

▼ Shown from left to right: RACH-1508, RACH-304 and RACH-208



The Lightweight Solution for Tensioning and Testing



Saddles

All RACH-cylinders are equipped with bolt-on removable hardened steel hollow saddles.



Lightweight Hand Pumps

Enerpac hand pumps P-392 or P-802 make the optimal lightweight set.

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- Hollow plunger design allows for both pull and push forces
- Composite bearings increase cylinder life and side load resistance
- Hard coat finish on all surfaces resists damage and extends cylinder life
- Handles included on all models
- Floating center tube increases seal life
- Steel baseplate and saddle for protection against load-induced damage
- Integral stop ring prevents plunger over-travel and is capable of withstanding the full cylinder capacity
- High-strength return spring for rapid cylinder retraction
- CR-400 coupler and dust cap included on all models
- All cylinders meet ASME B-30.1 and ISO 10100 standards



◀ An RACH-306, powered by a P-392 hand pump, is used to extract corroded carriage pins from refuse collection vehicles.

Cylinder Capacity	Stroke*	Model Number	Cylinder Effective Area
tons (maximum)	(in)		(in ²)
20 (25.4)	1.97	RACH-202	5.07
	3.94	RACH-204	5.07
	5.91	RACH-206	5.07
	7.87	RACH-208	5.07
	9.84	RACH-2010	5.07
30 (39.6)	1.97	RACH-302	7.92
	3.94	RACH-304	7.92
	5.91	RACH-306	7.92
	7.87	RACH-308	7.92
	9.84	RACH-3010	7.92
60 (65.6)	1.97	RACH-602	13.13
	3.94	RACH-604	13.13
	5.91	RACH-606	13.13
	7.87	RACH-608	13.13
	9.84	RACH-6010	13.13
100 (127.5)	1.97	RACH-1002	25.51
	3.94	RACH-1004	25.51
	5.91	RACH-1006	25.51
	7.87	RACH-1008	25.51
	9.84	RACH-10010	25.51
150 (175.0)	1.97	RACH-1502	35.00
	3.94	RACH-1504	35.00
	5.91	RACH-1506	35.00
	7.87	RACH-1508	35.00
	9.84	RACH-15010	35.00

* Custom strokes available.

Single-Acting, Spring Return, Hollow Plunger Cylinders



Steel Base Plate

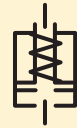
The steel base plate protects the cylinder base from damage, it should not be removed.

The base holes in these aluminum cylinders are designed for securing the steel base plate. **They will not**

withstand the capacity of the cylinder.

Do not use the base holes in these aluminum cylinders to attach any device to the cylinder.

RACH Series



Capacity:

20-150 tons

Stroke:

1.97-9.84 inches

Center Hole Diameter:

1.06-3.11 inches

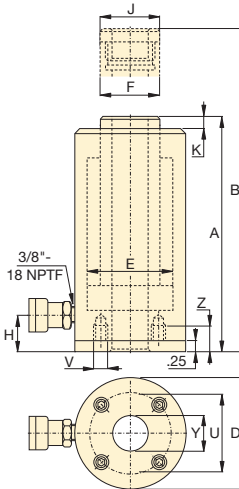
Maximum Operating Pressure:

10,000 psi

Steel Base Plate Mounting Holes

Cylinder Model / Capacity (ton)	Bolt Circle U (in)	Thread V (mm)	Thread Depth ¹⁾ Z (in)
RACH-20	3.15	M6	.47
RACH-30	4.33	M6	.47
RACH-60	6.30	M6	.47
RACH-100	8.66	M10	.47
RACH-150	9.65	M10	.47

¹⁾ Including Base Plate Height of .25 inches. Four (4) baseplate bolts included.



Oil Capacity (in ³)	Collapsed Height A (in)	Extended Height B (in)	Outside Diameter D (in)	Cylinder Bore Diameter E (in)	Plunger Diameter F (in)	Base to Advance Port H (in)	Saddle Diameter J (in)	Saddle Protrusion from Plunger K (in)	Center Hole Diameter Y (in)	Weight (lbs)	Model Number
9.98	7.41	9.38	3.93	2.95	2.17	1.14	2.17	0.40	1.06	11.5	RACH-202
19.96	9.89	13.83	3.93	2.95	2.17	1.14	2.17	0.40	1.06	13.5	RACH-204
29.94	12.41	18.32	3.93	2.95	2.17	1.14	2.17	0.40	1.06	15.6	RACH-206
39.87	14.89	22.76	3.93	2.95	2.17	1.14	2.17	0.40	1.06	17.7	RACH-208
49.90	17.41	27.25	3.93	2.95	2.17	1.14	2.17	0.40	1.06	19.8	RACH-210
15.59	8.20	10.17	5.12	3.74	2.76	1.14	2.76	0.40	1.34	17.6	RACH-302
31.18	10.52	14.46	5.12	3.74	2.76	1.14	2.76	0.40	1.34	20.9	RACH-304
46.77	13.12	19.02	5.12	3.74	2.76	1.14	2.76	0.40	1.34	24.6	RACH-306
62.35	15.56	23.43	5.12	3.74	2.76	1.14	2.76	0.40	1.34	28.4	RACH-308
77.94	18.04	27.88	5.12	3.74	2.76	1.14	2.76	0.40	1.34	31.9	RACH-3010
25.84	9.89	11.86	7.09	5.12	3.94	2.41	3.94	0.47	2.13	35.6	RACH-602
51.69	12.41	16.35	7.09	5.12	3.94	2.41	3.94	0.47	2.13	42.8	RACH-604
77.53	14.97	20.87	7.09	5.12	3.94	2.41	3.94	0.47	2.13	50.3	RACH-606
103.37	17.52	25.40	7.09	5.12	3.94	2.41	3.94	0.47	2.13	57.2	RACH-608
129.21	20.09	29.93	7.09	5.12	3.94	2.41	3.94	0.47	2.13	65.1	RACH-6010
50.21	10.16	12.13	9.84	7.28	5.71	2.41	5.71	0.55	3.11	74.6	RACH-1002
100.43	12.80	16.74	9.84	7.28	5.71	2.41	5.71	0.55	3.11	87.8	RACH-1004
150.64	15.40	21.31	9.84	7.28	5.71	2.41	5.71	0.55	3.11	101.9	RACH-1006
200.85	18.08	25.95	9.84	7.28	5.71	2.41	5.71	0.55	3.11	115.7	RACH-1008
251.07	20.76	30.60	9.84	7.28	5.71	2.41	5.71	0.55	3.11	129.3	RACH-10010
66.08	11.03	13.00	10.83	8.07	5.91	2.41	5.71	0.55	3.11	107.7	RACH-1502
132.17	14.18	18.12	10.83	8.07	5.91	2.41	5.71	0.55	3.11	122.8	RACH-1504
206.72	16.93	22.84	10.83	8.07	5.91	2.41	5.71	0.55	3.11	138.9	RACH-1506
275.62	19.69	27.57	10.83	8.07	5.91	2.41	5.71	0.55	3.11	154.5	RACH-1508
344.53	22.45	32.29	10.83	8.07	5.91	2.41	5.71	0.55	3.11	170.2	RACH-15010

▼ Shown from left to right: RCH-306, RCH-120, RCH-1003

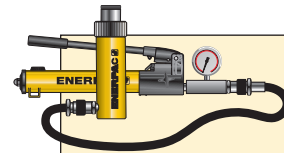


- Hollow plunger design allows for both pull and push forces
- Single-acting spring return
- Nickel-plated, floating center tube on models over 20 tons increases product life
- Baked enamel finish for increased corrosion resistance
- Collar threads for easy fixturing
- RCH-120 includes AR-630 coupler and has 1/4 NPTF port
- RCH-121 and RCH-1211 have FZ-1630 reducer and AR-630 coupler, all other models feature CR-400 coupler

▼ Hollow plunger cylinder RCH-1003 used in an application for intermediate boom suspension on a dragline.



Versatility in Testing, Maintenance and Tensioning Applications



Pump and Cylinder Sets

All cylinders marked with an * are available as **sets** (cylinder, gauge, couplers, hose and pump) for your ordering convenience.

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Lightweight Aluminum Hollow Plunger Cylinders

If you need a higher cylinder capacity-to-weight ratio the lightweight **RACH-Series**

Aluminum Hollow Plunger Cylinders are the perfect choice.

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Saddles

Most **RCH-Series** cylinders are equipped with smooth saddles. See table at next page for optional threaded saddles and all dimensional information.

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Cylinder Capacity	Stroke	Model Number	Cyl. Effect. Area	Oil Cap.
(tons) [maximum]	(in)		(in ²)	(in ³)
12 [13.8]	0.31	RCH-120	2.76	0.86
	1.63	RCH-121*	2.76	4.49
	1.63	RCH-1211	2.76	4.49
	3.00	RCH-123	2.76	8.29
20 [23.6]	2.00	RCH-202*	4.72	9.46
	6.10	RCH-206	4.72	28.67
30 [36.1]	2.50	RCH-302*	7.22	18.05
	6.13	RCH-306	7.22	44.23
60 [63.6]	3.00	RCH-603*	12.73	38.20
	6.00	RCH-606	12.73	76.41
100 [103.1]	3.00	RCH-1003*	20.63	61.88

* Available as a set. See note on this page.

Single-Acting, Hollow Plunger Cylinders



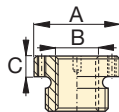
Hoses

Enerpac offers a complete line of high quality hydraulic hoses. To ensure the integrity of your system, specify only Enerpac hydraulic hoses.

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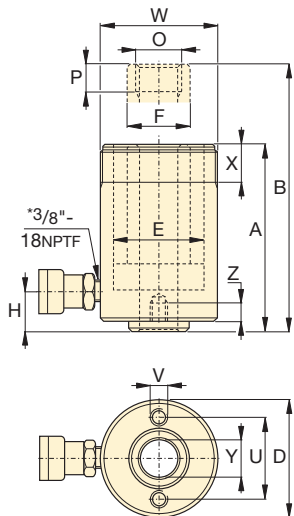
Optional Heat Treated Hollow Saddles

Saddle Type	Cylinder Model No.	Saddle Model No.	Saddle Dimensions (in)		
			A	B	C
Threaded Hollow	RCH-202, 206	HP-2015	2.11	1"-8	.38
	RCH-302, 306	HP-3015	2.49	1 1/4"-7	.38
	RCH-603, 606	HP-5016	3.61	1 5/8"-5 1/2"	.50
	RCH-1003	HP-10016	4.97	2 1/2"-8	.51

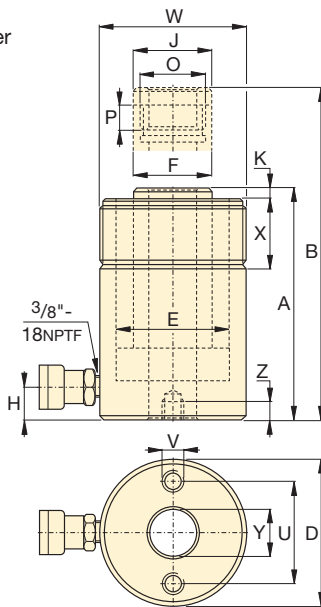


Smooth hollow saddles are standard on all RCH-models (12-ton models are not equipped with saddles).

RCH-121 and RCH-1211 have a 1.88" diameter boss that protrudes 0.25" from base.



RCH-120* to RCH-123 models



RCH-202 to RCH-1003 models

* 1/4" NPT for RCH-120 only

RCH Series



Capacity:

12-100 tons

Stroke:

.31-6.13 inches

Center Hole Diameter:

.68-3.11 inches

Maximum Operating Pressure:

10,000 psi

Base Mounting Hole Dimensions (in)

Model Number	Bolt Circle			Thread	Thread Depth
	U	V	Z		
RCH-120	2.00	5/16"-18 UNC	.35		
RCH-121	-	-	-		
RCH-1211	-	-	-		
RCH-123	2.00	5/16"-18 UNC	.50		
RCH-202	3.25	3/8"-16 UNC	.37		
RCH-206	3.25	3/8"-16 UNC	.37		
RCH-302	3.63	3/8"-16 UNC	.55		
RCH-306	3.63	3/8"-16 UNC	.55		
RCH-603	5.13	1/2"-13 UNC	.55		
RCH-606	5.13	1/2"-13 UNC	.55		
RCH-1003	7.00	5/8"-11 UNC	.75		

Collap. Height	Ext. Height	Outside Diam.	Cyl. Bore Diam.	Plngr. Diam.	Cyl. Base to Advance Port	Saddle Diameter	Saddle Protrusion from Plngr.	Plunger Internal Thread	Plunger Thread Length	Collar Thread	Collar Thread Length	Center Hole Diam.	Weight	Model Number
A (in)	B (in)	D (in)	E (in)	F (in)	H (in)	J (in)	K (in)	O (in)	P (in)	W (in)	X (in)	Y (in)	(lbs)	
2.19	2.50	2.75	2.13	1.38	.38	-	-	3/4"-16 UN	.63	2 3/4"-16	1.19	.68	3.2	RCH-120
4.75	6.38	2.75	2.13	1.38	.98	-	-	-	-	2 3/4"-16	1.19	.77	6.2	RCH-121*
4.75	6.38	2.75	2.13	1.38	.98	-	-	3/4"-16 UN	.63	2 3/4"-16	1.19	.68	6.2	RCH-1211
7.25	10.25	2.75	2.13	1.38	.98	-	-	-	-	2 3/4"-16	1.19	.77	9.8	RCH-123
6.38	8.38	3.88	2.88	2.13	.75	2.13	.27	1 9/16"-16 UN	.75	3 7/8"-12	1.50	1.06	17	RCH-202*
12.05	18.11	3.88	2.88	2.13	.75	2.13	.27	1 9/16"-16 UN	.75	3 7/8"-12	1.50	1.06	31	RCH-206
7.03	9.53	4.50	3.50	2.50	.85	2.50	.38	1 13/16"-16 UN	.88	4 1/2"-12	1.66	1.31	24	RCH-302*
13.00	19.13	4.50	3.50	2.50	1.00	2.50	.38	1 13/16"-16 UN	.88	4 1/2"-12	1.66	1.31	48	RCH-306
9.75	12.75	6.25	4.88	3.63	1.25	3.61	.50	2 3/4"-16 UN	.75	6 1/4"-12	1.91	2.12	62	RCH-603*
12.75	18.75	6.25	4.88	3.63	1.25	3.61	.50	2 3/4"-16 UN	.75	6 1/4"-12	1.91	2.12	78	RCH-606
10.00	13.00	8.38	6.50	5.00	1.50	4.97	.50	4"-16 UN	1.00	8 3/8"-12	2.38	3.11	132	RCH-1003*

▼ Shown from left to right: RRH-3010, RRH-1001, RRH-6010



Versatility in Testing, Maintenance and Tensioning Applications



Pump Selection

A double-acting cylinder must be powered by a pump with a 4-way valve.

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Gauges

Minimize the risk of overloading and ensure long, dependable service from your equipment. Refer to the System Components section for a full range of gauges.

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Saddles

All RRH-Series cylinders are equipped with smooth saddles. See table on next page for optional threaded saddles and all dimensional information.

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- Relief valves prevent damage in case of over-pressurization
- Baked enamel finish for increased corrosion resistance
- Collar threads enable easy fixturing (except RRH-1001 and RRH-1508)
- Double-acting operation for fast retraction
- Nickel-plated, floating center tube increases product life
- Hollow plunger allows for both pull and push forces
- CR-400 couplers and dust caps included on all models
- Plunger wiper reduces contamination, extending cylinder life

▼ Double-acting hollow-plunger cylinders are applied for bridge launching systems.



Cylinder Capacity (ton)	Stroke (in)	Model Number	Max. Cylinder Capacity (ton)		Cylinder Effective Area (in ²)		Oil Capacity (in ³)	
			Advance	Retract	Advance	Retract	Advance	Retract
30	7.00	RRH-307	36	24	7.22	4.71	50.55	32.99
	10.13	RRH-3010	36	24	7.22	4.71	73.12	47.71
60	3.50	RRH-603	64	42	12.73	8.37	44.57	29.21
	6.50	RRH-606	64	42	12.73	8.37	82.77	54.24
	10.12	RRH-6010	64	42	12.73	8.37	128.94	84.49
100	1.50	RRH-1001	103	68	20.63	13.54	30.94	20.32
	3.00	RRH-1003	103	68	20.63	13.54	61.88	40.64
	6.00	RRH-1006	103	68	20.63	13.54	123.76	81.29
	10.13	RRH-10010	103	68	20.63	13.54	208.84	137.17
150	8.00	RRH-1508	158	80	31.62	15.91	252.97	127.23

Double-Acting, Hollow Plunger Cylinders



Hoses

Enerpac offers a complete line of high-quality hydraulic hoses. To ensure the integrity of your system, specify only Enerpac hydraulic hoses.

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RRH Series



Capacity:

30-150 tons

Stroke:

1.50-10.13 inches

Center Hole Diameter:

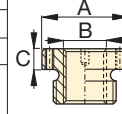
1.31-3.13 inches

Maximum Operating Pressure:

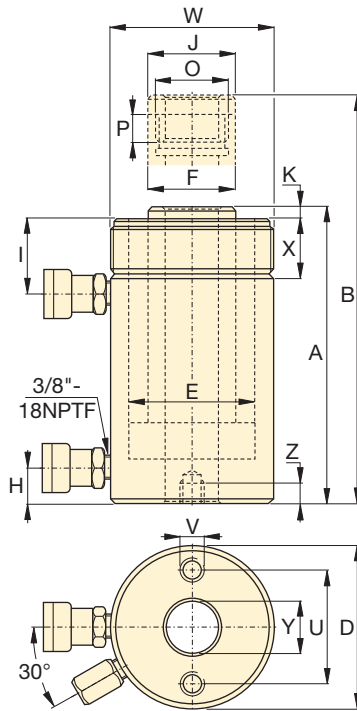
10,000 psi

Optional Heat Treated Saddles

Saddle Type	Cylinder Model Number	Saddle Model No.	Saddle Dimensions (in)		
			A	B	C
Threaded Hollow	RRH-307, 3010	HP-3015	2.49	1 1/4"-7	.38
	RRH-603, 606, 6010	HP-5016	3.61	1 5/8"-5 1/2	.50
	RRH-1001, 1003, RRH-1006, 10010	HP-10016	4.97	2 1/2"-8	.51



Smooth hollow saddles are standard on all RRH-models.



Base Mounting Hole Dimensions (in)

Model Number	Bolt Circle U	Thread V	Thread Depth Z
RRH-307	3.63	3/8" - 16	.62
RRH-3010	3.63	3/8" - 16	.62
RRH-603	5.12	1/2" - 13	.55
RRH-606	5.12	1/2" - 13	.55
RRH-6010	5.12	1/2" - 13	.55
RRH-1001	7.00	5/8" - 11	.75
RRH-1003	7.00	5/8" - 11	.75
RRH-1006	7.00	5/8" - 11	.75
RRH-10010	7.00	5/8" - 11	.75
RRH-1508	-	-	-

Collap. Height A (in)	Ext. Height B (in)	Out. Diam. D (in)	Cyl. Bore Diam. E (in)	Plngr. Diam. F (in)	Cyl. Base to Adv. Port H (in)	Cyl. Top to Return Port I (in)	Saddle Diam. J (in)	Saddle Protrusion from Plngr. K (in)	Thread O (in)	Plunger Thread Length P (in)	Collar Thread W (in)	Collar Thread Length X (in)	Center Hole Diam. Y (in)	Wt. (lbs)	Model Number
13.00	20.00	4.50	3.50	2.50	1.00	2.38	2.50	.38	1 13/16"-16	.88	4 1/2"-12	1.66	1.31	48	RRH-307
17.00	27.13	4.50	3.50	2.50	1.00	2.38	2.50	.38	1 13/16"-16	.88	4 1/2"-12	1.66	1.31	60	RRH-3010
9.75	13.25	6.25	4.88	3.63	1.25	2.63	3.61	.50	2 3/4"-16	.75	6 1/4"-12	1.91	2.13	62	RRH-603
12.75	19.25	6.25	4.88	3.63	1.25	2.63	3.61	.50	2 3/4"-16	.75	6 1/4"-12	1.91	2.13	78	RRH-606
17.25	27.38	6.25	4.88	3.63	1.25	2.63	3.61	.50	2 3/4"-16	.75	6 1/4"-12	1.91	2.13	101	RRH-6010
6.50	8.00	8.38	6.50	5.00	1.50	1.75	4.97	.50	4"-16	1.00	-	-	3.13	85	RRH-1001
10.00	13.00	8.38	6.50	5.00	1.50	3.38	4.97	.50	4"-16	1.00	8 3/8"-12	2.38	3.13	135	RRH-1003
13.50	19.50	8.38	6.50	5.00	1.50	3.38	4.97	.50	4"-16	1.00	8 3/8"-12	2.38	3.13	175	RRH-1006
18.13	28.25	8.38	6.50	5.00	1.50	3.38	4.97	.50	4"-16	1.00	8 3/8"-12	2.38	3.13	235	RRH-10010
13.75	21.75	9.75	7.50	6.00	1.50	2.38	5.00	.19	4 1/4"-12	1.00	-	-	3.13	245	RRH-1508