

A Long Experience in Energy Equipment and one Goal:

The Customer's satisfaction.

rotor v.s.



CTE Ball Valves
Compact Top Entry



Introduction

Since 1967 Rotor CTE Ball Valves have been supplied for gas oil, chemical and petrochemical plants, power station and a wide variety of other applications. Simplicity and reliability are the two principles that have inspired the design of the Patented CTE quarter-turn valve. The result is the cheapest Top Entry valve available on the market. Production policy oriented to Quality allows to obtain a high value valve, well-accepted by the market.

The Top Entry Construction

Full in-line inspection and maintenance is possible without the use of special tools. Once pressure has been relieved from the valve, on upstream and downstream sides and also from the body cavity, removal of bolted top cover allows to easily extract the ball. In OPEN position the ball is shorter than the distance between the two parallel seats. For this reason it is easy to move it away from body (see the drawings below). Seat retainers are expanded in the body just like seats of the small forged gate valves. Re-assembling

is simple. Vertical positioning of ball is, in fact, automatic because of the trunnion ball construction. The simple valve design guarantees an economic and easy maintenance of the valve. The one-piece body construction increases the resistance to bending moments and vibrations and when welding ends are provided reliability is increased due to the reduction of sealed connections.

Design Features

Although it is our Company Policy to make all possible efforts to satisfy the Customer requirements developing Special Designs, it is interesting to recognize some important features of our standard design.

Low operating torques

Trunnion mounted construction reduces seats stress obtaining - extended seat life; - cold-flow reduction; - low operating torques.

Bi-directionality

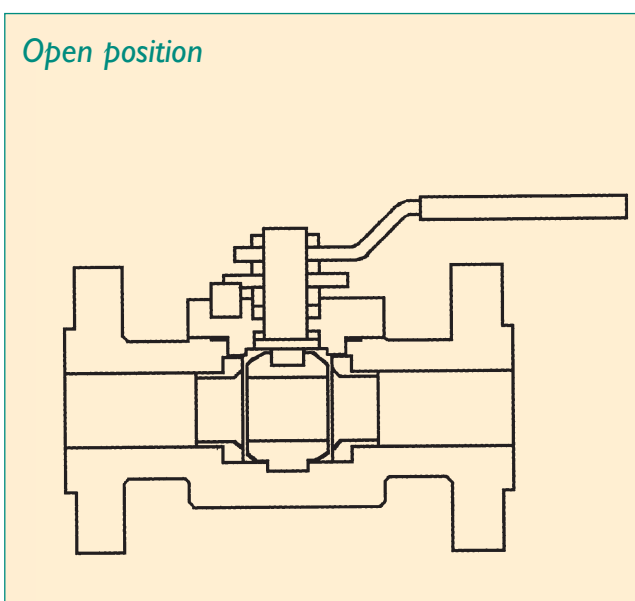
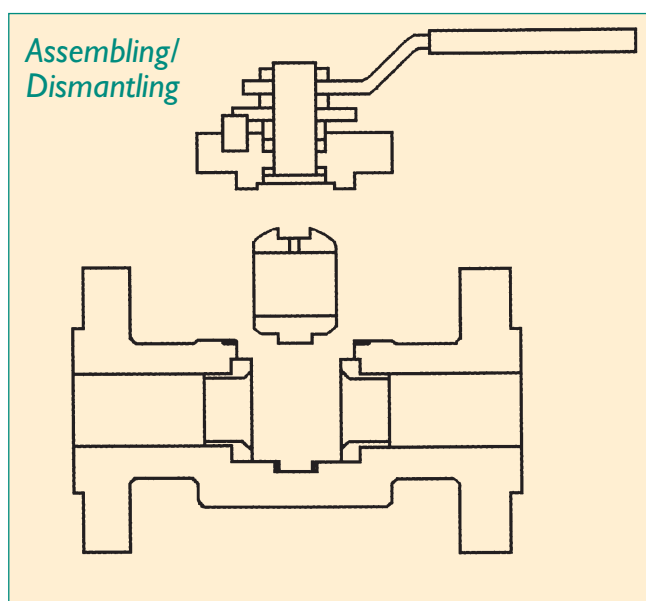
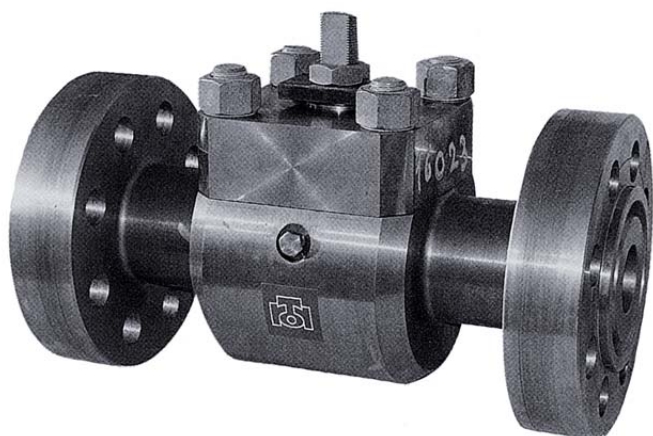
Standard valve is bi-directional for easy line assembling.

Anti blow-out stem design

Stem is positively retained into the body and cannot be removed without prior dismantling of the bolted top cover. A primary stem seal and an additional load adjustable packing are provided to increase safety against leakage to atmosphere.

Bolted cover

Bonnet is bolted to have trouble free connection and positive loaded fire-safe gasket.



Valve Design

Design is carried out according to the most important codes and it is anyway safety oriented:

- boltings and top flange dimensions are according to ASME VIII Div. I;
- stems are 100% oversized referring the break-out torque at the maximum rated pressure;
- ANSI B16.34 is the reference code for body thickness calculation.

Type Testing

CTE Valves have been tested to verify satisfaction of BS 6755 Part 2 for fire-safe requirements as like as BS 6364 for resistance on cryogenic services. Certifications for most of the valve in the production range are currently available.

Production Testing

100% of the production is hydrostatically and pneumatically tested according BS5351 and/or API 6D to verify bubble-tightness.

Production Range

CTE model is available in a wide range of alternatives:

- sizes from 1/2" to 6" Reduced Bore or 4" Full Bore;
- pressure classes from 150 Lb to 2500 Lb;
- seat materials to meet temperatures from -196°C to 250°C;
- flanged ends according to ANSI, BS or DIN codes;
- butt-weld, socket weld and screwed end connections;
- lever, manual gear or actuated operation;
- all materials of construction available in form of
 - stock-bar
 - forging

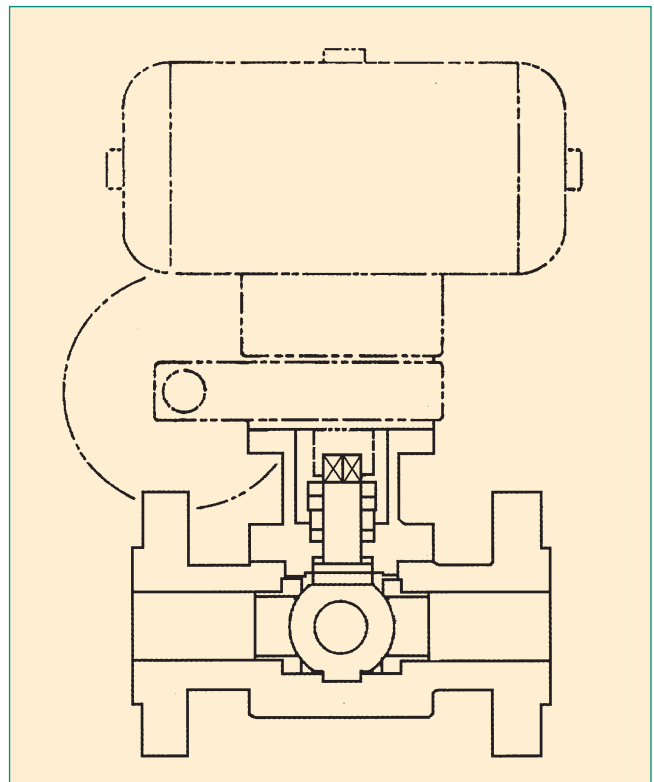
Optionals

Several optionals or accessories are currently available:

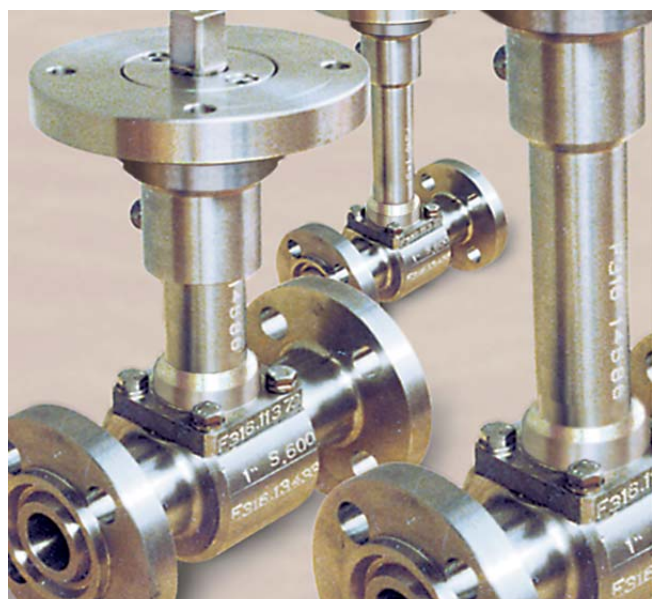
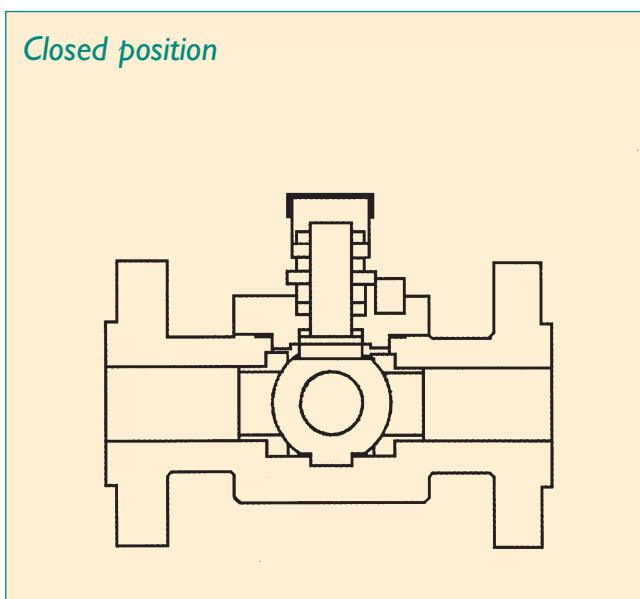
- Pipe Pups;
- Locking Devices;
- Stem extensions;
- Drain and Vent plugs;

Special Designs

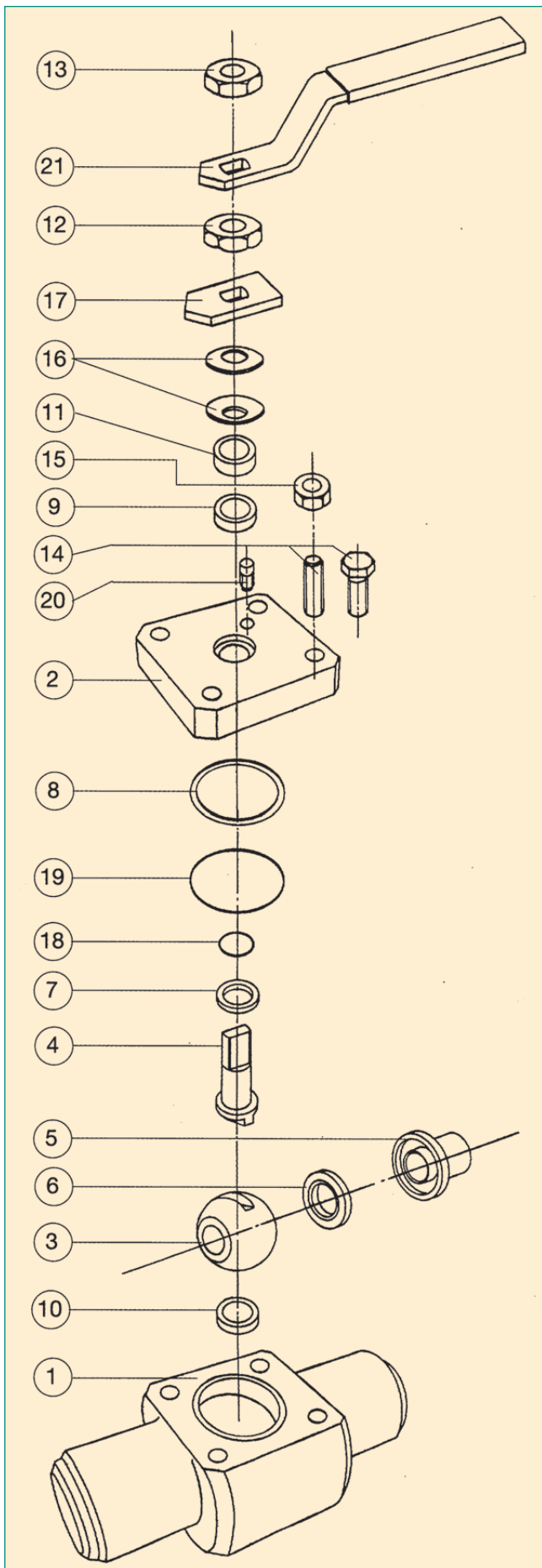
Our Company policy is to meet the Customer requirement developing, if necessary, and testing special Designs with the support of technical specialists.



Closed position



Cryogenic Service

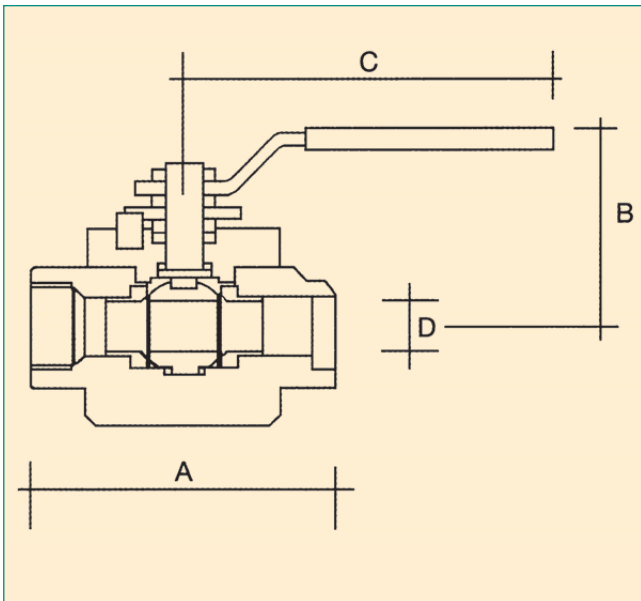


ITEM	QTY	PART NAME
1	1	BODY
2	1	BONNET
3	1	BALL
4	1	STEM
5	2	SEAT RETAINER
* 6	2	SEAT
* 7	1	STEM SEAL
* 8	1	BONNET CARKFT
* 9	1	GLAND PACKING
* 10	1	TRUNNION RETAINER
11	1	GLAND
12	1	GLAND NUT
13	1	HANDLE NUT
14	4	STUD/BOLT
15	4	STUD NUT
16	2	SPRING WASHER
17	1	STOP PLATE
* 18	1-2	STEM O-RING
* 19	1	BONNET O-RING
20	1	STOP PIN 21 1 HANDLE

* Recommended spare parts after two years service.

MARKING AND IDENTIFICATION

Each valve is identified by proper marking on name plate and on body as required by MSS-SP-25. S.S. name plate carries all information on size, class, valve body and trim material, serial number, maximum operating pressure and special service features. On body, marking includes material designation, heat no. or code, size and class.



FULL BORE

(Dimensions in mm.)

2500 Lb

A	135	160	170	230	250	250			
B	122	157	160	198	212	212			
C	190	260	360	450	450	450			
D	13	19	25	32	38	44			

1500 Lb

A	120	135	155	200	220	250	270		
B	112	148	153	166	173	211	192		
C	190	260	260	360	360	450	500		
D	13	19	25	32	38	51	63.5		

800/900 Lb

A	80	115	140	180	200	220	245	270	
B	88	110	118	155	160	186	207	184	
C	150	190	190	360	360	450	450	500	
D	13	19	25	32	38	51	63.5	76	

600 Lb

A	80	100	110	130	140	170	220	250	
B	88	110	115	148	154	167	202	210	
C	150	190	190	260	260	360	450	450	
D	13	19	25	32	38	51	63,5	76	

REDUCED BORE

2500 Lb

A	125	135	160	170	230	250	250		
B	115	122	157	160	198	212	212		
C	190	190	260	360	450	450	450		
D	10	13	19	25	32	38	44		

1500 Lb

A	115	120	135	155	200	220	250	270	
B	108	112	148	153	166	173	211	192	
C	190	190	260	260	360	360	450	500	
D	10	13	19	25	32	38	51	63.5	

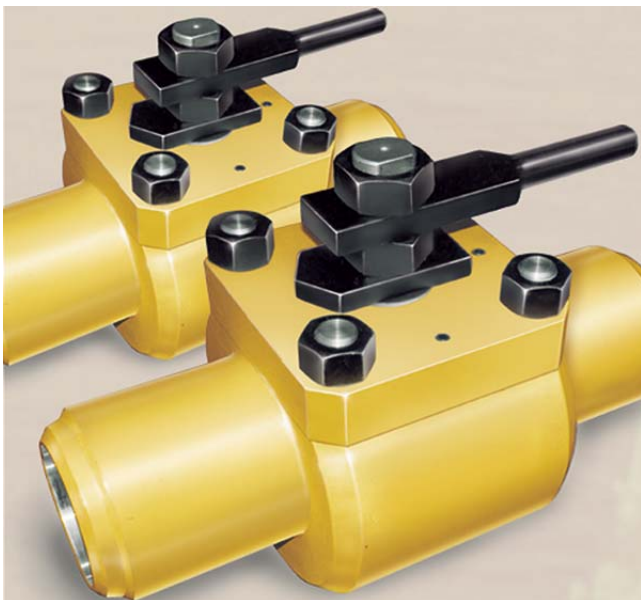
800/900 Lb

A	80	80	115	140	180	200	220	245	270
B	85	88	110	118	155	160	186	207	184
C	150	150	190	190	360	360	450	450	500
D	10	13	19	25	32	38	51	63.5	76

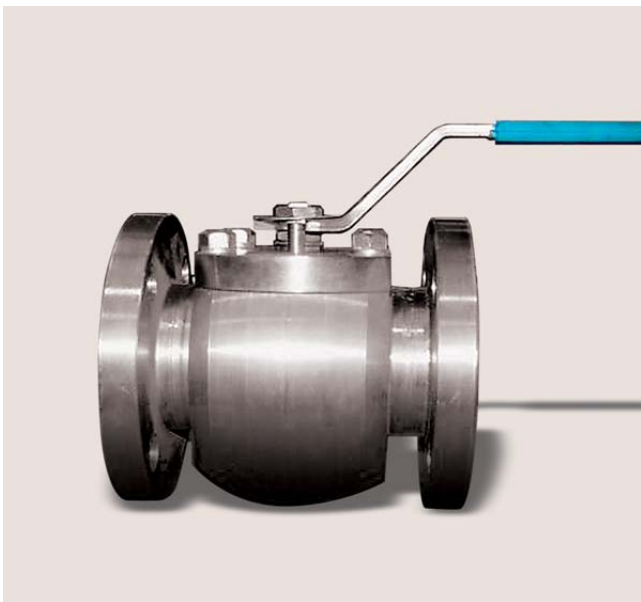
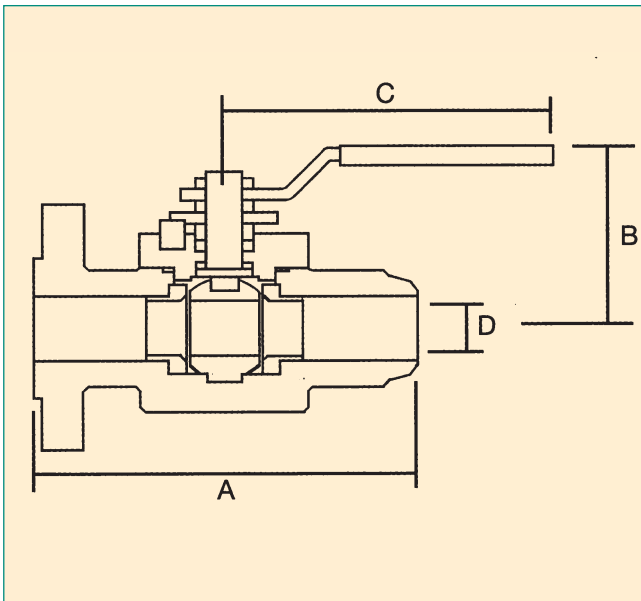
600 Lb

A	80	80	100	110	130	140	170	220	250
B	85	88	110	115	148	154	167	202	210
C	150	150	190	190	260	260	360	450	450
D	10	13	19	25	32	38	51	63,5	76

SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
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FULL BORE

(Dimensions in mm.)

ANSI CLASS 2500

A-RF	264	273	308	349	384	451			
A-RTJ	264	273	308	352	387	454			
A-BW	264	273	308	349	384	451			
B	122	157	160	198	212	212			
C	190	260	360	450	450	450			
D	13	19	25	32	38	44			

ANSI CLASS 1500

A-RF	216	229	254	279	305	368	419		
A-RTJ	216	229	254	279	305	372	422		
A-BW	216	229	254	279	305	368	419		
B	112	148	153	166	173	211	192		
C	190	260	260	360	360	450	500		
D	13	19	25	32	38	51	63.5		

ANSI CLASS 900

A-RF	216	229	254	279	305	368	419	381	
A-RTJ	216	229	254	279	305	372	422	384	
A-BW	216	229	254	279	305	368	419	381	
B	88	110	118	155	160	186	207	184	
C	150	190	190	360	360	450	450	500	
D	13	19	25	32	38	51	63.5	76	

ANSI CLASS 600

A-RF	165	191	216	229	241	292	330	356	432
A-RTJ	165	191	216	229	241	295	333	359	435
A-BW	165	191	216	229	241	292	330	356	432
B	88	110	115	148	154	167	202	210	210
C	150	90	190	260	260	360	450	450	450
D	13	19	25	32	38	51	63.5	76	102

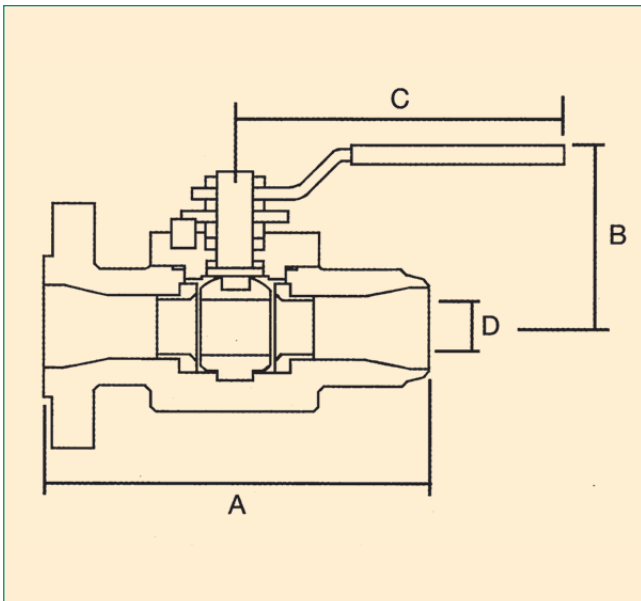
ANSI CLASS 300

A-RTF	140	152	165	178	191	216	330*	283	305
A-RTJ	151	165	178	191	203	232	333*	298	321
A-BW	140	152	165	178	191	216	241	283	305
B	88	110	115	148	154	167	202	210	185
C	150	190	190	260	260	360	450	450	500
D	13	19	25	32	38	51	63.5	76	102

ANSI CLASS 150

A-RF	108	118	127	178*	165	216*	241*	283*	305*	403
A-RTJ	178*	191*	203*	232*	257*	298	321*	419		
A-BW	140	152	165	178	191	216	241	283	305	457
B	88	110	115	148	154	167	202	210	185	225
C	150	190	190	260	60	360	450	450	500	500
D	13	19	25	32	38	51	63.5	76	102	152
SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"

*manufacturer's STD end to end dimensions



FULL BORE (Dimensions in mm.)

ANSI CLASS 2500

A-RF	264	273	308	349	384	451	508			
A-RTJ	264	273	308	352	387	454	540			
A-BW	264	273	308	349	384	451	508			
B	115	122	157	160	198	212	212			
C	190	190	260	360	450	450	450			
D	10	13	19	25	32	38	44			

ANSI CLASS 1500

A-RF	216	229	254	279	305	368	419	470		
A-RTJ	216	229	254	279	305	372	422	473		
A-BW	216	229	254	279	305	368	419	470		
B	108	112	148	153	166	173	211	192		
C	190	190	260	260	360	360	450	500		
D	10	13	19	25	32	38	51	63.5		

ANSI CLASS 900

A-RF	216	229	254	279	305	368	419	381	457	
A-RTJ	216	229	254	279	305	372	422	384	460	
A-BW	216	229	254	279	305	368	419	381	457	
B	85	88	110	118	155	160	186	207	184	
C	150	150	190	190	360	360	450	450	500	
D	10	13	19	25	32	38	51	63.5	76	

ANSI CLASS 600

A-RF	165	191	216	229	241	292	330	356	432	
A-RTJ	165	191	216	229	241	295	333	359	435	
A-BW	165	191	216	229	241	292	330	356	432	
B	85	88	110	115	148	154	167	202	210	
C	150	150	190	190	260	260	360	450	450	
D	10	13	19	25	32	38	51	63.5	76	

ANSI CLASS 300

A-RF	140	152	165	178	191	216	241	283	305	403
A-RTJ	151	165	178	190	203	232	257	298	321	419
A-BW	140	152	165	178	191	216	241	283	305	457
B	85	88	110	115	148	154	167	202	210	185
C	150	150	190	190	260	260	360	450	450	500
D	10	13	19	25	32	38	51	63.5	76	102

ANSI CLASS 150

A-RF	108	118	127	140	165	178	241*	283*	305*	403*
A-RTJ			140	152	178	191	257*	298*	321*	419*
A-BW	140	152	165	178	191	216	241	283	305	457
B	85	88	110	115	148	154	167	202	210	185
C	150	150	190	190	260	260	360	450	450	500
D	10	13	19	25	32	38	51	63.5	76	102
SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"

*manufacturer's STD end to end dimensions



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