

Ball Valves

Overview

Parker Bestobell cryogenic uni-directional ball valves are used as shut-off valves in low-temperature applications.

These valves are available in full and reduced bore designs.

The cryogenic full bore ball valves deliver a high flow of media and decreased pressure drop. They are suitable for filling stations and portable delivery systems, providing faster opening and closing times, and reducing the filling time.

The cryogenic reduced port ball valves are more compact than full bore ball valves, which makes them suitable for systems with confined space. These valves

are also about 30% lighter than the full bore ball valves, which reduces the pipe load and transportation costs.

The preferred orientation of the Parker Bestobell cryogenic ball valves is vertical. It should not be less than 30° from the horizontal position if installed at an angle. The relief hole in the ball should be facing upstream when the valve is in the closed position.

Parker Bestobell cryogenic ball valves are available as manual and pneumatic actuation types. The uni-directional pneumatic actuated valves are used for shut-off of flow and enable remote control.

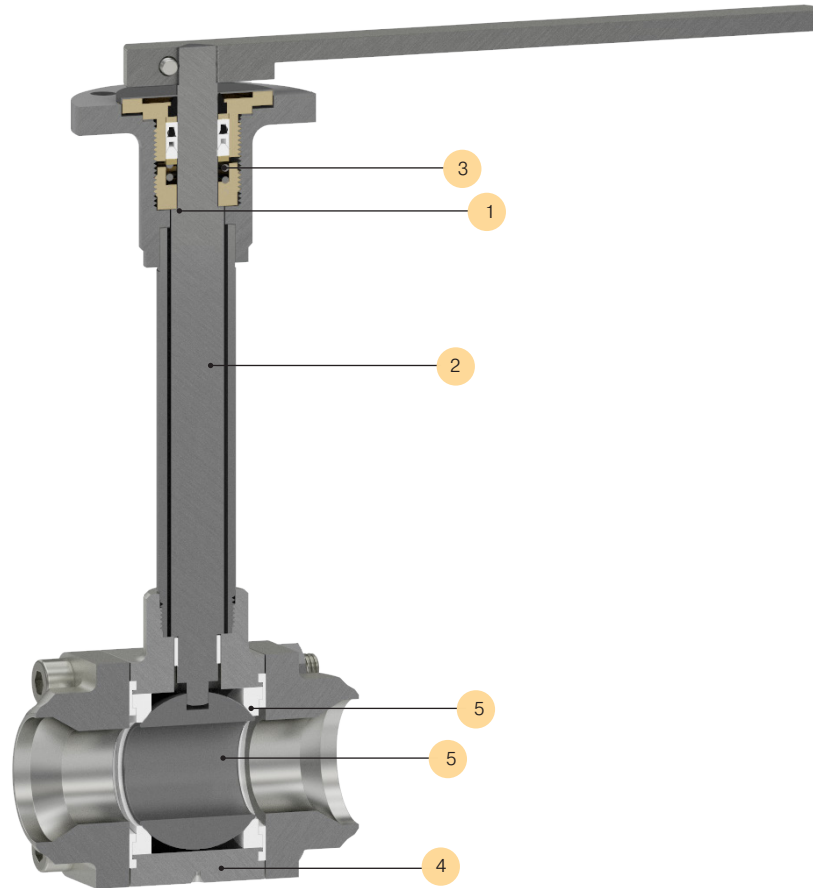
Function:

- Shut off

Applications:

- Fill or drain lines
- Transportation of Liquefied Gases
- Storage of Liquefied Gases

Valve size	DN15 - DN50
Maximum Working Pressure (MWP)	50 bar (725 PSI) dependent on end connections
Working temperature	-196°C to +65°C (-319°F to +149°F)
End connections	NPT, BSP, Socket Weld, Butt Weld
Body materials	Bronze, Stainless Steel
Suitable for media type	Group 1 gases Cleaned for oxygen service
Design and testing standards	ASTM B31.1, BS EN 1626, BS ISO 21011 Optional full material traceability backed by BS EN 10204 3.1/3.2 certification
Approvals	CRN, UKCA and PED approved
Marking	CE and UKCA marked
Pneumatic Actuator	• Max. air pressure: 8 bar (116 PSI) • Working temperature: -20°C to +80°C (-4°F to +176°F) • Inlet connections: 1/8" or 1/4" BSP-PL (ISO 228) dependent on actuator size



WARNING

The products described in this catalog can expose you to chemicals, including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Features, Benefits and Values

Reference	Feature	Benefit	Value
1	Anti-blowout stem	The anti-blowout design prevents the stem being pushed out by internal valve pressure during maintenance of the packing A machined flat on the collar prevents liquid from being trapped in the headwork which could lead to a rapid build-up of pressure as liquid warms up	Safety Reliability
2	Extended stem	Enables an easy access for valve operation and maintenance Prevents the loss of cold energy Prevents the damage of valve packings from low liquid temperatures Ease of use of the jacketing material	Performance Reliability Ease of Operation
3	Spring-loaded gland packing	Spring maintains the load on the gland for a period of time reducing the frequency of manual adjustment and influence of temperature changes Long service life: 10,000 operations	Performance Reliability
4	Removable centre section	Interchangeability in existing installations	Ease of Operation
5	Replaceable disc and seat	Ease of maintenance	Ease to Operation
N/A	Relief hole	Prevents trapping of liquefied gases, when the ball rotates into the closed position.	Safety Reliability
N/A	Full bore	High flow Low pressure drop Quick filling	Performance
N/A	Reduced bore	Require smaller installation space 30% lighter than full bore ball valve	Ease of Operation Overall cost
N/A	Quarter-turn valve	Fast opening Ease of actuation	Performance Ease of Operation Safety
N/A	Rack & pinion pneumatic actuator	Fast operation of the valve Remote control Easy convert from manual to actuated due to the ISO mounting flange	Safety Ease of Operation Performance
N/A	Visual detection	Open and close state of valve can be visually detected by position of the handle	Safety Ease to Operation



WARNING

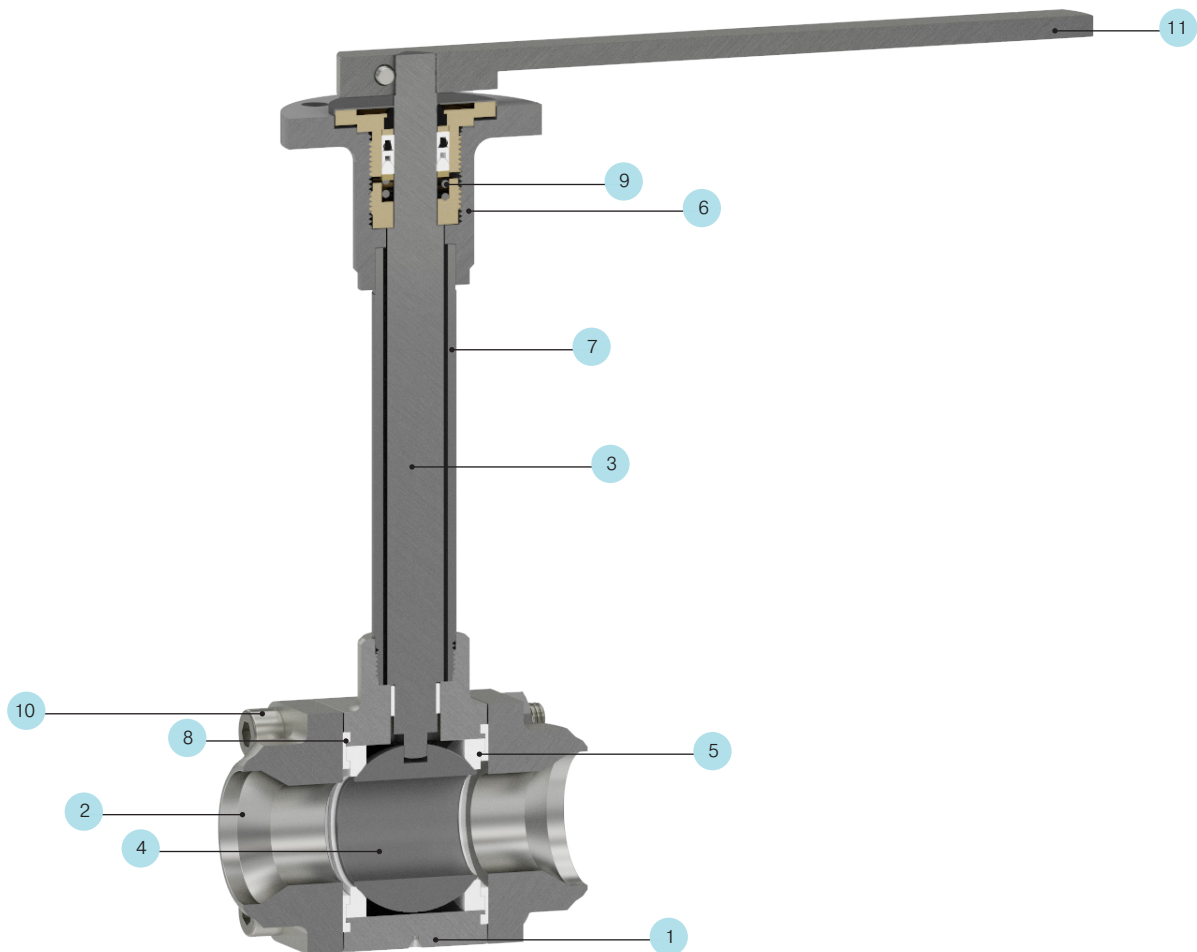
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Technical Information

Bill of Materials

	Description	Bronze	Full Stainless Steel
1	Body	Gunmetal BS EN 1982 CC491K	Stainless Steel ASTM A351 CF8M
2	End adaptors	Gunmetal BS EN 1982 CC491K	Stainless Steel ASTM A351 CF8M
3	Stem	Stainless Steel BS EN 10088-3 1.4401	
4	Ball	Brass BS EN 12164 CW614N	Stainless Steel 316 S31 BS970
5	Ball seal	Hostaflon	
6	Gland housing	Stainless Steel ASTM A351 CF8M	
7	Extension tube	Stainless Steel ASTM A269 TP304L	
8	End adaptor seal	Virgin PTFE	
9	Gland packing	Virgin PTFE	
10	Fasteners	Stainless Steel BS6105 A2/A4 Gr.70	
11	Lever	Stainless Steel ASTM A351 CF8M	



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Ordering Information

Manual and Actuated Ball Valves - Bronze and Full Stainless Steel CZF Series

Series		Valve Size		Body Material		Inlet Connection			Outlet Connection			Stem Length		Actuation	
Cryogenic Ball Valves - Full Bore	CZFF	15 mm	DN15	Bronze	B	Bronze	BSP-PL Female	TA	Bronze	BSP-PL Female	TA	230 mm	2	Manual	*
		25 mm	DN25	Full Stainless Steel	S		NPT Female	TE		NPT Female	TE			Pneumatic Actuator	A
Cryogenic Ball Valves - Reduced Bore	CZFR	40 mm	DN40		Full Stainless Steel	Butt Weld schedule 10	B1	Full Stainless Steel	Butt Weld schedule 10	B1			* No designator required		
		50 mm*	DN50			Socket Weld	SW		Socket Weld	SW					

CZFF

DN15

B

TA

TA

2

A

* Reduced bore valves (CZFR) only

* Reduced bore valves (CZFR) only

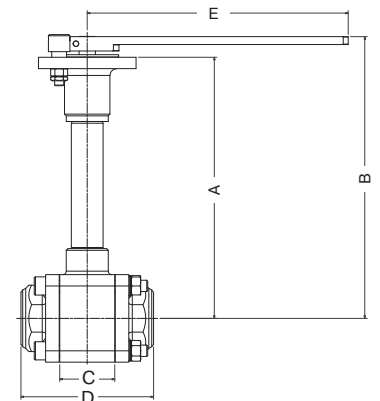
Notes:

1. Inlet and outlet connections must be of the same type.
2. Options available on request: Flanged end connections; Rack & Pinion Pneumatic Actuator with solenoid valve; Positioner; Switch limit; Coloured lever.

Specifications

Threaded/Butt Weld/Socket Weld Ends

Valve Size		DN15 15 mm		DN25 25 mm		DN40 40 mm		DN50 50 mm	
Actuation		Manual	Pneumatic	Manual	Pneumatic	Manual	Pneumatic	Manual	Pneumatic
Full Bore	mm	15		25		40		N/A	
Reduced Bore	mm	11		20		32		37	
A	mm	230							
B	mm	250	352	250	352	250	405	250	405
C	mm	21		32		49		56	
D	mm	67		96		117		129	
E	mm	190	210	190	210	230	315	230	315
Cv	US GPM	9		30		90		138	
Weight	kg	2.1	4.7	3.0	5.5	4.7	15.5	6.8	16.0



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Manual Ball Valves with Reduced Bore - Bronze and Full Stainless Steel CZFR*B and CZFR*S Series

Valve Size	DN15	DN25	DN40	DN50
Gasket & Packing Kit	CZFRRDN15	CZFRRDN25	CZFRRDN40	CZFRRDN50
Centre Section - Bronze	CZFRBCDN15	CZFRBCDN25	CZFRBCDN40	CZFRBCDN50
Centre Section - Stainless Steel	CZFRSCDN15	CZFRSCDN25	CZFRSCDN40	CZFRSCDN50

Manual Ball Valves with Full Bore - Bronze and Full Stainless Steel CZFF*B and CZFF*S Series

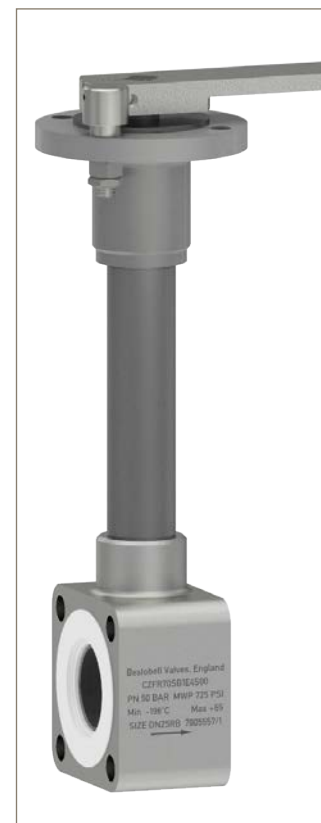
Valve Size	DN15	DN25	DN40
Gasket & Packing Kit	CZFFRDN15	CZFFRDN25	CZFFRDN40
Centre Section - Bronze	CZFFBCDN15	CZFFBCDN25	CZFFBCDN40
Centre Section - Stainless steel	CZFFSCDN15	CZFFSCDN25	CZFFSCDN40

Gasket & Packing Kit	
Content	Quantity
Chevron Top	2
Chevron BTM	1
Wiper Seal	1
'O' Seal	1
Spring	1
Seal ball valve	2
Washer	2
Gasket	2
Bush	1
Protection cap	1



Gasket & Packing Kit for Parker Bestobell Cryogenic Ball Valves

Centre Section	
Content	Quantity
Gasket and packing kit	1
Body	1
Tube	1
Housing	1
Ball	1
Gland follower	1
Bush gland	1
Stem	1
Handlever	1
Stop pin	1
Nut	1
Nut lock	1



Centre-Section for Parker Bestobell Cryogenic Ball Valves

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