

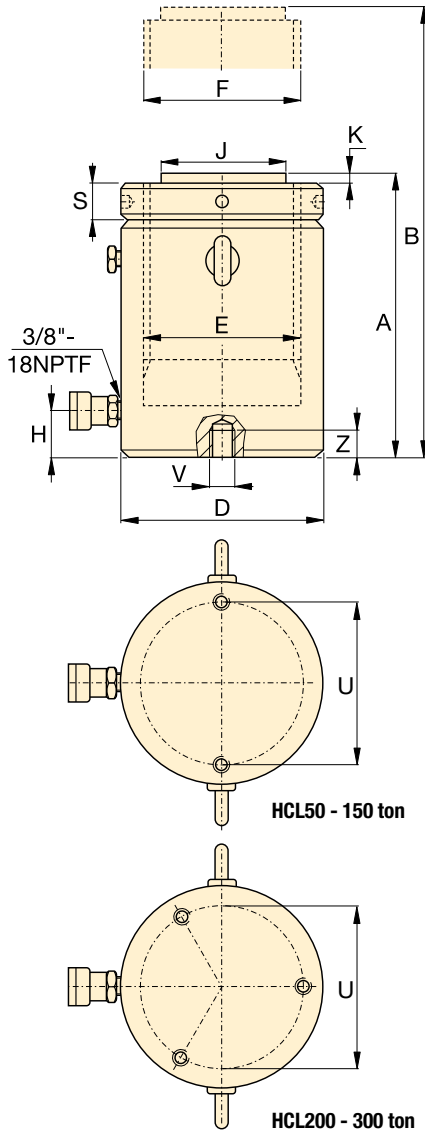
HCL-Series, Single-Acting, Load-Return Cylinders

- 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-TON HCL-MODELS

For 400 – 1000-ton models, see pages 58-59.

For full product features see pages 44-45.



Cylinder Capacity (ton)	Stroke (in)	Model Number	Maximum Cylinder Capacity at 10,150 psi (ton)	Cylinder Effective Area (in ²)	Oil Capacity (in ³)	Collapsed Height 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 (in)					
Model / Capacity (ton)	Bolt Circle U	Thread Size V	Minimum Thread Depth Z	Number of Holes	Angle from Coupler
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°

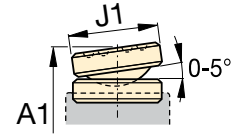
Single-Acting, High-Tonnage Lock Nut Cylinders

Capacity:
50 - 300 ton

Stroke:
1.97 - 11.81 inches

Maximum Operating Pressure:
10,150 psi

HCL Series



CATS-Series Tilt Saddle

	Extended Height	Outside Diameter	Cylinder Bore Diameter	Plunger Diameter	Base to Advance Port	Standard Saddle Diameter	Saddle Protrusion from Plunger K (in)	Lock Nut Height	Weight	Model Number	Optional Tilt Saddle			
											Saddle Diameter J1 (in)	Collap. 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				10.98
	16.30								60	HCL506				
	20.24								71	HCL508				
	24.17								83	HCL5010				
	28.11								94	HCL5012				
	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				11.89
	17.20								118	HCL1006				
	21.14								139	HCL1008				
	25.08								160	HCL10010				
	29.02								181	HCL10012				
	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				12.80
	18.07								192	HCL1506				
	22.01								224	HCL1508				
	25.94								255	HCL15010				
	29.88								287	HCL15012				
	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				13.94
	19.21								273	HCL2006				
	23.15								316	HCL2008				
	27.09								358	HCL20010				
	31.02								401	HCL20012				
	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				15.28
	19.65								369	HCL2506				
	23.58								422	HCL2508				
	27.52								476	HCL25010				
	31.46								529	HCL25012				
	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				16.42
	20.79								474	HCL3006				
	24.72								537	HCL3008				
	28.66								601	HCL30010				
	32.60								664	HCL30012				

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

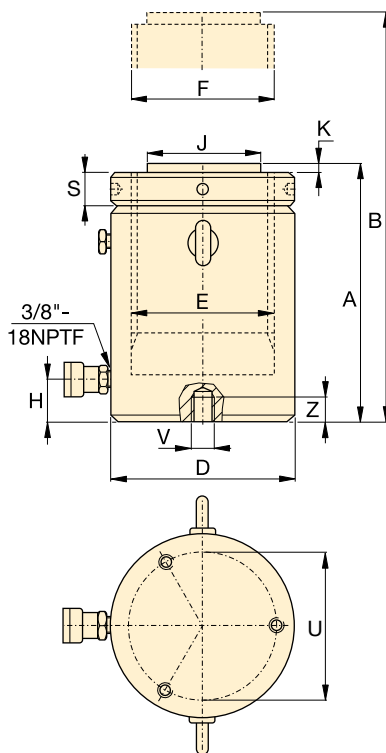
HCL-Series, Single-Acting, Load Return Cylinders

- 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-TON HCL-MODELS

For 50 – 300-ton models, see pages 56-57.

For full product features see pages 44-45.



Cylinder Capacity (ton)	Stroke (in)	Model Number	Maximum Cylinder Capacity at 10,150 psi (ton)	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 (in)					
Model / Capacity (ton)	Bolt Circle U	Thread Size V	Minimum Thread Depth Z	Number of Holes	Angle from Coupler
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 levelling. The lock nut provides mechanical load holding over a long period of time.

HCL Series



Capacity:

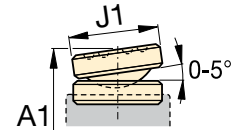
400 - 1000 ton

Stroke:

1.97 - 11.81 inches

Maximum Operating Pressure:

10,150 psi



CATS-Series Tilt Saddle

Extended Height	Outside Diameter	Cylinder Bore Diameter	Plunger Diameter	Base to Advance Port	Standard Saddle Diameter	Saddle Protrusion from Plunger	Lock Nut Height	Weight	Model Number	Optional Tilt Saddle		
										Saddle Diameter J1 (in)	Collap. Height* A1 (in)	Saddle 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	
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
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
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					
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.