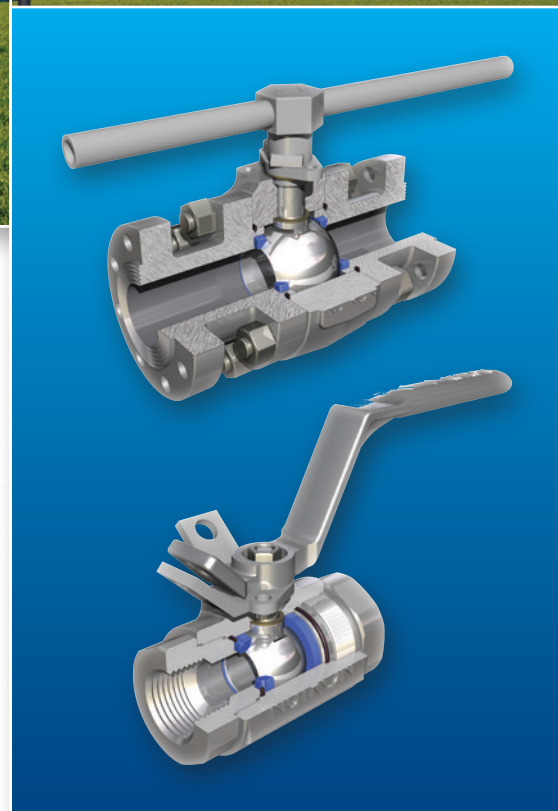




NUTRON Ball Valves— Models T3 and B3

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



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Sizes, Specifications, and Compliance

Model T3 three-piece threaded floating ball valves

- Full-port sizes: 1/2–3 in [15–80 mm]
- Reduced-port sizes: 3/4–4 in [20–100 mm]
- ASME Classes 150–2500 [PN 20–420] (see page 5)
- Water, oil, gas (WOG) pressure 1,000–6,000 psi (see page 5)
- End connections: threaded, flanged, socket weld, and butt weld

Model B3 three-piece bolted floating ball valves

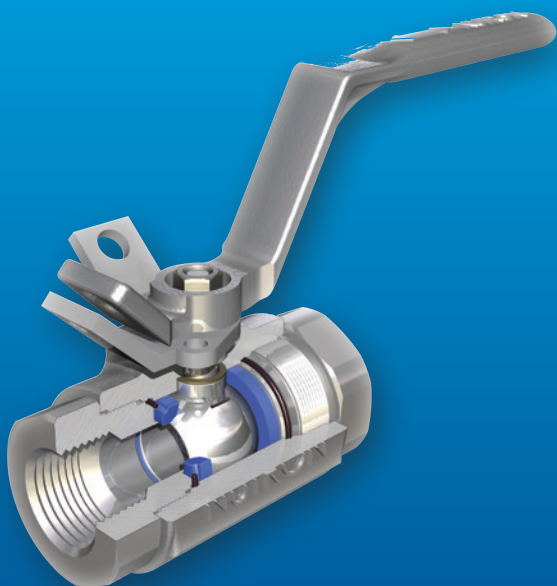
- Full-port sizes: 1 1/2–4 in [40–100 mm]
- Reduced-port sizes: 2–6 in [50–150 mm]
- ASME Classes 150–1500 [PN 20–250] (see page 19)
- WOG pressure: 2,000–4000 psi (see page 19)
- End connections: flanged, threaded, and butt weld

Materials and actuation

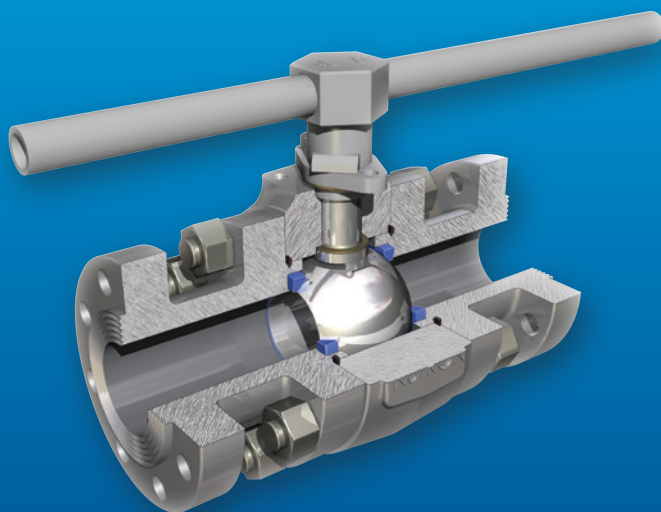
- Materials: carbon steel, stainless steel, and special alloys
- Operator: manual lever handle
- Actuation: consult Cameron for information on various types of actuators, including gear operators (B3), pneumatic, hydropneumatic, electric, electropneumatic, and hydraulic actuators

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 0038
- ASME Section VIII, Division 1 boiler and pressure vessel code
- CSA Z245.15 steel valves
- NACE MR0175 (Rev. 2002)
- Canadian Registration Number (CRN)
- API 603 (conduit factory) Model B3E

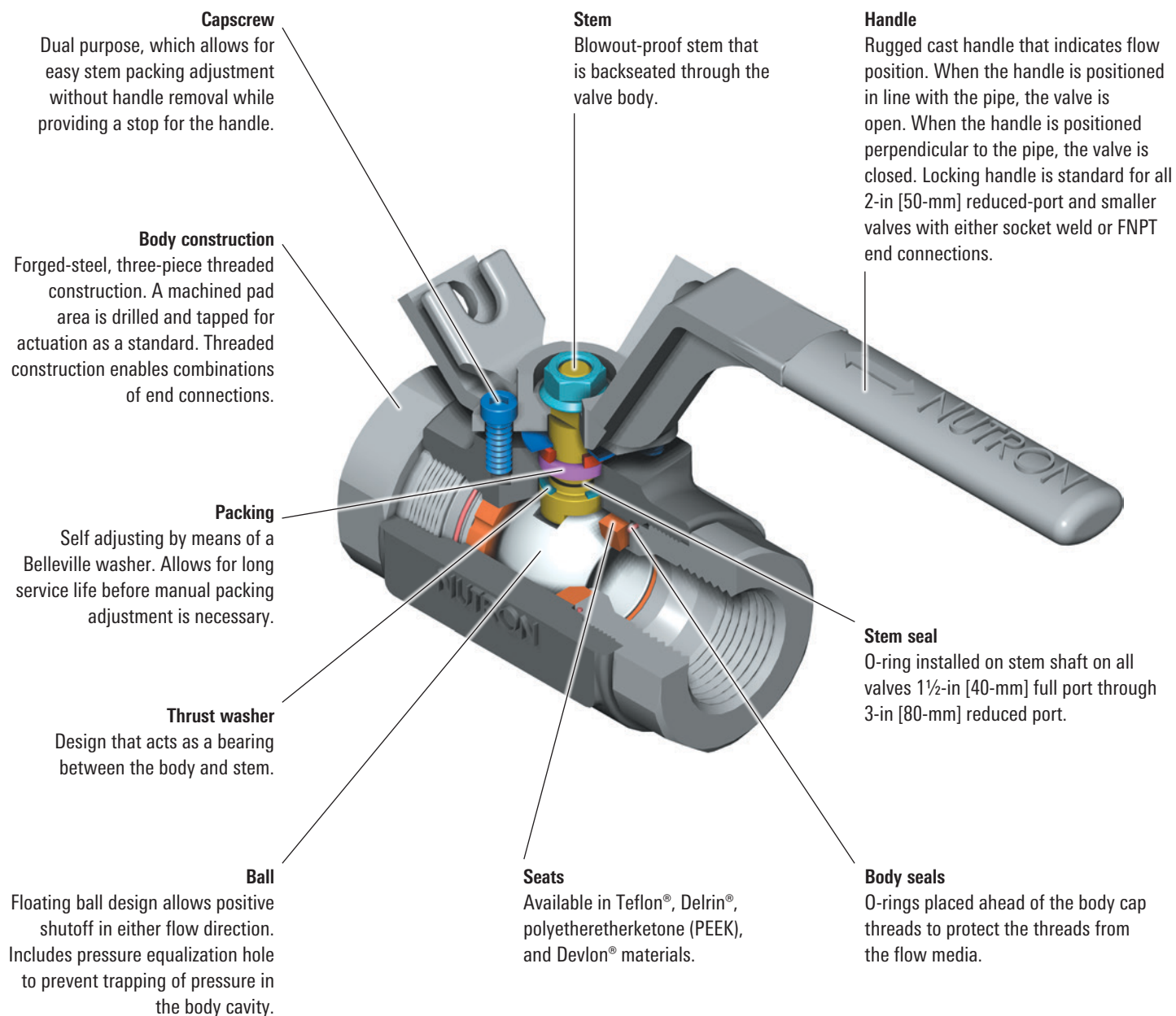


NUTRON Model T3 ball valve.



NUTRON Model B3 ball valve.

Model T3 Standard Features



Available Sizes

Sizes, in [mm]	ASME Class [PN]					
	150 [20]	300 [50]	600 [100]	900 [150]	1500 [250]	2500 [420]
Full port minus 1 in [25 mm]	½-3 [15-80]	½-3 [15-80]	½-2 [15-50]	½-2 [15-50]	½-2 [15-50]	½-2 [15-50]
Reduced port minus 1½ in [40 mm]	¾-4 [20-100]	¾-4 [20-100]	¾-3 [20-80]	¾-3 [20-80]	¾-3 [20-80]	¾-3 [20-80]
Sizes, in [mm]	WOG Pressure, psi					
	—	1,000	2,000	3,000	4,000	6,000
Full port, threaded	—	3 [80]	¼-3 [8-80]	¼-2 [8-50]	¼-2 [8-50]	¼-2 [8-50]
Reduced port, threaded	—	4 [100]	¾-3 [20-80]	¾-3 [20-80]	¾-3 [20-80]	¾-3 [20-80]
Full port, socket weld	—	—	½-2 [15-50]	½-2 [15-50]	½-2 [15-50]	½-2 [15-50]
Reduced port, socket weld	—	—	¾-3 [20-80]	¾-3 [20-80]	¾-3 [20-80]	¾-3 [20-80]

How to Order

Example

T3-F07S20SZ: Model T3, full port, ¾ in [20 mm],
FNPT, 2,000-psi WOG, sour valve, fire safe

T3 - F 07 S 20 S Z

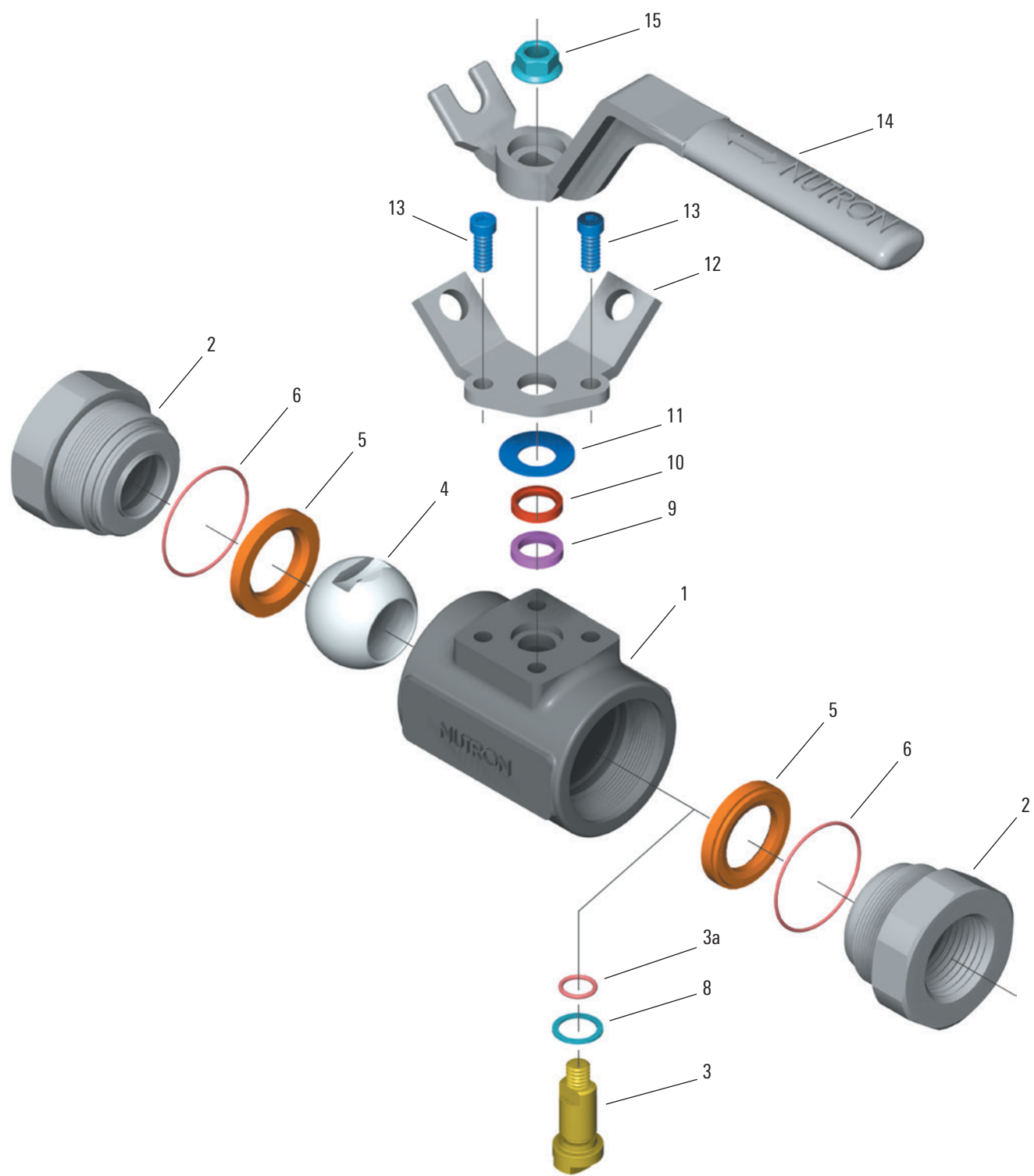
NPT, 2,000-psi WOG, sour valve, fire safe															
Model		Bore		Size		End Connection		Pressure		Style†		Temp. Rating, degF [degC]		Fire safe	
T3	Three-piece, threaded	F	Full port	02	¼ [8]	A	Raised face (RF) smooth face	10	1,000-psi WOG	A	Stainless steel	-50 [-46]		Z	Fire safe
		R	Reduced port	03	⅜ [10]	B	Butt weld (BW) Sch. 40	20	2,000-psi WOG	B	Standard				
				05	½ [15]	C	BW Sch. 80	30	3,000-psi WOG	D	Full stainless steel	-150 [-100]			
				07	¾ [20]	D	BW Sch. 160	40	4,000-psi WOG	G	Steam high-temperature sour	600 [315]			
				10	1 [25]	E	BW Sch. XXH	60	6,000-psi WOG	H	High-temperature sour	500 [260]			
				12	1¼ [32]	F	Female NPT (FNPT) × Male NPT (MNPT)	01	150 ASME	L	Low-temperature sour	-50 [-46]			
				15	1½ [40]	G	FNPT × RF	03	300 ASME	N	MONEL® alloy steel	-150 [-100]			
				20	2 [50]	H	FNPT × ring-type joint (RTJ)	06	600 ASME	Q	Duplex steel	-60 [-51]			
				25	2½ [65]	J	RTJ	09	900 ASME	S	Sour	-20 [-29]			
				30	3 [80]	M	MNPT	15	1500 ASME						
				40	4 [100]	R	Raised face	25	2500 ASME						
						S	FNPT								
						TS	FNPT × socket weld								
						WS	Socket weld								
Common Options†															
Antistatic spring															
Bleeder hole															
Bleeder valve															
Car seal close															
Car seal open															
Delrin material seats															
Devlon material seats															
Electroless nickel plating (ENP)															
Extended stem															
Gear operator															
Graphite packing															
Highly saturated nitrile (HSN) O-rings															
ZPEX® coating															
Locking handle															
Nitrile O-rings															
PEEK seats															
Seal injection															
Teflon material O-rings															
Viton material O-rings															

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

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

Valve Details and Materials Lists

Model T3—Threaded End Connections



Materials Lists

Item	Part	Working Pressure, psi	Standard –20 degF [–29 degC]	Sour –20 degF [–29 degC]
1	Body	All	ASTM A350 Grade LF2	ASTM A350 Grade LF2
2	End caps	All	ASTM A350 Grade LF2	ASTM A350 Grade LF2
■ 3	Stem	150, 300, 600, and 900	ASTM A108, plated	ASTM A564 17-4PH stainless steel
		1,500 and 2,500	ASTM A564 17-4PH® stainless steel	ASTM A564 17-4PH stainless steel
● 3a†	Stem O-ring	All	Nitrile rubber	HSN
■ 4	Ball	150–1,500	Carbon steel, chrome plated	ASTM A351 Grade CF8M
		2,500	ASTM A564 17-4PH stainless steel	ASTM A564 17-4PH stainless steel
■ ● 5	Seats	150, 300, and 600	Teflon material	Teflon material
		900 and 1,500	Delrin material	Delrin material
		2,500	PEEK	PEEK
■ ● 6	Body O-rings	All	Nitrile rubber	HSN
■ ● 8	Thrust washer	150, 300, and 600	Teflon material	Teflon material
		900 and 1,500	Delrin material	Delrin material
		2,500	PEEK	PEEK
■ ● 9	Packing	All	Teflon material	Teflon material
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, psi	Low-Temperature Sour –50 degF [–46 degC]	Stainless Steel –50 degF [–46 degC]
1	Body	All	ASTM A350 Grade LF2	ASTM A479 316
2	End caps	All	ASTM A350 Grade LF2	ASTM A479 316
■ 3	Stem	All	ASTM A564 17-4PH stainless steel	ASTM A564 17-4PH stainless steel with nitriding
		All	HSN	
■ ● 3a†	Stem O-ring	2,000	ASTM A351 Grade CF8M	ASTM A351 Grade CF8M
■ 4	Ball	3,000 and 4,000	ASTM A351 Grade CF8M	ASTM A564 17-4PH stainless steel
		6,000	ASTM A564 17-4PH stainless steel	ASTM A564 17-4PH stainless steel
■ ● 5	Seats	2,000	Teflon material	Teflon material
		3,000 and 4,000	Delrin material	PEEK
		6,000	PEEK	PEEK
■ ● 6	Body O-rings	All	HSN	Teflon material
■ ● 8	Thrust washer	2,000	Teflon material	Teflon material
		3,000 and 4,000	Delrin material	PEEK
		6,000	PEEK	PEEK
■ ● 9	Packing	All	Teflon material	Teflon material
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.

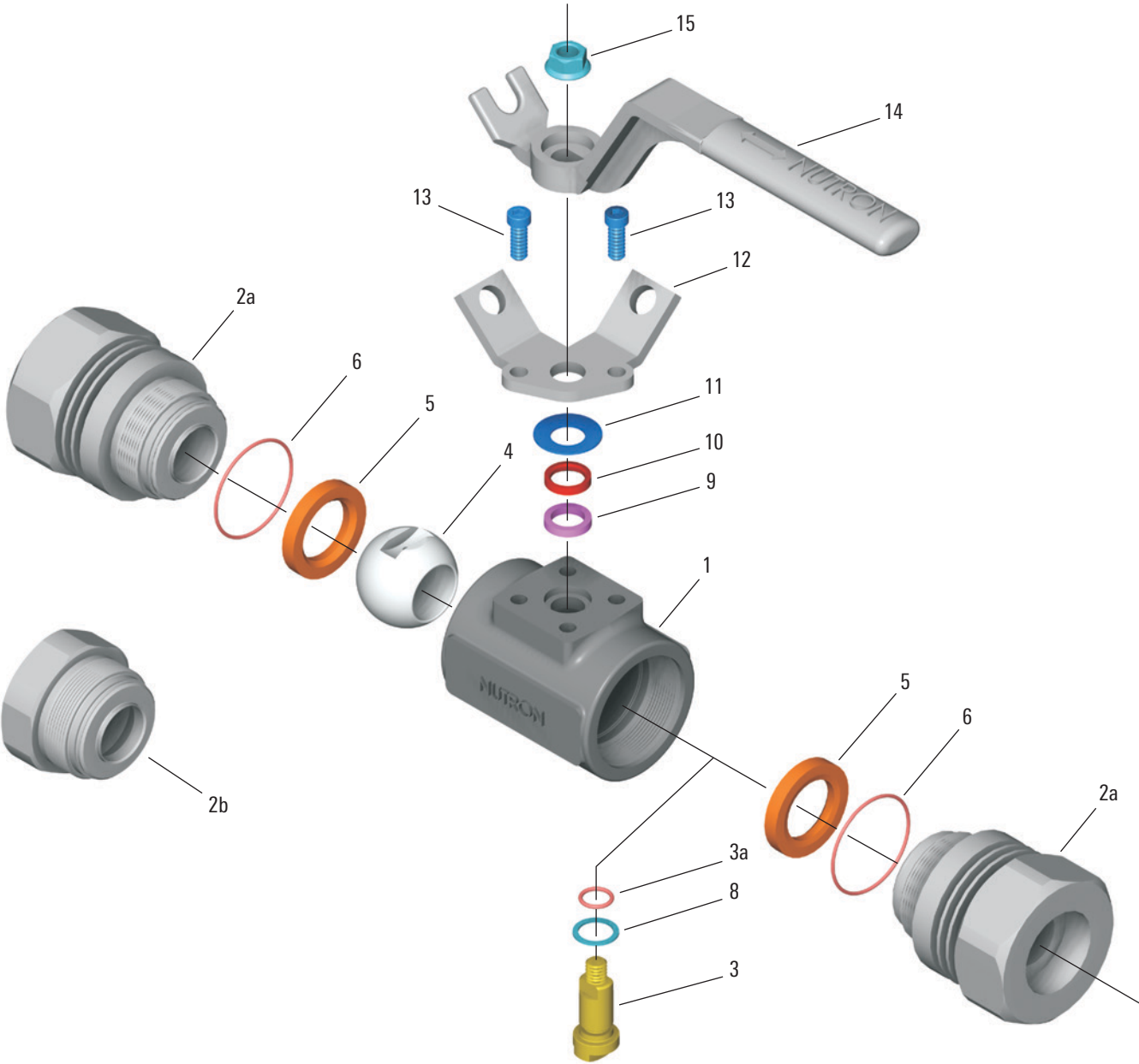
● Minor repair kit.

† Only available on sizes 1½-in [40-mm] full-port through 3-in [80-mm] reduced-port valves.

‡ Locking device is standard on ¼-in [8-mm] full-port through 2-in [50-mm] reduced-port valves.

Fire-safe trim offered as standard whenever possible. Consult Cameron for fire-safe trim.

Model T3—Socket Weld and Threaded × Socket Weld End Connections



Materials Lists

Item	Part	Working Pressure, psi	Standard –20 degF [–29 degC]	Sour –20 degF [–29 degC]
1	Body	All	ASTM A350 Grade LF2	ASTM A350 Grade LF2
2a	End caps—socket weld (SW)	All	ASTM A350 Grade LF2	ASTM A350 Grade LF2
2b	End caps—NPT	All	ASTM A350 Grade LF2	ASTM A350 Grade LF2
■ 3	Stem	2,000 and 3,000	ASTM A108, plated	ASTM A564 17-4PH stainless steel
		4,000 and 6,000	ASTM A564 17-4PH	ASTM A564 17-4PH stainless steel
■ ● 3a [†]	Stem O-ring	All	Viton material	Viton material
■ 4	Ball	2,000	ASTM A351 Grade CF8M	ASTM A351 Grade CF8M
		3,000, 4,000, and 6000	ASTM A564 17-4PH stainless steel	ASTM A564 17-4PH
■ ● 5	Seats	2,000	Teflon material	Teflon material
		3,000, 4,000, and 6000	PEEK	PEEK
■ ● 6	Body O-rings	All	Viton material	Viton material
■ ● 8	Thrust washer	2,000	Teflon material	Teflon material
		3,000, 4,000, and 6,000	PEEK	PEEK
■ ● 9	Packing	All	Teflon material	Teflon material
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, psi	Low-Temperature Sour –50 degF [–46 degC]	Stainless Steel –50 degF [–46 degC]
1	Body	All	ASTM A350 Grade LF2	ASTM A479 Type 316
2a	End caps—SW	All	ASTM A350 Grade LF2	ASTM A479 Type 316 L
2b	End caps—NPT	All	ASTM A350 Grade LF2	ASTM A479 Type 316
■ 3	Stem	All	ASTM A564 17-4PH stainless steel	ASTM A564 17-4PH stainless steel with nitriding
■ ● 3a [†]	Stem O-ring	All	Viton material	Viton material
■ 4	Ball	2,000	ASTM A351 Grade CF8M	ASTM A351 Grade CF8M
		3,000, 4,000, and 6,000	ASTM A564 17-4PH stainless steel	ASTM A564 17-4PH stainless steel
■ ● 5	Seats	2,000	Teflon material	Teflon material
		3,000, 4,000, and 6,000	PEEK	PEEK
■ ● 6	Body O-rings	All	Viton material	Viton material
■ ● 8	Thrust washer	2,000	Teflon material	Teflon material
		3,000, 4,000, and 6,000	PEEK	PEEK
■ ● 9	Packing	All	Teflon material	Teflon material
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.

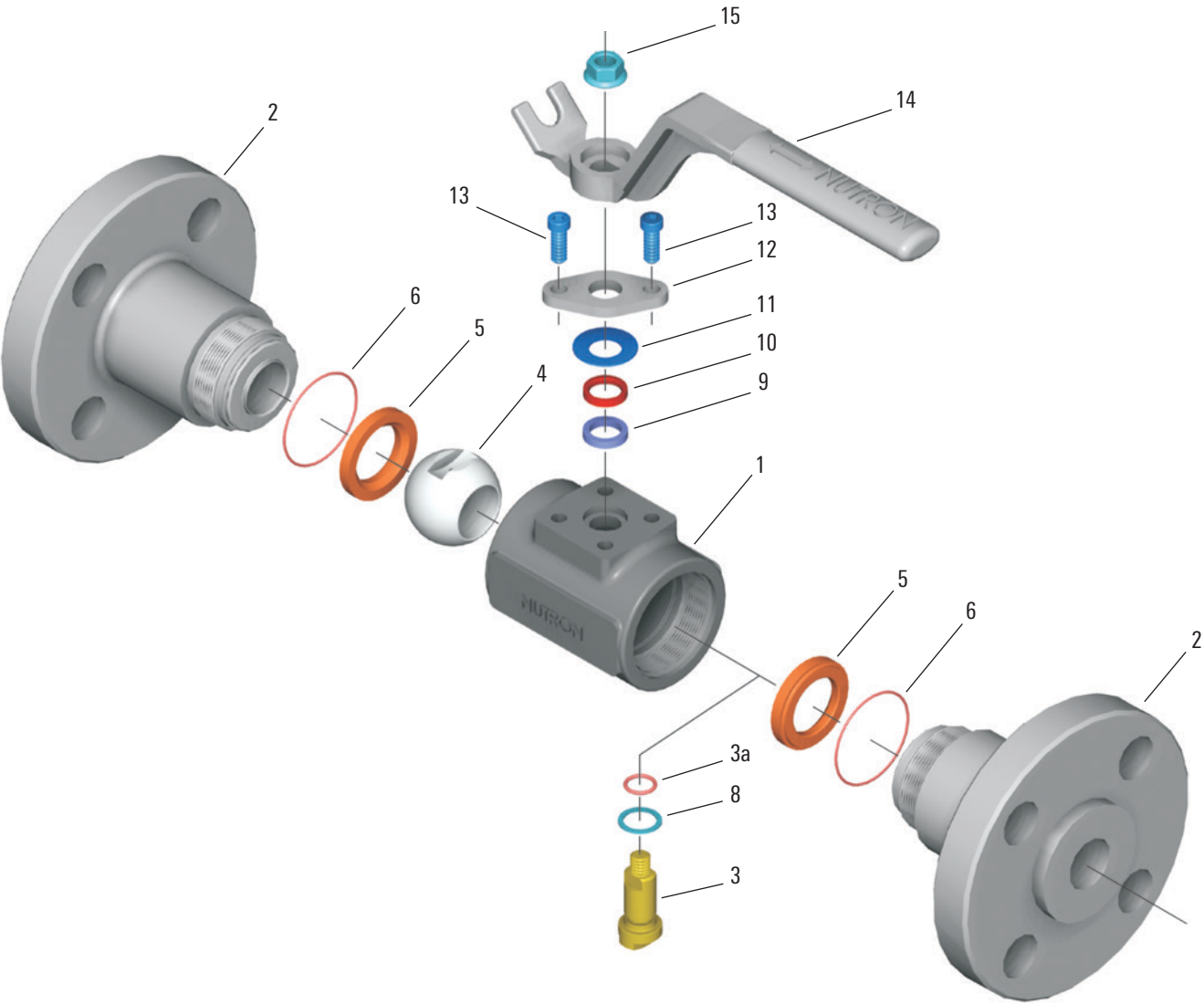
● Minor repair kit.

[†] Only available on sizes 1½-in [40-mm] full-port through 3-in [80-mm] reduced-port valves.

[‡] Locking device is standard on ¼-in [8-mm] full-port through 2-in [50-mm] reduced-port valves.

Fire-safe trim offered as standard whenever possible. Consult Cameron for fire-safe trim.

Model T3—Flanged End Connections
ASME Classes 150–2500 [PN 20–420]



Materials Lists

Item	Part	Working Pressure, psi	Standard –20 degF [–29 degC]	Sour –20 degF [–29 degC]
1	Body	All	ASTM A350 Grade LF2	ASTM A350 Grade LF2
2	End caps	All	ASTM A350 Grade LF2	ASTM A350 Grade LF2
■ 3	Stem	150, 300, 600, and 900	ASTM A108, plated	ASTM A564 17-4PH stainless steel
		1,500 and 2,500	ASTM A564 17-4PH stainless steel	ASTM A564 17-4PH stainless steel
■ ● 3a [†]	Stem O-ring	All	Nitrile rubber	HSN
■ 4	Ball	150 through 1,500	Carbon steel, chrome plated	ASTM A351 Grade CF8M
		2,500	ASTM A564 17-4PH stainless steel	ASTM A564 17-4PH stainless steel
■ ● 5	Seats	150, 300, and 600	Teflon material	Teflon material
		900 and 1,500	Delrin material	Delrin material
		2,500	PEEK	PEEK
■ ● 6	Body O-rings	All	Nitrile rubber	HSN
■ ● 8	Thrust washer	150, 300, and 600	Teflon material	Teflon material
		900 and 1,500	Delrin material	Delrin material
		2,500	PEEK	PEEK
■ ● 9	Packing	All	Teflon material	Teflon material
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-Temperature Sour –50 degF [–46 degC]	Stainless Steel –50 degF [–46 degC]
1	Body	All	ASTM A350 Grade LF2	ASTM A479 316
2	End caps	All	ASTM A350 Grade LF2	ASTM A479 316
■ 3	Stem	All	ASTM A564 17-4PH stainless steel	ASTM A564 17-4PH stainless steel with nitriding
■ ● 3a [†]	Stem O-ring	All	HSN	HSN
■ 4	Ball	150, 300, and 600	ASTM A351 Grade CF8M	ASTM A351 Grade CF8M
		900 and 1,500	ASTM A351 Grade CF8M	–
		2,500	ASTM A564 17-4PH stainless steel	ASTM A564 17-4PH stainless steel
■ ● 5	Seats	150, 300, and 600	Teflon material	Teflon material
		900 and 1,500	Delrin material	PEEK
		2,500	PEEK	PEEK
■ ● 6	Body O-rings	All	HSN	Teflon material
■ ● 8	Thrust washer	150, 300, and 600	Teflon material	Teflon material
		900 and 1,500	Delrin material	PEEK
		2,500	PEEK	PEEK
■ ● 9	Packing	All	Teflon material	Teflon material
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.

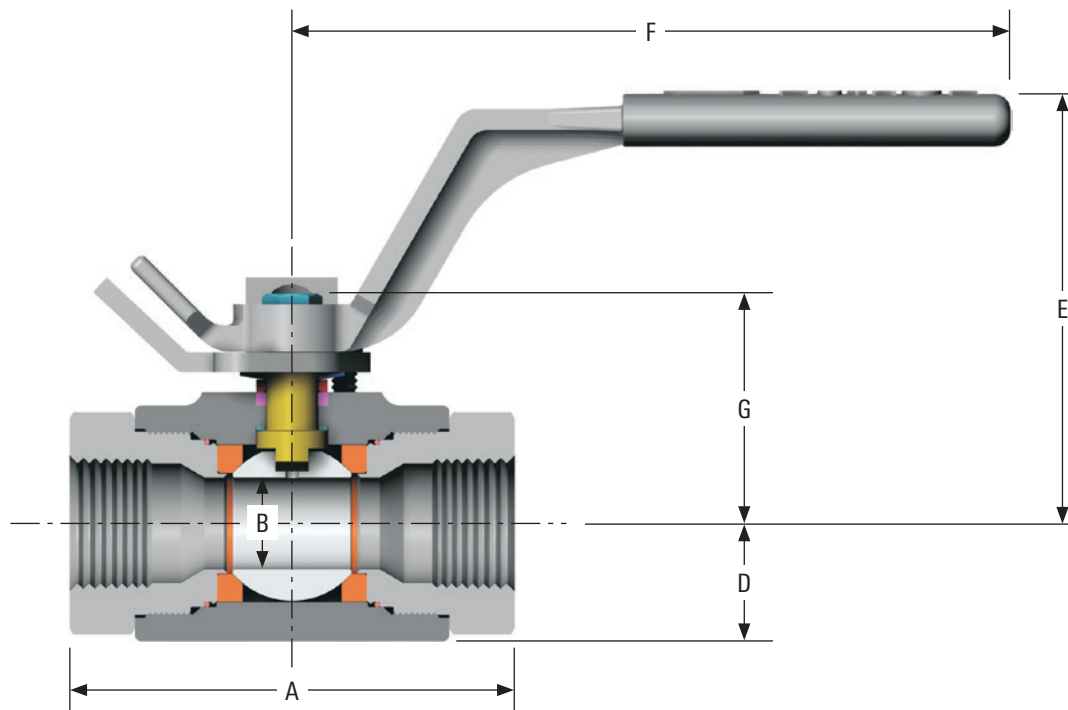
● Minor repair kit.

[†] Only available on sizes 1½-in [40-mm] full-port through 3-in [80-mm] reduced-port valves.

Fire-safe trim offered as standard whenever possible. Consult Cameron for fire-safe trim.

Valve Assemblies and Dimensions Tables

Model T3—Full-Port Threaded



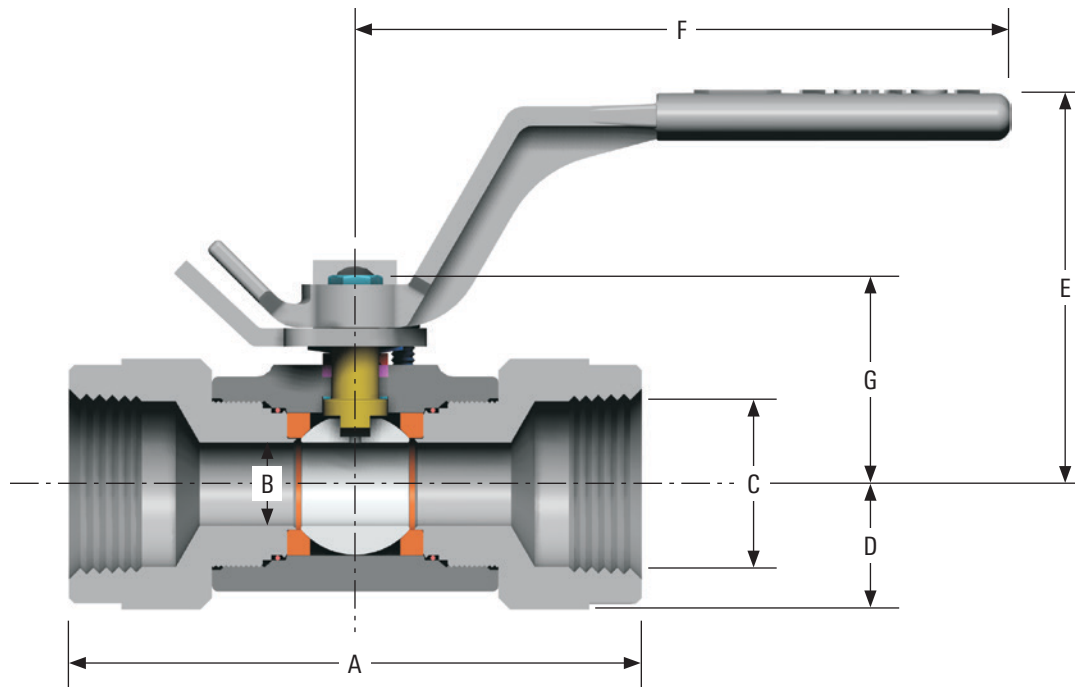
Dimensions

Size, in [mm]	WOG, psi	A	B	D	E	F	G	C _v	Weight, lbm [kg]
¼ [8]	2,000	3.88 [98]	0.50 [13]	0.82 [21]	3.29 [83]	4.82 [122]	1.73 [44]	9	2.5 [1.1]
	3,000	3.88 [98]	0.50 [13]	0.82 [21]	3.29 [83]	4.82 [122]	1.73 [44]	9	2.5 [1.1]
	4,000	3.88 [98]	0.50 [13]	0.82 [21]	3.29 [83]	4.82 [122]	1.73 [44]	9	2.5 [1.1]
	6,000	3.88 [98]	0.50 [13]	0.82 [21]	3.29 [83]	4.82 [122]	1.73 [44]	9	2.5 [1.1]
⅜ [10]	2,000	3.88 [98]	0.50 [13]	0.82 [21]	3.29 [83]	4.82 [122]	1.73 [44]	9	2.4 [1.0]
	3,000	3.88 [98]	0.50 [13]	0.82 [21]	3.29 [83]	4.82 [122]	1.73 [44]	9	2.4 [1.0]
	4,000	3.88 [98]	0.50 [13]	0.82 [21]	3.29 [83]	4.82 [122]	1.73 [44]	9	2.4 [1.0]
	6,000	3.88 [98]	0.50 [13]	0.82 [21]	3.29 [83]	4.82 [122]	1.73 [44]	9	2.4 [1.0]
½ [15]	2,000	3.88 [98] [†]	0.50 [13]	0.82 [21]	3.29 [83]	4.82 [122]	1.73 [44]	26	2.2 [0.9]
	3,000	3.88 [98] [†]	0.50 [13]	0.82 [21]	3.29 [83]	4.82 [122]	1.73 [44]	26	2.2 [0.9]
	4,000	3.88 [98] [†]	0.50 [13]	0.82 [21]	3.29 [83]	4.82 [122]	1.73 [44]	26	2.2 [0.9]
	6,000	4.38 [111]	0.50 [13]	0.82 [21]	3.29 [83]	4.82 [122]	1.73 [44]	26	2.2 [0.9]
¾ [20]	2,000	4.25 [108]	0.88 [22]	1.12 [29]	4.40 [112]	6.75 [172]	2.16 [55]	50	4.8 [2.1]
	3,000	4.25 [108]	0.88 [22]	1.12 [29]	4.40 [112]	6.75 [172]	2.16 [55]	50	4.8 [2.1]
	4,000	4.25 [108]	0.88 [22]	1.12 [29]	4.40 [112]	6.75 [172]	2.16 [55]	50	4.8 [2.1]
	6,000	4.25 [108]	0.88 [22]	1.50 [38]	4.40 [112]	6.75 [172]	2.16 [55]	50	6.5 [2.9]
1½ [40]	2,000	6.25 [159]	1.50 [38]	1.98 [50]	5.62 [143]	11.00 [279]	3.52 [89]	260	18.0 [8.1]
	3,000	6.25 [159]	1.50 [38]	1.98 [50]	5.62 [143]	11.00 [279]	3.52 [89]	260	18.0 [8.1]
	4,000	6.25 [159]	1.50 [38]	1.98 [50]	5.62 [143]	11.00 [279]	3.52 [89]	260	18.0 [8.1]
	6,000	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]	2,000	6.25 [159]	2.00 [51]	2.53 [64]	6.96 [177]	11.88 [302]	4.83 [123]	480	30.0 [13.6]
	3,000	6.25 [159]	2.00 [51]	2.53 [64]	6.96 [177]	11.88 [302]	4.83 [123]	480	30.0 [13.6]
	4,000	6.25 [159]	2.00 [51]	2.53 [64]	6.96 [177]	11.88 [302]	4.83 [123]	480	30.0 [13.6]
	6,000	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]	1,000	9.70 [246]	3.00 [76]	3.50 [89]	8.26 [210]	23.88 [607]	5.37 [137]	1,300	67.0 [30.4]
	2,000	9.70 [246]	3.00 [76]	3.50 [89]	8.26 [210]	23.88 [607]	5.37 [137]	1,300	67.0 [30.4]

[†]4.38 in [111 mm] for stainless steel valves.

*"A" dimension to be within ±0.062 in [1.5 mm].

Model T3—Reduced-Port Threaded

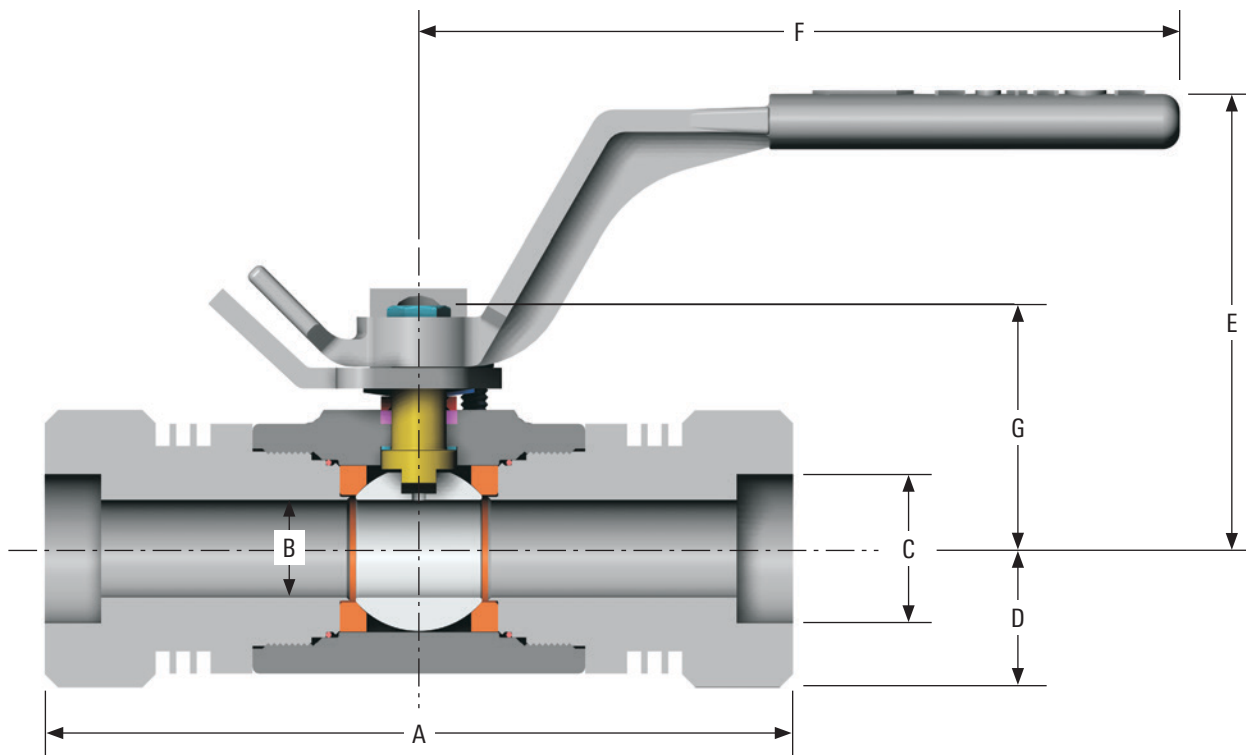


Dimensions

Size, in [mm]	WOG, psi	A	B	C	D	E	F	G	C _v	Weight, lbm [kg]
¾ [20]	2,000	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]
	3,000	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]
	4,000	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]
	6,000	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]	2,000	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]
	3,000	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]
	4,000	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]
	6,000	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]
1¼ [32]	2,000	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]
	3,000	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]	2,000	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]
	3,000	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]
	4,000	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]
	6,000	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]	2,000	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]
	3,000	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]
	4,000	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]
	6,000	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]	1,000	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]

*A" dimension to be within ±0.062 in [1.5 mm].

Model T3—Full-Port Socket Weld and Threaded × Socket Weld



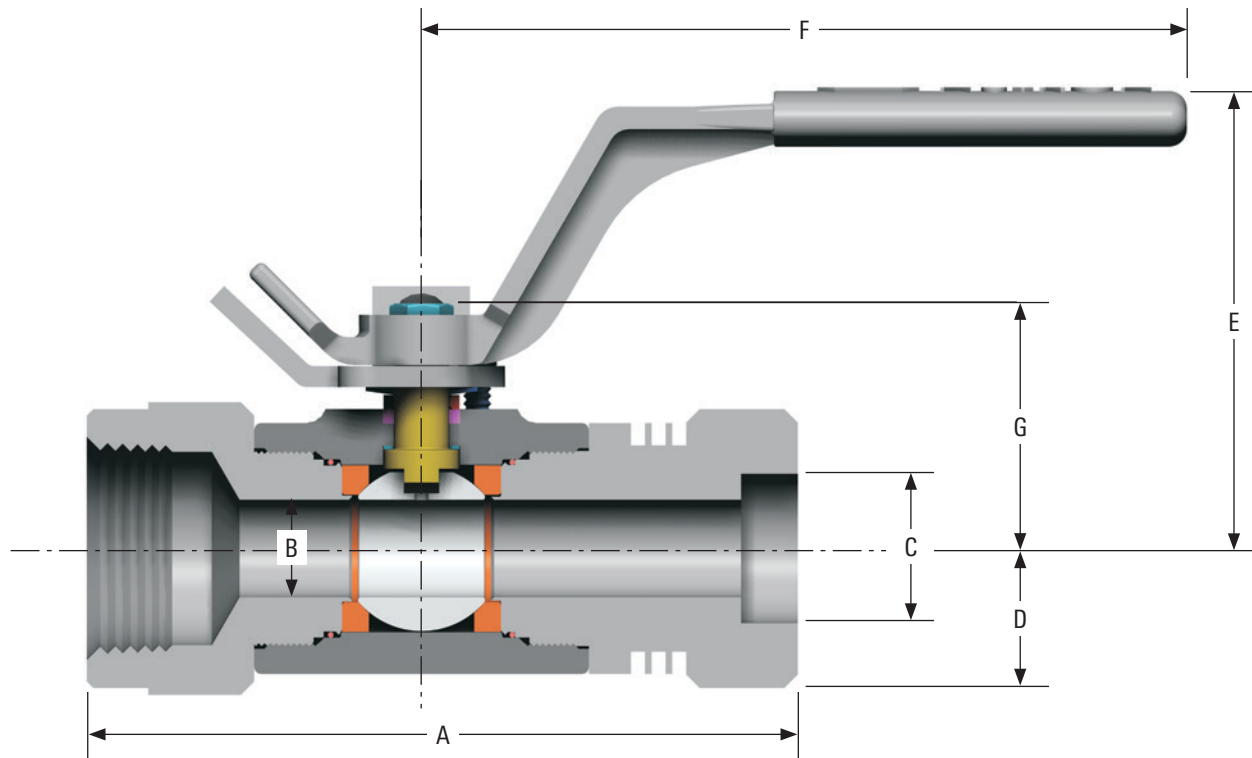
Dimensions

Size, in [mm]	WOG, psi	A		B	C		D	E	F	G	C _v	Weight, lbm [kg]	
		FNPT × SW	SW		FNPT × SW	SW						FNPT × SW	SW
½ [15]	2,000	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]
	3,000	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]
	4,000	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]
	6,000	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]
¾ [20]	2,000	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]
	3,000	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]
	4,000	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]
	6,000	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]
1½ [40]	2,000	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]
	3,000	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]
	4,000	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]
	6,000	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]	2,000	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]
	3,000	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]
	4,000	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]
	6,000	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]

[†]4.69 in [119 mm] for stainless steel valves.

*"A" dimension to be within ±0.062 in [1.5 mm].

Model T3—Reduced-Port Socket Weld and Threaded × Socket Weld



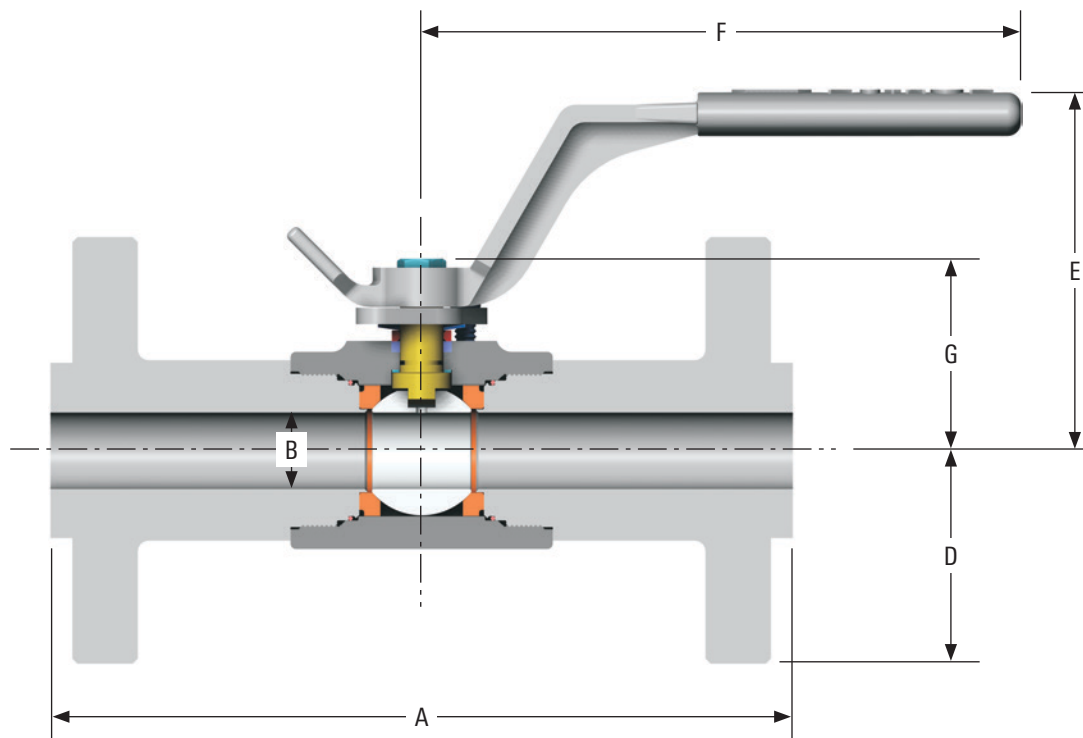
Dimensions

Size, in [mm]	WOG, psi	A		B	C		D	E	F	G	C _v	Weight, lbm [kg]	
		FNPT × SW	SW		FNPT × SW	SW						FNPT × SW	SW
¾ [20]	2,000	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]
	3,000	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]
	4,000	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]
	6,000	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]	2,000	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]
	3,000	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]
	4,000	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]
	6,000	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]	2,000	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]
	3,000	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]
	4,000	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]
	6,000	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]	2,000	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]
	3,000	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]
	4,000	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]

[†]6 in [152 mm] for stainless steel valves.

"A" dimension to be within ±0.062 in [1.5 mm].

Model T3—Full-Port Flanged



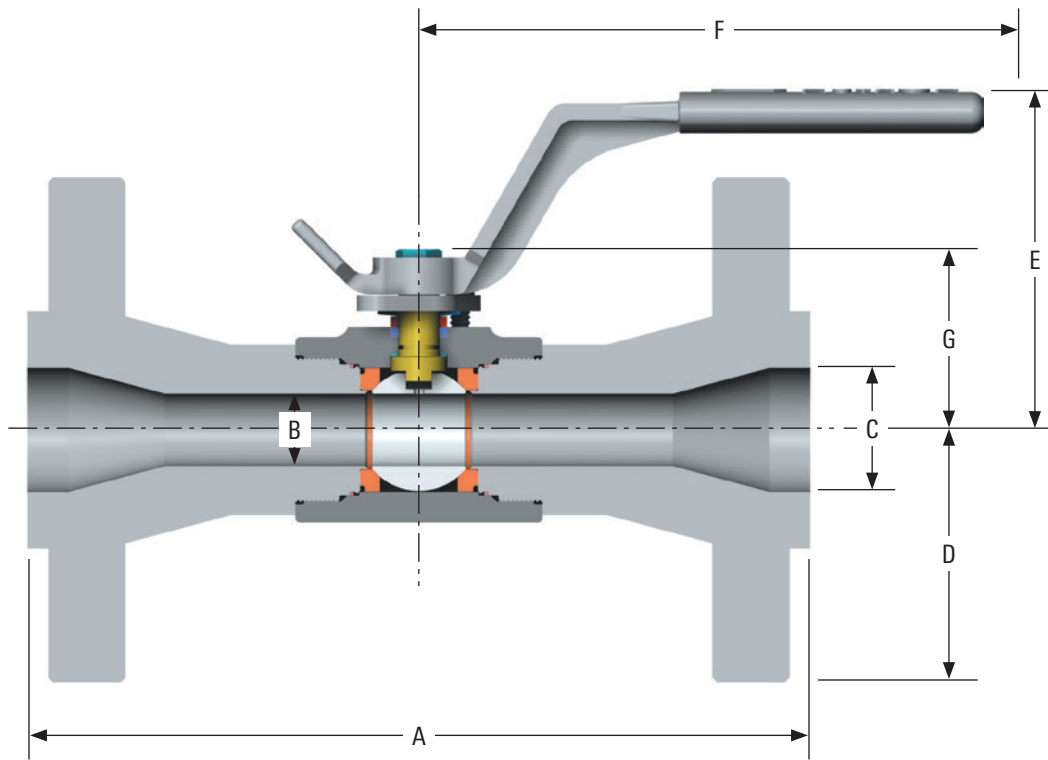
Dimensions

Size, in [mm]	ASME Class [PN]	A		B	D	E	F	G	C _v	Weight, lbm [kg]
		RF	RTJ							
½ [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 or 1500 [150 or 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]
¾ [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 or 1500 [150 or 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]
1½ [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 or 1500 [150 or 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 or 1500 [150 or 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]	1,300	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]	1,300	77.5 [35.1]

Nonstandard length.

"A" dimension to be within ±0.062 in [1.5 mm].

Model T3—Reduced-Port Flanged

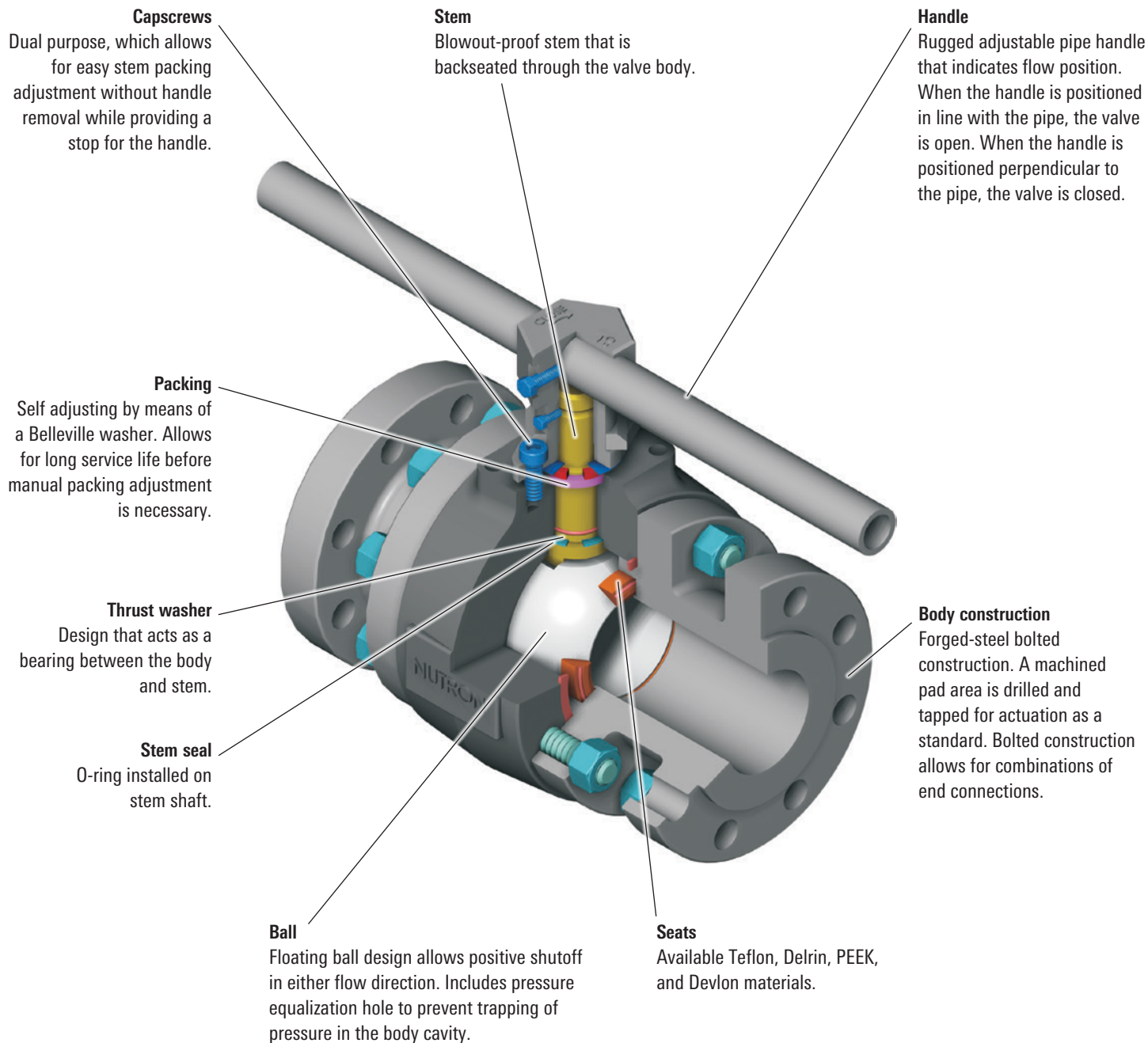


Dimensions

Size, in [mm]	ASME Class [PN]	A		B	C	D	E	F	G	C _v	Weight, lbm [kg]
		RF	RTJ								
¾ [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 or 1500 [150 or 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 or 1500 [150 or 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 or 1500 [150 or 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]

*"A" dimension to be within ±0.062 in [1.5 mm].

Model B3 Standard Features



Available Sizes

Sizes, in [mm]	ASME Class [PN]				
	150 [20]	300 [50]	600 [100]	900 [150]	1500 [250]
Full port	2–4 [50–100]	2–4 [50–100]	1½–3 [40–80]	1½–3 [40–80]	1½–3 [40–80]
Reduced port	3–6 [80–150]	3–6 [80–150]	2–4 [50–100]	2–4 [50–100]	2–4 [50–100]
Sizes, in [mm]	WOG, psi				
	–	–	2,000	–	4,000
Full port	–	–	3 [80]	–	3 [80]
Reduced port	–	–	4 [100]	–	–

How to Order

B3-F30R06LZ: Model B3, full port, 3 in [80 mm], raised face flanges, 600 ASME [PN 100], sour low-temperature valve, fire safe

Example

B3 - F 30 R 06 L Z

Model	Bore	Size, in [mm]	End Connection	Pressure	Style [†]	Temperature Rating, degF [degC]	Fire Safe
B3 Three-piece, bolted	F Full port R Reduced port	15 1½ [40] 20 2 [50] 30 3 [80] 40 4 [100] 60 6 [150]	A RF smooth face B BW Sch. 40 C BW Sch. 80 D BW Sch. 160 E BW Sch. XXH J RTJ R RF S FNPT W Socket weld	10 1000 WOG 20 2000 WOG 01 150 ASME [PN 20] 03 300 ASME [PN 50] 06 600 ASME [PN 100] 09 900 ASME [PN 150] 15 1500 ASME [PN 250]	A Stainless steel B Standard D Full stainless steel G Steam high-temperature sour H High-temperature sour L Low-temperature sour N MONEL alloy steel Q Duplex steel S Sour	–50 [–46] –150 [–100] 600 [315] 500 [260] –50 [–46] –150 [–100] –60 [–51] –20 [–29]	Z Fire safe

Common Options[†]

Antistatic spring

Bleeder hole

Bleeder valve

Car seal close

Car seal open

Delrin material seats

Devlon material seats

ENP

Extended stem

Gear operator

Graphite packing

HSN O-rings

ZPEX coating

Locking handle

Nitrile O-rings

PEEK seats

Seal injection

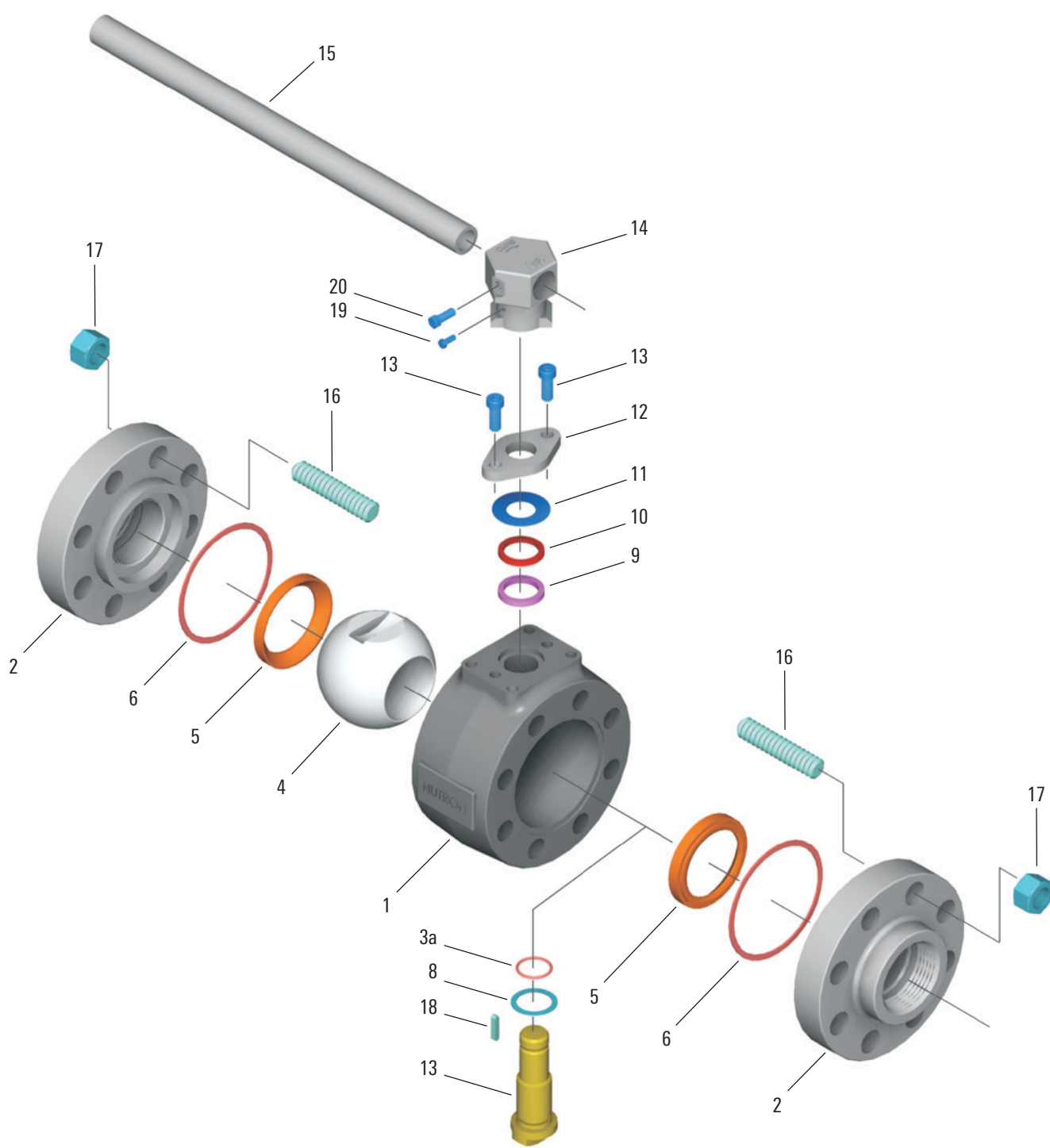
Teflon material O-rings

Viton material O-rings

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

Valve Details and Materials Lists

Model B3—Threaded End Connections



Materials Lists

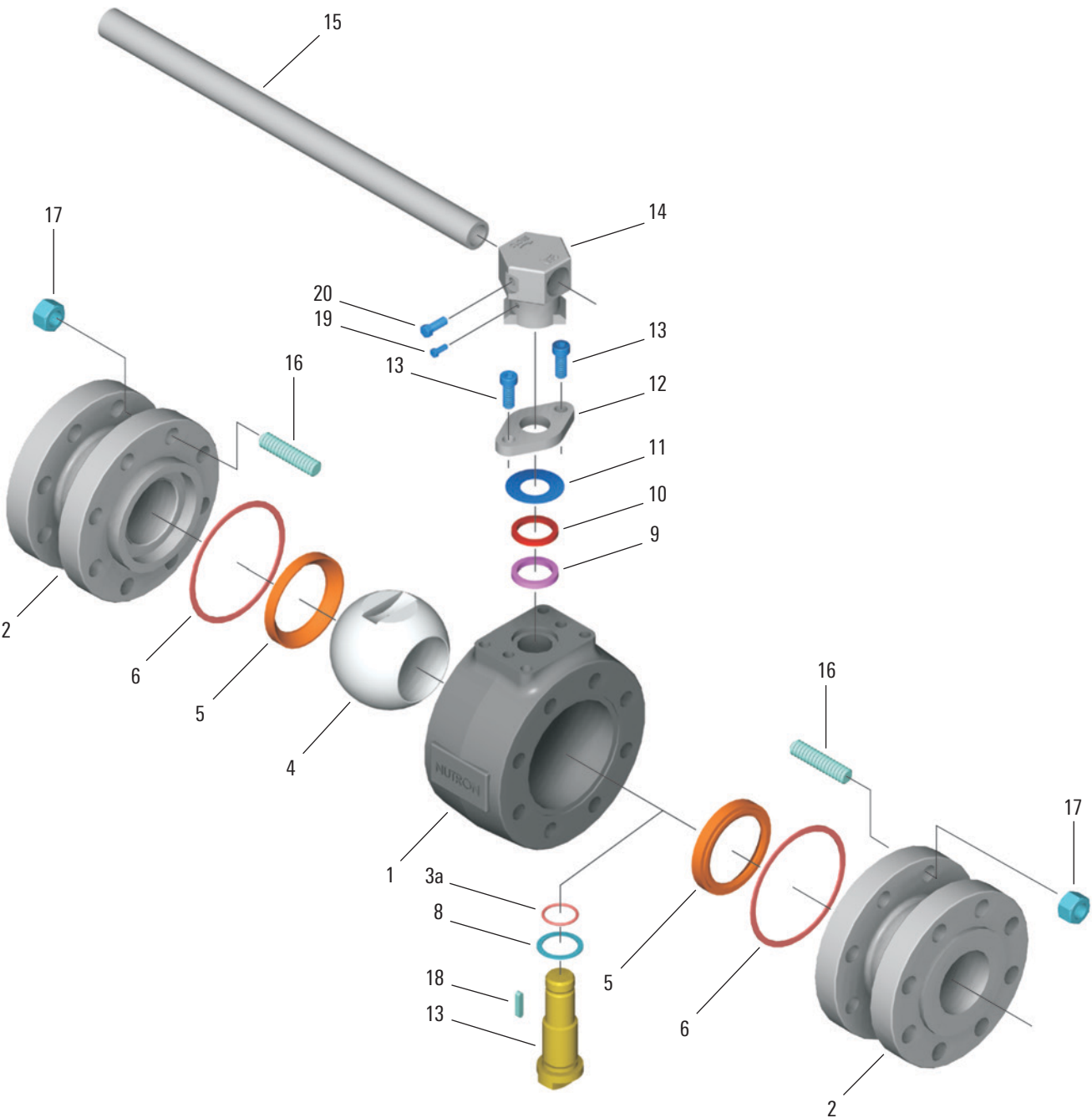
Item	Part	Working Pressure, psi	Standard –20 degF [–29 degC]	Sour –20 degF [–29 degC]
1	Body	All	ASTM A350 Grade LF2	ASTM A350 Grade LF2
2	End caps	All	ASTM A350 Grade LF2	ASTM A350 Grade LF2
■ 3	Stem	All	ASTM A322 Grade 4130, plated	ASTM A564 17-4PH stainless steel
■ ● 3a	Stem O-ring	All	HSN	HSN
■ 4	Ball	All	Carbon steel, chrome plated	ASTM A351 Grade CF8M
■ ● 5	Seats	2,000	Teflon material	Teflon material
		4,000	Delrin material	Delrin material
■ ● 6	Body seals	All	Spiral-wound gasket	Spiral-wound gasket
■ ● 8	Thrust washer	2,000	Teflon material	Teflon material
		4,000	Delrin material	Delrin material
■ ● 9	Packing	2,000 or 4,000	Graphite or Teflon material	Graphite or Teflon material
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, psi	Low-Temperature Sour –50 degF [–46 degC]	Stainless Steel –50 degF [–46 degC]
1	Body	All	ASTM A350 Grade LF2	ASTM A479 Type 316
2	End caps	All	ASTM A350 Grade LF2	ASTM A479 Type 316
■ 3	Stem	All	ASTM A564 17-4PH stainless steel	ASTM A564 17-4PH stainless steel with nitriding
■ ● 3a	Stem O-ring	All	HSN	HSN
■ 4	Ball	All	ASTM A351 Grade CF8M	ASTM A351 Grade CF8M
■ ● 5	Seats	2,000	Teflon material	Teflon material
		4,000	Delrin material	PEEK
■ ● 6	Body seals	All	Spiral-wound gasket	Spiral-wound gasket
■ ● 8	Thrust washer	2,000	Teflon material	Teflon material
		4,000	Delrin material	PEEK
■ ● 9	Packing	2,000 or 4,000	Graphite or Teflon material	Graphite or Teflon material
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-in Full Port and 4-in Reduced Port
ASME Classes 600, 900, and 1500 [PN 100, 150, and 250]



Materials Lists

Item	Part	Working Pressure, psi	Standard –20 degF [–29 degC]	Sour –20 degF [–29 degC]
1	Body	All	ASTM A350 Grade LF2	ASTM A350 Grade LF2
2	End caps	600, 900, and 1,500	ASTM A350 Grade LF2	ASTM A350 Grade LF2
■ 3	Stem	All	ASTM A322 Grade 4130, plated	ASTM A564 17-4PH stainless steel
■ ● 3a	Stem O-ring	All	HSN	HSN
■ 4	Ball	All	ASTM A675 chrome plated	ASTM A351 Grade CF8M
■ ● 5	Seats	600	Teflon material	Teflon material
		900 and 1,500	Delrin material	Delrin material
■ ● 6	Body seals	All	Spiral-wound gasket	Spiral-wound gasket
■ ● 8	Thrust washer	600	Teflon material	Teflon material
		900 and 1,500	Delrin material	Delrin material
■ ● 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

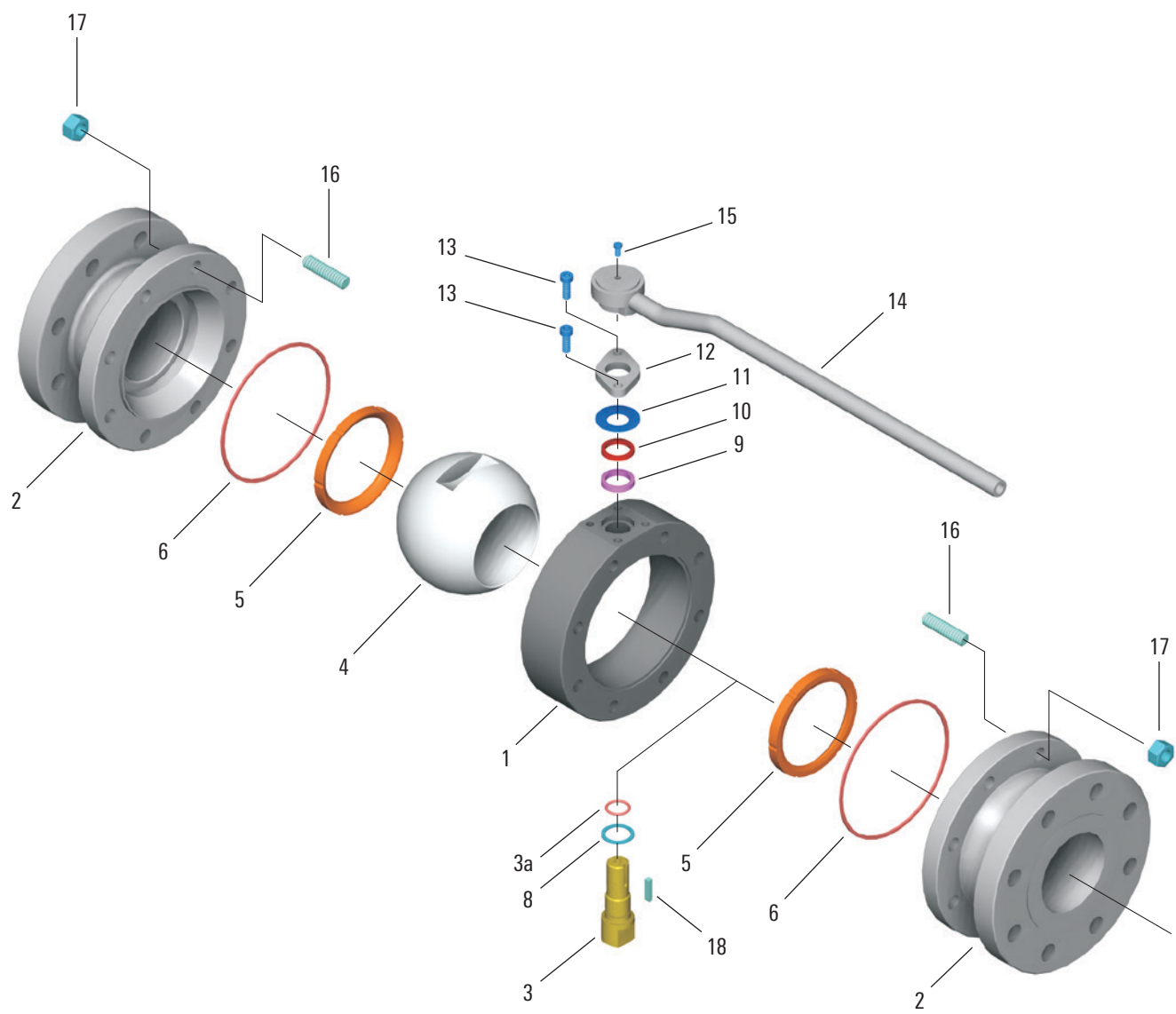
Item	Part	Working Pressure, psi	Low-Temperature Sour –50 degF [–46 degC]	Stainless Steel –50 degF [–46 degC]
1	Body	All	ASTM A350 Grade LF2	ASTM A479 Type 316
2	End caps	All	ASTM A350 Grade LF2	ASTM A479 Type 316
■ 3	Stem	All	ASTM A564 17-4PH stainless steel	ASTM A564 17-4PH stainless steel with nitriding
■ ● 3a	Stem O-ring	All	HSN	HSN
■ 4	Ball	All	ASTM A351 Grade CF8M	ASTM A351 Grade CF8M
■ ● 5	Seats	600	Teflon material	Teflon material
		900 and 1,500	Delrin material	PEEK
■ ● 6	Body seals	All	Spiral-wound gasket	Spiral-wound gasket
■ ● 8	Thrust washer	600	Teflon material	Teflon material
		900 and 1,500	Delrin material	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.

Fire-safe trim offered as standard whenever possible. Consult Cameron for fire-safe trim.

Model B3— Flanged End Connections
4-in Full Port and 6-in Reduced Port
ASME Classes 150 and 300 [PN 20 and 50]



Materials Lists

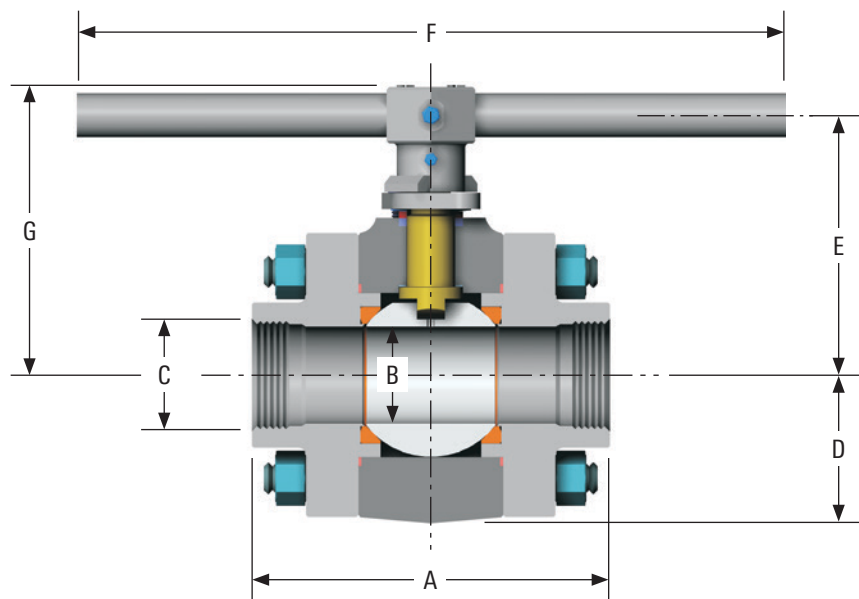
Item	Part	Sour –20 degF [–29 degC]	Low-Temperature Sour –50 degF [–46 degC]	Stainless Steel –50 degF [–46 degC]
1	Body	ASTM A350 Grade LF2	ASTM A350 Grade LF2	ASTM A479 Type 316
2	End caps	ASTM A350 Grade LF2	ASTM A350 Grade LF2	ASTM A479 Type 316
■ 3	Stem	ASTM A564 17-4PH stainless steel	ASTM A564 17-4PH stainless steel	ASTM A564 17-4PH stainless steel with nitriding
■ ● 3a	Stem O-ring	HSN	HSN	HSN
■ 4	Ball	ASTM A351 Grade CF8M	ASTM A351 Grade CF8M	ASTM A351 Grade CF8M
■ ● 5	Seats	Teflon material	Teflon material	Teflon material
■ ● 6	Body O-rings	Viton material	Viton material	Teflon material
■ ● 8	Thrust washer	Teflon material	Teflon material	Teflon material
■ ● 9	Packing	Graphite	Graphite	Graphite
10	Packing follower	Stainless steel	Stainless steel	Stainless steel
11	Belleville washer	Stainless steel	Stainless steel	Stainless steel
12	Gland flange	Carbon steel, plated	Carbon steel, plated	Carbon steel, plated
13	Capscrews	Stainless steel	Stainless steel	Stainless steel
14	Handle	Carbon steel	Carbon steel	Carbon steel
15	Capscrew, hex head	Carbon steel	Carbon steel	Carbon steel
16	Studs	ASTM A193 B7M	ASTM A320 L7M	ASTM A320 L7M, coated
17	Nuts	ASTM A194 2HM	ASTM A194 L7M	ASTM A194 L7M, coated
18	Key	Carbon steel	Carbon steel	Carbon steel

■ Major repair kit.

● Minor repair kit.

Valve Assemblies and Dimensions Tables

Model B3—Threaded 3-in Full Port and 4-in Reduced Port

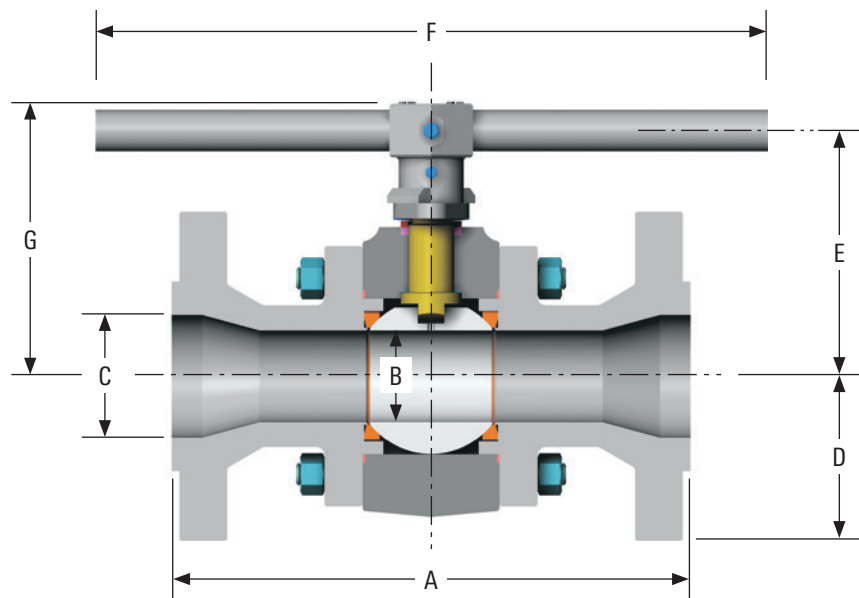


Dimensions

Size, in [mm]	WOG, psi	A	B	C	D	E	F	G	C _v	Weight, lbm [kg]
3 FP [80 FP]	2,000	10.0 [254]	3.0 [76]	3.0 [76]	4.45 [113]	8.00 [203]	22.0 [559]	8.90 [226]	1,300	131.0 [59.4]
	4,000	10.0 [254]	3.0 [76]	3.0 [76]	4.45 [113]	8.00 [203]	22.0 [559]	8.90 [226]	1,300	131.0 [59.4]
4 RP [100 RP]	2,000	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]

*"A" dimension to be within ± 0.062 in [1.5 mm].

Model B3—Flanged 3 in Full Port and 4 in Reduced Port

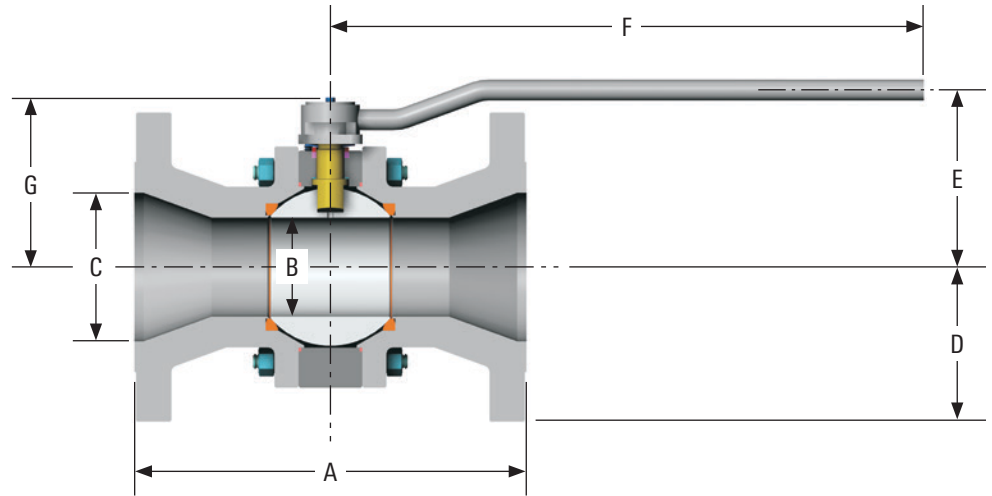


Dimensions

Size, in [mm]	ASME Class [PN]	A		B	C	D	E	F	G	C _v	Weight, lbm [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]	1,300	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]	1,300	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]	1,300	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]

*"A" dimension to be within ± 0.062 in [1.5 mm].

Model B3—Flanged 4-in Full Port and 6-in Reduced Port

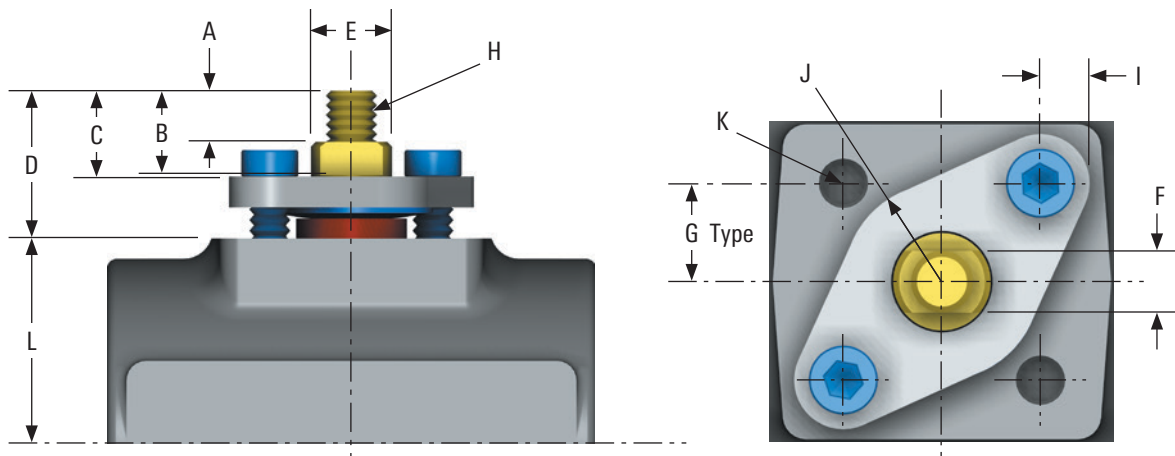


Dimensions

Size, in [mm]	ASME Class [PN]	A	B	C	D	E	F	G	C _v	Weight, lbm [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]	2,300	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]	2,300	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]	1,800	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]	1,800	143 [64.8]

Actuator Mounting Dimensions

Model T3



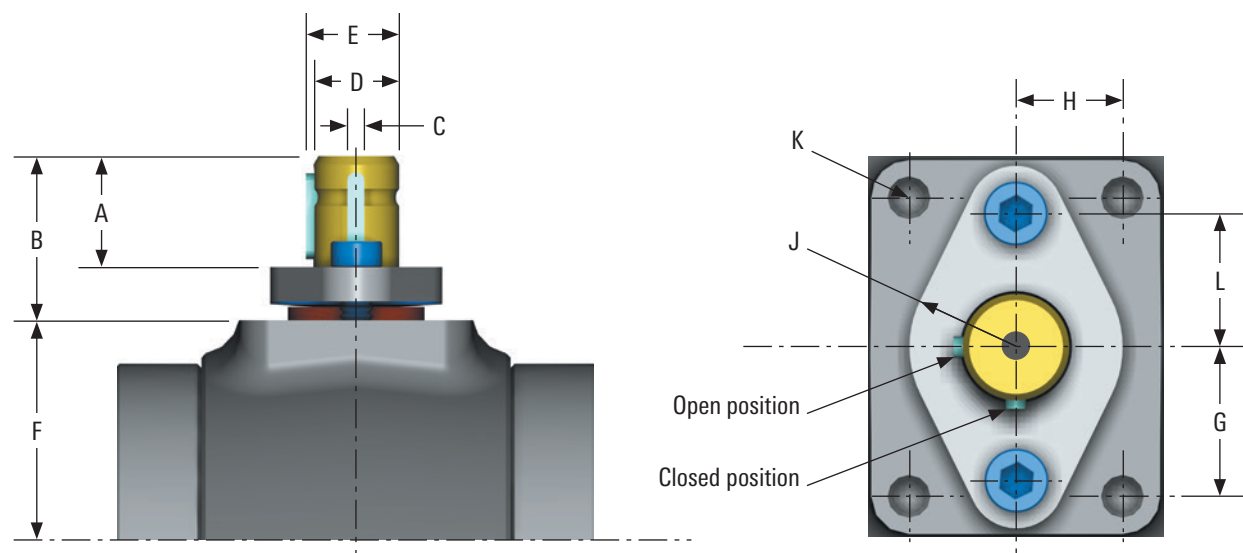
Dimensions												
Size, in [mm]	A	B	C	D	E	F	G	H	I	J	K	L
¼ [8] FP	0.300 [7.6]	0.440 [11.1]	0.500 [12.7]	0.725 [18.4]	0.464 [11.8]	0.253 [6.4]	0.468 [11.9]	0.250-20 UNC [6.35-20 UNC]	0.23 [5.8]	0.50 [12.7]	#10-32 UNF-2B×0.31 DP [#10-32 UNF-2B×7.9 DP]	1.002 [25.5]
⅜ [10] FP	0.300 [7.6]	0.440 [11.1]	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×0.31 DP [#10-32 UNF-2B×7.9 DP]	1.002 [25.5]
½ [15] FP and ¾ [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×0.31 DP [#10-32 UNF-2B×7.9 DP]	1.002 [25.5]
¾ [20] FP and 1 [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×0.30 DP [6.35-28 UNF-2B×7.6 DP]	1.250 [31.8]
1½ [40] FP and 2 [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×0.437 DP [7.92-24 UNF-2B×11.1 DP]	2.250 [57.2]
2 [50] FP and 3 [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×0.50 DP [9.53-24 UNF-2B×12.7 DP]	3.000 [76.2]
3 [80] FP and 4 [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×0.50 DP [9.53-24 UNF-2B×12.7 DP]	3.500 [88.9]

[†] Applies to B3 1½-in [40-mm] full port and 2-in [50-mm] reduced port ASME Classes 600, 900, and 1500 valves.

[‡] Applies to B3 2-in [50-mm] full port and 3-in [80-mm] reduced port ASME Classes 600, 900, and 1500 valves.

[§] Applies to B3 3-in [80-mm] full port and 4-in [100-mm] reduced port ASME Classes 150 and 300 valves.

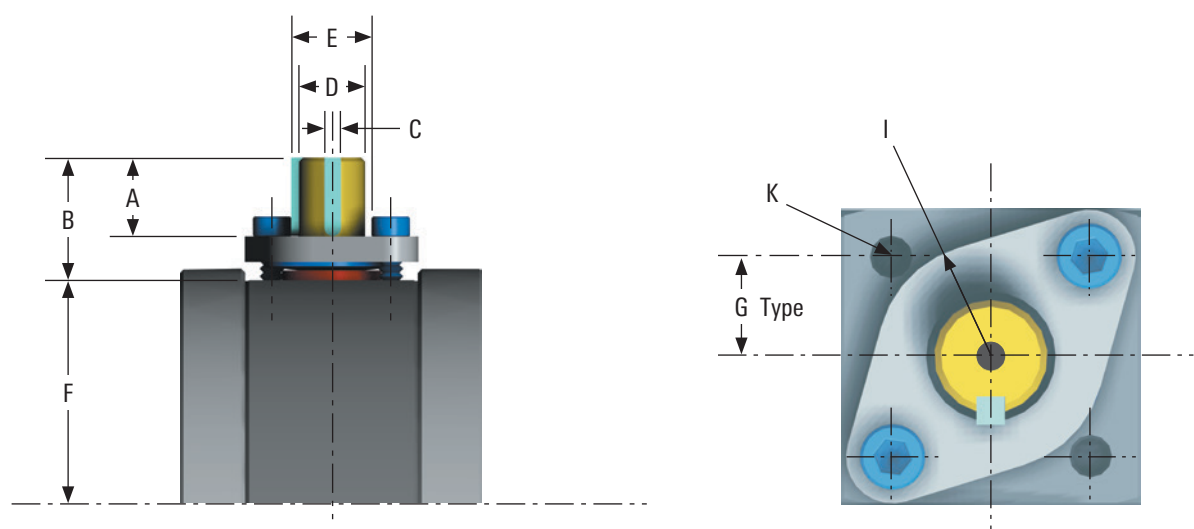
Model B3 3-in Full Port and 4-in Reduced Port



Dimensions											
Size, in [mm]	A	B	C	D	E	F	G	H	I	K	L
3 [80] FP and 4 [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 × 0.62 DP [12.7-13 UNC-2B × 15.7 DP]	1.566 [39.8]

ASME Classes 600 through 1500, WOG 2,000 through 4,000 psi.
 For B3 1½-, 2-, 3- and 4-in [40-, 50-, 80- and 100-mm] valves, see footnote on page 28.

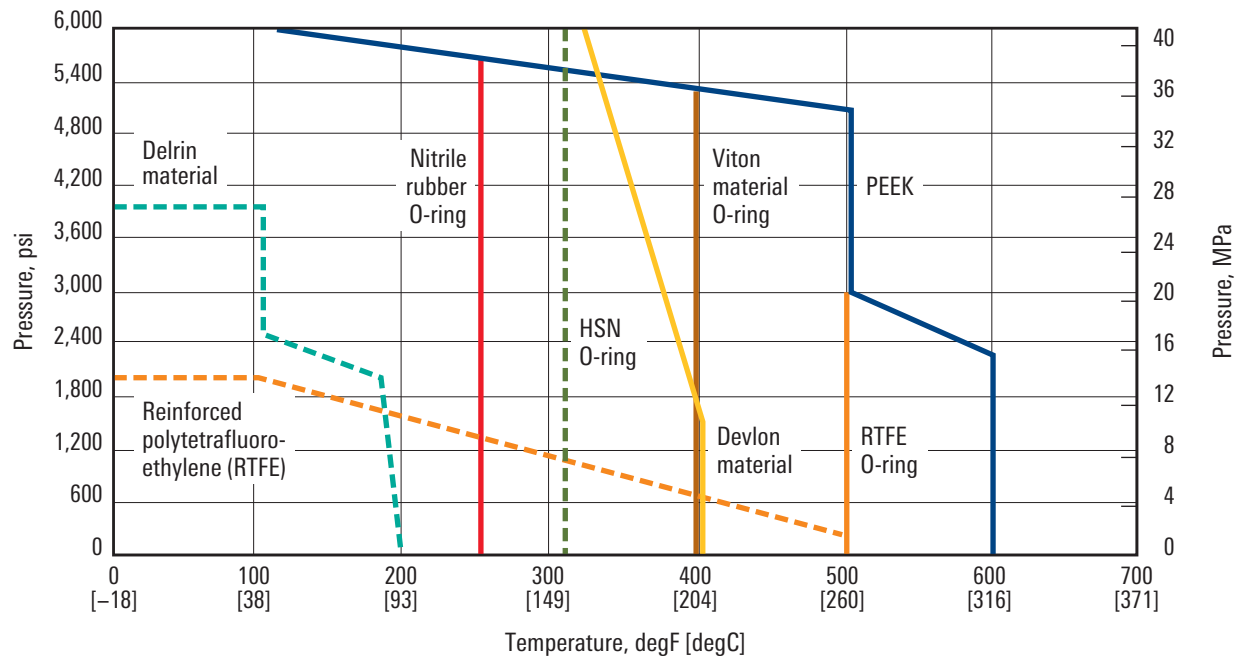
Model B3 4 in Full Port and 6 in Reduced Port



Dimensions									
Size, in [mm]	A	B	C	D	E	F	G	I	K
4 [100] FP and 6 [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 × 0.5 deep [9.5-24 UNF-2B × 12.7 deep]

ASME Classes 150 and 300.

Pressure and Temperature Ratings (Seats and Seals)



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

Breakaway Torque Data

Torque, in.lbf													
Bore size, in [DN]	ASME Class [PN]	–	150 [20]	300 [50]	–	600 [100]	–	900 [150]	–	1500 [250]	–	–	2500 [420]
	Pressure, psi	0	285	740	1,000	1,480	2,000	2,220	3,000	3,705	4,000	5,000	6,000
Seat Material													
½ [15]	PEEK	72	84	96	108	120	132	144	156	180	192	216	240
	Devlon material	72	84	96	108	120	132	144	156	180	192	216	240
	Delrin material	60	72	84	96	108	120	132	144	168	180	–	–
	Teflon material	60	72	84	96	108	120	–	–	–	–	–	–
¾ [22]	PEEK	276	276	276	276	276	300	324	360	420	444	540	660
	Devlon material	96	108	120	132	144	156	168	180	192	204	240	300
	Delrin material	96	108	120	132	144	156	168	180	192	204	–	–
	Teflon material	96	108	120	132	144	156	–	–	–	–	–	–
1-½ [40]	PEEK	600	648	696	744	792	840	864	936	1,020	1,080	1,200	1,500
	Devlon material	360	420	480	576	660	720	792	900	960	1,020	1,080	1,260
	Delrin material	336	396	480	576	660	720	792	900	960	1,020	–	–
	Teflon material	336	360	396	420	456	504	–	–	–	–	–	–
2 [50]	PEEK	840	1,080	1,440	1,680	1,920	2,100	2,280	2,700	3,120	3,300	3,600	4,200
	Devlon material	600	720	900	1,080	1,200	1,500	1,680	1,920	2,160	2,400	2,400	2,880
	Delrin material	600	720	900	1,080	1,320	1,560	1,740	2,040	2,280	2,520	–	–
	Teflon material	600	636	816	936	1,128	1,344	–	–	–	–	–	–
3 [80]	PEEK	960	1,440	2,760	3,840	4,800	5,760	6,480	7,200	8,400	9,000	–	–
	Devlon material	720	1,200	1,920	2,400	2,880	3,360	3,600	4,080	4,800	5,760	–	–
	Delrin material	840	1,380	2,280	2,640	3,000	3,600	3,900	4,200	4,800	5,760	–	–
	Teflon material	720	1,320	1,920	2,400	2,880	3,600	–	–	–	–	–	–
4 [100]	PEEK	1,440	2,400	3,840	–	–	–	–	–	–	–	–	–
	Devlon material	1,200	2,040	3,120	–	–	–	–	–	–	–	–	–
	Teflon material	1,080	1,944	2,820	–	–	–	–	–	–	–	–	–

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.

Services for Valves and Actuation

Cameron is well positioned to quickly and efficiently deliver total aftermarket support with unmatched OEM expertise. Our highly skilled engineers and technicians are available around the clock to respond to customer queries, troubleshoot problems, and offer reliable solutions.

Easily accessible parts and spare valves

- OEM spare valves, actuators, and parts (including non-Cameron brands)
- Handling, storage, packaging, and delivery
- Dedicated stocking program

Comprehensive aftermarket services portfolio

- Parts and spare valves
- Repair
- Field services
- Preventative maintenance
- Equipment testing and diagnostics
- Remanufacturing
- Asset preservation
- Customer property management
- Training and recertification services
- Warranty

Customized total valve care programs

- Engineering consultancy
- Site management
- Flange management
- Startup and commissioning
- Spare parts and asset management
- Operational support



NUTRON Ball Valves—Models T3 and B3



products.slb.com/valves

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