

Innovation | Commitment



HYDROGEN BALL VALVES

FLOWING YOUR ENERGY

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.

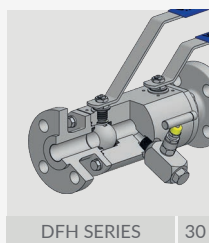
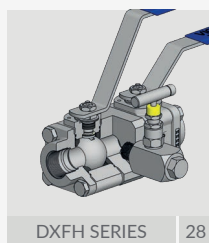
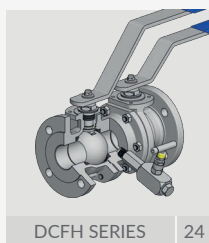
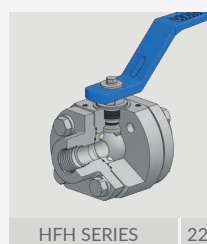
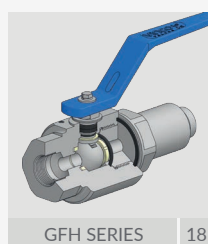
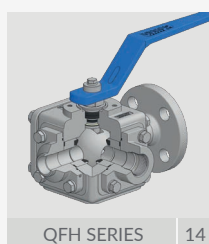
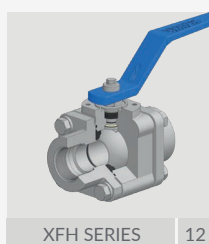
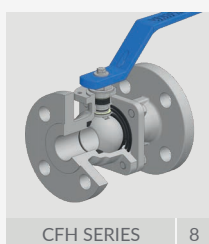
We have a dedicated team ready to respond to the most demanding requests, knowing that the key word here is the quality of all our products and services. We are responsible for the design, development, assembly and testing under the highest quality standards of all our products.



1 TECHNICAL INFORMATION 4-7

- General Features
- Fire Safe Design
- Fugitive Emissions
- Anti Explosive Decompression
- Hydrogen Embrittlement Resistance
- Optional Cleanliness and Packing
- Contamination Free System
- Certifications and Standards

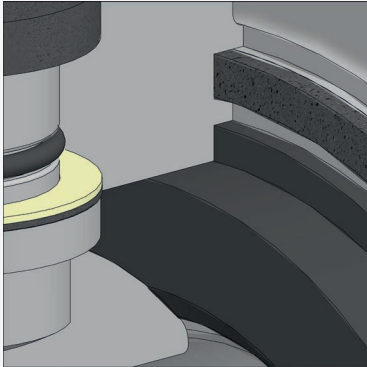
2 VALVES SERIES 8-31



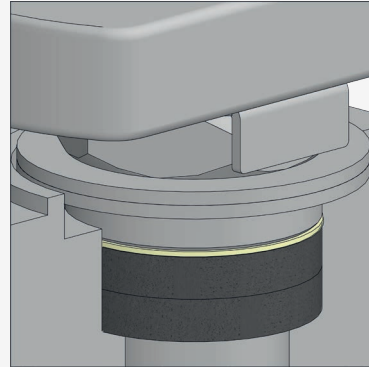
3 OPTIONS 32-33

- Lockable Handle
- Stem Extension
- Oval Handle
- Gearbox
- Automation
- Fire Block System
- Valves for KOH
- Trunnion Design

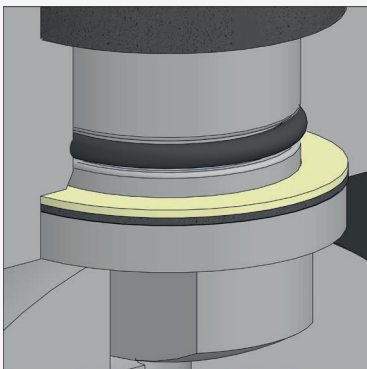
GENERAL FEATURES



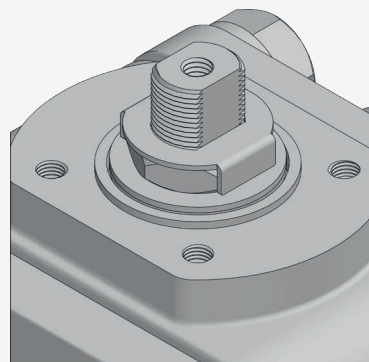
Double encapsulated body seals for extra resistance and tightness performance



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

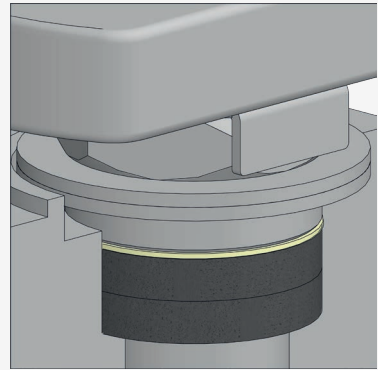
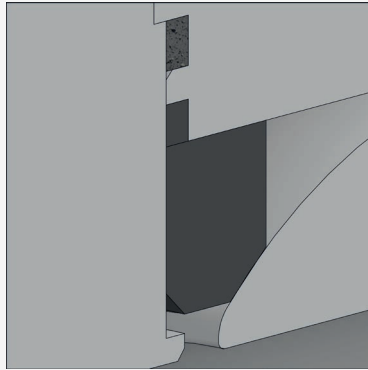
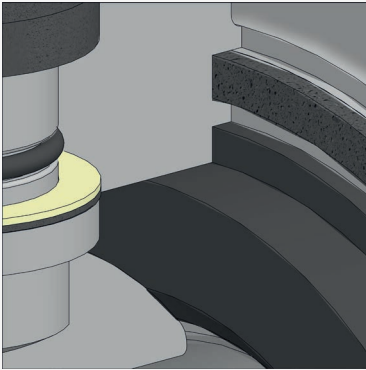


Anti-static device ensures the electrical conductivity between body, end, ball and stem according to European directive 2014/34/EU (ATEX)



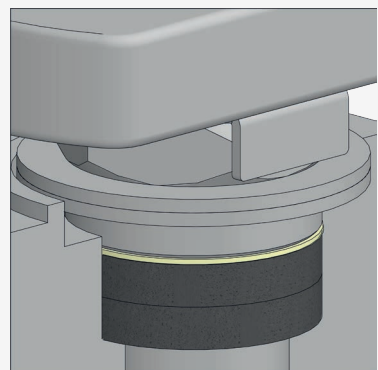
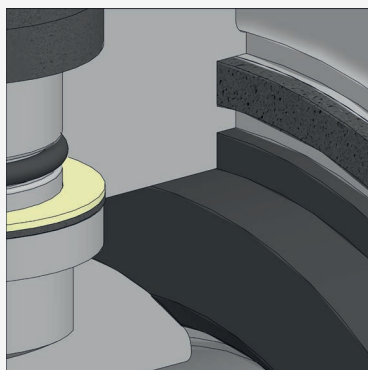
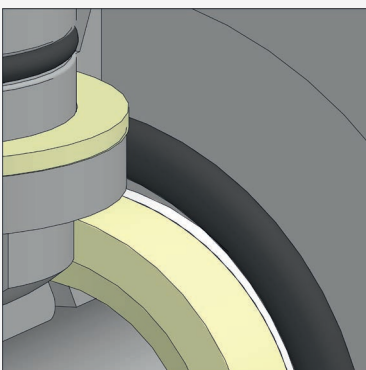
Top flange fitted with ISO 5211 providing universal connection for automation

FIRE SAFE DESIGN



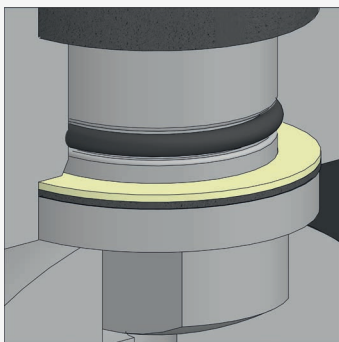
Firesafe design according to ISO 10497 and API 607 for critical services. Primary layer of TFE prevents graphite contamination into the media assuring the cleanliness of the processes. A metal backseat system allows the sealing in the event of a fire ensuring the tightness of the process.

FUGITIVE EMISSIONS

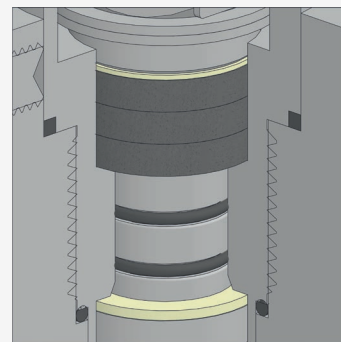


Fugitive emissions design according to ISO 15848 and TA LUFT / VDI 2440 reducing the potentially emission to the environment, the hydrogen losses and the risk of ignition.

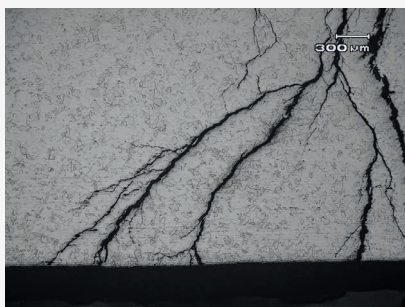
ANTI EXPLOSIVE DECOMPRESSION



Explosive Decompression (ED) or Rapid Gas Decompression (RGD) is a failure mechanism associated with high pressure gas media. High pressure gas can reach easily the o-ring chambers. When the pressure is released, as when the valve is closed, the remaining gas located in the chamber expands causing fissures and o-ring failure. The best solution to avoid this failure mechanism is the application of Anti Explosive Decompression (AED) o-rings. These o-rings applied in hydrogen valves are tested and certified in accordance with the requirements of norsok M-710 ensuring high safety levels.



HYDROGEN EMBRITTLEMENT RESISTANCE



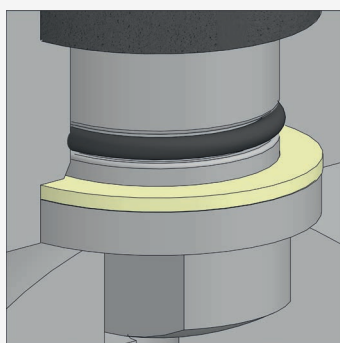
The metallic pressure retaining and wetted parts are stainless steel ensuring high levels of hydrogen embrittlement resistance.

OPTIONAL CLEANLINESS AND PACKING

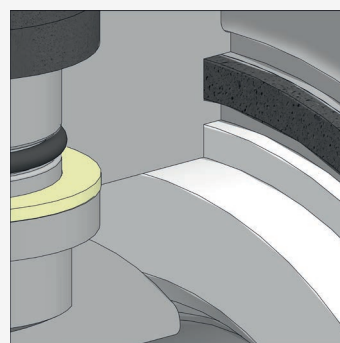


The valves can be degreased to achieve high levels of cleanliness and prevent hydrogen autoignition in service. Afterwards this the valves are packed and sealed in individual protective plastic bags with silica to prevent contamination and humidity problems.

CONTAMINATION FREE SYSTEM (UPON REQUEST)



High purity hydrogen is an important requirement in some processes to guarantee high levels of quality and process performance and efficiency while keeping the valve with the firesafe safe design. To perform this the valves are designed with double insulation system where the first line is made from inert polymeric materials isolating the hydrogen media from any contact with graphite parts. This design is capable to avoid any contamination ensuring the high purity levels of the processes.



CERTIFICATION	CONSTRUCTION STANDARDS	TEST STANDARDS
Fuelling Stations Certification acc. to ISO 19880-3 (intended process)	ASME B16.34	Test applied: Hydrostatic shell and seat test Pneumatic shell and seat test Helium Test Available Upon Request EN 10204 type 3.1 certificate is available for each valve
CE Certification acc. to PED 2014/68/EU	ASME B16.25 & B36.10M	
Fire Safe Design acc to API 607 Ed.6 / ISO 10497	ASME B16.11	
CE Certification acc. to ATEX II 2GD 2014/34/EU	ASME B1.20.1	
Company Quality System Certified acc. to ISO 9001	ISO 7.1	
CE Certification acc. to TPED 2010/35/EU - 2008/68/EU - ISO23826 (ongoing process)	ISO 17292-1	
SIL certification acc. to IEC 61508 (SIL 3)	ISO 19880-3	
Fugitive Emission Class BH acc. to ISO 15848 and TA-LUFT (VDI2440) CO1 (-46°C to RT)	DIN EN 1092-1	
	EN 558-1	

HYDROGEN BALL VALVES

CFH Series

2 Way Floating
Investment Cast

The CFH Series is a cast floating ball valve specifically designed for industrial hydrogen applications up to PN40 (40 bar).

Applications

It covers a large range of hydrogen applications, such as industrial supply and hydrogen production.

Features

- Soft seated | Bidirectional
- Fire safe | Anti-static design
- Low emission packing | Live loaded stem packing
- Double encapsulated body sealing
- ISO 5211 top works for automation
- Anti-blowout stem design | RGD o'ring
- Self relieving seats | Pressure equalizing hole

Optional Features

- Upstream pressure relief hole
- V-Port for flow control applications

DIN PN 16 / 40

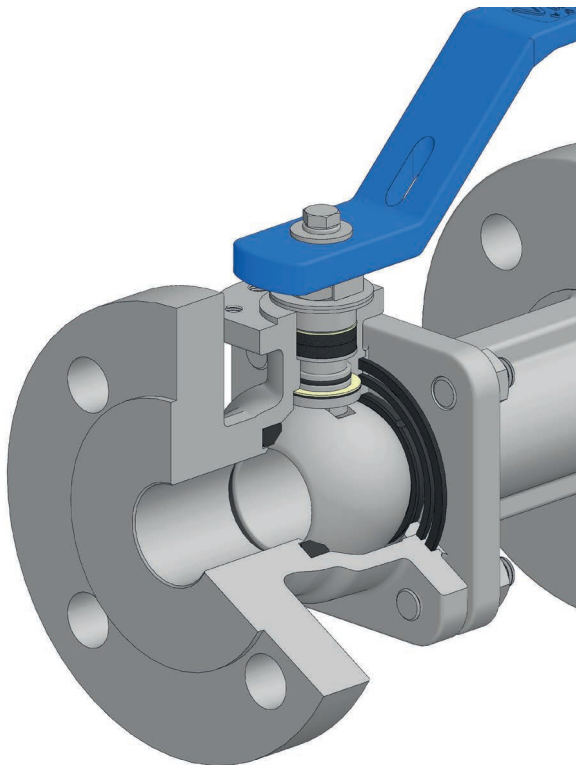
Full Bore: DN15 - 200

INDUSTRIAL RANGE

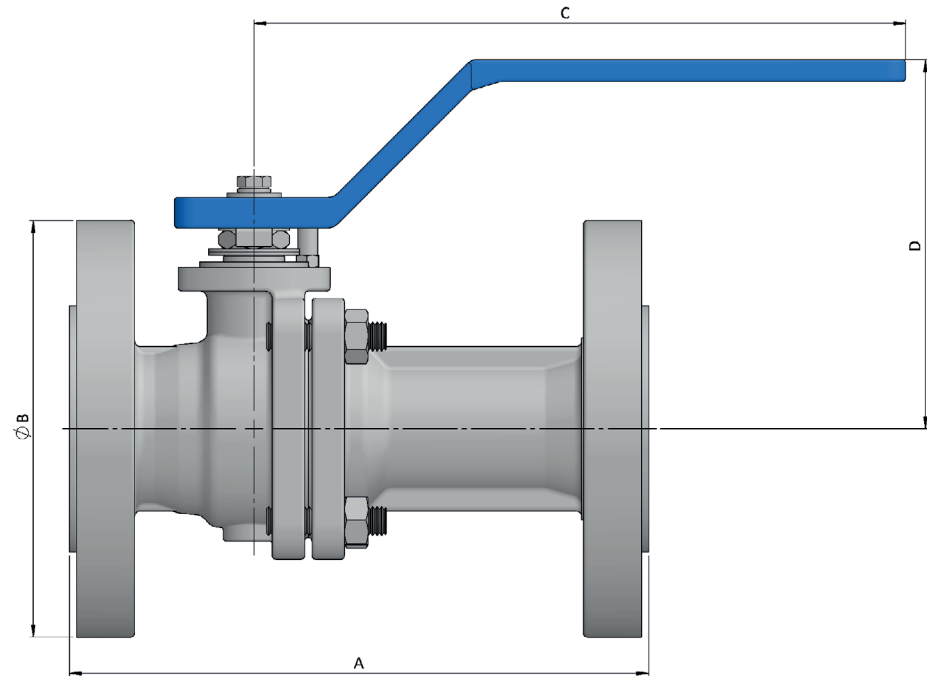
DESIGN TEMPERATURE

-50°C to 240°C

-58°F to 464°F



PART		STANDARD	
		CARBON STEEL	STAINLESS STEEL
Body / Ends		1.6220	1.4408
TRIM	Ball	1.4408	
	Stem	1.4401 / 4	
Seats		C-RPTFE	
O'ring		FKM AED	
Packing & Seals		C-RPTFE & GRAPHITE	
Bolting		A4 CL.70	



mm in

DN	PN	BORE	A			B	C	D	ISO 5211	kg lbs		
			F1	F4	F5					F1	F4	F5
65	16	62 2.44	290 11.42	170 6.69	-	185 7.28	360 14.17	175 6.89	F07	18 39.68	14 30.87	-
80		75 2.95	310 12.20	180 7.09	-	200 7.87	420 16.54	190 7.48	F10	26 57.32	22 48.50	-
100		100 3.94	350 13.78	190 7.48	-	220 8.66	480 18.90	225 8.86	F10	40 88.19	35 77.16	-
150		150 5.91	-	-	350 13.78	285 11.22	GEARBOX		F14	-	-	105 231.49
200		201 7.91	-	-	400 15.75	340 13.39			F16	-	-	195 425.90

DN	PN	BORE	A		B	C	D	ISO 5211	kg lbs	
			F1	F4					F1	F4
15	40	15.1 0.59	130 5.12	115 4.53	95 3.74	180 7.09	90 3.54	F04	3 6.61	2.5 5.51
20		20.6 0.81	150 5.91	120 4.72	105 4.13	180 7.09	100 3.94	F04	4 8.82	3.5 7.72
25		25.4 1.00	160 6.30	125 4.92	115 4.53	180 7.09	105 4.13	F04	4.5 9.92	4 8.82
32		31.8 1.25	180 7.09	130 5.12	140 5.51	210 8.27	125 4.92	F05	6.5 14.33	6 13.23
40		38.1 1.50	200 7.87	140 5.51	150 5.91	210 8.27	130 5.12	F05	8.5 18.74	7.5 16.54
50		49 1.93	230 9.06	150 5.91	165 6.50	300 11.81	150 5.91	F07	14 30.87	12 26.46
65		62 2.44	290 11.42	170 6.69	185 7.28	360 14.17	175 6.89	F07	20 44.09	17 37.48
80		75 2.59	310 12.20	180 7.09	200 7.87	420 16.54	190 7.48	F10	30 66.14	25 55.12
100		100 3.94	350 13.78	190 7.48	235 9.25	480 18.90	225 8.86	F10	45 99.21	36 79.37
150		150 5.91	403* 15.87*		300 11.81	GEARBOX		F14	110 242.51	
200		201 7.91	502* 19.76*		375 14.76			F16	120 264.56	

*FTF=CL300

HYDROGEN BALL VALVES

CFH Series

2 Way Floating
Investment Cast

The CFH Series is a cast floating ball valve specifically designed for industrial hydrogen applications up to CL600 (100 bar / 1500 psi).

Applications

It covers a large range of hydrogen applications, such as industrial supply and hydrogen production.

Features

- Soft seated | Bidirectional
- Fire safe | Anti-static design
- Low emission packing | Live loaded stem packing
- Double encapsulated body sealing
- ISO 5211 top works for automation
- Anti-blowout stem design | RGD o'ring
- Self relieving seats | Pressure equalizing hole

Optional Features

- Upstream pressure relief hole
- V-Port for flow control applications

ASME CL 150 to 600

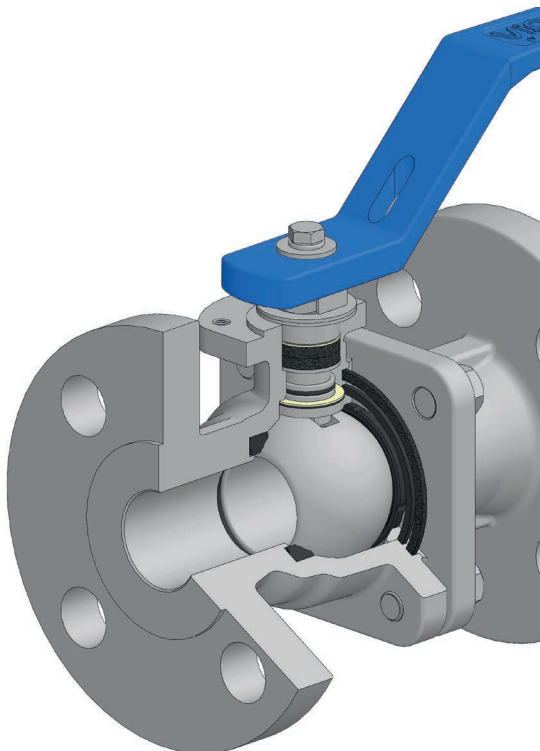
Full Bore: ½" - 8"

INDUSTRIAL RANGE

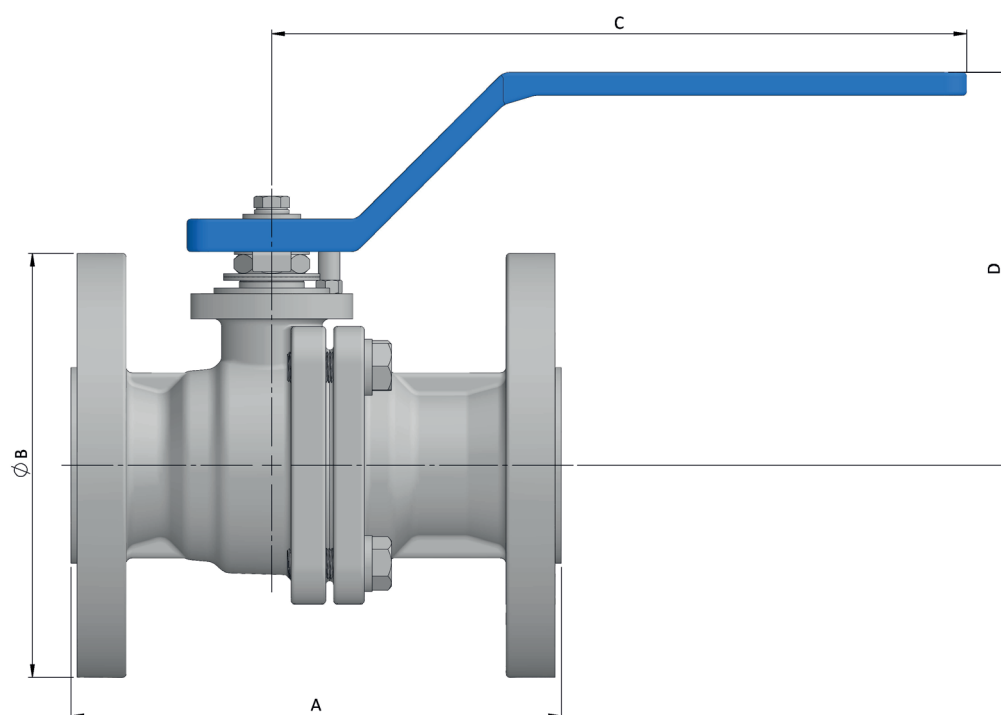
DESIGN TEMPERATURE

-50°C to 240°C

-58°F to 464°F



PART		STANDARD	
		CARBON STEEL	STAINLESS STEEL
Body / Ends		A352 LCC	A351 CF8M
TRIM	Ball	A351 CF8M	
	Stem	A479 316/L	
Seats		C-RPTFE	
O'ring		FKM AED	
Packing & Seals		C-RPTFE & GRAPHITE	
Bolting		A320 Gr. L7M	A193 Gr. B8M cl.2



mm in

DN	CLASS psi	BORE	A			B			C	D	ISO 5211	kg lbs		
			CL 150	CL 300	CL 600	CL 150	CL 300	CL 600				CL 150	CL 300	CL 600
½"	150 300 - 300 750 - 600 1500	15.1 0.59	108 4.25	140 5.51	165 6.50	90 3.54	95 3.74	95 3.74	180 7.09	90 3.54	F04	2 4.41	2 4.41	3 6.61
¾"		20.6 0.81	117 4.61	152 5.98	190 7.48	100 3.94	115 4.53	115 4.53	180 7.09	100 3.94	F04	2.5 5.51	3.5 7.72	4 8.82
1"		25.4 1.00	127 5.00	165 6.50	216 8.50	110 4.33	125 4.92	125 4.92	180 7.09	105 7.09	F04	3.5 7.72	5 11.02	5.5 12.13
1½"		38.1 1.50	165 6.50	190 7.48	241 9.49	125 4.92	155 6.10	155 6.10	210 8.27	130 8.27	F05	6 13.23	9 19.84	10.5 23.15
2"		49 1.93	178 7.01	216 8.50	292 11.50	150 5.91	165 6.50	165 6.50	300 11.81	150 5.91	F07	10 22.05	15 33.07	15 33.07
2½"		62 2.44	190 7.48	241 9.49	-	180 7.09	190 7.48	-	360 14.17	175 6.89	F07	20 44.09	25 55.12	-
3"		75 2.59	203 7.99	282 11.10	-	190 7.48	210 8.27	-	420 16.54	190 7.48	F10	25 55.12	30 66.14	-
4"		100 3.94	229 9.02	305 12.01	-	230 9.06	255 10.04	-	480 18.90	225 8.86	F10	40 88.19	50 110.23	-
6"		150 5.91	394 15.51	403 15.87	-	280 11.02	320 12.60	-	GEARBOX		F14	125 275.58	145 319.67	-
8"		201 7.91	457 17.99	502 19.76	-	345 13.58	380 14.96	-			F16	220 485.02	270 595.25	-

HYDROGEN BALL VALVES

XFH Series

2 Way Floating
Investment Cast

The XFH Series is a cast floating ball valve specifically designed for industrial hydrogen applications up to CL800 (138 bar / 2000 psi).

Applications

Designed for easy, in-line maintenance, it's a great choice for any on-off service applications, including industrial use and hydrogen production.

Features

- Soft seated | Bidirectional
- Fire safe | Anti-static design
- Low emission packing | Live loaded stem packing
- Double encapsulated body sealing
- ISO 5211 top works for automation
- Anti-blowout stem design | RGD o'ring
- Self relieving seats | Pressure equalizing hole

Optional Features

- Upstream pressure relief hole

ASME CL 150 to 800

Full Bore: $\frac{3}{8}$ " - 6"

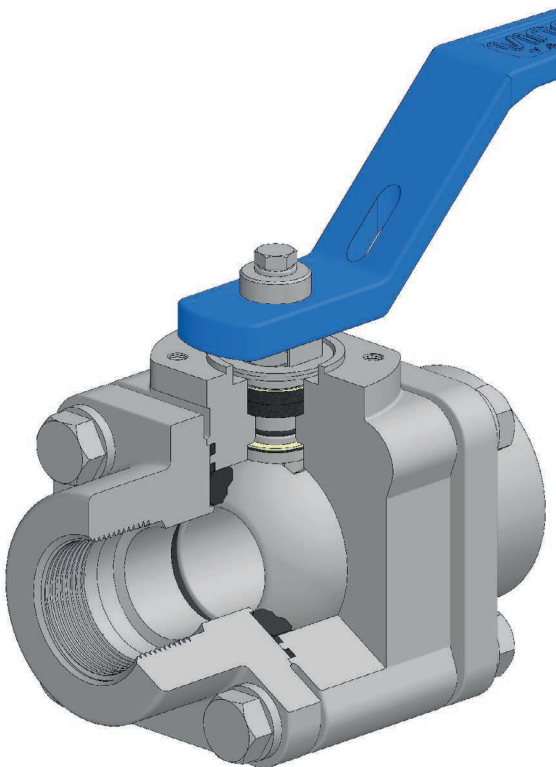
Reduced Bore: $\frac{1}{2}$ " - 4"

INDUSTRIAL RANGE

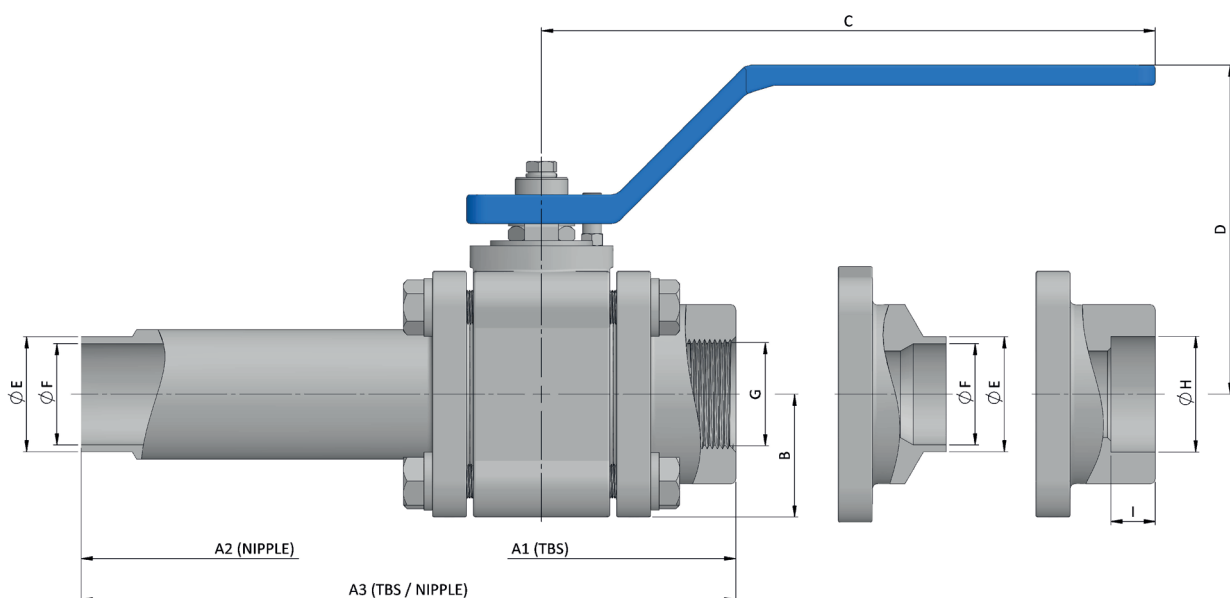
DESIGN TEMPERATURE

-50°C to 240°C

-58°F to 464°F



PART		STANDARD		
		CARBON STEEL	LOW TEMP. CARBON STEEL	STAINLESS STEEL
Body / Ends		A216 WCB	A352 LCC	A351 CF3M
TRIM	Ball	A351 CF8M		
	Stem	A479 316/L		
Seats		C-RPTFE		
O'ring		FKM AED		
Packing & Seals		C-RPTFE & GRAPHITE		
Bolting		A320 Gr. L7M		A193 Gr. B8M cl.2



mm in

DN	CLASS psi	BORE	A1	A2	A3	B	C	D	E	F	G	H	I	ISO 5211	kg lbs		
															A1	A2	
⅜"	800 2000	11.9 0.47	70 2.76	-	-	25 0.98	150 5.91	75 2.95	NPT / BSPP / BSPT SW BW & BW Nipple						F03	1 2.21	-
½"	800 2000	15.1 0.59	75 2.99	250 9.84	162.5 6.40	27.5 1.08	150 5.91	80 3.15							F03	1.2 2.65	1.6 3.53
¾"	800 2000	20.6 0.81	90 3.54	260 10.24	175 6.89	32.5 1.28	180 7.09	95 3.74							F04	2 4.41	2.5 5.51
1"	800 2000	25.4 1.00	100 3.94	270 10.63	185 7.28	37.5 1.48	180 7.09	100 3.94							F04	3 6.61	3.5 7.72
1¼"	800 2000	31.8 1.25	115 4.53	280 11.02	197.5 7.78	42.5 1.67	210 8.27	120 4.72							F05	4.5 9.92	5.5 12.13
1½"	800 2000	38.1 1.50	125 4.92	290 11.42	207.5 8.17	47.5 1.87	210 8.27	125 4.92							F05	6 13.23	7 15.43
2"	800 2000	49 1.93	165 6.50	310 12.20	237.5 9.35	65 2.56	300 11.81	140 5.51							F07	10.5 23.15	11.5 25.35
2½"	400 1000	62 2.44	190 7.48	330 12.99	260 10.24	80 3.15	360 14.17	170 6.69							F07	17.5 38.58	19 41.89
3"	400 1000	75 2.59	215 8.46	350 13.78	282.5 11.12	95 3.74	420 16.54	185 7.28							F10	25.5 56.22	26.5 58.42
4"	300 750	100 3.94	265 10.43	390 15.35	327.5 12.89	115 4.53	480 18.90	225 8.86							F10	45 99.21	47 103.62
6"	150 300	150 5.91	365 14.37	450 17.72	407.5 16.04	162.5 6.40	GEARBOX		BW & BW Nipple						F14	123.5 272.27	125 275.58

HYDROGEN BALL VALVES

QFH Series

Multiway Floating
Investment Cast

The QFH Series is a cast floating ball valve specifically designed for industrial hydrogen applications up to PN40 (40 bar).

Applications

Designed for easy installation and maintenance, it's a great choice for any service applications, including electrolyzers and hydrogen production.

Features

- Multiport floating ball | Soft seated | L/T/X Port
- Fire safe | Anti-static design
- Low emission packing | Live loaded stem packing
- Double encapsulated body sealing
- ISO 5211 top works for automation
- Anti-blowout stem design | RGD o'ring
- Self relieving seats

DIN PN 16 / 40*

Full Bore: DN 15 - 100

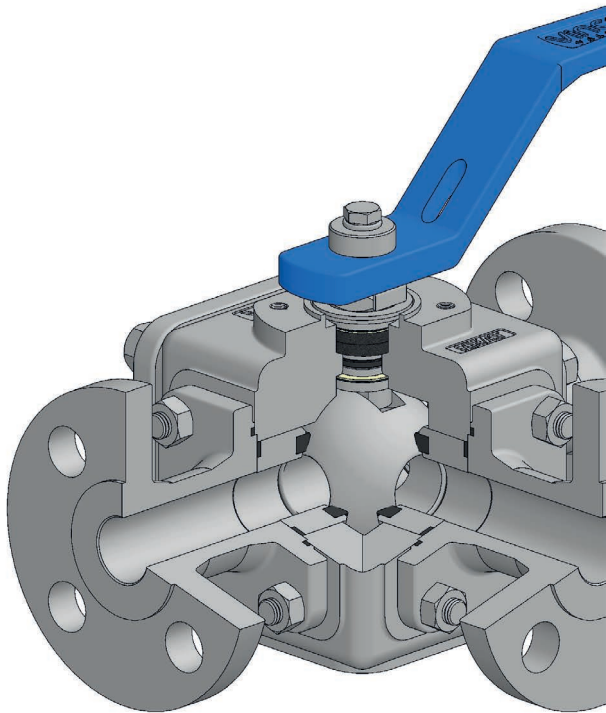
*The working pressure is limited to 20 bar to ensure a good tightness performance since the design of this kind of valve is to direct the fluid through different ports, which reduces the tightness capabilities of the valve.

INDUSTRIAL RANGE

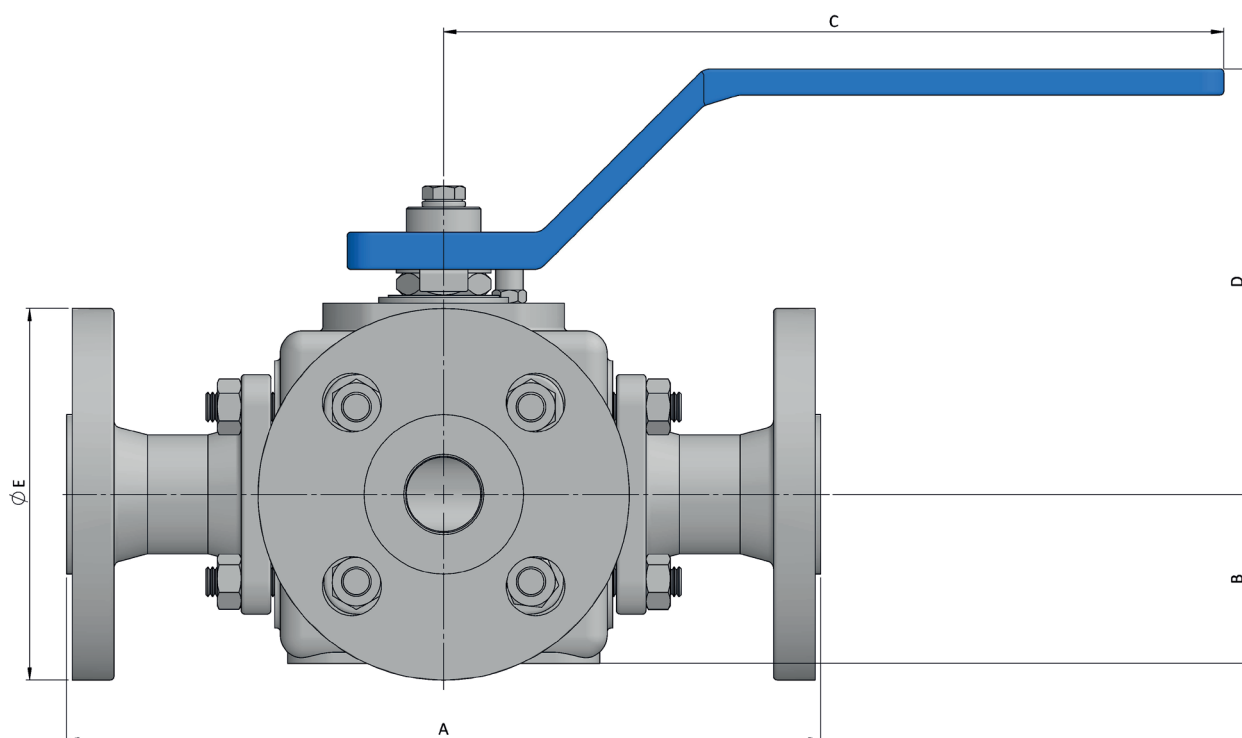
DESIGN TEMPERATURE

-50°C to 240°C

-58°F to 464°F



PART		STANDARD		
		CARBON STEEL	LOW TEMP. CARBON STEEL	STAINLESS STEEL
Body		1.0619	1.6220	1.4409
Ends		1.0619	1.6220	1.4408
TRIM	Ball	A351 CF3M		
	Stem	A479 316/L		
Seats		C-RPTFE		
O'ring		FKM AED		
Packing & Seals		C-RPTFE & GRAPHITE		
Bolting		A4 CL.70		



mm in

DN	PN	BORE	A	B	C	D	E	ISO 5211	kg lbs
15	40	15.8 0.62	175 6.89	35 1.38	180 7.09	95 3.74	95 3.74	F04	6 13.23
20	40	22.1 0.87	205 8.07	45 1.77	210 8.27	115 4.53	105 4.13	F05	10.5 23.15
25	40	25.4 1.00	210 8.27	45 1.77	210 8.27	115 4.53	115 4.53	F05	11.5 25.35
32	40	34.8 1.37	230 9.06	60 2.36	210 8.27	130 5.12	140 5.51	F05	20 44.09
40	40	38 1.50	235 9.25	60 2.36	210 8.27	130 5.12	150 5.91	F05	21.5 47.40
50	40	47.5 1.87	290 11.42	85 3.35	300 11.81	160 6.30	165 6.50	F07	51 112.44
80	16	75 2.95	370 14.57	90 3.54	420 16.54	185 7.28	200 7.87	F10	58 127.87
100	16	100 3.94	405 15.94	115 4.53	480 18.90	215 8.46	220 8.66	F10	98 216.05

HYDROGEN BALL VALVES

QFH Series

Multiway Floating
Investment Cast

The QFH Series is a cast floating ball valve specifically designed for industrial hydrogen applications up to CL600 (100 bar / 1500 psi).

Applications

Designed for easy installation and maintenance, it's a great choice for any service applications, including electrolyzers and hydrogen production.

Features

- Multiport floating ball | Soft seated | L/T/X Port
- Fire safe | Anti-static design
- Low emission packing | Live loaded stem packing
- Double encapsulated body sealing
- ISO 5211 top works for automation
- Anti-blowout stem design | RGD o'ring
- Self relieving seats

ASME CL 150 to 600*

Full Bore: ½" - 4"

Reduced Bore**: ¾" - 4"

**Only available in TBS ends

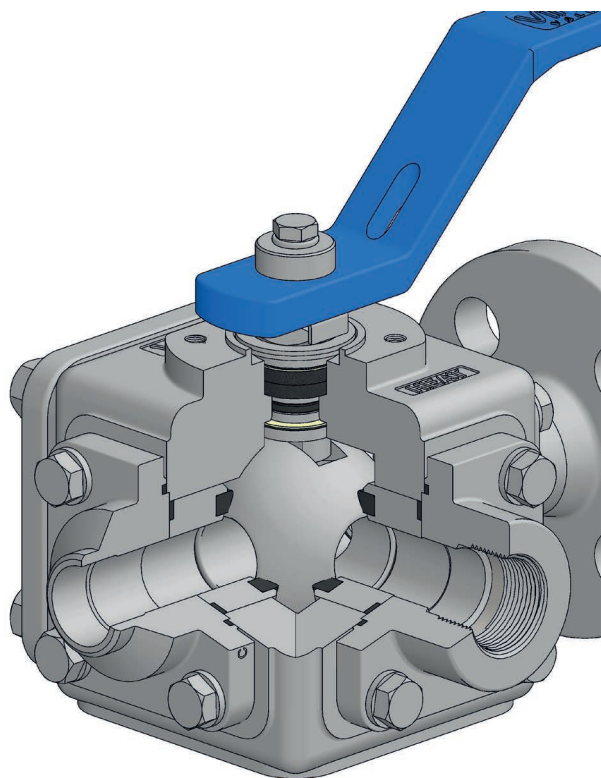
*The working pressure is limited to 20 bar to ensure a good tightness performance since the design of this kind of valve is to direct the fluid through different ports, which reduces the tightness capabilities of the valve.

INDUSTRIAL RANGE

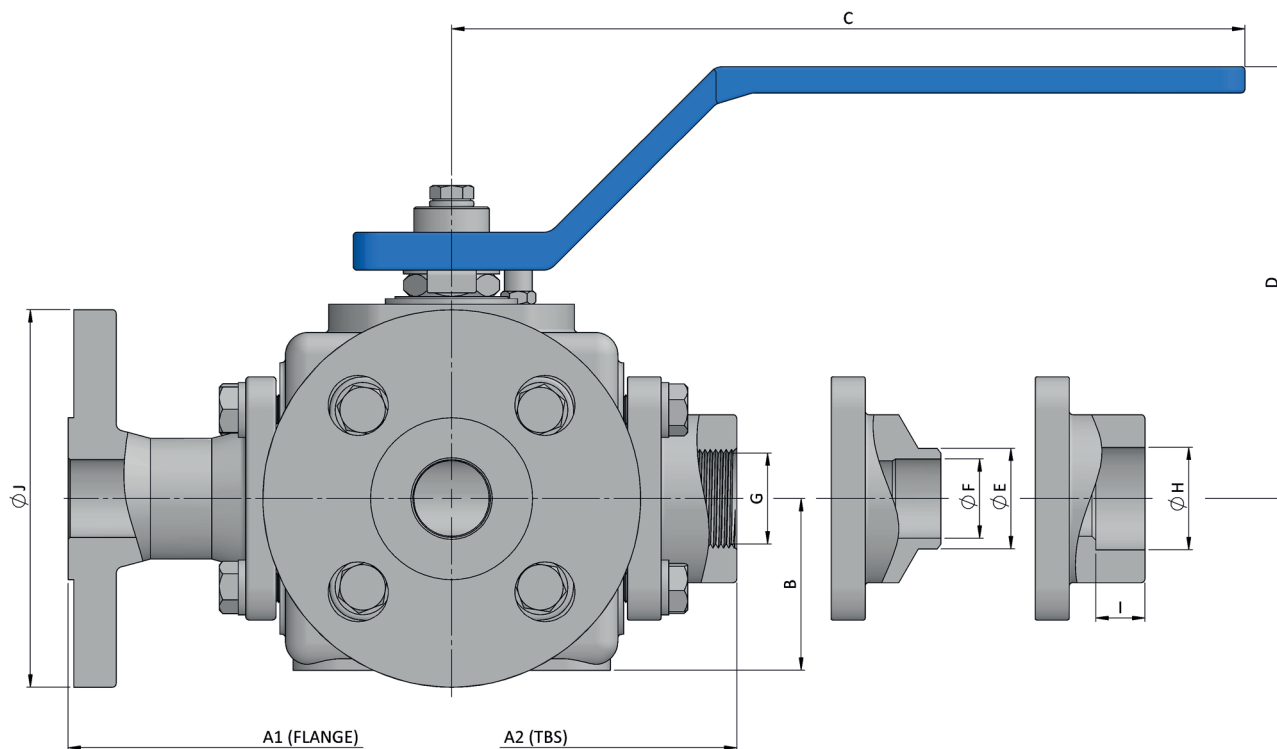
DESIGN TEMPERATURE

-50°C to 240°C

-58°F to 464°F



PART	STANDARD	
	CARBON STEEL	STAINLESS STEEL
Body	A216 WCB	A351 CF8M
ENDS	TBS	A351 CF3M
	FLG RF	A351 CF8M
TRIM	Ball	A351 CF3M
	Stem	A479 316/L
Seats	C-RPTFE	
O'ring	FKM AED	
Packing & Seals	C-RPTFE & GRAPHITE	
Bolting	A320 Gr. L7M	A193 Gr. B8M cl.2



mm in

DN	CLASS psi	BORE	A1		A2	B	C	D	E	F	G	H	I	J		ISO 5211	kg lbs		
			CL150	CL300										A1			A2		
														CL150	CL300				
½"	150 300 - 300 750 - 600* 1500*	15.8 0.62	175 6.89	210 8.27	115 4.53	35 1.38	180 7.09	95 3.74	NPT / BSPP / BSPT SW BW & BW Nipple					90 3.54	95 3.74	F04	5.5 12.13	6 13.23	3.5 7.72
¾"		22.1 0.87	205 8.07	240 9.45	145 5.71	45 1.77	210 8.27	115 4.53						100 3.94	115 4.53	F05	10 22.05	11 24.25	7.5 16.54
1"		25.4 1.00	210 8.27	260 10.24	150 5.91	45 1.77	210 8.27	115 4.53						110 4.33	125 4.92	F05	10.5 23.15	12.5 27.56	8 17.64
1½"		38 1.50	235 9.25	300 11.81	185 7.28	60 2.36	210 8.27	130 5.12						125 4.92	155 6.10	F05	19.5 42.99	24 52.91	15.5 34.17
2"		47.5 1.87	290 11.42	380 14.96	265 10.43	85 3.35	300 11.81	160 6.30						150 5.91	165 6.50	F07	49 108.03	54 119.05	41 90.39
3"		75 2.95	400 15.75	-	330 12.99	90 3.54	420 16.54	185 7.28						190 7.48	-	F10	62 136.69	-	52 114.64
4"		100 3.94	450 17.72	-	395 15.55	115 4.53	480 18.90	215 8.46						230 9.06	-	F10	107 235.90	-	93 205.03

*Only available in TBS ends

HYDROGEN BALL VALVES

GFH Series

Monobloc Floating
Barstock

The GFH Series is a monobloc floating ball valve specifically designed for hydrogen applications up to CL 4000 (690 bar / 10000 psi).

Applications

Designed for easy installation and maintenance, it's a great choice for hydrogen fueling applications, such as fueling stations and fueling skids.

Features

- Soft seated | Bidirectional
- Fire safe | Anti-static design
- Low emission packing | Live loaded stem packing
- Double encapsulated body sealing
- ISO 5211 top works for automation
- Anti-blowout stem design | RGD o'ring
- Self relieving seats | Pressure equalizing hole

Optional Features

- Upstream pressure relief hole

GFH6 Series

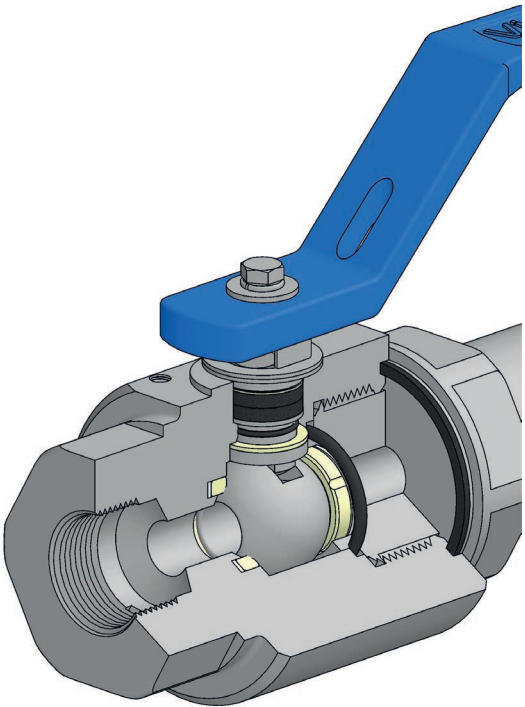
ASME CL 3000
Standard Bore: ¼" - 1"

GFH7 Series

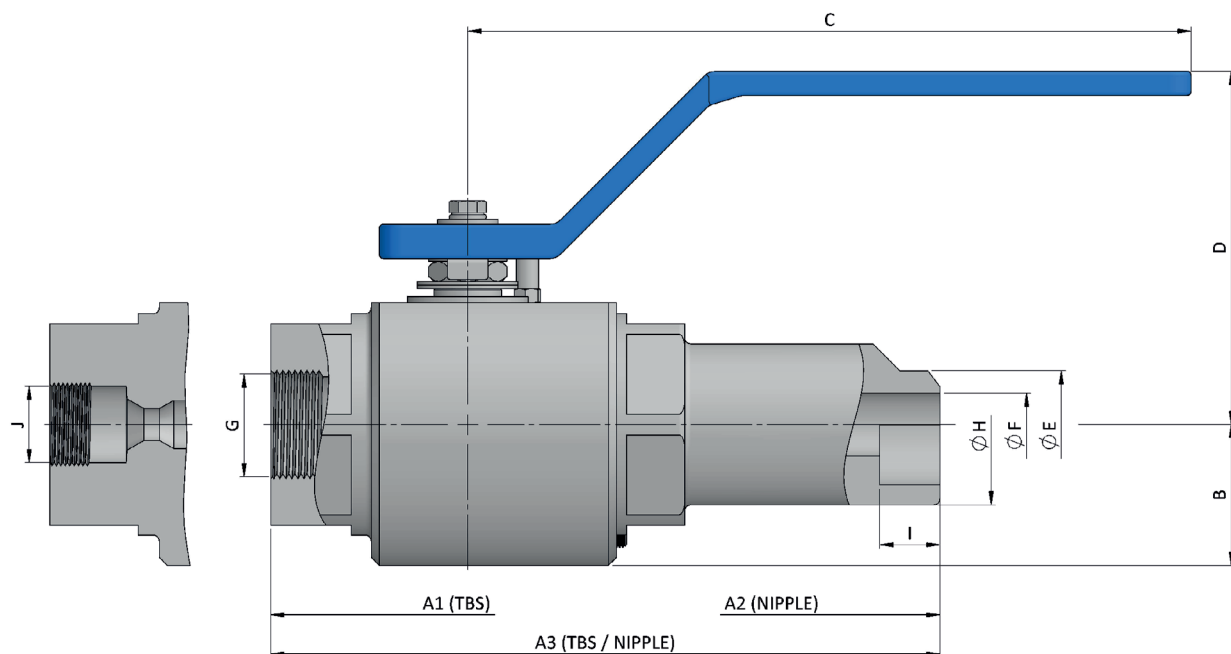
ASME CL 4000
Standard Bore: ¼" - 1"

FUELING RANGE

DESIGN TEMPERATURE
-50°C to 280°C
-58°F to 536°F



PART		STANDARD STAINLESS STEEL
Body / Ends		A479 316/L
TRIM	Ball	HS. ST. ST.
	Stem	HS. ST. ST.
Seats		PEEK
O'ring		FKM AED
Packing & Seals		FKM AED & GRAPHITE



mm in

DN	CLASS psi	BORE	A1	A2	A3	B	C	D	E	F	G	H	I	J	ISO 5211	kg	
																A1	A2
¼"	3000 7500	15.1 0.59	85 3.35	230 9.06	157.5 6.20	30 1.18	150 5.91	75 2.95	NPT / BSPP / BSPT SW Nipple BW Nipple CONE & THREAD (MP 9/16")						F03	1.5 3.31	2.5 5.51
⅜"		20.6 0.81	85 3.35	230 9.06	157.5 6.20	30 1.18	150 5.91	75 2.95							F03	1.5 3.31	2.5 5.51
½"		25.4 1.00	85 3.35	230 9.06	157.5 6.20	30 1.18	150 5.91	75 2.95							F03	1.5 3.31	2.5 5.51
¾"		31.8 1.25	95 3.74	235 9.25	165 6.50	35 1.38	180 7.09	90 3.54							F04	2.5 5.51	4 8.82
1"		38.1 1.50	115 4.53	115 9.45	177.5 6.99	42.5 1.67	210 8.27	105 4.13							F05	4 8.82	5.5 12.13

DN	CLASS psi	BORE	A1	A2	A3	B	C	D	E	F	G	H	I	J	ISO 5211	kg	
																A1	A2
¼"	4000 10000	12 0.47	120 4.72	250 9.84	185 7.28	42.5 1.67	180 7.09	95 3.74	NPT / BSPP / BSPT SW Nipple BW Nipple CONE & THREAD (MP 9/16")						F04	2.5 5.51	3.5 7.72
⅜"																	
½"																	
¾"																	
1"																	

HYDROGEN BALL VALVES

GFH8 Series

Monobloc Trunnion
Barstock

The GFH8 Series is a monobloc floating ball valve specifically designed for hydrogen applications up to CL 6000 (1035 bar / 15000 psi).

Applications

Designed for easy installation and maintenance, it's a great choice for hydrogen fueling applications, such as fueling stations and fueling skids.

Features

- Soft seated | Bidirectional
- Fire safe | Anti-static design | RGD o'ring
- Low emission packing | Live loaded stem packing
- Double encapsulated body sealing
- ISO 5211 top works for automation
- Fully integrated trim (ball and stem as one piece for extra resistance)
- Self relieving seats | Pressure equalizing hole

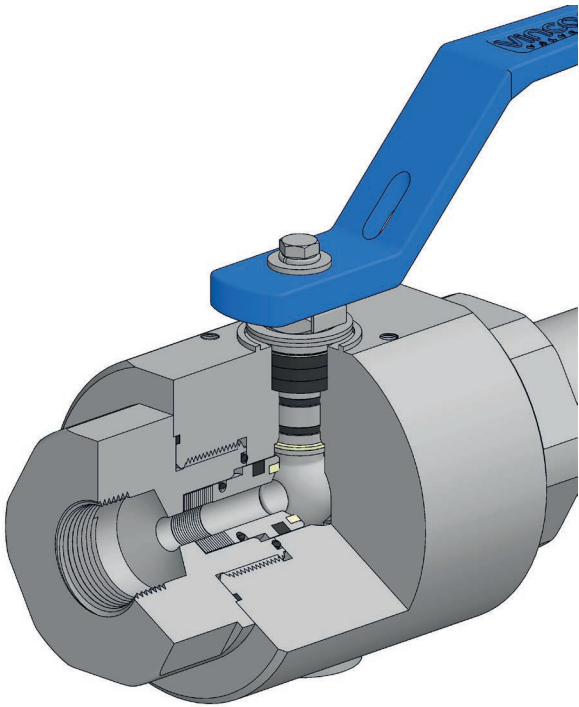
ASME CL 6000

Standard Bore: 1/4" - 1"

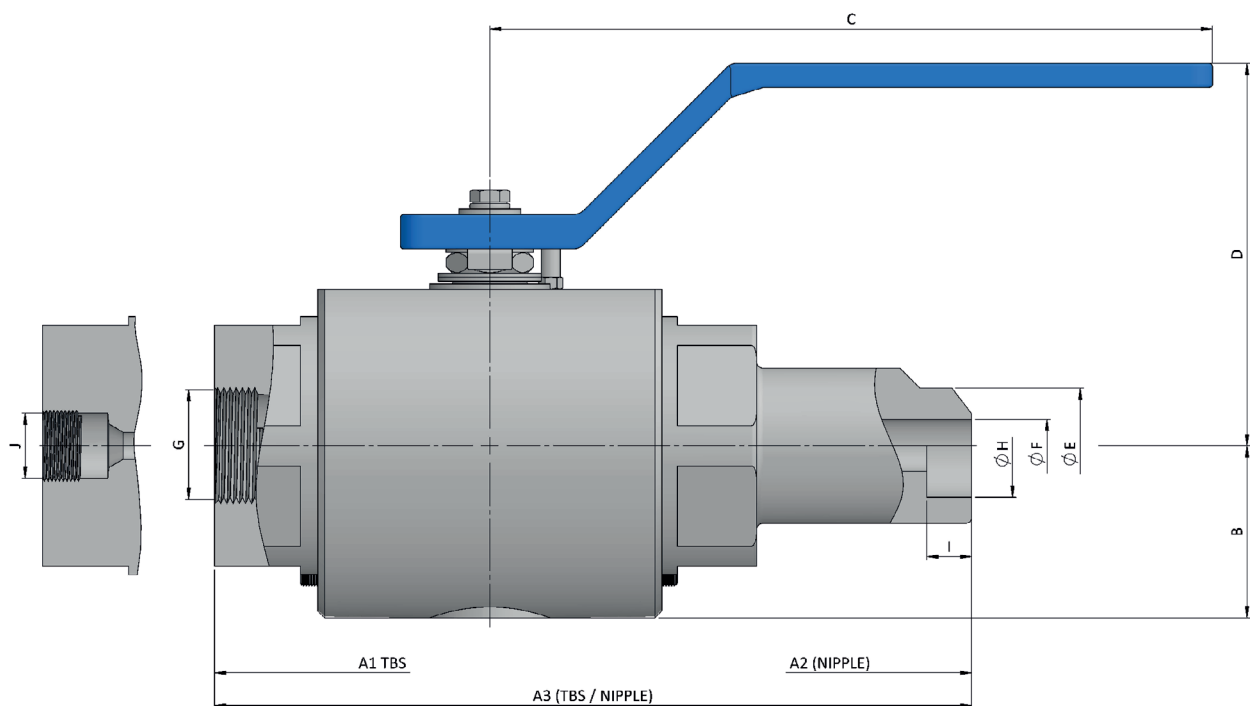
FUELING RANGE

DESIGN TEMPERATURE

-50°C to 280°C
-58°F to 536°F



PART		STANDARD STAINLESS STEEL
Body / Ends		A479 316/L
TRIM	Ball	HS. ST. ST.
	Stem	HS. ST. ST.
Seats		PEEK
O'ring		FKM AED
Packing & Seals		FKM AED & GRAPHITE



mm in

DN	CLASS	BORE	A1	A2	A3	B	C	D	E	F	G	H	I	J	ISO 5211	kg	
																A1	A2
¼"	6000 15000	10 0.39	155 6.10	280 11.02	217.5 8.56	50 1.97	210 8.27	110 4.33	NPT / BSPP / BSPT SW Nipple BW Nipple CONE & THREAD (MP 9/16")						F05	8.2 18.08	10 22.05
⅜"																	
½"																	
¾"																	
1"																	

HYDROGEN BALL VALVES

HFH Series

2 Way Floating
Barstock

The HFH Series is a barstock floating ball valve specifically designed for hydrogen fueling applications up to CL2500 (414 bar / 6000 psi).

Applications

This is a top-of-the-line solution for hydrogen fueling applications, such as fueling stations and fueling skids.

Features

- High pressure floating ball | Soft seated | Bidirectional
- Fire safe | Anti-static design
- Live loaded stem packing
- Double encapsulated body sealing
- ISO 5211 top works for automation
- Anti-blowout stem design | RGD o'ring
- Self relieving seats | Pressure equalizing hole

Optional Features

- Upstream pressure relief hole

HFH5 Series

ASME CL1500

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

HFH6 Series

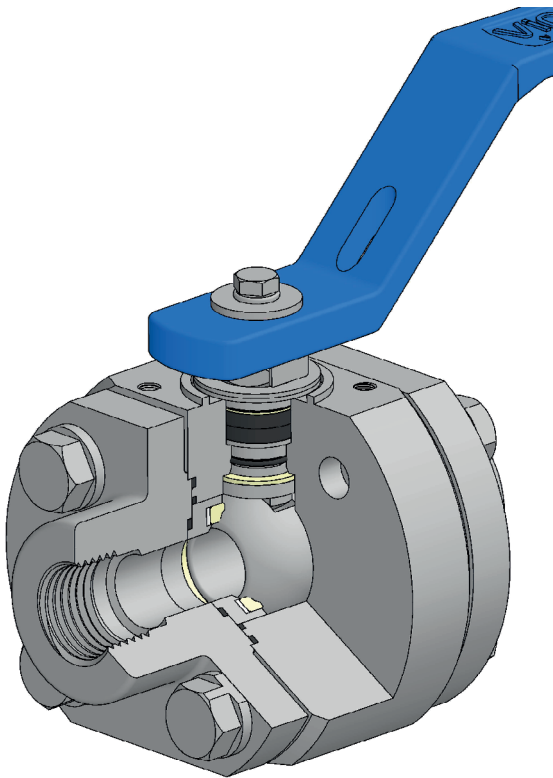
ASME CL2500

Standard Bore: ½" - 1"

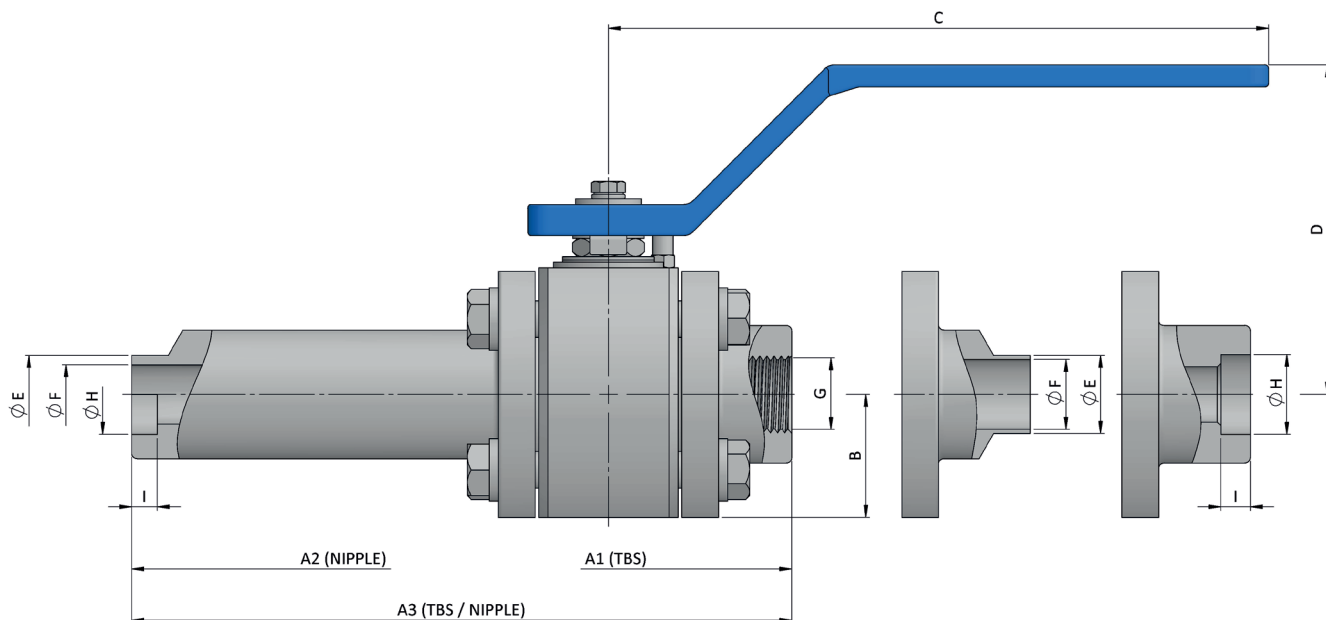
FUELING RANGE

DESIGN TEMPERATURE

-50°C to 280°C
-58°F to 536°F



PART		STANDARD STAINLESS STEEL
Body / Ends		A479 316/L
TRIM	Ball	HS. ST. ST.
	Stem	HS. ST. ST.
Seats		PEEK
O'ring		FKM AED
Packing & Seals		C-RPTFE & GRAPHITE
Bolting		A193 Gr. B8M cl.2



mm in

DN	CLASS psi	BORE	A1	A2	A3	B	C	D	E	F	G	H	I	ISO 5211	kg		
															A1	A2	
½"	1500 3600	15.1 0.59	90 3.54	260 10.24	175 6.89	33.5 1.32	180 7.09	95 3.74	NPT / BSPP / BSPT SW Nipple BW Nipple						F04	3 6.61	4 8.82
¾"		20.6 0.81	105 4.13	270 10.63	187.5 7.38	37 1.46	180 7.09	100 3.94							F04	4 8.82	6 13.23
1"		25.4 1.00	120 4.72	280 11.02	200 7.87	45.5 1.79	210 8.27	115 4.53							F05	7 15.43	9 19.84
1¼"		31.8 1.25	140 5.51	290 11.42	215 8.46	55.5 2.19	210 8.27	125 4.92							F05	10 22.05	13 28.66
1½"		38.1 1.50	160 6.30	305 12.01	232.5 9.15	66.5 2.62	300 11.81	140 5.51							F07	15.5 34.17	19.5 42.99
2"		49 1.93	185 7.28	325 12.80	255 10.04	91.5 3.60	300 11.81	157 6.18							F07	30 66.14	33.5 73.85

DN	CLASS psi	BORE	A1	A2	A3	B	C	D	E	F	G	H	I	ISO 5211	kg		
															A1	A2	
½"	2500 6000	11.9 0.47	90 3.54	260 10.24	175 6.89	33.5 1.32	150 5.91	80 3.15	NPT / BSPP / BSPT SW & SW Nipple BW & BW Nipple					135 5.31	F03	10 22.05	2.5 5.51
¾"		15.1 0.59	105 4.13	270 10.63	187.5 7.38	37 1.46	180 7.09	95 3.74						140 5.51	F04	13 28.66	4 8.82
1"		20.6 0.81	220 8.66	280 11.02	250 9.84	45.5 1.79	180 7.09	105 4.13						160 6.30	F04	19 41.89	6.5 14.33

HYDROGEN BALL VALVES

DCFH Series

Double Block and Bleed
Investment Cast

The DCFH Series is a process double block & bleed (DBB), floating cast ball valve specifically designed for applications up to PN40 (40 bar).

Applications

It provides double safety and is suitable for flow measurement, sampling, chemical injection, and process isolation, covering a large range of hydrogen applications, such as industrial supply and hydrogen production.

Features

- Needle valve (Bleed)
- Twin ball | Soft seated | Bidirectional
- Fire safe | Anti-static design
- Low emission packing | Live loaded stem packing
- Double encapsulated body sealing
- ISO 5211 top works for automation
- Anti-blowout stem design
- Self relieving seats | Pressure equalizing hole

Optional Features

- Food grade compatible version (CE1935/2004 version)
- Ball valve (Bleed)

DIN PN 16 / 40

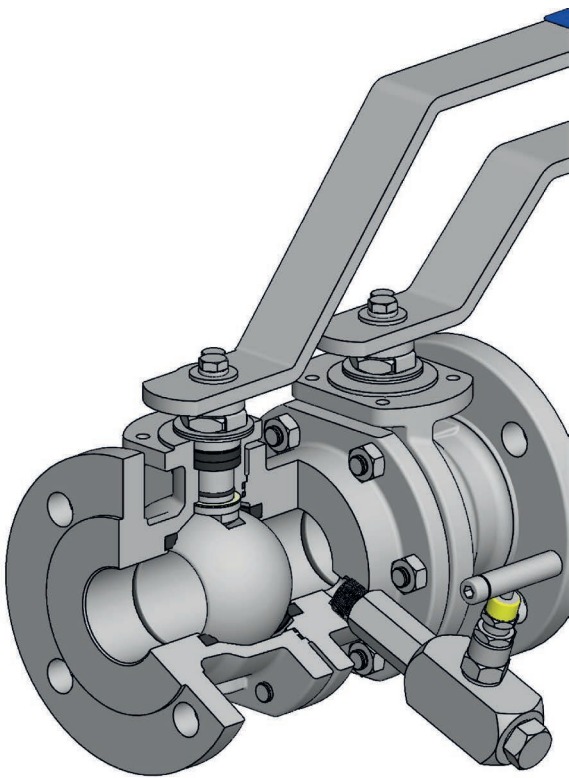
Full Bore: DN 15 - 200

INDUSTRIAL RANGE

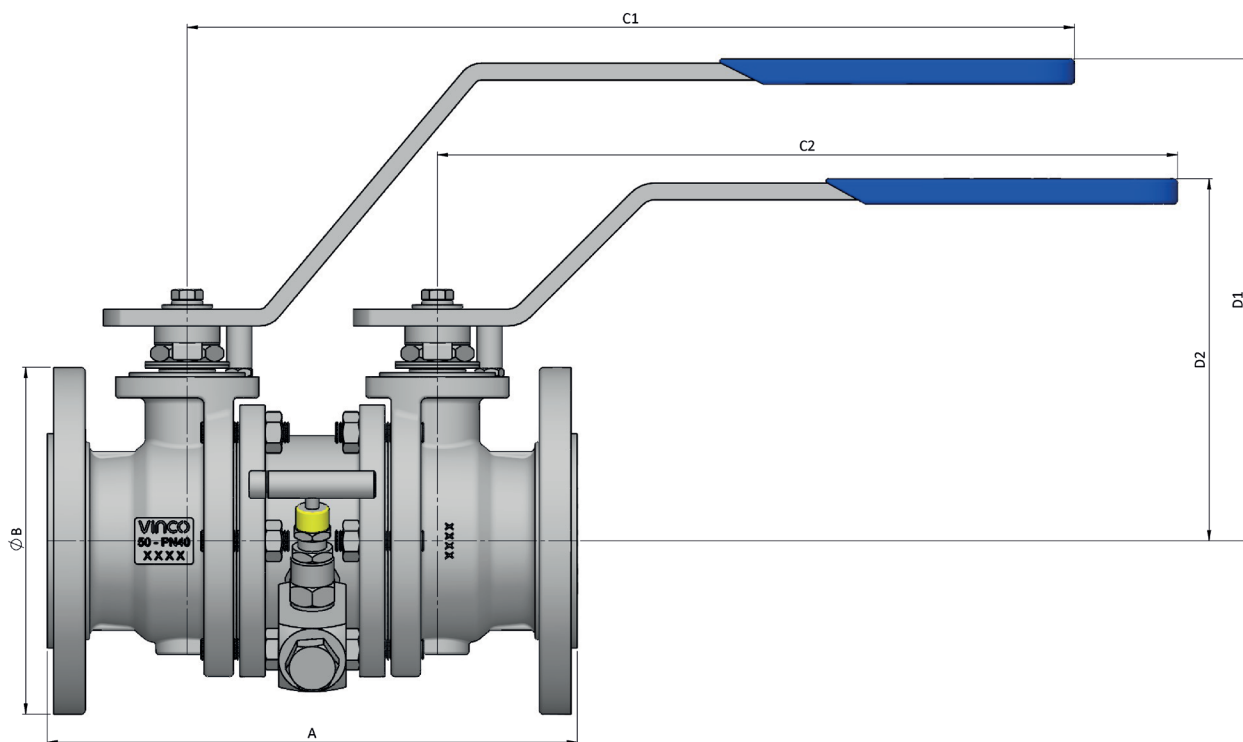
DESIGN TEMPERATURE

-50°C to 240°C

-58°F to 464°F



PART		STANDARD	
		LOW TEMP. CARBON STEEL	STAINLESS STEEL
Body / Ends		1.6220	1.4408
TRIM	Ball	1.4408	
	Stem	1.4401/4	
Seats		C-RPTFE	
O'ring		FKM AED	
Packing & Seals		C-RPTFE & GRAPHITE	
Bolting		A4 CL.70	



mm in

DN	PN	BORE	A	B	C1	C2	D1	D2	ISO 5211
65	16	62 2.44	270 10.63	185 7.28	350 13.78	350 13.78	235 9.25	175 6.89	F07
80		75 2.95	310 12.20	200 7.87	350 13.78	350 13.78	250 9.84	190 7.48	F10
100		100 3.94	335 13.19	220 8.66	500 19.69	500 19.69	285 11.22	225 8.86	F10
150		150 5.91	600 23.62	285 11.22	GEARBOX				F14
200		201 7.91	710 27.95	340 13.39					F16

DN	PN	BORE	A	B	C1	C2	D1	D2	ISO 5211
15	40	15.1 0.59	170 6.69	95 3.74	140 5.51	140 5.51	145 5.71	90 3.54	F04
20		20.6 0.81	185 7.28	105 4.13	170 6.69	170 6.69	155 6.10	100 3.94	F04
25		25.4 1.00	190 7.48	115 4.53	170 6.69	170 6.69	160 6.30	105 4.13	F04
32		31.8 1.25	215 8.46	140 5.51	200 7.87	200 7.87	180 7.09	125 4.92	F05
40		38.1 1.50	235 9.25	150 5.91	200 7.87	200 7.87	185 7.28	130 5.12	F05
50		49 1.93	250 9.84	165 6.50	300 11.81	300 11.81	205 8.07	150 5.91	F07
65		62 2.44	270 10.63	185 7.28	350 13.78	350 13.78	235 9.25	175 6.89	F07
80		75 2.95	310 12.20	200 7.87	350 13.78	350 13.78	250 9.84	190 7.48	F10
100		100 3.94	350 13.78	235 9.25	500 19.69	500 19.69	285 11.22	225 8.86	F10
150		150 5.91	675 26.57	300 11.81	GEARBOX				F14
200		201 7.91	835 32.87	375 14.76					F16

HYDROGEN BALL VALVES

DCFH Series

Double Block and Bleed
Investment Cast

The DCFH Series is a process double block & bleed (DBB), floating cast ball valve specifically designed for applications up to CL600 (100 bar / 1500 psi).

Applications

It provides double safety and is suitable for flow measurement, sampling, chemical injection, and process isolation, covering a large range of hydrogen applications, such as industrial supply and hydrogen production.

Features

- Needle valve (Bleed)
- Twin ball | Soft seated | Bidirectional
- Fire safe | Anti-static design
- Low emission packing | Live loaded stem packing
- Double encapsulated body sealing
- ISO 5211 top works for automation
- Anti-blowout stem design
- Self relieving seats | Pressure equalizing hole

Optional Features

- Food grade compatible version (CE1935/2004 version)
- Ball valve (Bleed)

ASME CL 150 to 600

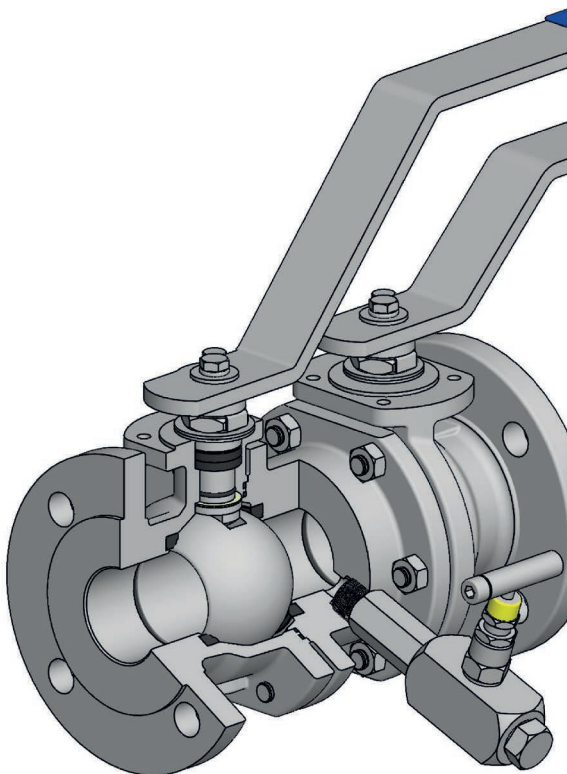
Full Bore: ½" - 8"

INDUSTRIAL RANGE

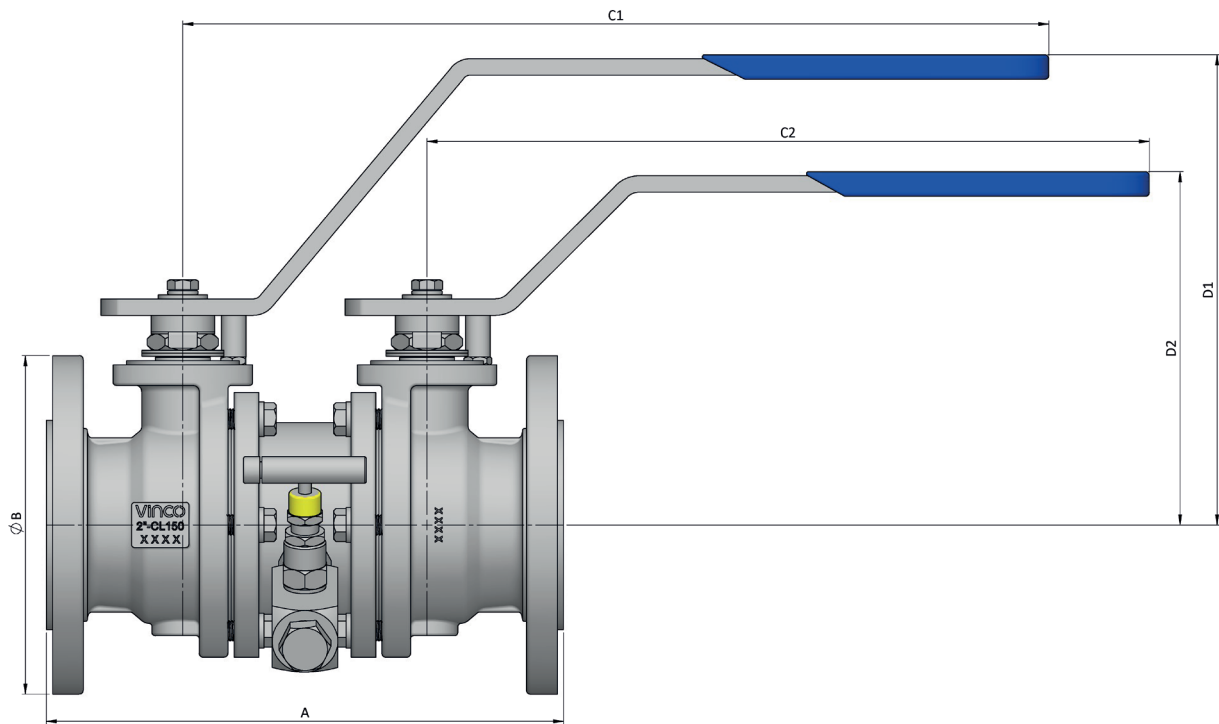
DESIGN TEMPERATURE

-50°C to 240°C

-58°F to 464°F



PART		STANDARD	
		LOW TEMP. CARBON STEEL	STAINLESS STEEL
Body / Ends		A352 LCC	A351 CF8M
TRIM	Ball	A351 CF8M	
	Stem	A479 316/L	
Seats		C-RPTFE	
O'ring		FKM AED	
Packing & Seals		C-RPTFE & GRAPHITE	
Bolting		A320 Gr. L7M	A193 Gr. B8M cl.2



mm in

DN	CLASS psi	BORE	A			B			C1	C2	D1	D2	ISO 5211
			CL 150	CL 300	CL 600	CL 150	CL 300	CL 600					
½"	150 300 - 300 750 - 600 1500	15.1 0.59	170 6.69	185 7.28	220 8.66	90 3.54	95 3.74	95 3.74	140 5.51	140 5.51	145 5.71	90 3.54	F04
¾"		20.6 0.81	180 7.09	210 8.27	245 9.65	100 3.94	115 4.53	115 4.53	170 6.69	170 6.69	155 6.10	100 3.94	F04
1"		25.4 1.00	190 7.48	220 8.66	285 11.22	110 4.33	125 4.92	125 4.92	170 6.69	170 6.69	160 6.30	105 4.13	F04
1½"		38.1 1.50	230 9.06	265 10.43	320 12.60	125 4.92	155 6.10	155 6.10	200 7.87	200 7.87	185 7.28	130 5.12	F05
2"		49 1.93	250 9.84	290 11.42	385 15.16	150 5.91	165 6.50	165 6.50	300 11.81	300 11.81	205 8.07	150 5.91	F07
2½"		62 2.44	290 11.42	320 12.60	-	180 7.09	190 7.48	-	350 13.78	350 13.78	235 9.25	175 6.89	F07
3"		75 2.59	320 12.60	380 14.96	-	190 7.48	210 8.27	-	350 13.78	350 13.78	250 9.84	190 7.48	F10
4"		100 3.94	365 14.37	455 17.91	-	230 9.06	255 10.04	-	500 19.69	500 19.69	285 11.22	225 8.86	F10
6"		150 5.91	640 25.20	675 26.57	-	280 11.02	320 12.60	-	GEARBOX			-	F14
8"		201 7.91	765 30.12	835 32.87	-	345 13.58	380 14.96	-				-	F16

HYDROGEN BALL VALVES

DXFH Series

Double Block and Bleed
Investment Cast

The DXFH Series is a process double block & bleed (DBB), floating cast ball valve specifically designed for applications up to CL800 (138 bar / 2000 psi).

Applications

It provides double safety and is suitable for flow measurement, sampling, chemical injection, and process isolation, matching applications including industrial use and hydrogen production.

Features

- Needle valve (Bleed)
- Twin ball | Soft seated | Bidirectional
- Fire safe | Anti-static design
- Low emission packing | Live loaded stem packing
- Double encapsulated body sealing
- ISO 5211 top works for automation
- Anti-blowout stem design
- Self relieving seats | Pressure equalizing hole

Optional Features

- Food grade compatible version (CE1935/2004 version)
- Ball valve (Bleed)

ASME CL 150 to 800

Full Bore: ½" - 6"

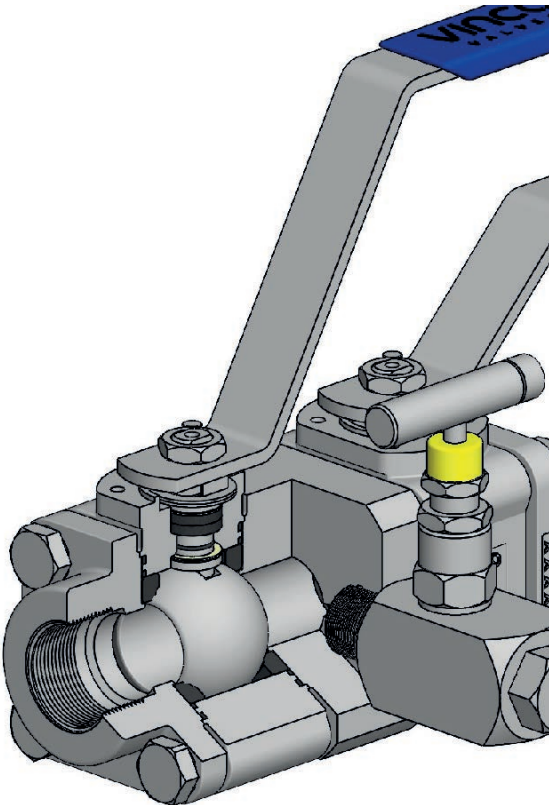
Reduced Bore: ¾" - 6"

INDUSTRIAL RANGE

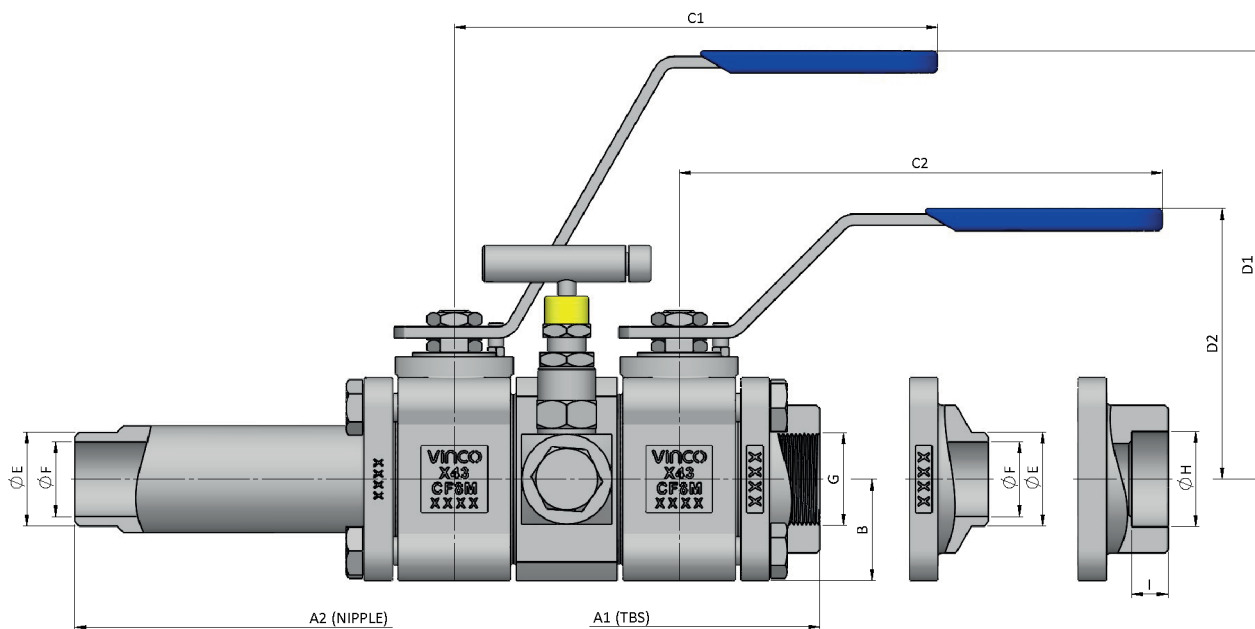
DESIGN TEMPERATURE

-50°C to 240°C

-58°F to 464°F



PART		STANDARD		
		CARBON STEEL	LOW TEMP. CARBON STEEL	STAINLESS STEEL
Body / Ends		A216 WCB	A352 LCC	A351 CF3M
TRIM	Ball	A351 CF8M		
	Stem	A479 316/L		
Seats		C-RPTFE		
O'ring		FKM AED		
Packing & Seals		C-RPTFE & GRAPHITE		
Bolting		A320 Gr. L7M		A193 Gr. B8M cl.2



mm in

DN	CLASS psi	BORE	A1	A2	B	C1	C2	D1	D2	E	F	G	H	I	ISO 5211
½"	800 2000	15.1 0.59	140 5.51	315 12.40	27.5 1.08	140 5.51	140 5.51	135 5.31	80 3.15	NPT / BSPP / BSPT SW BW & BW Nipple					F03
¾"	800 2000	20.6 0.81	160 6.30	330 12.99	32.5 1.28	170 6.69	170 6.69	150 5.91	95 3.74						F04
1"	800 2000	25.4 1.00	180 7.09	350 13.78	37.5 1.48	170 6.69	170 6.69	155 6.10	100 3.94						F04
1¼"	800 2000	31.8 1.25	200 7.87	365 14.37	42.5 1.67	200 7.87	200 7.87	175 6.89	120 4.72						F05
1½"	800 2000	38.1 1.50	220 8.66	385 15.16	47.5 1.87	200 7.87	200 7.87	180 7.09	125 4.92						F05
2"	800 2000	49 1.93	270 10.63	415 16.34	65 2.56	300 11.81	300 11.81	195 7.68	140 5.51						F07
2½"	400 1000	62 2.44	320 12.60	460 18.11	80 3.15	350 13.78	350 13.78	230 9.06	170 6.69						F07
3"	400 1000	75 2.95	370 14.57	502 19.76	95 3.74	350 13.78	350 13.78	245 9.65	185 7.28						F10
4"	300 750	100 3.94	435 17.13	560 22.05	115 4.53	500 19.69	500 19.69	285 11.22	225 8.86						F10
6"	150 300	150 5.91	620 24.41	705 27.76	162.5 6.40	GEARBOX									F14

HYDROGEN BALL VALVES

DFH Series

Double Block and Bleed
Barstock

The DFH Series is a process double block & bleed (DBB), barstock, floating ball valve specifically designed for applications up to CL600 (100 bar / 1500 psi).

Applications

It provides double safety and is suitable for flow measurement, sampling, chemical injection, and process isolation, matching applications including industrial use and hydrogen production.

Features

- Needle valve (Bleed)
- Twin ball | Soft seated | Bidirectional
- Fire safe | Anti-static design
- Low emission packing | Live loaded stem packing
- Double encapsulated body sealing
- ISO 5211 top works for automation
- Anti-blowout stem design
- Self relieving seats | Pressure equalizing hole

Optional Features

- Food grade compatible version (CE1935/2004 version)
- Ball valve (Bleed)

ASME CL 150 to 600

Full Bore: ½" - 4"

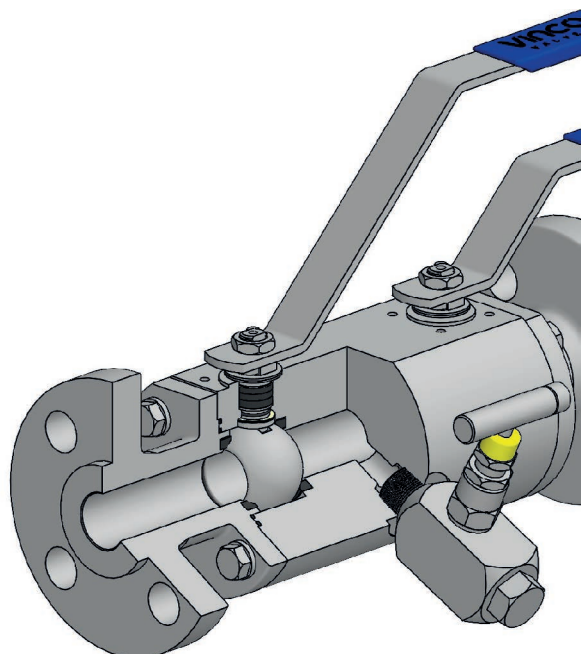
Reduced Bore: ¾" - 4"

INDUSTRIAL RANGE

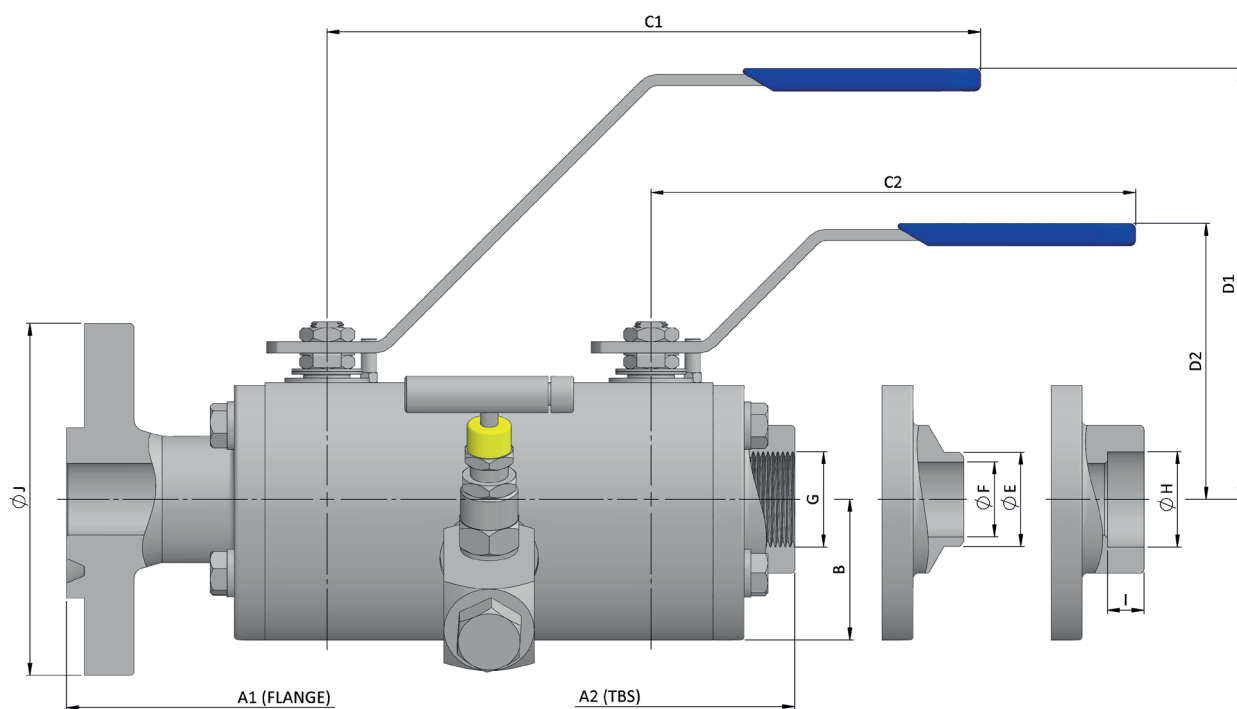
DESIGN TEMPERATURE

-50°C to 240°C

-58°F to 464°F



PART		STANDARD	
		LOW TEMP. CARBON STEEL	STAINLESS STEEL
Body / Ends		A350 LF2 cl.1	A479 316/L
TRIM	Ball	A351 CF8M	
	Stem	A479 316/L	
Seats		C-RPTFE	
O'ring		FKM AED	
Packing & Seals		C-RPTFE & GRAPHITE	
Bolting		A320 Gr. L7M	A193 Gr. B8M cl.2



mm in

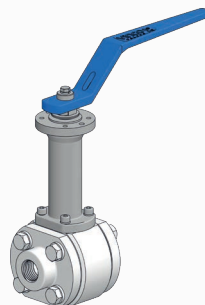
DN	CLASS psi	BORE	A1			A2	B	C1	C2	D1	D2	E	F	G	H	I	J			ISO 5211	kg lbs			
			CL150	CL300	CL600												A1				A2			
																	CL150	CL300	CL600					
½"	150 300 - 600 1500	15.1 0.59	220 8.66	230 9.06	240 9.45	165 6.50	38 1.50	140 5.51	140 5.51	140 5.51	85 3.35	NPT / BSPP / BSPT SW BW & BW Nipple					90 3.54	95 3.74	95 3.74	F03	6.2 13.67	6.5 14.33	6.7 14.77	4.8 10.58
¾"		20.6 0.81	270 10.63	280 11.02	290 11.42	205 8.07	45 1.77	170 6.69	170 6.69	150 5.91	95 3.74						100 3.94	115 4.53	115 4.53	F04	10.1 22.27	10.9 24.03	11.5 25.35	8.9 19.62
1"		25.4 1.00	280 11.02	290 11.42	300 11.81	215 8.46	50 1.97	170 6.69	170 6.69	155 6.10	100 3.94						110 4.33	125 4.92	125 4.92	F04	13.4 29.54	13.9 30.64	14.8 32.63	11.5 25.35
1¼"		31.8 1.25	-	-	-	225 8.86	57.5 2.26	200 7.87	200 7.87	170 6.69	115 4.53						-	-	-	F05	-	-	-	14.6 32.19
1½"		38.1 1.50	320 12.60	340 13.39	360 14.17	245 9.65	62.5 2.46	200 7.87	200 7.87	175 6.89	120 4.72						125 4.92	155 6.10	155 6.10	F05	22.1 48.72	25 55.12	25.9 57.10	19.2 42.33
2"		49 1.93	380 14.96	400 15.75	420 16.54	335 13.19	75 2.95	300 11.81	300 11.81	195 7.68	140 5.51						150 5.91	165 6.50	165 6.50	F07	40.2 88.62	43 94.80	44 97	37 81.57
2½"		62 2.44	420 16.54	440 17.32	460 18.11	360 14.17	90 3.54	350 13.78	350 13.78	220 8.66	160 6.30						180 7.09	190 7.48	190 7.48	F07	61.8 136.24	64 141.09	66 145.50	54.5 120.15
3"		75 2.59	460 18.11	480 18.90	500 19.69	400 15.75	100 3.94	350 13.78	350 13.78	235 9.25	175 6.89						190 7.48	210 8.27	210 8.27	F10	83 182.98	86.3 190.26	88.5 195.11	73 160.94
4"	100 3.94	550 21.65	570 22.44	590 23.23	480 18.90	125 4.92	500 19.69	500 19.69	265 10.43	205 8.07	230 9.06	255 10.04	275 10.83	F10	147 324.08	155 341.71	165 363.76	130 286.60						

MANUAL OPERATION

LOCKABLE HANDLE



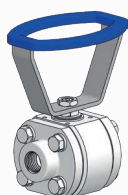
The lockable handle is a safety device that prevents the unintended rotation of the obturator due to vibrations, turbulent flows or unauthorized actions leading to potentially severe malfunctions in the process. This occurrence can be prevented by the application of a lockable mechanism that prevents the valve from closing or opening. All sizes can be equipped with a padlock.



STEM EXTENSION

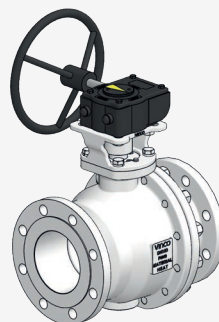
In challenging conditions like inaccessible locations, insulated piping, or extreme temperatures, stem extensions offer a practical solution for safer and easier operation.

The standard stem extension is equipped with a secondary stem packing system containing eventual emissions to the atmosphere. Other options are also available upon request.



OVAL HANDLE

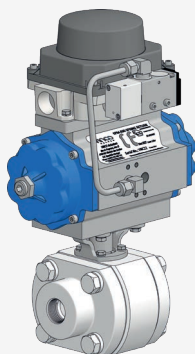
When there isn't enough space for standard handles, an oval handle could be the best way to reduce the size of the valve without losing the operation capabilities.



GEARBOX

The quarter-turn gear operators with handwheel are rugged constructed, industrial grade manufactured with cast iron housing components. They are used for a smooth and easy operation, available in a variety of sizes and options. Includes valve-position indicator as well as a self-locking system.

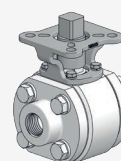
AUTOMATION

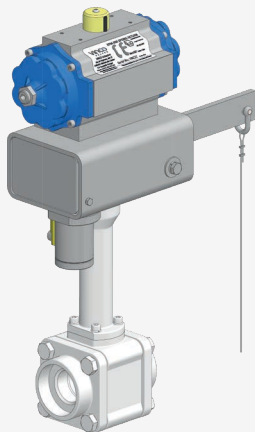


COMPLETE AUTOMATION

Automation of the processes is a growing and necessary investment to reduce the manual interventions, operation costs and to improve performance.

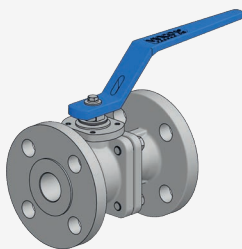
Our valves can be equipped with numerous controllers such as, actuators, positioners, solenoids or switchboxes.





FIRE BLOCK SYSTEM

Flammable gases and chemicals are often used in processes across several industries. To prevent the widespread of a fire event in these facilities, a fire fail safe valve may be used as a safety device, which will trigger an automatic emergency shutoff. The fire fail safe valve is designed to be activated at the set temperature of the system by the fusible link breakage. This breakage will lead to the line shutoff.

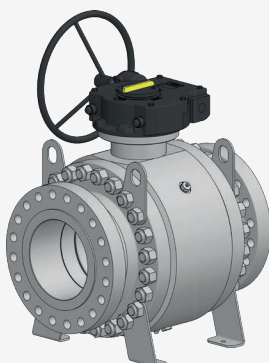


VALVES FOR KOH

One of the most relevant modern uses of Potassium Hydroxide (KOH) is as an electrolyte in electrolyzers for hydrogen production, where its strong alkaline properties allow efficient water electrolysis.

In these processes, KOH's high alkalinity brings significant challenges: severe corrosion risks, chemical burns, stress-cracking of incompatible alloys, and degradation of sealing elements. When combined with pressurized systems, the risks of leakage and accelerated material wear increase considerably.

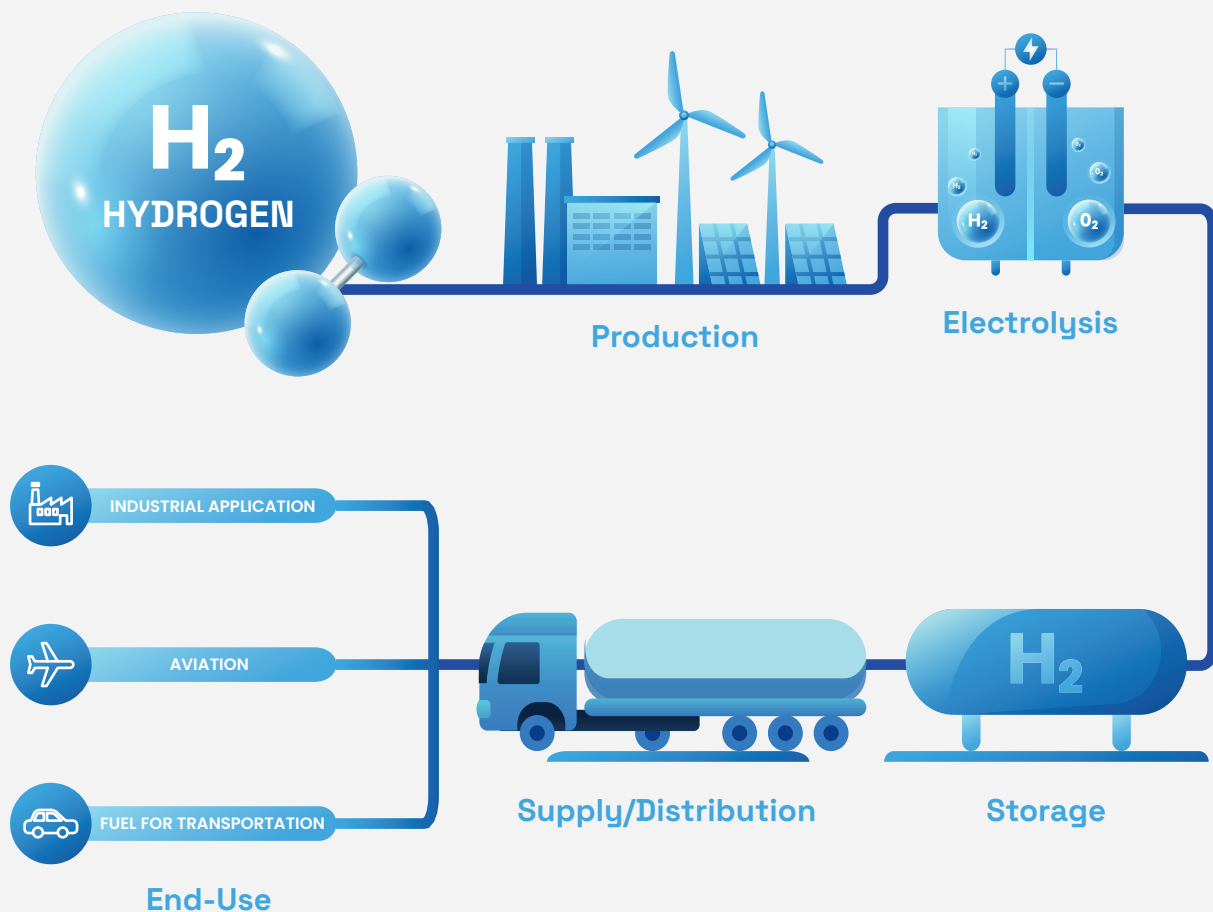
Our ball valves are engineered for safe and reliable operation in KOH service by using alkali-resistant metallic materials, carefully selected seals and packing systems resistant to chemical attack, to assure high levels of tightness and operational safety in demanding hydrogen production environments.



TRUNNION DESIGN

Severe service or higher sizes demands special design to achieve high levels of quality and safety insurance. The trunnion version is the best solution to improve reliability and the life time of the valve without maintenance due to its unique seat design and ball fixation. These features reduces the misalignment, extra torque and wear when compared with floating version.

COMPREHENSIVE SOLUTIONS FOR THE HYDROGEN VALUE CHAIN



Vinco Valves provides high-performance valve solutions for every stage of the hydrogen value chain. With tailored engineering and proven reliability, we help our customers build safe, efficient, and sustainable hydrogen systems.

- **Production** – electrolysis and renewable hydrogen generation
- **Storage** – safe, leak-tight solutions for liquid and gaseous H_2
- **Distribution** – robust valves for pipelines, trailers, and fueling stations
- **End-Use Applications** – reliability for industry and mobility



Find our complete product range in our website!



vincovalves.com

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