

▼ HCL-1006, HCG-2006, HCR-506



Highest Level of Durability



The Summit Edition

Innovation is at the heart of the new *Summit Edition* of cylinders, delivering the high quality construction that you expect from Enerpac. The durability ensures your job gets done safely and reliably.

- Plunger support bearing adds support for eccentric loads ²⁾
- Nitrocarburization surface treatment for improved wear resistance and corrosion protection
- Replaceable composite bearings surround the seal providing support for eccentric loads
- Low-wear, high-pressure seals provide longer service life

²⁾ Eccentric load (or “side-load”) is inevitable in heavy lifting. Our unique Summit Edition features provide the ultimate protection against side-load. Increased bearing surface maintains stability, and nitrocarburization treatment prevents scoring on the inside of the cylinder. Side-load poses a real problem.... our new cylinder features are the solution!

Reaching the Summit Edition:

Substrate bonded multi-layer treatment

- Hardened surface resists side-loading and cyclic wear
- Weather protected, inside and out
- Low-friction locking rings spin easy, save time and effort ¹⁾

Enclosed polymer bearing system

- Upper and lower bearings enclose the cylinder plunger for support and are able to be replaced along with seals and other soft parts
- State-of-the-art bearing material provides maximum conformity to reduce wear and avoid bore damage even in high side-load conditions

Low-wear, high-pressure seals

- Improved geometry and material selection increases seal performance even in harsh conditions
- Low friction improves retraction times

Versatile

- Over 200 models in four configurations ¹⁾
- Certified lifting eyes, base mounting holes and collar threads are included for secure handling and cylinder mounting ¹⁾

¹⁾ See specific model's technical data for more information.

▼ *Bridge lifting and launching system. The load is balanced on groups of lock nut cylinders. The hydraulic movements are synchronized using the Enerpac PLC-controlled synchronous lift systems.*





High-Tonnage Cylinders

The Enerpac High-Tonnage Cylinders are particularly suitable for (multipoint) lifting applications.

In combination with our state-of-the-art power packs, you will have a world class hydraulic system to perform the most challenging lifting jobs in a safe and professional manner.

HCG, HCR, HCL-Series Cylinders

- 50 - 1000-ton lifting capacity
- 1.97 - 11.81 inch lifting stroke

HCG-Series - single-acting

- gravity-return
- stop-ring to prevent plunger blow-out
- designed to withstand up to 10% side-load of maximum capacity

HCR-Series - double-acting

- hydraulic advance and retract for controlled movement
- designed to withstand up to 10% side-load of maximum capacity

HCL-Series - lock nut, single-acting

- gravity-return
- lock nut for mechanical load holding
- overflow port to prevent plunger blow out
- designed to withstand 10% side-load up to 90% of maximum stroke

LPL-Series - lock nut, low height, single-acting

- 60 - 500-ton lifting capacity
- 1.77 - 1.97 inch lifting stroke
- integrated tilt saddle
- gravity-return
- lock nut for mechanical load holding
- 5-10% side-load of maximum capacity

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HCG HCR HCL Series



Capacity:

50 - 1000 ton

Stroke:

1.77 - 11.81 inch.

Maximum Operating Pressure:

10,150 psi



Assisted-Return Pumps

Enerpac HCG, HCL and LPL-Series cylinders are hydraulic advance and gravity-return. To improve

productivity and plunger retraction Enerpac offers assisted return on ZU4 and ZE-Series pumps featuring Enerpac Venturi valve technology, specifically to facilitate the faster return of single-acting, gravity-return cylinders. See enerpac.com for details.



Split-Flow Pumps

SFP-Series pumps with multiple outlets with equal oil flow. For lifting and lowering applications on

multiple points, these pumps are a far better alternative than using separately operated pumps.

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Synchronous Lifting Systems

Pumps for multiple lift-point capabilities. The economical **EVOB-Series** for basic applications and the multi-functional **EVO-Series** lifting system.

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QUICK SELECTION

Cylinder Capacity (ton)	Stroke (in)	Maximum Cylinder Capacity at 10,150 psi (ton)	HCG-Series		HCR-Series		HCL-Series	
			Model Number Single-Acting <i>Page: 40</i>	Collapsed Height (in)	Model Number Double-Acting <i>Page: 44</i>	Collapsed Height (in)	Model Number Single-Acting With Lock Nut <i>Page: 48</i>	Collapsed Height (in)
50	1.97	62	HCG-502	7.20	HCR-502	7.20	HCL-502	6.46
	3.94		HCG-504	9.17	HCR-504	9.17	HCL-504	8.43
	5.91		HCG-506	11.14	HCR-506	11.14	HCL-506	10.39
	7.87		HCG-508	13.62	HCR-508	13.62	HCL-508	12.36
	9.84		HCG-5010	15.59	HCR-5010	15.59	HCL-5010	14.33
	11.81		HCG-5012	17.56	HCR-5012	17.56	HCL-5012	16.30
100	1.97	113	HCG-1002	7.95	HCR-1002	7.95	HCL-1002	7.36
	3.94		HCG-1004	9.92	HCR-1004	9.92	HCL-1004	9.33
	5.91		HCG-1006	11.89	HCR-1006	11.89	HCL-1006	11.30
	7.87		HCG-1008	14.92	HCR-1008	14.92	HCL-1008	13.27
	9.84		HCG-10010	16.89	HCR-10010	16.89	HCL-10010	15.24
	11.81		HCG-10012	18.86	HCR-10012	18.86	HCL-10012	17.20
150	1.97	168	HCG-1502	8.66	HCR-1502	8.66	HCL-1502	8.23
	3.94		HCG-1504	10.63	HCR-1504	10.63	HCL-1504	10.20
	5.91		HCG-1506	12.60	HCR-1506	12.60	HCL-1506	12.17
	7.87		HCG-1508	15.63	HCR-1508	15.63	HCL-1508	14.13
	9.84		HCG-15010	17.60	HCR-15010	17.60	HCL-15010	16.10
	11.81		HCG-15012	19.57	HCR-15012	19.57	HCL-15012	18.07
200	1.97	223	HCG-2002	9.09	HCR-2002	9.09	HCL-2002	9.37
	3.94		HCG-2004	11.06	HCR-2004	11.06	HCL-2004	11.34
	5.91		HCG-2006	13.03	HCR-2006	13.03	HCL-2006	13.31
	7.87		HCG-2008	16.06	HCR-2008	16.06	HCL-2008	15.28
	9.84		HCG-20010	18.03	HCR-20010	18.03	HCL-20010	17.24
	11.81		HCG-20012	20.00	HCR-20012	20.00	HCL-20012	19.21
250	1.97	286	HCG-2502	9.49	HCR-2502	9.49	HCL-2502	9.80
	3.94		HCG-2504	11.46	HCR-2504	11.46	HCL-2504	11.77
	5.91		HCG-2506	13.43	HCR-2506	13.43	HCL-2506	13.74
	7.87		HCG-2508	16.97	HCR-2508	16.97	HCL-2508	15.71
	9.84		HCG-25010	18.94	HCR-25010	18.94	HCL-25010	17.68
	11.81		HCG-25012	20.91	HCR-25012	20.91	HCL-25012	19.65
300	1.97	341	HCG-3002	11.65	HCR-3002	11.65	HCL-3002	10.94
	3.94		HCG-3004	13.62	HCR-3004	13.62	HCL-3004	12.91
	5.91		HCG-3006	15.59	HCR-3006	15.59	HCL-3006	14.88
	7.87		HCG-3008	17.56	HCR-3008	17.56	HCL-3008	16.85
	9.84		HCG-30010	19.53	HCR-30010	19.53	HCL-30010	18.82
	11.81		HCG-30012	21.50	HCR-30012	21.50	HCL-30012	20.79

Enerpac High-Tonnage Cylinders

Capacity:
50 - 1000 ton

Stroke:
1.97 - 11.81 inch

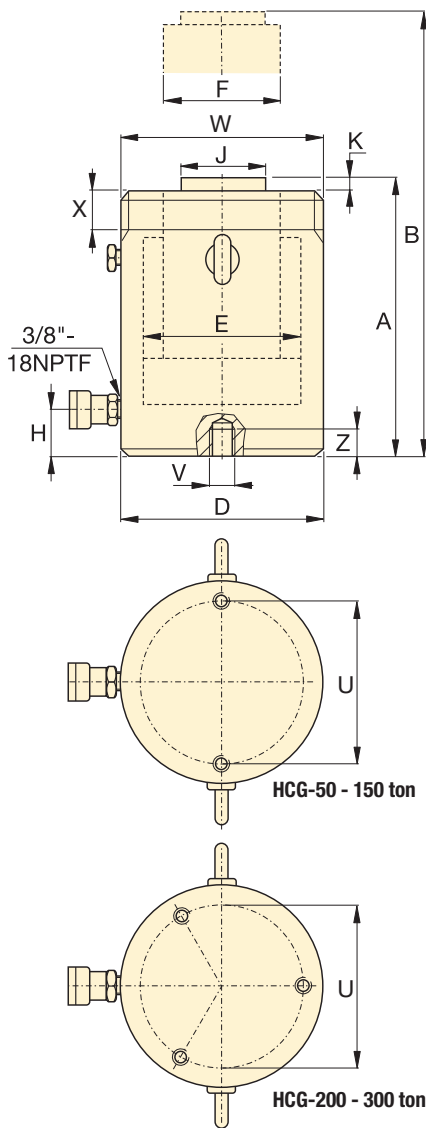
Maximum Operating Pressure:
10,150 psi

**HCG
HCR
HCL
Series**



QUICK SELECTION

Cylinder Capacity (ton)	Stroke (in)	Maximum Cylinder Capacity at 10,150 psi (ton)	HCG-Series		HCR-Series		HCL-Series	
			Model Number Single-Acting	Collapsed Height (in)	Model Number Double-Acting	Collapsed Height (in)	Model Number Single-Acting With Lock Nut	Collapsed Height (in)
400	1.97	450	HCG-4002	12.64	HCR-4002	12.64	HCL-4002	12.48
	3.94		HCG-4004	14.61	HCR-4004	14.61	HCL-4004	14.45
	5.91		HCG-4006	16.57	HCR-4006	16.57	HCL-4006	16.42
	7.87		HCG-4008	18.54	HCR-4008	18.54	HCL-4008	18.39
	9.84		HCG-40010	20.51	HCR-40010	20.51	HCL-40010	20.35
	11.81		HCG-40012	22.48	HCR-40012	22.48	HCL-40012	22.32
500	1.97	575	HCG-5002	13.54	HCR-5002	13.54	HCL-5002	14.06
	3.94		HCG-5004	15.51	HCR-5004	15.51	HCL-5004	16.02
	5.91		HCG-5006	17.48	HCR-5006	17.48	HCL-5006	17.99
	7.87		HCG-5008	19.45	HCR-5008	19.45	HCL-5008	19.96
	9.84		HCG-50010	21.42	HCR-50010	21.42	HCL-50010	21.93
	11.81		HCG-50012	23.39	HCR-50012	23.39	HCL-50012	23.90
600	1.97	673	HCG-6002	13.86	HCR-6002	13.86	HCL-6002	14.96
	3.94		HCG-6004	15.83	HCR-6004	15.83	HCL-6004	16.93
	5.91		HCG-6006	17.80	HCR-6006	17.80	HCL-6006	18.90
	7.87		HCG-6008	19.76	HCR-6008	19.76	HCL-6008	20.87
	9.84		HCG-60010	21.73	HCR-60010	21.73	HCL-60010	22.83
	11.81		HCG-60012	23.70	HCR-60012	23.70	HCL-60012	24.80
800	1.97	916	HCG-8002	15.91	HCR-8002	15.91	HCL-8002	16.93
	3.94		HCG-8004	17.87	HCR-8004	17.87	HCL-8004	18.90
	5.91		HCG-8006	19.84	HCR-8006	19.84	HCL-8006	20.87
	7.87		HCG-8008	21.81	HCR-8008	21.81	HCL-8008	22.83
	9.84		HCG-80010	23.78	HCR-80010	23.78	HCL-80010	24.80
	11.81		HCG-80012	25.75	HCR-80012	25.75	HCL-80012	26.77
1000	1.97	1196	HCG-10002	17.40	HCR-10002	17.40	HCL-10002	19.06
	3.94		HCG-10004	19.37	HCR-10004	19.37	HCL-10004	21.02
	5.91		HCG-10006	21.34	HCR-10006	21.34	HCL-10006	22.99
	7.87		HCG-10008	23.31	HCR-10008	23.31	HCL-10008	24.96
	9.84		HCG-100010	25.28	HCR-100010	25.28	HCL-100010	26.93
	11.81		HCG-100012	27.24	HCR-100012	27.24	HCL-100012	28.90



HCG-Series, Single-Acting, Gravity-Return Cylinders

- Hardened surface resists side-loading and cyclic wear
- Designed to withstand up to 10% side-load of maximum capacity 1)
- Stop-ring to prevent plunger blow-out
- Weather protected, inside and out
- Upper and lower replaceable bearings enclose the cylinder plunger for support throughout the stroke
- Certified lifting eyes, base mounting holes and collar threads

SELECTION CHART 50 – 300-TON HCG-MODELS

For 400 – 1000-ton models, see pages 42-43.

For full product features see pages 36-37.

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	HCG-502	62	12.17	23.96	7.20
	3.94	HCG-504			47.93	9.17
	5.91	HCG-506 1)			71.89	11.14
	7.87	HCG-508			95.86	13.62
	9.84	HCG-5010			119.82	15.59
	11.81	HCG-5012 1)			143.78	17.56
100	1.97	HCG-1002	113	22.19	43.67	7.95
	3.94	HCG-1004			87.35	9.92
	5.91	HCG-1006			131.02	11.89
	7.87	HCG-1008			174.70	14.92
	9.84	HCG-10010			218.37	16.89
	11.81	HCG-10012			262.05	18.86
150	1.97	HCG-1502	168	33.14	65.24	8.66
	3.94	HCG-1504			130.48	10.63
	5.91	HCG-1506			195.73	12.60
	7.87	HCG-1508			260.97	15.63
	9.84	HCG-15010			326.21	17.60
	11.81	HCG-15012			391.45	19.57
200	1.97	HCG-2002	223	43.95	86.51	9.09
	3.94	HCG-2004			173.02	11.06
	5.91	HCG-2006			259.53	13.03
	7.87	HCG-2008			346.04	16.06
	9.84	HCG-20010			432.55	18.03
	11.81	HCG-20012			519.06	20.00
250	1.97	HCG-2502	286	56.27	110.77	9.49
	3.94	HCG-2504			221.55	11.46
	5.91	HCG-2506			332.32	13.43
	7.87	HCG-2508			443.09	16.97
	9.84	HCG-25010			553.87	18.94
	11.81	HCG-25012			664.64	20.91
300	1.97	HCG-3002	341	67.23	132.34	11.65
	3.94	HCG-3004			264.68	13.62
	5.91	HCG-3006			397.02	15.59
	7.87	HCG-3008			529.36	17.56
	9.84	HCG-30010			661.71	19.53
	11.81	HCG-30012			794.05	21.50

Collar Thread (in)		
Model / Capacity (ton)	Thread Size W	Thread Length X
HCG-50	M130 x 2	1.18
HCG-100	M175 x 3	1.81
HCG-150	M215 x 3	2.17
HCG-200	M250 x 3	2.48
HCG-250	M280 x 3	2.52
HCG-300	M305 x 3	2.87

The collar thread length is designed for the full rated cylinder capacity.

Base Mounting Holes (in)					
Model / Capacity (ton)	Bolt Circle U	Thread Size V	Minimum Thread Depth Z	Number of Holes	Angle from Coupler
HCG-50	4.13	M12 x 1,75	0.87	2	90°
HCG-100	5.91	M12 x 1,75	0.87	2	90°
HCG-150	7.28	M12 x 1,75	0.87	2	90°
HCG-200	8.46	M12 x 1,75	0.87	3	60°
HCG-250	9.65	M12 x 1,75	0.87	3	60°
HCG-300	10.24	M16 x 2	0.98	3	60°

1) HCG-506 and HCG-5012: 7% side-load of maximum capacity.

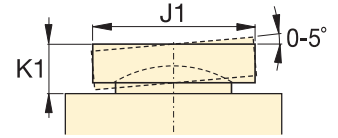
Single-Acting, High-Tonnage Cylinders

Capacity:
50 - 300 ton

Stroke:
1.97 - 11.81 inch

Maximum Operating Pressure:
10,150 psi

HCG Series



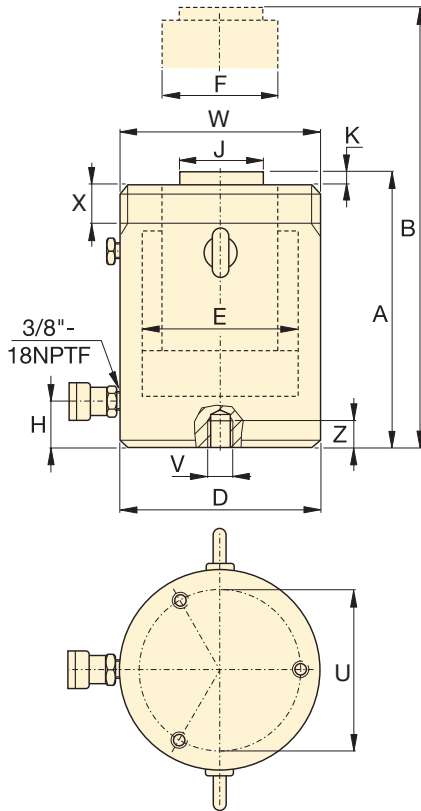
CATG-Series Tilt Saddle

	Extended Height	Outside Diameter	Cylinder Bore Diameter	Plunger Diameter	Base to Advance Port	Standard Saddle Diameter	Saddle Protusion from Plunger	Wt.	Model Number
	B (in)	D (in)	E (in)	F (in)	H (in)	J (in)	K (in)	(lbs)	
	9.17	5.12	3.94	2.76	1.50	1.97	0.12	37	HCG-502
	13.11							45	HCG-504
	17.05							53	HCG-506 ¹⁾
	21.50							64	HCG-508
	25.43							72	HCG-5010
	29.37							80	HCG-5012 ¹⁾
	9.92	6.89	5.31	3.74	1.50	2.95	0.12	73	HCG-1002
	13.86							88	HCG-1004
	17.80							102	HCG-1006
	22.80							128	HCG-1008
	26.73							142	HCG-10010
	30.67							157	HCG-10012 ¹⁾
	10.63	8.46	6.50	4.72	1.61	3.70	0.12	123	HCG-1502
	14.57							145	HCG-1504
	18.50							168	HCG-1506
	23.50							207	HCG-1508
	27.44							230	HCG-15010
	31.38							253	HCG-15012
	11.06	9.84	7.48	5.51	1.85	4.45	0.12	178	HCG-2002
	15.00							209	HCG-2004
	18.94							240	HCG-2006
	23.94							300	HCG-2008
	27.87							331	HCG-20010
	31.81							363	HCG-20012
	11.46	11.02	8.46	6.69	2.09	5.71	0.16	235	HCG-2502
	15.39							277	HCG-2504
	19.33							318	HCG-2506
	24.84							401	HCG-2508
	28.78							442	HCG-25010
	32.72							484	HCG-25012
	13.62	12.01	9.25	7.87	2.28	6.97	0.16	348	HCG-3002
	17.56							401	HCG-3004
	21.50							454	HCG-3006
	25.43							507	HCG-3008
	29.37							560	HCG-30010
	33.31							613	HCG-30012

Optional Tilt Saddle		
Diameter	Height	Saddle Model Number
J1 (in)	K1 (in)	
1.97	0.94	CATG-50
2.87	1.14	CATG-100
3.57	1.22	CATG-150
4.64	1.37	CATG-200
5.67	1.85	CATG-250
6.30	2.51	CATG-300

HCG-Series, Single-Acting, Gravity-Return Cylinders

- Hardened surface resists side-loading and cyclic wear
- Designed to withstand up to 10% side-load of maximum capacity
- Stop-ring to prevent plunger blow-out
- Weather protected, inside and out
- Upper and lower replaceable bearings enclose the cylinder plunger for support throughout the stroke
- Certified lifting eyes, base mounting holes and collar threads



SELECTION CHART 400 – 1000-TON HCG-MODELS

For 50 – 300-ton models, see pages 40-41.

For full product features see pages 36-37.

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	HCG-4002	450	88.75	174.70	12.64
	3.94	HCG-4004			349.39	14.61
	5.91	HCG-4006			524.09	16.57
	7.87	HCG-4008			698.79	18.54
	9.84	HCG-40010			873.49	20.51
	11.81	HCG-40012			1,048.18	22.48
500	1.97	HCG-5002	575	113.25	222.92	13.54
	3.94	HCG-5004			445.85	15.51
	5.91	HCG-5006			668.77	17.48
	7.87	HCG-5008			891.70	19.45
	9.84	HCG-50010			1,114.62	21.42
	11.81	HCG-50012			1,337.55	23.39
600	1.97	HCG-6002	673	132.57	260.97	13.86
	3.94	HCG-6004			521.94	15.83
	5.91	HCG-6006			782.90	17.80
	7.87	HCG-6008			1,043.87	19.76
	9.84	HCG-60010			1,304.84	21.73
	11.81	HCG-60012			1,565.81	23.70
800	1.97	HCG-8002	916	180.44	355.21	15.91
	3.94	HCG-8004			710.41	17.87
	5.91	HCG-8006			1,065.62	19.84
	7.87	HCG-8008			1,420.82	21.81
	9.84	HCG-80010			1,776.03	23.78
	11.81	HCG-80012			2,131.24	25.75
1000	1.97	HCG-10002	1196	235.68	463.94	17.40
	3.94	HCG-10004			927.88	19.37
	5.91	HCG-10006			1,391.83	21.34
	7.87	HCG-10008			1,855.77	23.31
	9.84	HCG-100010			2,319.71	25.28
	11.81	HCG-100012			2,783.65	27.24

Collar Thread (in)		
Model / Capacity (ton)	Thread Size W	Thread Length X
HCG-400	M350 x 3	3.27
HCG-500	M400 x 4	3.54
HCG-600	M430 x 4	3.94
HCG-800	M505 x 5	4.80
HCG-1000	M570 x 5	5.39

The collar thread length is designed for the full rated cylinder capacity.

Base Mounting Holes (in)					
Model / Capacity (ton)	Bolt Circle U	Thread Size V	Minimum Thread Depth Z	Number of Holes	Angle from Coupler
HCG-400	11.81	M16 x 2	0.98	3	60°
HCG-500	13.39	M24 x 3	1.42	3	60°
HCG-600	14.57	M24 x 3	1.42	3	60°
HCG-800	17.32	M24 x 3	1.42	3	60°
HCG-1000	19.69	M24 x 3	1.42	3	60°

Single-Acting, High-Tonnage Cylinders



▲ Offshore wind turbine leveling: Enerpac's synchronous lifting system was the solution for leveling support cross pieces on 80 wind turbines.

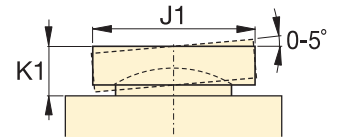
HCG Series



Capacity:
400 - 1000 ton

Stroke:
1.97 - 11.81 inch

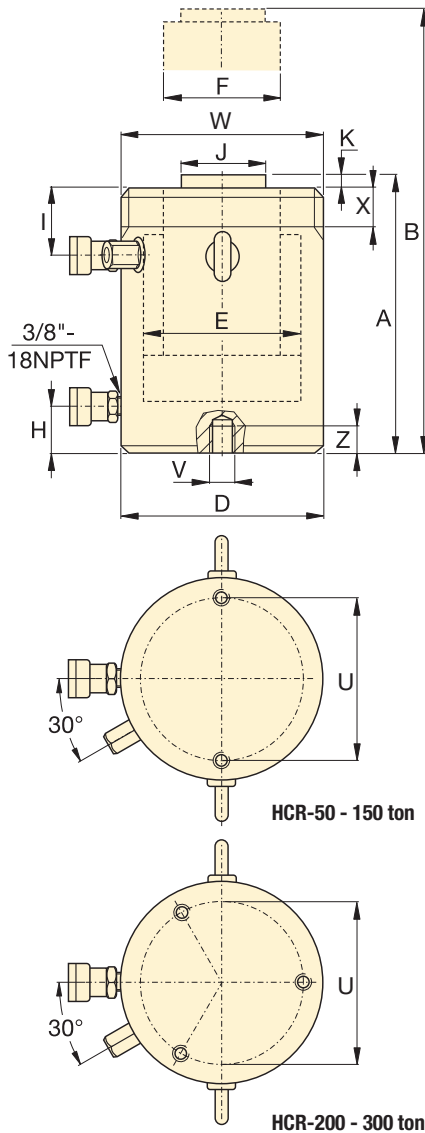
Maximum Operating Pressure:
10,150 psi



CATG-Series Tilt Saddle

Extended Height	Outside Diameter	Cylinder Bore Diameter	Plunger Diameter	Base to Advance Port	Standard Saddle Diameter	Saddle Protrusion from Plunger	Wt.	Model Number
B (in)	D (in)	E (in)	F (in)	H (in)	J (in)	K (in)	(lbs)	
14.61	13.78	10.63	8.66	2.91	7.72	0.16	500	HCG-4002
18.54							566	HCG-4004
22.48							633	HCG-4006
26.42							699	HCG-4008
30.35							766	HCG-40010
34.29							833	HCG-40012
15.51	15.75	12.01	9.84	3.11	8.98	0.16	704	HCG-5002
19.45							792	HCG-5004
23.39							880	HCG-5006
27.32							968	HCG-5008
31.26							1,056	HCG-50010
35.20							1,144	HCG-50012
15.83	16.93	12.99	10.63	3.35	9.72	0.16	834	HCG-6002
19.76							935	HCG-6004
23.70							1,036	HCG-6006
27.64							1,137	HCG-6008
31.57							1,239	HCG-60010
35.51							1,340	HCG-60012
17.87	19.88	15.16	12.60	3.94	11.69	0.16	1,336	HCG-8002
21.81							1,479	HCG-8004
25.75							1,621	HCG-8006
29.69							1,763	HCG-8008
33.62							1,905	HCG-80010
37.56							2,047	HCG-80012
19.37	22.44	17.32	13.39	4.49	12.72	0.16	1,852	HCG-10002
23.31							2,020	HCG-10004
27.24							2,188	HCG-10006
31.18							2,355	HCG-10008
35.12							2,523	HCG-100010
39.06							2,691	HCG-100012

Optional Tilt Saddle		
Diameter	Height	Saddle Model Number
J1 (in)	K1 (in)	
7.59	2.32	CATG-400
8.98	2.48	CATG-500
9.47	3.08	CATG-600
11.28	3.41	CATG-800
12.26	3.65	CATG-1000



HCR-Series, Double-Acting Cylinders

- Fast advance and retract
- Designed to withstand up to 10% side-load of maximum capacity 1)
- Hardened surface resists side-loading and cyclic wear
- Weather protected, inside and out
- Upper and lower replaceable bearings enclose the cylinder plunger for support throughout the stroke
- Certified lifting eyes, base mounting holes and collar threads

SELECTION CHART AND DETAILS OF 50 – 300-TON HCR-MODELS

For 400 – 1000-ton models, see pages 46-47.

For full product features see pages 36-37

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	HCR-502	62	12.17	23.96	7.20
	3.94	HCR-504			47.93	9.17
	5.91	HCR-506 1)			71.89	11.14
	7.87	HCR-508			95.86	13.62
	9.84	HCR-5010			119.82	15.59
	11.81	HCR-5012 1)			143.78	17.56
100	1.97	HCR-1002	113	22.19	43.67	7.95
	3.94	HCR-1004			87.35	9.92
	5.91	HCR-1006			131.02	11.89
	7.87	HCR-1008			174.70	14.92
	9.84	HCR-10010			218.37	16.89
	11.81	HCR-10012			262.05	18.86
150	1.97	HCR-1502	168	33.14	65.24	8.66
	3.94	HCR-1504			130.48	10.63
	5.91	HCR-1506			195.73	12.60
	7.87	HCR-1508			260.97	15.63
	9.84	HCR-15010			326.21	17.60
	11.81	HCR-15012			391.45	19.57
200	1.97	HCR-2002	223	43.95	86.51	9.09
	3.94	HCR-2004			173.02	11.06
	5.91	HCR-2006			259.53	13.03
	7.87	HCR-2008			346.04	16.06
	9.84	HCR-20010			432.55	18.03
	11.81	HCR-20012			519.06	20.00
250	1.97	HCR-2502	286	56.27	110.77	9.49
	3.94	HCR-2504			221.55	11.46
	5.91	HCR-2506			332.32	13.43
	7.87	HCR-2508			443.09	16.97
	9.84	HCR-25010			553.87	18.94
	11.81	HCR-25012			664.64	20.91
300	1.97	HCR-3002	341	67.23	132.34	11.65
	3.94	HCR-3004			264.68	13.62
	5.91	HCR-3006			397.02	15.59
	7.87	HCR-3008			529.36	17.56
	9.84	HCR-30010			661.71	19.53
	11.81	HCR-30012			794.05	21.50

Collar Thread (in)		
Model / Capacity (ton)	Thread Size W	Thread Length X
HCR-50	M130 x 2	1.18
HCR-100	M175 x 3	1.81
HCR-150	M215 x 3	2.17
HCR-200	M250 x 3	2.48
HCR-250	M280 x 3	2.52
HCR-300	M305 x 3	2.87

The collar thread length is designed for the full rated cylinder capacity.

Base Mounting Holes (in)					
Model / Capacity (ton)	Bolt Circle U	Thread Size V	Minimum Thread Depth Z	No. of Holes	Angle from Coupler
HCR-50	4.13	M12 x 1,75	0.87	2	90°
HCR-100	5.91	M12 x 1,75	0.87	2	90°
HCR-150	7.28	M12 x 1,75	0.87	2	90°
HCR-200	8.46	M12 x 1,75	0.87	3	60°
HCR-250	9.65	M12 x 1,75	0.87	3	60°
HCR-300	10.24	M16 x 2	0.98	3	60°

1) HCR-506 and HCR-5012: 7% side-load of maximum capacity.

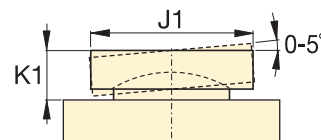
Double-Acting, High-Tonnage Cylinders

Capacity:
50 - 300 ton

Stroke:
1.97 - 11.81 inch

Maximum Operating Pressure:
10,150 psi

HCR
Series



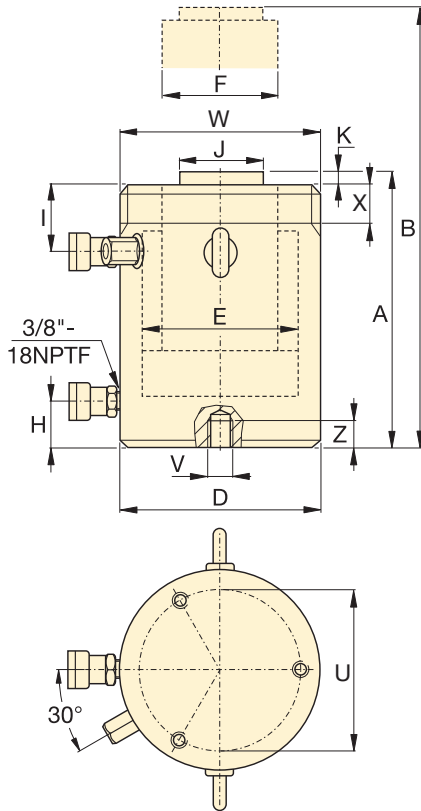
CATG-Series Tilt Saddle

	Extended Height	Outside Diameter	Cylinder Bore Diameter	Plunger Diameter	Base to Advance Port	Top to Retract Port	Standard Saddle Diameter	Saddle Protrusion from Plunger	Wt.	Model Number
	B (in)	D (in)	E (in)	F (in)	H (in)	I (in)	J (in)	K (in)	(lbs)	
	9.17	5.12	3.94	2.76	1.50	1.77	1.97	0.12	37	HCR-502
	13.11								46	HCR-504
	17.05								54	HCR-506 ¹⁾
	21.50					2.17			68	HCR-508
	25.43								76	HCR-5010
	29.37								84	HCR-5012 ¹⁾
	9.92	6.89	5.31	3.74	1.50	2.56	2.95	0.12	74	HCR-1002
	13.86								90	HCR-1004
	17.80								105	HCR-1006
	22.80					3.15			131	HCR-1008
	26.73								146	HCR-10010
	30.67								161	HCR-10012
	10.63	8.46	6.50	4.72	1.61	2.76	3.70	0.12	124	HCR-1502
	14.57								148	HCR-1504
	18.50								172	HCR-1506
	23.50					3.54			209	HCR-1508
	27.44								233	HCR-15010
	31.38								257	HCR-15012
	11.06	9.84	7.48	5.51	1.85	3.11	4.45	0.12	179	HCR-2002
	15.00								212	HCR-2004
	18.94								244	HCR-2006
	23.94					3.82			306	HCR-2008
	27.87								338	HCR-20010
	31.81								371	HCR-20012
	11.46	11.02	8.46	6.69	2.09	3.11	5.71	0.16	236	HCR-2502
	15.39								279	HCR-2504
	19.33								322	HCR-2506
	24.84					4.09			407	HCR-2508
	28.78								457	HCR-25010
	32.72								500	HCR-25012
	13.62	12.01	9.25	7.87	2.28	3.98	6.97	0.16	350	HCR-3002
	17.56								404	HCR-3004
	21.50								458	HCR-3006
	25.43					5.12			512	HCR-3008
	29.37								566	HCR-30010
	33.31								620	HCR-30012

Optional Tilt Saddle		
Diameter	Height	Saddle Model Number
J1 (in)	K1 (in)	
1.97	0.94	CATG-50
2.87	1.14	CATG-100
3.57	1.22	CATG-150
4.64	1.37	CATG-200
5.67	1.85	CATG-250
6.30	2.51	CATG-300

HCR-Series, Double-Acting Cylinders

- Fast advance and retract
- Designed to withstand up to 10% side-load of maximum capacity
- Hardened surface resists side-loading and cyclic wear
- Weather protected, inside and out
- Upper and lower replaceable bearings enclose the cylinder plunger for support throughout the stroke
- Certified lifting eyes, base mounting holes and collar threads



SELECTION CHART AND DETAILS OF 400 – 1000-TON HCR-MODELS

For 50 – 300-ton models, see pages 44-45.

For full product features see pages 36-37.

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	HCR-4002	450	88.75	174.70	12.64
	3.94	HCR-4004			349.39	14.61
	5.91	HCR-4006			524.09	16.57
	7.87	HCR-4008			698.79	18.54
	9.84	HCR-40010			873.49	20.51
	11.81	HCR-40012			1,048.18	22.48
500	1.97	HCR-5002	575	113.25	222.92	13.54
	3.94	HCR-5004			445.85	15.51
	5.91	HCR-5006			668.77	17.48
	7.87	HCR-5008			891.70	19.45
	9.84	HCR-50010			1,114.62	21.42
	11.81	HCR-50012			1,337.55	23.39
600	1.97	HCR-6002	673	132.57	260.97	13.86
	3.94	HCR-6004			521.94	15.83
	5.91	HCR-6006			782.90	17.80
	7.87	HCR-6008			1,043.87	19.76
	9.84	HCR-60010			1,304.84	21.73
	11.81	HCR-60012			1,565.81	23.70
800	1.97	HCR-8002	916	180.44	355.21	15.91
	3.94	HCR-8004			710.41	17.87
	5.91	HCR-8006			1,065.62	19.84
	7.87	HCR-8008			1,420.82	21.81
	9.84	HCR-80010			1,776.03	23.78
	11.81	HCR-80012			2,131.24	25.75
1000	1.97	HCR-10002	1196	235.68	463.94	17.40
	3.94	HCR-10004			927.88	19.37
	5.91	HCR-10006			1,391.83	21.34
	7.87	HCR-10008			1,855.77	23.31
	9.84	HCR-100010			2,319.71	25.28
	11.81	HCR-100012			2,783.65	27.24

Collar Thread (in)		
Model / Capacity (ton)	Thread Size W	Thread Length X
HCR-400	M350 x 3	3.27
HCR-500	M400 x 4	3.54
HCR-600	M430 x 4	3.94
HCR-800	M505 x 5	4.80
HCR-1000	M570 x 5	5.39

The collar thread length is designed for the full rated cylinder capacity.

Base Mounting Holes (in)					
Model / Capacity (ton)	Bolt Circle U	Thread Size V	Min. Thread Depth Z	Number of Holes	Angle from Coupler
HCR-400	11.81	M16 x 2	0.98	3	60°
HCR-500	13.39	M24 x 3	1.42	3	60°
HCR-600	14.57	M24 x 3	1.42	3	60°
HCR-800	17.32	M24 x 3	1.42	3	60°
HCR-1000	19.69	M24 x 3	1.42	3	60°

Double-Acting, High-Tonnage Cylinders



▲ The superlifting and launch of a 43,000 ton floating oil production system in Malaysia for the Gumusut-Kakap offshore field has set high benchmarks for safety through its use of sophisticated EVO-Series synchronous hydraulics to lift, balance, weigh and smoothly launch massive resource structures.

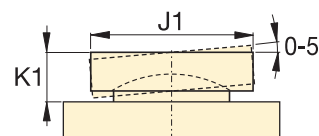
HCR Series



Capacity:
400 - 1000 ton

Stroke:
1.97 - 11.81 inch

Maximum Operating Pressure:
10,150 psi



CATG-Series Tilt Saddle

Extended Height	Outside Diameter	Cylinder Bore Diameter	Plunger Diameter	Base to Advance Port	Top to Retract Port	Standard Saddle Diameter	Saddle Protrusion from Plunger	Wt. (lbs)	Model Number	Optional Tilt Saddle			
										Diameter J1 (in)	Height K1 (in)	Saddle Model Number	
14.61	13.78	10.63	8.66	2.91	4.37	7.72	0.16	501	HCR-4002	7.59	2.32	CATG-400	
18.54								570					HCR-4004
22.48								638					HCR-4006
26.42								707					HCR-4008
30.35								775					HCR-40010
34.29								843					HCR-40012
15.51	15.75	12.01	9.84	3.11	4.76	8.98	0.16	706	HCR-5002	8.98	2.48	CATG-500	
19.45								797					HCR-5004
23.39								887					HCR-5006
27.32								977					HCR-5008
31.26								1,067					HCR-50010
35.20								1,158					HCR-50012
15.83	16.93	12.99	10.63	3.35	4.76	9.72	0.16	836	HCR-6002	9.47	3.08	CATG-600	
19.76								940					HCR-6004
23.70								1,044					HCR-6006
27.64								1,148					HCR-6008
31.57								1,252					HCR-60010
35.51								1,356					HCR-60012
17.87	19.88	15.16	12.60	3.94	5.63	11.69	0.16	1,340	HCR-8002	11.28	3.41	CATG-800	
21.81								1,485					HCR-8004
25.75								1,631					HCR-8006
29.69								1,777					HCR-8008
33.62								1,922					HCR-80010
37.56								2,068					HCR-80012
19.37	22.44	17.32	13.39	4.49	6.02	12.72	0.16	1,858	HCR-10002	12.26	3.65	CATG-1000	
23.31								2,031					HCR-10004
27.24								2,205					HCR-10006
31.18								2,379					HCR-10008
35.12								2,552					HCR-100010
39.06								2,726					HCR-100012

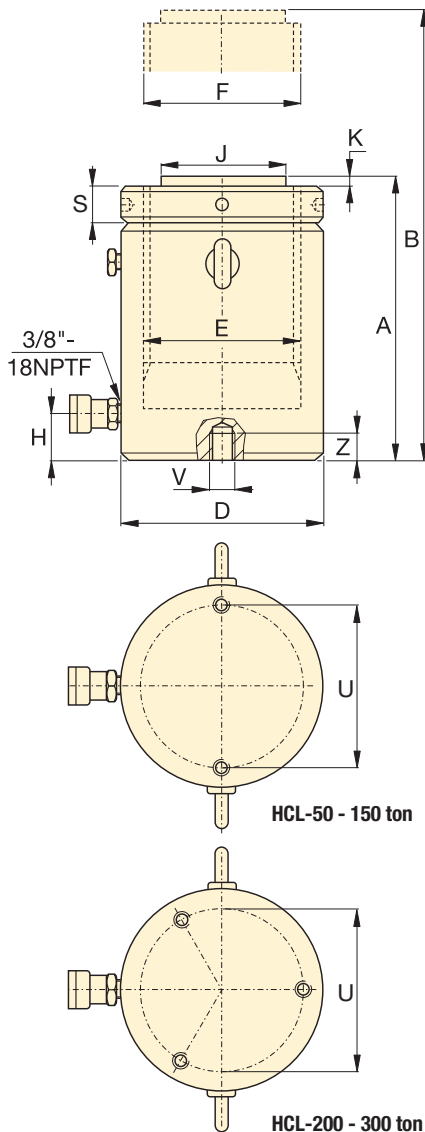
HCL-Series, Single-Acting, Gravity-Return Cylinders

- 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-TON HCL-MODELS

For 400 – 1000-ton models, see pages 50-51.

For full product features see pages 36-37.



Base Mounting Holes (in)					
Model / Capacity (ton)	Bolt Circle U	Thread Size V	Minimum Thread Depth Z	Number of Holes	Angle from Coupler
HCL-50	4.13	M8X1.25	0.39	2	90°
HCL-100	5.91	M12X1.75	0.67	2	90°
HCL-150	7.28	M12X1.75	0.87	2	90°
HCL-200	8.46	M12X1.75	0.87	3	60°
HCL-250	9.65	M12X1.75	0.87	3	60°
HCL-300	10.24	M16X2	0.98	3	60°

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	HCL-502	62	12.17	23.96	6.46
	3.94	HCL-504			47.93	8.43
	5.91	HCL-506			71.89	10.39
	7.87	HCL-508			95.86	12.36
	9.84	HCL-5010			119.82	14.33
	11.81	HCL-5012			143.78	16.30
100	1.97	HCL-1002	113	22.19	43.67	7.36
	3.94	HCL-1004			87.35	9.33
	5.91	HCL-1006			131.02	11.30
	7.87	HCL-1008			174.70	13.27
	9.84	HCL-10010			218.37	15.24
	11.81	HCL-10012			262.05	17.20
150	1.97	HCL-1502	168	33.14	65.24	8.23
	3.94	HCL-1504			130.48	10.20
	5.91	HCL-1506			195.73	12.17
	7.87	HCL-1508			260.97	14.13
	9.84	HCL-15010			326.21	16.10
	11.81	HCL-15012			391.45	18.07
200	1.97	HCL-2002	223	43.95	86.51	9.37
	3.94	HCL-2004			173.02	11.34
	5.91	HCL-2006			259.53	13.31
	7.87	HCL-2008			346.04	15.28
	9.84	HCL-20010			432.55	17.24
	11.81	HCL-20012			519.06	19.21
250	1.97	HCL-2502	286	56.27	110.77	9.80
	3.94	HCL-2504			221.55	11.77
	5.91	HCL-2506			332.32	13.74
	7.87	HCL-2508			443.09	15.71
	9.84	HCL-25010			553.87	17.68
	11.81	HCL-25012			664.64	19.65
300	1.97	HCL-3002	341	67.23	132.34	10.94
	3.94	HCL-3004			264.68	12.91
	5.91	HCL-3006			397.02	14.88
	7.87	HCL-3008			529.36	16.85
	9.84	HCL-30010			661.71	18.82
	11.81	HCL-30012			794.05	20.79

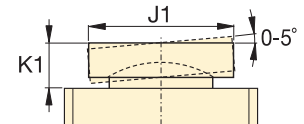
Single-Acting, High-Tonnage Lock Nut Cylinders

Capacity:
50 - 300 ton

Stroke:
1.97 - 11.81 inch

Maximum Operating Pressure:
10,150 psi

HCL Series

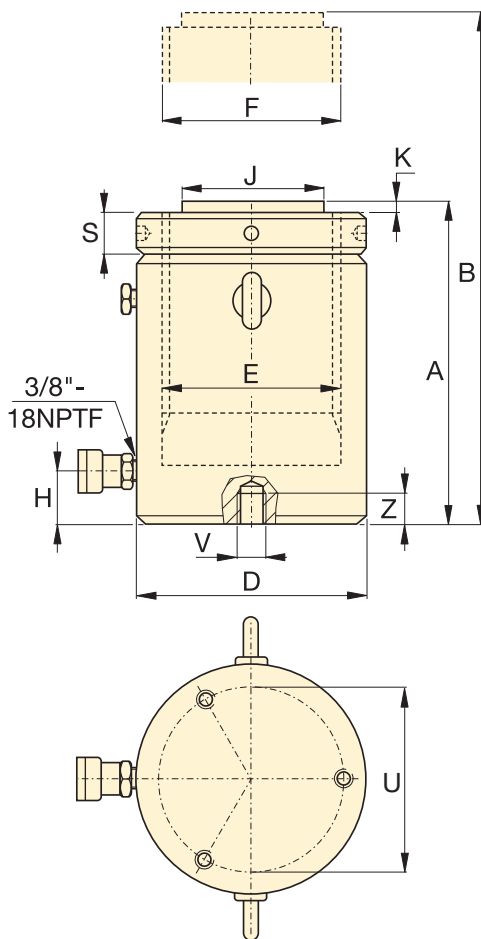


CAT-Series Tilt Saddle

	Extended Height	Outside Diameter	Cylinder Bore Diameter	Plunger Diameter	Base to Advance Port	Standard Saddle Diameter	Saddle Protrusion from Plunger	Lock Nut Height	Wt.	Model Number	Optional Tilt Saddle		
											Diameter	Height	Saddle Model Number
	B (in)	D (in)	E (in)	F (mm)	H (in)	J (in)	K (in)	S (in)	(lbs)		J1 (in)	K1 (in)	
	8.43	5.12	3.94	Tr 100 x 4	0.94	2.80	0.08	0.98	37	HCL-502	2.80	0.93	CAT-100
	12.36								48	HCL-504			
	16.30								60	HCL-506			
	20.24								71	HCL-508			
	24.17								83	HCL-5010			
	28.11								94	HCL-5012			
	9.33	6.89	5.31	Tr 135 x 6	1.30	2.80	0.08	1.30	77	HCL-1002	2.80	0.93	CAT-100
	13.27								98	HCL-1004			
	17.20								118	HCL-1006			
	21.14								139	HCL-1008			
	25.08								160	HCL-10010			
	29.02								181	HCL-10012			
	10.20	8.46	6.50	Tr 165 x 6	1.61	5.12	0.08	1.57	130	HCL-1502	5.12	0.76	CAT-200
	14.13								161	HCL-1504			
	18.07								192	HCL-1506			
	22.01								224	HCL-1508			
	25.94								255	HCL-15010			
	29.88								287	HCL-15012			
	11.34	9.84	7.48	Tr 190 x 6	1.85	5.12	0.08	1.77	188	HCL-2002	5.12	0.76	CAT-200
	15.28								231	HCL-2004			
	19.21								273	HCL-2006			
	23.15								316	HCL-2008			
	27.09								358	HCL-20010			
	31.02								401	HCL-20012			
	11.77	11.02	8.46	Tr 215 x 6	2.09	5.91	0.08	2.05	262	HCL-2502	5.91	0.76	CAT-250
	15.71								316	HCL-2504			
	19.65								369	HCL-2506			
	23.58								422	HCL-2508			
	27.52								476	HCL-25010			
	31.46								529	HCL-25012			
	12.91	12.01	9.25	Tr 235 x 6	2.28	5.49	0.08	2.20	348	HCL-3002	7.68	2.86	CAT-300
	16.85								411	HCL-3004			
	20.79								474	HCL-3006			
	24.72								537	HCL-3008			
	28.66								601	HCL-30010			
	32.60								664	HCL-30012			

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-TON HCL-MODELS

For 50 – 300-ton models, see pages 48-49

For full product features see pages 36-37.

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	HCL-4002	450	88.75	174.70	12.48
	3.94	HCL-4004			349.39	14.45
	5.91	HCL-4006			524.09	16.42
	7.87	HCL-4008			698.79	18.39
	9.84	HCL-40010			873.49	20.35
	11.81	HCL-40012			1,048.18	22.32
500	1.97	HCL-5002	575	113.25	222.92	14.06
	3.94	HCL-5004			445.85	16.02
	5.91	HCL-5006			668.77	17.99
	7.87	HCL-5008			891.70	19.96
	9.84	HCL-50010			1,114.62	21.93
	11.81	HCL-50012			1,337.55	23.90
600	1.97	HCL-6002	673	132.57	260.97	14.96
	3.94	HCL-6004			521.94	16.93
	5.91	HCL-6006			782.90	18.90
	7.87	HCL-6008			1,043.87	20.87
	9.84	HCL-60010			1,304.84	22.83
	11.81	HCL-60012			1,565.81	24.80
800	1.97	HCL-8002	916	180.44	355.21	16.93
	3.94	HCL-8004			710.41	18.90
	5.91	HCL-8006			1,065.62	20.87
	7.87	HCL-8008			1,420.82	22.83
	9.84	HCL-80010			1,776.03	24.80
	11.81	HCL-80012			2,131.24	26.77
1000	1.97	HCL-10002	1196	235.68	463.94	19.06
	3.94	HCL-10004			927.88	21.02
	5.91	HCL-10006			1,391.83	22.99
	7.87	HCL-10008			1,855.77	24.96
	9.84	HCL-100010			2,319.71	26.93
	11.81	HCL-100012			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
HCL-400	11.81	M16 x 2	0.95	3	60°
HCL-500	13.39	M24 x 3	1.42	3	60°
HCL-600	14.57	M24 x 3	1.42	3	60°
HCL-800	17.32	M24 x 3	1.42	3	60°
HCL-1000	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.

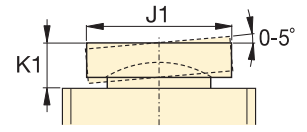
HCL Series



Capacity:
400 - 1000 ton

Stroke:
1.97 - 11.81 inch

Maximum Operating Pressure:
10,150 psi



CAT-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	Wt.	Model Number	Optional Tilt Saddle		
										Diameter	Height	Saddle Model Number
B (in)	D (in)	E (in)	F (mm)	H (in)	J (in)	K (in)	S (in)	(lbs)		J1 (in)	K1 (in)	
14.45	13.78	10.63	Tr 270 x 6	2.64	6.27	0.20	2.56	520	HCL-4002	8.86	3.34	CAT-400
18.39								603	HCL-4004			
22.32								686	HCL-4006			
26.26								770	HCL-4008			
30.20								853	HCL-40010			
34.13								936	HCL-40012			
16.02	15.75	12.01	Tr 305 x 6	2.95	7.06	0.20	2.83	751	HCL-5002	9.84	3.57	CAT-500
19.96								860	HCL-5004			
23.90								968	HCL-5006			
27.83								1,077	HCL-5008			
31.77								1,186	HCL-50010			
35.71								1,294	HCL-50012			
16.93	16.93	12.99	Tr 330 x 6	3.19	7.65	0.20	3.15	942	HCL-6002	10.83	3.89	CAT-600
20.87								1,067	HCL-6004			
24.80								1,193	HCL-6006			
28.74								1,319	HCL-6008			
32.68								1,444	HCL-60010			
36.61								1,570	HCL-60012			
18.90	19.88	15.16	Tr 385 x 6	3.74	8.83	0.20	3.54	1,472	HCL-8002	12.60	4.89	CAT-800
22.83								1,646	HCL-8004			
26.77								1,819	HCL-8006			
30.71								1,992	HCL-8008			
34.65								2,166	HCL-80010			
38.58								2,339	HCL-80012			
21.02	22.44	17.32	Tr 440 x 6	4.33	9.81	0.20	4.13	2,115	HCL-10002	14.17	5.36	CAT-1000
24.96								2,335	HCL-10004			
28.90								2,556	HCL-10006			
32.83								2,777	HCL-10008			
36.77								2,998	HCL-100010			
40.71								3,219	HCL-100012			