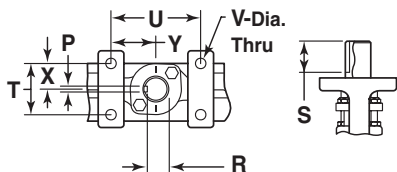
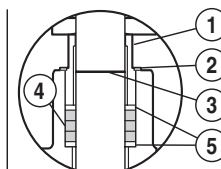
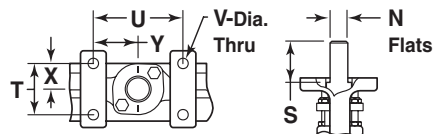


# Dimensions (inches) - ANSI Class 150

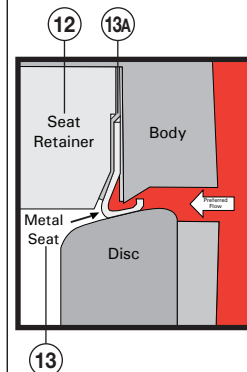
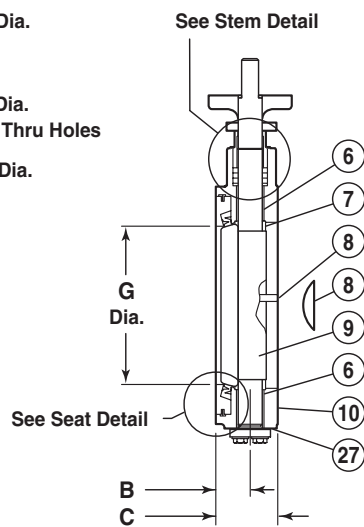
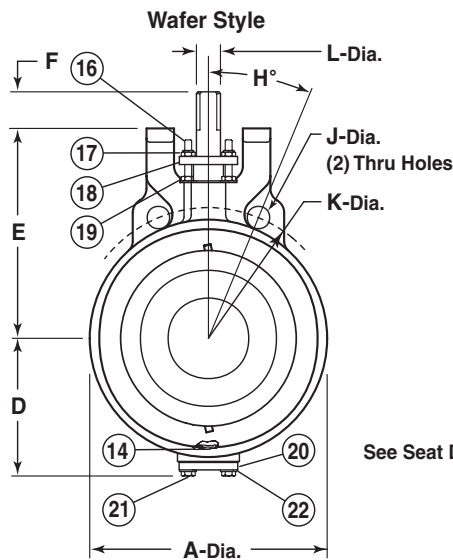
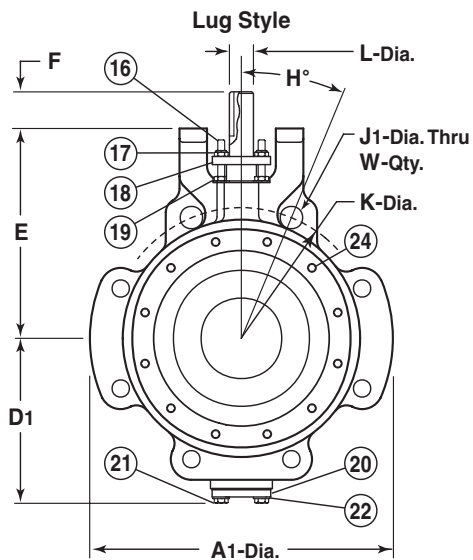
Keyed Stem  
10"-24" Cl. 150  
8"-12" Cl. 300



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



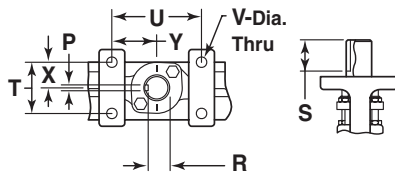
Stem Detail



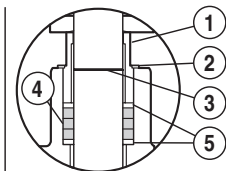
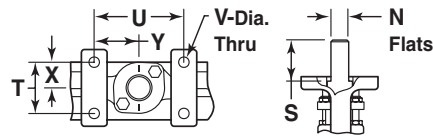
Size	Dimension (in.) - ANSI Class 150																							
	A	A1	B	C	D	D1	E	F	G	H	J	J1	K	L	N	P	R	S	T	U	V	W	X	Y
2.5	4.69	6.75	1.06	1.88	3.00	3.00	4.75	1.00	2.19	45.00	.69	5/8-11	5.50	.56	.38	—	—	1.078	1.50	3.25	.344	4	.75	1.63
3	5.19	7.25	1.06	1.88	3.25	3.31	5.13	1.00	2.81	45.00	.69	5/8-11	6.00	.56	.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

# Dimensions (millimeters) - ANSI Class 150

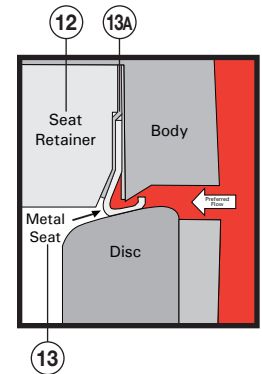
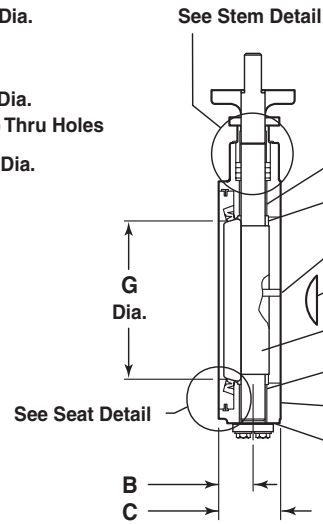
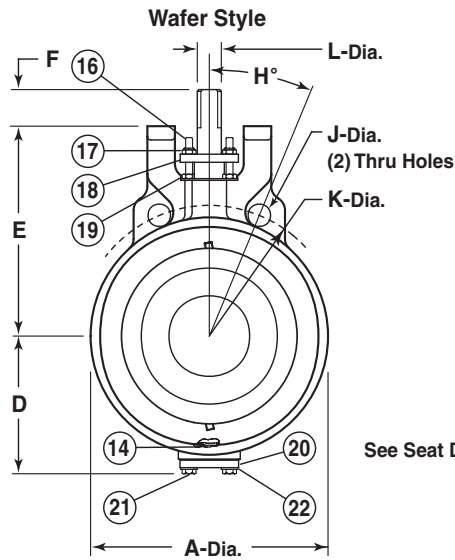
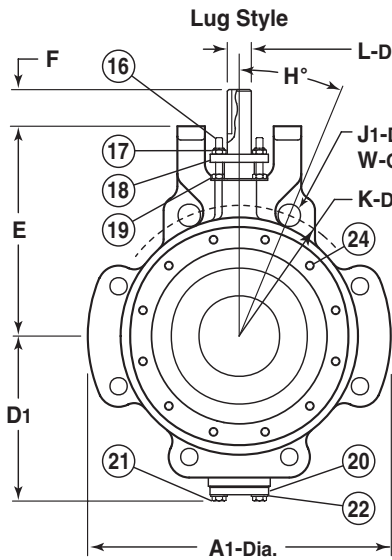
Keyed Stem  
10"-24" Cl. 150  
8"-12" Cl. 300



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



Stem Detail



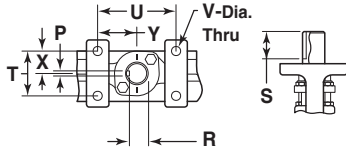
Size	Dimension (mm) - ANSI Class 150																							
	A	A1	B	C	D	D1	E	F	G	H	J	J1	K	L	N	P	R	S	T	U	V	W	X	Y
2.5	119.1	171.5	26.9	47.8	76.2	76.2	120.7	25.4	55.6	1143	17.5	5/8 - 11	139.7	14.2	9.7	—	—	27.4	38.1	82.6	8.7	4	19.1	41.4
3	131.8	184.2	26.9	47.8	82.6	84.1	130.3	25.4	71.4	1143	17.5	5/8 - 11	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

See the back of this catalogue for more information and a guide on how to order

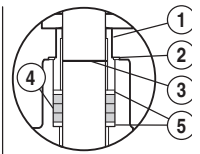
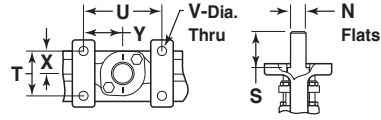


# Dimensions - ANSI Class 300

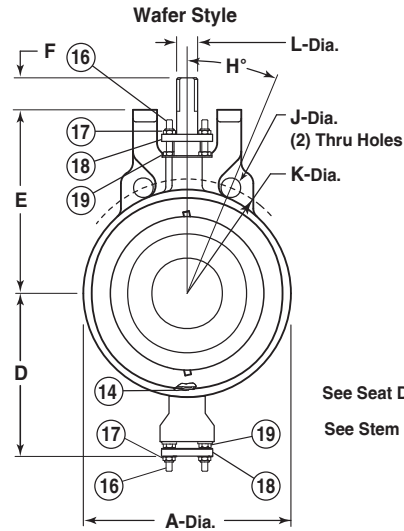
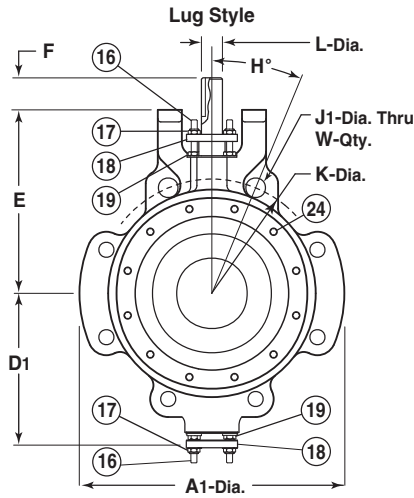
Keyed Stem  
10"-24" Cl. 150  
8"-12" Cl. 300



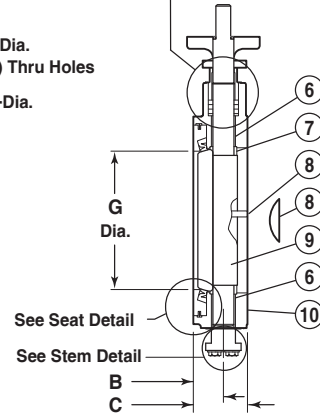
Flatted Stem  
2 1/2"-8" Cl. 150  
3"-6" Cl. 300



Upper and Lower Stem Detail

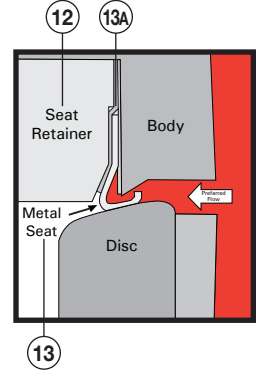


See Stem Detail



See Seat Detail

See Stem Detail



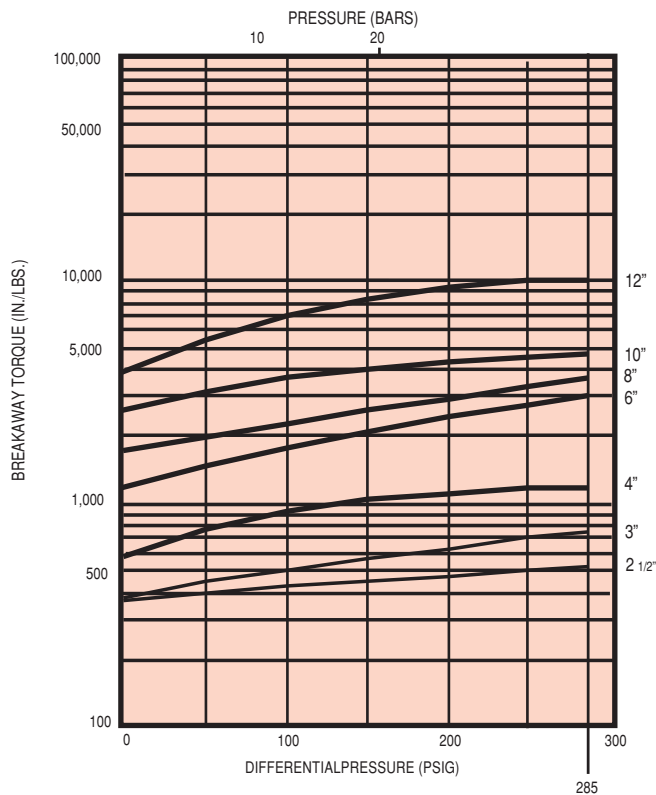
Size (in)	Dimensions (in.) - ANSI Class 300																							
	A	A1	B	C	D	D1	E	F	G	H	J	J1	K	L	N	P	R	S	T	U	V	W	X	Y
3	5.19	8.25	1.06	1.88	5.75	5.75	5.81	1.00	2.81	22.50	.81	3/4-10	6.63	.56	.38	-	-	1.078	1.50	3.25	.344	8	.75	1.63
4	6.50	9.38	1.06	2.13	6.69	6.69	6.75	1.00	3.88	22.50	.81	3/4-10	7.88	.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
8	10.63	15.00	1.61	2.88	9.50	9.50	10.25	2.31	7.50	15.00	.94	7/8-9	13.00	1.25	-	.38	1.03	2.38	3.25	4.75	.563	12	1.63	2.38
10	13.13	17.50	1.56	3.25	12.19	12.19	12.81	3.00	9.50	11.25	.106	1-8	15.25	1.38	-	.38	1.16	3.00	3.25	4.75	.563	16	1.63	2.38
12	15.50	20.50	2.00	3.63	15.31	15.31	15.00	3.00	11.30	11.25	1 1/8-8	1 1/8-8	17.75	1.75	-	.38	1.53	2.75	4.75	6.25	.688	16	2.38	3.13

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
8	270.0	381.0	40.9	73.2	241.3	241.3	260.4	58.7	190.5	381.0	23.9	7/8-9	330.2	31.8	-	9.7	26.2	60.5	82.6	120.7	14.3	12	41.4	60.5
10	333.5	444.5	39.6	82.6	309.6	309.6	352.4	76.2	241.3	285.8	26.9	1-8	387.4	35.1	-	9.7	29.5	76.2	82.6	120.7	14.3	16	41.4	60.5
12	393.7	520.7	50.8	92.2	388.9	388.9	381.0	76.2	287.0	285.8	28.7	1 1/8-8	450.9	44.5	-	9.7	38.9	69.9	12.7	158.8	17.5	16	60.5	79.5

Size (in)	Weight in LBS (Bare Stem)							
	2 1/2"	3"	4	5"	6"	8"	10"	12"
1150/2150	10	12	16	25	30	50	80	150
1151/2151	15	17	23	37	42	70	115	210
1300/2300	N/A	19	23	N/A	37	60	92	176
1301/2301	N/A	23	30	N/A	50	80	125	240

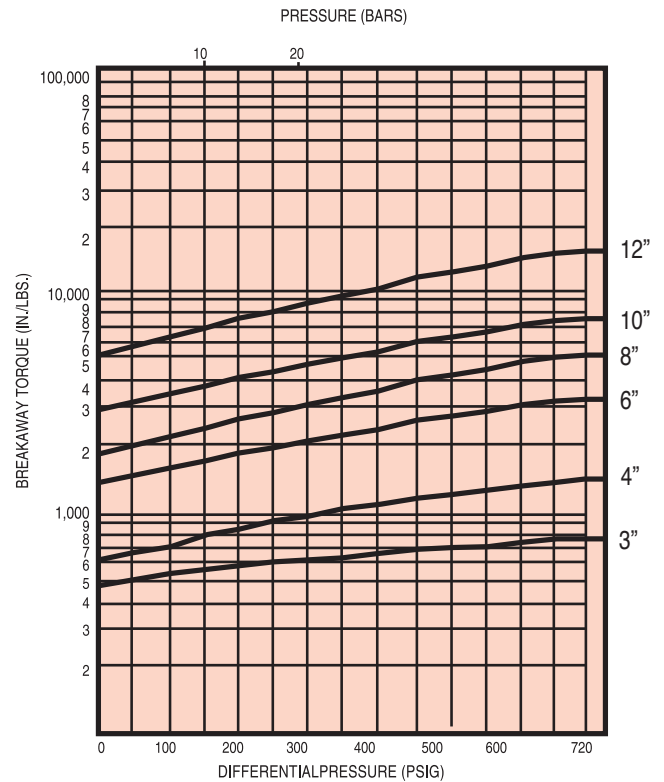
# Technical Data

## 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.

Torque in LBS									
PSIG	100		200		285		400	600	740
Size	150#	300#	150#	300#	150#	300#	300#	300#	300#
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	2500	2900	3200	3500	3500	4000	4700	5000
10"	3700	4000	4400	4500	4600	5300	5800	7000	7500
12"	7000	7700	9100	9400	9900	9900	10000	12500	13500