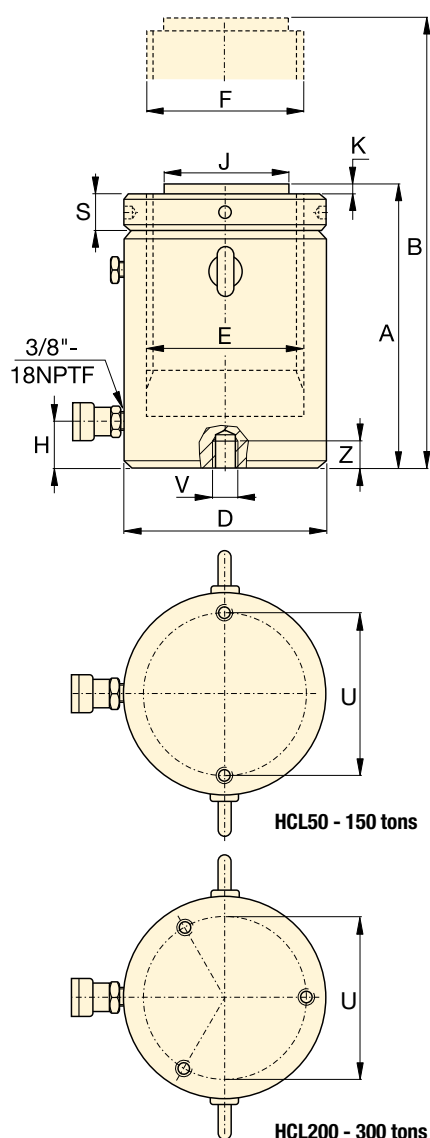




HCL50 - 150 tons

HCL200 - 300 tons

HCL-Series, Single-Acting, Gravity Return Cylinders

- Lock nut provides positive and safe mechanical load holding
- Low-friction locking rings spin easy, save time and effort
- Designed to withstand 10% side load up to 90% of maximum stroke
- Hardened surface resists side loading and cyclic wear
- Overflow port as stroke limiter to prevent plunger blow-out
- Weather protected, inside and out
- Replaceable bearings enclose the plunger for support throughout the stroke
- Certified lifting eyes and base mounting holes.

SELECTION CHART 50 - 300 TONS HCL-MODELS

For 400 - 1000 tons models, see pages 64-65.

For full product features see pages 50-51.

Cylinder Capacity	Stroke	Model Number	Maximum Cylinder Capacity at 10,150 psi	Cylinder Effective Area	Oil Capacity	Collapsed Height
tons	(in)		tons	(in ²)	(in ³)	A (in)
50	1.97	HCL502	62	12.17	23.96	6.46
	3.94	HCL504			47.93	8.43
	5.91	HCL506			71.89	10.39
	7.87	HCL508			95.86	12.36
	9.84	HCL5010			119.82	14.33
	11.81	HCL5012			143.78	16.30
100	1.97	HCL1002	113	22.19	43.67	7.36
	3.94	HCL1004			87.35	9.33
	5.91	HCL1006			131.02	11.30
	7.87	HCL1008			174.70	13.27
	9.84	HCL10010			218.37	15.24
	11.81	HCL10012			262.05	17.20
150	1.97	HCL1502	168	33.14	65.24	8.23
	3.94	HCL1504			130.48	10.20
	5.91	HCL1506			195.73	12.17
	7.87	HCL1508			260.97	14.13
	9.84	HCL15010			326.21	16.10
	11.81	HCL15012			391.45	18.07
200	1.97	HCL2002	223	43.95	86.51	9.37
	3.94	HCL2004			173.02	11.34
	5.91	HCL2006			259.53	13.31
	7.87	HCL2008			346.04	15.28
	9.84	HCL20010			432.55	17.24
	11.81	HCL20012			519.06	19.21
250	1.97	HCL2502	286	56.27	110.77	9.80
	3.94	HCL2504			221.55	11.77
	5.91	HCL2506			332.32	13.74
	7.87	HCL2508			443.09	15.71
	9.84	HCL25010			553.87	17.68
	11.81	HCL25012			664.64	19.65
300	1.97	HCL3002	341	67.23	132.34	10.94
	3.94	HCL3004			264.68	12.91
	5.91	HCL3006			397.02	14.88
	7.87	HCL3008			529.36	16.85
	9.84	HCL30010			661.71	18.82
	11.81	HCL30012			794.05	20.79

Base Mounting Holes

Model / Capacity tons	Bolt Circle	Thread Size	Minimum Thread Depth	Number of Holes	Angle from Coupler (degrees)
	U (in)	V (mm)	Z (in)		
HCL50	4.13	M8 x 1,25	0.39	2	90°
HCL100	5.91	M12 x 1,75	0.67	2	90°
HCL150	7.28	M12 x 1,75	0.87	2	90°
HCL200	8.46	M12 x 1,75	0.87	3	60°
HCL250	9.65	M12 x 1,75	0.87	3	60°
HCL300	10.24	M16 x 2	0.98	3	60°

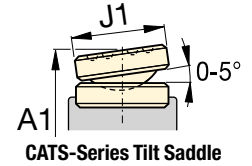
Single-Acting, High-Tonnage Lock Nut Cylinders

Capacity:
50 - 300 tons

Stroke:
1.97 - 11.81 inches

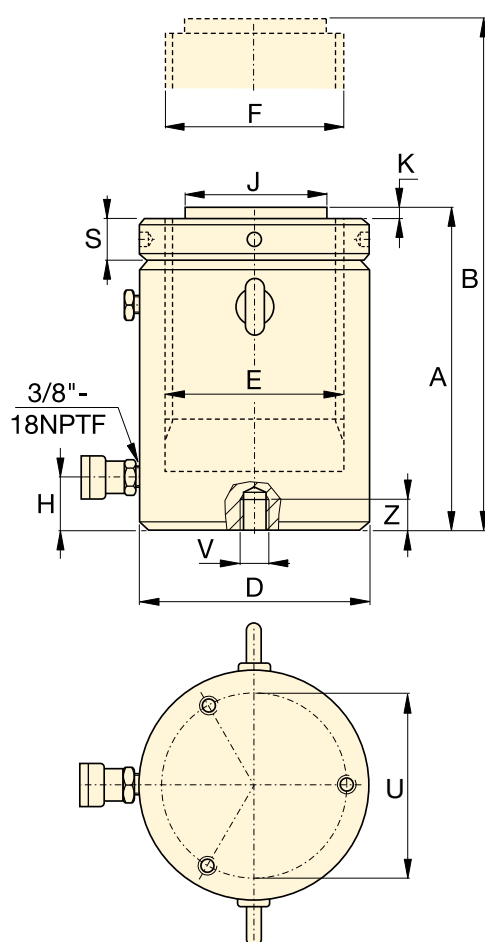
Maximum Operating Pressure:
10,150 psi

HCL Series



Extended Height	Outside Diameter	Cylinder Bore Diameter	Plunger Diameter (threaded)	Base to Advance Port	Standard Saddle Diameter	Saddle Protrusion from Plunger	Lock Nut Height		Model Number	Optional Tilt Saddle		
B (in)	D (in)	E (in)	F (mm)	H (in)	J (in)	K (in)	S (in)	(lbs)		Saddle Diameter J1 (in)	Collapsed Height * A1 (in)	Saddle Model Number
8.43	5.12	3.94	Tr 100 x 4	0.94	2.80	0.08	0.98	37	HCL502	2.80	7.05	CATS100
12.36								48	HCL504		9.02	
16.30								60	HCL506		10.98	
20.24								71	HCL508		12.95	
24.17								83	HCL5010		14.92	
28.11								94	HCL5012		16.89	
9.33	6.89	5.31	Tr 135 x 6	1.30	2.80	0.08	1.30	77	HCL1002	2.80	7.95	CATS100
13.27								98	HCL1004		9.92	
17.20								118	HCL1006		11.89	
21.14								139	HCL1008		13.86	
25.08								160	HCL10010		15.83	
29.02								181	HCL10012		17.80	
10.20	8.46	6.50	Tr 165 x 6	1.61	5.12	0.08	1.57	130	HCL1502	4.96	8.86	CATS201
14.13								161	HCL1504		10.83	
18.07								192	HCL1506		12.80	
22.01								224	HCL1508		14.76	
25.94								255	HCL15010		16.73	
29.88								287	HCL15012		18.70	
11.34	9.84	7.48	Tr 190 x 6	1.85	5.12	0.08	1.77	188	HCL2002	4.96	10.00	CATS201
15.28								231	HCL2004		11.97	
19.21								273	HCL2006		13.94	
23.15								316	HCL2008		15.91	
27.09								358	HCL20010		17.87	
31.02								401	HCL20012		19.84	
11.77	11.02	8.46	Tr 215 x 6	2.09	5.51	0.08	2.05	262	HCL2502	6.89	11.34	CATS300
15.71								316	HCL2504		13.31	
19.65								369	HCL2506		15.28	
23.58								422	HCL2508		17.24	
27.52								476	HCL25010		19.21	
31.46								529	HCL25012		21.18	
12.91	12.01	9.25	Tr 235 x 6	2.28	5.51	0.08	2.20	348	HCL3002	6.89	12.48	CATS300
16.85								411	HCL3004		14.45	
20.79								474	HCL3006		16.42	
24.72								537	HCL3008		18.39	
28.66								601	HCL30010		20.35	
32.60								664	HCL30012		22.32	

* A1 = Collapsed height including CATS-Series tilt saddle.



HCL-Series, Single-Acting, Gravity Return Cylinders

- Lock nut provides positive and safe mechanical load holding
- Low-friction locking rings spin easy, save time and effort
- Designed to withstand 10% side load up to 90% of maximum stroke
- Hardened surface resists side loading and cyclic wear
- Overflow port as stroke limiter to prevent plunger blow-out
- Weather protected, inside and out
- Replaceable bearings enclose the plunger for support throughout the stroke
- Certified lifting eyes and base mounting holes.

SELECTION CHART 400 - 1000 TONS HCL-MODELS

For 50 - 300 tons models, see pages 62-63.

For full product features see pages 50-51.

Cylinder Capacity tons	Stroke (in)	Model Number	Maximum Cylinder Capacity at 10,150 psi tons	Cylinder Effective Area (in ²)	Oil Capacity (in ³)	Collapsed Height A (in)
400	1.97	HCL4002	450	88.75	174.70	12.48
	3.94	HCL4004			349.39	14.45
	5.91	HCL4006			524.09	16.42
	7.87	HCL4008			698.79	18.39
	9.84	HCL40010			873.49	20.35
	11.81	HCL40012			1,048.18	22.32
500	1.97	HCL5002	575	113.25	222.92	14.06
	3.94	HCL5004			445.85	16.02
	5.91	HCL5006			668.77	17.99
	7.87	HCL5008			891.70	19.96
	9.84	HCL50010			1,114.62	21.93
	11.81	HCL50012			1,337.55	23.90
600	1.97	HCL6002	673	132.57	260.97	14.96
	3.94	HCL6004			521.94	16.93
	5.91	HCL6006			782.90	18.90
	7.87	HCL6008			1,043.87	20.87
	9.84	HCL60010			1,304.84	22.83
	11.81	HCL60012			1,565.81	24.80
800	1.97	HCL8002	916	180.44	355.21	16.93
	3.94	HCL8004			710.41	18.90
	5.91	HCL8006			1,065.62	20.87
	7.87	HCL8008			1,420.82	22.83
	9.84	HCL80010			1,776.03	24.80
	11.81	HCL80012			2,131.24	26.77
1000	1.97	HCL10002	1196	235.68	463.94	19.06
	3.94	HCL10004			927.88	21.02
	5.91	HCL10006			1,391.83	22.99
	7.87	HCL10008			1,855.77	24.96
	9.84	HCL100010			2,319.71	26.93
	11.81	HCL100012			2,783.65	28.90

Base Mounting Holes

Model / Capacity tons	Bolt Circle U (in)	Thread Size V (mm)	Minimum Thread Depth Z (in)	Number of Holes	Angle from Coupler (degrees)
HCL400	11.81	M16 x 2	0.95	3	60°
HCL500	13.39	M24 x 3	1.42	3	60°
HCL600	14.57	M24 x 3	1.42	3	60°
HCL800	17.32	M24 x 3	1.42	3	60°
HCL1000	19.69	M24 x 3	1.42	3	60°

Single-Acting, High-Tonnage Lock Nut Cylinders



▲ Heavy lifting and foundation leveling. The lock nut provides mechanical load holding over a long period of time.

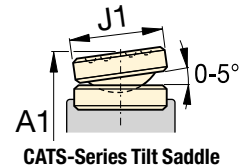
HCL Series



Capacity:
400 - 1000 tons

Stroke:
1.97 - 11.81 inches

Maximum Operating Pressure:
10,150 psi



Extended Height	Outside Diameter	Cylinder Bore Diameter	Plunger Diameter (threaded)	Base to Advance Port	Standard Saddle Diameter	Saddle Protrusion from Plunger	Lock Nut Height		Model Number	Optional Tilt Saddle		
B (in)	D (in)	E (in)	F (mm)	H (in)	J (in)	K (in)	S (in)	(lbs)		Saddle Diameter J1 (in)	Collapsed Height * A1 (in)	Model Number
14.45	13.78	10.63	Tr 270 x 6	2.64	6.26	0.20	2.56	520	HCL4002	8.27	14.37	CATS400
18.39								603	HCL4004		16.34	
22.32								686	HCL4006		18.31	
26.26								770	HCL4008		20.28	
30.20								853	HCL40010		22.24	
34.13								936	HCL40012		24.21	
16.02	15.75	12.01	Tr 305 x 6	2.95	7.05	0.20	2.83	751	HCL5002	9.06	15.94	CATS500
19.96								860	HCL5004		17.91	
23.90								968	HCL5006		19.88	
27.83								1,077	HCL5008		21.85	
31.77								1,186	HCL50010		23.82	
35.71								1,294	HCL50012		25.79	
16.93	16.93	12.99	Tr 330 x 6	3.19	7.64	0.20	3.15	942	HCL6002	9.84	17.05	CATS600
20.87								1,067	HCL6004		19.02	
24.80								1,193	HCL6006		20.98	
28.74								1,319	HCL6008		22.95	
32.68								1,444	HCL60010		24.92	
36.61								1,570	HCL60012		26.89	
18.90	19.88	15.16	Tr 385 x 6	3.74	8.82	0.20	3.54	1,472	HCL8002	10.83	19.17	CATS800
22.83								1,646	HCL8004		21.14	
26.77								1,819	HCL8006		23.11	
30.71								1,992	HCL8008		25.08	
34.65								2,166	HCL80010		27.05	
38.58								2,339	HCL80012		29.02	
21.02	22.44	17.32	Tr 440 x 6	4.33	9.81	0.20	4.13	2,115	HCL10002	11.81	22.09	CATS1000
24.96								2,335	HCL10004		24.06	
28.90								2,556	HCL10006		26.02	
32.83								2,777	HCL10008		27.99	
36.77								2,998	HCL100010		29.96	
40.71								3,219	HCL100012		31.93	

* A1 = Collapsed height including CATS-Series tilt saddle.