

## TBV Cryogenic Ball Valves

Cameron's quarter-turn valve product portfolio for cold service and cryogenic solutions, around the world

TECHNOLOGY



## TBV Cryogenic Ball Valves



Millbury, Mass., USA

Cameron is a leading provider of valves, valve automation, and measurement systems to the oil and gas industry. Its products are used primarily to control, direct, and measure the flow of oil and gas as it is moved from individual wellheads through flowlines, gathering lines, and transmission systems to refineries, petrochemical plants, and industrial centers for processing.

Cameron provides critical service valves for refinery, chemical, and petrochemical processing businesses, and for associated storage terminal applications, particularly through its ORBIT® and GENERAL VALVE® product lines. These brands are complimented by WKM® and TBV™ valve products, and considerably expand the scope of Cameron's product offerings.

TBV valve products are manufactured and assembled at Cameron's facility in Millbury, Mass. The TBV facility offers 100,000 sq ft of space, of which, 80,000 sq ft is dedicated to manufacturing, assembling, testing, shipping, and quality assurance. This manufacturing space allows Cameron the opportunity to expand its product offerings and size range. Cameron's TBV valves are competitive in the LNG, mining, and petrochemical markets with the ability to offer larger size ranges in its line of product.

### Facility Features

- Clean room for oxygen, chlorine, and phosgene assembly and testing
- Painting room
- Dedicated cryogenic testing area
- State-of-the-art CNC machining



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## TECHNICAL SUMMARY

<b>Size Range</b>	1/2" through 18" (15 mm through 450 mm) DN15 through DN450	
<b>Porting Configurations</b>	Standard port and full port	
<b>Applications</b>	Air separation Liquefaction (export terminals) Liquefied petroleum gas (LPG) Pharmaceutical (blanketing, pH control, pipe freezing, process chilling, water treatment, and shrink fitting) Infrastructure (pipelines and refueling) Transport (trucking, marine, rail) FLNG (floating LNG) production High-purity gases for semi-conductor applications Food freezing Aerospace	
<b>Cold Service Applications</b>	Ammonia -28° F (-33° C) Argon -303° F (-186° C) Carbon dioxide -109° F (-78° C) Carbon monoxide -312° F (-191° C) Chlorine -30° F (-34° C) Deuterium -417° F (-249° C) Ethylene -155° F (-104° C) Fluorine -307° F (-188° C) Freon -18° F (-28° C)	Helium -452° F (-269° C) Hydrogen -423° F (-253° C) Krypton -244° F (-153° C) Methane -259° F (-162° C) Neon -410° F (-246° C) Nitric oxide -241° F (-152° C) Nitrogen -320° F (-196° C) Oxygen -297° F (-183° C) Propane -44° F (-42° C)
<b>Pressure Range</b>	Vacuum through ASME 900	
<b>Temperature Range</b>	-452° F to 250° F (-269° C to 121° C)	
<b>Materials (All materials used are fully traceable)</b>	316/316L stainless steel..... ASTM A351 CF3M – casting 316/316 stainless steel ..... ASTM A182 F316L – forging 316/316 stainless steel ..... ASTM A276 or A479 316L – bar Monel®.....ASTM B164 Brass.....ASTM B584	
<b>End Connections</b>	Flange Socket weld Butt weld	Extended welded ends Threaded
<b>Specifications</b>	ASME B1.20.1 .....NPT pipe thread ASME B16.10 .....Face-to-face dimensions ASME B16.11 .....Socket-weld ends (diameter and depth) ASME B16.25 .....Butt-weld ends ASME B16.34 .....Steel valves (performance and design) ASME B31.3 .....Process piping (application) ASME B16.5 .....Pipe flanges and fittings MSS SP25 .....Valve marking MSS SP61 .....Pressure testing BS 6364..... British standard cryo leak test standard API 607 6th Ed. .... Fire safe Bechtel 3PC-PV00-F0001. ....Low-temp. and cryo-service testing Chevron Low-Temp. and Cryo-Service Testing.....Low-temp. and cryo-service testing	
<b>Operation</b>	OH – Oval handle LH – Lever handle LG – Locking gear operator	AP – Prepared for actuation AI – Actuator installed 90-degrees and 180-degrees rotations
<b>Cryogenic Testing</b>	BSI BS 6364 Bechtel 3PS-PV-F001 Chevron low-temp. and cryo testing	
<b>FE Testing</b>	ISO 15848	

# TBV CRYOGENIC BALL VALVES CHART

Model	Size Range in. (mm)	Description	Port		ASME Rating				End Connections					Materials			
			Full Port	Standard Port	150	300	600	900	RF	RTJ	BW	SW	Thread	316LSS/316SS	Monel	Brass	
Series 21/11	1/4 to 2 (6 to 50)	Three-piece cryogenic ball valve, floating	•	•			•	•			•	•	•	•	•	•	
Series 21/18	1/2 to 12 (15 to 300)	Split-body, two-piece, flanged, standard or full-port cryogenic ball valve, floating	•	•	•	•	•	•	•					•	•	•	
Series 21/20	1/2 to 8 (15 to 200)	Standard-port, end-entry (unibody), flanged cryogenic ball valve, floating		•	•	•	•		•					•	•	•	
Series 21/28	1/2 to 8 (15 to 200)	Full-port, split body, flanged cryogenic ball valve	•		•	•	•		•					•	•	•	
Series 21/51	1/2 to 2 (15 to 50)	Three-piece cryogenic diverter ball valve, floating		•			•	•			•	•	•	•	•	•	
Series 21/51A	1 to 1-1/2 (25 to 40)	High-flow cryogenic safety-relief valve, floating		Consult Cameron	600 psi									•	•	•	•
Series 21/80	10 to 18 (250 to 450)	Large-bore, split body, cryogenic ball valve, trunnion ball support	•		•	•	•		•					•			



## FEATURES

### Blowout-Proof One-Piece Stem\*

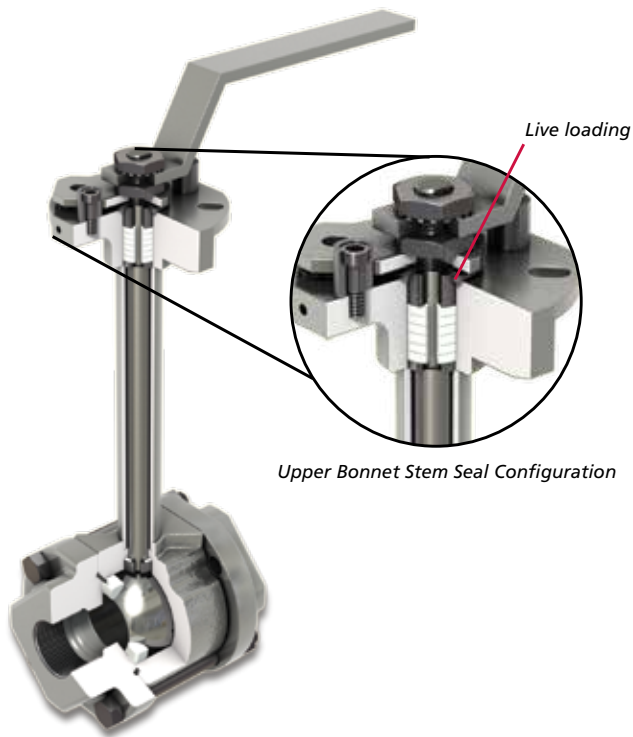
Cameron's TBV line of cryogenic valves utilize a one-piece stem that engages the ball and is secured in the valve cavity with a large, threaded stem collar that is set-screwed for safety.



A retaining ring threads to the bottom of the stem, which resists from blowing out.



Once the retaining ring is threaded to the bottom of the stem, it is set-screwed in place to prevent rotation.



### Stem Seal Design

The valve's stem sealing capability is further enhanced by a welded bonnet design and V-ring packing that can be adjusted by a simple turn of the stem nut. The rings of the PTFE V-ring or graphoil packing, which sit on a shoulder machined on the stem. This allows the packing and stem to move as a unit during thermal cycles. In addition, the packing is live-loaded, retained by self-compensating Belleville spring washers, and a packing adjustment nut. These features, coupled with close-tolerance machining and finish of the packing bore, provide long stem seal life with reduced maintenance.

### Fire Tested and Certified to API 607

The design includes a fire lip in the innermost diameter of the endplate.



\* "Blowout-proof" refers to the stem being retained in the body. This term applies as long as the valve is used within its design parameters.

## Cavity Pressure Relief

Cameron offers a variety of options in handling cavity pressure relief. The options listed depend on whether unidirectional or bi-directional flow is required, as well as the type of valve configuration used.

**Option 1:** Unidirectional Relief, Available on Three-Piece Valves (Center Section with Two End Plates)



This photo shows a slot in the upstream end plate, which provides the cavity pressure relief. The seat sits on the raised-face surface. When the ball is in the closed position, internal cavity pressure is reduced around the OD of the seat, through the slot, and to the upstream pipe.

**Option 2:** Unidirectional Relief, Available on Flanged Valves (Upstream Relief Hole in Ball)



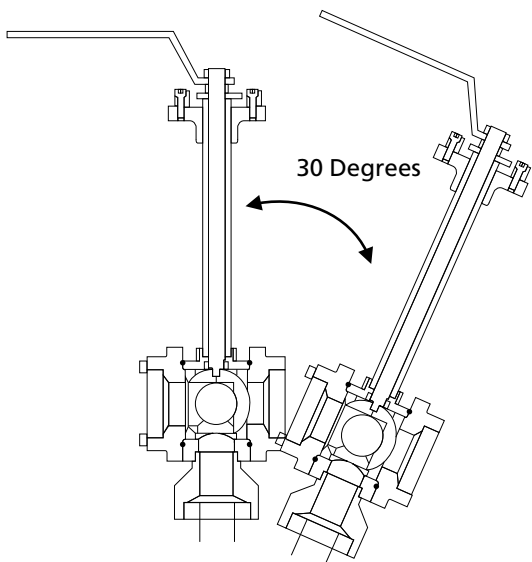
**Option 3:** Bi-Directional Flow (Cavity Pressure-Relieving Seats)

## FEATURES (CONT.)

### Flow Direction

When there is flow in a unidirectional valve, flow arrows are positioned on the valve in three areas to illustrate the direction the flow needs to go through the valve. When there is flow, the flow arrow points downstream. Most importantly, when the valve is in the closed position, the ball needs to vent to the high-pressure side. In other words, in the closed position, the cavity needs to relieve to the high-pressure side. It must be determined what the high-pressure side is when closed. For valves that have a vented slot in the upstream endplate (in lieu of a vented ball), that also has to vent to the high-pressure side. The areas that indicate the flow direction include:

- Bottom base of center section
- Top plate of the cryo extension
- Stainless steel tag on body



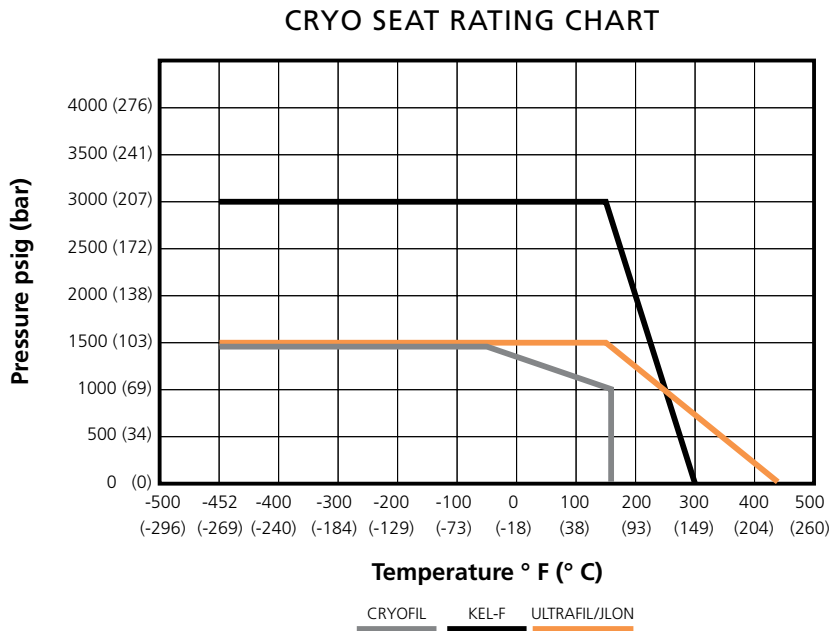
### Inclination Limitations

It is recommended that TBV valves be installed with an extended bonnet within 30 degrees of true vertical. Valves with graphite packing can be oriented in any direction.



## Seats

TBV valves can use Cryofil, Kel-F®, Ultrafil™, or JLON™ seats, specifically designed to provide industry-accepted leak rates down to -452° F (-269° C).



The valve rating is the lesser of the body rating and the seat rating. Cameron manufactures an extensive line of high-pressure TBV valves capable of the full seat ratings shown. Consult Cameron for details.

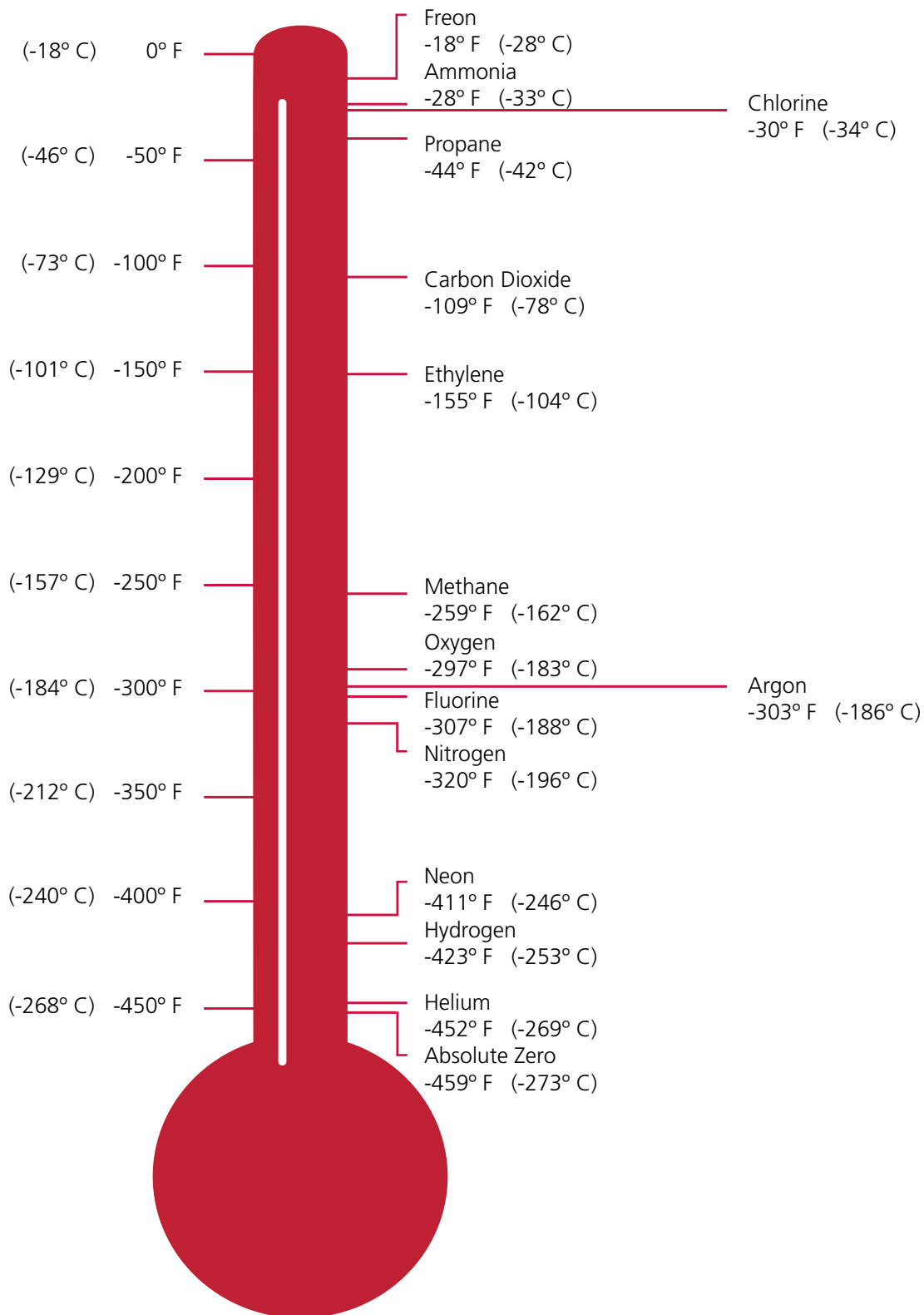
## Cleaning Procedures

- In accordance with Praxair® GS 38 specifications
- Clean room environment only
- All components detergent washed and rinsed
- White- and ultraviolet-light visual inspection to detect lint, oils, and greases
- Inaccessible surfaces to be cleaned using wipe method
- All oxygen and cryogenic valves are assembled dry
- Valves are double bagged and sealed in two-ply polyethylene bags



## FEATURES (CONT.)

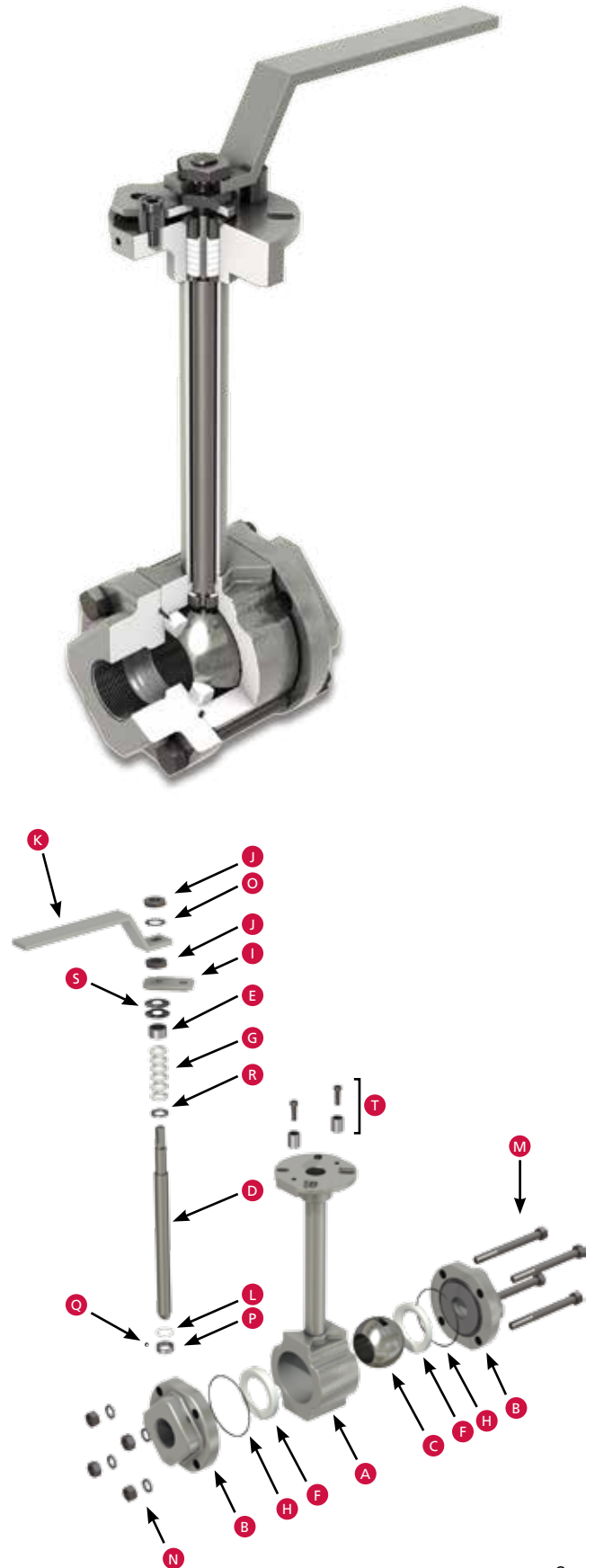
### Cryogenic Boiling Points at 1 atm



# Series 21/11

## THREE-PIECE, CAST AND BARSTOCK CRYOGENIC BALL VALVE

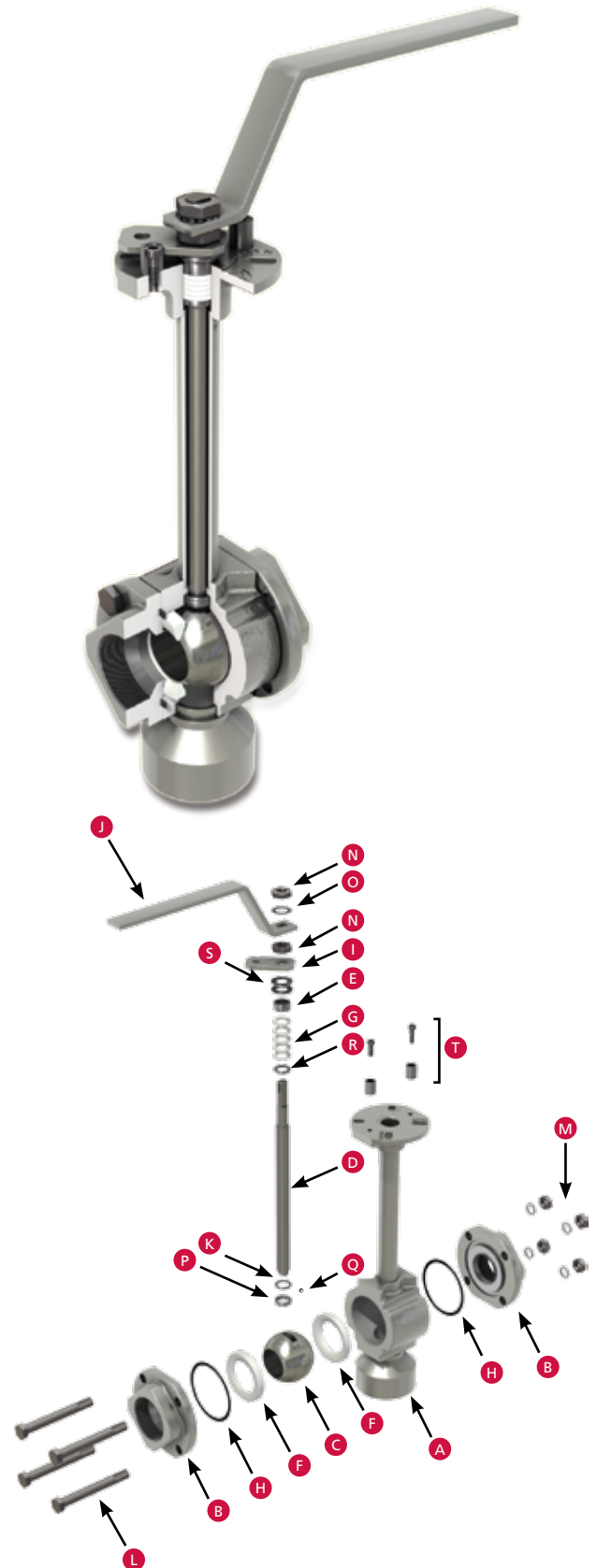
Size Range	1/4" to 2" (6 mm to 50 mm)	
Pressure Range	ASME Classes 150 to 900	
End Connections	Raised-face end plates for positive component alignment and reduction of radial pipe stresses; socket, butt-weld or threaded connections are available	
Standard Cavity Pressure Relief Method	Upstream end plate slot or cavity pressure-relieving seats (for bi-directionality)	
Ball/Seat Configuration	Floating ball	
Body Seal Design	Totally encapsulated body seals to resist cold flow of PTFE; high performance over wide temperature and pressure range; spiral-wound body seals above ASME Class 600	
Casting Type	Investment cast or sand cast; size and pressure class dependent	
Unique Features	Versatile design with numerous end connections available	
Bill of Materials	<b>Part</b>	<b>Item</b>
	Body	A
	End Plates	B
	Ball	C
	Stem	D
	Follower	E
	Seats	F
	Stem Seals	G
	Body Seals	H
	Stop	I
	Stem Nuts	J
	Handle	K
	Thrust Bearing	L
	Body Bolts	M
	Body Nuts with Lock Washers	N
	Lock Washer	O
	Stem Collar	P
	Set Screw for Collar	Q
	Stem Seal Washer	R
	Stem Belleville Springs	S
	Stop Pins/Bolts	T



## Series 21/51

### THREE-PIECE, DIVERTING CAST AND BARSTOCK CRYOGENIC DIVERTER BALL VALVE

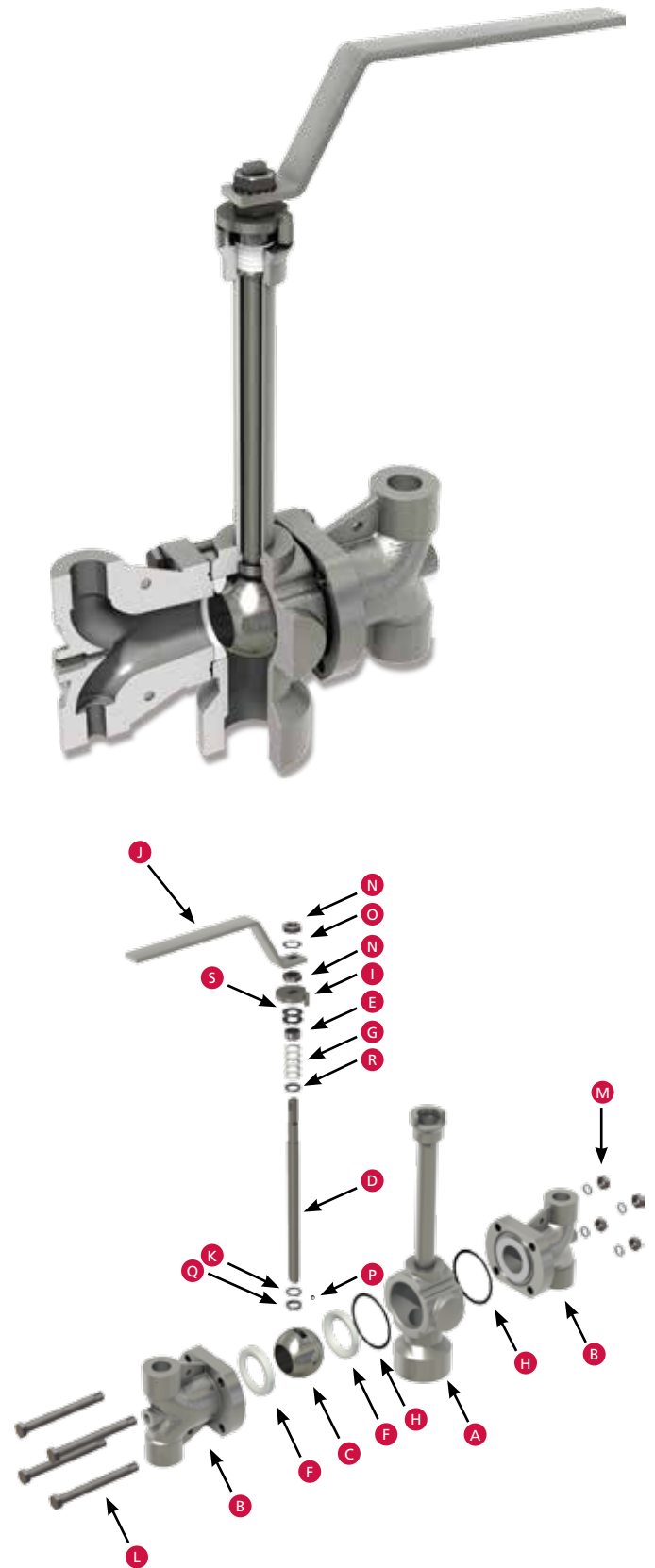
Size Range	1/2" to 2" (15 mm to 50 mm)	
Pressure Range	ASME Classes 150 to 900	
End Connections	Raised-face end plates for positive component alignment and reduction of radial pipe stresses; socket, butt-weld or threaded connections are available	
Standard Cavity Pressure Relief Method	Does not apply because flow is diverted at all times	
Ball/Seat Configuration	Floating ball	
Body Seal Design	Totally encapsulated body seals to resist cold flow of PTFE; high performance over wide temperature and pressure range; spiral-wound body seals ASME Class 600 and above	
Casting Type	Investment cast or sand cast; size and pressure class dependent	
Unique Features	Available in two porting arrangements: 90-degree and 180-degree operation; the 90-degree operation allows flow from a bottom port to be diverted to either of two outlet ports over a 90-degree turn of the handle, but never shutting off; the 180-degree operation also diverts from the bottom port to the outlet ports, but uses a 180-degree turn of the handle, allowing flow to be completely shut off at the 90-degree position	
Bill of Materials	<b>Part</b>	<b>Item</b>
	Body	A
	End Plates	B
	Ball	C
	Stem	D
	Follower	E
	Seats	F
	Stem Seals	G
	Body Seals	H
	Stop	I
	Handle	J
	Thrust Bearing	K
	Body Bolts	L
	Body Nuts with Lock Washers	M
	Stem Nuts	N
	Lock Washer	O
	Stem Collar	P
Set Screw for Collar	Q	
Stem Seal Washer	R	
Stem Belleville Springs	S	
Stop Pins/Bolts	T	



## Series 21/51A

### THREE-PIECE, HIGH-FLOW DUAL SAFETY RELIEF, CAST CRYOGENIC BALL VALVE

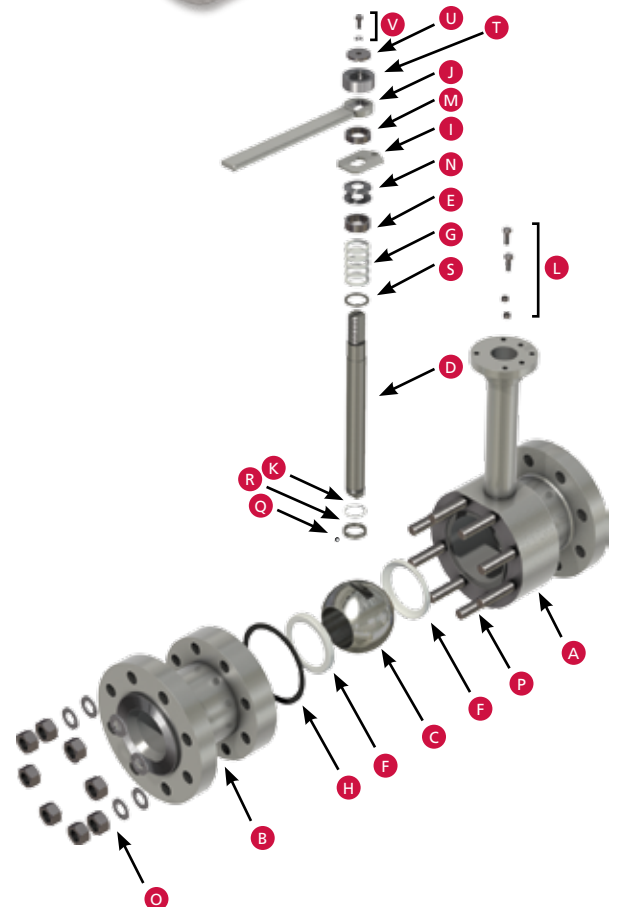
Size Range	1" (25 mm) standard port 1" full port 1-1/2" (40 mm) full port	
Pressure Range	600 psi	
End Connections	Smooth transition, high-flow end plates; male and female threaded connections are available	
Standard Cavity Pressure Relief Method	Symmetrical valve for dual relief; each side has redundant safety relief with both a rupture disc and safety relief valve available	
Ball/Seat Configuration	Floating ball	
Body Seal Design	Totally encapsulated body seals to resist cold flow of PTFE; high performance over wide temperature and pressure range	
Casting Type	Investment body, sand cast ends	
Unique Features	High flow capacity protects vessels from overpressurization; consistent high flow ensures safe operation; tanks are protected even during operation of the valve	
Bill of Materials	<b>Part</b>	<b>Item</b>
	Body	A
	End Plates	B
	Ball	C
	Stem	D
	Follower	E
	Seats	F
	Stem Seals	G
	Body Seals	H
	Stop	I
	Handle	J
	Thrust Bearing	K
	Body Bolts	L
	Body Nuts with Lock Washers	M
	Stem Nuts	N
Lock Washer	O	
Set Screw for Collar	P	
Stem Collar	Q	
Stem Seal Washer	R	
Stem Belleville Springs	S	



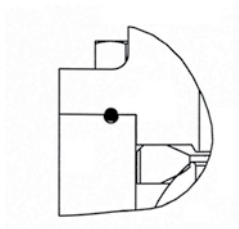
## Series 21/18

TWO-PIECE, FULL- AND STANDARD-PORT, SPLIT-BODY, FORGED OR BARSTOCK CRYOGENIC BALL VALVE

Size Range	1/2" to 12" (15 mm to 300 mm)	
Pressure Range	ASME Classes 150 to 900	
End Connections	Flanged – raised face	
Standard Cavity Pressure Relief Method	Upstream hole in ball or cavity pressure-relieving seats	
Ball/Seat Configuration	Floating ball or trunnion ball support	
Body Seal Design	Totally encapsulated body seals to resist cold flow of PTFE; high performance over wide temperature and pressure range; spiral-wound body seals ASME Classes 600 and above	
Casting Type	Does not apply	
Unique Features	The 21/18 offers unsurpassed reliability with a body machined from solid wrought materials, providing increased strength and virtually eliminating porosity	
Bill of Materials	<b>Part</b>	<b>Item</b>
	Body	A
	End Plates	B
	Ball	C
	Stem	D
	Follower	E
	Seats	F
	Stem Seals	G
	Body Seal	H
	Stop Plate	I
	Handle	J
	Thrust Bearing	K
	Stop Pins/Bolts	L
	Stem Nuts	M
	Stem Belleville Springs	N
	Body Nuts with Lock Washers	O
	Body Studs	P
	Set Screw for Collar	Q
	Stem Collar	R
	Stem Seal Washer	S
	Handle Spacer	T
	Retaining Washer	U
	Handle Retaining Bolt	V



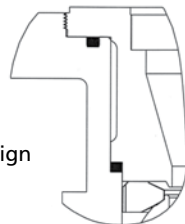
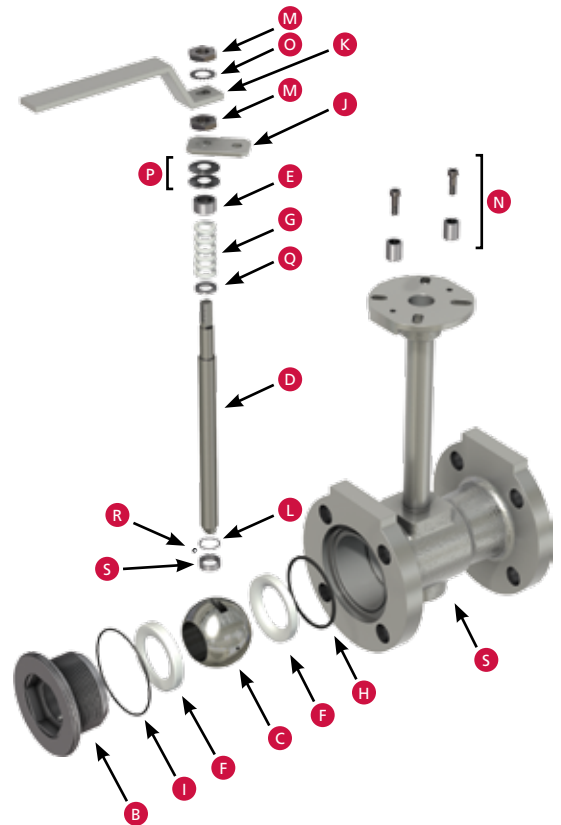
Single Body Seal Design



## Series 21/20

### END-ENTRY, STANDARD-PORT, CAST, FLANGED CRYOGENIC BALL VALVE

Size Range	1/2" to 8" (15 mm to 200 mm)	
Pressure Range	ASME Classes 150 to 600	
End Connections	Flanged – raised face	
Standard Cavity Pressure Relief Method	Upstream hole in ball or cavity pressure-relieving seats	
Ball/Seat Configuration	Floating ball	
Body Seal Design	Totally encapsulated body seals to resist cold flow of PTFE; high performance over wide temperature and pressure range	
Casting Type	Investment cast 1/2" to 3" (15 mm to 75 mm); sand cast 4" (100 mm) and above	
Unique Features	Unibody construction; no external leak paths through valve body; dual body seal design	
Bill of Materials	<b>Part</b>	<b>Item</b>
	Body	A
	End Plug	B
	Ball	C
	Stem	D
	Follower	E
	Seats	F
	Stem Seals	G
	Body Seal – Inner	H
	Body Seal – Outer	I
	Stop Plate	J
	Handle	K
	Thrust Bearing	L
	Stem Nuts	M
	Stop Pins/Bolts	N
	Lock Washer	O
Stem Belleville Springs	P	
Stem Seal Washer	Q	
Stem Screw for Collar	R	
Stem Collar	S	

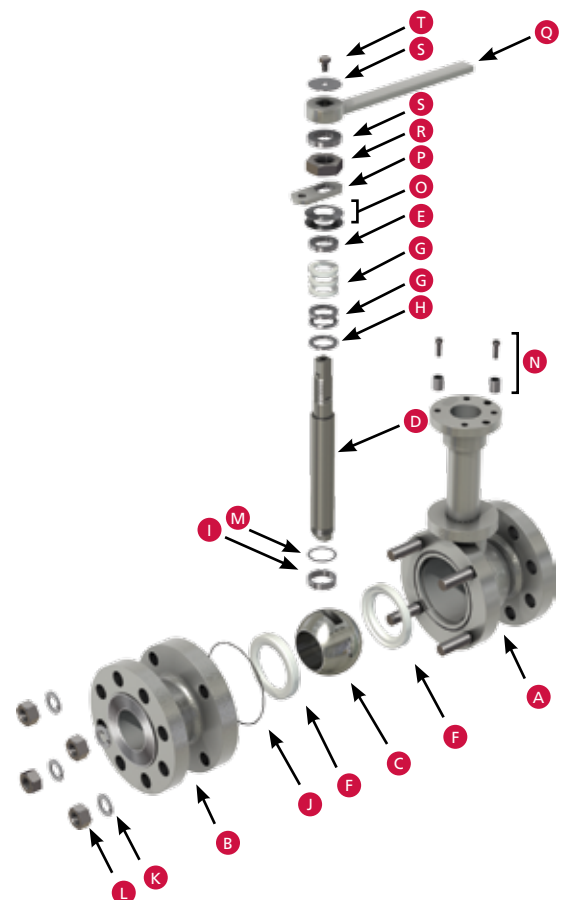


Dual Body Seal Design

## Series 21/28

### TWO-PIECE, FULL-PORT, SPLIT-BODY, CAST, FLANGED CRYOGENIC BALL VALVE

Size Range	1/2" to 8" (15 mm to 200 mm)	
Pressure Range	ASME Classes 150 to 600	
End Connections	Flanged – raised face	
Standard Cavity Pressure Relief Method	Upstream hole in ball or cavity pressure-relieving seats	
Ball/Seat Configuration	Floating ball	
Body Seal Design	Totally encapsulated body seals to resist cold flow of PTFE; high performance over wide temperature and pressure range	
Casting Type	Investment cast 1" to 3" (15 mm to 75 mm); sand cast 4" to 8" (100 mm to 200 mm)	
Unique Features	Now available in ASME Class 600: 3" to 8" (75 mm to 200 mm)	
Bill of Materials	<b>Part</b>	<b>Item</b>
	Body	A
	End Plate	B
	Ball	C
	Stem	D
	Follower	E
	Seats	F
	Stem Seals	G
	Stem Seal Washer	H
	Stem Collar	I
	Body Seal	J
	Body Studs	K
	Body Nuts	L
	Thrust Bearing	M
	Stop Pins/Bolts	N
	Stem Belleville Springs	O
Stop Plate	P	
Handle	Q	
Handle Spacer	R	
Retaining Washers	S	
Handle Retaining Bolt	T	

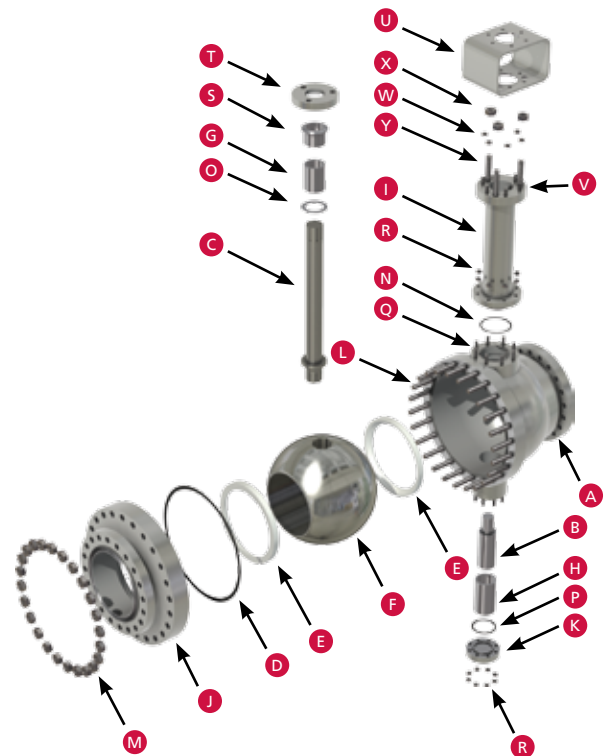




## Series 21/80

### TWO-PIECE, FULL-PORT, SPLIT-BODY, CAST, FLANGED CRYOGENIC BALL VALVE

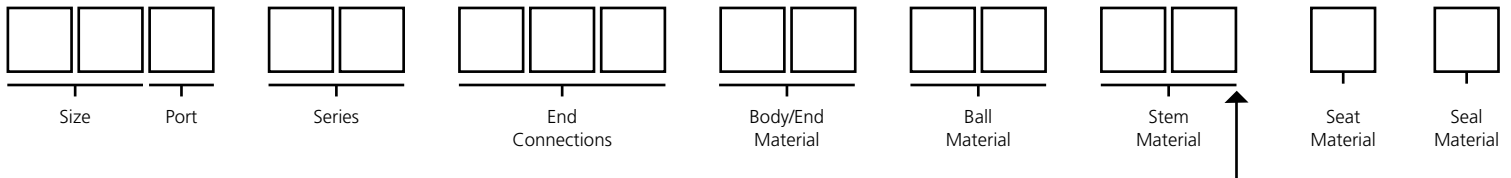
Size Range	10" to 18" (250 mm to 450 mm)	
Pressure Range	ASME Classes 150 to 600	
End Connections	Flanged – raised face	
Standard Cavity Pressure Relief Method	Unidirectional flow with pressure relief upstream	
Ball/Seat Configuration	Trunnion mounted	
Body Seal Design	Spiral-wound gaskets	
Casting Type	Sand cast	
Unique Features	Trunnion mounted design with pressure-activated seats with cavity pressure relief in the ball	
Bill of Materials	<b>Part</b>	<b>Item</b>
	Body	A
	Trunnion	B
	Stem	C
	Body Gasket	D
	Seats	E
	Ball	F
	Upper Bushing	G
	Lower Bushing	H
	Bonnet Assembly	I
	End Flange	J
	Trunnion Flange	K
	Body Studs	L
	Body Nuts	M
	Bonnet Gasket	N
	Thrust Bearing	O
	Trunnion Gasket	P
	Bonnet Studs	Q
	Bonnet Nuts	R
	Follower	S
	Packing Flange	T
	Bracket	U
	Bracket Studs	V
	Bracket Nuts	W
	Packing Flange Nuts	X
	Packing Flange Bolts	Y



## How to Order

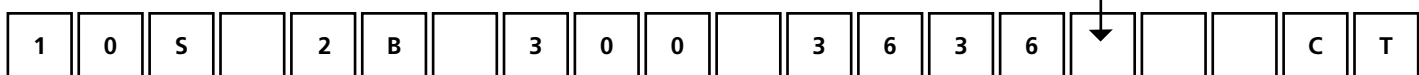
Size	Porting	Series	End Connections
01 = 1/8"	S = Standard Port	21 = 21/11 Cryogenic Three-Piece	BWT = Butt-Weld Ext. and Tube Ends*
02 = 1/4"	F = Full Port	2B = 21/20 Cryogenic Unibody Flanged	B_ _ = Butt-Weld + Schedule (ex: B40 = Schedule 40)
03 = 3/8"		2D = 21/51 Cryogenic Diverter	FSE = NPT Female 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



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

### Sample:



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.

Body/End Material	Seat/Seal Material	Bolting	Modifiers
<b>Ball/Stem Material</b>	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

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

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.

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For more information about TBV cryogenic ball valves:

[www.c-a-m.com/TBV](http://www.c-a-m.com/TBV)

[TBV@c-a-m.com](mailto:TBV@c-a-m.com)



#### **HSE Policy Statement**

At Cameron, we are committed ethically, financially and personally to a working environment where no one gets hurt and nothing gets harmed.