

A  
Bray  
High  
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Company



# Flow-Tek

A Subsidiary of BRAY INTERNATIONAL, Inc.

## **PETRO-SEAL SERIES**

**TRUNNION TYPE**

**ANSI CLASS 150, 300, 600, 1500**

**Tough Ball Valves for Tough Applications**



Petro-seal series valves are trunnion mounted, polymeric-seated ball valves, which provide excellent tightness over an extensive range of temperatures and pressures. They are available in both full bore and reduced bore designs in a choice of materials, sizes and pressure classes which makes them an ideal selection for a variety of application.

This extensive range of sizes, styles, pressure classes and materials together with conformance to ANSI, API and NACE specifications qualify these valves for virtually all oil and gas services.

The combination of trunnion mounted balls and unique spring loaded upstream sealing provides bubble-tight shut off and low operating torques, even at extremely high shut off pressure.

Petro-seal series valves conform to the requirements of ANSI B16.34 and API 6D. They are manufactured under a quality plan that complies with the requirements of API Q1 and ISO 9001. The factory is licensed by API to use the API 6D monogram. The license number is 6D-0200.

### **Design Features**

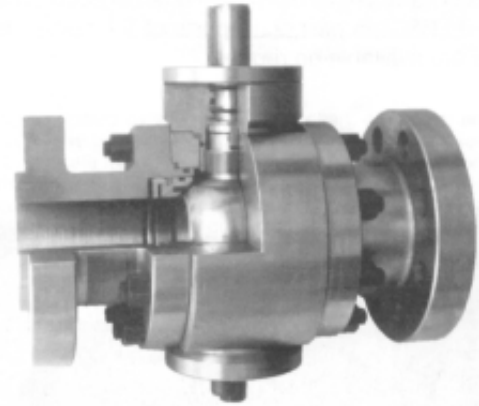
#### **Forged Construction**

The standard valves use forged steel as their body material which eliminates unavoidable defects of castings and assures uniform tough structure of the valve at full rated working pressure. The wide choice of quality trim materials makes the valve durable even under severe conditions.

Reduced/Full Port 2" thru. 24"

A105/LF2/Stainless Steel

Positive Block and Bleed Action Standard



#### **Low Operating Torque**

The trunnion mounted ball in petro-seal series valves prevents high upstream pressures from forcing the ball into the seats producing high seat loading and high operating torque requirements.

#### **Tight shut-off**

The unique spring loaded floating seats provide upstream sealing regardless of flow or pressure direction. These seats provide bubble tight sealing at both high and low differential pressures. Leak testing is performed to the requirements of API 6D and API598.

**Flow-Tek's Proven Design Trunnion Ball Valves Offer Many Features That Provide Longlife And Trouble-free Performance**



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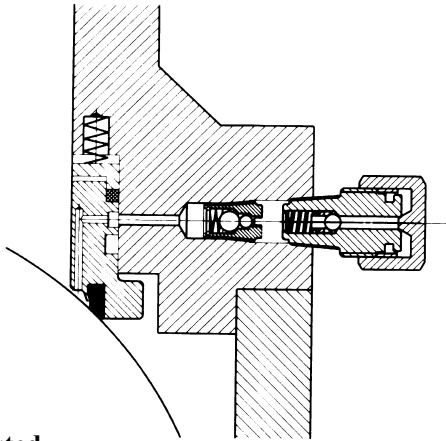
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## *Flow-Tek's "Petro-Seal Series" is Ideal for Pipelines, Gas Distribution, Power Plants, Process and Waste Water Industries!*

### Secondary or Emergency Sealing

All valves have a secondary sealant injection system for stem seals. A seat injection system, as shown here, is a standard feature on valves 6" and larger. Valves do not require lubrication under ordinary circumstances. These systems are provided seal in the event of damage.



### Fire Tested

Petro-seal series valves have been fire-tested in accordance with API 607 and BS6755 part 2.

### Product Type

Trunnion mounted ball valve  
 Three piece body design  
 Raised face flanged, RTJ flanged, butt weld and weld x flange ends are available

### Size Range

Full port: 2"-24" (DN50-DN600)  
 Reduced port: 2"-24" (DN50-DN600)

### Pressure Classes

ANSI Class 150, 300, 2"-24" (DN50-DN600), reduced port to 24" (DN900)  
 ANSI Class 600 2"-24" (DN50-DN600), reduced port up to 24" (DN600)  
 ANSI Class 1500, 2"-16" (DN50-DN400), reduced port to 20" (DN500)

### Testing

Hydrostatic shell test at 1.5 times the maximum rated working pressure.  
 High pressure closure test at 1.1 times the maximum rated working pressure.  
 Low pressure closure test at 80 psi (5.6 bar).

Seat ratings, indicated by solid lines in the chart, are based on differential pressure with valve ball in the fully closed position and refer to seats only. The dotted lines indicate maximum working pressure for A105 carbon steel valve bodies. These ratings are a conservative guide for general service. Previous experience in a process or new developments may permit applications at ratings above those shown.

### Double Block and Bleed

Spring loaded upstream and downstream seats and body drains allow the valves to be used in double block and bleed service without modification.

### Corrosion Resistance

Carbon steel stems, balls and seats are electroless nickel plated as standard. A wide range of alloys are available for corrosive services.

### NACE Compliance

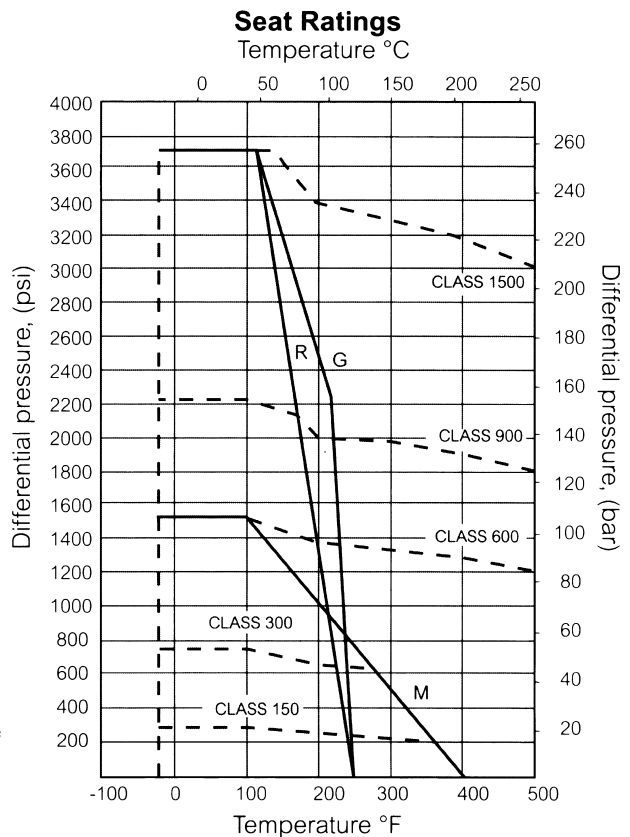
Petro-seal series valves are supplied as standard in materials that meet the requirements of NACE MR-01-75. Strict material control and inspection during the manufacturing process insure compliance.

### Manual and Automatic Operation

Valves, sizes 2" to 4", class 150, 300 and 600, 2" and 3" class 900 and 2" class 1500 are operated with lever handles. Larger size valves are supplied with gears. Valves can be supplied with pneumatic, hydraulic or electric actuators for automatic operation.

### Buried Service

When valves are to be installed below ground level, extensions for the stem and actuator mounting pad are available. Extensions for sealant injection fittings and drain and vent fittings are also provided. Customers must specify the required extension length.



## DESIGN STANDARDS AND SPECIFICATIONS

PRODUCTS IN THIS BROCHURE CONFORM TO THE FOLLOWING STANDARDS AND SPECIFICATIONS

API 6D API Q1 API 607 ANSI B16.5 ANSI B16.10 ANSI B16.31.1 ANSI B16.31.3 ANSI B16.34 FCI 70-2-1976 BS 6755 PART 2 BS 2080 ISO 5752 ISO 9001 MSS-SP-6 MSS-SP-25 MSS-SP-44 MSS-SP-5 NACE Standard MR-01-75	American Petroleum Institute Specification for pipeline valves. American Petroleum Institute specification for quality programs. American Petroleum Institute division of refining fire test for soft seated valves. American National Standard Institute steel pipe flanges and flanged fittings. American National Standard Institute face to face and end to end dimensions of ferrous valves. American National Standard Institute power piping. American National Standard Institute chemical plant and petroleum refinery piping. American National Standard Institute steel valves-flanged and butt welded end. American National Standard – For Control Valve Seat Leakage. British Standard Institute specifications for fire-type testing requirements. British Standards Institute specification for face-to-face dimensions of flanged and butt weld steel valves. International Standard for Organization metal valves for use in flanged and piping systems. International Standard for Organization quality systems. Manufacturer’s Standardization Society standard finishes for contact faces of pipe flanged and connecting-end flanges of valve and fittings. Manufacturer’s Standardization Society standard marking system for valves Manufacturer’s Standardization Society steel pipe line flanges Manufacturer’s Standardization Society Quality standard for steel castings for valves. National Association of Corrosion Engineers-sulfide stress cracking resistant metallic materials for oil field equipment.
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### VALVE TORQUES

The formulae in the following table can be used to calculate the stem torques for Petro-Seal series valves. The torques at the maximum differential pressures are also listed. P in the formula means the maximum differential pressure (psi) across the valve. For pressures less than 100 psi use P=100.

Size	Unit	CLASS 150		CLASS 300		CLASS 600		CLASS 900		CLASS 1500	
		Formula	Torque AT 285 psi	Formula	Torque AT 740 psi	Formula	Torque AT 1480 psi	Formula	Torque AT 2200 psi	Formula	Torque AT 3705 psi
2"	Ft-lb.	22+0.07P	42	22+0.07P	74	22+0.07P	125	66+0.06P	198	66+0.06P	288
3"		46+0.15P	89	46+0.15P	157	46+0.15P	268	95+0.14P	403	95+0.14P	613
4"		72+0.25P	143	72+0.25P	257	72+0.25P	442	161+0.26P	733	161+0.26P	1124
6"		130+0.367P	234	130+0.367P	402	130+0.367P	673	423+0.47P	1457	423+0.47P	2164
8"		306+0.578P	471	306+0.578P	734	306+0.878P	1606	724+1.248P	3470	724+1.248P	5348
10"		369+0.99P	651	407+1.266P	1344	407+1.266P	2281	972+1.539P	4358	972+1.953P	8208
12"		665+1.697P	1149	665+1.697P	1920	665+1.697P	3177	1758+2.731P	7766	1758+2.731P	11876
14"		718+2.243P	1357	718+2.243P	2378	949+3.075P	5500	2136+3.77P	10431	2136+4.304P	18082
16"		1167+3.852P	2265	1167+3.852P	4018	1167+3.852P	6868	2795+5.144P	14112	2795+5.144P	21854
18"		1399+4.282P	2619	1399+4.282P	4568	3619+4.849P	10796	3619+5.86P	16511		
20"		1795+5.422P	3304	1795+5.422P	5771	4335+7.106P	14852	4335+7.106P	19968		
22"		2100+6.584P	3976	2100+6.584P	6972	5440+8.665P	18264	5440+11.752P	31295		
24"		2777+9.165P	5389	2777+9.165P	9559	9543+9.115P	23033	9543+13.487P	39215		

Torques shown in these tables are to be used as a guide for actuator selection. Additional requirements may be imposed by media characteristics, trim, and frequency of valve operation. A safety factor of 1.25 is recommended for actuator sizing.

These torques are based on the standard construction with RPTFE seats for all sizes of class 150, 300 and sizes 2" to 16" of class 600, Delrin seats are used for sizes 18" and larger class 600 and for all sizes of class 900 and 1500.

Formulae shown in these tables may be used to calculate stem torques data at any differential pressure. For example, to calculate the torque for a 10" class 600 valve with a shut off differential pressure of 1000 psi, use the formula 407+1.266P. In this case p=1000psi, therefore, the torque is 407+(1.266x1000)=1673 ft-lb. The column to the right of the formula column shows the torque at the maximum pressure rating of the valve.

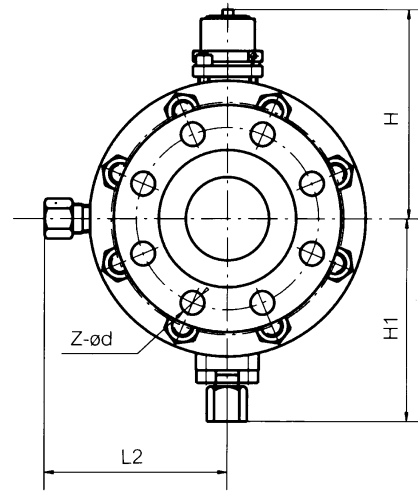
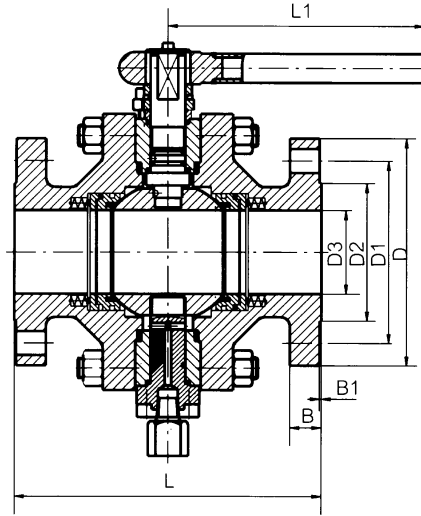
For Newton-meters multiply the value shown or calculated by 1.355818.

Sizes shown are nominal port diameters and reflect full port valve torques. For reduced port valves use the port size to select the appropriate torque value, i.e. for a 6" RF60T use 4" size; for a 16" RF60T use the 14" size.

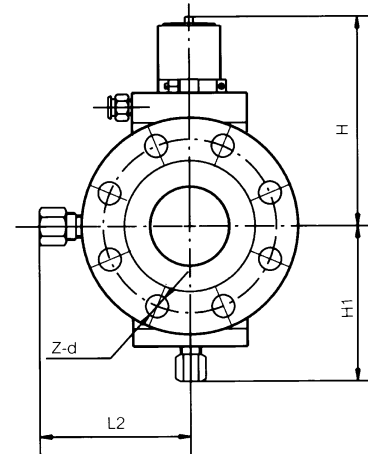
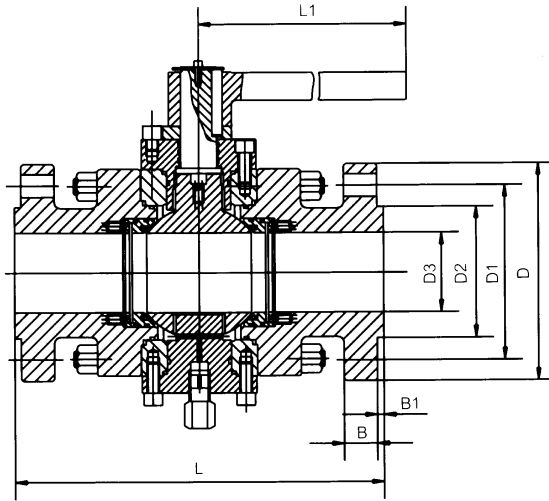


**Dimensional Data  
for Manual Valves**

**ANSI Class  
150 & 300  
2" - 4"**



**ANSI Class  
600  
2" - 4"**

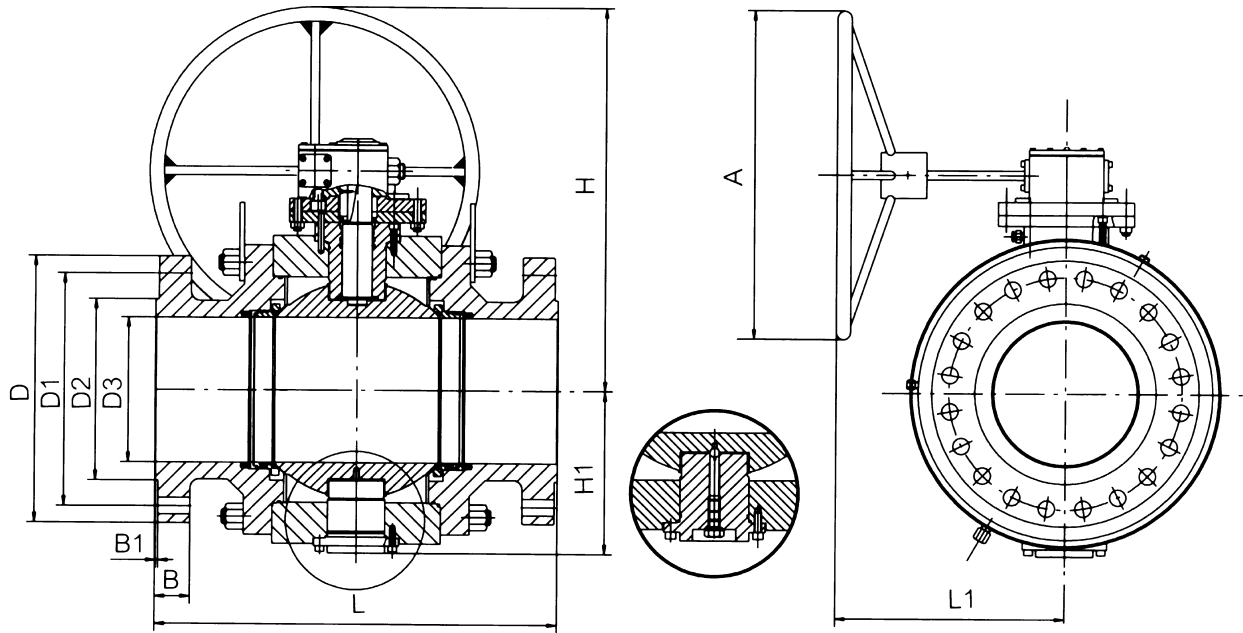


**Dimension and weights:**

ANSI Class	SIZE	L	L1	L2	D	D1	D2	D3	B	B1	H	H1	Z-d	Weight
150	2"	7.00	15.75	5.63	6.00	4.75	3.62	2.00	0.62	0.06	6.02	6.50	4-0.75	62 lbs
	50 mm	177.8	400	143	152.4	120.7	91.9	50.8	15.7	1.6	153	165	4-19	28 kg
	3"	8.00	23.62	6.77	7.50	6.00	5.00	3.00	0.75	0.06	7.68	8.03	4-0.75	119 lbs
	80 mm	203.2	600	172	190.5	152.4	127	76.2	19.1	1.6	195	204	4-19	54 kg
	4"	9.00	33.46	7.52	9.00	7.50	6.19	4.00	0.94	0.06	8.39	8.54	8-0.75	176 lbs
300	100 mm	228.6	850	191	228.6	190.5	157.2	101.6	23.9	1.6	213	217	8-19	80 kg
	2"	8.50	15.75	5.63	6.50	5.00	3.62	2.00	0.88	0.06	6.02	6.50	8-0.75	66 lbs
	50 mm	215.9	400	143	165.1	127	91.9	50.8	22.4	1.6	153	165	8-19	30 kg
	3"	11.13	23.62	6.77	8.25	6.62	5.00	3.00	1.12	0.06	7.68	8.03	8-0.87	132 lbs
	80 mm	282.6	600	172	209.6	168.1	127	76.2	28.4	1.6	195	204	8-22	60 kg
600	4"	12.00	33.46	7.52	10.00	7.88	6.19	4.00	1.25	0.06	8.39	8.54	8-0.87	220 lbs
	100 mm	304.8	800	191	254	200.2	157.2	101.6	31.8	1.6	213	217	8-22	100 kg
	2"	11.50	23.15	5.04	6.50	5.00	3.62	2.00	1.00	0.25	6.59	5.55	8-0.75	70 lbs
	50 mm	292.1	588	128	165.1	127	91.9	50.8	25.4	6.4	167.5	141	8-19	32 kg
	3"	14.00	49.25	6.22	8.25	6.62	5.00	3.00	1.25	0.25	8.21	6.57	8-0.87	141 lbs
600	80 mm	355.6	1251	158	209.6	168.1	127	76.2	31.8	6.4	208.5	167	8-22	64 kg
	4"	17.00	51.22	7.52	10.75	8.50	6.19	4.00	1.50	0.25	9.61	7.97	8-0.98	268 lbs
600	100 mm	431.8	1301	191	273.1	215.9	157.2	101.6	38.1	6.4	244	202.5	8-25	122 kg

**Dimensional Data  
for Gear Operated Valves**

**Class 150-600  
6" - 24"**



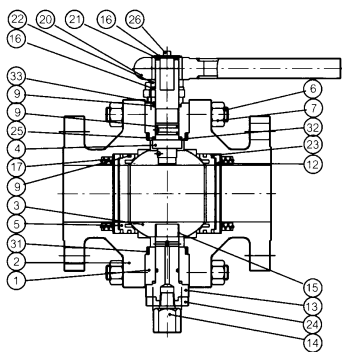
**Dimension and weights:**

ANSI Class	SIZE	L	L1	D	D1	D2	D3	B	B1	H	H1	Z-d	A	Weight
150	6"	15.50	C/F	11.00	9.50	8.50	5.98	1.00	0.06	C/F	7.28	8-0.87	C/F	447 lbs
	150 mm	393.7	C/F	279.4	241.3	215.9	152	25.4	1.6	C/F	185	8-22	C/F	203 kg
	8"	18.00	C/F	13.50	11.75	10.62	7.99	1.12	0.06	C/F	8.90	8-0.87	C/F	636 lbs
	200 mm	457.2	C/F	342.9	298.5	269.7	203	28.4	1.6	C/F	226	8-22	C/F	289 kg
	10"	21.00	C/F	16.00	14.25	12.75	10.00	1.19	0.06	C/F	10.20	12-0.98	C/F	990 lbs
	250 mm	533.4	C/F	406.4	362	323.9	254	30.2	1.6	C/F	259	12-25	C/F	450 kg
	12"	24.00	C/F	19.00	17.00	15.00	12.01	1.25	0.06	C/F	12.24	12-0.98	C/F	1294 lbs
	300 mm	609.6	C/F	482.6	431.8	381	305	31.8	1.6	C/F	311	12-25	C/F	588 kg
	14"	27.00	C/F	21.00	18.75	16.25	13.27	1.38	0.06	C/F	13.70	12-1.10	C/F	1791 lbs
	350 mm	685.8	C/F	533.4	476.3	412.8	337	35.1	1.6	C/F	348	12-28	C/F	814 kg
	16"	30.00	C/F	23.50	21.25	18.50	15.24	1.44	0.06	C/F	16.42	16-1.10	C/F	3476 lbs
	400 mm	762	C/F	596.9	539.8	469.9	387	36.6	1.6	C/F	417	16-28	C/F	1580 kg
	18"	34.00	C/F	25.00	22.75	21.00	17.24	1.56	0.06	C/F	17.83	16-1.26	C/F	5355 lbs
	450 mm	863.6	C/F	635	577.9	533.4	438	39.6	1.6	C/F	453	16-32	C/F	2434 kg
	20"	36.00	C/F	27.50	25.00	23.00	19.25	1.69	0.06	C/F	18.86	20-1.26	C/F	5720 lbs
	500 mm	914.4	C/F	698.5	635	584.2	489	42.9	1.6	C/F	479	20-32	C/F	2600 kg
24"	42.00	C/F	32.00	29.50	27.25	23.27	1.88	0.06	C/F	23.11	20-1.38	C/F	9240 lbs	
600 mm	1066.8	C/F	812.8	749.3	692.2	591	47.8	1.6	C/F	587	20-35	C/F	4200 kg	

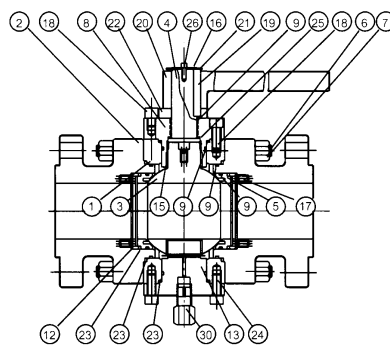
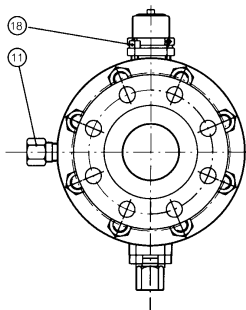
**Dimension and weights:**

ANSI Class	SIZE	L	L1	D	D1	D2	D3	B	B1	H	H1	Z-d	A	Weight
<b>300</b>	6"	15.87	C/F	12.48	10.62	8.50	5.98	1.44	0.06	C/F	7.28	12-0.87	C/F	464 lbs
	150 mm	403.2	C/F	317	269.7	215.9	152	36.6	1.6	C/F	185	12-22	C/F	211 kg
	8"	19.75	C/F	15.00	13.00	10.62	7.99	1.63	0.06	C/F	8.90	12-0.98	C/F	708 lbs
	200 mm	501.7	C/F	381	330.2	269.7	203	41.4	1.6	C/F	226	12-25	C/F	322 kg
	10"	22.37	C/F	17.50	15.25	12.75	10.00	1.88	0.06	C/F	10.71	16-1.10	C/F	990 lbs
	250 mm	568.3	C/F	444.5	387.4	323.9	254	47.8	1.6	C/F	272	16-28	C/F	450 kg
	12"	25.50	C/F	20.50	17.75	15.00	12.01	2.00	0.06	C/F	12.24	16-1.26	C/F	1294 lbs
	300 mm	647.7	C/F	520.7	450.9	381	305	50.8	1.6	C/F	311	16-32	C/F	588 kg
	14"	30.00	C/F	23.00	20.25	16.25	13.27	2.12	0.06	C/F	13.70	20-1.26	C/F	1791 lbs
	350 mm	762	C/F	584.2	514.4	412.8	337	53.8	1.6	C/F	348	20-32	C/F	814 kg
	16"	33.00	C/F	25.50	22.50	18.50	15.24	2.25	0.06	C/F	16.42	20-1.38	C/F	4114 lbs
	400 mm	838.2	C/F	647.7	571.5	469.9	387	57.2	1.6	C/F	417	20-35	C/F	1870 kg
	18"	36.00	C/F	28.00	24.75	21.00	17.24	2.38	0.06	C/F	17.83	24-1.38	C/F	6059 lbs
	450 mm	914.4	C/F	711.2	628.7	533.4	438	60.5	1.6	C/F	453	24-35	C/F	2754 kg
	20"	39.00	C/F	30.50	27.00	23.00	19.25	2.50	0.06	C/F	18.86	24-1.38	C/F	6527 lbs
	500 mm	990.6	C/F	774.7	685.8	584.2	489	63.5	1.6	C/F	479	24-35	C/F	2967 kg
	22"	43.00	C/F	33.00	29.25	25.25	21.26	2.62	0.06	C/F	20.47	24-1.61	C/F	7392 lbs
	550 mm	1092.2	C/F	838.2	743	641.4	540	66.5	1.6	C/F	520	24-41	C/F	3360 kg
24"	45.00	C/F	36.00	32.00	27.25	23.27	2.75	0.06	C/F	23.11	24-1.61	C/F	10305 lbs	
600 mm	1143	C/F	914.4	812.8	692.2	591	69.9	1.6	C/F	587	24-41	C/F	4684 kg	
<b>600</b>	6"	22.00	C/F	14.00	11.50	8.50	5.98	2.13	0.25	C/F	7.56	12-1.10	C/F	587 lbs
	150 mm	558.8	C/F	355.6	292.1	215.9	152	54.1	6.4	C/F	192	12-28	C/F	267 kg
	8"	26.00	C/F	16.50	13.75	10.62	7.99	2.44	0.25	C/F	9.86	12-1.26	C/F	1146 lbs
	200 mm	660.4	C/F	419.1	349.3	269.7	203	62	6.4	C/F	250.5	12-32	C/F	521 kg
	10"	31.00	C/F	20.00	17.00	12.75	10.00	2.75	0.25	C/F	11.42	16-1.38	C/F	1701 lbs
	250 mm	787.4	C/F	508	431.8	323.9	254	69.9	6.4	C/F	290	16-35	C/F	773 kg
	12"	33.00	C/F	22.00	19.25	15.00	12.01	2.87	0.25	C/F	13.46	20-1.38	C/F	2460 lbs
	300 mm	838.2	C/F	558.8	489	381	305	72.9	6.4	C/F	342	20-35	C/F	1118 kg
	14"	35.00	C/F	23.75	20.75	16.25	13.27	3.00	0.25	C/F	14.88	20-1.49	C/F	3439 lbs
	350 mm	889	C/F	603.3	527.1	412.8	337	76.2	6.4	C/F	378	20-38	C/F	1563 kg
	16"	39.00	C/F	27.00	23.75	18.50	15.24	3.25	0.25	C/F	16.79	20-1.61	C/F	5280 lbs
	400 mm	990.6	C/F	685.8	603.3	469.9	387	82.6	6.4	C/F	426.5	20-41	C/F	2400 kg
	18"	43.00	C/F	29.25	25.75	21.00	17.24	3.50	0.25	C/F	19.37	20-1.77	C/F	7471 lbs
	450 mm	1092.2	C/F	743	654.1	533.4	438	88.9	6.4	C/F	492	20-45	C/F	3396 kg
	20"	47.00	C/F	32.00	28.50	23.00	19.25	3.75	0.25	C/F	20.43	24-1.77	C/F	8635 lbs
	500 mm	1193.8	C/F	812.8	723.9	584.2	489	95.3	6.4	C/F	519	24-45	C/F	3925 kg
	22"	51.00	C/F	34.25	30.62	25.25	21.26	4.00	0.25	C/F	22.76	24-1.89	C/F	10778 lbs
	550"	1295.4	C/F	870	777.7	641.4	540	101.5	6.4	C/F	578	24-48	C/F	4899 kg
24"	55.00	C/F	37.00	33.00	27.25	23.27	4.25	0.25	C/F	25.59	24-2.00	C/F	14564 lbs	
600 mm	1397	C/F	939.8	838.2	692.2	591	108	6.4	C/F	650	24-51	C/F	6620 kg	

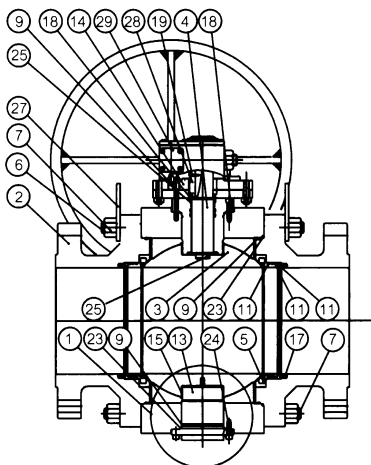
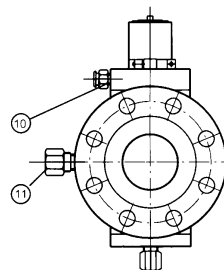
**MATERIAL DATA**



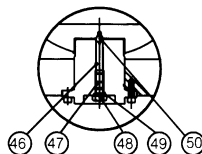
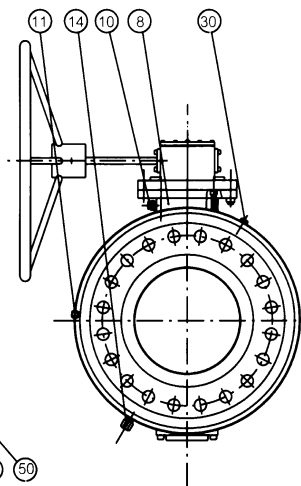
2"-4" Class 150 -Class 300



2"-4" Class 600 -Class 1500



6"-24" Class 150 -Class 1500



**Part Number & Bill of Materials**

No.	PART NAME	MATERIALS		
		ASTM A105	ASTM A350	ASTM A182 F316
1	BODY	A105	A350 LF2	A182 F316
2	ADAPTER	A105	A350 LF2	A182 F316
3	BALL	A105**	A350 LF2**	A182 F316 OR 17-4PH
4	STEM	AISI 1040-1045 OR 4135-4140**	AISI 1040-1045 OR 4130-4140**	A182 F316, 17-4PH
5	SEAT	A105**	A350 LF2**	A182 F316
6	STUD (BODY)	A193 B7M/B7	A193 L7M	B7M(Ca.plt)/B8
7	NUT (BODY)	A194 2HM/2H	A194 7M	A194 2HM/8
8	PACKING BOX	ASTM A105	A350 LF2	A182 F316
9	O-RING	VITON	VITON	VITON
10	FITTING (STEM)	CARBON STEEL	CARBON STEEL	A182 F316
11	FITTING (SEAT)	CARBON STEEL	CARBON STEEL	A182 F316
12	SEAT RETAINER	A105**	A352 LF2**	A182 F316
13	TURUNNION	A105**	A352 LF2**	A182 F316
14	DRAIN PLUG	CARBON STEEL	CARBON STEEL	A182 F316
15	BEARING	CS LINED PTFE	CS LINED PTFE	SS LINED PTFE
16	WASHER	CARBON STEEL	CARBON STEEL	CARBON STEEL
17	SPRINGS	INCONEL X-750	INCONEL X-750	INCONEL X-750
18	SCREW	CARBON STEEL	A193 L7M	Cs+Ca Plt. of SS
19	KEY	CARBON STEEL	CARBON STEEL	CARBON STEEL
20	HANDLE	CARBON STEEL	CARBON STEEL	CARBON STEEL
21	POSITION INDICATOR	AISI 410	AISI 410	AISI 410
22	POSITION STOP	A105	A105	A105
23	GASKET	GRAPHITE	GRAPHITE	GRAPHITE
24	TRUNNION SCREW	CARBON STEEL	A193 L7M	CS.Ca.Pl. OR SS
25	THRUST WASHER	GRAPHITE	GRAPHITE	GRAPHITE
26	SCREW (<=4")	CARBON STEEL	CARBON STEEL	CARBON STEEL
27	LIFE EYE	CARBON STEEL	CARBON STEEL	CARBON STEEL
28	GEAR OPERATOR	CARBON STEEL	CARBON STEEL	CARBON STEEL
29	LINKAGE PLATE	CARBON STEEL	CARBON STEEL	CARBON STEEL
30	PLUG	CARBON STEEL	CARBON STEEL	A182 F316
31	SPIRAL GASKET	F316+GRAPHITE	F316+GRAPHITE	F316+GRAPHITE
32	THRUST GASKET	PTFE	PTFE	PTFE
33	COMPRESSION RING	CARBON STEEL	CARBON STEEL	CARBON STEEL

\*\* ELECTROLESS NICKEL PALTED

## VALVE ASSEMBLY BASE MODEL NUMBERS

**1 - SIZE**

INCH .....2" - 24"  
 MM .....50mm-600mm

**2 - BODY STYLE**

Full Port .....F  
 Standard Port .....RF

**3 - PRESSURE CLASS**

Ansi Class 150.....15T  
 Ansi Class 300.....30T  
 Ansi Class 600.....60T  
 Ansi Class 900.....90T  
 Ansi Class 1500.....150T

**4 - END CONNECTIONS**

Raised Face..... —  
 Ring Joint.....RTJ  
 Butt Weld.....BW

**5 - BODY MATERIAL**

ASTM A182 F316..... **316**  
 ASTM A105..... **A105**  
 ASTM A350 LF2 ..... **LF2**

**6 - TRIM (BALL & STEM)**

A105 w/ ENP.....1  
 304 Stainless.....2  
 316 Stainless.....3  
 LF2 w/ ENP.....4

**7 - SEAT**

RTFE ..... R  
 Peek ..... P  
 Delrin ..... D  
 Nylon ..... N  
 Viton ..... V  
 Metal ..... M

**8 - SEAL (BODY & STEM)**

RTFE ..... R  
 Graphoil ..... G  
 Delrin ..... D  
 Nylon ..... N  
 Viton ..... V

**9 - OPERATOR**

Handle Lever ..... L  
 Locking Lever .....LL  
 Gear Operator.....GO  
 Double Acting Actuator .....DA  
 Spring Return Actuator .....SR  
 Electric Actuator .....EL

**10 - SPECIAL FEATURES** if needed ..... S/F

In addition to our standard Bill of Materials, Flow-Tek can offer many special Alloys. Consult Factory for details.

### ORDERING SAMPLE:

(1) SIZE	(2) BODY STYLE	(3) PRESSURE CLASS	(4) END CONNECTIONS	(5) BODY MATERIALS	(6) TRIM (BALL & STEM)	(7) SEAT	(8) SEALS	(9) OPERATOR	(10) SPECIAL FEATURE
6"	RF	30T	-	A105	2	R	R	GO	-

### Valve Body Ratings

TEMPERATURE		MAXIMUM WORKING PRESSURE BY ANSI CLASS																			
		150				300				600				900				1500			
°C	°F	A105,LF2		ASTM A182 F316		A105,LF2		ASTM A182 F316		A105,LF2		ASTM A182 F316		A105,LF2		ASTM A182 F316		A105,LF2		ASTM A182 F316	
Up to	Up to	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi
38	100	19.7	285	19	275	51	740	49.6	720	102	1480	99.3	1440	153.1	2220	148.9	2160	255.5	3705	248.2	3600
93	200	17.9	260	16.5	240	46.5	675	42.7	620	93.1	1350	85.5	1240	139.6	2025	128.2	1860	232.7	3375	213.4	3095
149	300	15.9	230	14.8	215	45.2	655	38.6	560	90.7	1315	77.2	1120	135.8	1970	115.8	1680	226.1	3280	192.7	2795
204	400	13.8	200	13.4	195	43.8	635	35.5	515	87.6	1270	71.0	1030	131	1900	106.2	1540	218.6	3170	177.2	2570
260	500	11.7	170	11.7	170	41.4	600	33.1	480	82.7	1200	65.8	955	123.8	1795	98.9	1435	206.5	2995	164.8	2390

These are the maximum working pressure ratings for the valve body only. The seat ratings, shown above, determine the practical pressure limitations according to actual service conditions.



A  
Bray  
High  
Performance  
Company

# Flow-Tek

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