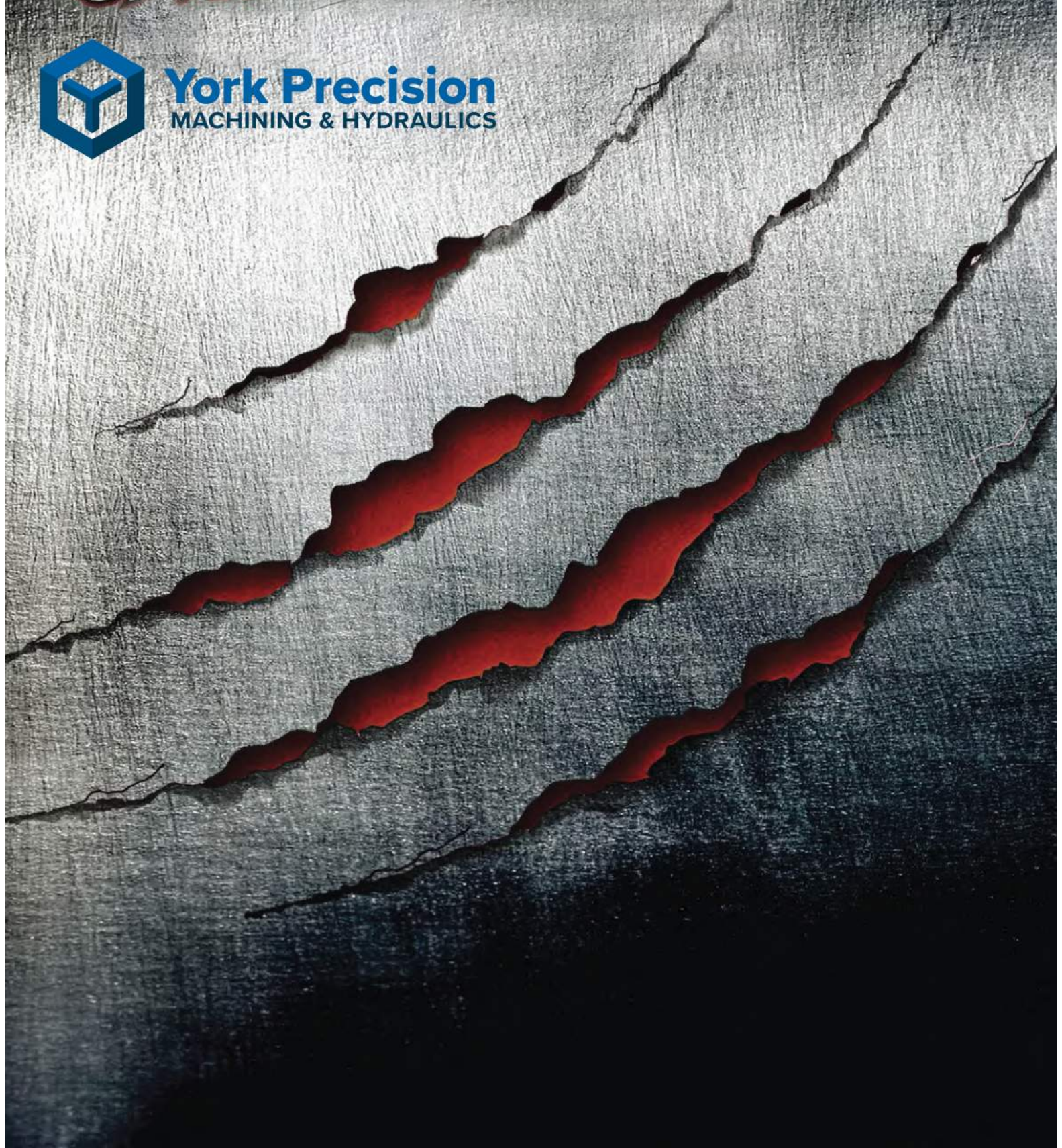


THE MOST RELIABLE LOCKING DEVICE

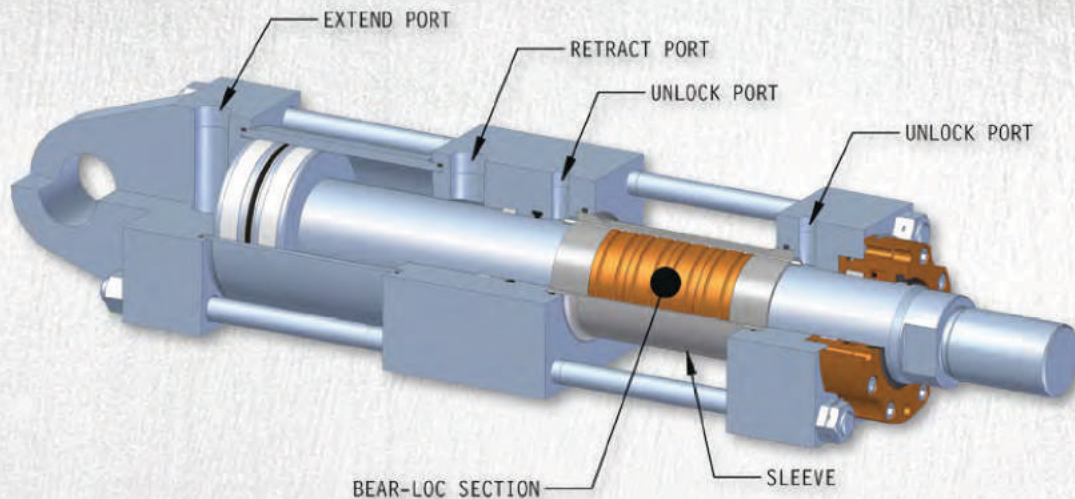


**York Precision**  
MACHINING & HYDRAULICS



## WHAT IS A BEAR-LOC®

**BEAR-LOC®** is a simple, reliable locking device which can be used where infinite-position locking, zero backlash and high system stiffness are required. **BEAR-LOC®** has a unique patented design based on the principle of elastic expansion of metal under pressure. It is simpler, more efficient and more reliable than any other available locking system. **BEAR-LOC®** has been designed in a wide range of sizes, with rod diameters from 1 inch to 25 inches, sleeve lengths from 1 inch to seven feet and lock capacities up to 4 million pounds.



## BEAR-LOC® OPERATING PRINCIPLES

The **BEAR-LOC®** Section is comprised of a rod and liners enclosed in a sleeve which forms an interference fit with the outside diameter of the rod. This interference provides a positive mechanical connection to lock the rod in any phase of the stroke. As soon as hydraulic pressure is applied, the sleeve expands radially removing the interference and creating enough clearance for the rod to be stroked with minimal resistance. Simply remove the hydraulic pressure and the **BEAR-LOC®** re-engages automatically.



## BEAR-LOC® UNIQUE FEATURES

**AUTOMATIC LOCKING:** **BEAR-LOC®** locks automatically when sleeve pressure is removed. Whether pressure is removed on command, or if pressure is lost, the **BEAR-LOC®** will engage automatically providing the most reliable, positive, FAIL-SAFE locking device in the industry.

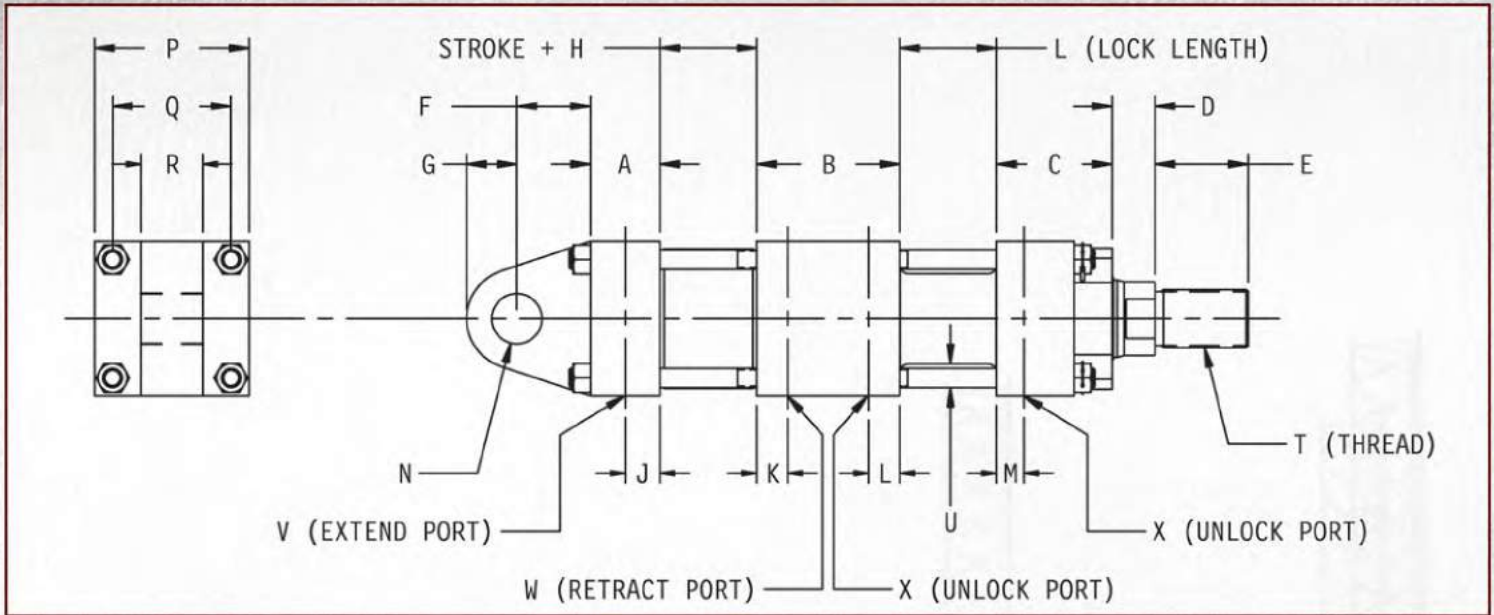
**DESIGN SIMPLICITY:** **BEAR-LOC®** does not depend on moving parts, valves or other components to obtain its positive mechanical lock.

**INFINITE POSITION - BIDIRECTIONAL LOCKING:** The rod can be engaged by the lock in any position along its stroke, and motion is impossible in ANY direction when the **BEAR-LOC®** is engaged and operated within its rated capacity.

**VERSATILITY:** **BEAR-LOC®**'s are available in a wide range of configurations such as Linear **BEAR-LOC®** Actuators, Linear **BEAR-LOC®** Units, and Rotary **BEAR-LOC®** Units. All available in both Tie Rod and MillType Constructions.

**ENGINEERING DESIGN:** York Precision Machining & Hydraulics is staffed with its own Engineers available to design any specific **BEAR-LOC®** for your application. Contact York Precision Sales/Engineering with your specific needs.

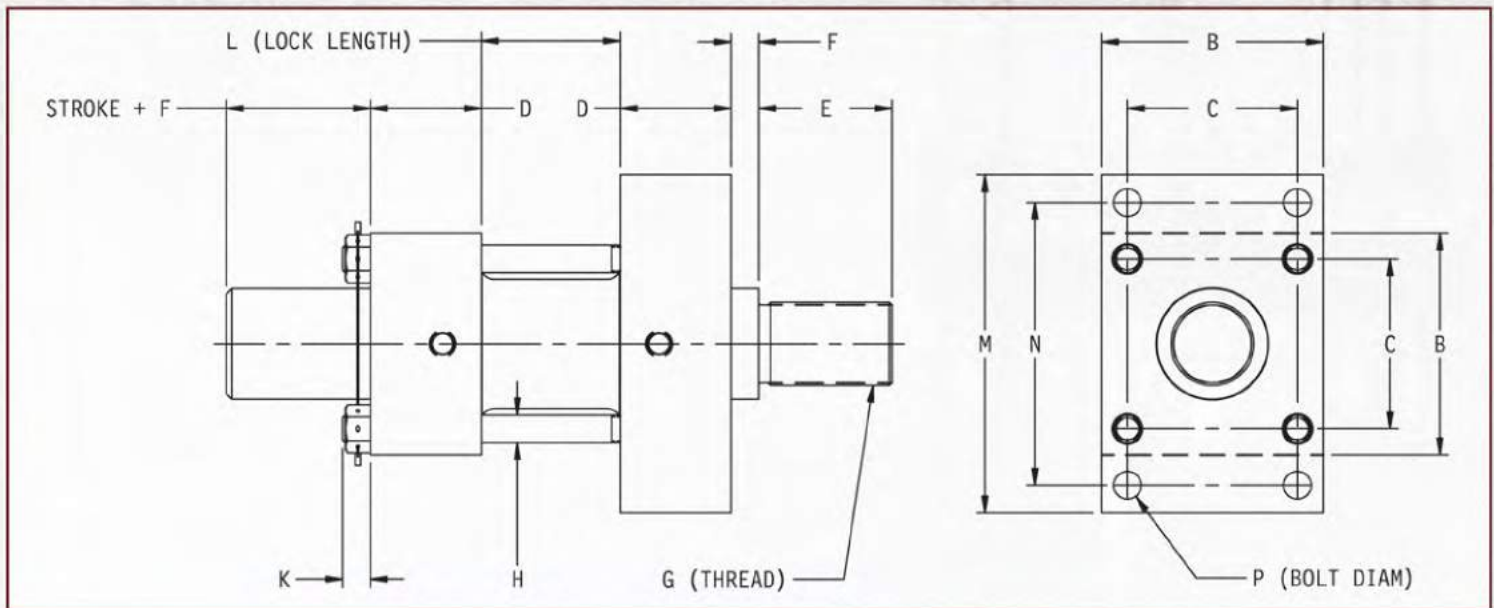
# BEAR-LOC® ACTUATOR - EYE MOUNT



BORE	ROD	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X
1.50	1.00	1.75	3.00	2.50	1.00	1.12	1.12	.59	1.38	.88	.75	.75	.75	.500	2.50	1.62	.75	.44	3/4-16	.38	7/8-14	3/4-16	1/2-20
2.50	1.75	1.75	2.87	3.00	1.25	2.00	1.62	1.00	1.50	.88	.78	.62	.75	1.000	3.50	2.56	1.25	.50	1 1/4-12	.50	7/8-14	3/4-16	1/2-20
4.00	2.50	2.50	3.25	3.75	1.50	3.00	2.38	1.62	2.00	1.25	.88	.81	1.00	1.625	5.00	3.81	2.00	.69	1 7/8-12	.62	1 5/16-12	7/8-14	3/4-16
6.00	4.00	2.50	4.38	3.75	1.62	4.00	3.00	2.25	2.88	1.31	1.25	.88	.88	2.250	7.50	5.75	2.50	1.00	3-12	1.00	1 5/8-12	7/8-14	3/4-16
8.00	5.50	3.62	4.75	5.12	1.62	5.50	4.00	3.00	3.50	1.75	1.43	1.00	1.38	3.000	9.50	7.50	3.00	1.19	4-12	1.25	1 7/8-12	1 5/8-12	7/8-14

Other sizes also available.

# BEAR-LOC® UNIT - FLANGE MOUNT



ROD	B	C	D	E	F	G	H	J	K	M	N	P
1.00	2.50	1.62	2.25	1.25	.375	3/4-16	.375	6.50	.44	4.25	3.44	.375
1.75	3.50	2.56	2.25	2.00	.375	1 1/4-12	.500	7.25	.56	5.62	4.62	.500
2.50	5.00	3.81	2.25	2.88	.625	1 7/8-12	.625	8.62	.69	7.62	6.38	.625
4.00	7.50	5.75	2.25	4.00	.625	3-12	1.000	9.75	1.00	11.25	9.44	1.000
5.50	9.50	7.50	3.00	4.00	.625	4-12	1.250	11.25	1.12	14.00	11.81	1.250

**NOTE: BECAUSE END BLOCKS ARE INTERCHANGEABLE, FLANGE CAN BE ASSEMBLED AT EITHER END.**

Trunnion, foot, heavy flange, and extended tie rod mounting configuration also available, please call with your application.

# LOCK LENGTH SELECTION CHART

## LOCK SELECTION PROCEDURE:

- Choose Hydraulic System Pressure (2000 to 5000 psi).
- Use Rod Diameter Consistent With Structural Load Requirements.
- Determine Load to be Locked (Maximum Design Load Times Desired Safety Factor).
- Using Chart, Find Lock Length Required.

## EXAMPLE:

- System Pressure - 3000 psi
- 4 inch Rod
- (48,000) (1.25) = 60,000 lbs.
- Lock Unit - (-14) 61,600 lbs.
- Lock Length (L) is 15.25"

1" ROD					
LOCK UNIT	LOCK LENGTH	LOCK CAPACITY			LOCK LENGTH
		Series 2000	Series 3000	Series 5000	
-2	2.75	880	1760	3550	2.75
-3	3.75	1320	2640	5325	3.75
-4	4.75	1760	3520	7100	4.75
-5	5.75	2200	4400	8875	5.75
-6	6.75	2640	5280		
-7	7.75	3080	6160		
-8	8.75	3520	7040		
-9	9.75	3960	7920		
-10	10.75	4400	8800		

1-3/4" ROD					
LOCK UNIT	LOCK LENGTH	LOCK CAPACITY			LOCK LENGTH
		Series 2000	Series 3000	Series 5000	
-2	2.88	1870	3740	6430	3.12
-3	3.88	2800	5610	9650	4.12
-4	4.88	3740	7480	12860	5.12
-5	5.88	4670	9350	16080	6.12
-6	6.88	5610	11220	19300	7.12
-7	7.88	6540	13090	22510	8.12
-8	8.88	7480	14960	25730	9.12
-9	9.88	8410	16830		
-10	10.88	9350	18700		
-11	11.88	10280	20570		
-12	12.88	11220	22440		
-13	13.88	12150	24310		

2-1/2" ROD					
LOCK UNIT	LOCK LENGTH	LOCK CAPACITY			LOCK LENGTH
		Series 2000	Series 3000	Series 5000	
-2	3.12	2630	5260	9500	3.62
-3	4.12	3940	7890	14260	4.62
-4	5.12	5260	10520	19010	5.62
-5	6.12	6570	13150	23750	6.62
-6	7.12	7890	15780	28510	7.62
-7	8.12	9200	18410	33260	8.62
-8	9.12	10520	21040	38020	9.62
-9	10.12	11830	23670	42770	10.62
-10	11.12	13150	26300	47520	11.62
-11	12.12	14460	28930	52270	12.62
-12	13.12	15780	31560	57020	13.62
-13	14.12	17090	34190	61780	14.62
-14	15.12	18410	36820		
-15	16.12	19720	39450		
-16	17.12	21040	42080		
-17	18.12	22350	44710		
-18	19.12	23670	47340		
-19	20.12	24960	49920		
-20	21.12	26300	52600		
-21	22.12	27610	55230		
-22	23.12	28930	57860		
-23	24.12	30240	60490		
-24	25.12	31560	63120		

4" ROD					
LOCK UNIT	LOCK LENGTH	LOCK CAPACITY			LOCK LENGTH
		Series 2000	Series 3000	Series 5000	
-2	3.25	4400	8800	15700	4.25
-3	4.25	6600	13200	23550	5.25
-4	5.25	8800	17600	31400	6.25
-5	6.25	11000	22000	39250	7.25
-6	7.25	13200	26400	47100	8.25
-7	8.25	15400	30800	54950	9.25
-8	9.25	17600	35200	62800	10.25
-9	10.25	19800	39600	70650	11.25
-10	11.25	22000	44000	78500	12.25
-11	12.24	24200	48400	86350	13.25
-12	13.25	26400	52800	94200	14.25
-13	14.25	28600	57200	102050	15.25
-14	15.25	30800	61600	109900	16.25
-15	16.25	33000	66000	117750	17.25
-16	17.25	35200	70400	125600	18.25
-17	18.25	37400	74800		
-18	19.25	39600	79200		
-19	20.25	41800	83600		
-20	21.25	44000	88000		
-21	22.25	46200	92400		
-22	23.25	48400	96800		
-23	24.25	50600	101200		
-24	25.25	52800	105600		
-25	26.25	55000	110000		
-26	27.25	57200	114400		
-27	28.25	59400	118800		
-28	29.25	61600	123200		
-29	30.25	63800	127600		
-30	31.25	66000	132000		

5-1/2" ROD					
LOCK UNIT	LOCK LENGTH	LOCK CAPACITY			LOCK LENGTH
		Series 2000	Series 3000	Series 5000	
-2	3.5	7000	14000	22120	5.0
-4	5.5	14000	28000	44230	7.0
-6	7.5	21000	42000	66350	9.0
-8	9.5	28000	56000	88460	11.0
-10	11.5	35000	70000	110580	13.0
-12	13.5	42000	84000	132700	15.0
-14	15.5	49000	98000	154800	17.0
-16	17.5	56000	112000	176930	19.0
-18	19.5	63000	126000	199040	21.0
-20	21.5	70000	140000	221160	23.0
-22	23.5	77000	154000	243280	25.0
-24	25.5	84000	168000		
-26	27.5	91000	182000		
-28	29.5	98000	196000		
-30	31.5	105000	210000		
-32	33.5	112000	224000		
-34	35.5	119000	238000		
-36	37.5	126000			



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