Innovation I Commitment

VINCO
VALVES

CRYOGENIC BALL VALVES

FLOWING YOUR ENERGY

GALLERY

COMPANY

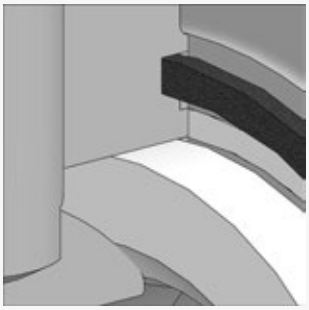
We are Vinco Valves, an European ball valve manufacturer with over 30 years of experience in the market, based near Porto, in the north of Portugal, with a 5.000m² modern facilities.

The focus on technological development and the strengthen of its know-how has allowed us to expand to new markets, being recognized for our ability to develop solutions that fulfill the market's demands. As a consequence we have developed in the past years a range of products for oil & gas, hydrogen, sanitary, chemical and cryogenic industries.

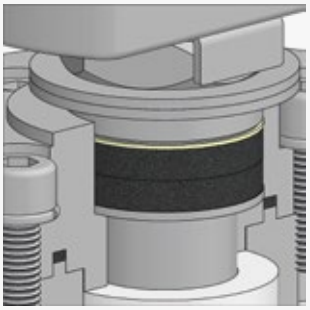
We have a dedicated team ready to respond to the most demanding requests, knowing that the key word here is the quality of all our products and services. We are responsible for the design, development, assembly and testing under the highest quality standards of all our products.

INDEX

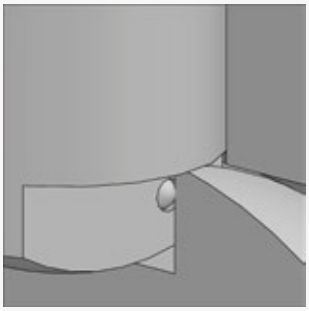
GENERAL FEATURES



Double encapsulated body seals for extra resistance and tightness performance

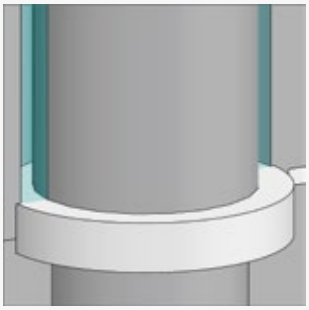


Self-adjust live loaded packing system ensures longer service without maintenance and spare parts replacement

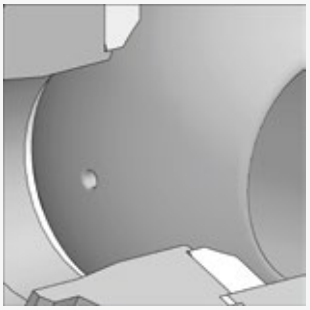


Anti-static device ensures the electrical conductivity between body, end, ball and stem according to European directive 2014/34/EU (ATEX)

Top flange fitted with ISO 5211 providing universal connection for automation

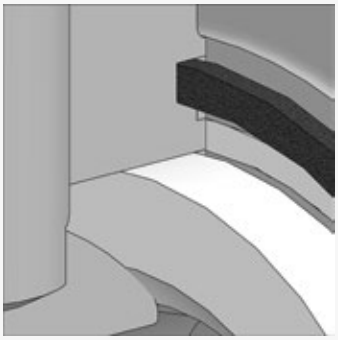


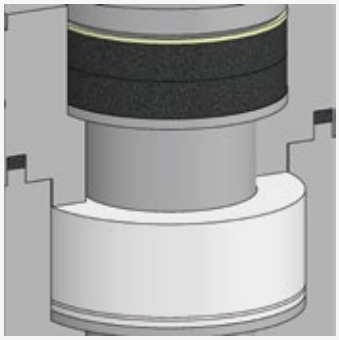
The expansion chamber allows the formation of a barrier or an insulation column of vapour between the liquefied gas and the packing increasing its performance and life cycle



The upstream relief hole allows the relief of the excess pressure generated by a heating or a phase change ensuring the safety of the equipment

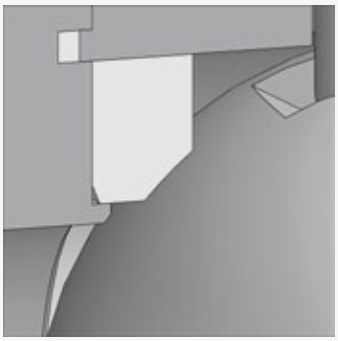
FIRESAFE AND FUGITIVE EMISSION DESIGN

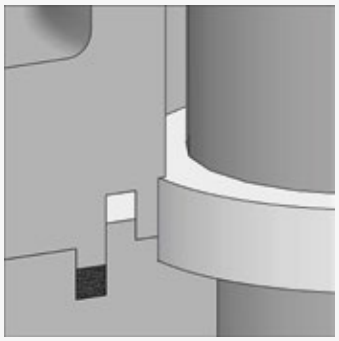




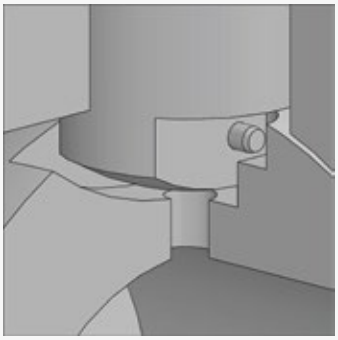
Firesafe design according to ISO 10497 and API 607 for critical services. Primary layer of TFE prevents graphite contamination into the media assuring the cleanliness of the processes. A Metal backseat system allows the sealing in the event of a fire ensuring the tightness of the process.

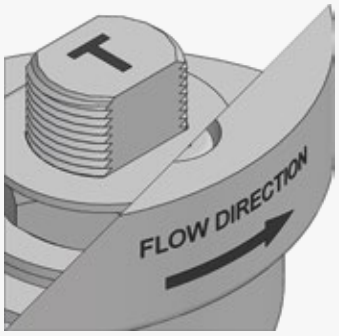
Fugitive emissions design according to ISO 15848 and TA LUFT / VDI 2440 reducing the potentially harmful emission to the environment. This design is also suitable for vacuum service up to 10^{-3} mm Hg.



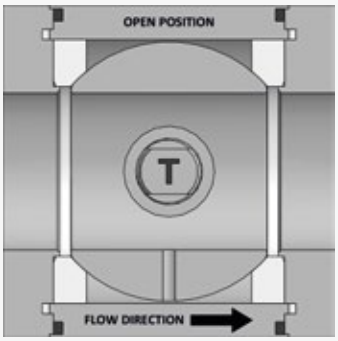


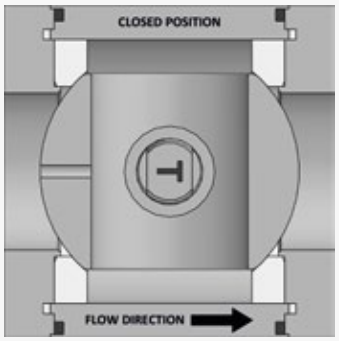
STEM ALIGNMENT SAFETY DESIGN



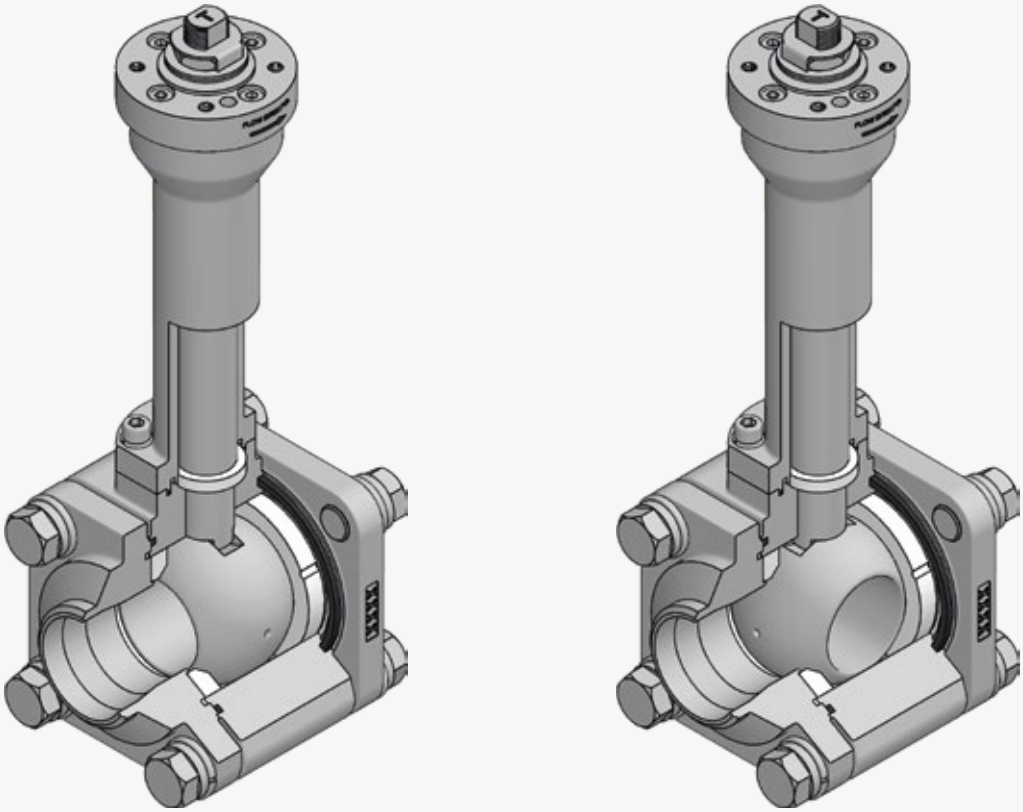


Rib and groove design between the ball and stem to guarantee the correct alignment of the upstream relief hole avoiding incorrect installations and possible malfunctions during the utilization. Once the valve is installed, the position of the upstream relief hole can be checked at any time through the top stem marking of the current position of the ball. The valve has also a flow direction identification for full integrated information.





OPEN AND CLOSED POSITION



CERTIFICATIONS AND STANDARDS

CERTIFICATION

CE Certification acc. to TPED 2010/35/EU

Cryogenic Design Certification acc to ISO 28921-2

CE Certification acc. to PED 2014/68/EU

Fire Safe Certification acc to API 607 Ed.6 / ISO 10497

CE Certification acc. to ATEX II 2GD 2014/34/EU

Company Quality System Certified acc. to ISO 9001

CONSTRUCTION STANDARDS

ASME B16.34

ASME B16.25 & B36.10M

ASME B16.5

ASME B16.10

ASME B16.11

ISO 17292-1

ISO 28921-1/2

DIN EN 1092-1

EN 558-1

TEST STANDARDS

Test applied:

Hydrostatic shell and seat test
Pneumatic shell and seat test

Cryogenic Test
According to BS 6364
Available Upon Request

EN 10204 type 3.1 certificate
is available for each valve

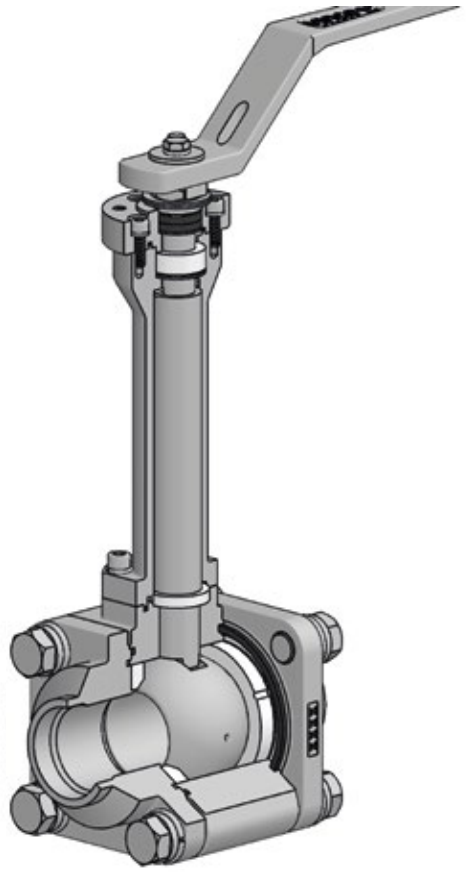
CXF Series

2 Way Floating
Investment Cast

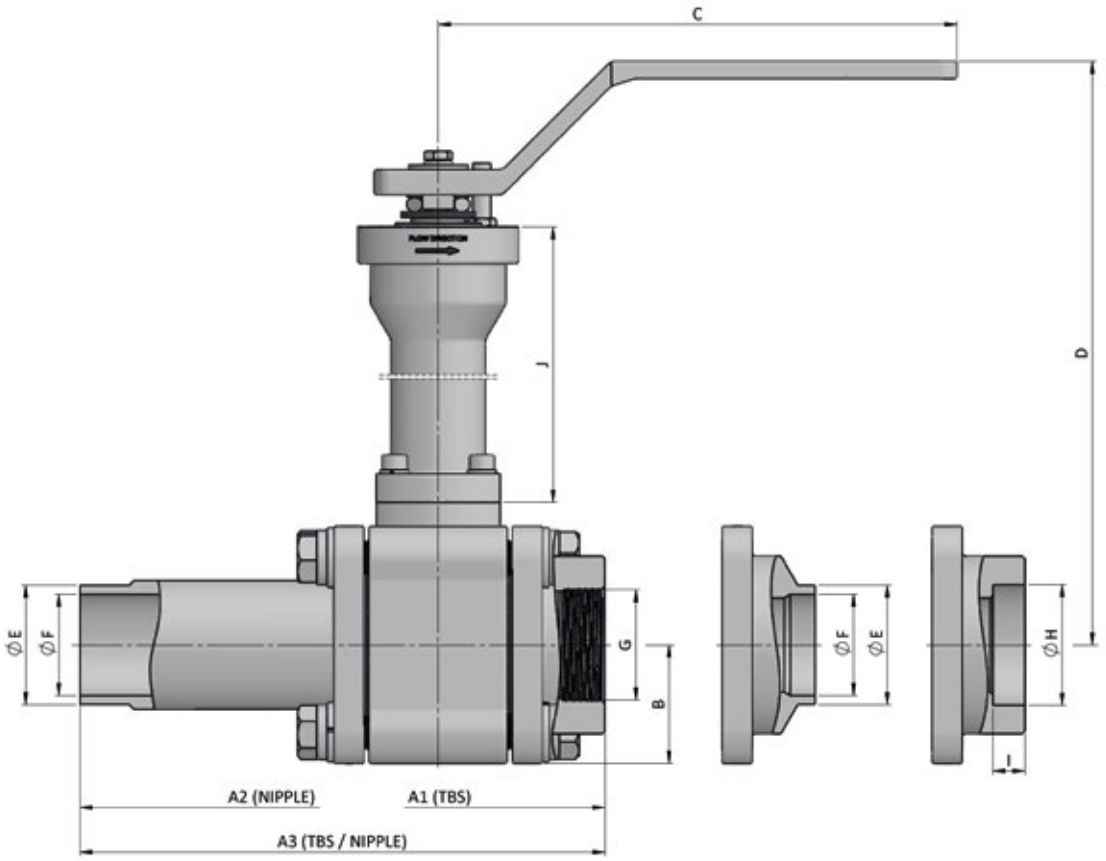
The CXF Series is a cryogenic floating ball valve designed for cryogenic services down to -196°C as LNG, LPG or other applications. It is designed in an unidirectional way to safely release overpressure due to heating or suddenly phase change of the media. This is achieved by the introduction of an upstream relief hole that equalize the envelope pressure with the upstream line reducing the probability of bursting the valve housing. To ensure the correct mounting and operation of this safety feature the valve is equipped with a rib and groove system to guarantee the correct installation. Additionally, the valve is equipped with an expansion chamber to create a barrier / insulation column between the liquefied gas and the packing increasing the performance of the sealing system. It is available with welding connections, making this series the best solutions for compact and permanent systems.

ASME CL 600 / 300 / 150
Full Bore: ½" - 6"
Reduced Bore: ¾" - 4"

DESIGN TEMPERATURE
-196°C to 200°C



PART		STANDARD	OPTIONAL
		STAINLESS STEEL	
Body / Ends		A351 CF3M	
TRIM	Ball	A351 CF8M	
TRIM	Stem	HS. ST. ST.	
Seats		TFM1600	PCTFE
Packing & Seals		TFM1600 & GRAPHITE	
Bolting		A193 Gr. B8M cl.2	



DN	CLASS	BORE	A1	A2	A3	B	C	D		E	F	G	H	I	J		ISO 5211	kg			
								STANDARD	ISO 28921-1						STANDARD	ISO 28921-1		STANDARD		ISO 28921-1	
																		A1	A2	A1	A2
½"	600	15.1	75	250	162.5	27.5	180	240	320	NPT / BSPT SW BW & BW Nipple					150	230	F04	2.3	2.6	2.6	2.9
¾"	600	20.6	90	260	175	32.5	180	245	325						150	230	F04	3.5	3.8	3.8	4.1
1"	600	25.4	100	270	185	37.5	180	250	330						150	230	F04	4	4.5	4.5	5
1¼"	600	31.8	115	280	197.5	42.5	210	295	405						175	285	F05	6.5	7.5	7.2	8.2
1½"	600	38.1	125	290	207.5	47.5	210	300	410						175	285	F05	8.3	8.8	9	8.5
2"	300	49	165	310	237.5	65	300	350	450						200	300	F07	14.6	15	15.9	16.3
2½"	300	62	190	330	260	80	GEARBOX								200	300	F10	30	31	31	32
3"	300	75	215	350	282.5	95									250	360	F10	48	50	51	53
4"	300	100	265	390	327.5	115									250	360	F10	73	80	75	82
6"	150	150	365	450	407.5	162.5									300	430	F14	145	148	155	158

CQF Series

Multiway Floating
Investment Cast

The CQF Series is a cryogenic multiway floating ball valve designed for cryogenic services down to -196°C as LNG, LPG or other applications. It is designed to provide different flow configurations to enhance piping design systems and reduce the number of valves required for the processes. Additionally, the valve is equipped with an expansion chamber to create a barrier / insulation column between the liquefied gas and the packing increasing the performance of the sealing system. It is available with welding, threaded or flanged connections, making this series the best solutions for complex and compact piping systems where the space availability is the key.

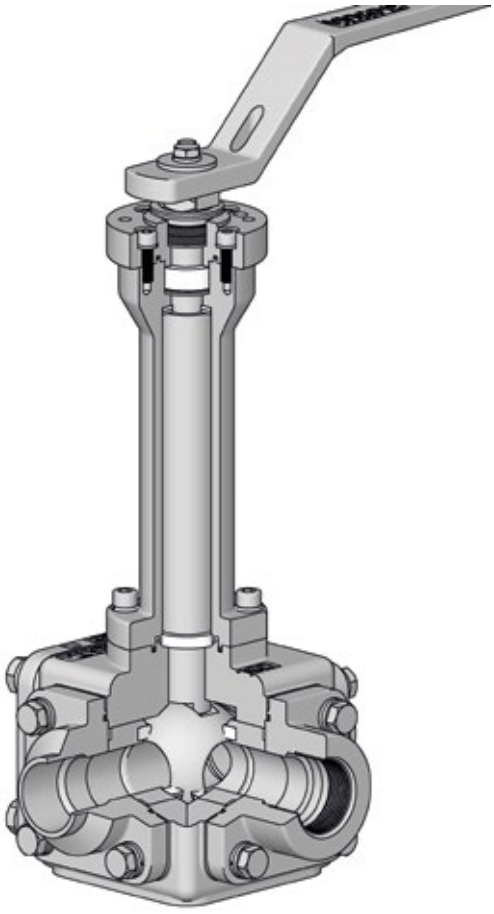
ASME CL 600* / 300*

Full Bore: ½" - 2"
Reduced Bore: ¾" - 2"

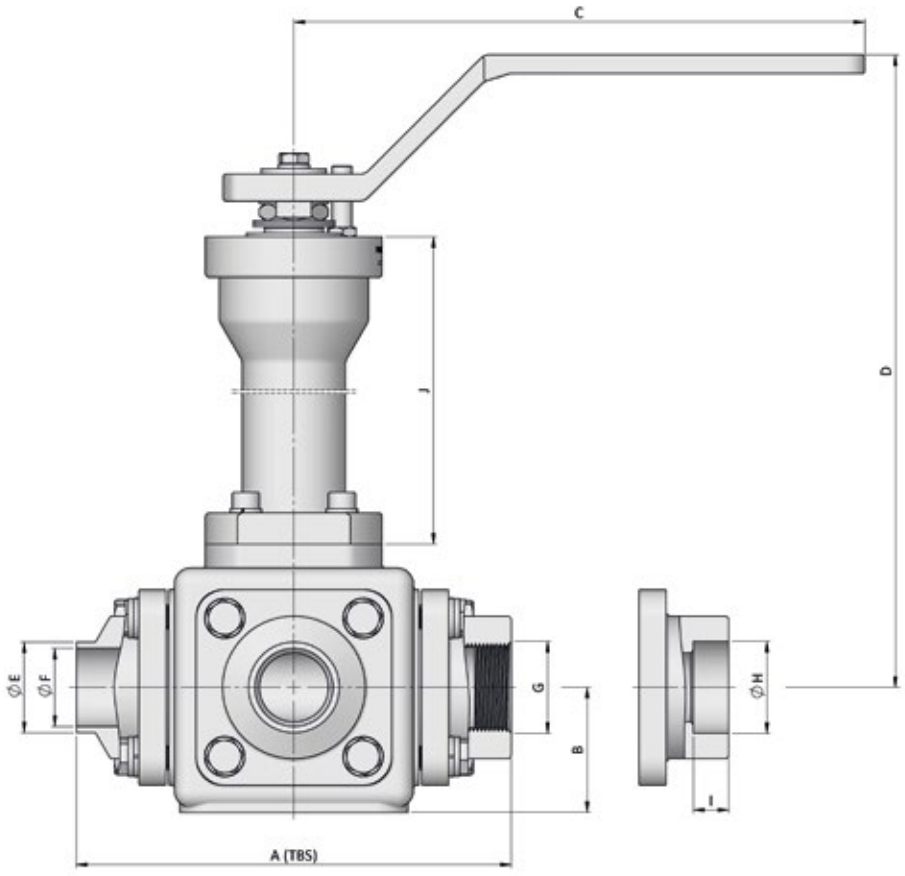
*The working pressure is limited to 20 bar to ensure a good tightness performance since the design of this kind of valve is to direct the fluid through different ports, which reduces the tightness capabilities of the valve.

DESIGN TEMPERATURE

-196°C to 200°C



PART		STANDARD	OPTIONAL
		STAINLESS STEEL	
Body / Ends		A351 CF8M / A351 CF3M	
TRIM	Ball	A351 CF3M	
TRIM	Stem	HS. ST. ST.	
Seats		TFM1600	PCTFE
Packing & Seals		PTFE & GRAPHITE	
Bolting		A193 Gr. B8M cl.2	



DN	CLASS	BORE	A	B	C	D		E	F	G	H	I	J		ISO 5211	kg	
						STANDARD	ISO 28921-1						STANDARD	ISO 28921-1		STANDARD	ISO 28921-1
½"		15.8	115	35	180	245	325						150	230	F04	4.9	5.5
¾"		22.1	145	45	210	295	405						175	285	F05	9.5	10.3
1"	600	25.4	150	45	210	295	405	NPT / BSPT SW BW					175	285	F05	9.9	10.7
1¼"		34.8	180	60	210	310	420						175	285	F05	17	17.8
1½"		38	185	60	210	310	420						175	285	F05	17.3	18.1
2"	300	47.5	265	85	300	365	465						200	300	F07	46.5	47

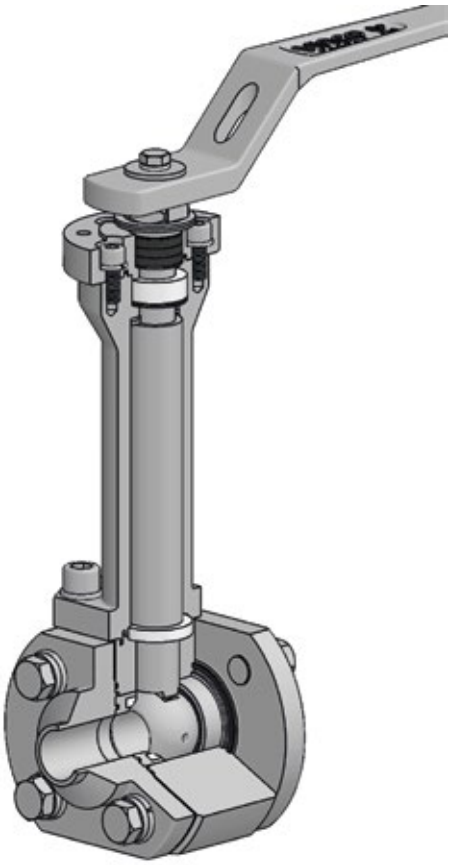
CHF5 Series

2 Way Floating
Barstock

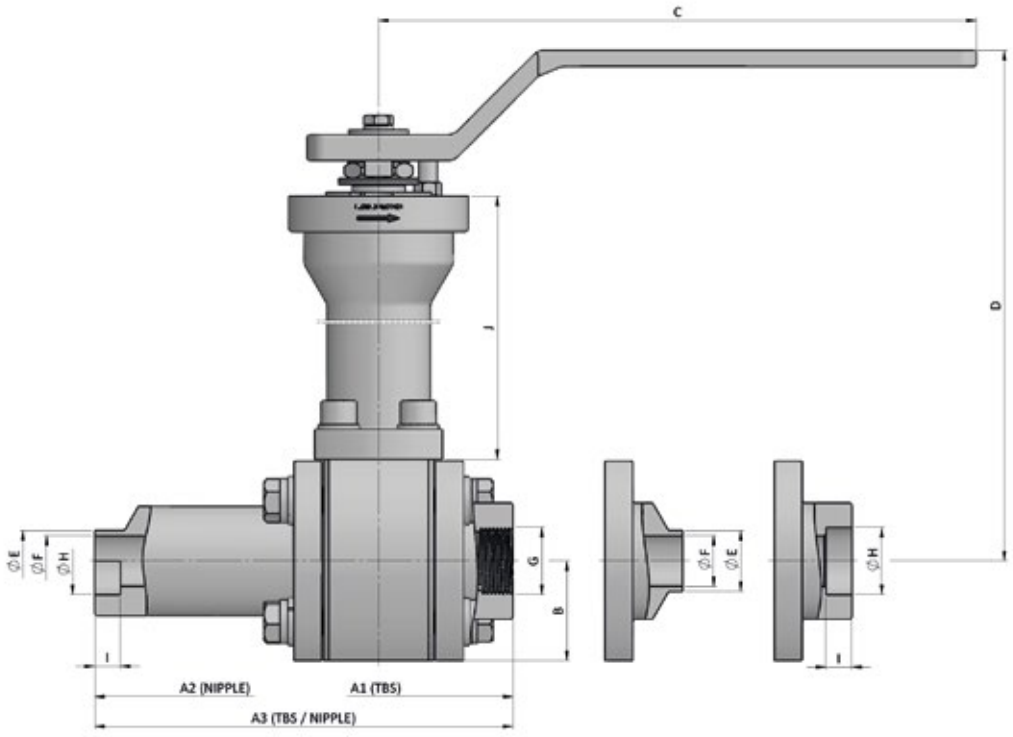
The CHF Series is a cryogenic floating ball valve designed for cryogenic services down to -196°C as LNG, LPG or other applications. It is designed in an unidirectional way to safely release overpressure due to heating or suddenly phase change of the media. This is achieved by the introduction of an upstream relief hole that equalize the envelope pressure with the upstream line reducing the probability of bursting the valve housing. To ensure the correct mounting and operation of this safety feature the valve is equipped with a rib and groove system to guarantee the correct installation. Additionally, the valve is equipped with an expansion chamber to create a barrier / insulation column between the liquefied gas and the packing increasing the performance of the sealing system. It is available with welding connections, making this series the best solutions for compact and permanent systems.

ASME CL 1500
Full Bore: ½" - 1"
Reduced Bore: ¾" - 1½"

DESIGN TEMPERATURE
-196°C to 150°C



PART		STANDARD
		STAINLESS STEEL
Body / Ends		A479 316/L
TRIM	Ball	HS. ST. ST.
	Stem	HS. ST. ST.
Seats		PCTFE
Packing & Seals		PTFE & GRAPHITE
Bolting		A193 Gr. B8M cl.2



DN	CLASS	BORE	A1	A2	A3	B	C	D		E	F	G	H	I	J		ISO 5211	kg			
								STANDARD	ISO 28921-1						STANDARD	ISO 28921-1		STANDARD		ISO 28921-1	
																		A1	A2	A1	A2
½"		15.1	95	265	180	33.5	180	245	320	NPT / BSPT					150	230	F04	4.7	6	5.2	6.5
¾"	1500	20.6	110	275	192.5	41	210	285	385	SW & SW Nipple					175	285	F05	8	9.9	8.8	10.7
1"		25.4	125	285	205	50	300	325	425	BW & BW Nipple					200	300	F07	13.4	16.2	14.4	17.2

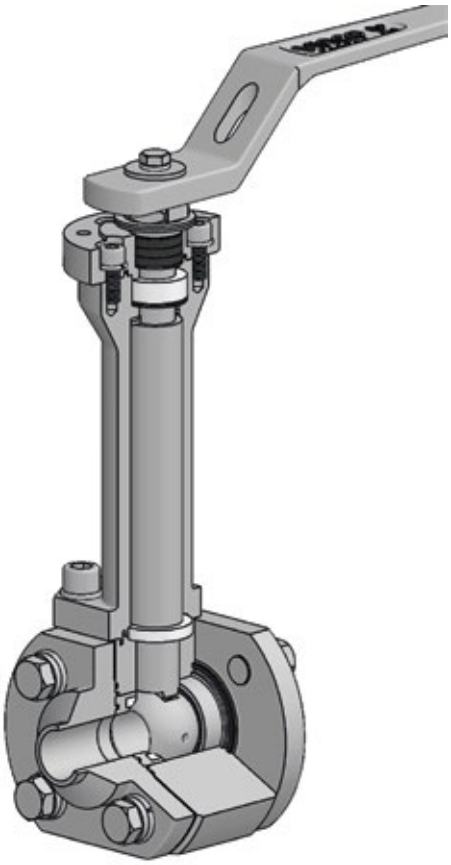
CHF6 Series

2 Way Floating
Barstock

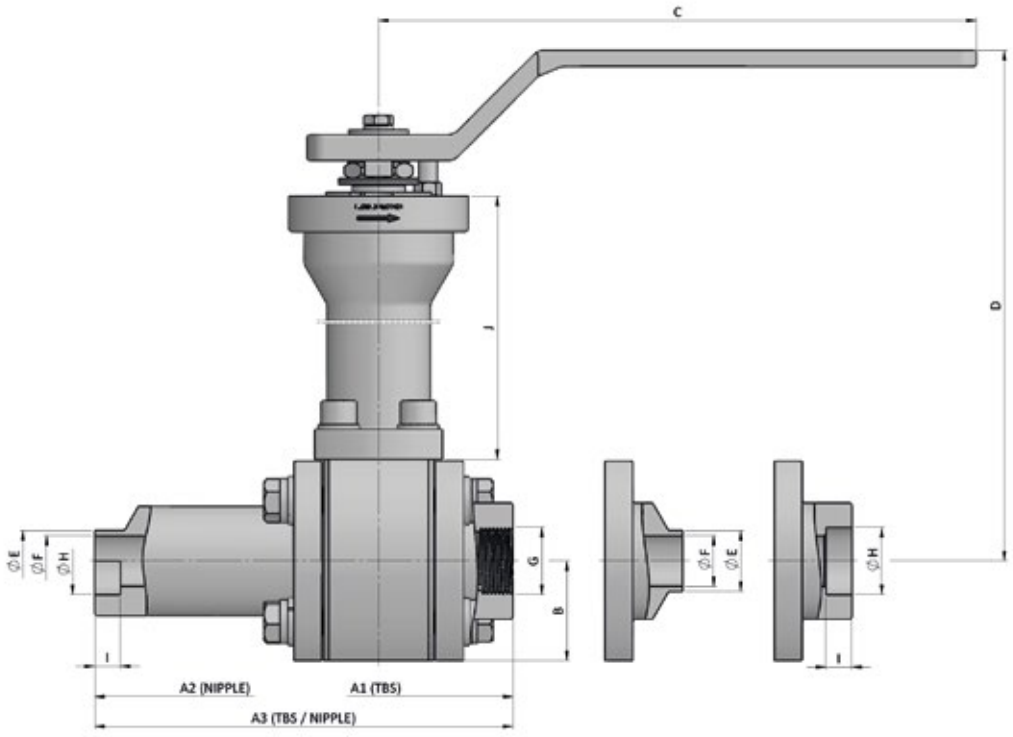
The CHF Series is a cryogenic floating ball valve designed for cryogenic services down to -196°C as LNG, LPG or other applications. It is designed in an unidirectional way to safely release overpressure due to heating or suddenly phase change of the media. This is achieved by the introduction of an upstream relief hole that equalize the envelope pressure with the upstream line reducing the probability of bursting the valve housing. To ensure the correct mounting and operation of this safety feature the valve is equipped with a rib and groove system to guarantee the correct installation. Additionally, the valve is equipped with an expansion chamber to create a barrier / insulation column between the liquefied gas and the packing increasing the performance of the sealing system. It is available with welding connections, making this series the best solutions for compact and permanent systems.

ASME CL 2500
Standard Bore: ½" - 1"

DESIGN TEMPERATURE
-196°C to 150°C



PART		STANDARD
		STAINLESS STEEL
Body / Ends		A479 316/L
TRIM	Ball	HS. ST. ST.
	Stem	HS. ST. ST.
Seats		PCTFE
Packing & Seals		PTFE & GRAPHITE
Bolting		A193 Gr. B8M cl.2



DN	CLASS	BORE	A1	A2	A3	B	C	D		E	F	G	H	I	J		ISO 5211	kg			
								STANDARD	ISO 28921-1						STANDARD	ISO 28921-1		STANDARD		ISO 28921-1	
																		A1	A2	A1	A2
½"		11.9	95	265	180	34.5	180	240	320	NPT / BSPT					150	230	F04	4.6	6	5.1	6.5
¾"	2500	15.1	110	275	192.5	41	180	250	330	SW & SW Nipple					150	230	F04	7.1	7.7	9	9.6
1"		20.6	125	285	205	48.5	210	295	395	BW & BW Nipple					175	285	F05	11.7	14.7	12.9	15.9

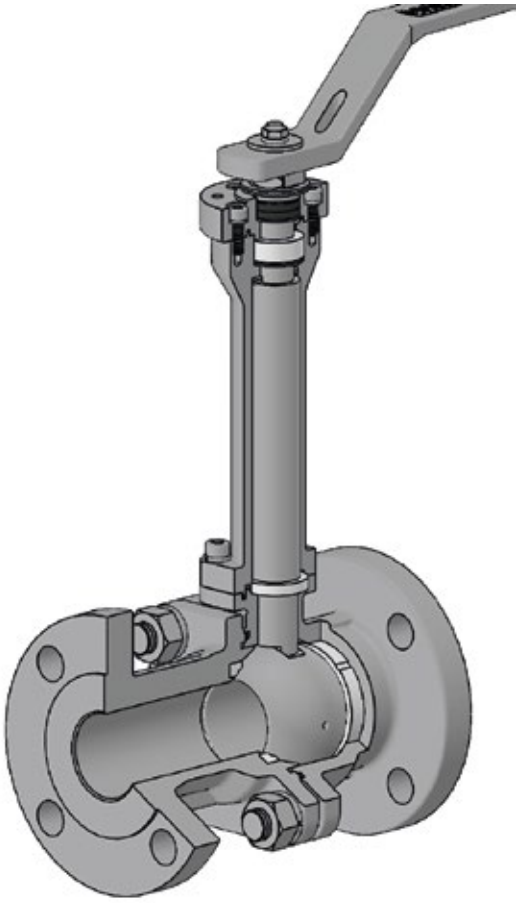
CCF Series

2 Way Floating
Investment Cast

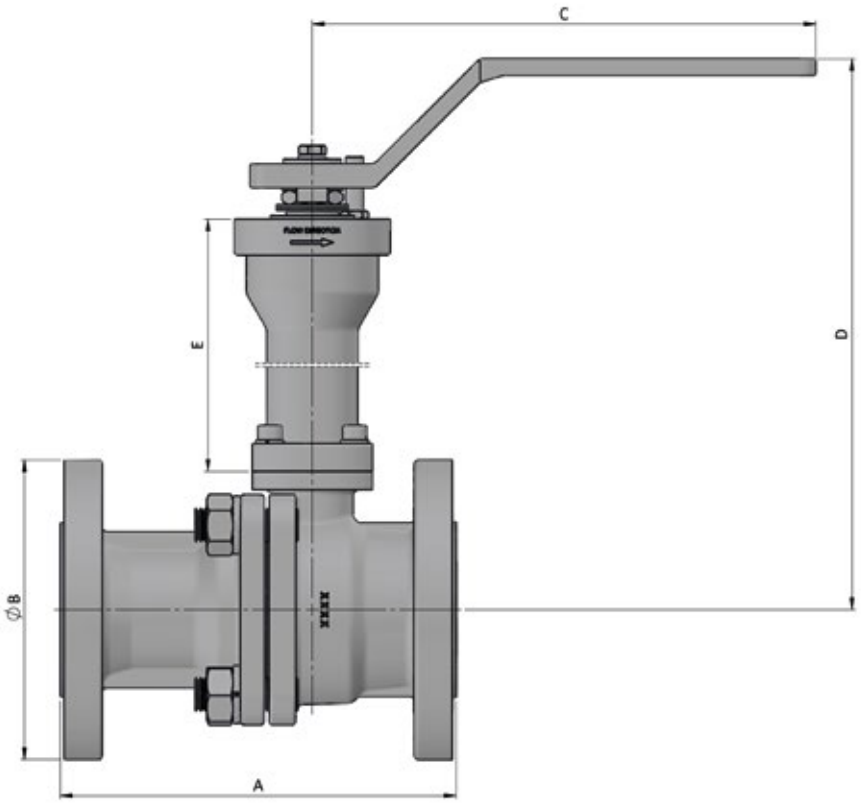
The CCF Series is a cryogenic floating ball valve designed for cryogenic services down to -196°C as LNG, LPG or other applications. It is designed in an unidirectional way to safely release overpressure due to heating or suddenly phase change of the media. This is achieved by the introduction of an upstream relief hole that equalize the envelope pressure with the upstream line reduction the probability of bursting the valve housing. To ensure the correct mounting and operation of this safety feature the valve is equipped with rib and groove system to guarantee the correct installation. Additionally, the valve is equipped with an expansion chamber to create a barrier / insulation column between the liquefied gas and the packing increasing the performance of the sealing system. It is available with flanged connections, making this series the best solutions for transportable/filling systems where the transfer and replacement are regular or constant.

DIN PN 16 / 40
Full Bore: DN 15 - 150

DESIGN TEMPERATURE
-196°C to 200°C



PART		STANDARD	OPTIONAL
		STAINLESS STEEL	
Body / Ends		1.4408	
TRIM	Ball	1.4408	
TRIM	Stem	HS. ST. ST.	
Seats		TFM1600	PCTFE
Packing & Seals		TFM1600 & GRAPHITE	
Bolting		A4 CL.70	



DN	PN	BORE	A			B	C	D		E		ISO 5211	kg					
			F1	F4	F5			STANDARD	ISO 28921-1	STANDARD	ISO 28921-1		STANDARD			ISO 28921-1		
													F1	F4	F5	F1	F4	F5
65	16	62	290	170	-	185	GEARBOX			200	300	F10	28.3	25.6	-	29.3	26.6	-
80		75	310	180	-	200				250	360	F10	45.7	41.2	-	46.7	42.2	-
100		100	350	190	-	220				250	360	F10	58.1	51.8	-	59.1	52.8	-
150		150	-	-	350	285				300	430	F14	-	-	169	-	-	175

DN	PN	BORE	A		B	C	D		E		ISO 5211	kg			
			F1	F4			STANDARD	ISO 28921-1	STANDARD	ISO 28921-1		STANDARD		ISO 28921-1	
												F1	F4	F1	F4
15	40	15.1	130	115	95	180	240	320	150	230	F04	3.8	3.3	4.1	3.6
20		20.6	150	120	105	180	245	325	150	230	F04	4.9	4.4	5.5	5
25		25.4	160	125	115	180	250	330	150	230	F04	5.6	5.1	6.2	5.7
32		31.8	180	130	140	210	295	405	175	285	F05	8.7	8.2	9.5	9
40		38.1	200	140	150	210	300	410	175	285	F05	10.5	9.5	11.3	10.3
50		49	230	150	165	300	350	450	200	300	F07	17.6	16.3	18.1	16.8
65		62	290	170	185	GEARBOX			200	300	F10	29.6	27.4	30.6	28.4
80		75	310	180	200				250	360	F10	46.1	42.5	47.1	43.5
100		100	350	190	235				250	360	F10	62	54.9	63	55.9
150		150	403*		300				300	430	F14	204*		210*	

*FTF=CL300

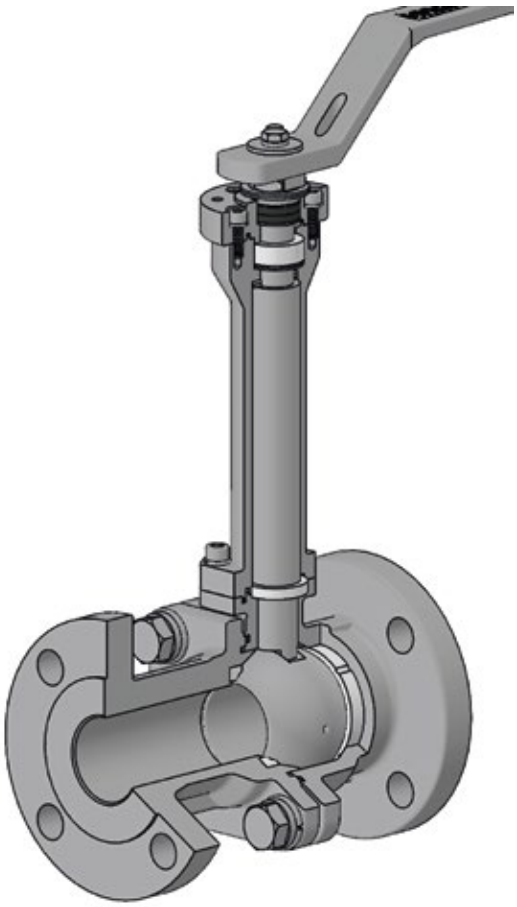
CCF Series

2 Way Floating
Investment Cast

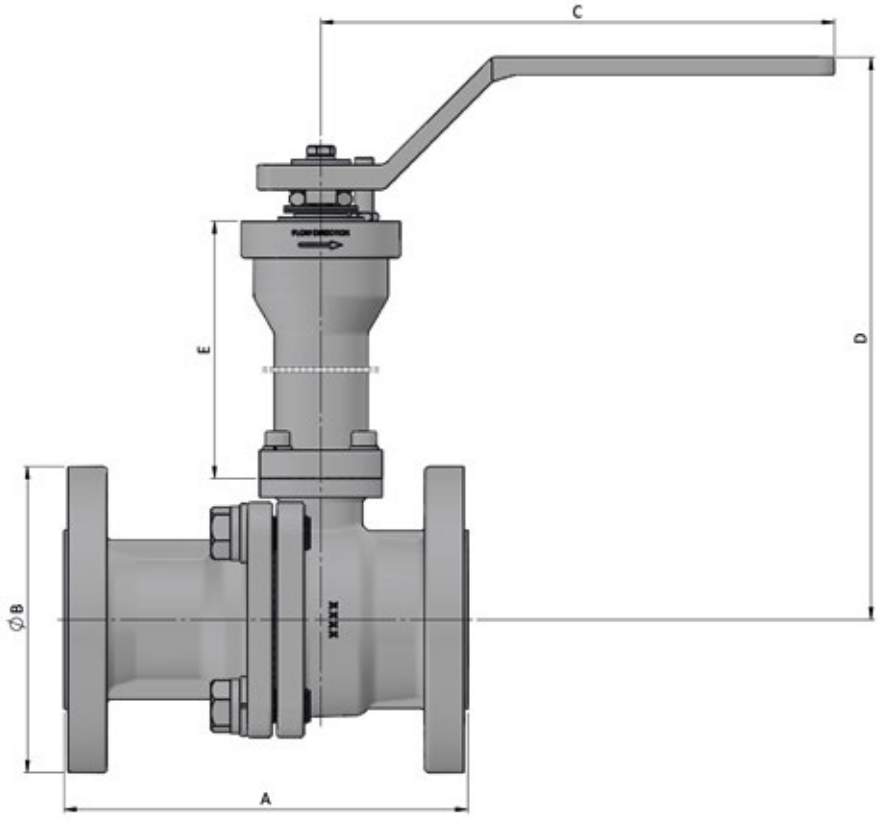
The CCF Series is a cryogenic floating ball valve designed for cryogenic services down to -196°C as LNG, LPG or other applications. It is designed in an unidirectional way to safely release overpressure due to heating or suddenly phase change of the media. This is achieved by the introduction of an upstream relief hole that equalize the envelope pressure with the upstream line reducing the probability of bursting the valve housing. To ensure the correct mounting and operation of this safety feature the valve is equipped with a rib and groove system to guarantee the correct installation. Additionally, the valve is equipped with an expansion chamber to create a barrier / insulation column between the liquefied gas and the packing increasing the performance of the sealing system. It is available with flanged connections, making this series the best solutions for transportable/filling systems where the transfer and replacement are regular or constant.

ASME CL 150 / 300 / 600
Full Bore: ½" - 6"

DESIGN TEMPERATURE
-196°C to 200°C



PART		STANDARD	OPTIONAL
		STAINLESS STEEL	
Body / Ends		A351 CF8M	
TRIM	Ball	A351 CF8M	
TRIM	Stem	HS. ST. ST.	
Seats		TFM1600	PCTFE
Packing & Seals		TFM1600 & GRAPHITE	
Bolting		A193 Gr. B8M cl.2	



DN	CLASS	BORE	A		B		C	D		E		ISO 5211	kg			
			CL150	CL300	CL150	CL300		STANDARD	ISO 28921-1	STANDARD	ISO 28921-1		STANDARD		ISO 28921-1	
													CL150	CL300	CL150	CL300
½"	150 - 300	15.1	108	140	90	95	180	240	320	150	230	F04	2.7	3.2	3	3.5
¾"		20.6	117	152	100	115	180	245	325	150	230	F04	3.7	4.7	4.3	5.3
1"		25.4	127	165	110	125	180	250	330	150	230	F04	4.5	5.8	5.1	6.4
1½"		38.1	165	178	125	155	210	300	410	175	285	F05	8.4	11	9.2	11.8
2"		49	178	190	150	165	300	350	450	200	300	F07	15.6	17.9	16.1	18.4
2½"		62	190	241	180	190	GEARBOX			200	300	F10	27.7	30.6	28.7	31.6
3"		75	203	282	190	210				250	360	F10	42.4	48.8	43.4	49.8
4"		100	229	305	230	255				250	360	F10	57.5	69.7	58.5	70.7
6"		150	394	-	280	-				300	430	F14	183.4	-	189.4	-

DN	CLASS	BORE	A	B	C	D		E		ISO 5211	kg	
						STANDARD	ISO 28921-1	STANDARD	ISO 28921-1		STANDARD	ISO 28921-1
½"	600	15.1	165	95	180	240	320	150	230	F04	3.5	3.8
¾"		20.6	190	115	180	245	325	150	230	F04	5	5.6
1"		25.4	216	125	180	250	330	150	230	F04	6.3	6.9
1½"		38.1	241	155	155	300	410	175	285	F05	12.1	12.9
2"		49	292	165	165	350	450	200	300	F07	19.2	19.7

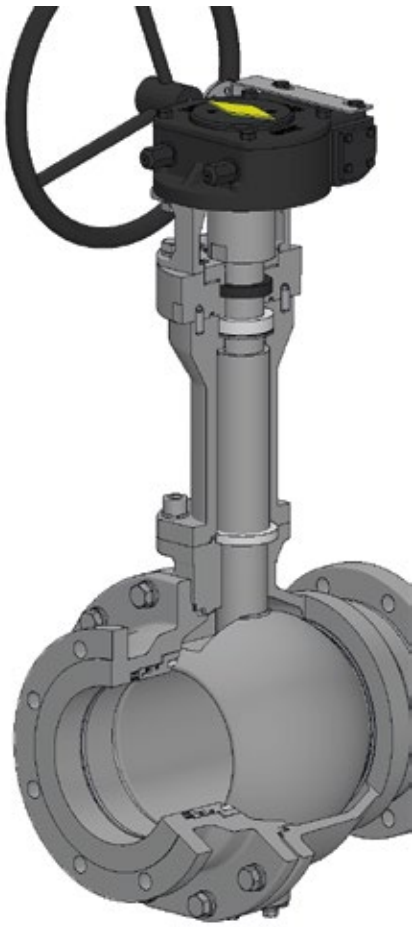
CCT Series

2 Way Trunnion
Investment Cast

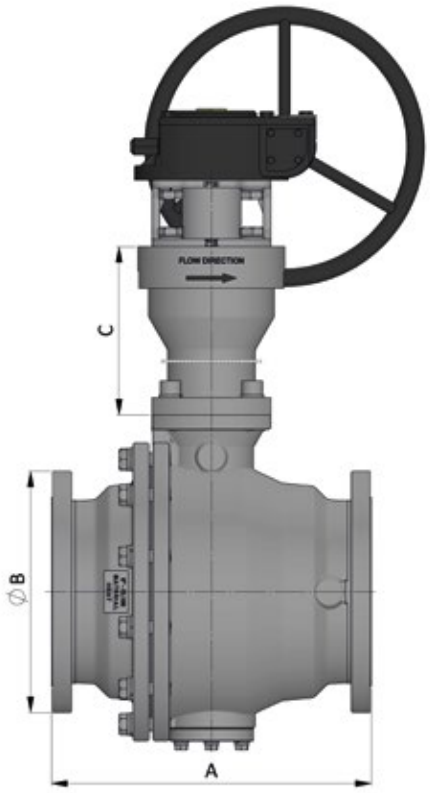
The CCT Series is a cryogenic trunnion ball valve designed for cryogenic services down to -196°C as LNG, LPG or other applications. It is designed to safely release overpressure due to heating or suddenly phase change of the media. This is achieved by the introduction of a single piston effect for both sides that allows the escape of body's overpressure to the downstream side of the valve, reducing the probability of bursting the valve housing. Additionally, the valve is equipped with an expansion chamber to create a barrier / insulation column between the liquefied gas and the packing increasing the performance of the sealing system. It is available with flanged connections, making this series the best solutions for high flow rates and strength integrity systems.

ASME CL 150 / 300
Full Bore: 6" - 12"

DESIGN TEMPERATURE
-196°C to 200°C



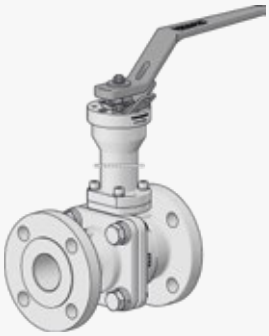
PART		STANDARD	OPTIONAL
		STAINLESS STEEL	
Body / Ends		A351 CF8M	
TRIM	Ball	A351 CF8M	
TRIM	Stem	HS. ST. ST.	
Seats		TFM 1600	PCTFE
Packing & Seals		PTFE + ELGILOY & GRAPHITE	
Bolting		A193 Gr. B8M cl.2	



DN	CLASS	BORE	A		B		C		ISO 5211
			CL150	CL300	CL150	CL300	STANDARD	ISO 28921-1	
6"	150 - 300	150	394	403	280	320	300	430	F14
8"		201	457	502	345	380	350	480	F16
10"		252	533	568	405	445	350	480	F16
12"		303	610	648	485	520	400	600	F25

OPTIONS

MANUAL OPERATION



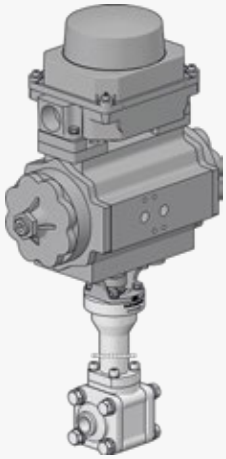
LOCKABLE HANDLE

The lockable handle is a safety device that prevents the unintended rotation of the obturator due to vibrations, turbulent flows or unauthorized actions leading to potentially severe malfunctions in the process. This occurrence can be prevented by the application of a lockable mechanism to prevent the valve from closing or opening. Small sizes are equipped with a trigger that allows to lock the position of the handle in closed or open position without the need of a padlock. Nevertheless, all sizes can be equipped with a padlock.

GEARBOX

Extreme cryogenic services can sometimes lead to high handling torques which decreases the fluidity of the processes. Additionally, in some situations it is not possible to use electric or pneumatic actuators due to the explosive risks associated. On these particular services the installation of a Gearbox may be the solution to allow a smooth operation of the valves increasing the reliability of the system operation.

AUTOMATIC OPERATION



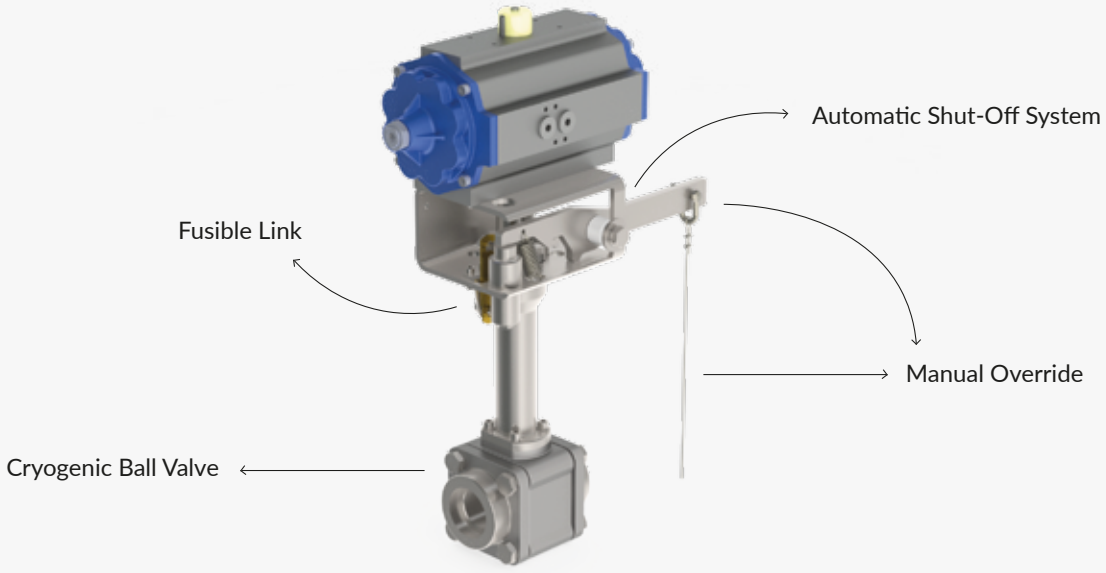
COMPLETE AUTOMATION

Automation of the processes is a growing and necessary investment to reduce the manual interventions, which will prevent the eventual mistakes by a manual operation and enhance the processes to better performances. Following these requirements, the valves can also be fully automated.
For instance, the valve can be equipped with a pneumatic actuator, a solenoid valve and a limit switch. These accessories will allow the remote actuation of the valve and the control of its position.

FIREBLOCK SYSTEM

This automatic safety system is engineered for emergency response, ensuring a rapid shutdown in the event of a fire on the filling line. When exposed to high temperatures, the fusible link system breaks, closing the valve and preventing fluid exposure to heat sources.

Additionally, this valve is equipped with a secondary system to allow manual operation without system triggering, by overriding the fusible link system. This manual operation offers the operator the ability to control the system and close the valve if some anomaly is detected, without compromising the automatic mechanism.



KEY FEATURES
- Pressure Ratings: Suitable for all pressure classes (working deltaP varies based on service conditions).
- Temperature Range: Fusible link set point at 72°C (can be adapted to suit the customer's needs).
- Size Range: Available in all sizes to meet your specific requirements.

APPLICABILITY
Fireblock valves are used for a variety of industrial applications such as liquefied gas transportation in a cryogenic temperature, refineries and power stations. Most of the service fluids used in these industrial environments present challenges such as extreme flammability. Therefore, it is necessary to isolate these substances in the event of a fire using emergency shutdown systems. Fireblock System is essential to reduce the risk of hazardous conditions and ensure safe and reliable operation in service fields.

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