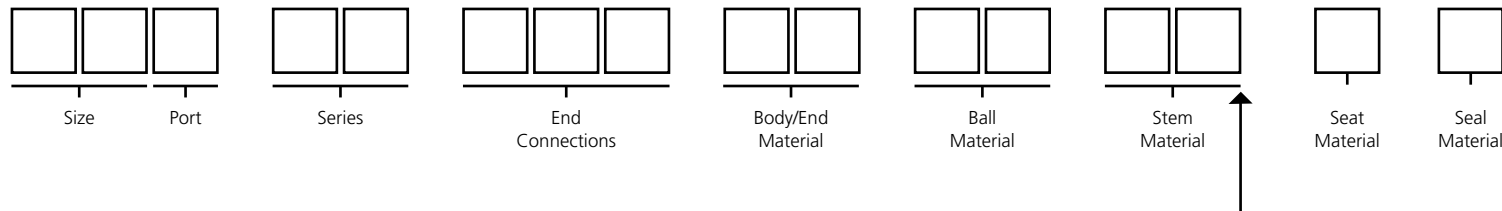


TBV Cryogenic Ball Valves – How to Order

Size	Porting	Series	End Connections
01 = 1/8"	S = Standard Port	21 = 21/11 Cryogenic Three-Piece	BWT = Butt-Weld Ext. and Tube Ends*
02 = 1/4"	F = Full Port	2B = 21/20 Cryogenic Unibody Flanged	B_ = Butt-Weld + Schedule (ex: B40 = Schedule 40)
03 = 3/8"		2D = 21/51 Cryogenic Diverter	FSE = NPT Female Threaded
05 = 1/2"		2F = 21/51/20 Cryogenic Unibody Flanged Diverter	FSW = Female Socket Weld
07 = 3/4"		2G = 21/18 Cryogenic Two-Piece ASME Flanged	GRE = Graylok Ends
10 = 1"		2P = 21/51/18 Series Split-Body Flanged Cryogenic Diverter	MSE = NPT Male Thread
12 = 1-1/4"		2R = 2151A Switching Diverter Non-Extended Stem Bottom Port	MSW = Male Socket Weld
15 = 1-1/2"		2S = 2151A Switching Diverter Extended Stem Side Port	MWE = Male Weld End
20 = 2"		2T = 2151A Switching Diverter Non-Extended Stem Side Port	TE_ = Tube End (K, L, M) Socket Weld
30 = 3"		2V = 2800 Cryogenic Cast Full Port	150 = ASME 150# Flanged RF
40 = 4"		2W = 21/80 Cryogenic Large Bore	15L = 150 Lap Joint Flange
60 = 6"		9C = Cryogenic Top-Entry	15R = Class 150 RTJ
80 = 8"			300 = ASME 300# Flanged RF
X0 = 10"			30R = Class 300 RTJ
X2 = 12"			600 = ASME 600# Flanged RF
X4 = 14"			60R = Class 600 RTJ
X6 = 16"			900 = ASME 900# Flanged RF
X8 = 18"			90R = Class 900 RTJ
			005 = ASME 1500# Flanged RF
			1 = MSE
			2 = MSW
			3 = FSE
			4 = FSW
			6 = BW80
			7 = BW40
			8 = BW160
			05R = Class 1500 RTJ
			Example: 1 x 3 = MSW x FSE

*Specify OD, wall thickness, and length

Body/End Material	Seat/Seal Material	Bolting	Modifiers
Ball/Stem Material	C = Cryofil	G = ASTM A320 L7 x A194 Grade 4	01 = 90-Degree Operation (Diverter Valve)
BR = Brass	K = CTFE (KEL-F®)	H = INCONEL 718	02 = 180-Degree Operation (Diverter Valve)
IN = INCONEL®	M = Metal	W = All Welded	AH = Actuator Prep. With Standard Handle
17 = 17-4 pH Stainless Steel	U = Ultrafil	0 = None	AI = Actuator Installed
34 = 304 Stainless Steel	9 = JLON	4 = ASTM A193 B8M x A194 8M	AP = Prepared for Actuation
36 = 316 Stainless Steel	H = Graphoil/Graphite	T = A193 B8M CL2 x A194 8M	CB = Enclosed Bolting
37 = 317 Stainless Steel	T = Virgin PTFE		EE = Extended Ends
39 = Nitronic 50	(Certain combinations not available)		EP = Electro Polish
4L = 304L Stainless Steel			FL = Fire Lip
6L = 316L Stainless Steel			FS = Fire-Safe
			GO = Gear Operator
			GS = Grounding Spring
			HP = High Pressure
			LG = Locking Gear Operator
			LH = Locking Handle
			LO = Locking Oval Handle
			LS = Locking Stainless Steel Oval Handle
			LV = Lever Handle
			M1 = 15-Degree Control Seat
			M3 = 30-Degree Control Seat
			M4 = 45-Degree Control Seat
			M6 = 60-Degree Control Seat
			M9 = 90-Degree Control Seat
			MB = Boronized Surface Treatment
			MC = Chrome-Carbide Coating
			MN = Tungsten-Carbide Coating
			MZ = 120-Degree Control Seat
			NE = Non-Extended
			OH = Oval Handle
			OS = Stainless Steel Oval Handle
			RS = Self-Relieving Seats
			VB = Vented Ball
			W1 = Spiral-Wound Body Seal 316 SS TFE
			W2 = Spiral-Wound Body Seal 316 SS Grafoil
			W3 = Spiral-Wound Body Seal Ti Grade 2 TFE
			W4 = Spiral-Wound Body Ti Grade 2 Grafoil
			W5 = Spiral-Wound Body Gasket Hastelloy C Grafoil



Stem blocks are optional if the ball and stem are made from the same material.

Sample:



Modifiers: May have up to 10 characters. If modifier section has more than 10 characters, please contact Cameron.

Example: 1" standard port, series 21/20 cryogenic unibody flanged valve with ASME 300# flanged RF end connections, 316 stainless steel body/end, ball/stem, and stem material, Cryofil seat material with Virgin PTFE seal material, no bolting. Fire-safe with a grounding spring.

For valves with different end connections, indicate upstream (first) and downstream (second). ALL FLANGED VALVES, IF NOT TO ASME B16.10 FACE-TO-FACE, MUST STATE FACE-TO-FACE LENGTH; IN ALL CASES, ALL FLANGED DIVERTER VALVES MUST STATE FACE-TO-FACE AND CENTERLINE-TO-BOTTOM FACE DIMENSIONS AS NO ASME SPECIFICATION EXISTS; EX: 9 X 4-1/2.