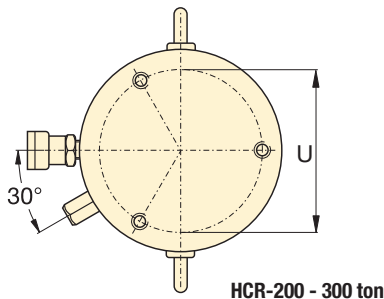
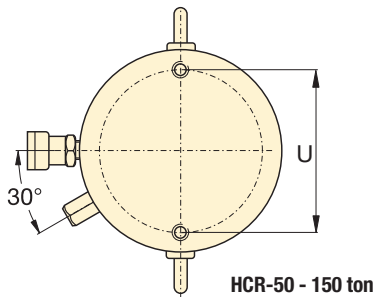
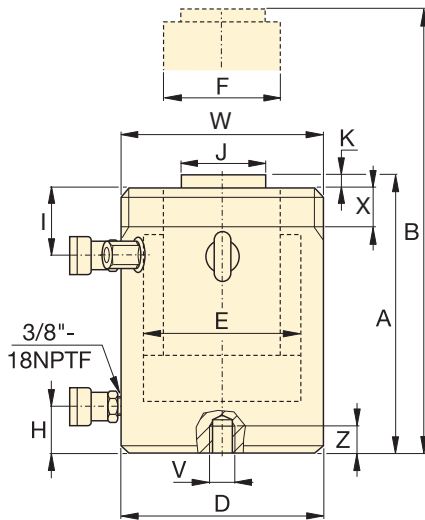


# HCR-Series, High-Tonnage Cylinders



## 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 <sup>2</sup> )	Oil Capacity (in <sup>3</sup> )	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°

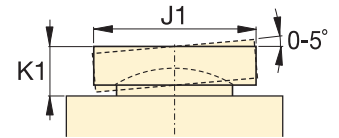
1) HCR-506 and HCR-5012: 7% side-load of maximum capacity.

Capacity:  
**50 - 300 ton**

Stroke:  
**1.97 - 11.81 inch**

Maximum Operating Pressure:  
**10,150 psi**

## HCR Series



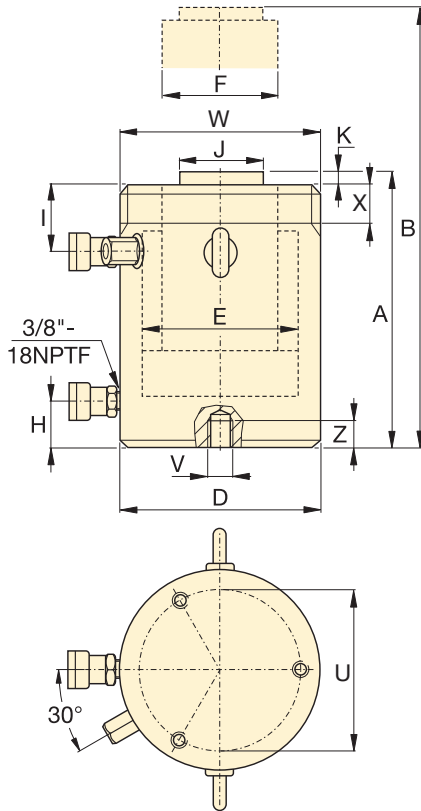
CATG-Series Tilt Saddle

	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 <sup>1)</sup>
	21.50					2.17			68	HCR-508
	25.43								76	HCR-5010
	29.37								84	HCR-5012 <sup>1)</sup>
	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 <sup>2</sup> )	Oil Capacity (in <sup>3</sup> )	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°



▲ 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.

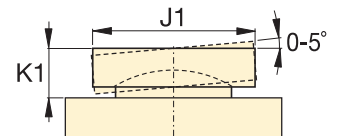
## HCR Series



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