

NUTRON Models T3 and B3 Ball Valves

Forged steel floating ball valves for heavy-duty, reduced maintenance performance

TECHNOLOGY



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NUTRON Models T3 and B3 Forged Steel Floating Ball Valves

SIZES, SPECIFICATIONS AND COMPLIANCE

Model T3 Three-Piece Threaded Floating Ball Valves

- Full port sizes 1/2" through 3" (15 mm through 80 mm)
- Reduced port sizes 3/4" through 4" (20 mm through 100 mm)
- ASME Classes 150 through 2500 (PN 20 through 420) (see page 4)
- WOG 1000 through 6000 psi (see page 4)
- End connections: threaded, flanged, socket weld and butt weld

Model B3 Three-Piece Bolted Floating Ball Valves

- Full port sizes 1-1/2" through 4" (40 mm through 100 mm)
- Reduced port sizes 2" through 6" (50 mm through 150 mm)
- ASME Classes 150 through 1500 (PN 20 through 250) (see page 19)
- WOG 2000 through 4000 psi (see page 19)
- End connections: flanged, threaded and butt weld

Materials and Actuation

- Materials: Carbon steel, stainless steel and special alloys
- Operator: Manual lever handle
- Actuation: Consult Cameron for information on various types of actuators, including gear operators (B3), pneumatic, hydro-pneumatic, electric, electro-pneumatic and hydraulic

Compliance to Standards and Specifications

- ISO 9001-2000: Registered Quality System
- ASME B16.34
- API 598 and API 607 4th Edition (Fire-Safe)
- CE Mark Number 0879
- ASME Section VIII, Division 1 Boiler and Pressure Vessel Code
- CSA Z245.15 Steel Valves
- NACE MR0175 (Rev. 2002)
- Canadian Registration Number (CRN)

Model T3

STANDARD FEATURES

Capscrew

Dual purpose, which allows for easy stem packing adjustment without handle removal, while providing a stop for the handle.

Body Construction

Forged steel, three-piece threaded construction. A machined pad area is drilled and tapped for actuation, as a standard. Threaded construction allows for combinations of end connections.

Packing

Self-adjusting by means of a Belleville washer. Allows for long service life before manual packing adjustment is necessary.

Thrust Washer

Acts as a bearing between the body and stem.

Ball

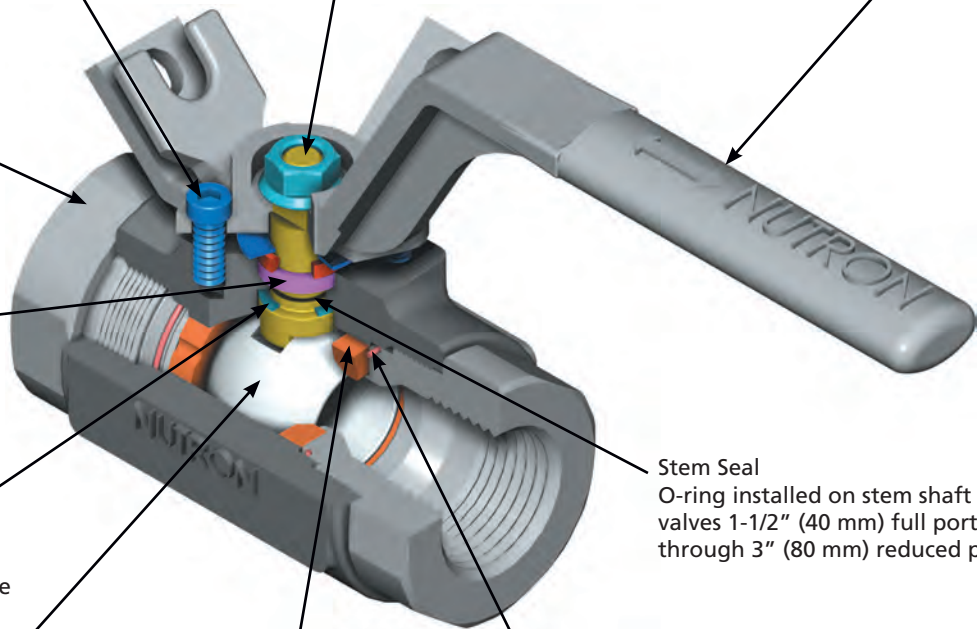
The floating ball design allows for positive shutoff in either flow direction. Includes pressure equalization hole to prevent trapping of pressure in the body cavity.

Stem

Blowout-proof stem is backseated through the valve body.

Handle

Rugged cast handle. Handle position indicates flow position. When the handle is positioned in-line with the pipe, the valve is open. When the handle is positioned perpendicular to the pipe, the valve is closed. Locking handle is standard for all 2" (50 mm) reduced port and smaller valves with either socket weld or FNPT end connections.



Stem Seal

O-ring installed on stem shaft on all valves 1-1/2" (40 mm) full port through 3" (80 mm) reduced port.

Seats

Materials available are Teflon®, Delrin®, PEEK and Devlon®.

Body Seals

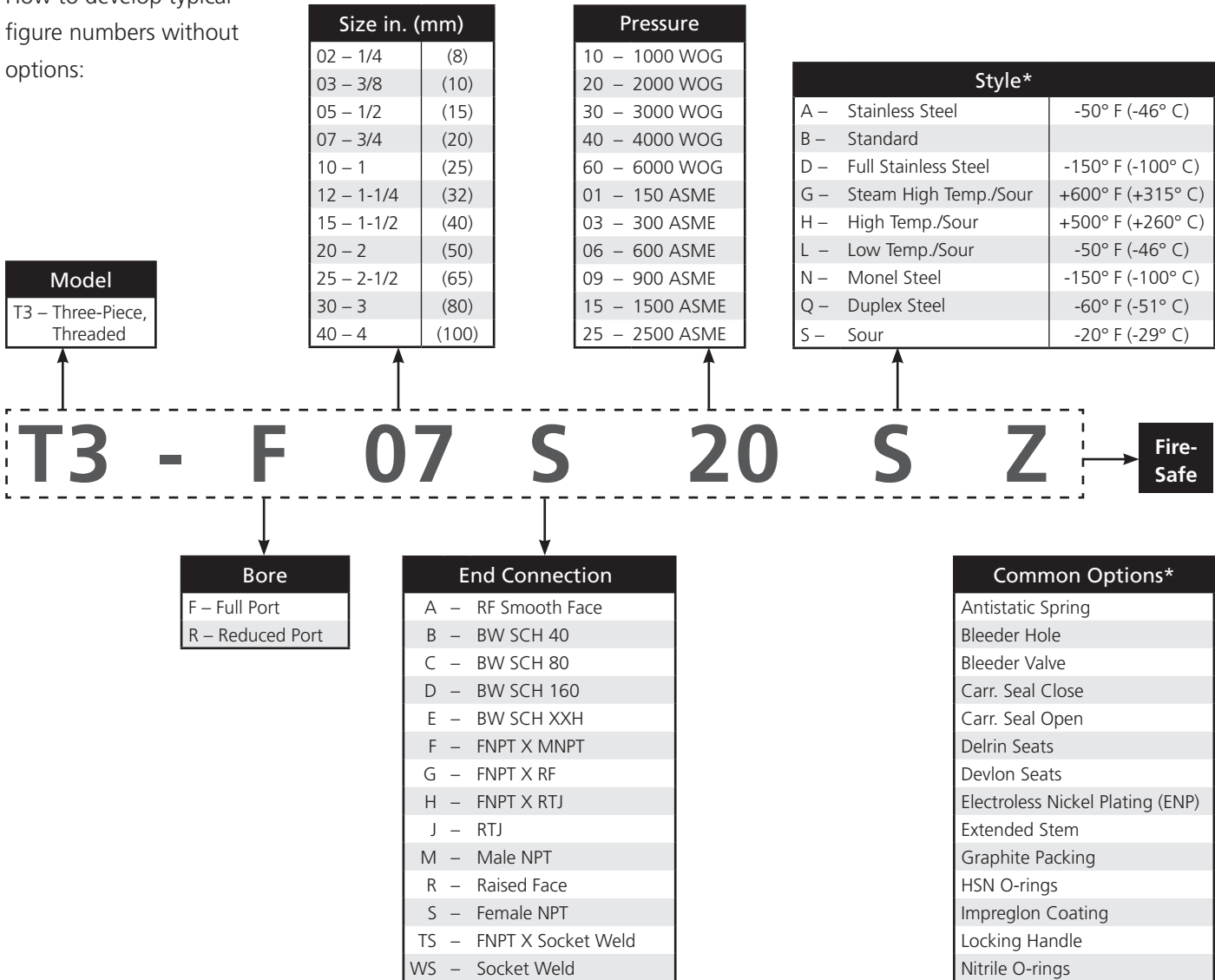
Body seal O-rings are placed ahead of the body cap threads to protect the threads from the flow media.

SIZES AVAILABLE

ASME Class		150	300	600	900	1500	2500
(PN)		(20)	(50)	(100)	(150)	(250)	(420)
Full Port Excluding 1" (25 mm)	in. (mm)	1/2 through 3 (15 through 80)	1/2 through 3 (15 through 80)	1/2 through 2 (15 through 50)	1/2 through 2 (15 through 50)	1/2 through 2 (15 through 50)	1/2 through 2 (15 through 50)
Reduced Port Excluding 1-1/2" (40 mm)		3/4 through 4 (20 through 100)	3/4 through 4 (20 through 100)	3/4 through 3 (20 through 80)	3/4 through 3 (20 through 80)	3/4 through 3 (20 through 80)	3/4 through 3 (20 through 80)
WOG (psi)			1000	2000	3000	4000	6000
Full Port, Threaded	in. (mm)		3 (80)	1/4 through 3 (8 through 80)	1/4 through 2 (8 through 50)	1/4 through 2 (8 through 50)	1/4 through 2 (8 through 50)
Reduced Port, Threaded			4 (100)	3/4 through 3 (20 through 80)	3/4 through 3 (20 through 80)	3/4 through 3 (20 through 80)	3/4 through 3 (20 through 80)
Full Port, Socket Weld				1/2 through 2 (15 through 50)	1/2 through 2 (15 through 50)	1/2 through 2 (15 through 50)	1/2 through 2 (15 through 50)
Reduced Port, Socket Weld				3/4 through 3 (20 through 80)	3/4 through 3 (20 through 80)	3/4 through 3 (20 through 80)	3/4 through 3 (20 through 80)

HOW TO ORDER

How to develop typical figure numbers without options:



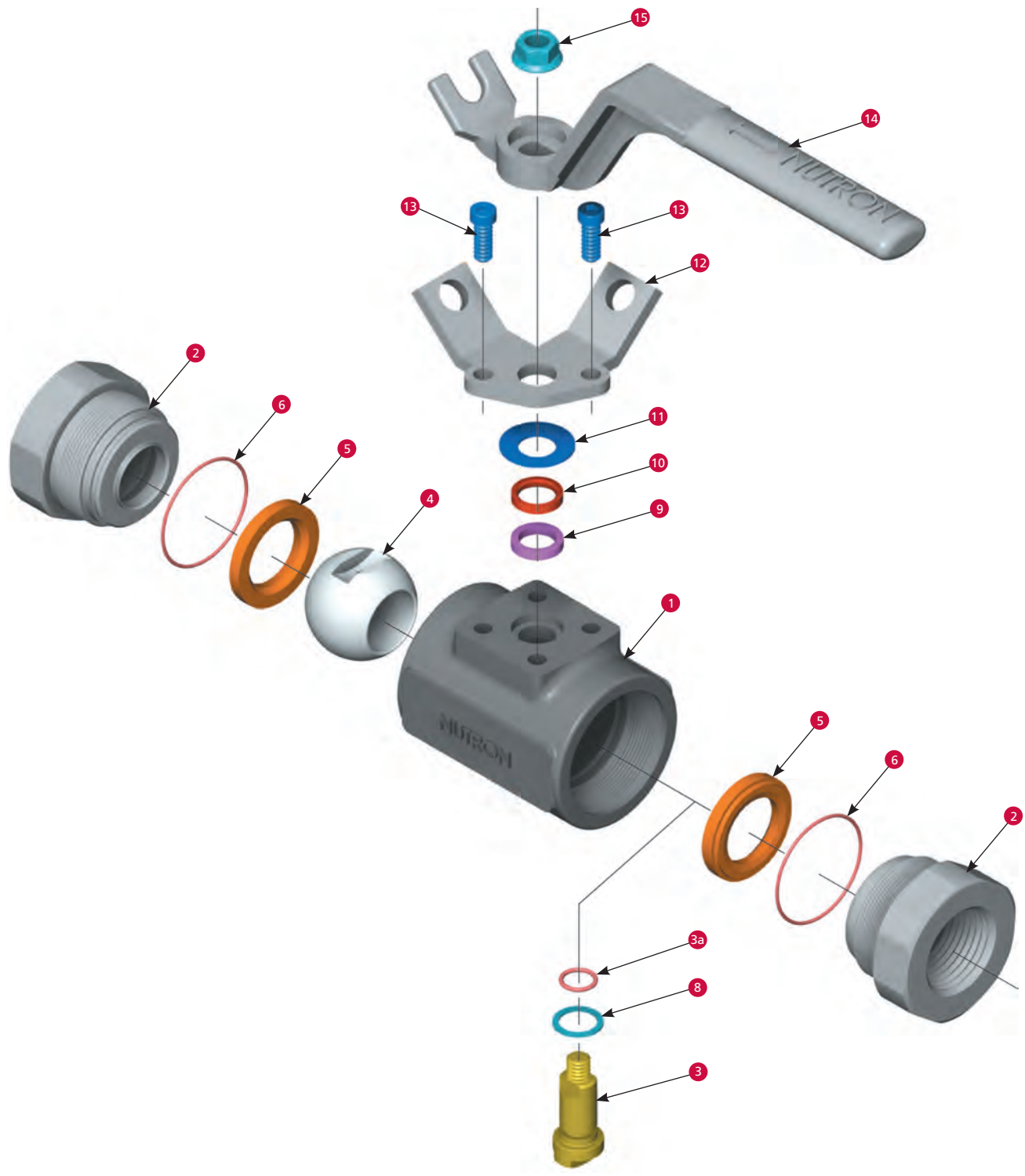
* Consult Cameron for detailed valve style descriptions, full range of options, materials, actuation packages or for a particular special valve service application.

Cameron reserves the right to substitute materials listed on the following pages with alternate materials for the designated service.

Examples:

- T3-F07S20SZ = Model T3, full port, 3/4" (20 mm), female NPT, 2000 WOG, sour valve, fire-safe
- T3-R10TS30B = Model T3, reduced port, 1" (25 mm), female NPT x socket weld, 3000 WOG, standard valve

VALVE DETAILS AND MATERIALS LISTS
Model T3 – Threaded End Connections



Materials Lists

Item	Part	Working Pressure	Standard -20° F (-29° C)	Sour -20° F (-29° C)
1	Body	All	ASTM A105	ASTM A105
2	End Caps	All	ASTM A105	ASTM A105
■ 3	Stem	2000 and 3000 4000 and 6000	ASTM A108, Plated ASTM A564 17-4PH	ASTM A564 17-4PH ASTM A564 17-4PH
● 3a*	Stem O-ring	All	Buna	HSN
■ 4	Ball	2000, 3000 and 4000 6000	Carbon Steel, Chrome-Plated ASTM A564 17-4PH	ASTM A351 Gr. CF8M ASTM A564 17-4PH
● 5	Seats	2000 3000 and 4000 6000	Teflon Delrin PEEK	Teflon Delrin PEEK
● 6	Body O-rings	All	Buna	HSN
● 8	Thrust Washer	2000 3000 and 4000 6000	Teflon Delrin PEEK	Teflon Delrin PEEK
● 9	Packing	All	Teflon	Teflon
10	Packing Follower	All	Carbon Steel, Plated	Stainless Steel
11	Belleville Washer	All	Carbon Steel	Stainless Steel
12	Gland Flange **	All	Carbon Steel, Plated	Carbon Steel, Plated
13	Capscrews	All	Carbon Steel	Stainless Steel
14	Handle	All	Carbon Steel	Carbon Steel
15	Handle Nut	All	Carbon Steel, Plated	Carbon Steel, Plated

Item	Part	Working Pressure	Low Temp./Sour -50° F (-46° C)	Stainless Steel -50° F (-46° C)
1	Body	All	ASTM A350 LF2	ASTM A479 316
2	End Caps	All	ASTM A350 LF2	ASTM A479 316
■ 3	Stem	All	ASTM A564 17-4PH	ASTM A564 17-4PH with Nitriding
● 3a*	Stem O-ring	All	HSN	
■ 4	Ball	2000 3000 and 4000 6000	ASTM A351 Gr. CF8M ASTM A351 Gr. CF8M ASTM A564 17-4PH	ASTM A351 Gr. CF8M ASTM A564 17-4PH ASTM A564 17-4PH
● 5	Seats	2000 3000 and 4000 6000	Teflon Delrin PEEK	Teflon PEEK PEEK
● 6	Body O-rings	All	HSN	Teflon
● 8	Thrust Washer	2000 3000 and 4000 6000	Teflon Delrin PEEK	Teflon PEEK PEEK
● 9	Packing	All	Teflon	Teflon
10	Packing Follower	All	Stainless Steel	Stainless Steel
11	Belleville Washer	All	Stainless Steel	Stainless Steel
12	Gland Flange **	All	Carbon Steel, Plated	Carbon Steel, Plated
13	Capscrews	All	Stainless Steel	Stainless Steel
14	Handle	All	Carbon Steel	Carbon Steel
15	Handle Nut	All	Carbon Steel, Plated	Carbon Steel, Plated

■ Major repair kit.

● Minor repair kit.

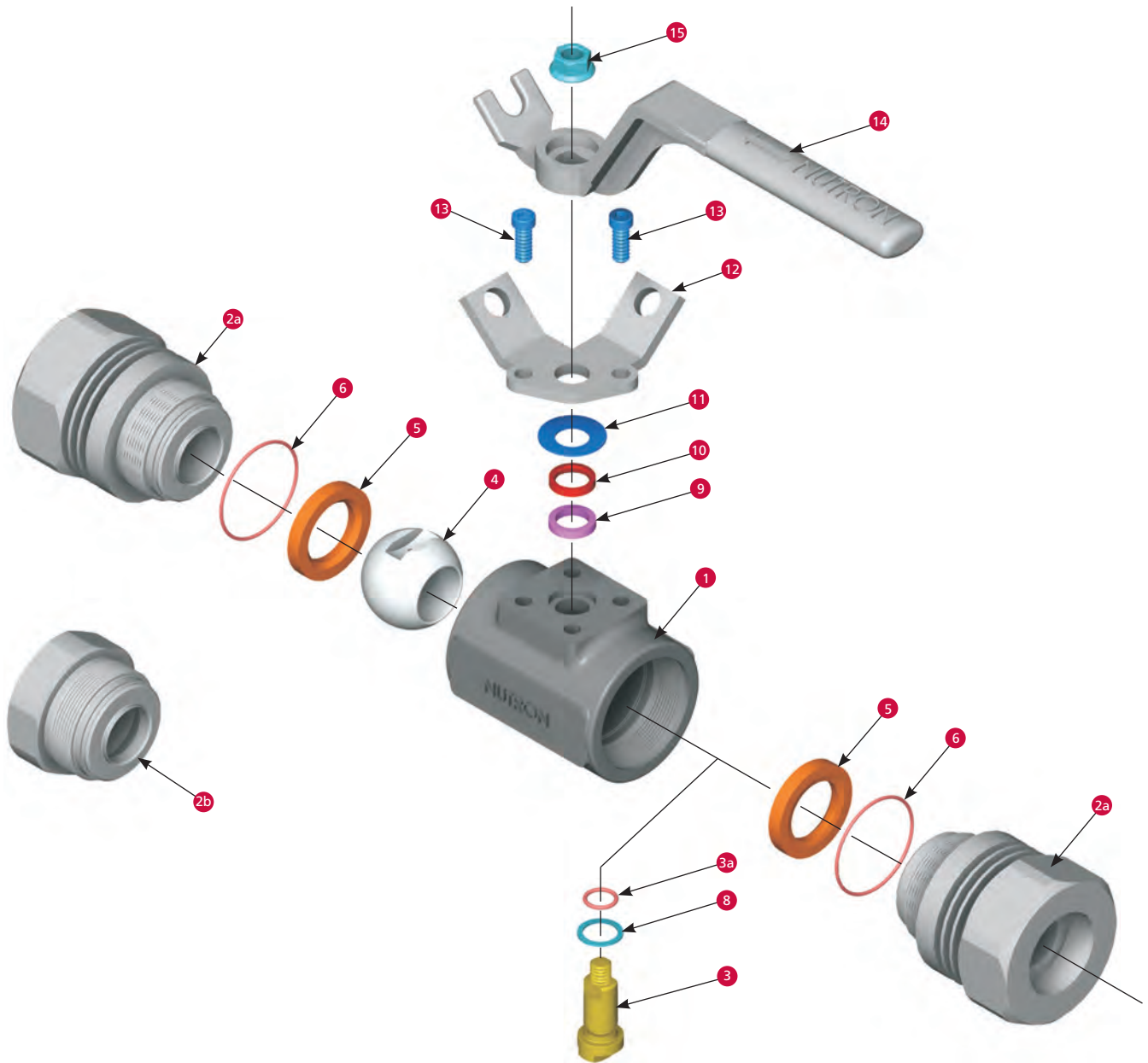
* Item 3a is only available on sizes 1-1/2" (40 mm) full port through 3" (80 mm) reduced port valves.

** Locking device is standard on 1/4" (8 mm) full port through 2" (50 mm) reduced port valves.

Note: Fire-safe trim offered as standard whenever possible.

Consult Cameron for fire-safe trim.

Model T3 – Socket Weld and Threaded x Socket Weld End Connections



Materials Lists

Item	Part	Working Pressure	Standard -20° F (-29° C)	Sour -20° F (-29° C)
1	Body	All	ASTM A105	ASTM A105
2a	End Caps – SW	All	ASTM A350 Gr. LF2	ASTM A350 Gr. LF2
2b	End Caps – NPT	All	ASTM A105	ASTM A105
■ 3	Stem	2000 and 3000 4000 and 6000	ASTM A108, Plated ASTM A564 17-4PH	ASTM A564 17-4PH ASTM A564 17-4PH
■• 3a*	Stem O-ring	All	HSN	Viton
■ 4	Ball	2000 3000, 4000 and 6000	ASTM A351 Gr. CF8M ASTM A564 17-4PH	ASTM A351 Gr. CF8M ASTM A564 17-4PH
■• 5	Seats	2000 3000, 4000 and 6000	Teflon PEEK	Teflon PEEK
■• 6	Body O-rings	All	Viton	Viton
■• 8	Thrust Washer	2000 3000, 4000 and 6000	Teflon PEEK	Teflon PEEK
■• 9	Packing	All	Teflon	Teflon
10	Packing Follower	All	Carbon Steel, Plated	Stainless Steel
11	Belleville Washer	All	Carbon Steel	Stainless Steel
12	Gland Flange **	All	Carbon Steel, Plated	Carbon Steel, Plated
13	Capscrews	All	Carbon Steel	Stainless Steel
14	Handle	All	Carbon Steel	Carbon Steel
15	Handle Nut	All	Carbon Steel, Plated	Carbon Steel, Plated

Item	Part	Working Pressure	Sour and Low Temp. -50° F (-46° C)	Stainless Steel -50° F (-46° C)
1	Body	All	ASTM A350 LF2	ASTM A479 Type 316
2a	End Caps – SW	All	ASTM A350 LF2	ASTM A479 Type 316 L
2b	End Caps – NPT	All	ASTM A350 LF2	ASTM A479 Type 316
■ 3	Stem	All	ASTM A564 17-4PH	ASTM A564 17-4PH with Nitriding
■• 3a*	Stem O-ring	All	Viton	HSN
■ 4	Ball	2000 3000, 4000 and 6000	ASTM A351 Gr. CF8M ASTM A564 17-4PH	ASTM A351 Gr. CF8M ASTM A564 17-4PH
■• 5	Seats	2000 3000, 4000 and 6000	Teflon PEEK	Teflon PEEK
■• 6	Body O-rings	All	Viton	Teflon
■• 8	Thrust Washer	2000 3000, 4000 and 6000	Teflon PEEK	Teflon PEEK
■• 9	Packing	All	Teflon	Teflon
10	Packing Follower	All	Stainless Steel	Stainless Steel
11	Belleville Washer	All	Stainless Steel	Stainless Steel
12	Gland Flange **	All	Carbon Steel, Plated	Carbon Steel, Plated
13	Capscrews	All	Stainless Steel	Stainless Steel
14	Handle	All	Carbon Steel	Carbon Steel
15	Handle Nut	All	Carbon Steel, Plated	Carbon Steel, Plated

■ Major repair kit.

• Minor repair kit.

* Item 3a is only available on sizes 1-1/2" (40 mm) full port through 3" (80 mm) reduced port valves.

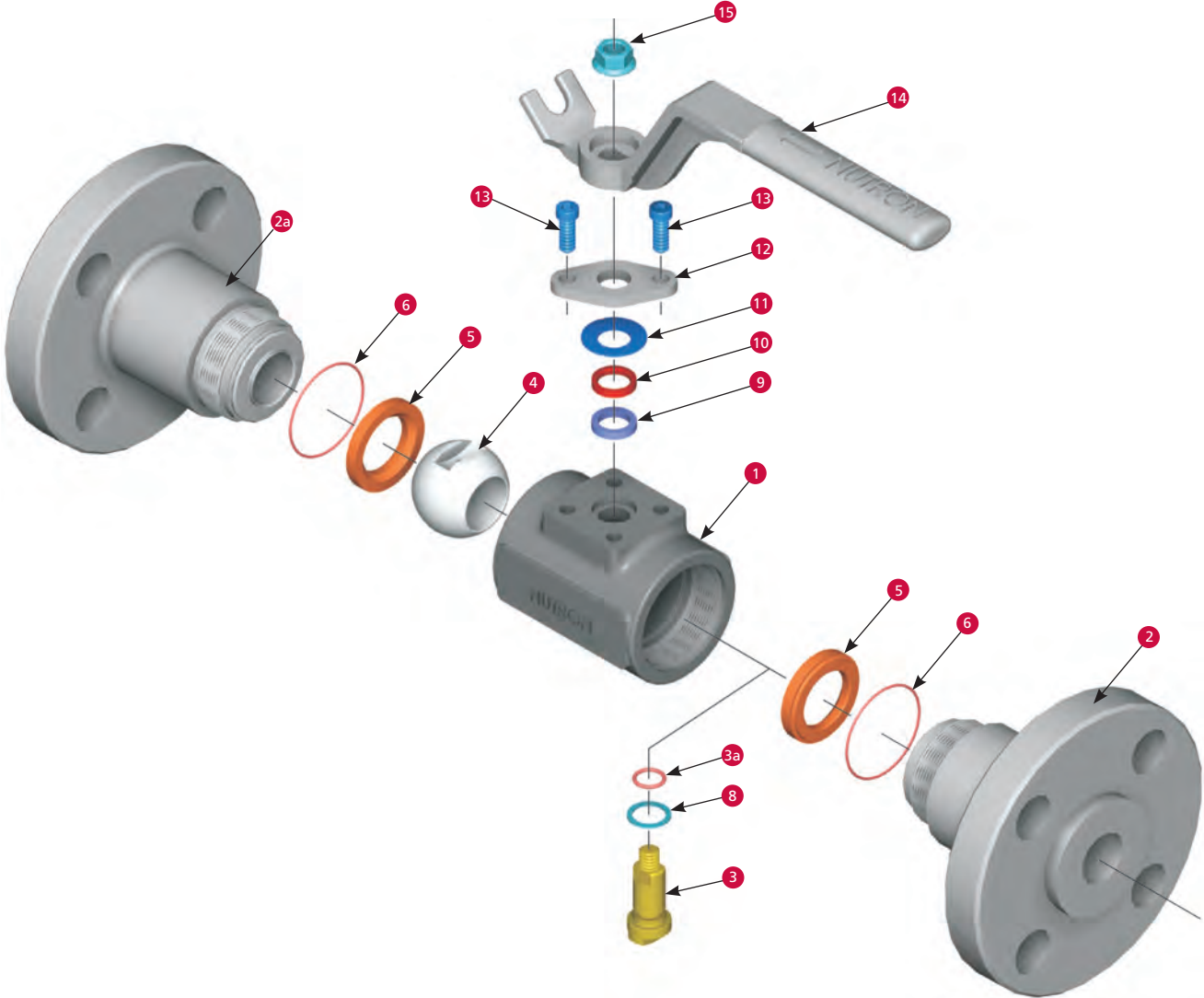
** Locking device is standard on 1/4" (8 mm) full port through 2" (50 mm) reduced port valves.

Note: Fire-safe trim offered as standard whenever possible.

Consult Cameron for fire-safe trim.

Model T3 – Flanged End Connections

ASME Classes 150 through 2500 (PN 20 through 420)



Materials Lists

Item	Part	Working Pressure	Standard -20° F (-29° C)	Sour -20° F (-29° C)
1	Body	All	ASTM A105	ASTM A105
2	End Caps	All	ASTM A105	ASTM A105
■ 3	Stem	150, 300, 600 and 900 1500 and 2500	ASTM A108, Plated ASTM A564 17-4PH	ASTM A564 17-4PH ASTM A564 17-4PH
■• 3a*	Stem O-ring	All	Buna	HSN
■ 4	Ball	150 through 1500 2500	Carbon Steel, Chrome-Plated ASTM A564 17-4PH	ASTM A351 Gr. CF8M ASTM A564 17-4PH
■• 5	Seats	150, 300 and 600 900 and 1500 2500	Teflon Delrin PEEK	Teflon Delrin PEEK
■• 6	Body O-rings	All	Buna	HSN
■• 8	Thrust Washer	150, 300 and 600 900 and 1500 2500	Teflon Delrin PEEK	Teflon Delrin PEEK
■• 9	Packing	All	Teflon	Teflon
10	Packing Follower	All	Carbon Steel, Plated	Stainless Steel
11	Belleville Washer	All	Carbon Steel	Stainless Steel
12	Gland Flange	All	Carbon Steel, Plated	Carbon Steel, Plated
13	Capscrews	All	Carbon Steel	Stainless Steel
14	Handle	All	Carbon Steel	Carbon Steel
15	Handle Nut	All	Carbon Steel, Plated	Carbon Steel, Plated

Item	Part	Working Pressure	Low Temp./ Sour -50° F (-46° C)	Stainless Steel -50° F (-46° C)
1	Body	All	ASTM A350 LF2	ASTM A479 316
2	End Caps	All	ASTM A350 LF2	ASTM A479 316
■ 3	Stem	All	ASTM A564 17-4PH	ASTM A564 17-4PH with Nitriding
■• 3a*	Stem O-ring	All	HSN	HSN
■ 4	Ball	150, 300 and 600 900 and 1500 2500	ASTM A351 Gr. CF8M ASTM A351 Gr. CF8M ASTM A564 17-4PH	ASTM A351 Gr. CF8M ASTM A564 17-4PH
■• 5	Seats	150, 300 and 600 900 and 1500 2500	Teflon Delrin PEEK	Teflon PEEK PEEK
■• 6	Body O-rings	All	HSN	Teflon
■• 8	Thrust Washer	150, 300 and 600 900 and 1500 2500	Teflon Delrin PEEK	Teflon PEEK PEEK
■• 9	Packing	All	Teflon	Teflon
10	Packing Follower	All	Stainless Steel	Stainless Steel
11	Belleville Washer	All	Stainless Steel	Stainless Steel
12	Gland Flange	All	Carbon Steel, Plated	Carbon Steel, Plated
13	Capscrews	All	Stainless Steel	Stainless Steel
14	Handle	All	Carbon Steel	Carbon Steel
15	Handle Nut	All	Carbon Steel, Plated	Carbon Steel, Plated

■ Major repair kit.

• Minor repair kit.

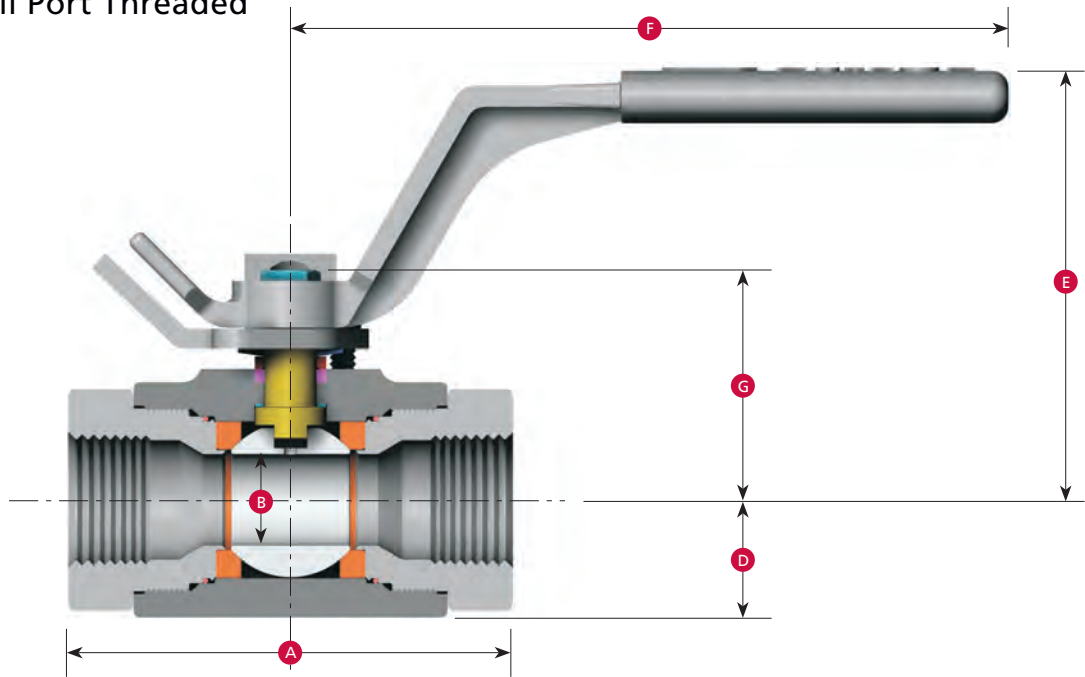
* Item 3a is only available on sizes 1-1/2" (40 mm) full port through 3" (80 mm) reduced port valves.

Note: Fire-safe trim offered as standard whenever possible.

Consult Cameron for fire-safe trim.

VALVE ASSEMBLIES AND DIMENSIONS TABLES

Model T3 – Full Port Threaded

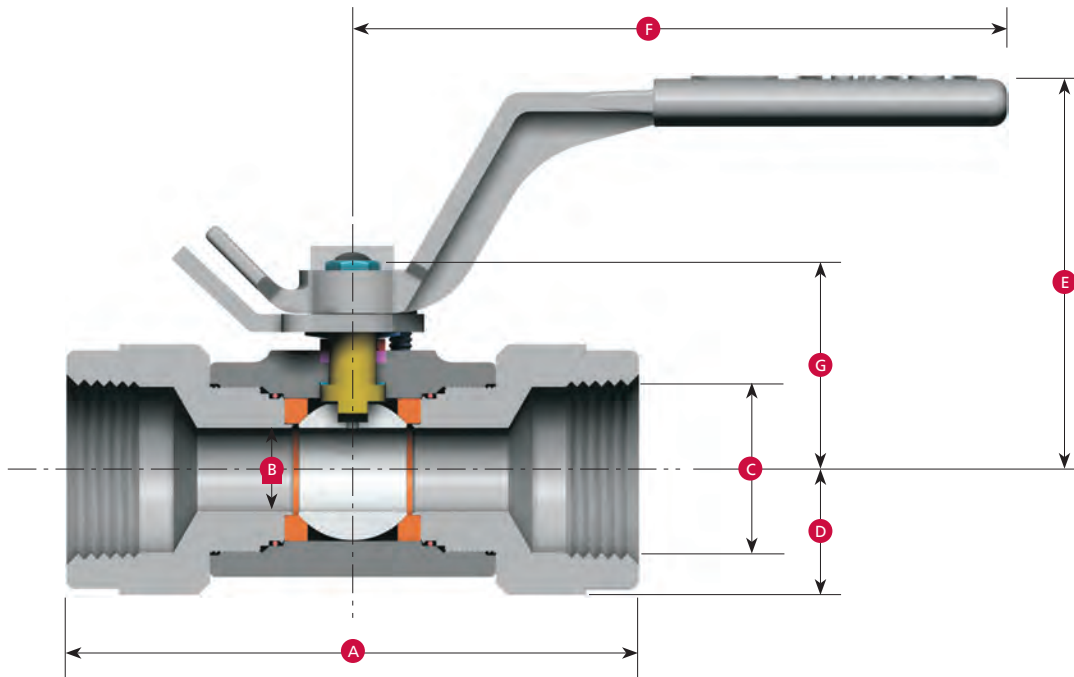


Dimensions

Size in. (mm)	WOG	A	B	D	E	F	G	C _v	Weight lb (kg)
1/4 (8)	2000	3.88 (98)	0.50 (13)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	9	2.5 (1.1)
	3000	3.88 (98)	0.50 (13)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	9	2.5 (1.1)
	4000	3.88 (98)	0.50 (13)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	9	2.5 (1.1)
	6000	3.88 (98)	0.50 (13)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	9	2.5 (1.1)
3/8 (10)	2000	3.88 (98)	0.50 (13)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	9	2.4 (1.0)
	3000	3.88 (98)	0.50 (13)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	9	2.4 (1.0)
	4000	3.88 (98)	0.50 (13)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	9	2.4 (1.0)
	6000	3.88 (98)	0.50 (13)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	9	2.4 (1.0)
1/2 (15)	2000	3.88 (98)*	0.50 (13)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	26	2.2 (0.9)
	3000	3.88 (98)*	0.50 (13)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	26	2.2 (0.9)
	4000	3.88 (98)*	0.50 (13)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	26	2.2 (0.9)
	6000	4.38 (111)	0.50 (13)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	26	2.2 (0.9)
3/4 (20)	2000	4.25 (108)	0.88 (22)	1.12 (29)	4.40 (112)	6.75 (172)	2.16 (55)	50	4.8 (2.1)
	3000	4.25 (108)	0.88 (22)	1.12 (29)	4.40 (112)	6.75 (172)	2.16 (55)	50	4.8 (2.1)
	4000	4.25 (108)	0.88 (22)	1.12 (29)	4.40 (112)	6.75 (172)	2.16 (55)	50	4.8 (2.1)
	6000	4.25 (108)	0.88 (22)	1.50 (38)	4.40 (112)	6.75 (172)	2.16 (55)	50	6.5 (2.9)
1-1/2 (40)	2000	6.25 (159)	1.50 (38)	1.98 (50)	5.62 (143)	11.00 (279)	3.52 (89)	260	18.0 (8.1)
	3000	6.25 (159)	1.50 (38)	1.98 (50)	5.62 (143)	11.00 (279)	3.52 (89)	260	18.0 (8.1)
	4000	6.25 (159)	1.50 (38)	1.98 (50)	5.62 (143)	11.00 (279)	3.52 (89)	260	18.0 (8.1)
	6000	6.25 (159)	1.50 (38)	1.98 (50)	5.62 (143)	11.00 (279)	3.52 (89)	260	18.0 (8.1)
2 (50)	2000	6.25 (159)	2.00 (51)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	480	30.0 (13.6)
	3000	6.25 (159)	2.00 (51)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	480	30.0 (13.6)
	4000	6.25 (159)	2.00 (51)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	480	30.0 (13.6)
	6000	6.25 (159)	2.00 (51)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	480	30.0 (13.6)
3 (80)	1000	9.70 (246)	3.00 (76)	3.50 (89)	8.26 (210)	23.88 (607)	5.37 (137)	1300	67.0 (30.4)
	2000	9.70 (246)	3.00 (76)	3.50 (89)	8.26 (210)	23.88 (607)	5.37 (137)	1300	67.0 (30.4)

Note: * 4.38" (111 mm) for stainless steel valves.
 "A" dimension to be within ± 0.062" (1.5 mm).

Model T3 – Reduced Port Threaded

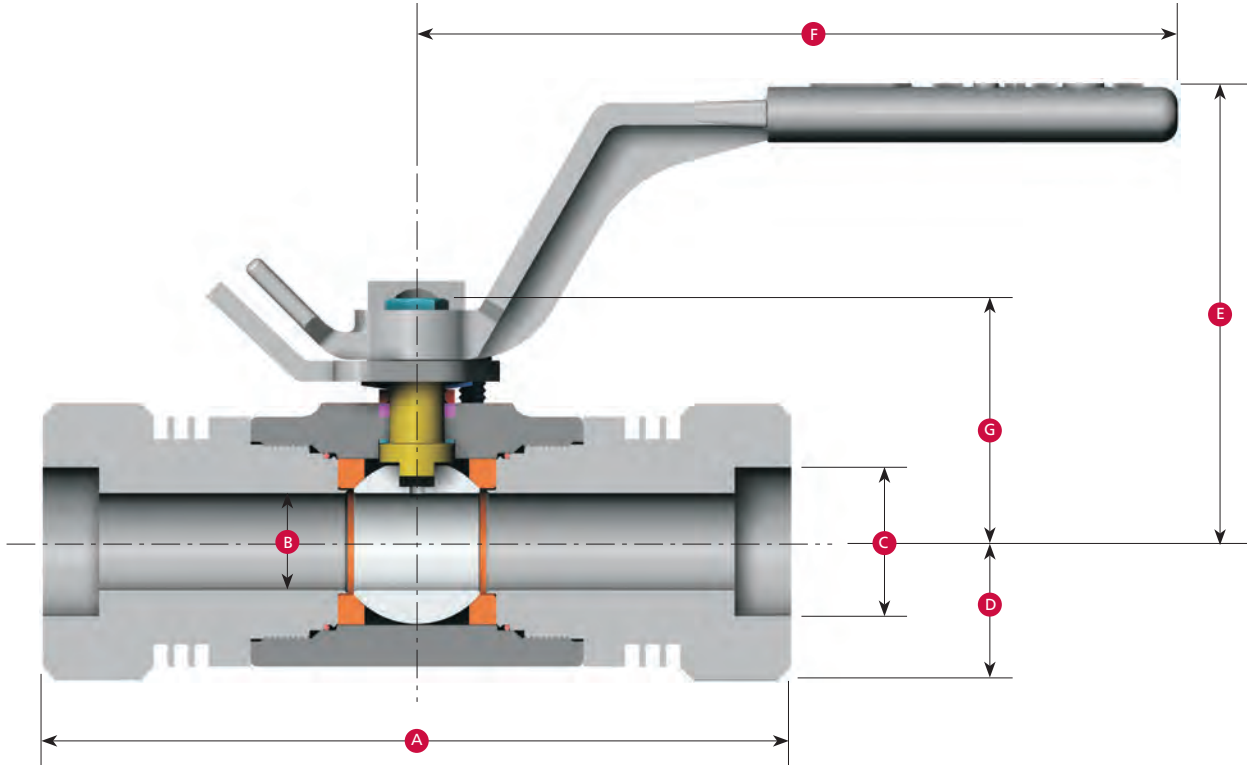


Dimensions

Size in. (mm)	WOG	A	B	C	D	E	F	G	C _v	Weight lb (kg)
3/4 (20)	2000	4.38 (111)	0.50 (13)	0.75 (19)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	14	2.5 (1.1)
	3000	4.38 (111)	0.50 (13)	0.75 (19)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	14	2.5 (1.1)
	4000	4.38 (111)	0.50 (13)	0.75 (19)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	14	2.5 (1.1)
	6000	4.38 (111)	0.50 (13)	0.75 (19)	0.82 (21)	3.29 (83)	4.82 (122)	1.73 (44)	14	2.5 (1.1)
1 (25)	2000	4.25 (108)	0.88 (22)	1.00 (25)	1.12 (28)	4.40 (112)	6.75 (172)	2.16 (55)	35	4.5 (2.0)
	3000	4.25 (108)	0.88 (22)	1.00 (25)	1.12 (28)	4.40 (112)	6.75 (172)	2.16 (55)	35	4.5 (2.0)
	4000	4.25 (108)	0.88 (22)	1.00 (25)	1.12 (28)	4.40 (112)	6.75 (172)	2.16 (55)	35	4.5 (2.0)
	6000	5.25 (133)	0.88 (22)	1.00 (25)	1.50 (38)	4.40 (112)	6.75 (172)	2.16 (55)	35	7.5 (3.4)
1-1/4 (32)	2000	6.00 (152)	0.88 (22)	1.25 (32)	1.30 (33)	4.40 (112)	6.75 (172)	2.16 (55)	35	8.0 (3.6)
	3000	6.00 (152)	0.88 (22)	1.25 (32)	1.30 (33)	4.40 (112)	6.75 (172)	2.16 (55)	35	8.0 (3.6)
2 (50)	2000	6.25 (159)	1.50 (38)	2.00 (51)	1.98 (50)	5.62 (143)	11.00 (279)	3.52 (89)	100	17.5 (7.9)
	3000	6.25 (159)	1.50 (38)	2.00 (51)	1.98 (50)	5.62 (143)	11.00 (279)	3.52 (89)	100	17.5 (7.9)
	4000	6.25 (159)	1.50 (38)	2.00 (51)	1.98 (50)	5.62 (143)	11.00 (279)	3.52 (89)	100	17.5 (7.9)
	6000	7.25 (184)	1.50 (38)	2.00 (51)	1.98 (50)	5.62 (143)	11.00 (279)	3.52 (89)	100	21.0 (9.5)
3 (80)	2000	10.0 (254)	2.00 (51)	3.00 (76)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	420	39.0 (17.6)
	3000	10.0 (254)	2.00 (51)	3.00 (76)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	420	39.0 (17.6)
	4000	10.0 (254)	2.00 (51)	3.00 (76)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	420	39.0 (17.6)
	6000	10.0 (254)	2.00 (51)	3.00 (76)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	420	48.0 (21.8)
4 (100)	1000	9.5 (241)	3.00 (76)	4.00 (102)	3.50 (89)	8.26 (210)	23.88 (607)	5.37 (137)	770	80.0 (36.3)

Note: "A" dimension to be within ± 0.062 " (1.5 mm).

Model T3 – Full Port Socket Weld and Threaded x Socket Weld

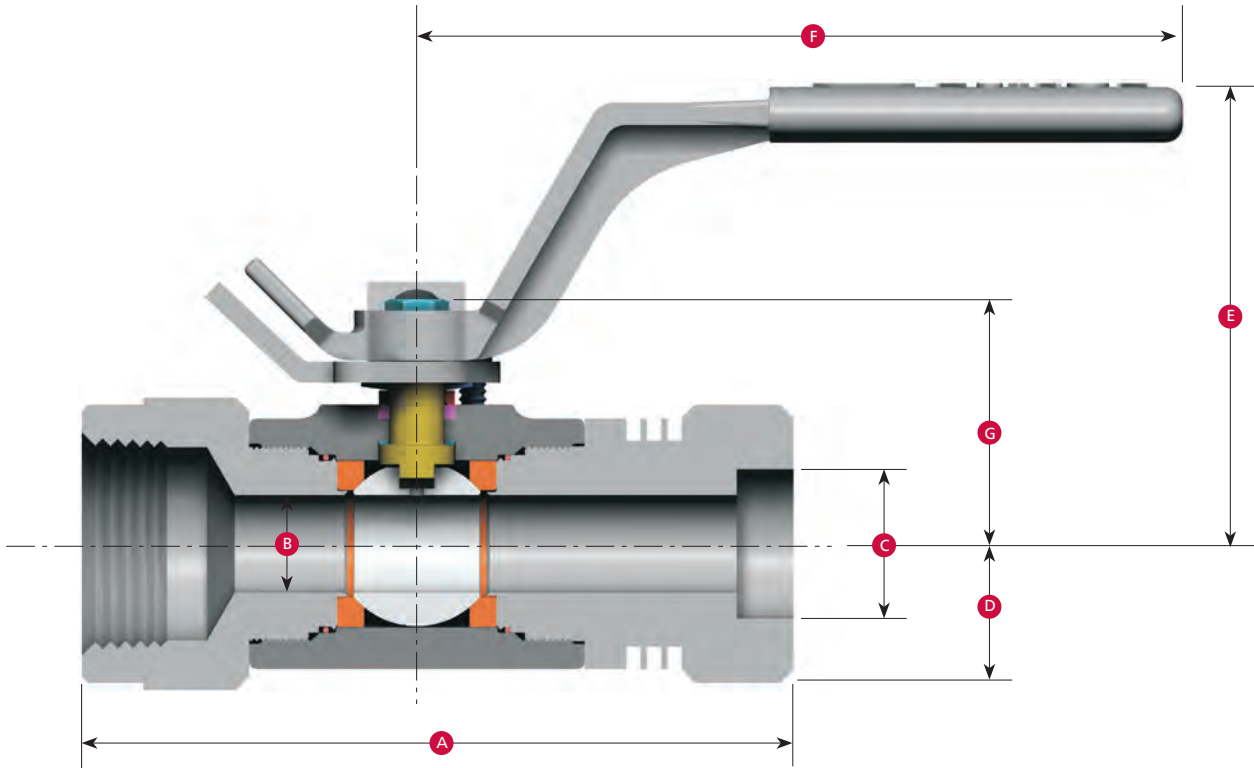


Dimensions

Size in. (mm)	WOG	A		B	C		D	E	F	G	C _v	Weight lb (kg)	
		FNPT x SW	SW		FNPT x SW	SW						FNPT x SW	SW
1/2 (15)	2000	4.44 (113)*	5.00 (127)	0.50 (13)	0.50 (13)	0.86 (22)	0.94 (24)	3.29 (83)	4.82 (122)	1.73 (44)	26	3.5 (1.5)	4.8 (2.1)
	3000	4.44 (113)*	5.00 (127)	0.50 (13)	0.50 (13)	0.86 (22)	0.94 (24)	3.29 (83)	4.82 (122)	1.73 (44)	26	3.5 (1.5)	4.8 (2.1)
	4000	4.44 (113)*	5.00 (127)	0.50 (13)	0.50 (13)	0.86 (22)	0.94 (24)	3.29 (83)	4.82 (122)	1.73 (44)	26	3.5 (1.5)	4.8 (2.1)
	6000	4.69 (119)	5.00 (127)	0.50 (13)	0.50 (13)	0.86 (22)	0.94 (24)	3.29 (83)	4.82 (122)	1.73 (44)	26	3.5 (1.5)	4.8 (2.1)
3/4 (20)	2000	5.50 (140)	6.75 (172)	0.88 (22)	0.75 (19)	1.07 (27)	1.25 (32)	4.40 (112)	6.75 (172)	2.16 (55)	50	5.7 (2.5)	6.4 (2.9)
	3000	5.50 (140)	6.75 (172)	0.88 (22)	0.75 (19)	1.07 (27)	1.25 (32)	4.40 (112)	6.75 (172)	2.16 (55)	50	5.7 (2.5)	6.4 (2.9)
	4000	5.50 (140)	6.75 (172)	0.88 (22)	0.75 (19)	1.07 (27)	1.25 (32)	4.40 (112)	6.75 (172)	2.16 (55)	50	5.7 (2.5)	6.4 (2.9)
	6000	5.50 (140)	6.75 (172)	0.88 (22)	0.75 (19)	1.07 (27)	1.50 (38)	4.40 (112)	6.75 (172)	2.16 (55)	50	8.6 (3.9)	9.2 (4.1)
1-1/2 (40)	2000	7.40 (188)	8.54 (217)	1.50 (38)	1.50 (38)	1.92 (49)	2.50 (64)	5.62 (143)	11.00 (279)	3.52 (89)	260	21.9 (9.9)	25.7 (11.6)
	3000	7.40 (188)	8.54 (217)	1.50 (38)	1.50 (38)	1.92 (49)	2.50 (64)	5.62 (143)	11.00 (279)	3.52 (89)	260	21.9 (9.9)	25.7 (11.6)
	4000	7.40 (188)	8.54 (217)	1.50 (38)	1.50 (38)	1.92 (49)	2.50 (64)	5.62 (143)	11.00 (279)	3.52 (89)	260	21.9 (9.9)	25.7 (11.6)
	6000	7.40 (188)	8.54 (217)	1.50 (38)	1.50 (38)	1.92 (49)	2.50 (64)	5.62 (143)	11.00 (279)	3.52 (89)	260	21.9 (9.9)	25.7 (11.6)
2 (50)	2000	9.50 (241)	12.75 (324)	2.00 (51)	2.00 (51)	2.41 (61)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	480	38.3 (17)	46.5 (21.0)
	3000	9.50 (241)	12.75 (324)	2.00 (51)	2.00 (51)	2.41 (61)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	480	38.3 (17)	46.5 (21.0)
	4000	9.50 (241)	12.75 (324)	2.00 (51)	2.00 (51)	2.41 (61)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	480	38.3 (17)	46.5 (21.0)
	6000	9.50 (241)	12.75 (324)	2.00 (51)	2.00 (51)	2.41 (61)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	480	38.3 (17)	46.5 (21.0)

Note: * 4.69" (119 mm) for stainless steel valves.
 "A" dimension to be within ± 0.062" (1.5 mm).

Model T3 – Reduced Port Socket Weld and Threaded x Socket Weld



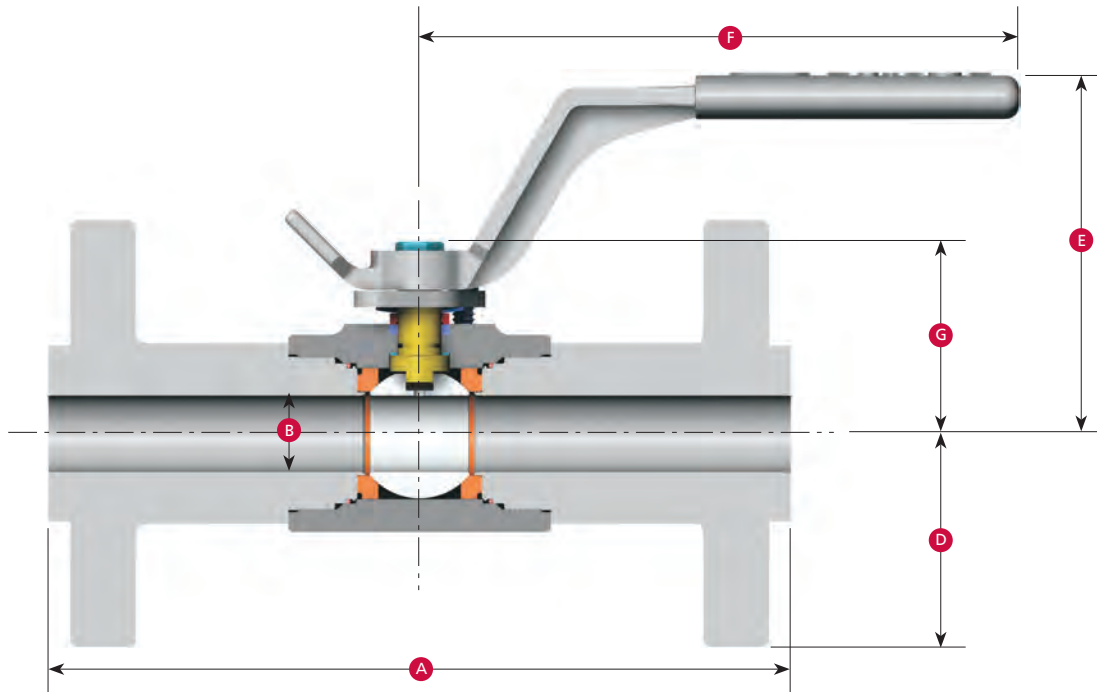
Dimensions

Size in. (mm)	WOG	A		B	C		D	E	F	G	C _v	Weight lb (kg)	
		FNPT x SW	SW		FNPT x SW	SW						FNPT x SW	SW
3/4 (20)	2000	5.56 (141)	6.75 (172)	0.50 (13)	0.75 (19)	1.07 (27)	1.19 (30)	3.29 (83)	4.82 (122)	1.73 (44)	14	3.5 (1.5)	4.4 (1.9)
	3000	5.56 (141)	6.75 (172)	0.50 (13)	0.75 (19)	1.07 (27)	1.19 (30)	3.29 (83)	4.82 (122)	1.73 (44)	14	3.5 (1.5)	4.4 (1.9)
	4000	5.56 (141)	6.75 (172)	0.50 (13)	0.75 (19)	1.07 (27)	1.19 (30)	3.29 (83)	4.82 (122)	1.73 (44)	14	3.5 (1.5)	4.4 (1.9)
	6000	5.56 (141)	6.75 (172)	0.50 (13)	0.75 (19)	1.07 (27)	1.19 (30)	3.29 (83)	4.82 (122)	1.73 (44)	14	3.5 (1.5)	4.4 (1.9)
1 (25)	2000	5.50 (140)*	6.75 (172)	0.88 (22)	1.00 (25)	1.34 (34)	1.25 (32)	4.40 (112)	6.75 (172)	2.16 (55)	35	5.4 (2.4)	6.2 (2.8)
	3000	5.50 (140)*	6.75 (172)	0.88 (22)	1.00 (25)	1.34 (34)	1.25 (32)	4.40 (112)	6.75 (172)	2.16 (55)	35	5.4 (2.4)	6.2 (2.8)
	4000	5.50 (140)*	6.75 (172)	0.88 (22)	1.00 (25)	1.34 (34)	1.25 (32)	4.40 (112)	6.75 (172)	2.16 (55)	35	5.4 (2.4)	6.2 (2.8)
	6000	6.00 (152)	6.75 (172)	0.88 (22)	1.00 (25)	1.34 (34)	1.50 (38)	4.40 (112)	6.75 (172)	2.16 (55)	35	8.3 (3.7)	9.0 (4.0)
2 (50)	2000	7.40 (188)	8.55 (217)	1.50 (38)	2.00 (51)	2.42 (62)	2.50 (64)	5.62 (143)	11.00 (280)	3.52 (90)	100	22.5 (10.2)	26.0 (11.7)
	3000	7.40 (188)	8.55 (217)	1.50 (38)	2.00 (51)	2.42 (62)	2.50 (64)	5.62 (143)	11.00 (280)	3.52 (90)	100	22.5 (10.2)	26.0 (11.7)
	4000	7.40 (188)	8.55 (217)	1.50 (38)	2.00 (51)	2.42 (62)	2.50 (64)	5.62 (143)	11.00 (280)	3.52 (90)	100	22.5 (10.2)	26.0 (11.7)
	6000	7.90 (201)	8.55 (217)	1.50 (38)	2.00 (51)	2.42 (62)	2.50 (64)	5.62 (143)	11.00 (280)	3.52 (90)	100	22.5 (10.2)	26.0 (11.7)
3 (80)	2000	11.38 (289)	12.75 (324)	2.00 (51)	3.00 (76)	3.55 (90)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	420	49.0 (22.2)	60.0 (27.2)
	3000	11.38 (289)	12.75 (324)	2.00 (51)	3.00 (76)	3.55 (90)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	420	49.0 (22.2)	60.0 (27.2)
	4000	11.38 (289)	12.75 (324)	2.00 (51)	3.00 (76)	3.55 (90)	2.53 (64)	6.96 (177)	11.88 (302)	4.83 (123)	420	49.0 (22.2)	60.0 (27.2)

Note: * 6" (152 mm) for stainless steel valves.

"A" dimension to be within ± 0.062 " (1.5 mm).

Model T3 – Full Port Flanged



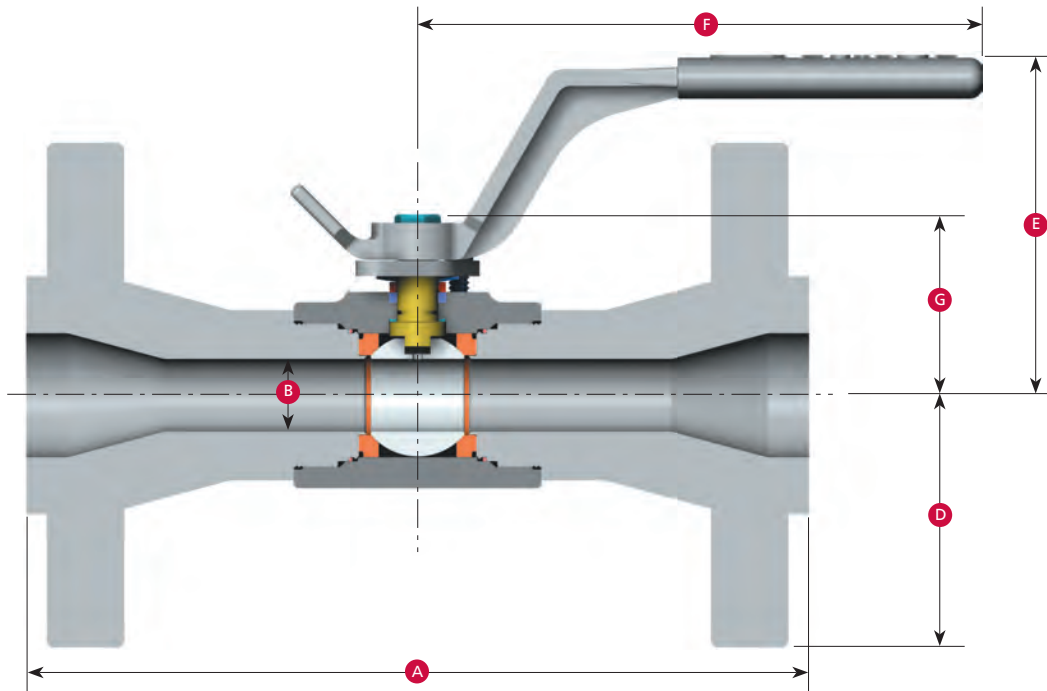
Dimensions

Size in. (mm)	ASME Class	PN	A		B	D	E	F	G	C _v	Weight lb (kg)
			RF	RTJ							
1/2 (15)	150	(20)	4.25 (108)	-	0.50 (13)	1.75 (45)	3.29 (83)	4.82 (122)	1.73 (44)	26	4.0 (1.8)
	300	(50)	5.50 (140)	5.94 (151)	0.50 (13)	1.87 (48)	3.29 (83)	4.82 (122)	1.73 (44)	26	4.4 (1.9)
	600	(100)	6.50 (165)	6.50 (165)	0.50 (13)	1.87 (48)	3.29 (83)	4.82 (122)	1.73 (44)	26	5.5 (2.4)
	900/1500	(150/250)	8.50 (216)	8.50 (216)	0.50 (13)	2.37 (60)	5.73 (146)	8.00 (203)	1.73 (44)	26	11.0 (4.9)
	2500	(420)	10.37 (264)	10.37 (264)	0.50 (13)	2.63 (67)	5.73 (146)	8.00 (203)	1.73 (44)	26	17.5 (7.9)
3/4 (20)	150	(20)	6.00 (152)*	-	0.88 (22)	1.94 (49)	4.40 (112)	6.75 (172)	2.16 (55)	50	10.3 (4.6)
	300	(50)	6.00 (152)	6.50 (165)	0.88 (22)	2.31 (59)	4.40 (112)	6.75 (172)	2.16 (55)	50	10.3 (4.6)
	600	(100)	7.50 (191)	7.50 (191)	0.88 (22)	2.31 (59)	4.40 (112)	6.75 (172)	2.16 (55)	50	13.3 (6.0)
	900/1500	(150/250)	9.00 (229)	9.00 (229)	0.88 (22)	2.56 (65)	4.40 (112)	6.75 (172)	2.16 (55)	50	16.3 (7.3)
	2500	(420)	10.75 (273)	10.75 (273)	0.88 (22)	2.75 (70)	6.20 (158)	8.12 (206)	2.16 (55)	50	22.8 (10.3)
1-1/2 (40)	150	(20)	6.50 (165)	7.00 (178)	1.50 (38)	2.50 (64)	5.62 (143)	11.00 (279)	3.52 (89)	260	21.0 (9.5)
	300	(50)	7.50 (191)	8.00 (203)	1.50 (38)	3.06 (78)	5.62 (143)	11.00 (279)	3.52 (89)	260	29.0 (13.1)
	600	(100)	9.50 (241)	9.50 (241)	1.50 (38)	3.06 (78)	5.62 (143)	11.00 (279)	3.52 (89)	260	32.5 (14.7)
	900/1500	(150/250)	12.00 (305)	12.00 (305)	1.50 (38)	3.50 (89)	5.62 (143)	11.00 (279)	3.52 (89)	260	46.0 (20.8)
	2500	(420)	15.12 (384)	15.25 (387)	1.50 (38)	4.00 (102)	5.62 (143)	11.00 (279)	3.52 (89)	260	74.0 (33.5)
2 (50)	150	(20)	7.00 (178)	7.50 (191)	2.00 (51)	3.00 (76)	6.96 (177)	11.88 (302)	4.83 (123)	480	36.2 (16.4)
	300	(50)	8.50 (216)	9.12 (232)	2.00 (51)	3.25 (83)	6.96 (177)	11.88 (302)	4.83 (123)	480	43.3 (19.6)
	600	(100)	11.50 (292)	11.62 (295)	2.00 (51)	3.25 (83)	6.96 (177)	11.88 (302)	4.83 (123)	480	51.5 (23.3)
	900/1500	(150/250)	14.50 (368)	14.62 (371)	2.00 (51)	4.25 (108)	6.96 (177)	11.88 (302)	4.83 (123)	480	81.0 (36.7)
	2500	(420)	17.75 (451)	17.87 (454)	2.00 (51)	4.62 (118)	6.96 (177)	11.88 (302)	4.83 (123)	480	121.0 (54.8)
3 (80)	150	(20)	8.00 (203)	8.50 (216)	3.00 (76)	3.75 (95)	8.26 (210)	23.89 (607)	5.37 (137)	1300	58.0 (26.3)
	300	(50)	11.12 (282)	11.75 (299)	3.00 (76)	4.12 (105)	8.26 (210)	23.89 (607)	5.37 (137)	1300	77.5 (35.1)

Note: * Non-standard length.

"A" dimension to be within ± 0.062 " (1.5 mm).

Model T3 – Reduced Port Flanged



Dimensions

Size	ASME		A		B	C	D	E	F	G	C _v	Weight
in. (mm)	Class	(PN)	RF	RTJ								lb (kg)
3/4 (20)	150	(20)	4.63 (118)	-	0.50 (13)	0.75 (19)	1.94 (49)	3.29 (83)	4.82 (122)	1.73 (44)	14	5.0 (2.2)
	300	(50)	6.00 (152)	6.50 (165)	0.50 (13)	0.75 (19)	2.31 (59)	3.29 (83)	4.82 (122)	1.73 (44)	14	7.0 (3.1)
	600	(100)	7.50 (191)	7.50 (191)	0.50 (13)	0.75 (19)	2.31 (59)	3.29 (83)	4.82 (122)	1.73 (44)	14	9.0 (4.0)
	900/1500	(150/250)	9.00 (229)	9.00 (229)	0.50 (13)	0.75 (19)	2.56 (65)	5.73 (146)	8.00 (203)	1.73 (44)	14	14.0 (6.3)
	2500	(420)	10.75 (273)	10.75 (273)	0.50 (13)	0.75 (19)	2.75 (70)	5.73 (146)	8.00 (203)	1.73 (44)	14	20.5 (9.2)
1 (25)	150	(20)	5.00 (127)	5.50 (140)	0.88 (22)	1.00 (25)	2.12 (54)	4.40 (112)	6.75 (172)	2.16 (55)	35	8.0 (3.6)
	300	(50)	6.50 (165)	7.00 (178)	0.88 (22)	1.00 (25)	2.44 (62)	4.40 (112)	6.75 (172)	2.16 (55)	35	11.5 (5.2)
	600	(100)	8.50 (216)	8.50 (216)	0.88 (22)	1.00 (25)	2.44 (62)	4.40 (112)	6.75 (172)	2.16 (55)	35	13.8 (6.2)
	900/1500	(150/250)	10.00 (254)	10.00 (254)	0.88 (22)	1.00 (25)	2.94 (75)	4.40 (112)	6.75 (172)	2.16 (55)	35	23.0 (10.4)
	2500	(420)	12.12 (308)	12.12 (308)	0.88 (22)	1.00 (25)	3.13 (79)	6.20 (158)	8.12 (206)	2.16 (55)	35	32.0 (14.5)
2 (50)	150	(20)	7.00 (178)	7.50 (191)	1.50 (38)	2.00 (51)	3.00 (76)	5.62 (143)	11.00 (279)	3.52 (89)	100	27.0 (12.2)
	300	(50)	8.50 (216)	9.12 (232)	1.50 (38)	2.00 (51)	3.25 (83)	5.62 (143)	11.00 (279)	3.52 (89)	100	32.0 (14.5)
	600	(100)	11.50 (292)	11.62 (295)	1.50 (38)	2.00 (51)	3.25 (83)	5.62 (143)	11.00 (279)	3.52 (89)	100	38.0 (17.2)
	900/1500	(150/250)	14.50 (368)	14.62 (371)	1.50 (38)	2.00 (51)	4.25 (108)	5.62 (143)	11.00 (279)	3.52 (89)	100	72.0 (32.6)
	2500	(420)	17.75 (451)	17.87 (454)	1.50 (38)	2.00 (51)	4.62 (118)	5.62 (143)	11.00 (279)	3.52 (89)	100	107.5 (48.7)
3 (80)	150	(20)	8.00 (203)	8.50 (216)	2.00 (51)	3.00 (76)	3.75 (95)	6.96 (177)	11.88 (302)	4.83 (123)	420	50.0 (22.6)
	300	(50)	11.12 (282)	11.75 (299)	2.00 (51)	3.00 (76)	4.12 (105)	6.96 (177)	11.88 (302)	4.83 (123)	420	63.2 (28.6)
	600	(100)	14.00 (356)	14.12 (359)	2.00 (51)	3.00 (76)	4.12 (105)	6.96 (177)	11.88 (302)	4.83 (123)	420	76.0 (34.4)
	900	(150)	15.00 (381)	15.12 (384)	2.00 (51)	3.00 (76)	4.75 (121)	6.96 (177)	11.88 (302)	4.83 (123)	420	97.0 (43.9)
	1500	(250)	18.50 (470)	18.62 (473)	2.00 (51)	3.00 (76)	5.25 (133)	6.96 (177)	11.88 (302)	4.83 (123)	420	134.0 (60.7)
	2500	(420)	22.75 (578)	23.00 (584)	2.00 (51)	3.00 (76)	6.00 (152)	7.77 (197)	23.89 (607)	4.83 (123)	420	223.0 (101.1)
4 (100)	150	(20)	9.00 (229)	9.50 (241)	3.00 (76)	4.00 (102)	4.50 (114)	8.26 (210)	23.89 (607)	5.37 (137)	770	72.5 (32.8)
	300	(50)	12.00 (305)	12.63 (321)	3.00 (76)	4.00 (102)	5.00 (127)	8.26 (210)	23.89 (607)	5.37 (137)	770	99.0 (44.9)

Note: "A" dimension to be within ± 0.062 " (1.5 mm).

Model B3

STANDARD FEATURES

Capscrews

Dual purpose, which allows for easy stem packing adjustment without handle removal, while providing a stop for the handle.

Stem

Blowout-proof stem is backseated through the valve body.

Handle

Rugged adjustable pipe handle. Handle position indicates flow position. When the handle is positioned in-line with the pipe, the valve is open. When the handle is positioned perpendicular to the pipe, the valve is closed.

Packing

Self-adjusting by means of a Belleville washer. Allows for long service life before manual packing adjustment is necessary.

Stem Seal

O-ring installed on stem shaft.

Thrust Washer

Acts as a bearing between the body and stem.

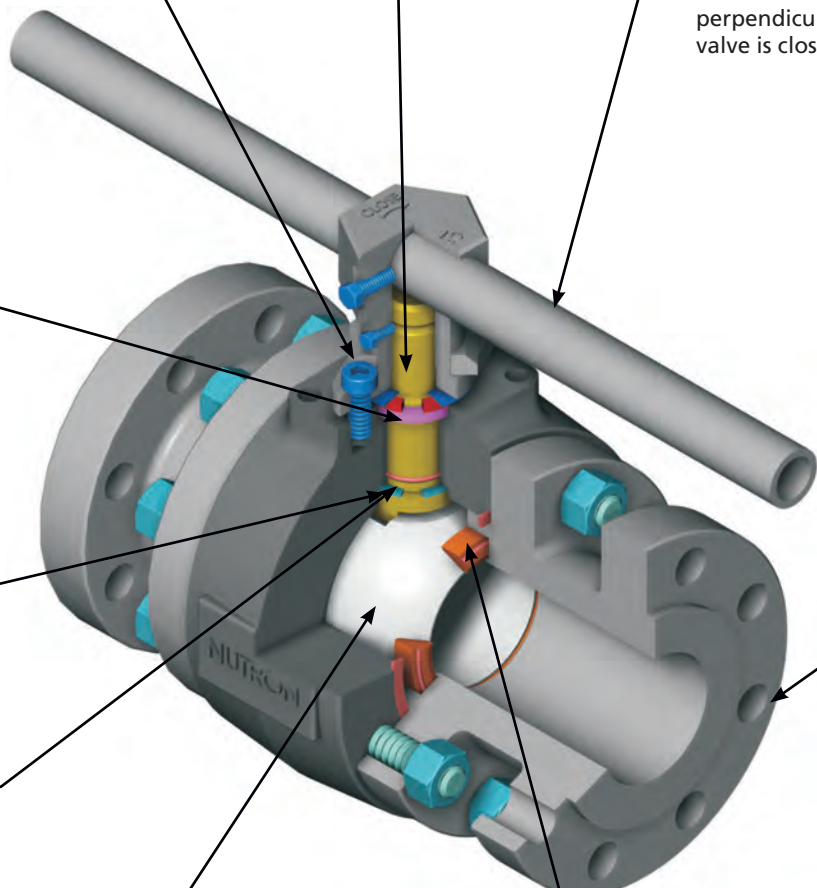
Ball

The floating ball design allows for positive shutoff in either flow direction. Includes pressure equalization hole to prevent trapping of pressure in the body cavity.

Seats

Materials available are Teflon, Delrin, PEEK and Devlon.

Body Construction
Forged steel bolted construction. A machined pad area is drilled and tapped for actuation, as a standard. Bolted construction allows for combinations of end connections.

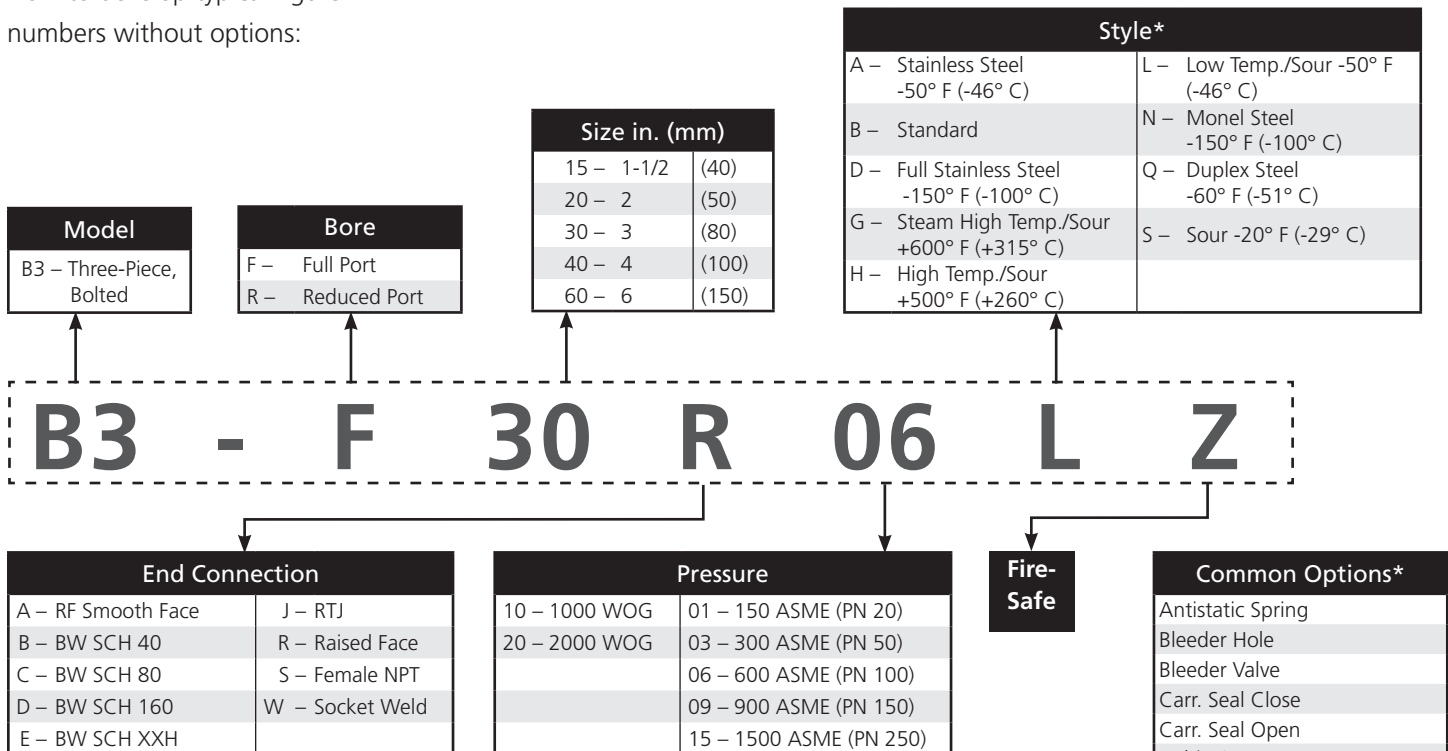


SIZES AVAILABLE

ASME Class (PN)		150 (20)	300 (50)	600 (100)	900 (150)	1500 (250)
Full Port	in. (mm)	2 through 4 (50 through 100)	2 through 4 (50 through 100)	1-1/2 through 3 (40 through 80)	1-1/2 through 3 (40 through 80)	1-1/2 through 3 (40 through 80)
Reduced Port		3 through 6 (80 through 150)	3 through 6 (80 through 150)	2 through 4 (50 through 100)	2 through 4 (50 through 100)	2 through 4 (50 through 100)
WOG (psi)				2000		4000
Full Port	in. (mm)			3 (80)		3 (80)
Reduced Port				4 (100)		

HOW TO ORDER

How to develop typical figure numbers without options:



* Consult Cameron for detailed valve style descriptions, full range of options, materials, actuation packages or for a particular special valve service application.

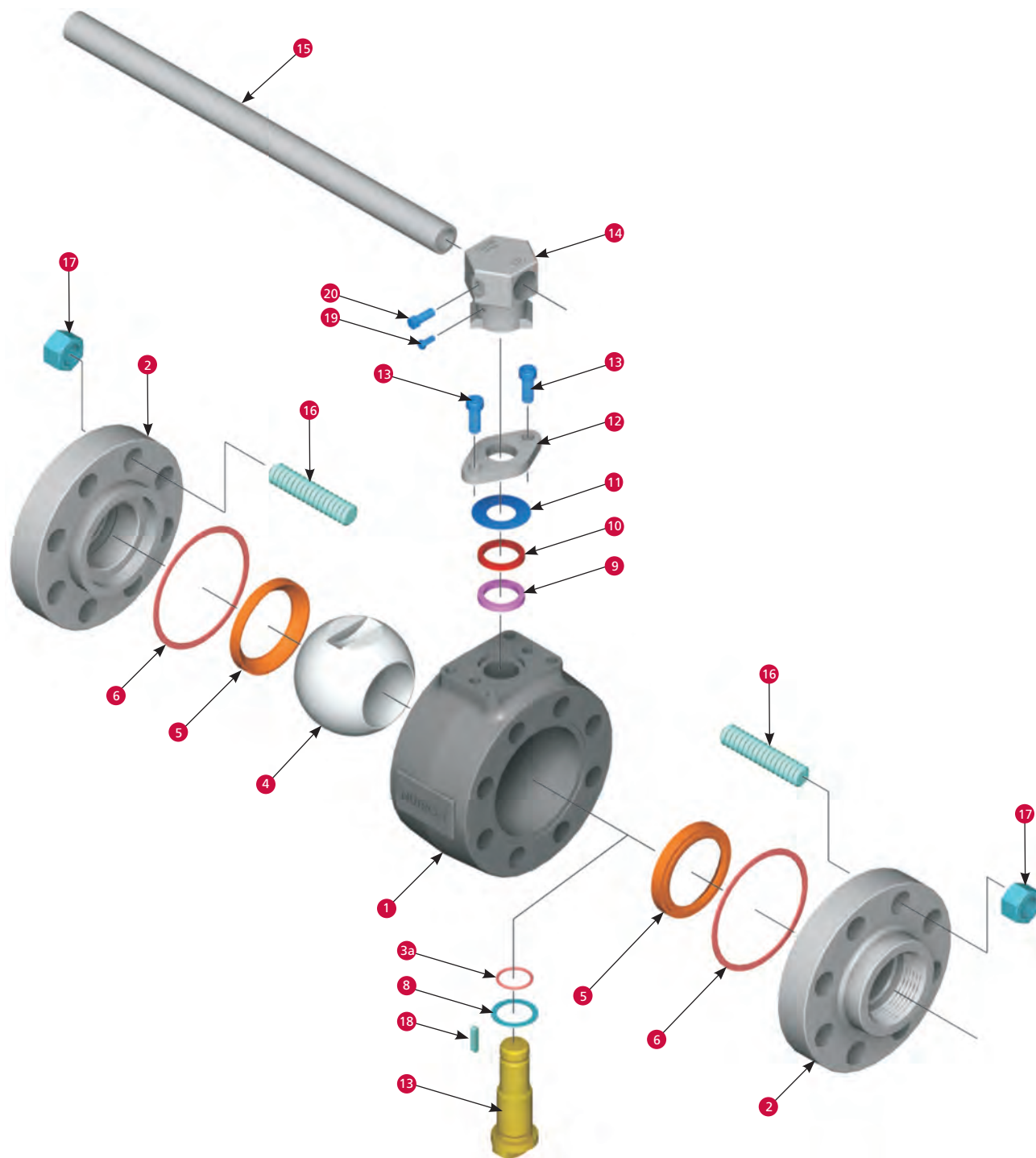
Cameron reserves the right to substitute materials listed on the following pages with alternate materials for the designated service.

Example:

B3-F30R06LZ = Model B3, full port, 3" (80 mm), raised face flanges, 600 ASME (PN 100), sour low-temp. valve, fire-safe

VALVE DETAILS AND MATERIALS LISTS

Model B3 – Threaded End Connections



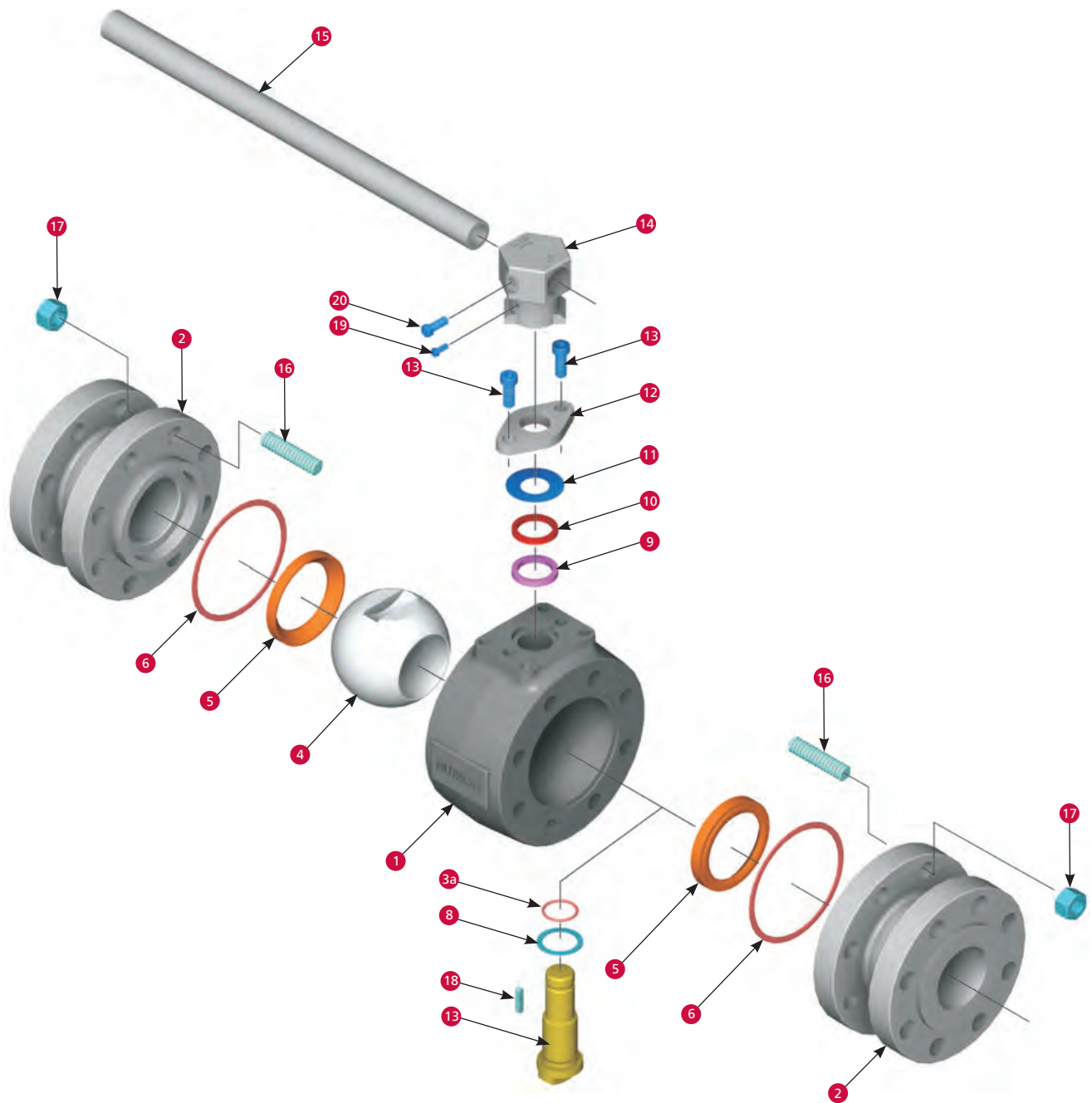
Materials Lists

Item	Part	Working Pressure	Standard -20° F (-29° C)	Sour -20° F (-29° C)
1	Body	All	ASTM A105	ASTM A105
2	End Caps	All	ASTM A350 LF2	ASTM A350 LF2
■ 3	Stem	All	ASTM A322 Gr. 4130, Plated	ASTM A564 17-4PH
■• 3a	Stem O-ring	All	HSN	HSN
■ 4	Ball	All	Carbon Steel, Chrome-Plated	ASTM A351 Gr. CF8M
■• 5	Seats	2000 4000	Teflon Delrin	Teflon Delrin
■• 6	Body Seals	All	Spiral-Wound Gasket	Spiral-Wound Gasket
■• 8	Thrust Washer	2000 4000	Teflon Delrin	Teflon Delrin
■• 9	Packing	2000/4000	Graphite/Teflon	Graphite/Teflon
10	Packing Follower	All	Carbon Steel, Plated	Stainless Steel
11	Belleville Washer	All	Carbon Steel	Stainless Steel
12	Gland Flange	All	Carbon Steel, Plated	Carbon Steel, Plated
13	Capscrews	All	Carbon Steel	Stainless Steel
14	Handle Nut	All	Carbon Steel	Carbon Steel
15	Pipe	All	Carbon Steel	Carbon Steel
16	Studs	All	ASTM A193 B7	ASTM A193 B7M
17	Nuts	All	ASTM A194 2H	ASTM A194 2HM
18	Key	All	Carbon Steel	Carbon Steel
19	Screw	All	Carbon Steel, Plated	Carbon Steel, Plated
20	Screw	All	Carbon Steel, Plated	Carbon Steel, Plated

Item	Part	Working Pressure	Low Temp./Sour -50° F (-46° C)	Stainless Steel -50° F (-46° C)
1	Body	All	ASTM A350 LF2	ASTM A479 Type 316
2	End Caps	All	ASTM A350 LF2	ASTM A479 Type 316
■ 3	Stem	All	ASTM A564 17-4PH	ASTM A564 17-4PH with Nitriding
■• 3a	Stem O-ring	All	HSN	HSN
■ 4	Ball	All	ASTM A351 Gr. CF8M	ASTM A351 Gr. CF8M
■• 5	Seats	2000 4000	Teflon Delrin	Teflon PEEK
■• 6	Body Seals	All	Spiral-Wound Gasket	Spiral-Wound Gasket
■• 8	Thrust Washer	2000 4000	Teflon Delrin	Teflon PEEK
■• 9	Packing	2000/4000	Graphite/Teflon	Graphite/Teflon
10	Packing Follower	All	Stainless Steel	Stainless Steel
11	Belleville Washer	All	Stainless Steel	Stainless Steel
12	Gland Flange	All	Carbon Steel, Plated	Carbon Steel, Plated
13	Capscrews	All	Stainless Steel	Stainless Steel
14	Handle Nut	All	Carbon Steel	Carbon Steel
15	Pipe	All	Carbon Steel	Carbon Steel
16	Studs	All	ASTM A320 L7M	ASTM A320 L7M, Coated
17	Nuts	All	ASTM A194 L7M	ASTM A194 L7M, Coated
18	Key	All	Carbon Steel	Carbon Steel
19	Screw	All	Carbon Steel, Plated	Carbon Steel, Plated
20	Screw	All	Carbon Steel, Plated	Carbon Steel, Plated

- Major repair kit.
- Minor repair kit.

Model B3 – Flanged End Connections
3" Full Port and 4" Reduced Port
ASME Classes 600, 900 and 1500 (PN 100, 150 and 250)



Materials Lists

Item	Part	Working Pressure	Standard -20° F (-29° C)	Sour -20° F (-29° C)
1	Body	All	ASTM A105	ASTM A105
2	End Caps	600, 900 and 1500	ASTM A105	ASTM A105
■	3 Stem	All	ASTM A322 Gr. 4130, Plated	ASTM A564 17-4PH
■•	3a Stem O-ring	All	HSN	HSN
■	4 Ball	All	ASTM A675 Chrome-Plated	ASTM A351 Gr. CF8M
■•	5 Seats	600 900 and 1500	Teflon Delrin	Teflon Delrin
■•	6 Body Seals	All	Spiral-Wound Gasket	Spiral-Wound Gasket
■•	8 Thrust Washer	600 900 and 1500	Teflon Delrin	Teflon Delrin
■•	9 Packing	All	Graphite	Graphite
	10 Packing Follower	All	Carbon Steel, Plated	Stainless Steel
	11 Belleville Washer	All	Carbon Steel	Stainless Steel
	12 Gland Flange	All	Carbon Steel, Plated	Carbon Steel, Plated
	13 Capscrews	All	Carbon Steel	Stainless Steel
	14 Handle Nut	All	Carbon Steel	Carbon Steel
	15 Pipe	All	Carbon Steel	Carbon Steel
	16 Studs	All	ASTM A193 B7	ASTM A193 B7M
	17 Nuts	All	ASTM A194 2H	ASTM A194 2HM
	18 Key	All	Carbon Steel	Carbon Steel
	19 Screw	All	Carbon Steel, Plated	Carbon Steel, Plated
	20 Screw	All	Carbon Steel, Plated	Carbon Steel, Plated

Item	Part	Working Pressure	Low Temp./Sour -50° F (-46° C)	Stainless Steel -50° F (-46° C)
1	Body	All	ASTM A350 LF2	ASTM A479 Type 316
2	End Caps	All	ASTM A350 LF2	ASTM A479 Type 316
■	3 Stem	All	ASTM A564 17-4PH	ASTM A564 17-4PH with Nitriding
■•	3a Stem O-ring	All	HSN	HSN
■	4 Ball	All	ASTM A351 Gr. CF8M	ASTM A351 Gr. CF8M
■•	5 Seats	600 900 and 1500	Teflon Delrin	Teflon PEEK
■•	6 Body Seals	All	Spiral-Wound Gasket	Spiral-Wound Gasket
■•	8 Thrust Washer	600 900 and 1500	Teflon Delrin	Teflon PEEK
■•	9 Packing	All	Graphite	Graphite
	10 Packing Follower	All	Stainless Steel	Stainless Steel
	11 Belleville Washer	All	Stainless Steel	Stainless Steel
	12 Gland Flange	All	Carbon Steel, Plated	Carbon Steel, Plated
	13 Capscrews	All	Stainless Steel	Stainless Steel
	14 Handle Nut	All	Carbon Steel	Carbon Steel
	15 Pipe	All	Carbon Steel	Carbon Steel
	16 Studs	All	ASTM A320 L7M	ASTM A320 L7M, Coated
	17 Nuts	All	ASTM A194 L7M	ASTM A194 L7M, Coated
	18 Key	All	Carbon Steel	Carbon Steel
	19 Screw	All	Carbon Steel, Plated	Carbon Steel, Plated
	20 Screw	All	Carbon Steel, Plated	Carbon Steel, Plated

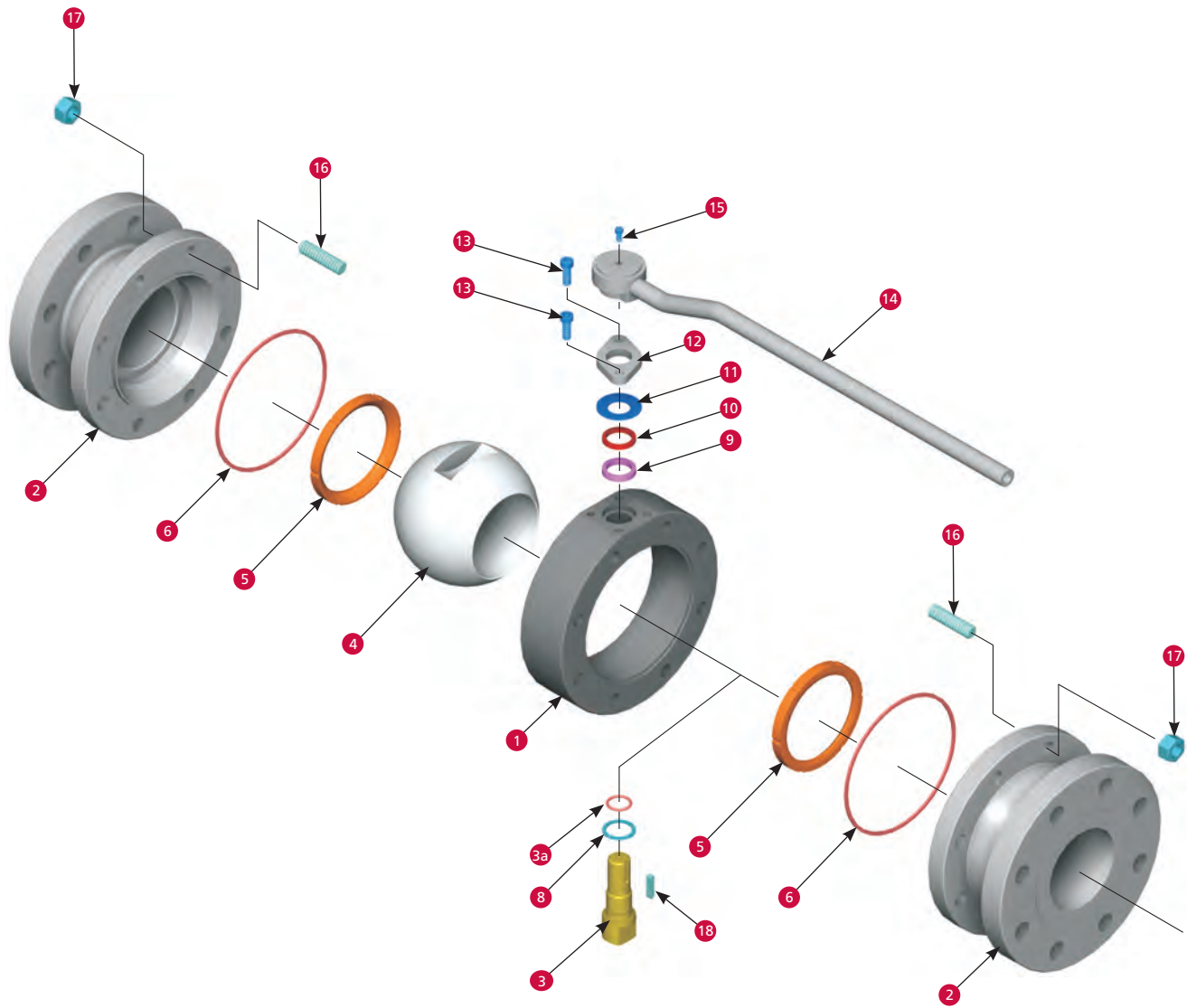
■ Major repair kit.

• Minor repair kit.

Note: Fire-safe trim offered as standard whenever possible.

Consult Cameron for fire-safe trim.

Model B3 – 4" Full Port and 6" Reduced Port
ASME Classes 150 and 300 (PN 20 and 50)



Materials Lists

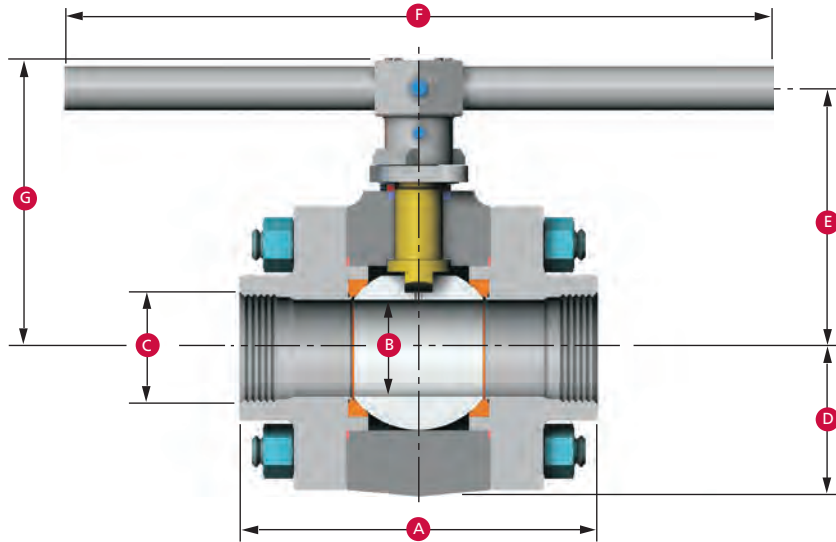
Item	Part	Sour -20° F (-29° C)	Low Temp./Sour -20° F (-29° C)
1	Body	ASTM A105	ASTM A350 LF2
2	End Caps	ASTM A350 LF2	ASTM A350 LF2
■ 3	Stem	ASTM A564 17-4PH	ASTM A564 17-4PH
■• 3a	Stem O-ring	HSN	HSN
■ 4	Ball	ASTM A351 Gr. CF8M	ASTM A351 Gr. CF8M
■• 5	Seats	Teflon	Teflon
■• 6	Body O-rings	Viton	Viton
■• 8	Thrust Washer	Teflon	Teflon
■• 9	Packing	Graphite	Graphite
10	Packing Follower	Stainless Steel	Stainless Steel
11	Belleville Washer	Stainless Steel	Stainless Steel
12	Gland Flange	Carbon Steel, Plated	Carbon Steel, Plated
13	Capscrews	Stainless Steel	Stainless Steel
14	Handle	Carbon Steel	Carbon Steel
15	Capscrew, Hex Head	Carbon Steel	Carbon Steel
16	Studs	ASTM A193 B7M	ASTM A320 L7M
17	Nuts	ASTM A194 2HM	ASTM A194 L7M
18	Key	Carbon Steel	Carbon Steel

Item	Part	Stainless Steel -50° F (-46° C)	
1	Body	ASTM A479 Type 316	
2	End Caps	ASTM A479 Type 316	
■ 3	Stem	ASTM A564 17-4PH with Nitriding	
■• 3a	Stem O-ring	HSN	
■ 4	Ball	ASTM A351 Gr. CF8M	
■• 5	Seats	Teflon	
■• 6	Body O-rings	Teflon	
■• 8	Thrust Washer	Teflon	
■• 9	Packing	Graphite	
10	Packing Follower	Stainless Steel	
11	Belleville Washer	Stainless Steel	
12	Gland Flange	Carbon Steel, Plated	
13	Capscrews	Stainless Steel	
14	Handle	Carbon Steel	
15	Capscrew, Hex Head	Carbon Steel	
16	Studs	ASTM A320 L7M, Coated	
17	Nuts	ASTM A194 L7M, Coated	
18	Key	Carbon Steel	

- Major repair kit.
- Minor repair kit.

VALVES ASSEMBLIES AND DIMENSIONS TABLES

Model B3 – Threaded 3" Full Port and 4" Reduced Port

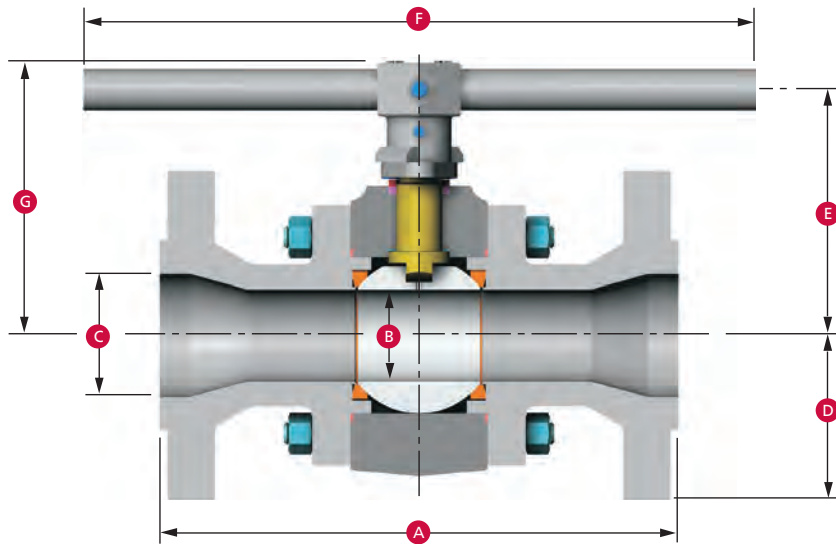


Dimensions

Size in. (mm)	WOG	A	B	C	D	E	F	G	C _v	Weight lb (kg)
3 FP (80 FP)	2000	10.0 (254)	3.0 (76)	3.0 (76)	4.45 (113)	8.00 (203)	22.0 (559)	8.90 (226)	1300	131.0 (59.4)
	4000	10.0 (254)	3.0 (76)	3.0 (76)	4.45 (113)	8.00 (203)	22.0 (559)	8.90 (226)	1300	131.0 (59.4)
4 RP (100 RP)	2000	12.0 (305)	3.0 (76)	4.0 (102)	4.45 (113)	8.00 (203)	22.0 (559)	8.90 (226)	770	145.0 (65.7)

Note: "A" dimension to be within ± 0.062 " (1.5 mm).

Model B3 – Flanged 3" Full Port and 4" Reduced Port

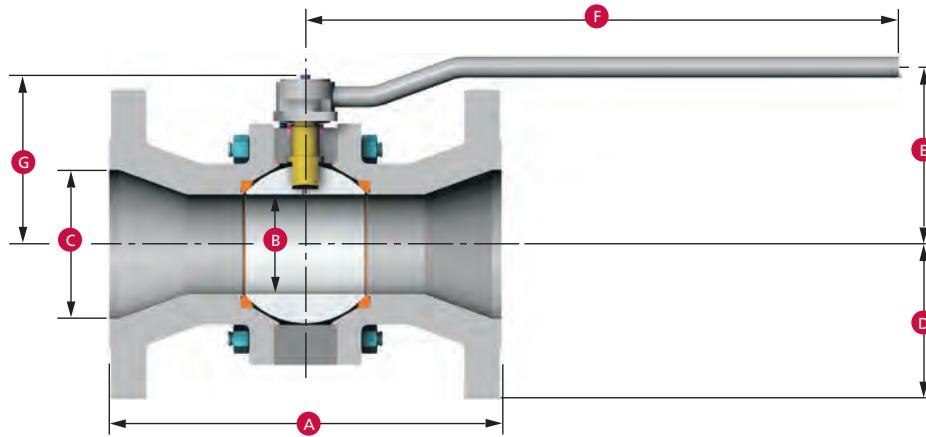


Dimensions

Size in. (mm)	ASME Class	(PN)	A		B	C	D	E	F	G	C _v	Weight lb (kg)
			RF	RTJ								
3 FP (80 FP)	600	(100)	14.0 (356)	14.12 (359)	3.0 (76)	3.0 (76)	4.12 (105)	8.00 (203)	22.0 (559)	8.90 (226)	1300	161.0 (73.0)
	900	(150)	15.0 (381)	15.12 (384)	3.0 (76)	3.0 (76)	4.75 (121)	8.00 (203)	22.0 (559)	8.90 (226)	1300	191.0 (86.6)
	1500	(250)	18.5 (470)	18.62 (473)	3.0 (76)	3.0 (76)	5.25 (133)	8.00 (203)	22.0 (559)	8.90 (226)	1300	239.0 (108.4)
4 RP (100 RP)	600	(100)	17.0 (432)	17.12 (435)	3.0 (76)	4.0 (102)	5.37 (136)	8.00 (203)	22.0 (559)	8.90 (226)	770	211.0 (95.7)
	900	(150)	18.0 (457)	18.12 (460)	3.0 (76)	4.0 (102)	5.75 (146)	8.00 (203)	22.0 (559)	8.90 (226)	770	242.0 (109.7)
	1500	(250)	21.5 (546)	21.62 (549)	3.0 (76)	4.0 (102)	6.12 (155)	8.00 (203)	22.0 (559)	8.90 (226)	770	292.0 (132.4)

Note: "A" dimension to be within ± 0.062 " (1.5 mm).

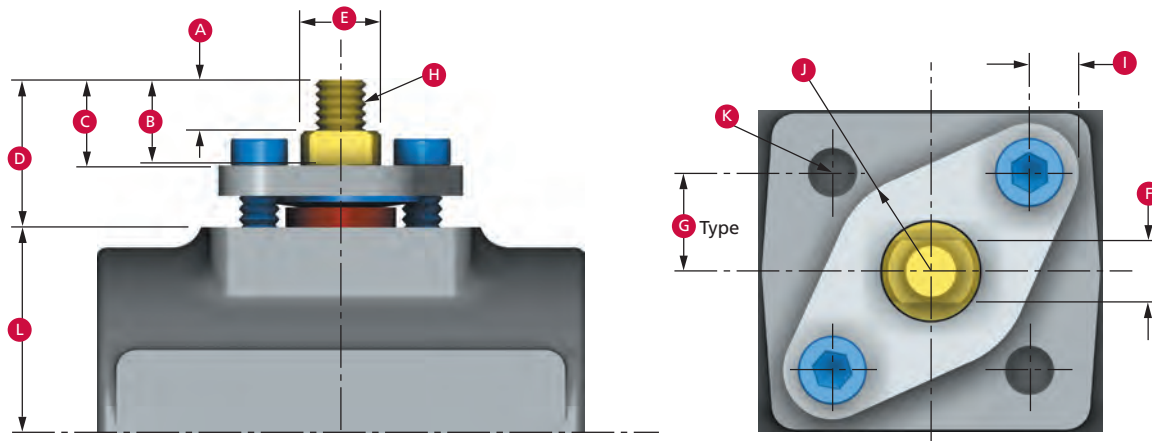
Model B3 – Flanged 4" Full Port and 6" Reduced Port



Dimensions

Size in. (mm)	ASME Class	(PN)	A	B	C	D	E	F	G	C _v	Weight lb (kg)
4 FP (100 FP)	150	(20)	9.00 (229)	4.00 (102)	4.00 (102)	4.50 (114)	7.60 (193)	24.00 (610)	6.65 (169)	2300	101 (45.8)
	300	(50)	12.00 (305)	4.00 (102)	4.00 (102)	5.00 (127)	7.60 (193)	24.00 (610)	6.65 (169)	2300	143 (64.8)
6 RP (150 RP)	150	(20)	10.50 (267)	4.00 (102)	6.00 (152)	5.50 (140)	7.60 (193)	24.00 (610)	6.65 (169)	1800	128 (58.0)
	300	(50)	15.88 (403)	4.00 (102)	6.00 (152)	6.25 (160)	7.60 (193)	24.00 (610)	6.65 (169)	1800	143 (64.8)

MODEL T3 – ACTUATOR MOUNTING DIMENSIONS



Dimensions

Size in. (mm)	A	B	C	D	E	F	G	H	I	J	K	L
1/4 FP (8 FP)	0.300 (7.6)	0.440 (11.1)	0.500 (12.7)	0.725 (18.4)	0.464 (11.8)	0.253 (6.4)	0.468 (11.9)	0.250-20 UNC (6.35-20 UNC)	0.23 (5.8)	0.50 (12.7)	#10-32 UNF-2B x 0.31 DP (#10-32 UNF-2B x 7.9 DP)	1.002 (25.5)
3/8 FP (10 FP)	0.300 (7.6)	0.440 (11.1)	0.500 (12.7)	0.725 (18.4)	0.464 (11.8)	0.253 (6.4)	0.468 (11.9)	0.250-20 UNC (6.35-20 UNC)	0.23 (5.8)	0.50 (12.7)	#10-32 UNF-2B x 0.31 DP (#10-32 UNF-2B x 7.9 DP)	1.002 (25.5)
1/2 FP and 3/4 RP (15 FP and 20 RP)	0.300 (7.6)	0.440 (11.1)	0.500 (12.7)	0.725 (18.4)	0.464 (11.8)	0.253 (6.4)	0.468 (11.9)	0.250-20 UNC (6.35-20 UNC)	0.23 (5.8)	0.50 (12.7)	#10-32 UNF-2B x 0.31 DP (#10-32 UNF-2B x 7.9 DP)	1.002 (25.5)
3/4 FP and 1 RP (20 FP and 25 RP)	0.312 (7.9)	0.515 (13.1)	0.560 (14.2)	0.905 (23.0)	0.496 (12.6)	0.314 (7.9)	0.498 (12.6)	0.312-18 UNC (7.92-18 UNC)	0.25 (6.4)	0.50 (12.7)	0.25-28 UNF-2B x 0.30 DP (6.35-28 UNF-2B x 7.6 DP)	1.250 (31.8)
1-1/2 FP and 2 RP* (40 FP and 50 RP)*	0.475 (12.1)	0.826 (21.0)	0.900 (22.9)	1.270 (32.3)	0.749 (19.0)	0.441 (11.2)	0.737 (18.7)	0.438-14 UNC (11.1-14 UNC)	0.40 (10.2)	0.75 (19.1)	0.312-24 UNF-2B x 0.437 DP (7.92-24 UNF-2B x 11.1 DP)	2.250 (57.2)
2 FP and 3 RP** (50 FP and 80 RP)**	0.690 (17.5)	1.180 (30.0)	1.225 (31.1)	1.821 (46.3)	1.000 (25.4)	0.628 (16.0)	0.875 (22.2)	0.625-11 UNC (15.9-11 UNC)	0.41 (10.4)	1.00 (25.4)	0.375-24 UNF-2B x 0.50 DP (9.53-24 UNF-2B x 12.7 DP)	3.000 (76.2)
3 FP and 4 RP*** (80 FP and 100 RP)***	0.690 (17.5)	1.180 (30.0)	1.225 (31.1)	1.821 (46.3)	1.000 (25.4)	0.628 (16.0)	0.875 (22.2)	0.625-11 UNC (15.9-11 UNC)	0.41 (10.4)	1.00 (25.4)	0.375-24 UNF-2B x 0.50 DP (9.53-24 UNF-2B x 12.7 DP)	3.500 (88.9)

* Applies to B3 1-1/2" (40 mm) full port and 2" (50 mm) reduced port ASME Classes 600, 900 and 1500 valves.

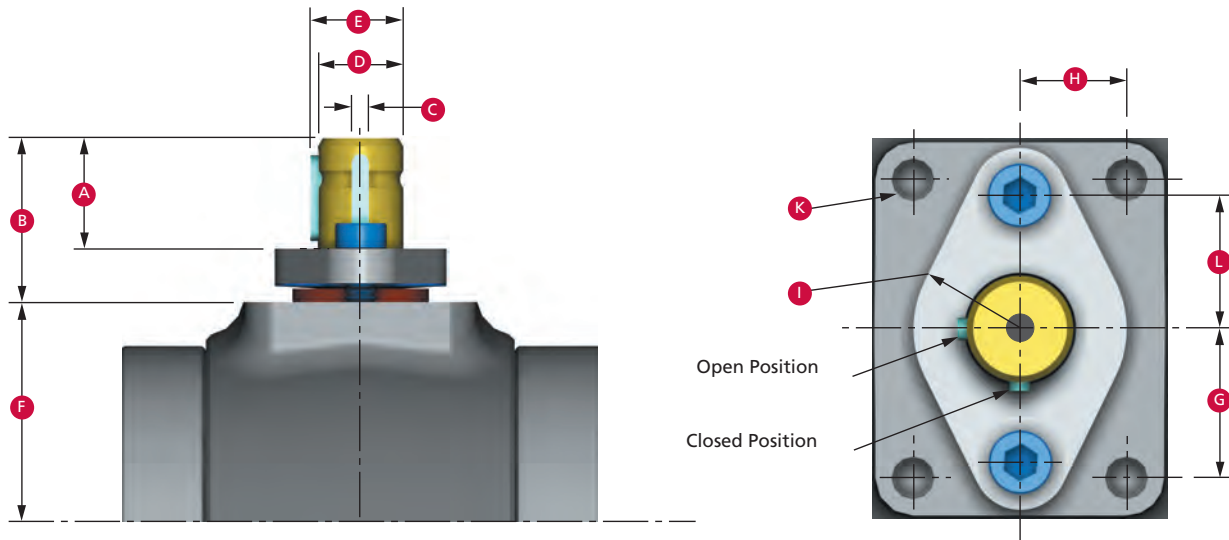
** Applies to B3 2" (50 mm) full port and 3" (80 mm) reduced port ASME Classes 600, 900 and 1500 valves.

*** Applies to B3 3" (80 mm) full port and 4" (100 mm) reduced port ASME Classes 150 and 300 valves.

Models T3 and B3

MODEL B3 – ACTUATOR MOUNTING DIMENSIONS*

3" Full Port and 4" Reduced Port

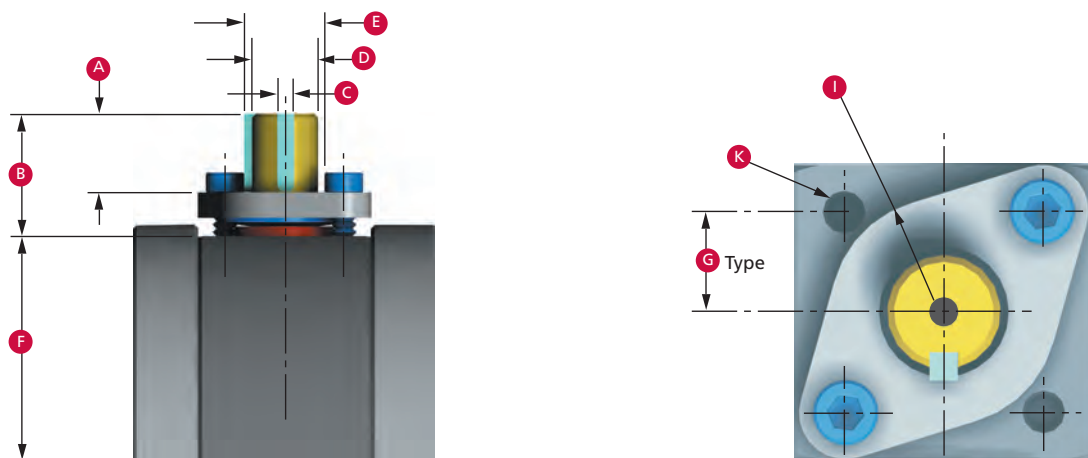


Dimensions

Size	in. (mm)	A	B	C	D	E	F	G	H	I	K	L
3 FP and 4 RP (80 FP and 100 RP)		1.64 (41.7)	2.395 (60.8)	0.25 (6.4)	1.248 (31.7)	1.362 (34.6)	4.875 (123.8)	1.75 (44.4)	1.25 (31.8)	1.25R (31.8R)	0.5-13 UNC-2B x 0.62 DP (12.7-13 UNC-2B x 15.7 DP)	1.566 (39.8)

(ASME Classes 600 through 1500, WOG 2000 through 4000)

4" Full Port and 6" Reduced Port



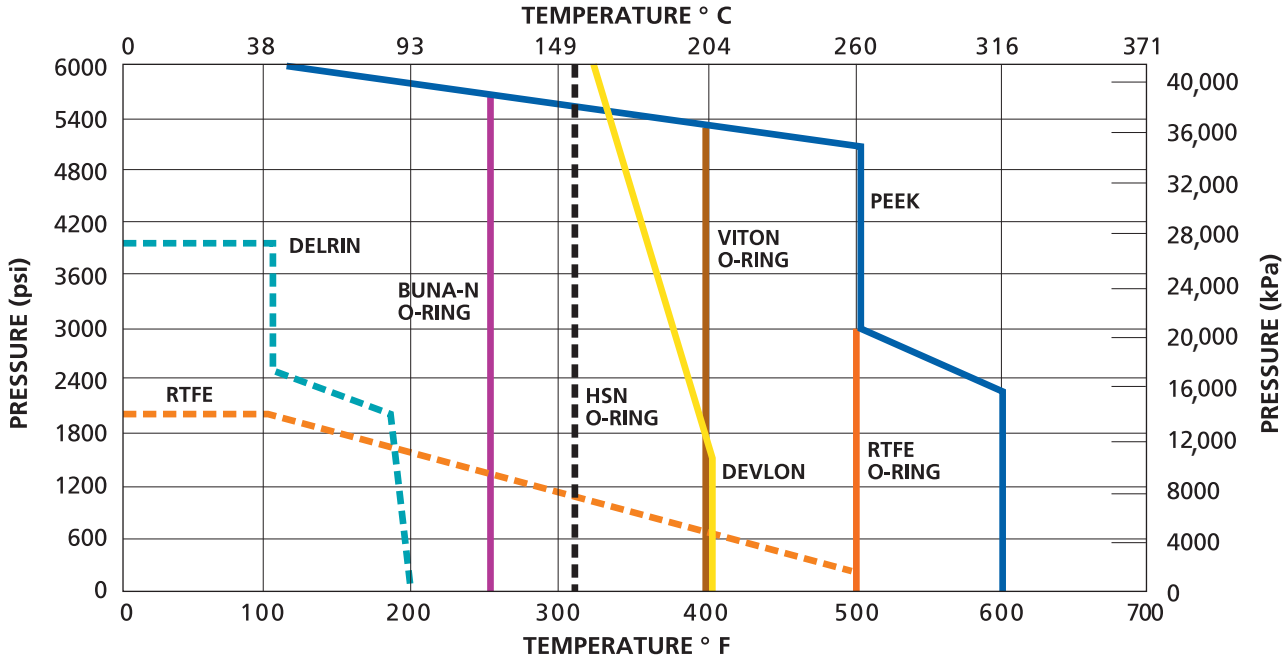
Dimensions

Size	in. (mm)	A	B	C	D	E	F	G	I	K
4 FP and 6 RP (100 FP and 150 RP)		1.255 (31.9)	1.85 (47.0)	0.25 (6.4)	1.00 (25.4)	1.11 (28.2)	4.688 (119.1)	0.877 (22.3)	1.00 (25.4)	0.375-24 UNF-2B x 0.5 Deep (9.5-24 UNF-2B x 12.7 Deep)

(ASME Classes 150 and 300)

* For B3 1-1/2", 2", 3" and 4" (40 mm, 50 mm, 80 mm and 100 mm) valves, see footnote on page 27.

PRESSURE/TEMPERATURE RATINGS (SEATS AND SEALS)*



* Consult ASME B16.34 for body and adapter material pressure/temperature ratings.

BREAKAWAY TORQUE DATA

Torque = in-lb

Bore Size	ASME Class (PN)	Pressure (psi)	Seat Material											
			0	150 (20)	300 (50)	600 (100)	900 (150)	1500 (250)	2000	3000	4000	5000	6000	
1/2	(15)	PEEK	72	84	96	108	120	132	144	156	180	192	216	240
		Devlon	72	84	96	108	120	132	144	156	180	192	216	240
		Delrin	60	72	84	96	108	120	132	144	168	180	-	-
		Teflon	60	72	84	96	108	120	-	-	-	-	-	-
7/8	(22)	PEEK	276	276	276	276	276	300	324	360	420	444	540	660
		Devlon	96	108	120	132	144	156	168	180	192	204	240	300
		Delrin	96	108	120	132	144	156	168	180	192	204	-	-
		Teflon	96	108	120	132	144	156	-	-	-	-	-	-
1-1/2	(40)	PEEK	600	648	696	744	792	840	864	936	1020	1080	1200	1500
		Devlon	360	420	480	576	660	720	792	900	960	1020	1080	1260
		Delrin	336	396	480	576	660	720	792	900	960	1020	-	-
		Teflon	336	360	396	420	456	504	-	-	-	-	-	-
2	(50)	PEEK	840	1080	1440	1680	1920	2100	2280	2700	3120	3300	3600	4200
		Devlon	600	720	900	1080	1200	1500	1680	1920	2160	2400	2400	2880
		Delrin	600	720	900	1080	1320	1560	1740	2040	2280	2520	-	-
		Teflon	600	636	816	936	1128	1344	-	-	-	-	-	-
3	(80)	PEEK	960	1440	2760	3840	4800	5760	6480	7200	8400	9000	-	-
		Devlon	720	1200	1920	2400	2880	3360	3600	4080	4800	5760	-	-
		Delrin	840	1380	2280	2640	3000	3600	3900	4200	4800	5760	-	-
		Teflon	720	1320	1920	2400	2880	3600	-	-	-	-	-	-
4	(100)	PEEK	1440	2400	3840	-	-	-	-	-	-	-	-	-
		Devlon	1200	2040	3120	-	-	-	-	-	-	-	-	-
		Teflon	1080	1944	2820	-	-	-	-	-	-	-	-	-

Torque values shown are to be used as a guide for actuator selection. All above torque values are based upon clean liquid service.

Additional factors such as media characteristics, number of cycles and temperature may require an additional safety factor.

Please contact Cameron for these factors.

CAMSERV Aftermarket Services for Actuation and Valves

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Our experts understand that each project is unique. That's why Cameron's CAMSERV™ Services help facilitate commissioning and start-up activities.

- Integrated solutions, onsite or at our global service centers
- Increased equipment and product performance
- The shortest possible trouble-free startup for your critical assets

Spare Parts and Asset Management

Cameron offers the assets and expertise to cover all aspects of valve management.

- Full inventory of quality exact OEM parts and spares
- Complete asset risk and criticality assessments
- Comprehensive inventory of your assets, including a complete recommended spare valves and parts list

Operational Support

Cameron's ability to address valve requirements in the field is a reflection of our commitment to life-of-asset support.

- Innovative asset management solutions
- Trouble-free installation, startup and operations
- Support from commission to operation – extending through all phases of a valve's life cycle
- Extensive inventory of spare valves and parts

Cameron's CAMSERV site management mitigates the risk of project delays by identifying issues in the construction process prior to valve installation to ensure valve integrity.



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