

**FIGURE 451 & 551, 150 LBS GATE**

VALVE SIZE (INCH)	STEM DIA (INCH)	TPI	PITCH (INCH)	START (LEAD)	THRUST (LBS)	TORQUE (LBS-FT)	LIFT (INCH)	TURNS
2	3/4	5ACME	0.2	1	854	10.69	2.36	13
2-1/2	3/4	5ACME	0.2	1	944	12.02	3.27	16
3	7/8	5ACME	0.2	1	1,214	15.19	3.35	18
4	1	5ACME	0.2	1	1,731	21.98	4.57	22
6	1-1/8	5ACME	0.2	1	3,732	47.2	6.54	36
8	1-1/4	4ACME	0.25	1	6,047	76.41	8.58	37
10	1-3/8	4ACME	0.25	1	9,352	118	10.75	43
12	1-1/2	4ACME	0.25	1	13,533	171	13.15	53
14	1-5/8	3ACME	0.335	1	19,491	246	14.25	43
16	1-3/4	3ACME	0.335	1	26,303	332	17.68	53
18	1-7/8	3ACME	0.335	1	38,105	481	18.86	57
20	2	3ACME	0.335	1	53,302	673	20.94	62
22	2-3/16	3ACME	0.335	1	60,923	783	22.64	68
24	2-1/4	3ACME	0.335	1	73,468	927	24.53	74
26	2-1/2	3ACME	0.335	1	99,186	1,252	27.09	81
28	2-5/8	3ACME	0.335	1	110,359	1,393	28.43	85
30	2-3/4	3ACME	0.335	1	126,612	1,598	29.45	88
32	2-7/8	3ACME	0.335	1	151,903	1,917	35.24	105
36	3	ACME	0.25	2	177,824	2,389	36.61	74

**FIGURE 452 & 552, 300 LBS GATE**

VALVE SIZE (INCH)	STEM DIA (INCH)	TPI	PITCH (INCH)	START (LEAD)	THRUST (LBS)	TORQUE (LBS-FT)	LIFT (INCH)	TURNS
2	3/4	5ACME	0.200	1	1,124	14.31	2.60	13
2-1/2	3/4	5ACME	0.200	1	1,394	17.63	3.15	16
3	7/8	5ACME	0.200	1	1,933	24.34	3.58	19
4	1	5ACME	0.200	1	3,192	40.20	4.49	24
6	1-1/4	4ACME	0.250	1	8,161	103	6.61	36
8	1-3/8	4ACME	0.250	1	14,905	188	8.70	27
10	1-1/2	4ACME	0.250	1	22,975	290	11.18	45
12	1-5/8	3ACME	0.335	1	37,566	474	15.59	47
14	1-3/4	3ACME	0.335	1	47,997	606	14.72	44
16	1-7/8	3ACME	0.335	1	66,116	834	16.57	50
18	2	3ACME	0.335	1	77,739	981	18.15	54
20	2-1/8	3ACME	0.335	1	100,894	1,273	20.00	60
22	2-3/8	3ACME	0.335	1	108,358	1,494	22.76	68
24	2-1/2	3ACME	0.335	1	129,063	1,629	25.12	75
28	2-7/8	3ACME	0.335	1	211,298	2,666	28.11	84
30	3	3ACME	0.335	1	247,065	3,118	33.03	98

## FIGURE 461 & 561, 150 LBS GLOBE

CLASS	VALVE SIZE (INCH)	STEM DIA (INCH)	TPI	PITCH (INCH)	START (LEAD)	THRUST (LBS)	TORQUE (LBS-FT)	LIFT (INCH)	TURNS
150LB	2	3/4	6ACME	0.167	1	1,708	10.85	1.3	8
	2.5	7/8	6ACME	0.167	1	1,848	13.02	1.22	8
	3	1	5ACME	0.200	1	2,722	22.42	1.22	7
	4	1-1/8	5ACME	0.200	1	3,671	32.55	1.57	8
	5	1-1/8	5ACME	0.200	1	4,890	43.40	1.77	9
	6	1-1/4	5ACME	0.200	1	6,381	61.48	2.01	11
	8	1-3/8	4ACME	0.250	1	10,179	112	2.36	10
	10	1-3/4	4ACME	0.250	1	15,059	199	4.06	17
	12	1-7/8	4ACME	0.250	1	21,025	294	4.45	18
	14	2	4ACME	0.250	1	28,075	412	5.08	21
16	2-1/8	3ACME	0.335	1	37,211	610	6.06	19	

## FIGURE 462 & 562, 300 LBS GLOBE

CLASS	VALVE SIZE (INCH)	STEM DIA (INCH)	TPI	PITCH (INCH)	START (LEAD)	THRUST (LBS)	TORQUE (LBS-FT)	LIFT (INCH)	TURNS
300LB	2	3/4	6ACME	0.167	1	2,415	15.19	1.3	8
	2.5	7/8	6ACME	0.167	1	2,696	18.81	1.22	8
	3	1	5ACME	0.200	1	3,932	32.55	1.22	7
	4	1-1/8	5ACME	0.200	1	5,841	52.08	1.53	8
	6	1-3/8	4ACME	0.250	1	11,262	124	2.13	9
	8	1-3/4	4ACME	0.250	1	18,857	249	2.83	12
	10	2	4ACME	0.250	1	28,618	420	3.62	15
	12	2	4ACME	0.250	1	40,550	595	4.57	19

## ABOUT STEM DATA & ACTUATION

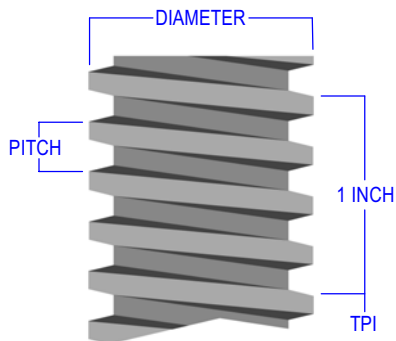


Diagram A

**DIAMETER:** Cross section width of the stem from the outer edges of the thread

**PITCH:** The distance from a point on the stem thread to the corresponding point of the next thread

**TPI:** The number of threads crossed per inch of stem

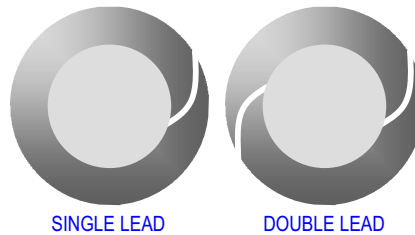


Diagram B

**LEAD:** Lead can be expressed in two ways:

1. The number of starts as seen from the top of the stem as seen in this diagram (or the number of independent interwoven threads running down the stem)
2. Also expressed in inches, lead is the distance the stem travel linearly with one complete turn of the stem nut (i.e. - a single lead is the same as the pitch, a 2 lead stem is twice the pitch, etc.)

**THRUST:** The amount of linear force needed to move the stem up or down assuming the valve stem nut is removed

**TORQUE:** The amount of rotary force needed at the stem to open and close the valve (rotary force is converted to linear force by the mechanics of the stem and stem nut)

**LIFT:** The overall travel of the stem between the valve's open and close position

**Turns:** The overall number of turns needed at the hand wheel to fully open or close the valve (our values are rounded to the nearest whole number)

Note on actuation: When sizing actuators for valves, always include an engineering safety factor that is appropriate to the application. The values provided here are from factory testing in ideal situations. Contact FNW if you require assistance.