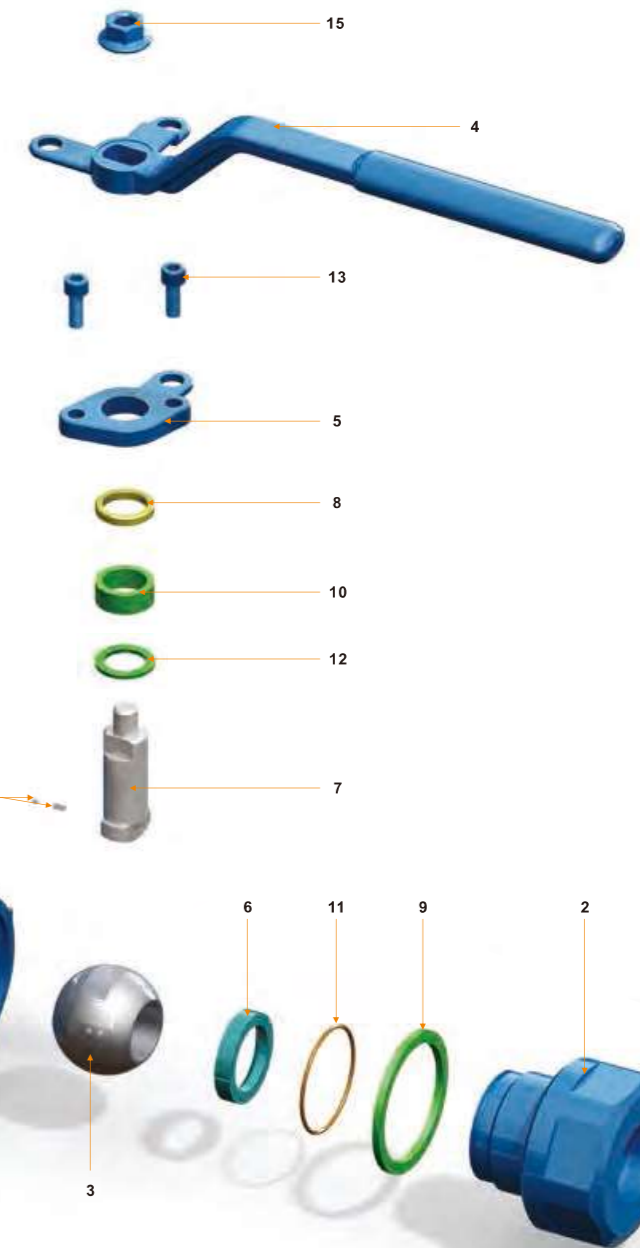


- 1 Reliable Flow Locking Device: Valve is equipped with an integral locking device to secure flow.
- 2 Anti-static Device: Spring-loaded plunger assures the electrical continuity between the ball, stem and body, to avoid static buildup.
- 3 ISO5211 connection dimension: actuator installation is simplified by using connection dimension recognized in international standards.
- 4 Blow-out proof stem: The lower end of the stem is T-shaped structured, protected by boss of body, which assures stem retention against any pressure.
- 5 O-ring Seal Design: Protects threads from crevice corrosion.

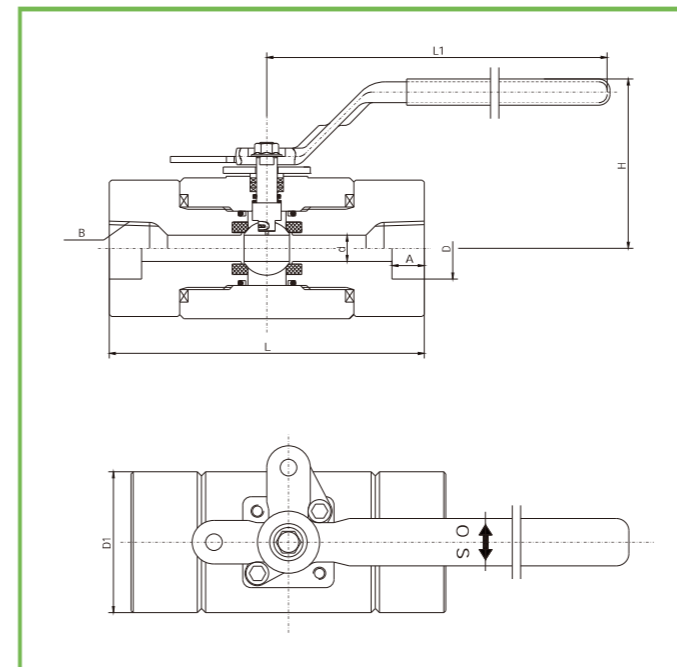
Index no	Part
1	Body
2	Cap
3	Ball
4	Lever
5	Gland Flange
6	Seat
7	Stem
8	Gland
9	Gasket
10	Packing Set
11	O-Ring
12	Thrust Washer
13	Bolt
14	Anti Static Device
15	Nut



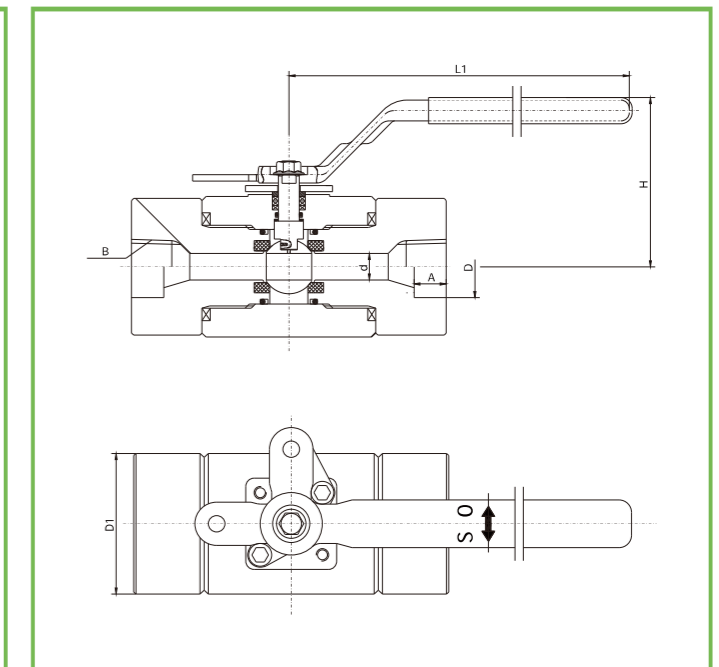
APPLICATIONS

- Refinery
- Chemical
- Power
- Petrochemical

No	Part	Standard	Stainless Steel	Sour Service	Low Temperature Service
1	Body	ASTM A105N	ASTM A182-F316	ASTM A105N	ASTM A350-LF2
2	Cap	ASTM A105N	ASTM A182-F316	ASTM A105N	ASTM A350-LF2
3	Ball	ASTM A105N/ENP	ASTM A182-F316	ASTM A105N/ENP	ASTM A182-F316
4	Lever	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
5	Gland Flange	ASTM A216-WCB	ASTM A351-CF8	ASTM A216-WCB	ASTM A352-LCB
6	Seat	PTFE	PTFE	PTFE	PTFE
7	Stem	ASTM A182-F6a	ASTM A182-F316	ASTM A182-F6a	ASTM A182-F316
8	Gland	ASTM A276-420	ASTM A276-316	ASTM A276-420	ASTM A276-316
9	Gasket	316 S.S.+Graphite	316 S.S.+Graphite	316 S.S.+Graphite	316 S.S.+Graphite
10	Packing Set	Graphite	Graphite	Graphite	Graphite
11	O-Ring	Viton AED	Viton AED	Viton AED	HNBR
12	Thrust Washer	PTFE	PTFE	PTFE	PTFE
13	Bolt	ASTM A193-B7	ASTM A193-B8	ASTM A193-B7M	ASTM A320-L7M
14	Anti Static Device	S.S.	S.S.	S.S.	S.S.
15	Nut	Carbon Steel	S.S.	Carbon Steel	S.S.



Full Bore (1/2"-2")

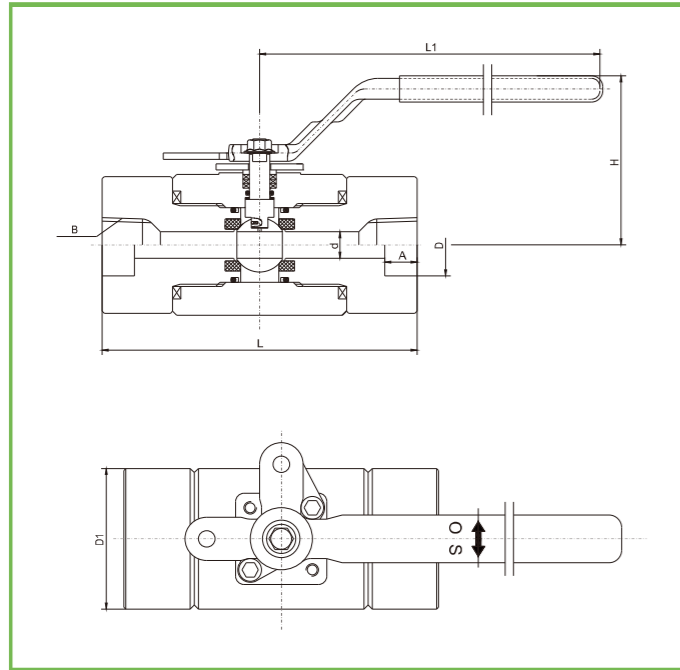


Reduced Bore (1/2"-2")

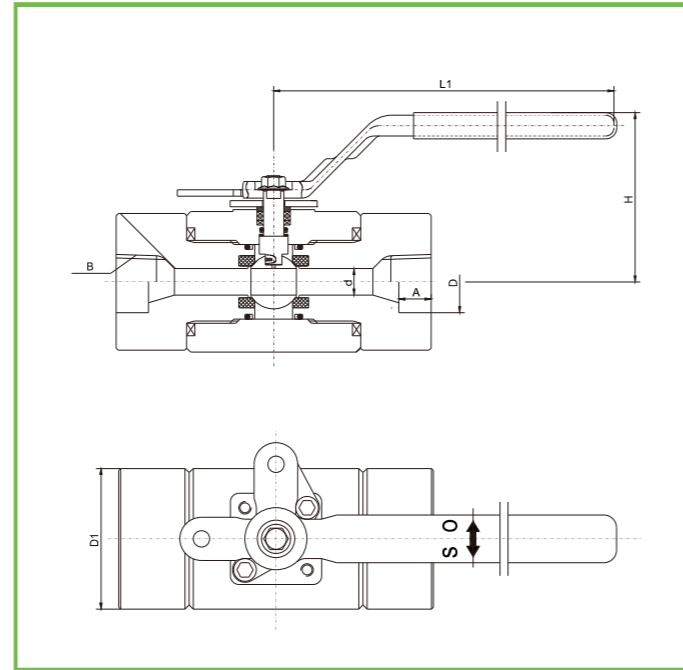
Class 150/300/600/800/900 Dimension and weight

Full Bore																			
Size		d		L		H		L1		A		D		D1		B		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
1/4	8	0.25	6.40	4.09	104	2.44	62	5.91	150	0.37	9.50	0.56	14.20	1.65	42	1/4-18NPT	3.30	1.50	
3/8	10	0.37	9.50	4.09	104	2.44	62	5.91	150	0.37	9.50	0.69	17.60	1.65	42	3/8-18NPT	3.30	1.50	
1/2	15	0.50	13	4.09	104	2.44	62	5.91	150	0.37	9.50	0.86	21.80	1.65	42	1/2-14NPT	3.30	1.50	
3/4	20	0.75	20	5.00	127	3.23	82	7.09	180	0.49	12.50	1.07	27.20	2.28	58	3/4-14NPT	6.39	2.90	
1	25	1.00	25	4.53	115	3.94	100	9.06	230	0.49	12.50	1.33	33.90	2.68	68	1-11.5NPT	7.72	3.50	
1-1/2	40	1.50	38	5.63	143	5.31	135	11.81	300	0.49	12.50	1.92	48.80	3.66	93	1-1/2-11.5NPT	16.53	7.50	
2	50	2.00	51	6.30	160	6.50	165	14.57	370	0.63	16.00	2.41	61.20	4.49	114	2-11.5NPT	28.66	13.00	

Reduced Bore																			
Size		d		L		H		L1		A		D		D1		B		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
3/8*1/4	10*8	0.25	6.40	4.09	104	2.44	62	5.91	150	0.37	9.50	0.69	17.60	1.65	42	3/8-18NPT	3.30	1.50	
1/2*3/8	15*10	0.37	9.50	4.09	104	2.44	62	5.91	150	0.37	9.50	0.86	21.80	1.65	42	1/2-14NPT	3.30	1.50	
3/4*1/2	20*15	0.51	13	4.09	104	2.44	62	5.91	150	0.49	12.50	1.07	27.20	1.65	42	3/4-14NPT	3.30	1.50	
1*3/4	25*20	0.79	20	5.00	127	3.23	82	7.09	180	0.49	12.50	1.33	33.90	2.28	58	1-11.5NPT	6.39	2.90	
1-1/2*1	40*25	0.98	25	4.53	115	3.94	100	9.06	230	0.49	12.50	1.92	48.80	2.68	68	1-1/2-11.5NPT	7.72	3.50	
2-*1-1/2	50*40	1.50	38	5.63	143	5.31	135	11.81	300	0.63	16	2.41	61.20	3.66	93	2-11.5NPT	16.53	7.50	



Full Bore (1/2"-2")



Reduced Bore (1/2"-2")

Class 1500/2500 Dimension and weight

Full Bore																		
Size		d		L		H		L1		A		D		D1		B	Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		lb	kg
1/4	8	0.25	6.40	4.09	104	2.44	62	5.91	150	0.37	9.50	0.56	14.20	1.65	42	1/4-18NPT	3.30	1.50
3/8	10	0.37	9.50	4.09	104	2.44	62	5.91	150	0.37	9.50	0.69	17.60	1.65	42	3/8-18NPT	3.30	1.50
1/2	15	0.50	13	4.09	104	2.44	62	5.91	150	0.37	9.50	0.86	21.80	1.65	42	1/2-14NPT	3.30	1.50
3/4	20	0.75	20	5.00	127	3.23	82	7.09	180	0.49	12.50	1.07	27.20	2.28	58	3/4-14NPT	6.39	2.90
1	25	1.00	25	4.53	115	3.94	100	9.06	230	0.49	12.50	1.33	33.90	2.83	72	1-11.5NPT	11	5
1-1/2	40	1.50	38	5.63	143	5.31	135	11.81	300	0.49	12.50	1.92	48.80	4.13	105	1-1/2-11.5NPT	28.66	13
2	50	2.00	51	6.30	160	6.50	165	14.57	370	0.63	16.00	2.41	61.20	5.28	134	2-11.5NPT	40.09	20

Reduced Bore																		
Size		d		L		H		L1		A		D		D1		B	Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		lb	kg
3/8*1/4	10*8	0.25	6.40	4.09	104	2.44	62	5.91	150	0.37	9.50	0.69	17.60	1.65	42	3/8-18NPT	3.30	1.50
1/2*3/8	15*10	0.37	9.50	4.09	104	2.44	62	5.91	150	0.37	9.50	0.86	21.80	1.65	42	1/2-14NPT	3.30	1.50
3/4*1/2	20*15	0.51	13	4.09	104	2.44	62	5.91	150	0.49	12.50	1.07	27.20	1.65	42	3/4-14NPT	3.30	1.50
1*3/4	25*20	0.79	20	5.00	127	3.23	82	7.09	180	0.49	12.50	1.33	33.90	2.28	58	1-11.5NPT	6.39	2.90
1-1/2*1	40*25	0.98	25	4.53	115	3.94	100	9.06	230	0.49	12.50	1.92	48.80	2.83	72	1-1/2-11.5NPT	11	5
2-*1-1/2	50*40	1.50	38	5.63	143	5.31	135	11.81	300	0.63	16	2.41	61.20	4.13	105	2-11.5NPT	28.66	13

Flow Coefficient (Cv value)

Size (inch)	Class 150	Class 300	Class 600	Class 900	Class 1500
1/2	25	25	20	16	16
3/4	56	56	48	34	34
1	95	95	64	55	55
1-1/2	308	308	308	165	165
2	500	430	370	320	320
3	1360	1100	1020	920	
4	2500	2000	1850		
6	5300	5250			
8	10750	10100			
10	17500	16820			
12	26750	25950			

Notes:

1. All the sizes are in full port.
2. Pressure Ratings are according to ASME B16.34.

Method of Calculating Flow

The flow coefficient Cv is the flow rate of water (gallons/minute) through a fully opened valve, with a pressure drop of 1 psi across the valve. Cv is given using the formula.

Liquid Flow:

$$Q_L = C_v (P/G)^{1/2}$$

Q_L = Flow rate of liquid (gal./min.)

P = differential pressure across the valve

G = specific gravity of liquid (for water, G=1)

Gas Flow:

$$Q_g = 61 C_v (P_2/P/g)^{1/2}$$

(For non-critical flow, P/P < 1.0)

Q_g = Flow rate of gas (CFH at STP)

P₂ = outlet pressure (psia)

g = specific gravity of gas (for air, g=1.0)