

Collar Thread * (mm)		
Model / Capacity ton	Thread Size	Thread Length
	W	X
HCR-50	M130 x 2	30
HCR-100	M175 x 3	46
HCR-150	M215 x 3	55
HCR-200	M250 x 3	63
HCR-250	M280 x 3	64
HCR-300*	M305 x 3	73

\* Standard collar thread up to 250 ton models. Collar thread is optional on 300 ton models and higher. For collar thread on cylinder add suffix "E002" to model number. **Example: HCR3006E002**  
The collar thread length is designed for the full rated cylinder capacity.

Base Mounting Holes (mm)					
Model / Capacity ton	Bolt Circle	Thread Size	Minimum Thread Depth	Number of Holes	Angle from Coupler
	U	V	Z		
HCR-50	105	M12 x 1,75	22	2	90°
HCR-100	150	M12 x 1,75	22	2	90°
HCR-150	185	M12 x 1,75	22	2	90°
HCR-200	215	M12 x 1,75	22	3	60°
HCR-250	245	M12 x 1,75	22	3	60°
HCR-300	260	M16 x 2	25	3	60°

## HCR-Series, Double-Acting Cylinders

- Fast advance and retract
- Designed to withstand 10% side-load of maximum capacity<sup>1)</sup>
- 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
- Standard collar thread up to 250 ton models. Collar thread is optional on 300 ton models and higher.

### SELECTION CHART & DETAILS OF 50 - 300 TON HCR-MODELS

For 400 - 1000 ton models, see pages 52-53.

For full product features see pages 42-43.

Cylinder Capacity	Stroke	Model Number	Maximum Cylinder Capacity at 700 bar ton (kN)	Cylinder Effective Area	Oil Capacity	Collapsed Height
ton	(mm)			(cm <sup>2</sup> )	(cm <sup>3</sup> )	A (mm)
50	50	HCR-502	56 (550)	78,5	393	183
	100	HCR-504			785	233
	150	HCR-506 <sup>1)</sup>			1178	283
	200	HCR-508			1571	346
	250	HCR-5010			1963	396
100	50	HCR-1002	102 (1002)	143,1	716	202
	100	HCR-1004			1431	252
	150	HCR-1006			2147	302
	200	HCR-1008			2863	379
	250	HCR-10010			3578	429
150	50	HCR-1502	153 (1497)	213,8	1069	220
	100	HCR-1504			2138	270
	150	HCR-1506			3207	320
	200	HCR-1508			4276	397
	250	HCR-15010			5346	447
200	50	HCR-2002	202 (1985)	283,5	1418	231
	100	HCR-2004			2835	281
	150	HCR-2006			4253	331
	200	HCR-2008			5671	408
	250	HCR-20010			7088	458
250	50	HCR-2502	259 (2541)	363,1	1815	241
	100	HCR-2504			3631	291
	150	HCR-2506			5446	341
	200	HCR-2508			7261	431
	250	HCR-25010			9076	481
300	50	HCR-3002	310 (3036)	433,7	2169	296
	100	HCR-3004			4337	346
	150	HCR-3006			6506	396
	200	HCR-3008			8675	446
	250	HCR-30010			10.843	496
	300	HCR-30012			13.012	546

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

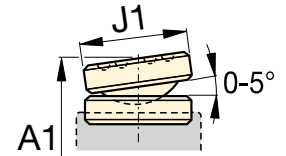
# Double-Acting, High Tonnage Cylinders

Capacity:  
**50 - 300 ton**


Stroke:  
**50 - 300 mm**

Maximum Operating Pressure:  
**700 bar**

**HCR Series**



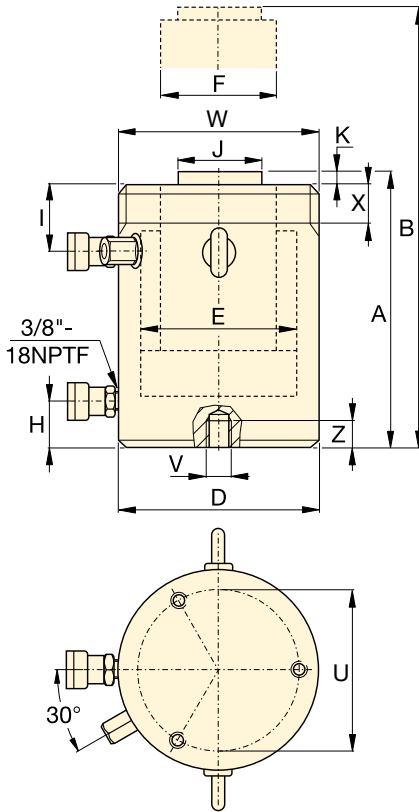
CATS-Series Tilt Saddle

	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter F (mm)	Base to Advance Port H (mm)	Top to Retract Port I (mm)	Standard Saddle Diameter J (mm)	Saddle Protrusion from Plunger K (mm)	 (kg)	Model Number	Optional Tilt Saddle			
											Saddle Diameter J1 (mm)	Collapsed Height <sup>2)</sup> A1 (mm)	Saddle Model Number	
	233	130	100	70	38		50	3	17	HCR-502	71		CATS-50	
	333								21	HCR-504				197
	433								25	HCR-506 <sup>1)</sup>				247
	546								31	HCR-508				297
	646								34	HCR-5010				360
	746								38	HCR-5012 <sup>1)</sup>				410
	252	175	135	95	38		75	3	34	HCR-1002	71		CATS-101	
	352								41	HCR-1004				212
	452								48	HCR-1006				262
	579								59	HCR-1008				312
	679								66	HCR-10010				389
	779								73	HCR-10012				439
	270	215	165	120	41		94	3	56	HCR-1502	97		CATS-150	
	370								67	HCR-1504				239
	470								78	HCR-1506				289
	597								95	HCR-1508				339
	697								106	HCR-15010				416
	797								116	HCR-15012				466
	281	250	190	140	47		113	3	81	HCR-2002	126		CATS-200	
	381								96	HCR-2004				249
	481								111	HCR-2006				299
	608								139	HCR-2008				349
	708								153	HCR-20010				426
	808								168	HCR-20012				476
	291	280	215	170	53		140	4	107	HCR-2502	175		CATS-300	
	391								127	HCR-2504				280
	491								146	HCR-2506				330
	631								184	HCR-2508				380
	731								207	HCR-25010				470
	831								227	HCR-25012				520
	346	305	235	200	58		140	4	159	HCR-3002	175		CATS-300	
	446								183	HCR-3004				335
	546								208	HCR-3006				385
	646								232	HCR-3008				435
	746								257	HCR-30010				485
	846								281	HCR-30012				535

<sup>2)</sup> A1 = Collapsed height including CATS-Series tilt saddle.

## HCR-Series, Double-Acting Cylinders

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- 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 optional collar threads
- Optional collar threads on 300 ton models and higher capacities.



### SELECTION CHART & DETAILS OF 400 - 1000 TON HCR-MODELS

For 50 - 300 ton models, see pages 50-51.

For full product features see pages 42-43.

Cylinder Capacity	Stroke	Model Number	Maximum Cylinder Capacity at 700 bar ton (kN)	Cylinder Effective Area (cm <sup>2</sup> )	Oil Capacity (cm <sup>3</sup> )	Collapsed Height A (mm)
ton	(mm)					
400	50	HCR-4002	409 (4008)	572,6	2863	321
	100	HCR-4004			5726	371
	150	HCR-4006			8588	421
	200	HCR-4008			11.451	471
	250	HCR-40010			14.314	521
	300	HCR-40012			17.177	571
500	50	HCR-5002	522 (5114)	730,6	3653	344
	100	HCR-5004			7306	394
	150	HCR-5006			10.959	444
	200	HCR-5008			14.612	494
	250	HCR-50010			18.265	544
	300	HCR-50012			21.918	594
600	50	HCR-6002	611 (5987)	855,3	4276	352
	100	HCR-6004			8553	402
	150	HCR-6006			12.829	452
	200	HCR-6008			17.106	502
	250	HCR-60010			21.382	552
	300	HCR-60012			25.659	602
800	50	HCR-8002	831 (8149)	1164,2	5821	404
	100	HCR-8004			11.642	454
	150	HCR-8006			17.462	504
	200	HCR-8008			23.283	554
	250	HCR-80010			29.104	604
	300	HCR-80012			34.925	654
1000	50	HCR-10002	1085 (10.644)	1520,5	7603	442
	100	HCR-10004			15.205	492
	150	HCR-10006			22.808	542
	200	HCR-10008			30.411	592
	250	HCR-100010			38.013	642
	300	HCR-100012			45.616	692

#### Optional Collar Thread (mm)

Model / Capacity ton	Thread Size	Thread Length
	W	X
HCR-400	M350 x 3	83
HCR-500	M400 x 4	90
HCR-600	M430 x 4	100
HCR-800	M505 x 5	122
HCR-1000	M570 x 5	137

Collar thread is optional on 300 ton models and higher. For collar thread on cylinder add suffix "E002" to model number. Example: **HCR4006E002**

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

#### Base Mounting Holes (mm)

Model / Capacity ton	Bolt Circle	Thread Size	Minimum Thread Depth	Number of Holes	Angle from Coupler
	U	V	Z		
HCR-400	300	M16 x 2	25	3	60°
HCR-500	340	M24 x 3	36	3	60°
HCR-600	370	M24 x 3	36	3	60°
HCR-800	440	M24 x 3	36	3	60°
HCR-1000	500	M24 x 3	36	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.

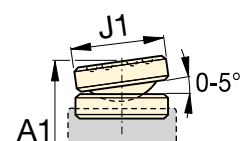
## HCR Series




Capacity:  
**400 - 1000 ton**

Stroke:  
**50 - 300 mm**

Maximum Operating Pressure:  
**700 bar**



CATS-Series Tilt Saddle

Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter F (mm)	Base to Advance Port H (mm)	Top to Retract Port I (mm)	Standard Saddle Diameter J (mm)	Saddle Protrusion from Plunger K (mm)	 (kg)	Model Number	Optional Tilt Saddle		
										Saddle Diameter J1 (mm)	Collapsed Height * A1 (mm)	Saddle Model Number
371	350	270	220	74	111	159	4	227	HCR-4002	210	369	CATS-400
471								258	HCR-4004			
571								289	HCR-4006			
671								321	HCR-4008			
771								352	HCR-40010			
871								383	HCR-40012			
394	400	305	250	79	121	179	4	320	HCR-5002	230	392	CATS-500
494								361	HCR-5004			
594								402	HCR-5006			
694								443	HCR-5008			
794								484	HCR-50010			
894								525	HCR-50012			
402	430	330	270	85	121	194	4	379	HCR-6002	250	405	CATS-600
502								427	HCR-6004			
602								474	HCR-6006			
702								521	HCR-6008			
802								568	HCR-60010			
902								615	HCR-60012			
454	505	385	320	100	143	224	4	608	HCR-8002	275	461	CATS-800
554								674	HCR-8004			
654								740	HCR-8006			
754								806	HCR-8008			
854								872	HCR-80010			
954								938	HCR-80012			
492	570	440	340	114	153	249	4	843	HCR-10002	300	519	CATS-1000
592								921	HCR-10004			
692								1000	HCR-10006			
792								1079	HCR-10008			
892								1158	HCR-100010			
992								1236	HCR-100012			

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