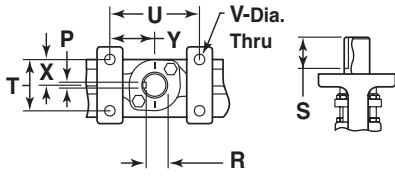
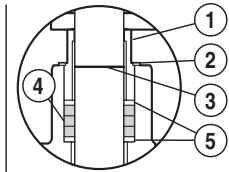
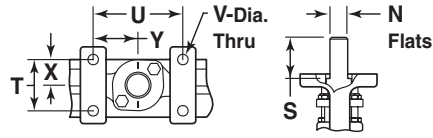


Dimensions (inches) - ANSI Class 150

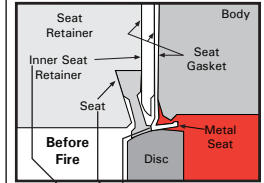
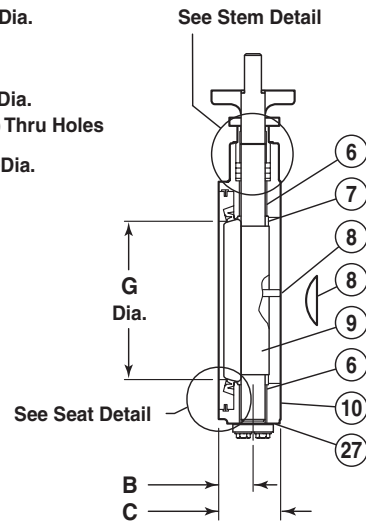
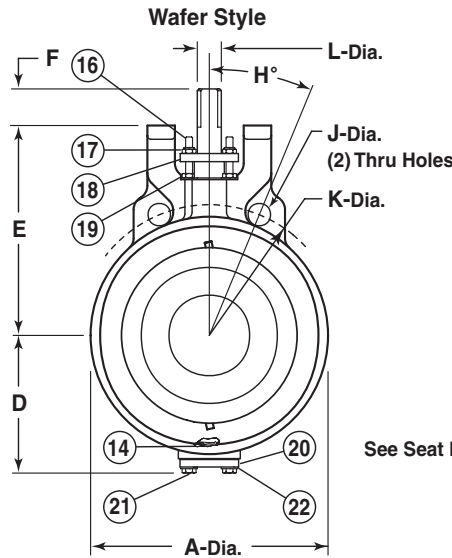
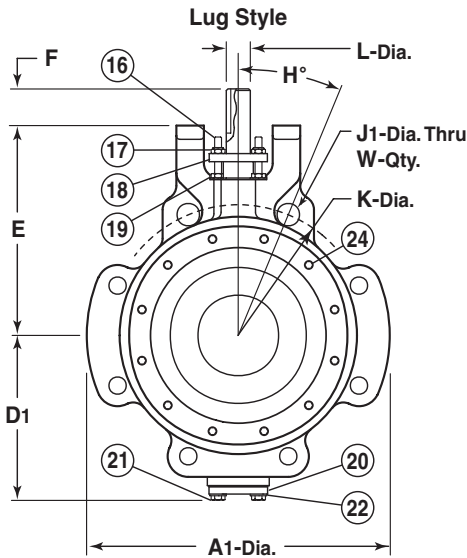
Keyed Stem
10"-24" Cl. 150
8"-12" Cl. 300



Flatted Stem
2 1/2"-8" Cl. 150
3"-6" Cl. 300



Stem Detail



12 12A 13 13A

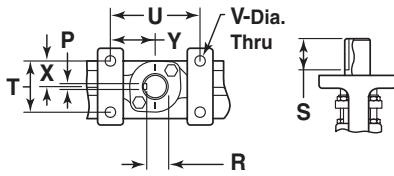
Size	Dimension (in.) - ANSI Class 150																							
	A	A1	B	C	D	D1	E	F	G	H	J	J1	K	L	N	P	R	S	T	U	V	W	X	Y
2.5	4.69	6.75	1.06	1.88	3.00	3.00	4.75	1.00	2.19	45.00	.69	5/8-11	5.50	.56	.38	—	—	1.078	1.50	3.25	.344	4	.75	1.63
3	5.19	7.25	1.06	1.88	3.25	3.31	5.13	1.00	2.81	45.00	.69	5/8-11	6.00	.56	.38	—	—	1.078	1.50	3.25	.344	4	.75	1.63
4	6.50	8.88	1.06	2.13	3.94	4.94	6.25	1.00	3.88	22.50	.69	5/8-11	7.50	.63	.50	—	—	1.078	2.00	3.50	.406	8	1.00	1.75
5	7.56	10.00	1.25	2.25	4.56	5.44	7.06	1.00	4.75	22.50	.81	3/4-10	8.50	.88	.63	—	—	1.078	2.00	3.50	.406	8	1.00	1.75
6	8.63	11.00	1.25	2.25	5.00	5.88	7.63	1.00	5.75	22.50	.81	3/4-10	9.50	.88	.63	—	—	1.078	2.00	3.50	.406	8	1.00	1.75
8	10.81	13.50	1.44	2.50	6.19	7.00	9.63	1.75	7.63	22.50	.81	3/4-10	11.75	1.13	.88	—	—	1.828	2.56	4.00	.563	8	1.28	2.00
10	12.88	16.00	1.63	2.81	7.25	8.44	10.22	2.94	9.69	15.00	.94	7/8-9	14.25	1.13	—	.25	.984	2.25	3.25	4.75	.563	12	1.63	2.38
12	15.25	19.00	1.75	3.19	8.75	10.00	11.94	3.00	11.69	15.00	.94	7/8-9	17.00	1.25	—	.38	1.033	2.25	3.50	5.00	.688	12	1.75	2.50
14	16.75	21.00	1.88	3.63	9.88	10.88	13.19	3.00	12.81	15.00	1.06	1-8	18.75	1.38	—	.38	1.156	2.25	4.75	5.63	.688	12	2.38	2.81
16	19.88	23.50	2.19	4.00	11.28	12.59	14.34	4.56	14.78	11.25	1.13	1-8	21.25	1.50	—	.38	1.28	3.63	5.13	7.00	.688	16	2.56	3.50
18	21.00	25.00	2.47	4.50	13.38	13.38	16.44	4.81	16.75	11.25	1 1/8-8	1 1/8-8	22.75	1.75	—	.50	1.47	4.00	5.50	8.00	.813	16	2.75	4.00
20	23.00	27.50	2.47	5.00	14.81	14.81	18.00	4.81	18.72	9	1 1/8-8	1 1/8-8	25.00	1.75	—	.50	1.47	4.00	5.50	8.00	.813	20	2.75	4.00
24	27.75	32.00	3.03	6.06	16.63	16.63	20.25	4.44	22.63	9	1 1/8-8	1 1/8-8	29.50	2.75	—	.75	2.38	4.00	9.00	11.00	.813	20	4.50	5.50

All measurements are in inches.

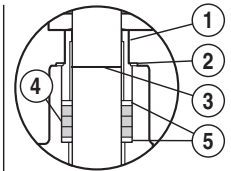
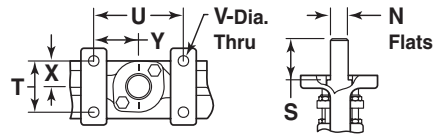


Dimensions (millimeters) - ANSI Class 150

Keyed Stem
10"-24" Cl. 150
8"-12" Cl. 300



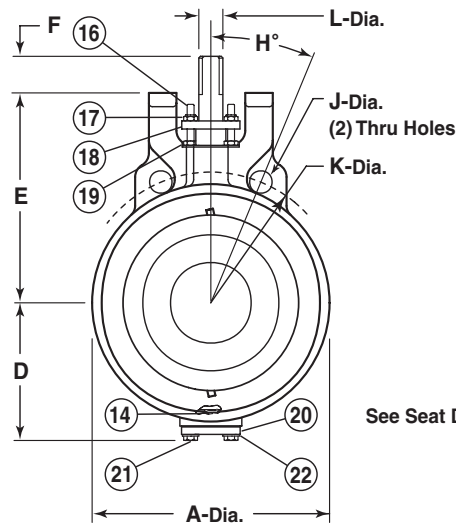
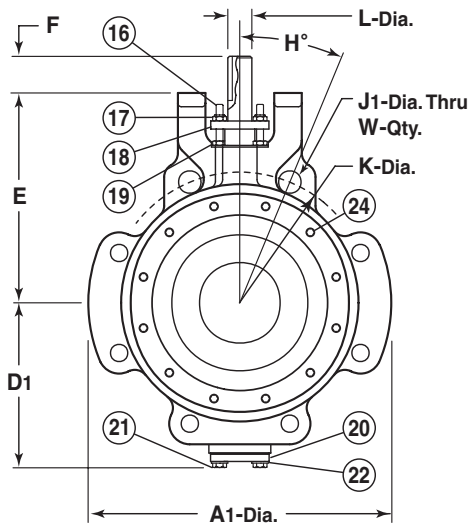
Flatted Stem
2 1/2"-8" Cl. 150
3"-6" Cl. 300



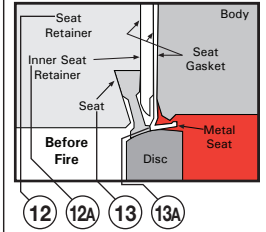
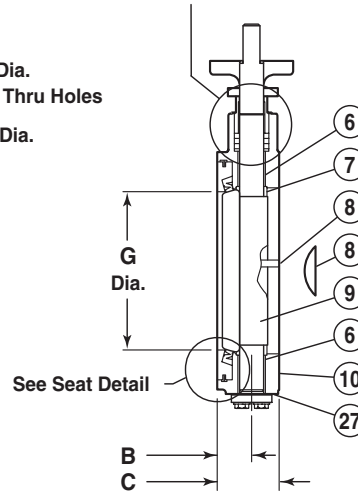
Stem Detail

Lug Style

Wafer Style



See Stem Detail

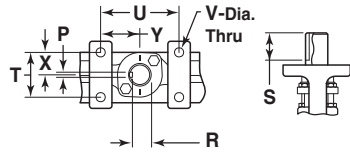


Size	Dimension (mm) - ANSI Class 150																							
	A	A1	B	C	D	D1	E	F	G	H	J	J1	K	L	N	P	R	S	T	U	V	W	X	Y
2.5	119.1	171.5	26.9	47.8	76.2	76.2	120.7	25.4	55.6	1143	17.5	5/8 - 11	139.7	14.2	9.7	—	—	27.4	38.1	82.6	8.7	4	19.1	41.4
3	131.8	184.2	26.9	47.8	82.6	84.1	130.3	25.4	71.4	1143	17.5	5/8 - 11	152.4	14.2	9.7	—	—	27.4	38.1	82.6	8.7	4	19.1	41.4
4	165.1	225.6	26.9	54.1	100.1	125.5	158.8	25.4	98.6	571.5	17.5	5/8 - 11	190.5	16	12.7	—	—	27.4	50.8	88.9	10.3	8	25.4	44.5
5	192	254	31.8	57.2	115.8	138.2	179.3	25.4	120.6	571.5	20.6	3/4 - 10	215.9	22.4	16	—	—	27.4	50.8	88.9	10.3	8	25.4	44.5
6	213.2	279.4	31.8	57.2	127	149.4	193.8	25.4	146.1	571.5	20.6	3/4 - 10	241.3	22.4	16	—	—	27.4	50.8	88.9	10.3	8	25.4	44.5
8	274.6	342.9	36.6	63.5	157.2	177.8	224.6	44.5	193.8	571.5	20.6	3/4 - 10	298.5	28.7	22.4	—	—	46.4	65	101.6	14.3	8	32.5	50.8
10	327.2	406.4	41.4	71.4	184.2	214.4	259.6	74.7	246.1	381	23.9	7/8 - 9	362	28.7	—	6.4	25	57.2	82.6	120.7	14.3	12	41.4	60.5
12	387.4	482.5	44.5	81	222.3	254	303.3	76.2	296.9	381	23.9	7/8 - 9	431.8	31.8	—	9.7	26.2	57.2	88.9	127	17.5	12	44.5	63.5
14	425.5	533.4	47.8	92.2	251	276.4	335	76.2	325.4	381	26.9	1-8	476.3	35.1	—	9.7	29.4	57.2	120.7	143	17.5	12	60.5	71.4
16	505	596.9	55.6	101.6	286.5	319.8	364.2	115.8	375.4	285.8	28.7	1-8	539.8	38.1	—	9.7	32.5	92.2	130.3	177.8	17.5	16	65	88.9
18	533.4	635	62.7	114.3	339.9	339.9	417.6	122.2	425.5	285.8	1 1/8 - 8	1 1/8 - 8	577.9	44.5	—	12.7	37.3	101.6	139.7	203.2	20.7	16	69.9	101.6
20	584.2	698.5	62.7	127	376.2	376.2	457.2	122.2	475.5	228.6	1 1/8 - 8	1 1/8 - 8	635	44.5	—	12.7	37.3	101.6	139.7	203.2	20.7	20	69.9	101.6
24	704.9	812.8	77	153.9	442.4	442.4	514.4	112.8	574.8	228.6	1 1/8 - 8	1 1/4 - 8	749.3	69.9	—	19.1	60.5	101.6	228.6	279.4	20.7	20	114.3	139.7

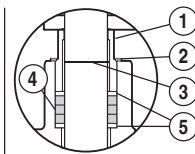
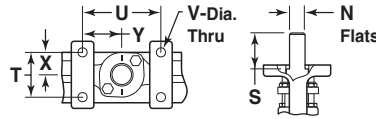
All measurements are in millimeters

Dimensions - ANSI Class 300

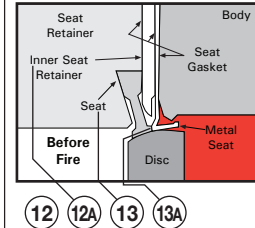
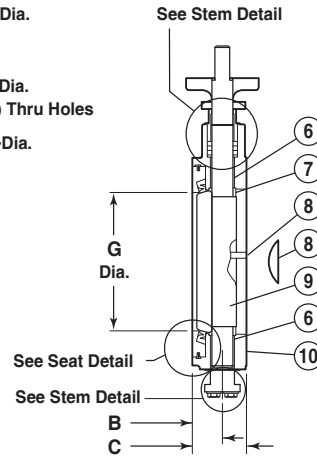
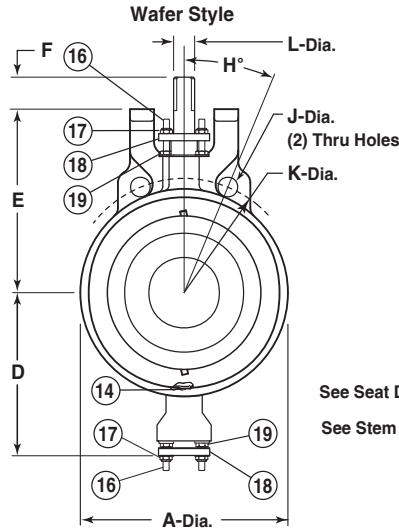
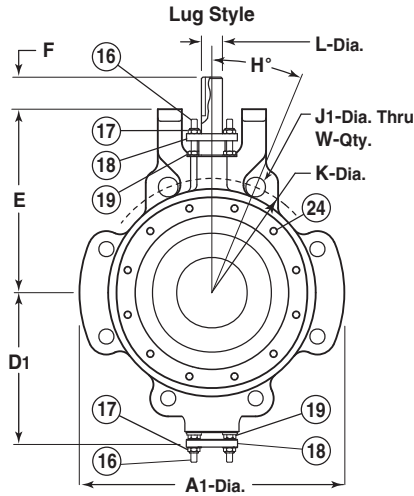
Keyed Stem
10"-24" Cl. 150
8"-12" Cl. 300



Flatted Stem
2 1/2"-8" Cl. 150
3"-6" Cl. 300



Upper and Lower Stem Detail



Size (in)	Dimensions (in.) - ANSI Class 300																							
	A	A1	B	C	D	D1	E	F	G	H	J	J1	K	L	N	P	R	S	T	U	V	W	X	Y
3	5.19	8.25	1.06	1.88	5.75	5.75	5.81	1.00	2.81	22.50	.81	3/4-10	6.63	.56	.38	-	-	1.078	1.50	3.25	.344	8	.75	1.63
4	6.50	9.38	1.06	2.13	6.69	6.69	6.75	1.00	3.88	22.50	.81	3/4-10	7.88	.63	.50	-	-	1.078	2.00	3.50	.406	8	1.00	1.75
6	8.63	12.00	1.25	2.31	7.88	7.88	8.25	1.00	5.75	15.00	.81	3/4-10	10.63	.88	.63	-	-	1.078	2.00	3.50	.406	12	1.00	1.75

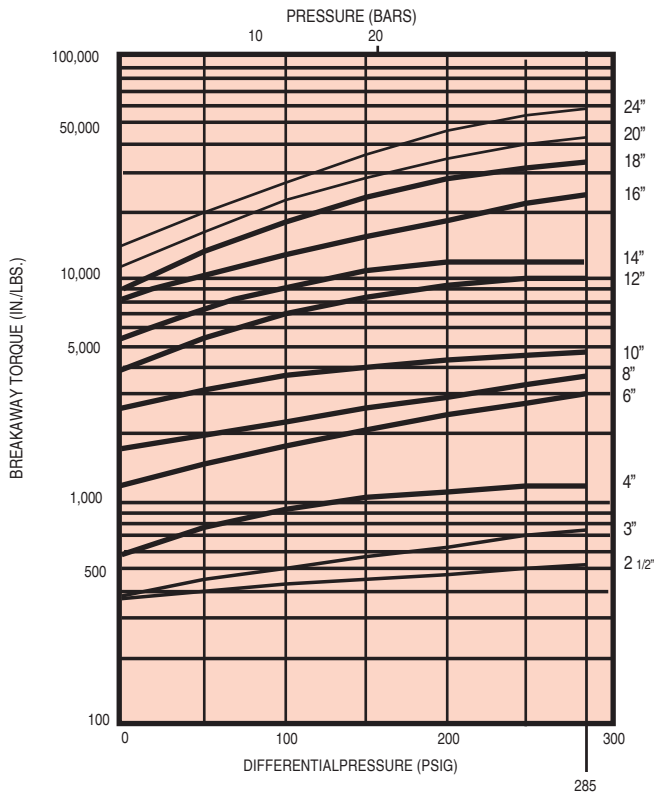
Size (in)	Dimensions (mm.) - ANSI Class 300																							
	A	A1	B	C	D	D1	E	F	G	H	J	J1	K	L	N	P	R	S	T	U	V	W	X	Y
3	131.8	209.6	26.9	47.8	146.1	146.1	147.6	25.4	71.4	571.5	20.6	3/4-10	168.4	14.2	9.7	-	-	27.4	38.1	82.6	8.7	8	19.1	41.4
4	165.1	238.3	26.9	54.1	169.9	169.9	171.5	25.4	98.6	571.5	20.6	3/4-10	200.2	16.0	12.7	-	-	27.4	50.8	88.9	10.3	8	25.4	44.5
6	219.2	304.8	31.8	58.7	200.2	200.2	209.6	25.4	146.1	381.0	20.6	3/4-10	270.0	22.4	16.0	-	-	27.4	50.8	88.9	10.3	12	25.4	44.5

Size (in)	Weight in LBS (Bare Stem)													
	2 1/2"	3"	4	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	
1150/2150	10	12	16	25	30	50	80	150	215	325	375	450	700	
1151/2151	15	17	23	37	42	70	115	210	300	450	525	625	950	
1300/2300	N/A	19	23	N/A	37									
1301/2301	N/A	23	30	N/A	50									



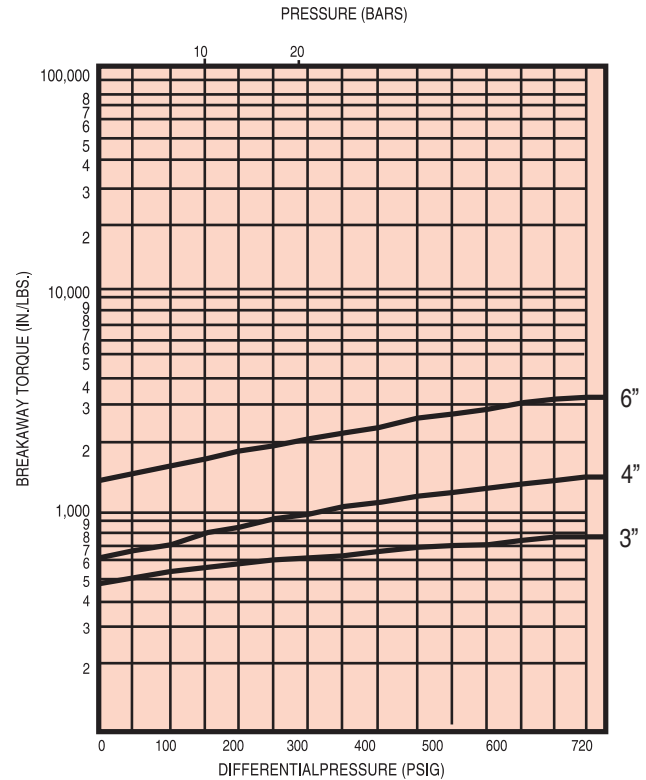
Technical Data

Torque - ANSI Class 150



Note: Torques based on clean service only.
Certain highly viscous or abrasive services could increase these values.

Torque - ANSI Class 300



Note: Torques based on clean service only.
Certain highly viscous or abrasive services could increase these values.

Operating Torque

Firesafe Operating Torque (in-lbs.)									
PSIG	100		200		285		400	600	740
Size (in.)	150#	300#	150#	300#	150#	300#	300#	300#	300#
2 1/2	420	N/A	470	N/A	500	N/A	N/A	N/A	N/A
3	500	500	610	610	720	720	750	775	825
4	900	900	1100	1100	1300	1300	1400	1500	1700
5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	1600	1600	2400	2400	3000	3000	3200	3400	3500
8	2300	N/A	2900	N/A	3500	N/A	N/A	N/A	N/A
10	3700	N/A	4400	N/A	4600	N/A	N/A	N/A	N/A
12	7000	N/A	9100	N/A	9900	N/A	N/A	N/A	N/A
14	9000	N/A	12000	N/A	13000				
16	14000	N/A	18000	N/A	24000				
18	18000	N/A	29000	N/A	34000				
20	22000	N/A	36000	N/A	44000				
24	27000	N/A	48000	N/A	60000				

Note: All torques based on clean service without safety factor.