



Trunnion Mounted Ball Valves

Company Overview & Engineering Specifications

We Make Our Valves™





PREMIER QUALITY. PREMIER PERFORMANCE.

Our Legacy and Our Future

With over 40 years of quality manufacturing serving as our legacy, YVI Valve (YVI) presses forward into the future by providing unwavering commitment to developing and delivering superior quality cast industrial valves to the approved End User markets around the globe. Headquartered in Houston, TX, YVI is a family-owned and managed company with unrivaled passion for quality manufacturing and high performance. Dedicated to providing solutions that bring our customers a competitive advantage in an ever-evolving global marketplace, YVI is confident in their goal of being recognition as a preferred global manufacturer.

Every Valve. Our Foundry, Our Factory

YVI maintains a dedicated workforce focused on utilizing our integrated foundry and factory manufacturing processes to achieve highly reliable, and predictable quality products. Our facilities consist of two professional casting foundries, multiple machining, assembly, and testing operations totaling approximately 1.9Mft². Placing top priority on quality ensures every YVI valve meet the strictest requirements for manufacturing as examined through our rigorous testing processes where all types of non-destructive testing, including mag-particle and radiography, are utilized every day to verify our products.

On-Time, Every Time

YVI considers performance to delivery assurance expectations a cornerstone to its reputation. By controlling all aspects of the manufacturing process, from raw materials receipt to finished product, YVI maintains notable competence in providing world-class lead times. No matter whether the opportunity is large or small, YVI will always meet its customers' expectations.

Driven by an uncompromising commitment to excellence and a vision to become the world's next premier valve manufacturer, YVI was born.

Quality Guaranteed

YVI manufactures and rigorously tests every valve to achieve 100% compliance with the latest regulatory standards. YVI valves meet or exceed applicable requirements including API 6D, API 608, API 598, API 641, ISO 15848-1, CE/PED, UKCA, and National CRN certifications.

With best-in-class reliability and craftsmanship, YVI sets a new benchmark for performance. Our mission is simple: not just to meet customer expectations—but to exceed them, every time.

Certified Performance.

YVI places the greatest emphasis on the achievement and retention of certification from many leading global agencies governing the manufacturing of cast industrial valves. These certificates are part of the bedrock and promise of YVI Valve to remain in full compliance with the latest editions of global industry standards. This commitment begins with the Li family ownership and is carried out by its valued employees, every day.

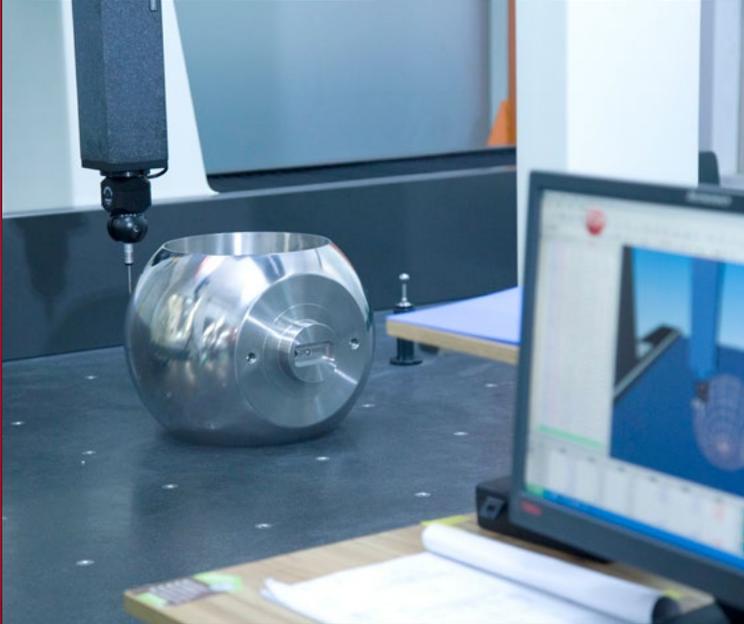
- | | | |
|----------------------------|----------------|---------------------------|
| 1. ISO 9001:2015 | 5. UKCA | 9. ISO 15848-1, -2 |
| 2. ISO 14001:2015 | 6. BV | 10. API 6D |
| 3. OSHAS 18001:2007 | 7. ABS | 11. API 608 |
| 4. CE / PED | 8. CRN | 12. API 607 |

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In-House Competency: Our Factories

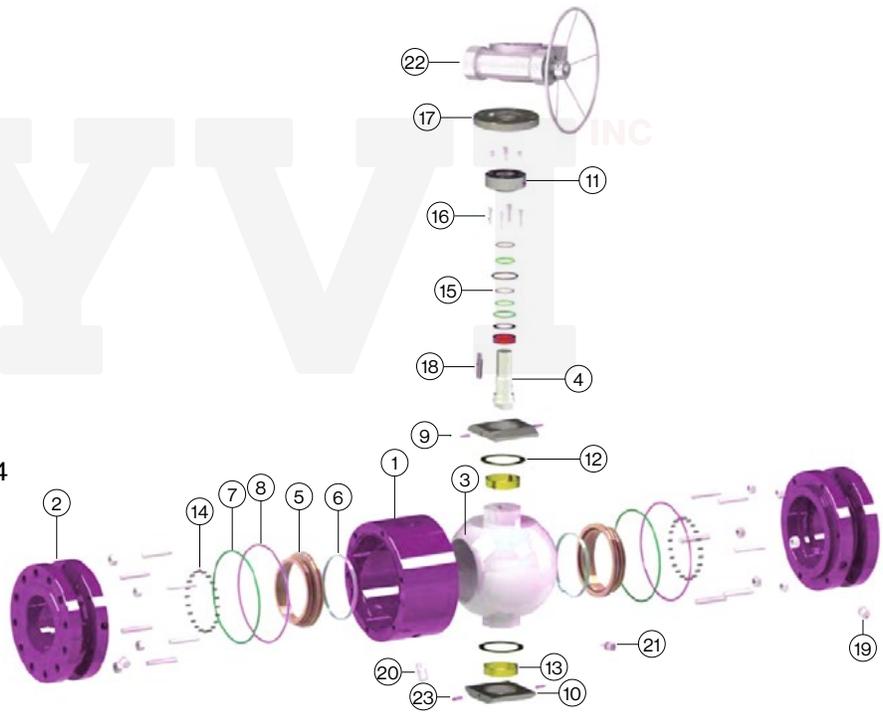
At each step of the manufacturing process spanning 1.3M ft² of advanced machining, assembly, and testing operations, YVI demands a high level of precise craftsmanship discoverable in every part, details and finish. Drawing on the talents of its craftspeople with tireless attention to quality and workmanship, our factory turns out a full range of highly predictable and reliable products ready for the toughest and most difficult requirements. We are proud to proclaim; **We Make Our Valves.**



Forged Steel Trunnion Ball Valve

Design Features

- Blow-out Proof Stem
- Fire Safe Tested per API 607
- Anti-Static Design
- ISO5211 Mount Pad
- Double Block and Bleed
- Cavity Pressure Relief
- Low Emission Certified to API 641
- Low Torque Performance
- Secure Line Flow Locking Device
- Design & Test per API 6D, ASME B16.34



Material Options

No.	Part	Standard	Stainless Steel	Low Temperature
1	Body	ASTM A105N	ASTM A182 F316	ASTM A350 LF2
2	End Connect	ASTM A105N	ASTM A182 F316	ASTM A350 LF2
3	Ball	ASTM A105N+ENP	ASTM A182 F316	ASTM A350 LF2+ENP
4	Stem	AISI 4140+ENP	ASTM A182 F316	AISI 4140+ENP
5	Seat Ring	ASTM A105N+ENP	ASTM A182 F316	ASTM A350 LF2+ENP
6	Sealing Ring (Seat)	RPTFE	RPTFE	RPTFE
7	O-Ring	HNBR	VITON A	VITON GLT
8	Gasket	SS+Graphite	SS+Graphite	SS+Graphite
9	Anti-Static	SS316 (Assembly)	SS316 (Assembly)	SS316 (Assembly)
10	Trunnion Support	ASTM A105N+ENP	ASTM A182 F316	ASTM A350 LF2+ENP
11	Gland Cap	ASTM A105N	ASTM A182 F316	ASTM A350 LF2
12	Plane Bearing	SS+PTFE	SS+PTFE	SS+PTFE
13	Radial Bearing	SS+PTFE	SS+PTFE	SS+PTFE
14	Spring	Inconel X-750	Inconel X-750	Inconel X-750
15	Adjust Ring	PTFE	PTFE	PTFE
16	Screw	ASTM A193 B7	ASTM A193 B8M	ASTM A320 L7
17	Top Flange	ASTM A105N	ASTM A182 F316	ASTM A350 LF2
18	Key	Carbon Steel	Stainless Steel	Stainless Steel
19	Injection Valve	SS316 (Assembly)	SS316 (Assembly)	SS316 (Assembly)
20	Drain Valve	SS316 (Assembly)	SS316 (Assembly)	SS316 (Assembly)
21	Vent Valve	SS316 (Assembly)	SS316 (Assembly)	SS316 (Assembly)
22	Worm Gear	Nodular Iron (Assembly)	Nodular Iron (Assembly)	Nodular Iron (Assembly)
23	Pin	ASTM A276 410	ASTM A182 F316	ASTM A182 F316

Full material list can be provided upon request. Design/parts may vary based on size & class. Other materials are available. Please inquire with sales.

Body Styles

- 3-piece split body, side-entry
- 2-piece split body, side-entry (2"–4" full port, Class 150/300 only)

Size Ranges

- 2" to 24"

Pressure Ratings

- Class 150 to Class 2500

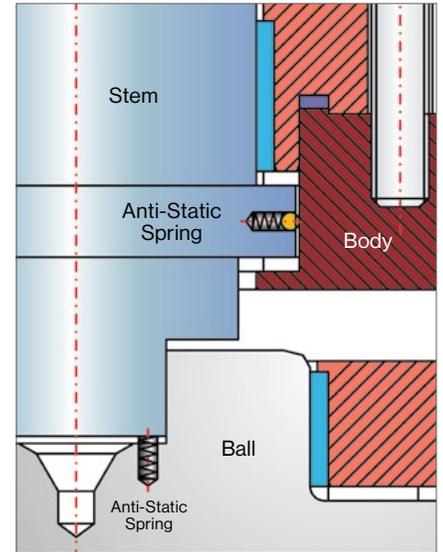
Design Features

Blow-Out Proof Stem Design

The stem is designed separated from the ball and designed as a T-slot shape at the bottom side. The gland flange will prevent the stem blow-out in case of any abnormal cavity pressure increase.

Anti-Static Device

The electrical conductance continuity connects the ball, stem, and body, avoiding any fire or explosion caused by static that might be produced and accumulated by friction between the ball and seat ring during valve opening or closing.



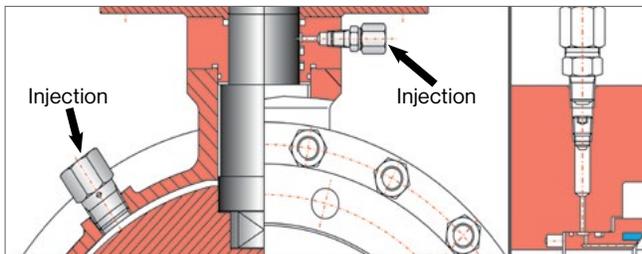
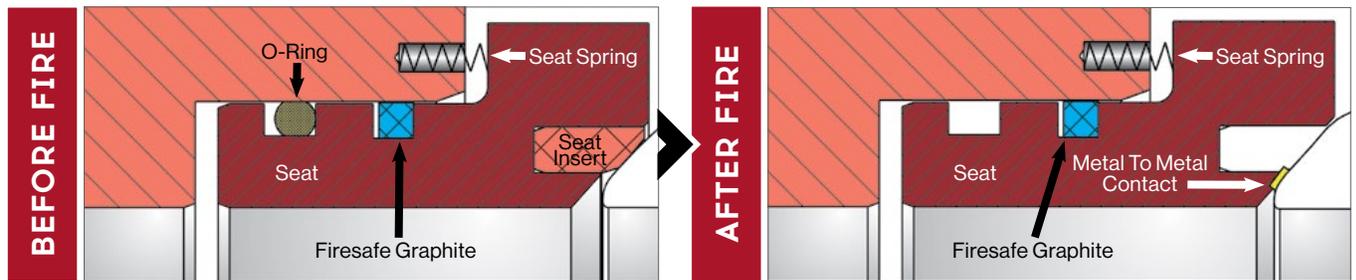
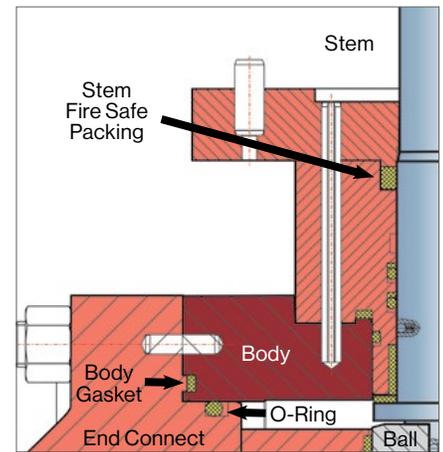
Fire Safe Design

External leakage prevention

In normal conditions, leakage through the valve stem area is prevented by two O-ring seals and a firesafe stem packing. Leakage through the valve body and end connect is prevented by an O-ring seal and a body gasket. In the event of a fire, O-rings will be melted or decomposed under higher temperatures. In this case, the fire-safe body gasket and stem packing will prevent external leakage.

Internal leakage prevention

In the event of a fire, all non-metal materials, like O-rings, soft seats, and back rings, will be melted or decomposed under high temperatures. In the fire, the edge of the metal seat energized by the seat spring will contact the ball to block the pipeline medium and minimize internal leakage. Additionally, the fire-safe graphite packing is compressed into the seat ring groove to prevent process media leakage through the gap between the valve body and seat. | **Fire safe certificate:** API 607 and API 6FA



Emergency Sealant Injection System

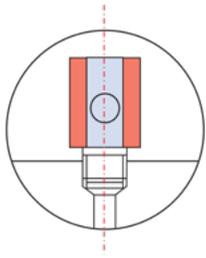
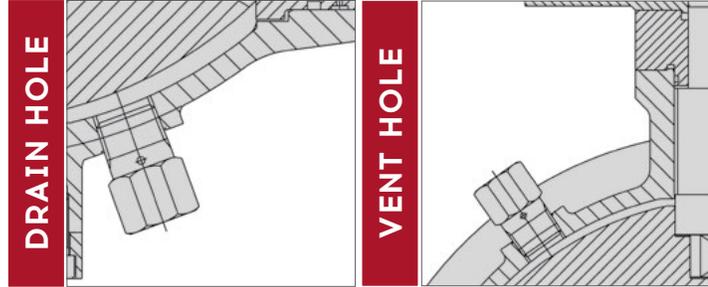
For 6-inch and larger trunnion-mounted ball valves, an emergency sealant injection device is equipped on both the stem and seat ring area. When the seat ring and stem soft seals are damaged or decomposed in an accident, leakage can be prevented by injecting sealant into the valve through the injection valve. The injection valve is internally equipped with a check valve to stop the medium or sealant from leaking out.

Seat Design Features

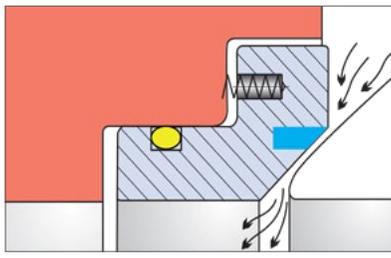
Double Block & Bleed (DBB)

The YDF trunnion-mounted ball valve seat ring can cut the medium service from the upstream to achieve a double block function.

When the ball is in a fully open or closed position, even if the valve is under medium pressure from both sides, the body cavity pressure is blocked. The remaining medium in the cavity can bleed out through the drain hole or vent hole.



Cavity Relief Valve for DIB-1 Valves



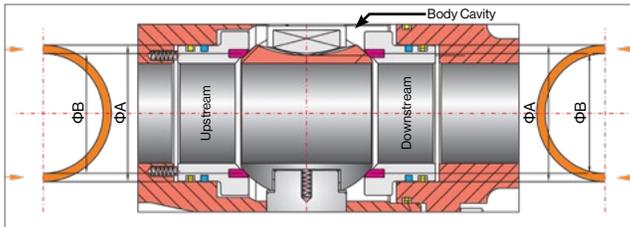
Single Piston Effect Seats Pressure Relief for DBB and DIB-2 Valves

Cavity Pressure Relief

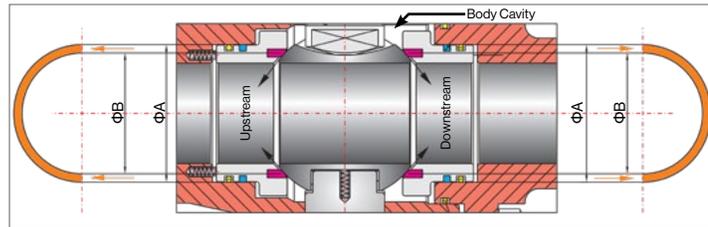
When the pressure in the cavity increases abnormally, the single piston effect seat can release the overloaded pressure automatically. For double piston effect seat-designed ball valves, the overloaded pressure will be released through the automatic pressure relief device installed on the valve body.

Self-Relieving Seats (Single Piston Effect)

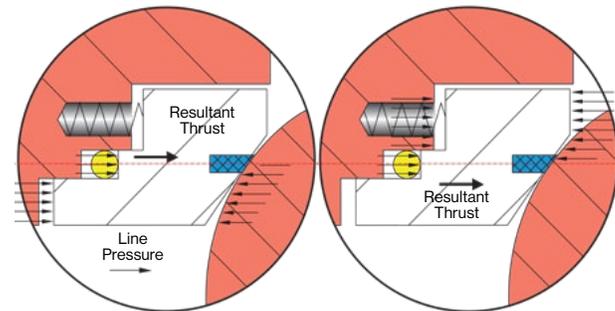
The pressure from the upstream and downstream will push the seats towards the ball when in function. Under fully open or closed positions, when the internal force created by the body cavity pressure is greater than the energized spring force, combined with the pressure from the upstream or downstream side, the seats are pushed away from the ball. This releases the overloaded pressure in the body cavity automatically.



When the medium in the upstream or downstream of the valve has a pressure differential, with $\Phi A > \Phi B$, the medium pushes the seats toward the ball to achieve a reliable seal.



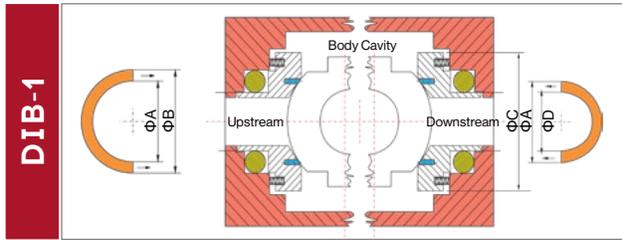
When the pressure in the cavity is too high, because $\Phi A > \Phi B$, the pressure differential causes the cavity medium to push the seats away from the ball, automatically relieving the overload pressure in the cavity.



Double Piston Effect

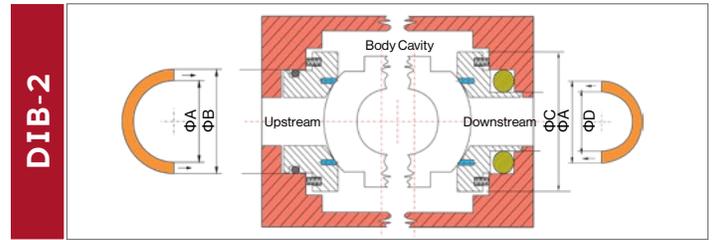
The double piston effect seat, also known as a bi-directional sealing seat, can independently withstand rated pressure from both upstream and downstream of the ball valve, maintaining both seats at a sealed status to ensure continuous no-leakage. The ball valve with a double piston effect seat has bi-directional sealing capabilities.

Seat Design Features



Double Piston Effect Seats (DIB-1)

The DIB-1 valve design has both seats as double piston effect seats (DPE seats). Each seat can independently withstand line pressure from upstream or downstream. The DIB-1 Ball Valve does not have an automatic pressure relief function, so an automatic pressure relief device is required on the body. When cavity pressure exceeds 1.25 to 1.33 times the valve MAWP, the overloaded pressure is released through the relief device for safe operation.

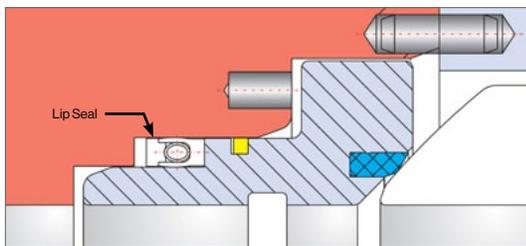


One Self-Relieving Seat & One Double Piston Effect Seat (DIB-2)

The DIB-2 valve design has one Single Piston Effect (SPE) seat (upstream) and one Double Piston Effect (DPE) seat (downstream). The self-relieving SPE seat withstands line pressure from upstream only, providing a sealing function. The DPE seat withstands line pressure from both directions. When cavity pressure increases abnormally, the DPE seat is pushed toward the ball by the line pressure, while the SPE seat is pushed away from the ball to activate the pressure relief function. There is no requirement for external ported relief to be install on DIB-2 valves

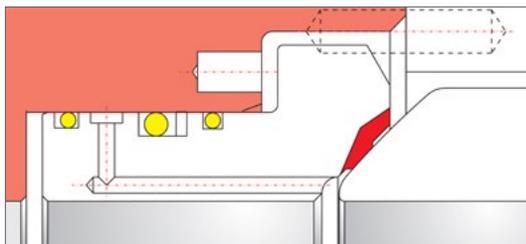
Optional Design Features

Special Structure Design



Lip Seal Design

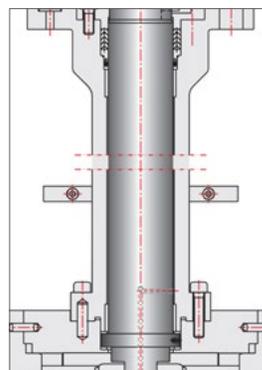
The Lip Seal Design uses a specialized lip-shaped seal that increases sealing effectiveness under variable pressures. This design minimizes leakage and maintains a consistent seal, even in fluctuating operating conditions.



Metal Seat

Ball/Seat Surface with Tungsten Carbide Coating or Ni Alloy Overlay

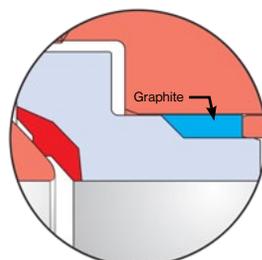
The Metal Seat design features a durable surface coating, such as Tungsten Carbide or Nickel Alloy, which enhances wear resistance. This option is ideal for handling abrasive media and extends the valve's operational life.



Bonnet Extension

Extended Bonnet for Cryogenic Valve

The Bonnet Extension is specifically designed for cryogenic valves, allowing safe and efficient operation at extremely low temperatures. The extended bonnet prevents direct exposure of the stem to cryogenic media, maintaining operational integrity.

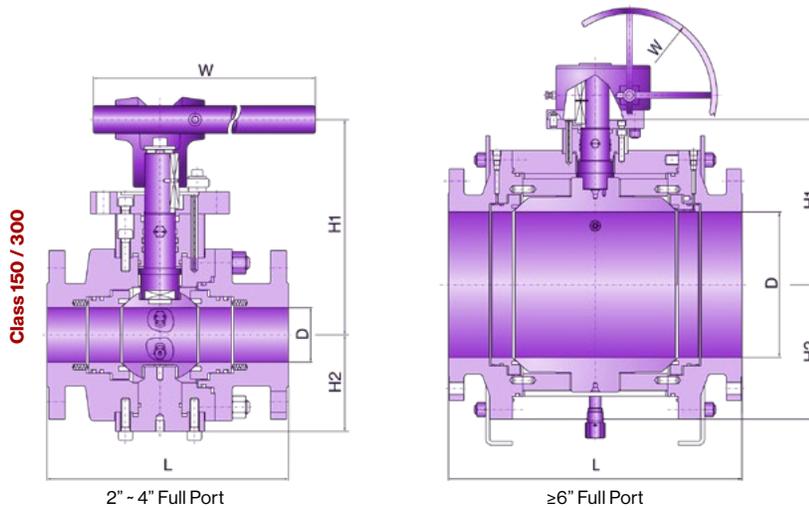


Graphite Sealing

Graphite sealing provides high-temperature resistance and excellent sealing properties, especially suitable for applications where traditional seals may degrade under extreme heat.

Dimensional Data

Class 150 | 300 | Full Port



*Gear Operator

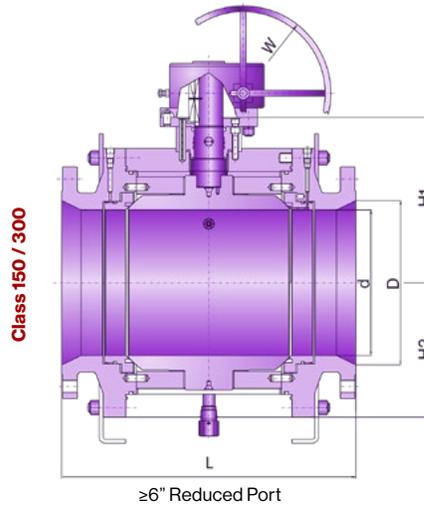
CLASS 150		NPS	in	2	3	4	6	8	10	12	14	16	18	20	22	24
		D	in	1.97	2.95	3.94	5.94	7.95	9.92	11.92	13.15	15.16	17.16	19.17	21.18	32.19
	mm	50	75	100	151	202	252	303	334	385	436	487	538	589		
L	in	7.01	7.99	9.02	15.51	17.99	20.98	24.02	27.01	30.00	34.02	35.98	39.02	42.01		
	mm	178	203	229	394	457	533	610	686	762	864	914	991	1,067		
H1	in	6.42	7.45	9.05	8.33	10.55	12.32	13.94	19.92	24.49	26.22	28.74	32.80	35.24		
	mm	163	189	230	212	268	313	354	506	622	666	730	833	895		
H2	in	3.14	3.98	4.95	6.02	7.68	9.21	11.02	11.54	13.43	16.22	17.13	18.90	20.39		
	mm	80	101	126	153	195	234	280	293	341	412	435	480	518		
W	in	11.65	15.16	23.89	13.77	19.69	23.62	19.69	23.62	23.62	23.62	23.62	23.62	23.62	23.62	31.50
	mm	296	381	607	*350	*500	*600	*500	*600	*600	*600	*600	*600	*600	*600	*800
WEIGHT	lb	46.3	73.9	125.9	361.6	628.3	914.9	1,466.1	1,810.0	2,466.9	3,234.1	3,985.9	5,141.1	7,162.7		
	kg	21.0	33.5	57.1	164.0	285.0	415.0	665.0	821.0	1,119.0	1,467.0	1,808.0	2,332.0	3,249.0		

CLASS 300		NPS	in	2	3	4	6	8	10	12	14	16	18	20	22	24
		D	in	1.97	2.95	3.94	5.94	7.95	9.92	11.92	13.15	15.16	17.16	19.17	21.18	32.19
	mm	50	75	100	151	202	252	303	334	385	436	487	538	589		
L	in	8.50	11.10	12.01	15.87	19.76	22.36	25.51	30.00	32.99	35.98	39.02	42.99	45.00		
	mm	216	282	305	403	502	568	648	762	838	914	991	1,092	1,143		
H1	in	6.42	7.45	9.05	8.33	10.55	12.32	13.94	20.43	25.12	26.89	29.45	33.62	36.10		
	mm	163	189	230	212	268	313	354	519	638	683	748	854	917		
H2	in	3.14	3.98	4.95	6.14	7.83	9.49	11.33	11.81	13.78	15.83	17.56	19.37	20.91		
	mm	80	101	126	156	199	241	288	300	350	402	446	492	531		
W	in	11.65	15.16	23.89	15.75	23.62	23.62	19.69	23.62	23.62	23.62	23.62	23.62	23.62	23.62	31.50
	mm	296	381	607	*400	*600	*600	*500	*600	*600	*600	*600	*600	*600	*600	*800
WEIGHT	lb	55.0	108.0	159.0	383.6	717.0	1,131.0	1,629.0	2,097.0	2,824.0	3,865.0	4,725.0	5,937.0	7,370.0		
	kg	25.0	49.0	72.0	174.0	325.0	513.0	739.0	951.0	1,281.0	1,753.0	2,143.0	2,693.0	3,343.0		

All technical data is subject to change without notice.

Dimensional Data

Class 150 | 300 | Reduced Port



*Gear Operator

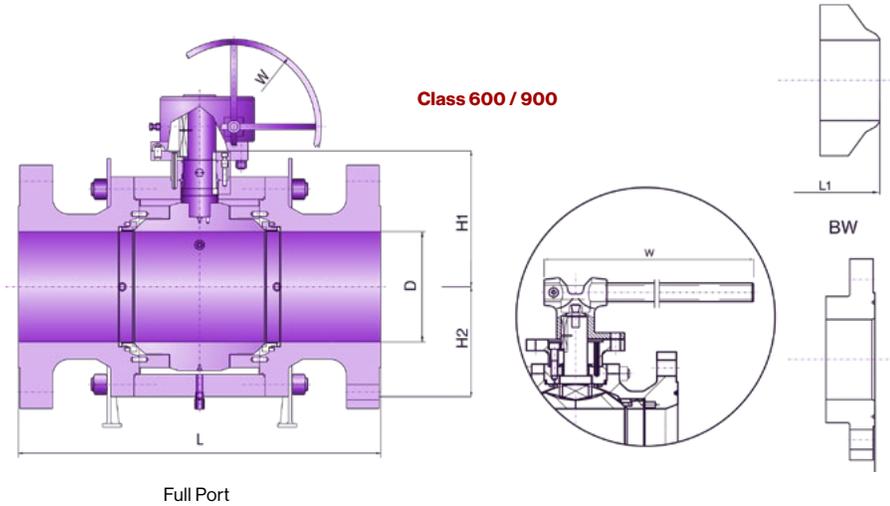
CLASS 150	NPS	in	3*2	4*3	6*4	8*6	10*8	12*10	14*12	16*14	18*16	20*18	22*18	24*20	
	d	in	2.00	2.95	4.00	5.94	7.95	10.00	11.92	13.15	15.16	17.16	17.16	17.16	19.17
		mm	50	75	100	151	202	252	303	334	385	436	436	436	487
	D	in	2.95	4.00	5.94	7.95	10.00	11.92	13.15	15.16	17.16	19.17	21.18	21.18	32.19
		mm	75	100	151	202	252	303	334	385	436	487	538	538	589
	L	in	7.99	9.02	15.51	17.99	21.02	24.02	27.01	30.00	34.02	35.98	39.02	39.02	42.01
		mm	203	229	394	457	534	610	686	762	864	914	991	991	1,067
	H1	in	7.87	11.81	12.40	13.19	15.94	16.81	18.31	19.92	24.49	26.22	26.22	26.22	28.74
		mm	200	300	315	335	405	427	465	506	622	666	666	666	730
	H2	in	4.33	4.96	6.50	6.50	7.87	8.66	10.31	11.54	13.43	16.22	16.22	16.22	17.13
mm		110	126	165	165	200	220	262	293	341	412	412	412	435	
W	in	1,043.00	1,122.00	11.22	1.81	11.81	1.81	19.69	23.62	23.62	23.62	23.62	23.62	23.62	
	mm	265	285	285	*300	*300	*300	*500	*600	*600	*600	*600	*600	*600	
WEIGHT	lb	58.0	99.0	176.0	390.0	653.0	972.0	1,413.0	1,914.0	2,416.0	3,086.0	3,366.0	3,366.0	3,783.0	
	kg	27.0	45.0	80.0	177.0	296.0	441.0	641.0	868.0	1,096.0	1,400.0	1,527.0	1,527.0	1,716.0	

CLASS 300	NPS	in	3*2	4*3	6*4	8*6	10*8	12*10	14*12	16*14	18*16	20*18	22*18	24*20	
	d	in	2.01	3.00	4.00	5.94	7.95	10.00	11.92	13.15	15.16	17.16	17.16	17.16	19.17
		mm	50	75	100	151	202	252	303	334	385	436	436	436	487
	D	in	3.00	4.00	5.94	7.95	10.00	11.92	13.15	15.16	17.16	19.17	21.18	21.18	32.19
		mm	75	100	151	202	252	303	334	385	436	487	538	538	589
	L	in	11.10	12.01	15.87	19.76	22.36	25.51	30.00	32.99	35.98	39.02	39.02	42.99	45.00
		mm	282	305	403	502	568	648	762	838	914	991	991	1,092	1,143
	H1	in	8.11	124.00	12.99	13.58	16.34	16.81	18.31	20.43	25.12	26.89	26.89	26.89	29.45
		mm	206	315	330	345	415	427	465	519	638	683	683	683	748
	H2	in	4.45	5.08	6.65	5.83	7.28	8.90	10.59	11.81	13.78	15.83	15.83	15.83	17.56
mm		113	129	169	148	185	226	269	300	350	402	402	402	446	
W	in	10.43	15.75	29.53	11.81	11.81	15.75	19.69	23.62	23.62	23.62	23.62	23.62	23.62	
	mm	265	400	750	*300	*300	*400	*500	*600	*600	*600	*600	*600	*600	
WEIGHT	lb	75.0	119.0	247.0	470.0	822.0	1,239.0	2,028.0	2,315.0	3,373.0	4,034.0	4,431.0	4,431.0	6,160.0	
	kg	34.0	54.0	112.0	213.0	373.0	562.0	920.0	1,050.0	1,530.0	1,830.0	2,010.0	2,010.0	2,794.0	

All technical data is subject to change without notice.

Dimensional Data

Class 600 | 900 | Full Port



*Gear Operator

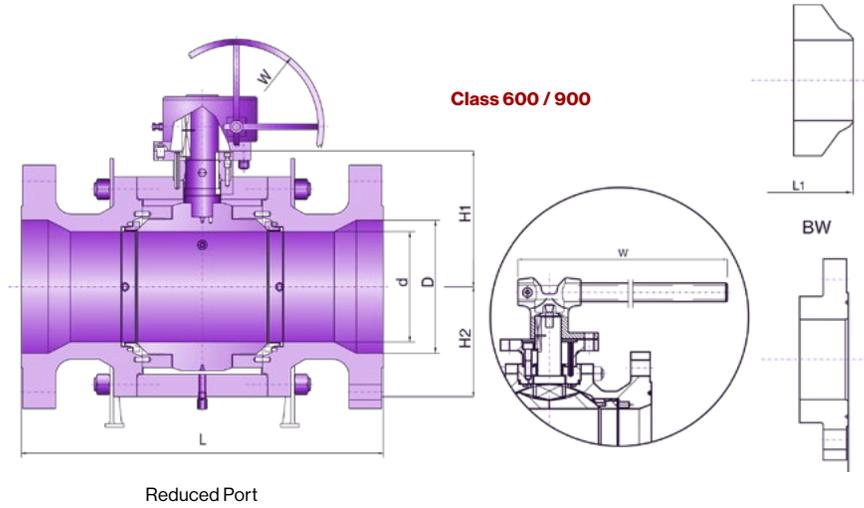
CLASS 600		NPS	in	2	3	4	6	8	10	12	14	16	18	20	22	24	
		D	in	1.97	2.95	3.94	5.94	7.95	9.92	11.92	13.15	15.16	17.16	19.17	21.18	32.19	
	mm	50	75	100	151	202	252	303	334	385	436	487	538	589			
L	in	11.50	14.01	17.01	22.01	25.98	30.98	32.99	35.00	39.02	42.99	47.01	50.98	55.00			
	mm	292	356	432	559	660	787	838	889	991	1,092	1,194	1,295	1,397			
H1	in	5.00	5.90	7.26	9.51	11.54	13.23	15.03	20.43	25.12	26.89	29.45	33.62	36.10			
	mm	127	150	185	242	293	336	382	519	638	683	748	854	917			
H2	in	3.42	4.29	5.24	6.69	8.54	10.11	12.04	11.81	13.78	15.83	17.56	19.37	20.91			
	mm	87	109	133	170	217	257	306	300	350	402	446	492	531			
W	in	7.87	11.81	13.78	19.69	19.69	23.62	23.62	23.62	23.62	23.62	23.62	23.62	31.50	31.50		
	mm	*200	*300	*350	*500	*500	*600	*600	*600	*600	*600	*600	*600	*800	*800		
WEIGHT	lb	61.7	158.7	240.0	604.1	1,100.1	1,730.6	2,634.5	2,687.0	3,759.0	5,216.0	6,501.0	7,463.0	9,314.0			
	kg	28.0	72.0	109.0	274.0	499.0	785.0	1,195.0	1,219.0	1,705.0	2,366.0	2,949.0	3,388.0	4,225.0			

CLASS 900		NPS	in	2	3	4	6	8	10	12	14	16	18	20	22	24	
		D	in	1.92	2.91	3.93	5.91	7.91	9.92	11.92	12.67	14.69	16.65	18.54	20.55	22.44	
	mm	49	74	100	150	201	252	303	322	373	423	471	522	570			
L	in	14.49	15.00	17.99	24.02	29.02	32.99	37.99	40.51	44.49	47.99	52.01	55.98	60.98			
	mm	368	381	457	610	737	838	965	1,029	1,130	1,219	1,321	1,422	1,549			
H1	in	4.69	5.24	6.93	6.02	7.60	9.25	11.02	12.28	14.37	16.30	18.07	19.96	21.54			
	mm	119	133	176	153	193	235	280	312	365	414	459	507	547			
H2	in	4.69	5.24	6.93	6.02	7.60	9.69	11.02	12.28	14.37	16.30	18.07	19.96	21.54			
	mm	119	133	176	153	193	235	280	312	365	414	459	507	547			
W	in	25.95	39.37	59.06	11.81	15.75	19.69	23.62	23.62	23.62	23.62	23.62	23.62	31.50	31.50		
	mm	460	1,000	1,500	*300	*400	*500	*600	*600	*600	*600	*600	*600	*800	*800		
WEIGHT	lb	132.0	190.0	326.0	926.0	1,259.0	1,960.0	2,698.0	3,697.0	4,614.0	6,493.0	8,283.0	10,068.0	14,555.0			
	kg	60.0	86.0	148.0	420.0	571.0	889.0	1,224.0	1,677.0	2,093.0	2,945.0	3,757.0	4,567.0	6,602.0			

All technical data is subject to change without notice.

Dimensional Data

Class 600 | 900 | Reduced Port



*Gear Operator

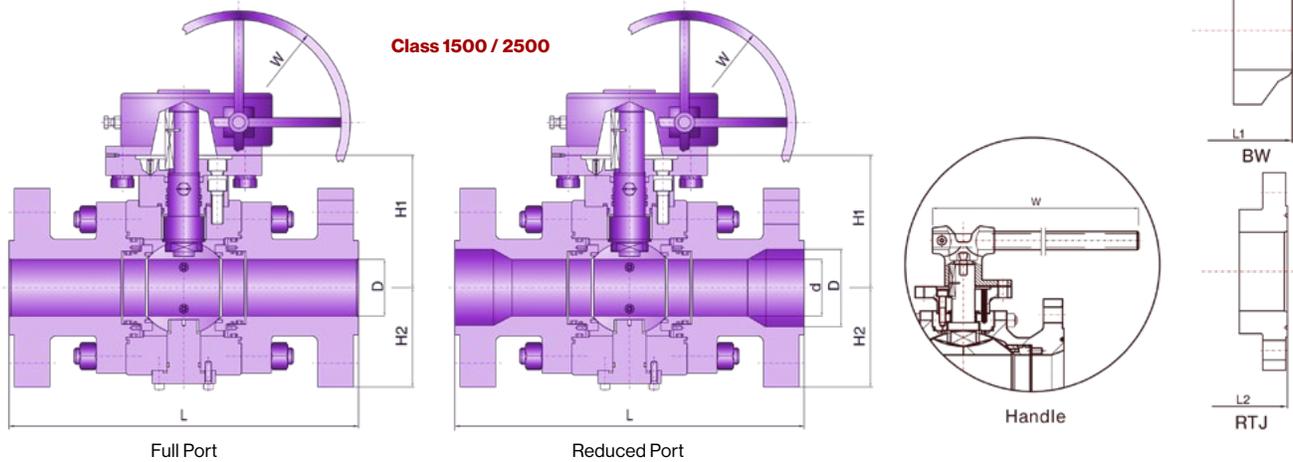
CLASS 600	NPS	in	3*2	4*3	6*4	8*6	10*8	12*10	14*12	16*14	18*16	20*18	22*18	24*20
	d	in	2.00	2.95	3.94	5.94	7.95	10.00	11.92	13.15	15.16	17.16	17.16	19.17
		mm	50	75	100	151	202	252	303	334	385	436	436	487
	D	in	2.95	3.94	5.94	7.95	10.00	11.92	13.15	15.16	17.16	19.17	21.18	32.19
		mm	75	100	151	202	252	303	334	385	436	487	538	589
	L	in	14.20	17.01	22.01	25.98	30.98	32.99	35.00	39.02	42.99	47.01	50.98	55.00
		mm	356	432	559	660	787	838	889	991	1,092	1,194	1,295	1,397
	H1	in	8.11	12.40	12.99	13.58	16.34	16.81	18.31	20.43	25.12	26.89	26.89	29.45
		mm	206	315	330	345	415	427	465	519	638	683	683	748
	H2	in	4.45	5.08	6.65	5.83	7.28	8.90	10.59	11.81	13.78	15.83	15.83	17.56
		mm	113	129	169	148	185	226	269	300	350	402	402	446
	W	in	15.75	29.53	39.37	11.81	11.81	19.69	23.62	23.62	23.62	23.62	23.62	23.62
		mm	400	750	1,000	*300	*300	*500	*600	*600	*600	*600	*600	*600
	WEIGHT	lb	93.0	176.0	344.0	655.0	1,124.0	1,654.0	2,403.0	2,707.0	4,136.0	5,501.0	5,564.0	7,152.0
kg		42.0	80.0	156.0	297.0	510.0	750.0	1,090.0	1,228.0	1,876.0	2,495.0	2,524.0	3,244.0	

CLASS 900	NPS	in	3*2	4*3	6*4	8*6	10*8	12*10	14*12	16*14	18*16	20*18	22*18	24*20
	d	in	1.92	2.91	3.93	5.91	7.91	9.92	11.92	12.67	14.69	16.65	16.65	18.54
		mm	49	74	100	150	201	252	303	322	373	423	423	471
	D	in	2.91	3.93	5.91	7.91	9.92	11.92	12.67	14.69	16.65	18.54	20.55	22.44
		mm	74	100	150	201	252	303	322	373	423	471	522	570
	L	in	15.00	17.99	24.02	29.02	32.99	37.99	40.51	44.49	47.99	52.01	55.98	60.98
		mm	381	457	610	737	838	965	1,029	1,130	1,219	1,321	1,422	1,549
	H1	in	4.69	5.24	6.93	6.02	7.60	9.25	11.02	12.28	14.37	16.30	16.30	18.07
		mm	119	133	176	153	193	235	280	312	365	414	414	459
	H2	in	4.69	5.24	6.93	6.02	7.60	9.25	11.02	12.28	14.37	16.30	16.30	18.07
		mm	119	133	176	153	193	235	280	312	365	414	414	459
	W	in	18.11	39.37	59.08	11.81	15.75	19.69	23.62	23.62	23.62	23.62	23.62	23.62
		mm	460	1,000	1,500	*300	*400	*500	*600	*600	*600	*600	*600	*600
	WEIGHT	lb	148.0	232.0	450.0	829.0	1,261.0	2,017.0	2,657.0	3,362.0	4,555.0	6,138.0	7,249.0	8,574.0
kg		67.0	105.0	204.0	376.0	572.0	915.0	1,205.0	1,525.0	2,066.0	2,784.0	3,288.0	3,889.0	

All technical data is subject to change without notice.

Dimensional Data

Class 1500 | 2500



*Gear Operator

CLASS 1500

NPS	in	2	3	4	6	8	10	12	14	16	18	20	22	24
D	in	1.92	2.91	3.93	5.67	7.55	9.41	11.30	12.40	14.17	15.98	17.87	19.69	21.50
	mm	49	74	100	144	192	239	287	315	360	406	454	500	546
L	in	14.49	18.50	21.50	27.76	32.76	39.02	44.49	49.49	54.49	60.51	65.51	71.50	76.50
	mm	368	470	546	705	832	991	1130	1257	1384	1537	1664	1816	1943
H1	in	5.31	5.71	6.54	7.56	9.37	10.79	12.52	19.02	21.02	23.86	27.01	28.78	30.51
	mm	135	145	166	192	238	274	318	483	534	606	686	731	775
H2	in	5.31	5.71	6.54	7.56	9.37	10.8	12.52	19.02	21.02	23.86	27.01	28.78	30.51
	mm	135	145	166	192	238	274	318	483	534	606	686	731	775
W	in	25.59	39.37	11.81	15.75	19.69	23.62	23.62	23.62	23.62	23.62	31.50	31.50	31.50
	mm	650	1,000	*300	*400	*500	*600	*600	*600	*600	*600	*800	*800	*800
WEIGHT	lb	57.0	190.0	454.0	1,215.0	1,777.0	3,223.0	4,683.0	5,944.0	7,846.0	10,384.0	13,616.0	14,087.0	17,577.0
	kg	26.0	86.0	206.0	551.0	806.0	1,462.0	2,124.0	2,696.0	3,557.0	4,710.0	6,176.0	6,390.0	7,973.0

NPS	in	3*2	4*3	6*4	8*6	10*8	12*10	14*12	16*14	18*16	20*18	22*18	24*20
d	in	1.92	2.91	3.93	5.67	7.55	9.41	11.30	12.40	14.17	15.98	15.98	17.87
	mm	49	74	100	144	192	239	287	315	360	406	406	454
D	in	2.91	3.93	5.67	7.55	9.41	11.30	12.40	14.17	15.98	17.87	19.69	21.50
	mm	74	100	144	192	239	287	315	360	406	454	500	546
L	in	18.50	21.50	27.76	32.76	39.02	44.49	49.49	54.49	60.51	65.51	71.50	80.43
	mm	470	546	705	832	991	1,130	1,257	1,384	1,537	1,664	1,816	2,043
H1	in	5.31	5.71	6.54	7.56	9.37	10.79	12.52	19.02	21.02	23.86	23.86	27.01
	mm	135	145	166	192	238	274	318	483	534	606	606	686
H2	in	5.31	5.71	6.54	7.56	9.37	10.79	12.52	19.02	21.02	23.86	23.86	27.01
	mm	135	145	166	192	238	274	318	483	534	606	606	686
W	in	25.59	39.37	11.81	15.75	19.69	23.62	23.62	23.62	23.62	23.62	31.50	31.50
	mm	650	1,000	*300	*300	*400	*500	*600	*600	*600	*600	*600	*800
WEIGHT	lb	152.0	362.0	677.0	1,151.0	1,746.0	2,482.0	4,755.0	4,729.0	6,818.0	8,234.0	7,937.0	12,899.0
	kg	69.0	164.0	307.0	522.0	792.0	1,126.0	2,157.0	2,145.0	3,091.0	3,735.0	3,600.0	5,850.0

CLASS 2500

NPS	in	2	3	4	6	8	10	12
D	in	1.65	2.44	3.42	5.16	7.04	8.78	10.43
	mm	42	62	87	131	179	223	265
L-L1 (RF-BW)	in	17.76	22.76	26.50	35.98	40.24	50.00	55.98
	mm	451	578	673	914	1,022	1,270	1,422
L2 (RTJ)	in	17.87	22.99	26.89	36.50	40.87	50.87	56.85
	mm	454	584	683	927	1,038	1,292	1,444
H1	in	9.41	10.43	11.10	20.59	24.21	23.03	27.72
	mm	239	265	282	523	615	585	704
H2	in	5.63	7.52	7.83	11.77	14.88	17.13	21.26
	mm	143	191	199	299	378	435	540
W	in	15.75	19.69	19.69	23.62	27.56	29.92	29.92
	mm	*400	*500	*500	*600	*700	*760	*760
WEIGHT	lb	231.5	482.8	888.3	1,810.0	3,633.2	5,652.6	8,315.8
	kg	105.0	219.0	403.0	821.0	1,648.0	2,564.0	3,772.0

NPS	in	3*2	4*3	6*4	8*6	10*8	12*10
d	in	1.65	2.44	3.42	5.16	7.04	8.78
	mm	42	62	87	131	179	223
D	in	2.44	3.42	5.16	7.04	8.78	10.43
	mm	62	87	131	179	223	265
L-L1 (RF-BW)	in	22.76	26.50	35.98	40.24	50.00	55.98
	mm	578	673	914	1,022	1,270	1,422
L2 (RTJ)	in	22.99	26.89	36.50	40.87	50.87	56.85
	mm	584	683	927	1,038	1,292	1,444
H1	in	9.41	10.43	11.10	20.59	24.21	23.03
	mm	239	265	282	523	615	585
H2	in	5.63	7.52	7.83	11.77	14.88	17.13
	mm	143	191	199	299	378	435
W	in	15.75	19.69	19.69	23.62	27.56	29.92
	mm	*400	*500	*500	*600	*700	*760
WEIGHT	lb	339.5	653.5	1,320.6	2,294.9	3,627.4	5,545.5
	kg	154.0	296.0	599.0	1,041.0	1,645.0	2,516.0

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Soft Seal Materials | Seat

PROPERTIES		RPTFE	NYLON	DEVLON	PEEK	PCTFE
Mechanical Property	Hardness (D)	55-62	70-80	78-80	≥82	85-95
	Tensile Strength (Mpa)	≥20	>52	≥79.92	≥90	>38
	Tensile Elongation (break %)	>250	>240	>5.37	≥40	>45
Physical Property	Specific Gravity (g/cm³)	2.15-2.25	1.02-1.04	1.14	1.28-1.4	2.11-2.16
	Water Absorption 24hrs (%)	0	1	0.1	0.06	0
	Water Absorption Saturation	<0.01	16	3	0.2	<0.01
Service Application		Chemical & Low temperature	High pressure & Hydrocarbon	High pressure & Hydrocarbon	High pressure & temperature	Cryogenic

Soft Seal Materials | O-Ring

PROPERTIES	NBR	HNBR	VITON	VITON AED	VITON GLT	VITON GLT AED	FFKM	EPDM	FEPM
Temperature Range °F	-22-230	-40-302	-20-400	-20-400	-50-440	-50-440	-5-600	-40-250	15-480
Temperature Range °C	-30-110	-40-150	-29-204	-29-204	-46-225	-46-225	-15-315	-40-120	-10-250
Specific Gravity (g/cm³)	1.1±0.1	1.3±0.1	1.8±0.1	1.8±0.1	1.8±0.1	1.8±0.1	2.1±0.1	1.0±0.1	1.6±0.1
Hardness (D)	75-90	75-90	75-90	85-95	75-90	85-95	75-90	75-90	75-90

Flow Coefficient (Cv Value)

SIZE (IN)	2	3	4	6	8	10	12	14	16	18	20	22	24
150LB	500	1360	2500	5300	10750	17500	26750	31850	44000	58000	75500	91770	113400
300LB	430	1100	2000	5250	10100	16820	25950	30900	42600	55870	72500	86850	109340
600LB	370	1020	1850	4400	8450	14250	22550	28500	38150	51150	68500	80150	98860
900LB	320	920	1760	4300	8475	14160	21200	26700	36600	4900	64600	-	-
1500LB	320	820	1600	4150	8010	13220	18800	24180	33150	45703	60750	-	-
2500LB	260	567	1117	2532	4728	7338	10363	12582	16363	20641	25906	-	-

Method of Calculating Flow

The Flow Coefficient Cv of a valve is the flow rate of water (gallons/minute) Through a fully opened valve, with a pressure drop of 1 psi across the valve. To find the flow of liquid through the valve from the Cv, use the following formulas:

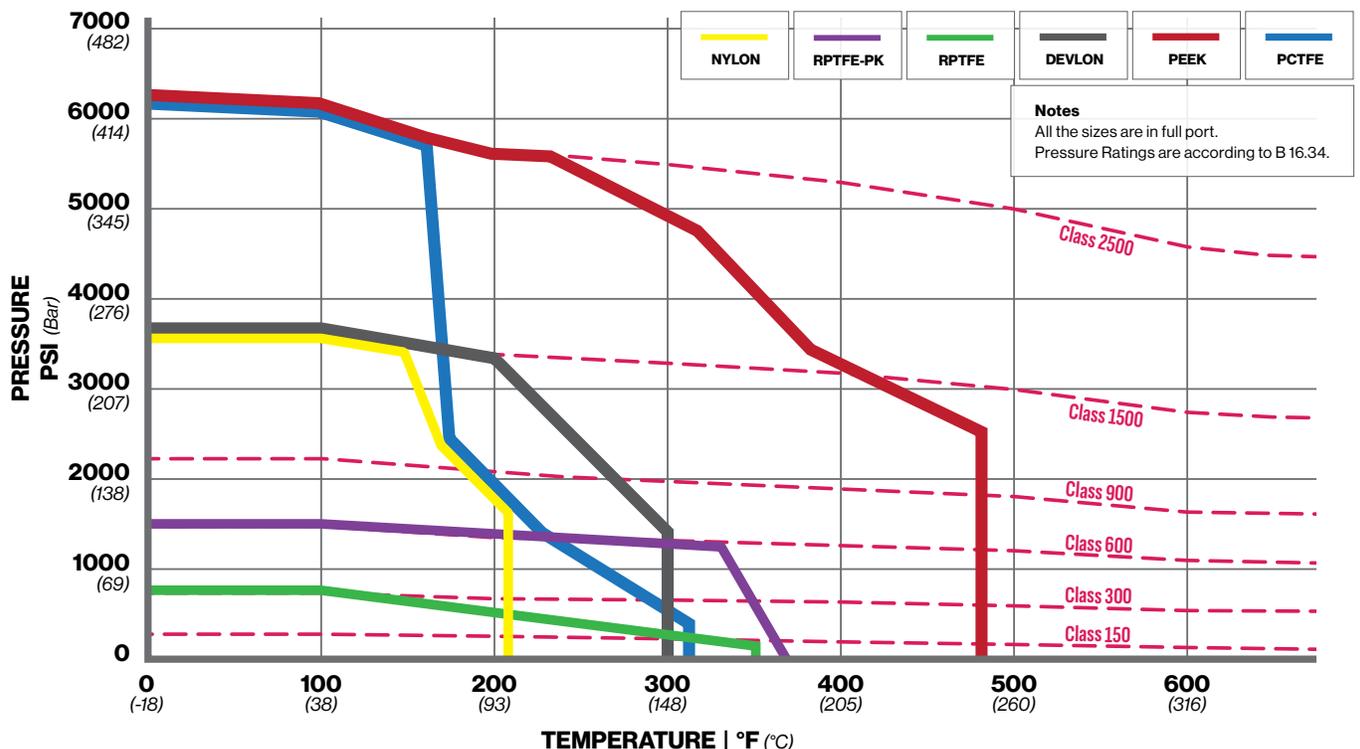
Liquid Flow:

$QL = Cv(P/G)^{1/2}$
 QL=Flow rate of liquid (gal./min)
 P=Differential pressure across the valve
 G=Specific gravity of liquid (for water, G=1)

Gas Flow:

$Qg = 61Cv(P2P/g)^{1/2}$
 (For non-critical flow, P/P<1.0)
 Qg=Flow rate of gas (CFH at STP)
 P2=Outlet pressure(psia)
 g=specific gravity of gas (for air, g=1.0)

Pressure Temperature Chart



1 - Valve Size 20	Valve Size in Inches Use #x# for reduced bore sizes. Examples: 3x2, 6x4
2 - Valve Type B3TD	B2TD = 2-piece API 6D Trunnion B3TD = 3-piece API 6D Trunnion
3 - Valve Class 1	1 = 150 3 = 300 6 = 600 9 = 900 15 = 1500 25 = 2500 <small>2-piece construction applicable to 2-4in Full Port CI 150/300 only</small>
4 - End Connection R	R = Raised-Face Flange JB # = Ring-Type Joint Flange x Butt-Weld J = Ring-Type Joint Flanged B # = Butt-Weld RB # = Raised-Face Flange x Butt-Weld <small>For butt-welding end valves, replace the "#" with the weld schedule. Examples: BSTD, B80, RB120, JBXXS</small>
5 - Operator G	None = Handwheel or Lever M = Electric Actuator BS = Bare Stem G = Gear Operator P = Pneumatic Actuator H = Hydraulic Actuator
6 - Body Materials 316	A105N LF2 316
7 - Trim Materials SS	ENP = Carbon Steel + Electroless Nickel Plating SS = Stainless Steel
8 - Seat Materials R	R = RPTFE D = DEVLON C = PCTFE N = NYLON P = PEEK
9 - Seal Material H	N = NBR V = VITON L = VITON GLT F = FFKM M = FEPM H = HNBR A = VITON AED T = VITON GLT AED E = EPDM
10 - Seat Type DBB	DBB DIB1 DIB2
11 - Special Code NC	NC = NACE MR0175

EXAMPLE



YVI-20B3TD1R-G-316-SS/RH-DBB-NC

Product Warranty

Seller will repair or replace without charge or refund the purchase price of products provided by seller which are determined to be defective in material or workmanship, provided in each case that the product was properly installed and was used in an acceptable service for which the product was intended. A written claim, specifying the alleged defect and service conditions must be presented to the seller within 18 months from the date of shipment or 12 months after installation, whichever occurs first. Seller shall in no event bear any labor, equipment, engineering or other costs incurred in connection with removal or replacement of the defective product.

The warranty stated in this paragraph is in lieu of all other warranties, either expressed or implied. With respect to warranties, this paragraph states Buyer's exclusive remedy and seller's exclusive liability.



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