures ensuring that quality is built into every valve. CRANE® ball valves are specified for service in chemical plants, petroleum refineries, pulp and paper mills, and industrial construction projects.

BODY

CRANE® offers two-piece body style designs up to 2000# CWP. Two-piece valves offer a larger port opening, equivalent to other competitive options.

Two-piece valves are available in brass (600# CWP), bronze (600# CWP), Stainless Steel (CF8M)(2000# CWP) and Carbon Steel (WCB) (2000# CWP).

CRANE® Offers:

2-piece Carbon Steel/Stainless	Threaded to 2"
2-piece Brass valves	Threaded to 4"
2-piece Bronze valves	Threaded to 3"

STEM

Stems are inserted from within the body to provide a pressure-safe design (blowout proof).

All CRANE® bronze and brass ball valves are furnished with stem seals of PTFE to assure a long lasting, positive seal.

Most valves have gland nuts which may be adjusted for stem seal tightness.

SEAT

Tight shutoff is achieved with use of PTFE or RTFE seats.

HANDLE

Handles on threaded and solder end valves are zinc-plated carbon steel or stainless steel, covered with a protective plastic sleeve with "CRANE®" imprinted on it. Handle stop is an integral part of the handle and provides positive stop as the body stop engages the handle stop. Handles are firmly attached to the stem with jam nuts. Special handles made of Type 304 stainless steel may be furnished on some valves. Other handle options are shown on Page 8.

TESTING

Each valve is individually air-tested to ensure the double-block qualities of the seals and to test the integrity of the pressure-containing parts.

WEIGHTS AND DIMENSIONS

Published weights and dimensions are for estimating purposes only and are subject to change without notice. It is our intent to maintain basic dimensional requirements of acceptable standards.

MATERIALS

The standard valve materials for ball valves are brass, bronze, carbon steel, and stainless steel. All materials for ball valves conform to the specifications set by the American Society for Testing and Materials. Changes in materials may be made without notice.

Figure Number System

Size	Body Style		Ends	Handle
¼" - 4"	920 = 921 = 943 =	2-pc. Forged, Full Port 600# 2-pc. Cast, Full Port 600# 2-pc. Full Port 2000#	1 = Threaded 2 = Solder Joint	Lever LL = Locking Lever EL = Extended Lever

Use this figure number system when ordering ball valves to indicate specific features desired. Not all combinations are available.

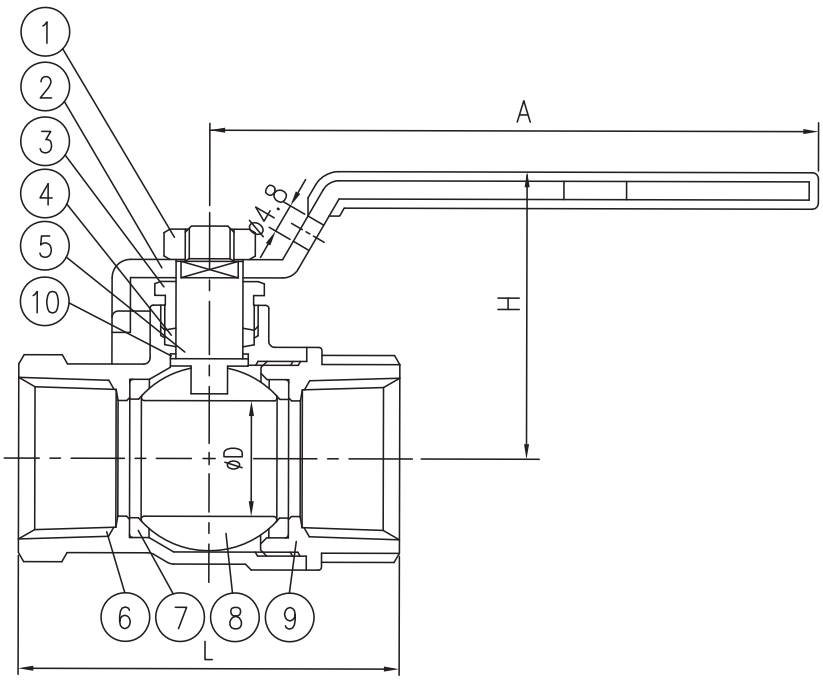
QUALITY MANAGEMENT

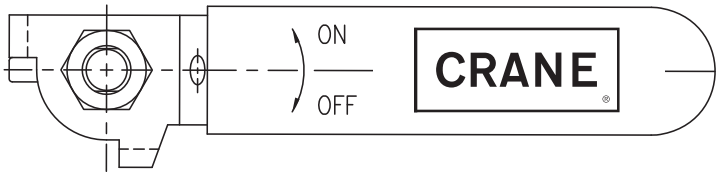
CRANE® is committed to a philosophy of total quality management. It begins with design in compliance with pertinent MSS and ASME Standards. Continuous improvement is applied in a methodical process to improve materials and services to meet or exceed customer needs.

600 CWP/150 SWP • Full Port • Threaded Ends

9201

Forged Brass, 2-Piece Body, Meets MSS SP-110,
CSA/UL/FM Approval (½ - 2" only)





MH46785
Listed
2L73

Approvals:

UL Approved

- YSDT (LP-Gas Shut-off valves)
- YRBX (Flammable Liquid Shut-off valves)
- MHKZ (Manual valves)

CSA Approved

- CLASS 3371 94 - Manually Operated Metallic for Use in Piping Systems Certified to US Standards
- CLASS 3371 92 - Manually Operated Metallic for Use in House Piping Systems - Certified to US Standards
- CLASS 3371 88 - General Use - Certified to US Standards
- CLASS 3371 81 - Appliance Connector - Certified to US Standards
- CLASS 3371 12 - Manually Operated for Use on Piping
- CLASS 3371 10 - Lever Operated Non-Lubricated Shut-off
- CLASS 3371 08 - General Use
- CLASS 3371 01 - Appliance Connector
- CLASS 3371 10
- CLASS 3371 90

Materials of Construction

No.	Description	Material
1	Nut	AISI-1010
2	Handle	A283-D
3	Stem Gland Screw	B16-C36000
4	Stem Packing	PTFE
5	Stem	B16-C36000
6	Body	B124-C37700 B584-C85700 (2" - 4")
7	Seat	PTFE
8	Ball	B16-C36000 or B124-C37700 (1" - 4")
9	End Plug	B124-C37700
10	Thrust Washer	PTFE (2" - 4")

For optional Accessories see Page 8.

Dimensions and Weights

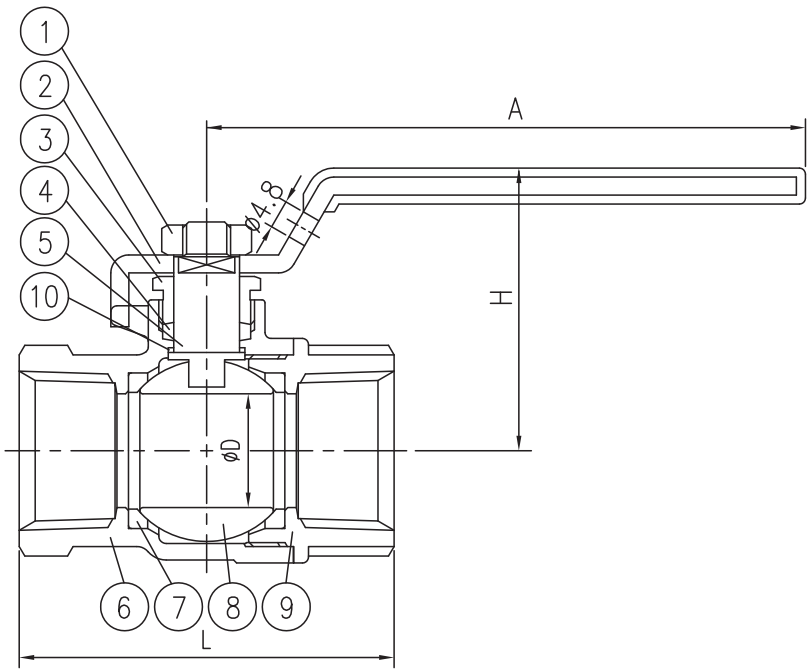
Inches (millimeters) - Pounds (kilograms)

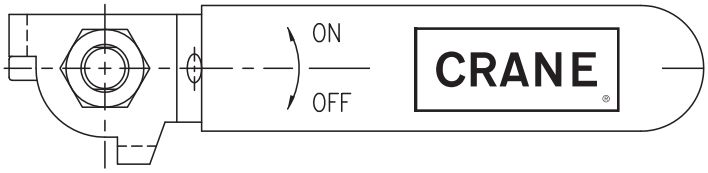
Valve Size	Dimensions				Wt.
	A	D	H	L	
¼	2.36	0.35	1.26	1.69	0.26
	(60)	(9)	(32)	(43)	(0.12)
⅜	3.15	0.39	1.46	1.81	0.31
	(80)	(10)	(37)	(46)	(0.14)
½	3.15	0.50	1.50	2.13	0.40
	(80)	(12.7)	(38)	(54)	(0.18)
¾	4.33	0.75	1.85	2.48	0.75
	(110)	(19)	(47)	(63)	(0.34)
1	4.33	0.98	2.05	2.99	1.06
	(110)	(25)	(52)	(76)	(0.48)
1 ¼	5.12	1.26	2.36	3.35	1.63
	(130)	(32)	(60)	(85)	(0.74)
1 ½	5.12	1.50	2.56	3.62	2.01
	(130)	(38)	(65)	(92)	(0.91)
2	7.87	1.97	3.11	4.25	3.84
	(200)	(50)	(79)	(108)	(1.74)
2 ½	7.87	2.48	3.50	5.16	6.66
	(200)	(63)	(89)	(131)	(3.02)
3	7.87	2.95	3.86	5.91	9.15
	(200)	(75)	(98)	(150)	(4.15)
4	7.87	2.95	3.86	6.26	11.42
	(200)	(75)	(98)	(159)	(5.18)

600 CWP/150 SWP • Full Port • Threaded Ends

9211

Cast Bronze, 2-Piece Body, Chrome-Plated Brass Ball,
Meets MSS SP-110





Materials of Construction

No.	Description	Material
1	Nut	AISI-1010
2	Handle	A283-D
3	Stem Gland Screw	B16-C36000
4	Stem Packing	PTFE
5	Stem	B16-C36000
6	Body	B584-C84400
7	Seat	PTFE
8	Ball	B16-C36000 or B124-C37700 (1" - 3")
9	End Plug	B584-C84400
10	Thrust Washer	PTFE

For optional Accessories see Page 8.

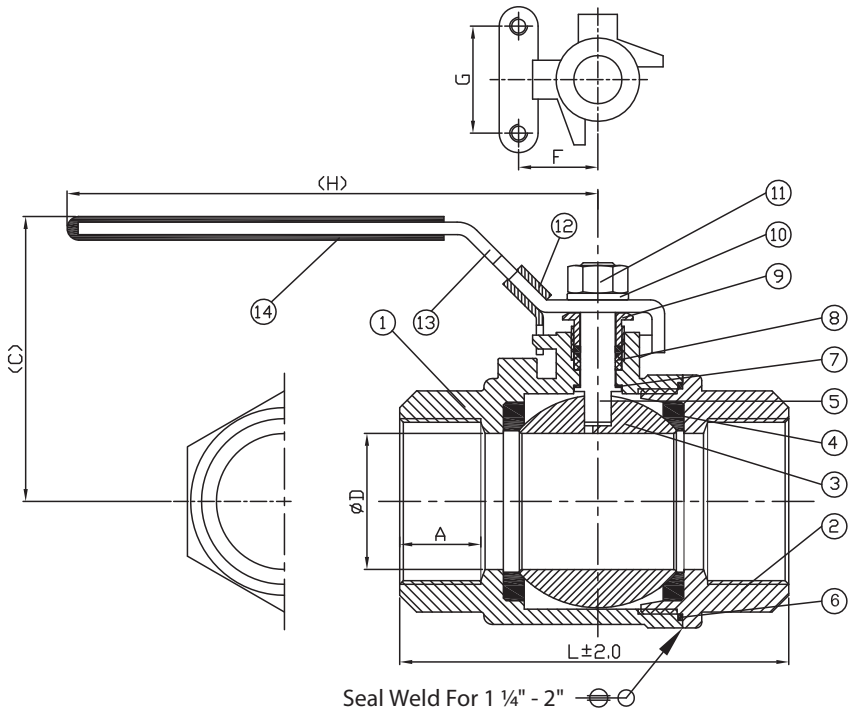
Dimensions and Weights

Inches (millimeters) - Pounds (kilograms)

Valve Size	Dimensions				Wt.
	A	D	H	L	
¼	1.97	0.35	1.26	1.69	0.37
	(50)	(9)	(32)	(43)	(0.17)
⅜	2.95	0.39	1.46	1.81	0.31
	(75)	(10)	(37)	(46)	(0.14)
½	2.95	0.50	1.50	2.13	0.39
	(75)	(13)	(38)	(54)	(0.18)
¾	3.94	0.75	1.85	2.48	0.86
	(100)	(19)	(47)	(63)	(0.39)
1	3.94	0.98	2.05	2.99	1.25
	(100)	(25)	(52)	(76)	(0.57)
1 ¼	4.92	1.25	2.36	3.35	1.52
	(125)	(32)	(60)	(85)	(0.69)
1 ½	4.92	1.50	2.56	3.62	1.83
	(125)	(38)	(65)	(92)	(0.83)
2	7.87	1.97	3.11	4.25	5.51
	(200)	(50)	(79)	(108)	(2.50)
2 ½	7.87	2.48	3.50	5.16	9.37
	(200)	(63)	(89)	(131)	(4.25)
3	7.87	2.95	3.86	5.91	13.60
	(200)	(75)	(98)	(180)	(6.17)

9421-LL

Carbon Steel, 2-Piece Body, Stainless Steel Ball & Stem, Locking Lever, Meets MSS SP-110



Materials of Construction

No.	Description	Material
1	Body	WCB
2	Cap	WCB
3*	Ball (Vented)	CF8M
4	Seat	RTFE - PTFE 15% GF
5	Stem	AISI 316
6	Body Seal	PTFE (for ¼" - 1")
7	Thrust Washer	PTFE
8	Stem Packing	PTFE
9	Gland Nuts	A2
10	Spring Washer	AISI 304
11	Handle Nuts	A2
12	Locking Device	AISI 304
13	Handle	AISI 304
14	Handle Sleeve	PVC

* All carbon and stainless ball valves come standard with a stainless steel ball.

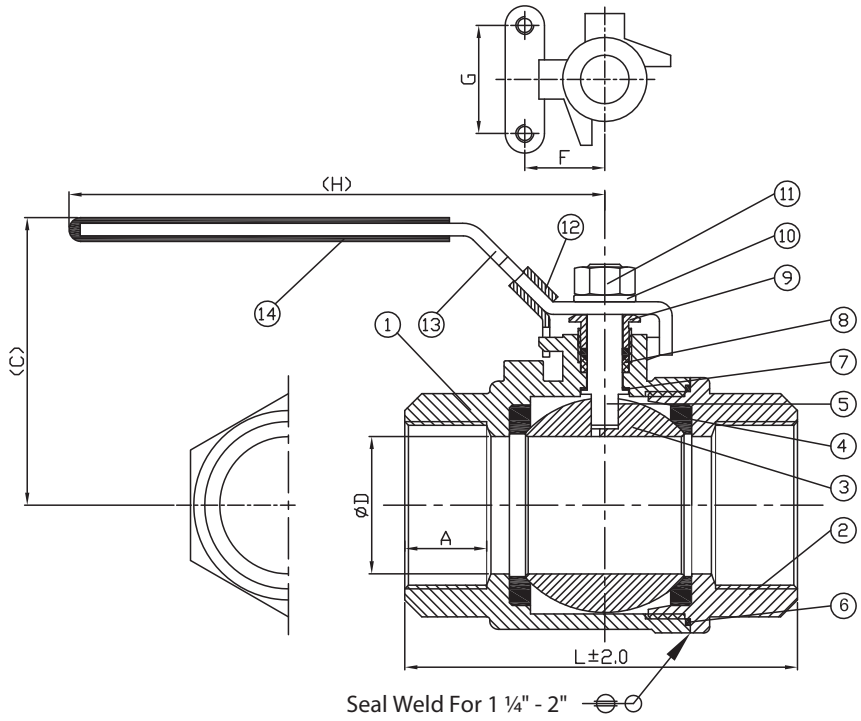
Dimensions and Weights

Inches (millimeters) - Pounds (kilograms)
Pound-Force Foot (Newton Meter)

Valve Size	Dimensions							Wt.	Torque	C_V Factor
	D	L	C	H	F	G	A			
¼	.45	2.38	2.17	4.13	.50	1.12	.49	.66	3	6.6
	(12)	(61)	(55)	(105)	(13)	(29)	(13)	(.30)	(4)	
⅜	.49	2.38	2.17	4.13	.50	1.12	.55	.66	5	7.9
	(13)	(61)	(55)	(105)	(13)	(29)	(14)	(.30)	(6)	
½	.59	2.38	2.24	4.13	.50	1.12	.70	.88	6	11.2
	(15)	(61)	(57)	(105)	(13)	(29)	(18)	(.40)	(8)	
¾	.79	3.03	2.68	4.84	.87	1.38	.75	1.32	9	21
	(20)	(77)	(68)	(123)	(22)	(35)	(19)	(.60)	(12)	
1	.98	3.54	2.87	6.10	.87	1.38	.89	2.09	11	35
	(25)	(90)	(73)	(155)	(22)	(35)	(23)	(.95)	(15)	
1 ¼	1.26	3.94	3.35	6.10	.93	1.50	.98	3.2	19	57
	(32)	(100)	(85)	(155)	(24)	(38)	(25)	(1.45)	(25)	
1 ½	1.50	4.65	3.82	7.52	.93	1.50	.98	4.96	26	80
	(38)	(118)	(97)	(191)	(24)	(38)	(25)	(2.25)	(35)	
2	1.93	5.43	4.09	7.52	1.14	1.50	1.15	7.28	34	150
	(49)	(138)	(104)	(191)	(29)	(38)	(29)	(3.30)	(45)	

9431-LL

Stainless Steel, 2-Piece Body, Stainless Steel Ball & Stem, Locking Lever, Meets MSS SP-110



Materials of Construction

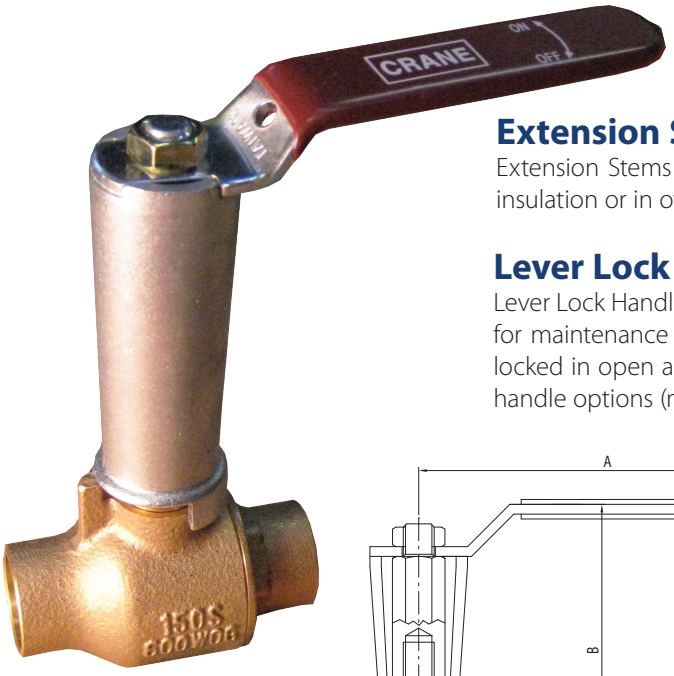
No.	Description	Material
1	Body	CF8M
2	Cap	CF8M
3*	Ball (Vented)	CF8M
4	Seat	RTFE - PTFE 15% GF
5	Stem	AISI 316
6	Body Seal	PTFE (for ¼" - 1")
7	Thrust Washer	PTFE
8	Stem Packing	PTFE
9	Gland Nuts	A2
10	Spring Washer	AISI 304
11	Handle Nuts	A2
12	Locking Device	AISI 304
13	Handle	AISI 304
14	Handle Sleeve	PVC

* All carbon and stainless ball valves come standard with a stainless steel ball.

Dimensions and Weights

Inches (millimeters) - Pounds (kilograms)
Pound-Force Foot (Newton Meter)

Valve Size	Dimensions							Wt.	Torque	C_V Factor
	D	L	C	H	F	G	A			
¼	.45	1.97	2.17	4.13	.50	1.12	.49	.66	3	6.6
	(12)	(50)	(55)	(105)	(13)	(29)	(13)	(.30)	(4)	
⅜	.49	2.36	2.17	4.13	.50	1.12	.55	.66	5	7.9
	(13)	(60)	(55)	(105)	(13)	(29)	(14)	(.30)	(6)	
½	.59	2.95	2.24	4.13	.50	1.12	.70	.88	6	11.2
	(15)	(75)	(57)	(105)	(13)	(29)	(18)	(.40)	(8)	
¾	.79	3.15	2.68	4.84	.87	1.38	.75	1.32	9	21
	(20)	(80)	(68)	(123)	(22)	(35)	(19)	(.60)	(12)	
1	.98	3.54	2.87	6.10	.87	1.38	.89	2.09	11	35
	(25)	(90)	(73)	(155)	(22)	(35)	(23)	(.95)	(15)	
1 ¼	1.26	4.33	3.35	6.10	.93	1.50	.98	3.2	19	57
	(32)	(110)	(85)	(155)	(24)	(38)	(25)	(1.45)	(25)	
1 ½	1.50	4.72	3.82	7.52	.93	1.50	.98	4.96	26	80
	(38)	(120)	(97)	(191)	(24)	(38)	(25)	(2.25)	(35)	
2	1.93	5.51	4.09	7.52	1.14	1.50	1.15	7.28	34	150
	(49)	(140)	(104)	(191)	(29)	(38)	(29)	(3.30)	(45)	

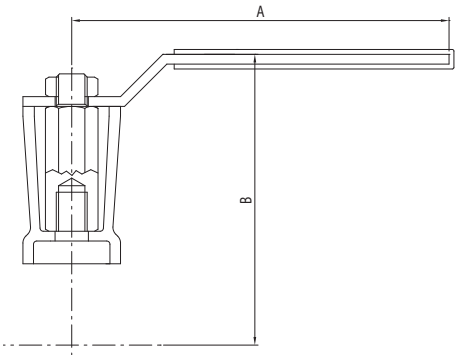


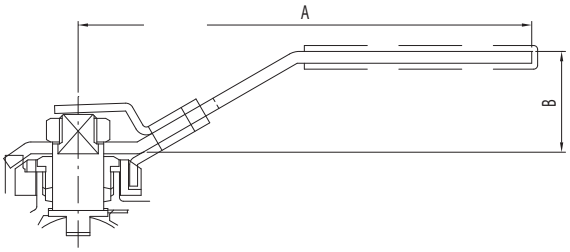
Extension Stems

Extension Stems may be needed when ball valves are installed in piping requiring insulation or in other special circumstances.

Lever Lock Handles

Lever Lock Handles are suitable for use on Lever Lock ball valves. They can be latched for maintenance or operation lockout or for low security protection. Valves may be locked in open and closed positions. Available only in brass as an accessory. Other handle options (not shown): Stainless Steel Handles.





2 ¼" Extension Stems Dimensions

Inches (millimeters)

Valve Size	Dimensions	
	A	B
¼	3.30	4.37
	(84)	(111)
⅜	3.30	4.37
	(84)	(111)
½	3.30	4.40
	(84)	(112)
¾	4.64	4.88
	(118)	(124)
1	4.64	5.03
	(118)	(128)
1¼	5.27	5.47
	(134)	(139)
1½	5.27	5.62
	(134)	(143)
2	7.87	6.25
	(200)	(159)
2½	7.87	6.65
	(200)	(169)
3	7.87	6.96
	(200)	(177)

Available for valves: 9211

Lever Lock Handles Dimensions

Inches (millimeters)

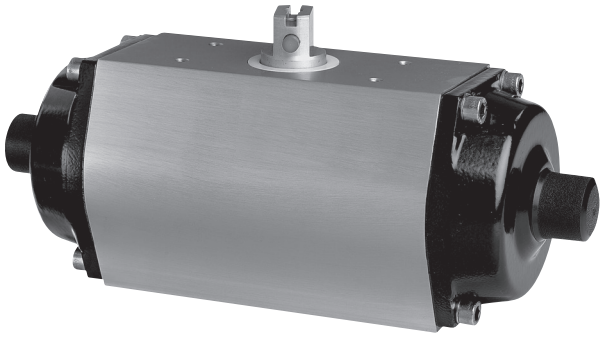
Valve Size	Dimensions	
	A	B
¼	3.22	.78
	(82)	(20)
⅜	3.22	.78
	(82)	(20)
½	3.22	.78
	(82)	(20)
¾	4.52	1.02
	(115)	(26)
1	4.52	1.02
	(115)	(26)
1¼	5.19	1.02
	(132)	(26)
1½	5.19	1.02
	(132)	(26)
2	7.55	.94
	(192)	(24)
2½	7.55	.94
	(192)	(24)
3	7.55	.94
	(192)	(24)

Available for valves: 9211 & 9201

Actuators

CRANE® ball valves can be supplied with pneumatic or electric actuators. Valves with pads for simplified mounting include:

½" through 2"	Carbon or Stainless Steel Body 2-Piece Ball Valves



For Threaded End Valves, ½" - 2"

Electric

- Standard - 120 VAC, 60Hz, single phase, reversing motor; thermal overload protection; manual override, 100% duty cycle; rated torques from 347 to 868 in-lbs.

To order, please supply the following information:

1. Valve figure number and size
2. Line pressure
3. Electrical supply
4. NEMA Code requirements
5. Special requirements

Pneumatic

- Models provide 61 to 71,687 in-lbs. of torque with 80 psi supply air.
- Models for fail-safe applications provide output torques from 20 to 67,356 in-lbs. with 80 psi supply air.
- Include solenoid valves (direct mounted) and limit switches.

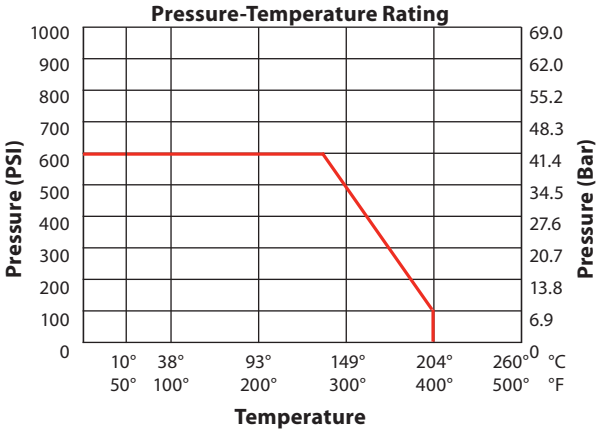
To order, please supply the following information:

1. Valve figure number and size
2. Line pressure
3. Air supply pressure (minimum)
4. Double-Acting or Spring Return
5. If spring return, indicate fail-open or fail-close
6. Require limit switches or solenoid valve

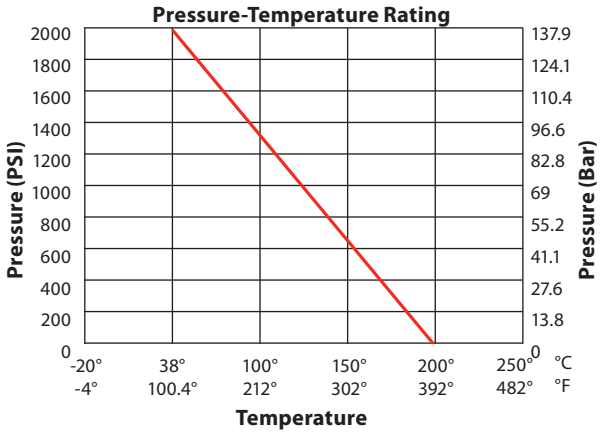
Pressure-Temperature Ratings

The Pressure-Temperature ratings for ball valves are as shown in the charts below.

9201 and 9211



9421-LL and 9431-LL



Notes

CRANE

Crane ChemPharma & Energy

CRANE Energy Global Headquarters
4526 Research Forest Drive, Suite 400
The Woodlands, Texas 77381 U.S.A.
Tel.: (1) 936-271-6500
Fax.: (1) 936-271-6510

CRANE Customer Service
2129 3rd Avenue, S.E.
Cullman, Alabama 35055
Tel.: (1) 256-775-3800
Fax.: (1) 256-775-3860

www.cranecpe.com

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