

E325e

ENERPAC 

Hydraulic Power
for all Industrial Applications

DOBCO
EQUIPMENT LTD

Toll-Free 1-866-763-6226 Phone: 905-672-5557
Fax: 905-672-5559 Email: sales@dobcoeqp.com



Table of Contents

Introduction

The World Class Brand 4-5

Cylinders (Hydraulic) 6-65

Introduction 6-7

RC-Series, Single-Acting Cylinders 8-11
and Accessories 12

RAC-Series, Single-Acting
Aluminium Cylinders 14-15

RACL-Series, Single-Acting
Aluminium Lock Nut Cylinders 16-17

RACH-Series, Single-Acting, Aluminium
Hollow Plunger Cylinders 18-19

RAR-Series, Double-Acting
Aluminium Cylinders 20-21

CLP-Series, Single-Acting
Pancake Cylinders 22-23

RSM-Series, Single-Acting
Flat-Jac® Cylinders 24-25

RCS-Series, Single-Acting
Low Height Cylinders 24-25

BRC-Series, Single-Acting
Pull Cylinders 26-27

BRP-Series, Single-Acting
Pull Cylinders 26-27

RCH-Series, Single-Acting
Hollow Plunger Cylinders 28-29

RRH-Series, Double-Acting
Hollow Plunger Cylinders 30-31

BRD-Series, Double-Acting
Precision Cylinders 32-33

RR-Series, Double-Acting
Long Stroke Cylinders 34-37

CLSG-Series, Single-Acting
High Tonnage Cylinders 38-41

CLS-Series, Single-Acting
High Tonnage Cylinders 42-45

CLRG-Series, Double-Acting
High Tonnage Cylinders 46-49

CLL-Series, Single-Acting
Lock Nut Cylinders 50-53

SLS-Series, Synchronous Systems 54-55

BLS, SL-Series, Stage Lift Systems 56-57

SHS-Series, SyncHoist,
Load Positioning Systems 58-59

JH, JHA-Series,
Steel and Aluminium Jacks 60

EBJ-Series, Steel Bottle Jacks 61

RC-Series, High Temperature &
Corrosion Resistant Products 62-63

SC-Series, Cylinder-Pump Sets 64-65

Pumps (Hydraulic) 66-105

Introduction 66-67

P-Series, Lightweight Hand Pumps 68-69

P-Series, Steel Hand Pumps 70-71

P-Series, Low Pressure Hand Pumps . 72-73

MP-Series, Multifluid Hand Pumps 74

P-Series, Foot Pump 75

P- and 11-Series,
Ultra-High Pressure Hand Pumps 76-77

PU-Series, Portable Economy
Electric Pumps 78-79

PE-Series, Submerged
Electric Pumps 80-83

Z-Class Introduction
ZE3 - ZE6, ZU4-Series 84-85

ZU4-Series, Electric Pumps 86-89

ZE-Series, Electric Pumps 90-95

PP-Series, Electric Pumps
(8000- and 9000-Series) 96-97

PA-Series, Turbo II Air Pumps 98-99

PA-Series, Air Hydraulic Pumps 100-101

PAH-Series, Air Hydraulic Pumps ... 102-103

PGM-Series, Atlas Gasoline
Powered Pumps 104-105

Model Number Index

Section Index

Page(s) ▼

Page(s) ▼

Page(s) ▼

Page(s) ▼

A

A5-A10	166
A12	12
A13-A28	166
A29-A53	12
A64-A66	124
A92	166, 177
A102	12
A128-A192	166
A183	146
A185	146, 166
A200R	148
A205-A220	146
A218	166
A242-A305	166
A310, A330	146
A530-A595	166
A604	123
A607	166
A630	123
A650	166
AH	123
AM	124
AR	123
ATM	189
AW	12

B

BAD	33
BFZ	125
BHP	152-155
BLS	56-57
BPR	144-145
BRC	26-27
BRD	32-33
BRP	26-27
BSS	90, 148
BZ	180-181

C

C	123
CAT	12, 25, 41
	49, 45, 53
CATG	15, 17
	21, 41, 49
CC	202-205
CD	123
CH	123, 194
CLL	50-53
CLP	22-23
CLRG	46-49
CLS	42-45
CLSG	38-41
CM	176
CR	123
CW	168

D

DGR	131
DPT	182-183

E

EBJ	61
ELP	174-175
EMB	174
EP	156-159
EPH	160-163
EPHT	163
EPP	157-159
EPT	160
EPX	159
ER	174-175
ES	174-175

F

F	123-124
FH	123-124
FR	123-124
FS	187
FSB	188
FSH	188
FSM	188
FZ	125

G

G	128-129
GA	132
GF	126-127
GP	126-127

H

H	120, 128-129
HA	121
HB	121
HC	121
HF	124
HP	29, 31
HR	204-205
HXD	202-205

I

IN	204-205
IPL	148

J

JB	12
JH	60
JHA	60

L

LH	149
LW	172

M

MP	74
MS	166-169
MSP	171
MZ	1568-169

N

NC	186
NV	132

P

P	63, 68, 70, 72
P142AL	62-63
P392AL	62-63
P392FP	75
PA	100
PAH	102-103
PAM	101
PAMG	98-99
PATG	98-99
PARG	98-99
PC	68, 70, 72
PE	80-83
PF	92
PGM	104-105
PMA	207, 215
PME	206, 208
PMU	206, 208
PP	96-97
PT	182-183
PTA	207, 214
PTE	206, 209
PU	78-79

R

RAH	196-197
RAC	14
RACH	18
RACL	16
RAR	20
RB	12
RC	8-12, 62-63
RCH	28-29
RCS	24-25
REB	12
REP	12
RFL	98
RR	34-37
RRH	30-31
RSM	24-25
RWH	152

S

S	190-193
SB	92, 172, 188
SCH	64-65
SCL	64-65
SCP	64-65
SCR	64-65
SDA	192-193
SHS	58-59
SL	56-57
SLS	54-55
SOH	173
SP	170-171
SPD	171

SPK	170
SQD	194-197
STB	180-181
STC	178
STF	187-188
STN	186
STP	171
SW	188

T

T	122-123
THC	207
THQ	207
TM	149
TW	189

V

V	63, 138-139
VA2	101
VB	142, 148
VC	134-137
VE	134-137
VHJ	148
VLP	142-143
VM	134-137

W

W	198-201
WCB	178-179
WHC	178
WHR	178
WMC	179
WR	177

Z

Z	123
ZC	92-93
	133-135
ZE	85, 90-95
ZH	93
ZL	92
ZP	92-93
ZU4	84-89
ZU4T	207
	210-213
ZR	92

11	76-77
25A-	196-197
41-	77
43-	77, 130
45-	77
50A-	196-197
72-	76-77
83-	77, 130
75A-	196-197
100A-	196-197
160A-	196-197
270A-	196-197



Cylinders

Page 6-65



Pumps

Page 66-105



System Components

Page 119-132



Valves

Page 133-139



Presses

Page 140-149



Pullers

Page 150-163



Tools

Page 164-183



Bolting Tools

Page 184-216

ENERPAC 

The World-

A complete range of quality high force tools for all industrial applications, with local availability and after sale service anywhere in the world.... this is what has made Enerpac the undisputed global market leader in high pressure hydraulics.

Across every continent, Enerpac's network of authorized distributors and service centers can reach even the most remote locations, supplying and servicing products that are designed to enhance productivity and performance, while making the workplace safer.

With over 150 sales specialists and a network of service and engineering support in 17 countries across the globe, Enerpac has become the product of choice in industries such as manufacturing, construction, energy, oil & gas, shipbuilding, railroads, mining, and metals transformation.

Always at the leading edge of technology, Enerpac has continued to develop its range of time and cost-savings tools, utilizing modern engineered materials to improve productivity and minimize operator fatigue.

Enerpac's commitment to the continued development of quality high force tools ensures that the products you purchase are the best tools in the industry. We will continue to lead the way in the development of quality high force tools for all industrial applications.



Class Brand

10 Good Reasons to Work with Enerpac

- Expert Design
- Highly Reliable
- Service Excellence
- Worldwide Experience
- Application Support
- Availability
- Quality
- Value
- Innovative Products
- Systems Solutions



Total Quality

Our products are tested to the most exacting standards. These high standards guarantee the quality, price and performance requirements of the markets we serve around the globe.

Global Network

Enerpac has an extensive network of authorized distributors and service centers located in more than 90 countries worldwide. You can rely on Enerpac for the products and technical support you need to get your job done, anywhere in the world.

Logistics Excellence

Enerpac's mission is to maintain service excellence in the ever-changing world of modern distribution. Providing our extensive range of products to our thousands of distributors worldwide demands a logistic expertise only a market leader can provide.



A Tradition of Innovation

Enerpac has a long history of finding new solutions to better meet the challenges of the industries we serve. We were the first to develop a composite hand pump and the first to offer a computerized lifting system. Our latest innovations include a full range of aluminium cylinders.... cylinders with the strength of steel and the advantages of aluminium and the Z-Class series of power pumps.... pumps that were designed to run cooler, use less electricity and are easy to service.

And to support the demands of new technologies in the construction industry, Enerpac has continued to develop Integrated System capabilities. These capabilities will provide synchronized movement control for your most challenging applications.

ENERPAC

Hydraulic Technology Worldwide

Enerpac Hydraulic Cylinders

ENERPAC 
Hydraulic Technology Worldwide

ENERPAC hydraulic cylinders are available in hundreds of different configurations. Whatever the industrial application... lifting, pushing, pulling, bending, holding... whatever the force capacity, stroke length, or size restrictions... single- or double-acting, solid or hollow plunger, you can be sure that Enerpac has the cylinder to suit your high force application.

Enerpac cylinders fully comply to ASME B30.1.



Golden Ring Design

The exclusive Golden Ring Design is a unique bearing design which absorbs eccentric load stresses to protect your cylinder against abrasion, over-extending or plunger blow-outs and jamming or top-end mushrooming. As a result, Golden Ring cylinders provide long, trouble-free operation.

Hardened Saddle

prevents plunger from mushrooming and jamming in the top bearing. Snap-in design.

Plunger Wiper

reduces contamination, extending cylinder life.

Golden Ring

absorbs eccentric loading without galling cylinder parts.

Plated Plunger

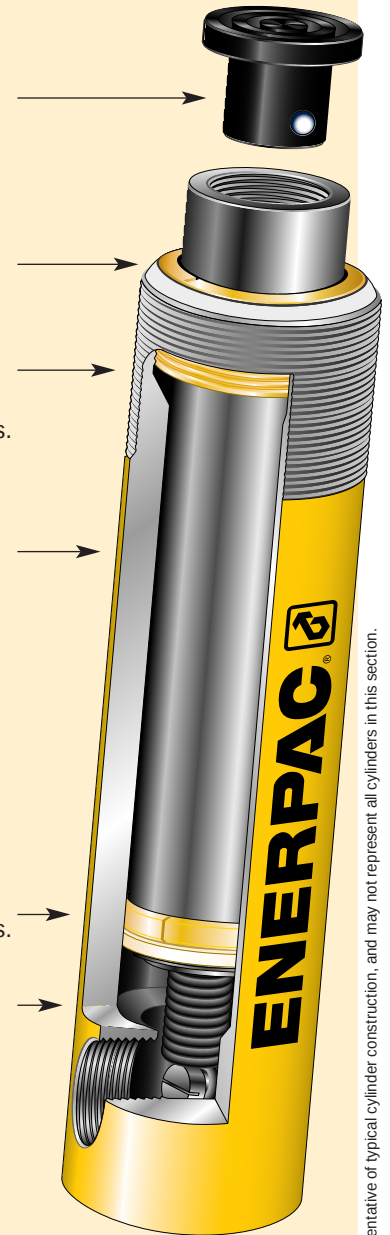
resists wear and rust.

Golden Ring

absorbs eccentric loading without galling cylinder parts.

Plunger Return Spring

enables fast plunger retraction on single-acting cylinders.



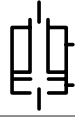
Cylinder-Pump Sets

For your ordering convenience cylinders are available in **sets** (cylinder, gauge, couplers, hose and pump).

Page: 64

Note: The cut-away drawing is representative of typical cylinder construction, and may not represent all cylinders in this section.

Cylinder Section Overview

Capacity ¹⁾ ton (kN)	Stroke Range (mm)	Cylinder type and functions	Series	Page
5 - 95 (45-933)	16 - 362	General Purpose Cylinders, Single-Acting, (incl. accessories) 	RC	 8 ▶
20-150 (229-1589)	50-250	Aluminium Cylinders, Single-Acting, Lock Nut, Hollow Plunger, Double-Acting  	RAC RACL RACH RAR	 13 ▶
5-520 (45-5114)	6-62	Pancake and Low Height Cylinders, Single-Acting  	CLP RSM RCS	 22 ▶ 24 ▶
2,5-50 (24-505)	16 - 362	Pull Cylinders, Single-Acting 	BRC BRP	 26 ▶
13-145 (125-1429)	8-258	Hollow Plunger Cylinders Single- and Double-Acting  	RCH RRH	 28 ▶ 30 ▶
4-23 (35-222)	28-260	Precision Production Cylinders, Double-Acting (incl. mounting attachments) 	BRD	 32 ▶
10-520 (101-5108)	16 - 1219	Long Stroke Cylinders, Double-Acting 	RR	 34 ▶
50-1000 (496-10260)	50-300	High Tonnage Cylinders, with integral stop ring Single-Acting, 	CLSG	 38 ▶
50-1000 (496-10260)	50-300	High Tonnage Cylinders, with reduced collapsed height Single-Acting, 	CLS	 42 ▶
50-1000 (496-10265)	50-300	High Tonnage Cylinders, Double-Acting 	CLRG	 46 ▶
50-1000 (496-10260)	50-300	High Tonnage Cylinders, Single-Acting with Mechanical Lock Nut, Corrosion Protected 	CLL	 50 ▶
10-1000 (101-10260)	5000 max.	Synchronous Lift Systems Stage Lift Systems Synchronous Hoisting Systems 	SLS BLS, SL SHS	 54 ▶ 58 ▶
1,4-150 (13-1335)	76-508	Aluminium and Steel Jacks Bottle Jacks 	JHA, JH EBJ	 60 ▶ 61 ▶
10-25 (101-232)	54- 158	High Temperature and Corrosion Resistant Cylinders, Hand Pumps and Valves 	RC P, V	 62 ▶

¹⁾ All ton values specified in this catalog are metric ton and are for cylinder class identification only. Please refer to the kN data for calculations.

RC-Series, Single-Acting Cylinders

ENERPAC 
 Hydraulic Technology Worldwide

▼ From left to right: RC-506, RC-50, RC-2510, RC-154, RC-10010, RC-55, RC-1010



- Collar threads, plunger threads and base mounting holes enable easy fixturing (on most models)
- Designed for use in all positions
- Removable strap handles for unobstructed fixturing (RC-5013, RC-7513 and both 95 ton models)
- High strength alloy steel for durability
- Heavy duty return springs
- Baked enamel finish for increased corrosion resistance
- CR-400 coupler and dust cap included on all models
- Plunger wiper reduces contamination, extending cylinder life

▼ Stage lifting set up in Greece, where assembled pipes, 25 meters in length, were stage lifted with six RC-2514 cylinders.



The Industry Standard General Purpose Cylinder



Saddles

All RC cylinders are equipped with hardened removable grooved saddles. For tilt and flat saddles, see the RC-Series accessory page.

Page: 12



Base Plates

To ensure the stability of cylinders for lifting applications, base plates are available for 10, 25 and 50 ton RC cylinders.

Page: 12



Specialty Attachments

For solving all kinds of application problems, specialty attachments are available for 5, 10 and 25 ton RC cylinders.

Page: 168

▼ RC cylinder mounting attachments greatly extend the application possibilities (available for 5, 10, 15 and 25 ton cylinders).



Single-Acting, General Purpose Cylinders



Think Safety

Manufacturer's rating of load and stroke are maximum safe limits.

Good practice encourages using only 80% of these ratings.

▼ QUICK SELECTION CHART

For complete technical information see next page.

Cylinder Capacity ton (kN)	Stroke (mm)	Model Number	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)	Collapsed Height (mm)	 (kg)
5 (45)	16	RC-50**	6,5	10	41	1,0
	25	RC-51	6,5	16	110	1,0
	76	RC-53	6,5	50	165	1,5
	127	RC-55*	6,5	83	215	1,9
	177	RC-57	6,5	115	273	2,4
	232	RC-59	6,5	151	323	2,8
10 (101)	26	RC-101	14,5	38	89	1,8
	54	RC-102*	14,5	78	121	2,3
	105	RC-104	14,5	152	171	3,3
	156	RC-106*	14,5	226	247	4,4
	203	RC-108	14,5	294	298	5,4
	257	RC-1010*	14,5	373	349	6,4
	304	RC-1012	14,5	441	400	6,8
	356	RC-1014	14,5	516	450	8,2
15 (142)	25	RC-151	20,3	51	124	3,3
	51	RC-152	20,3	104	149	4,1
	101	RC-154*	20,3	205	200	5,0
	152	RC-156*	20,3	308	271	6,8
	203	RC-158	20,3	411	322	8,2
	254	RC-1510	20,3	516	373	9,5
	305	RC-1512	20,3	619	423	10,9
	356	RC-1514	20,3	723	474	11,8
25 (232)	26	RC-251	33,2	86	139	5,9
	50	RC-252*	33,2	166	165	6,4
	102	RC-254*	33,2	339	215	8,2
	158	RC-256*	33,2	525	273	10,0
	210	RC-258	33,2	697	323	12,2
	261	RC-2510	33,2	867	374	14,1
	311	RC-2512	33,2	1033	425	16,3
	362	RC-2514*	33,2	1202	476	17,7
30 (295)	209	RC-308	42,1	880	387	18,1
50 (498)	51	RC-502	71,2	362	176	15,0
	101	RC-504	71,2	719	227	19,1
	159	RC-506*	71,2	1131	282	23,1
	337	RC-5013	71,2	2399	460	37,6
75 (718)	156	RC-756	102,6	1601	285	29,5
	333	RC-7513	102,6	3417	492	59,0
95 (933)	168	RC-1006*	133,3	2239	357	59,0
	260	RC-10010	133,3	3466	449	72,6

* Available as set, see note on this page.

** RC-50 cylinder has a non removable grooved saddle and no collar thread.

RC Series



Capacity:

5-95 ton

Stroke:

16- 362 mm

Maximum Operating Pressure:

700 bar



Ultra-Lightweight Aluminium Cylinders

If you need a higher cylinder capacity-to-weight-ratio the RAC-Series are the perfect

choice.

Page: **13**



High Temperature and Corrosion Resistant Cylinders

Some cylinders are available with Viton seals and nickel plating for use in extreme environments.

Page: **62**

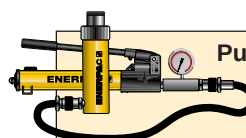


Gauges

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.

Page: **119**

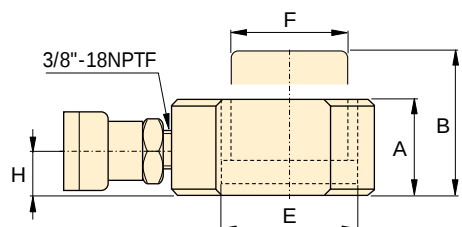
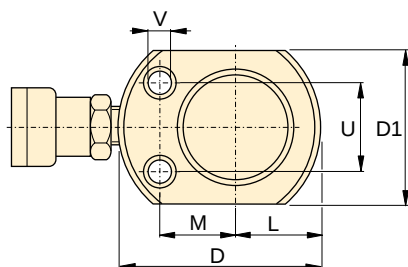


Pump and Cylinder Sets

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

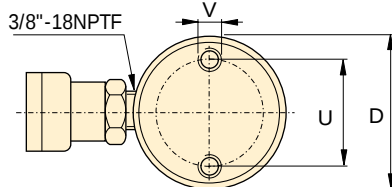
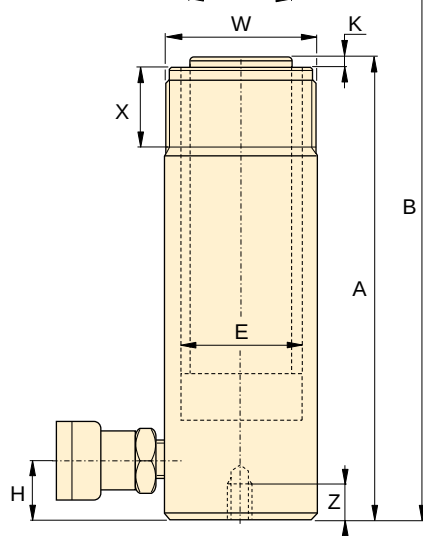
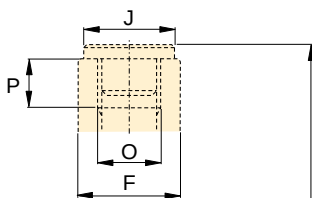
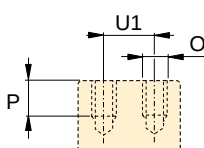
Page: **64**

RC-Series, Single-Acting Cylinders

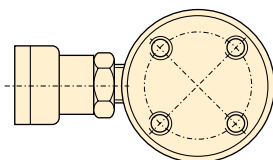


RC-50

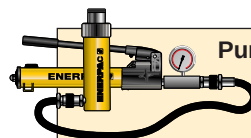
RC-101 only
(U1 = 19 mm)



RC-51 - RC-7513



RC-1006, RC-10010



Pump and Cylinder Sets

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

Page: 64

◀ For full features see previous page.

Cylinder Capacity ton (kN)	Stroke (mm)	Model Number	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)	Collapsed Height A (mm)	Extended Height B (mm)	Outside Dia. D (mm)
5 (45)	16	RC-50**	6,5	10	41	57	58***
	25	RC-51	6,5	16	110	135	38
	76	RC-53	6,5	50	165	241	38
	127	RC-55*	6,5	83	215	342	38
	177	RC-57	6,5	115	273	450	38
10 (101)	232	RC-59	6,5	151	323	555	38
	26	RC-101	14,5	38	89	115	57
	54	RC-102*	14,5	78	121	175	57
	105	RC-104	14,5	152	171	276	57
	156	RC-106*	14,5	226	247	403	57
	203	RC-108	14,5	294	298	501	57
	257	RC-1010*	14,5	373	349	606	57
	304	RC-1012	14,5	441	400	704	57
15 (142)	356	RC-1014	14,5	516	450	806	57
	25	RC-151	20,3	51	124	149	69
	51	RC-152	20,3	104	149	200	69
	101	RC-154*	20,3	205	200	301	69
	152	RC-156*	20,3	308	271	423	69
	203	RC-158	20,3	411	322	525	69
	254	RC-1510	20,3	516	373	627	69
	305	RC-1512	20,3	619	423	728	69
25 (232)	356	RC-1514	20,3	723	474	830	69
	26	RC-251	33,2	86	139	165	85
	50	RC-252*	33,2	166	165	215	85
	102	RC-254*	33,2	339	215	317	85
	158	RC-256*	33,2	525	273	431	85
	210	RC-258	33,2	697	323	533	85
	261	RC-2510	33,2	867	374	635	85
	311	RC-2512	33,2	1033	425	736	85
30 (295)	362	RC-2514*	33,2	1202	476	838	85
	209	RC-308	42,1	880	387	596	101
50 (498)	51	RC-502	71,2	362	176	227	127
	101	RC-504	71,2	719	227	328	127
	159	RC-506*	71,2	1131	282	441	127
	337	RC-5013	71,2	2399	460	797	127
75 (718)	156	RC-756	102,6	1601	285	441	146
	333	RC-7513	102,6	3417	492	825	146
95 (933)	168	RC-1006*	133,3	2239	357	525	177
	260	RC-10010	133,3	3466	449	709	177

* Available as set, see note on this page.

** RC-50 cylinder has a non removable grooved saddle and no collar thread.

*** D1 = 41 mm, L = 20 mm, M = 25 mm.

Single-Acting, General Purpose Cylinders



Speed Chart

See the Enerpac Cylinder Speed Chart in our 'Yellow Pages' to determine your approximate cylinder speed.

Page: 117

Capacity:

5-95 ton

Stroke:

16 - 362 mm

Maximum Operating Pressure:

700 bar

RC Series



	Cylinder Bore Dia. E (mm)	Plunger Dia. F (mm)	Base to Adv. Port H (mm)	Saddle Dia. J (mm)	Saddle Protr. from Plgr. K (mm)	Plunger Internal Thread O	Plunger Thread Length P (mm)	Base Mounting Holes			Collar Thread W	Collar Thread Length X (mm)	(kg)	Model Number
								Bolt Circle U (mm)	Thread V	Thd. Depth Z (mm)				
	28,7	25,4	19	**	**	**	**	28	5,6 mm	—	—	—	1,0	RC-50**
	28,7	25,4	19	25	6	3/4" - 16	14	25	1/4" - 20UN	14	1 1/2" - 16	28	1,0	RC-51
	28,7	25,4	19	25	6	3/4" - 16	14	25	1/4" - 20UN	14	1 1/2" - 16	28	1,5	RC-53
	28,7	25,4	19	25	6	3/4" - 16	14	25	1/4" - 20UN	14	1 1/2" - 16	28	1,9	RC-55*
	28,7	25,4	19	25	6	3/4" - 16	16	25	1/4" - 20UN	14	1 1/2" - 16	28	2,4	RC-57
	28,7	25,4	19	25	6	3/4" - 16	16	25	1/4" - 20UN	14	1 1/2" - 16	28	2,8	RC-59
	42,9	38,1	19	—	—	#10 - 24UN	6	39	5/16" - 18UN	12	2 1/4" - 14	26	1,8	RC-101
	42,9	38,1	19	35	6	1" - 8	19	39	5/16" - 18UN	12	2 1/4" - 14	28	2,3	RC-102*
	42,9	38,1	19	35	6	1" - 8	19	39	5/16" - 18UN	12	2 1/4" - 14	26	3,3	RC-104
	42,9	38,1	19	35	6	1" - 8	19	39	5/16" - 18UN	12	2 1/4" - 14	28	4,4	RC-106*
	42,9	38,1	19	35	6	1" - 8	19	39	5/16" - 18UN	12	2 1/4" - 14	26	5,4	RC-108
	42,9	38,1	19	35	6	1" - 8	19	39	5/16" - 18UN	12	2 1/4" - 14	28	6,4	RC-1010*
	42,9	38,1	19	35	6	1" - 8	19	39	5/16" - 18UN	12	2 1/4" - 14	26	6,8	RC-1012
	42,9	38,1	19	35	6	1" - 8	19	39	5/16" - 18UN	12	2 1/4" - 14	26	8,2	RC-1014
	50,8	41,4	19	38	9	1" - 8	25	47	3/8" - 16UN	12	2 3/4" - 16	30	3,3	RC-151
	50,8	41,4	19	38	9	1" - 8	25	47	3/8" - 16UN	12	2 3/4" - 16	30	4,1	RC-152
	50,8	41,4	19	38	9	1" - 8	25	47	3/8" - 16UN	12	2 3/4" - 16	30	5,0	RC-154*
	50,8	41,4	25	38	9	1" - 8	25	47	3/8" - 16UN	12	2 3/4" - 16	30	6,8	RC-156*
	50,8	41,4	25	38	9	1" - 8	25	47	3/8" - 16UN	12	2 3/4" - 16	30	8,2	RC-158
	50,8	41,4	25	38	9	1" - 8	25	47	3/8" - 16UN	12	2 3/4" - 16	30	9,5	RC-1510
	50,8	41,4	25	38	9	1" - 8	25	47	3/8" - 16UN	12	2 3/4" - 16	30	10,9	RC-1512
	50,8	41,4	25	38	9	1" - 8	25	47	3/8" - 16UN	12	2 3/4" - 16	30	11,8	RC-1514
	65,0	57,2	25	50	10	1 1/2" - 16	19	58	1/2" - 13UN	19	3 5/16" - 12	49	5,9	RC-251
	65,0	57,2	25	50	10	1 1/2" - 16	25	58	1/2" - 13UN	19	3 5/16" - 12	49	6,4	RC-252*
	65,0	57,2	25	50	10	1 1/2" - 16	25	58	1/2" - 13UN	19	3 5/16" - 12	49	8,2	RC-254*
	65,0	57,2	25	50	10	1 1/2" - 16	25	58	1/2" - 13UN	19	3 5/16" - 12	49	10,0	RC-256*
	65,0	57,2	25	50	10	1 1/2" - 16	25	58	1/2" - 13UN	19	3 5/16" - 12	49	12,2	RC-258
	65,0	57,2	25	50	10	1 1/2" - 16	25	58	1/2" - 13UN	19	3 5/16" - 12	49	14,1	RC-2510
	65,0	57,2	25	50	10	1 1/2" - 16	25	58	1/2" - 13UN	19	3 5/16" - 12	49	16,3	RC-2512
	65,0	57,2	25	50	10	1 1/2" - 16	25	58	1/2" - 13UN	19	3 5/16" - 12	49	17,7	RC-2514*
	73,2	57,2	57	50	10	1 1/2" - 16	25	—	—	—	3 5/16" - 12	49	18,1	RC-308
	95,2	79,5	33	71	2	—	—	95	1/2" - 13UN	19	5" - 12	55	15,0	RC-502
	95,2	79,5	33	71	2	—	—	95	1/2" - 13UN	19	5" - 12	55	19,1	RC-504
	95,2	79,5	35	71	2	—	—	95	1/2" - 13UN	19	5" - 12	55	23,1	RC-506*
	95,2	79,5	35	71	2	—	—	95	1/2" - 13UN	19	5" - 12	55	37,6	RC-5013
	114,3	95,2	30	71	5	—	—	—	—	—	5 3/4" - 12	44	29,5	RC-756
	114,3	95,2	30	71	5	—	—	—	—	—	5 3/4" - 12	44	59,0	RC-7513
	130,3	104,9	41	71	2	—	—	139	3/4" - 10UN	25	6 7/8" - 12	44	59,0	RC-1006*
	130,3	104,9	41	71	2	—	—	139	3/4" - 10UN	25	6 7/8" - 12	44	72,6	RC-10010

RC-Series, Cylinder Accessories

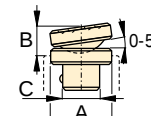
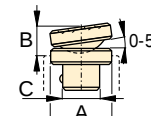
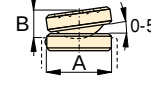
▼ SELECTION CHART

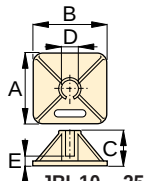
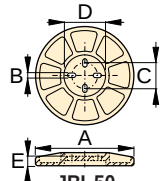
For use with Cylinder Capacity ton (kN)	Saddles			Base Plate	Mounting Block	Clevis Eyes	
	Flat	Grooved ¹⁾	Tilt			Base ⁴⁾	Plunger
							
5 (45)	A-53F ²⁾	A-53G ²⁾	—	—	RB-5 ²⁾ , AW-51 ²⁾ , AW-53 ²⁾	REB-5 ²⁾	REP-5 ²⁾
10 (101)	A-12 ³⁾ , A-102F ³⁾	A-102G ³⁾	CAT-10 ³⁾	JB1-10	RB-10, AW-102	REB-10	REP-10 ³⁾
15 (142)	—	A-152G	CAT-10	—	RB-15	REB-15	REP-10
25 (232)	A-29 ⁵⁾	A-252G	CAT-50	JB1-25	RB-25	REB-25	REP-25
30 (295)	A-29 ⁵⁾	A-252G	CAT-50	—	RB-25	—	REP-25
50 (498)	—	—	CAT-100	JB1-50	—	—	—
75 (718)	—	—	CAT-100	—	—	—	—
95 (933)	—	—	CAT-100	—	—	—	—

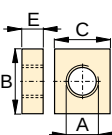
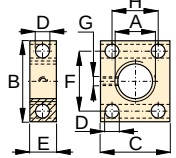
¹⁾ Standard on 5-30 ton RC-cylinders ²⁾ Except RC-50 ³⁾ Except RC-101 ⁴⁾ Mounting screws are included. ⁵⁾ Used with Bender Sets.

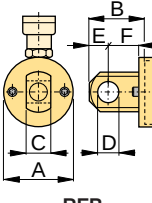
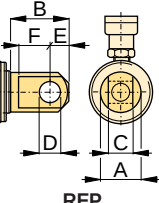
▼ DIMENSION CHARTS

Model Nr.	Saddle Dimensions (mm)			A-53F, A-102F	
	A	B	C		
	Flat				
A-53F	25	6	17	A-12, A-29	
A-102F	35	6	22		
A-12	51	48	1"-8UNC		
A-29	51	48	1½"-16UNC		
	Grooved				
A-53G	25	6	17		
A-102G	35	6	22		
A-152G	38	9	22		
A-252G	50	9	35		

Model Nr.	Tilt Saddle Dimensions (mm)			
	A	B	C	
	Tilt			
CAT-10	35	15	22	
CAT-50	50	23	35	
	Tilt			
CAT-100	71	24	—	

Model Nr.	Base Plate Dimensions (mm)					
	A	B	C	D	E	
JB1-10	228	228	135	58	20	
JB1-25	279	279	140	86	26	
JB1-50	304	15	95	131	31	
						

Model Nr.	Mounting Block Dimensions (mm)								
	A	B	C	D	E	F	G	H	
RB-5	1½"-16	88	76	—	25	—	—	—	
AW-51	1½"-16	70	59	10	24	54	¼"-20	41	
AW-53	1½"-16	72	7	7	19	57	¼"-20	10	
RB-10	2¼"-14	114	88	—	25	—	—	—	
AW-102	2¼"-14	100	82	16	30	76	7/16"-20	58	
RB-15	2¾"-16	101	114	—	38	—	—	—	
RB-25	3⅝"-12	127	165	—	50	—	—	—	

Type	Model Nr.	Clevis Eye Dimensions (mm)						
		A	B	C	D	E	F	
Base ⁴⁾	REB-5	44	47	14	16	16	25	
	REB-10	63	66	25	22	25	35	
	REB-15	76	66	25	22	25	35	
	REB-25	95	79	38	31	31	41	
Plunger	REP-5	28	41	14	16	16	19	
	REP-10	42	61	25	22	25	28	
	REP-25	57	74	38	31	31	35	

i See our
'Yellow
Pages'
for application
information
on these
accessories.

The Enerpac Lightweight Aluminium Cylinders

▼ From left to right: RAC-5010, RACL-5010, RAC-1504, RAR-5010



- **Lightweight, easy to carry and position to allow a higher cylinder capacity-to-weight-ratio**
- **Non-corrosive by design, aluminium has always been a good material for use in many caustic environments**
- **Composite Bearings on all moving surfaces guarantee NO metal-to-metal contact, to resist side loads and increase cylinder life**



RAC, RACL, RACH, RAR Series

Capacity:

20- 150 ton @ 700 bar

Stroke:

50- 250 mm



Aluminium versus Steel

Aluminium cylinders, while offering the most lightweight solution, also have some unique limitations due to material properties. It differs from steel in that it has a lower finite fatigue life. Aluminium cylinders should NOT be used in high-cycle applications such as production. These cylinders are designed to provide 5000 cycles at their recommended pressure. **This limit should not be exceeded.** In normal lifting and many maintenance applications, this should provide a lifetime of use.



RAC-Series, Single-Acting, Cylinders

The lightweight general purpose spring return aluminium cylinders.

Page: 14



RACL-Series, Lock Nut, Cylinders

The lightweight spring return aluminium cylinders with lock nut for mechanical load

holding.

Page: 16



RACH-Series, Hollow Plunger Cylinders

For both push and pull forces with a single-acting cylinder.

Page: 18



RAR-Series, Double-Acting Cylinders

The lightweight aluminium cylinders for lifting and lowering.

Page: 20

RAC-Series, Single-Acting Aluminium Cylinders

ENERPAC
Hydraulic Technology Worldwide

▼ Shown from left to right: RAC-5010, RAC-15010, RAC-304, RAC-208



- Composite bearings prevent metal-to-metal contact, increasing cylinder life and resistance to side-loads of up to 10%
- Hard-Coat finish on all surfaces resists damage and extends cylinder life
- Handles standard on all models
- Steel base plate 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 dustcap included on all models
- All cylinders meet ASME B-30.1 and ISO 10100 standards



◀ The unique Enerpac RA-Series jacks – lightweight and entirely made of aluminium alloy – these RAC-506 jacks are ideal for the submergence and positioning procedure of tunnel elements at the bottom of the the rivers in the High Speed Train Line (HSL) project in Holland.

Lightweight for Maximum Portability



Saddles

All RAC-cylinders are equipped with bolt-on removable hardened steel saddles. For Tilt Saddles see

next page.

Page: 15



Lightweight Hand Pumps

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

Page: 68



Lock Nut Cylinders

When positive mechanical load holding is required, RACL-Series Aluminium Lock Nut Cylinders are the

ideal choice.

Page: 16

t SELECTION CHART

Cylinder Capacity @ 700 bar ton (kN)	Stroke (mm)	Model Number *	Cylinder Effective Area (cm ²)
20 (218)	50	RAC-202	31,2
	100	RAC-204	31,2
	150	RAC-206	31,2
30 (309)	50	RAC-302	44,2
	100	RAC-304	44,2
	150	RAC-306	44,2
50 (496)	50	RAC-502	70,9
	100	RAC-504	70,9
	150	RAC-506	70,9
100 (1002)	100	RAC-1004	143,1
	150	RAC-1006	143,1
	200	RAC-1008	143,1
150 (1589)	150	RAC-1506	227,0

* Note: Every RAC-cylinder is available with a stroke of 50, 100, 150, 200 and 250 mm.

Single-Acting, Aluminium Cylinders

Optional Bolt On Tilt Saddle Dimensions (mm)

For Cylinder Model / Capacity ton	Tilt Saddle Model Number	Tilt Saddle Diameter J1	Saddle Protrusion from Plunger K1	
RAC-50	CATG-50	50	24	
RAC-100	CATG-150	91	31	
RAC-150	CATG-200	118	35	



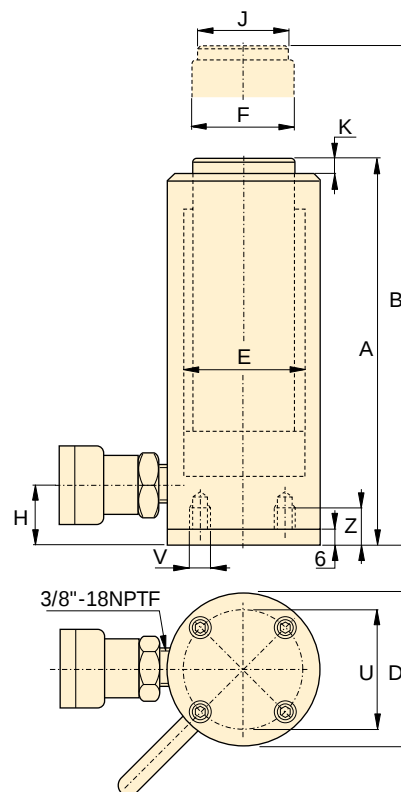
Steel Base Plate Mounting Holes

The mounting holes in these aluminium cylinders are designed for fixturing the steel base plate. They will not withstand the capacity of the cylinder. The steel base plate protects the cylinder from damage and should not be removed.

Steel Base Plate Mounting Holes

Cylinder Model / Capacity ton	Bolt Circle U (mm)	Thread V (mm)	Thread Depth ¹⁾ Z (mm)
RAC-20	70,0	M6	12
RAC-30	80,0	M6	12
RAC-50	110,0	M6	12
RAC-100	160,0	M6	12
RAC-150	200,0	M6	12

¹⁾ Including Base Plate Height of 6 mm.



RAC Series



Capacity:

20-150 ton

Stroke:

50-250 mm

Maximum Operating Pressure:

700 bar



High Temperature and Corrosion Resistant Products

Some cylinders, hand pumps and valves are available with

Viton seals and nickel plating for use in extreme environments.

Page: 62



Hoses

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

specify only Enerpac hydraulic hoses.

Page: 120

	Oil Capacity (cm ³)	Collapsed Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter F (mm)	Bottom to Advance Port H (mm)	Saddle Diameter J (mm)	Saddle Protrusion from Plunger K (mm)	(kg)	Model Number *
	156	174	224	85	63,0	50,0	27	40	3	3,6	RAC-202
	312	224	324	85	63,0	50,0	27	40	3	4,1	RAC-204
	468	274	424	85	63,0	50,0	27	40	3	4,6	RAC-206
	221	181	231	100	75,0	60,0	32	40	3	4,5	RAC-302
	442	231	331	100	75,0	60,0	32	40	3	5,2	RAC-304
	663	281	431	100	75,0	60,0	32	40	3	5,9	RAC-306
	354	186	236	130	95,0	80,0	30	50	3	8,5	RAC-502
	709	236	336	130	95,0	80,0	30	50	3	9,8	RAC-504
	1063	286	436	130	95,0	80,0	30	50	3	11,1	RAC-506
	1431	271	271	180	135,0	110,0	46	94	3	19,6	RAC-1004
	2147	321	471	180	135,0	110,0	46	94	3	21,9	RAC-1006
	2863	371	571	180	135,0	110,0	46	94	3	24,2	RAC-1008
	3405	343	493	230	170,0	140,0	51	113	3	33,3	RAC-1506

RACL-Series, Lock Nut Aluminium Cylinders

ENERPAC
Hydraulic Technology Worldwide

▼ Shown from left to right: RACL-1006, RACL-504, RACL-5010



- Aluminium Lock Nut provides mechanical load holding for extended periods
- Hardened steel stop ring increasing cylinder life and resistance to side-loads of up to 5%
- Hard-Coat finish on all surfaces resists damage and extends cylinder life
- Handles standard on all models
- Steel base plate 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 dustcap included on all models
- All cylinders meet ASME B-30.1 and ISO 10100 standards



◀ The portable lock nut cylinder RACL-1506 used for extended load supports during epoxy injection for bridge reinforcement.

To Secure Loads Mechanically



Saddles

All RACL-cylinders are equipped with bolt-on removable hardened steel saddles. For Tilt Saddles

see next page.

Page: 17



Remote Lifting

For heavy lifting in remote locations use the Enerpac ZE-Series electric pumps.

Page: 90



Hoses

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

specify only Enerpac hydraulic hoses.

Page: 120



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.

Page: 119

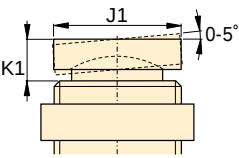
t SELECTION CHART

Cylinder Capacity @ 700 bar ton (kN)	Stroke (mm)	Model Number *	Cylinder Effective Area (cm ²)
50 (496)	50	RACL-502	70,9
	100	RACL-504	70,9
	150	RACL-506	70,9
100 (1002)	50	RACL-1002	143,1
	100	RACL-1004	143,1
	150	RACL-1006	143,1
150 (1589)	50	RACL-1502	227,0
	100	RACL-1504	227,0
	150	RACL-1506	227,0

* Note: Every RACL-cylinder is available with a stroke of 50, 100, 150, 200 and 250 mm.

Single-Acting, Aluminium Lock Nut Cylinders

Optional Bolt On Tilt Saddle Dimensions (mm)

For Cylinder Model / Capacity ton	Tilt Saddle Model Number	Tilt Saddle Diameter J1	Saddle Protrusion from Plunger K1	
RACL-50	CATG-50	50	24	
RACL-100	CATG-150	91	31	
RACL-150	CATG-200	118	35	



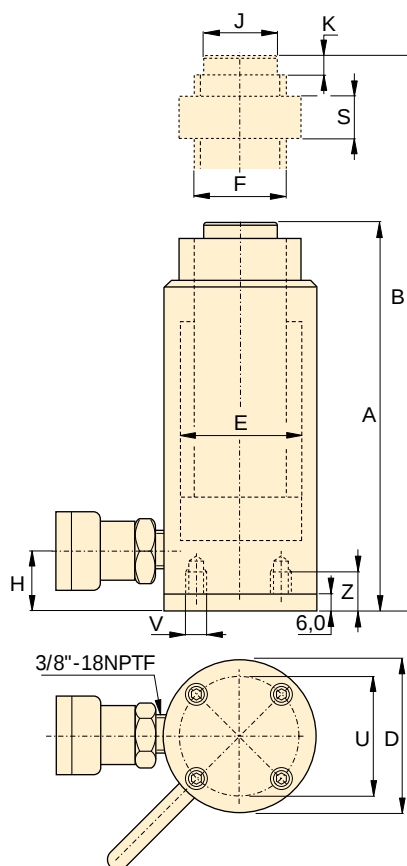
Steel Base Plate Mounting Holes

The mounting holes in these aluminium cylinders are designed for fixturing the steel base plate. They will not withstand the capacity of the cylinder. The steel base plate protects the cylinder from damage and should not be removed.

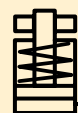
Steel Base Plate Mounting Holes

Cylinder Model / Capacity ton	Bolt Circle U (mm)	Thread V (mm)	Thread Depth ¹⁾ Z (mm)
RACL-50	110,0	M6	12
RACL-100	160,0	M6	12
RACL-150	200,0	M6	12

¹⁾ Including Base Plate Height of 6 mm.



RACL Series



Capacity:

50-150 ton

Stroke:

50-150 mm

Maximum Operating Pressure:

700 bar



Other Cylinder Capacities

Lock Nut Aluminium Cylinders are also available in capacities of 20 and 30 ton.

Additional Stroke Lengths

All cylinder models are available with standard stroke lengths of 50, 100, 150, 200 and 250 mm.

Visit www.enerpac.com for all cylinder models and details.



Lifting an Unbalanced Load

When lifting an unbalanced load Enerpac Integrated Lifting Systems can be the solution with multiple lift point capabilities from 4 to 64 points.

Page: **54**

Oil Capacity (cm ³)	Collapsed Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter (Threaded) F (mm)	Bottom to Advance Port H (mm)	Saddle Diameter J (mm)	Saddle Protrusion fr. Plunger K (mm)	Lock Nut Height S (mm)	Model Number *
354	236	286	130	95,0	Tr 80 x 4	30	50	3	50	RACL-502
709	286	386	130	95,0	Tr 80 x 4	30	50	3	50	RACL-504
1063	336	486	130	95,0	Tr 80 x 4	30	50	3	50	RACL-506
716	296	346	180	135,0	Tr 110 x 6	46	94	3	75	RACL-1002
1431	346	446	180	135,0	Tr 110 x 6	46	94	3	75	RACL-1004
2147	396	546	180	135,0	Tr 110 x 6	46	94	3	75	RACL-1006
1135	323	373	230	170,0	Tr 140 x 6	51	113	3	80	RACL-1502
2270	373	473	230	170,0	Tr 140 x 6	51	113	3	80	RACL-1504
3405	423	573	230	170,0	Tr 140 x 6	51	113	3	80	RACL-1506

RACH-Series, Aluminium Hollow Plunger Cylinders

ENERPAC
Hydraulic Technology Worldwide

▼ Shown from left to right: RACH-1504, RACH-15010, RACH-206, RACH-306



- Hollow plunger design allows for both pull and push forces
- Composite bearings prevent metal-to-metal contact, increasing cylinder life and resistance to side-loads of up to 10%
- Hard-Coat finish on all surfaces resists damage and extends cylinder life
- Floating center tube increases seal and product life
- Handles standard on all models
- Steel base plate 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



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

The Lightweight Solution for Tensioning and Testing



Saddles

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



Lightweight Hand Pumps

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

Page: 68



Lifting an Unbalanced Load

When lifting an unbalanced load Enerpac Integrated Lifting Systems can be the solution with multiple lift point capabilities from 4 to 64 points.

Page: 54

t SELECTION CHART

Cylinder Capacity @ 700 bar ton (kN)	Stroke (mm)	Model Number *	Cylinder Effective Area (cm ²)
20 (229)	50	RACH-202	32,7
	150	RACH-206	32,7
30 (358)	50	RACH-302	51,1
	150	RACH-306	51,1
60 (596)	100	RACH-604	84,7
	150	RACH-606	84,7
100 (1157)	150	RACH-1006	164,6

* Note: Every RACH-cylinder is available with a stroke of 50, 100, 150, 200 and 250 mm.

Single-Acting, Aluminium Hollow Plunger Cylinders



Aluminium versus Steel

Aluminium cylinders, while offering the most lightweight solution, also have some unique limitations due to material properties. It differs from steel in that it has a lower finite fatigue life. Aluminium cylinders should NOT be used in high-cycle applications such as production.

These cylinders are designed to provide 5000 cycles at their recommended pressure. **This limit should not be exceeded.** In normal lifting and many maintenance applications, this should provide a lifetime of use.

RACH Series



Capacity:

20-100 ton

Stroke:

50-150 mm

Center Hole Diameter:

27-79 mm

Maximum Operating Pressure:

700 bar



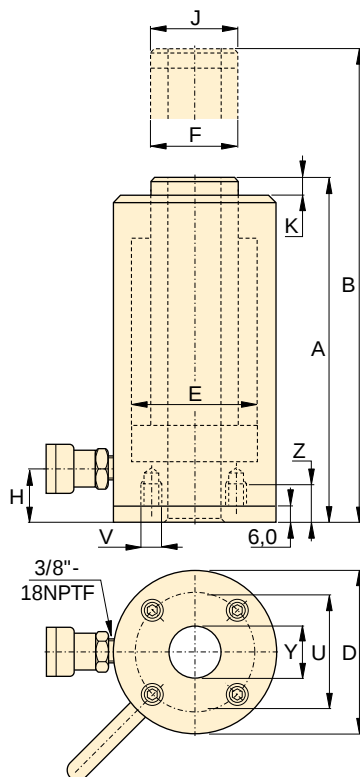
Steel Base Plate Mounting Holes

The mounting holes in these aluminium cylinders are designed for fixturing the steel base plate. They will not withstand the capacity of the cylinder. The steel base plate protects the cylinder from damage and should not be removed.

Steel Base Plate Mounting Holes

Cylinder Model / Capacity ton	Bolt Circle U (mm)	Thread V (mm)	Thread Depth ¹⁾ Z (mm)
RACH-20	85,0	M6	12
RACH-30	110,0	M6	12
RACH-60	160,0	M6	12
RACH-100	230,0	M6	12

¹⁾ Including Base Plate Height of 6 mm.



Other Cylinder Capacities

Aluminium Hollow Plunger Cylinders are also available in capacities of 150 ton.

Additional Stroke Lengths

All cylinder models are available with standard stroke lengths of 50, 100, 150, 200 and 250 mm.

Visit www.enerpac.com for all cylinder models and details.



Standard Features

- CR-400 coupler and dustcap included on all models.
- All cylinders meet ASME B-30.1 and ISO 10100 standards.

Oil Capacity	Collapsed Height	Extended Height	Outside Diameter	Cylinder Bore Diameter	Plunger Diameter	Bottom to Adv. Port	Saddle Diameter	Saddle Protrusion from Plunger	Center Hole Diameter		Model Number *
(cm ³)	A (mm)	B (mm)	D (mm)	E (mm)	F (mm)	H (mm)	J (mm)	K (mm)	Y (mm)	(kg)	
164	188	238	100	75,0	55,0	29	55	10,0	27,0	5,2	RACH-202
491	315	465	100	75,0	55,0	29	55	10,0	27,0	7,1	RACH-206
256	208	258	130	95,0	70,0	29	70	10,0	34,0	8,0	RACH-302
766	333	483	130	95,0	70,0	29	70	10,0	34,0	11,2	RACH-306
847	315	415	180	130,0	100,0	61	100	12,0	54,0	19,5	RACH-604
1270	380	530	180	130,0	100,0	61	100	12,0	54,0	22,8	RACH-606
2487	391	541	250	185,0	145,0	61	145	14,0	79,0	46,2	RACH-1006

RAR-Series, Double-Acting, Aluminium Cylinders

ENERPAC
Hydraulic Technology Worldwide

▼ Shown from left to right: RAR-5010, RAR-308, RAR-204



- Composite bearings prevent metal-to-metal contact, increasing cylinder life and resistance to side-loads of up to 10%
- Hard-Coat finish on all surfaces resists damage and extends cylinder life
- Handles standard on all models
- Steel base plate and saddle for protection against load-induced damage
- Integral stop ring prevents plunger over-travel and is capable of withstanding the full cylinder capacity
- Built-in safety valve prevents accidental over-pressurization
- Double-acting for rapid retraction, regardless of hose lengths or system losses

Portable Power Lifters for Double-Acting Applications



Saddles

All RAR-cylinders are equipped with bolt-on removable hardened steel saddles. For Tilt Saddles see

next page.

Page: 21



Hoses

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

Page: 120



Remote Lifting

For heavy lifting in remote locations use the Enerpac ZE-Series electric pumps. A double-acting cylinder

must be powered by a pump with a 4-way valve.

Page: 90

t RAR-cylinder used in a stage lift application.



t SELECTION CHART

Cylinder Capacity @ 700 bar ton	Stroke (mm)	Model Number *	Maximum Cylinder Capacity (kN)		Cylinder Effective Area (cm ²)		Oil Capacity (cm ³)	
			Push	Pull	Push	Pull	Push	Pull
50	50	RAR-502	496	187	70,9	26,7	354	134
	100	RAR-504	496	187	70,9	26,7	709	267
	150	RAR-506	496	187	70,9	26,7	1063	401
100	100	RAR-1004	1002	557	143,1	79,5	1431	795
	150	RAR-1006	1002	557	143,1	79,5	2147	1193
	200	RAR-1008	1002	557	143,1	79,5	2863	1590
150	150	RAR-1506	1589	924	227,0	132,0	3405	1980

* Note: Every RAR-cylinder is available with a stroke of 50, 100, 150, 200 and 250 mm.

Double-Acting, Aluminium Cylinders

Optional Bolt On Tilt Saddle Dimensions (mm)

For Cylinder Model / Capacity ton	Tilt Saddle Model Number	Tilt Saddle Diameter J1	Saddle Protrusion from Plunger K1	
RAR-50	CATG-50	50	24	
RAR-100	CATG-150	91	31	
RAR-150	CATG-200	118	35	

RAR Series



Capacity:

50-150 ton

Stroke:

50-200 mm

Maximum Operating Pressure:

700 bar



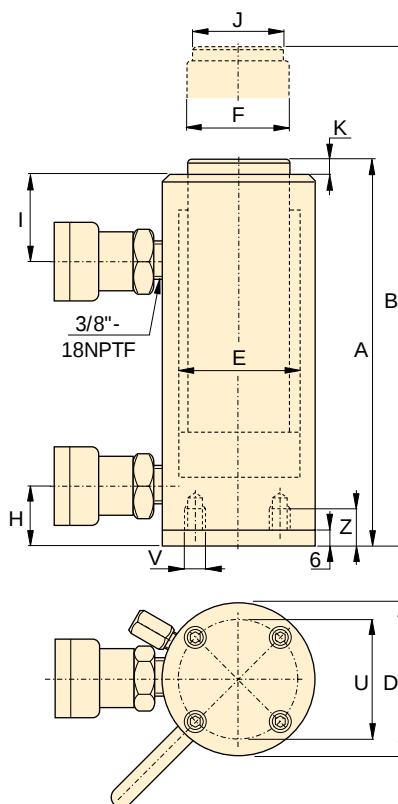
Steel Base Plate Mounting Holes

The mounting holes in these aluminium cylinders are designed for fixturing the steel base plate. They will not withstand the capacity of the cylinder. The steel base plate protects the cylinder from damage and should not be removed.

Steel Base Plate Mounting Holes

Cylinder Model / Capacity ton	Bolt Circle U (mm)	Thread V (mm)	Thread Depth ¹⁾ Z (mm)
RAR-50	110,0	M6	12
RAR-100	165,0	M6	12
RAR-150	200,0	M6	12

¹⁾ Including Base Plate Height of 6 mm.



Other Cylinder Capacities

Double-Acting Aluminium Cylinders are also available in capacities of 20-30 ton.

Additional Stroke Lengths

All cylinder models are available with standard stroke lengths of 50, 100, 150, 200 and 250 mm.

Visit www.enerpac.com for all cylinder models and details.



Lifting an Unbalanced Load

When lifting an unbalanced load Enerpac Integrated Lifting Systems can be the solution with multiple lift point capabilities from 4 to 64 points.

Page: **54**

Collapsed Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter F (mm)	Bottom to Advance Port H (mm)	Top to Retract Port I (mm)	Saddle Diameter J (mm)	Saddle Protrusion from Plunger K (mm)	(kg)	Model Number *
201	251	145	95,0	75,0	30	56	50	3	11,1	RAR-502
251	351	145	95,0	75,0	30	56	50	3	12,7	RAR-504
301	451	145	95,0	75,0	30	56	50	3	14,3	RAR-506
301	401	185	135,0	90,0	43	80	94	3	19,3	RAR-1004
351	501	185	135,0	90,0	43	80	94	3	22,2	RAR-1006
401	601	185	135,0	90,0	43	80	94	3	25,1	RAR-1008
348	498	230	170,0	110,0	38	75	113	3	33,2	RAR-1506

CLP-Series, Pancake Lock Nut Cylinders

ENERPAC
Hydraulic Technology Worldwide

▼ Shown from left to right: CLP-2002, CLP-5002



- Extremely low height for use in confined areas
- Lock nut for positive and safe load holding over a long period of time
- Single-acting, load return
- Optional special synthetic coating for improved corrosion resistance and lower friction for smoother operation to withstand side load forces up to 3% of rated cylinder capacity without scoring
- Overflow port functions as a stroke limiter
- CR-400 coupler and dust cap included on all models

▼ Only the extreme low height CLP-cylinder fits in this confined area to lift the construction. The V-82 needle valve is used to control cylinder speed during lifting and lowering.



The Lowest Power Lifter



Tilt Saddles

All CLP-Series cylinders include integral tilt saddles with maximum tilt angles up to 5°.



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.

Page: 119



Hoses

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

Page: 120

Cylinder Capacity	Stroke	Model Number*	Cylinder Effective Area	Oil Capacity
ton (kN)	(mm)		(cm ²)	(cm ³)
60 (606)	50	CLP-602	86,6	432
100 (1027)	50	CLP-1002	146,8	734
160 (1619)	45	CLP-1602	231,3	1040
200 (1999)	45	CLP-2002	285,6	1285
260 (2567)	45	CLP-2502	366,8	1650
400 (3916)	45	CLP-4002	559,5	2517
520 (5114)	45	CLP-5002	730,6	3287

* For special synthetic coating add suffix 'C' to model number.

Single-Acting, Pancake Lock Nut Cylinders



Speed Chart

See the Enerpac Cylinder Speed Chart in our 'Yellow Pages' to determine your approximate cylinder speed.

Page: 117



Longer Stroke Lock Nut Cylinders

For longer stroke lock nut applications the **RACL** and **CLL-Series** cylinders are the perfect choice.

Page: 7

CLP Series



Capacity:

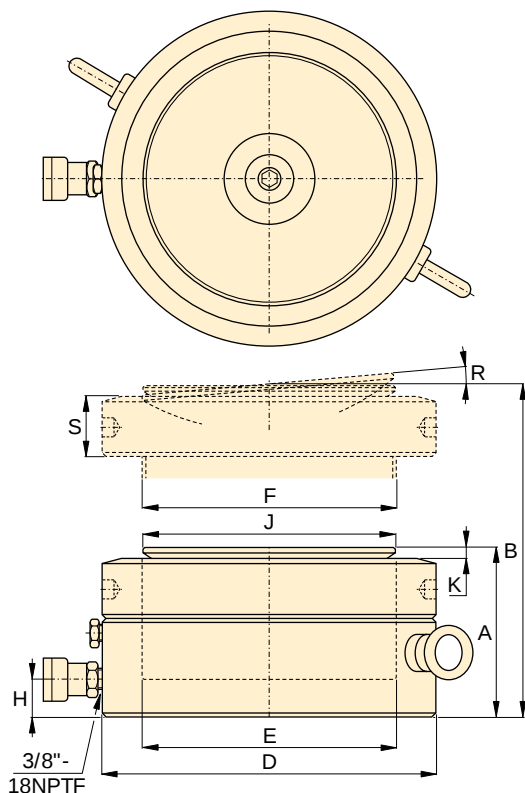
60-520 ton

Stroke:

45-50 mm

Maximum Operating Pressure:

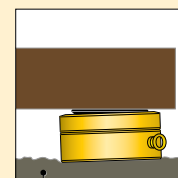
700 bar



ALL CLP-SERIES CYLINDERS REQUIRE A SOLID LIFTING SURFACE FOR CORRECT SUPPORT.

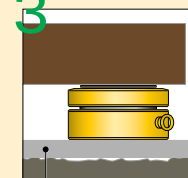
USE OF PANCAKE CYLINDERS ON SURFACES SUCH AS SAND, MUD OR DIRT, MAY RESULT IN CYLINDER DAMAGE!

WRONG!



Rough soil

RIGHT!



Flat lifting surface

For more safety instructions see our 'Yellow Pages'.

Page: 108

Collapsed Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Diameter E (mm)	Plunger Diameter F (mm)	Base to Advance Port H (mm)	Saddle Diameter J (mm)	Saddle Protrusion from Plgr. K (mm)	Saddle Max. Tilt Angle R	Lock Nut Height S (mm)	(kg)	Model Number*
125	175	140	105,0	Tr 104 x 4	19	96	6	5°	28	15	CLP-602
137	187	175	136,7	Tr 136 x 6	21	126	8	5°	31	26	CLP-1002
148	193	220	171,6	Tr 171 x 6	27	160	9	5°	40	44	CLP-1602
155	200	245	190,7	Tr 190 x 6	30	180	10	5°	43	57	CLP-2002
159	204	275	216,1	Tr 216 x 6	32	200	11	5°	44	74	CLP-2502
178	223	350	266,9	Tr 266 x 6	39	250	11	4°	55	134	CLP-4002
192	237	400	305,0	Tr 305 x 6	48	290	10	3°	62	189	CLP-5002

RSM/RCS-Series, Low Height Cylinders

▼ Shown from left to right: RSM-1000, RSM-300, RSM-50, RCS-1002, RCS-302



RSM-series, Flat-Jac® Cylinders

- Compact, flat design for use where most other cylinders will not fit
- Single-acting, spring return
- RSM-750, 1000 and 1500 have handles for easy carrying
- Mounting holes permit easy fixturing
- Baked enamel finish for increased corrosion resistance
- CR-400 coupler and dust cap included on all models, except RSM-50 which is fitted with an AR-400 coupler.
- Hard chrome plated high quality steel plungers
- Grooved plunger ends require no saddle

RCS-series, Low Height Cylinders

- Lightweight, low profile design for use in confined spaces
- Single-acting, spring return
- Baked enamel finish for increased corrosion resistance
- Plunger wiper reduces contamination, extending cylinder life
- CR-400 coupler and dust cap included on all models
- Grooved plunger end with threaded holes for mounting tilt saddles
- Integral handle on RCS-1002 for easy carrying
- Plated steel plungers

Maximum Power-to-Height Ratio



Saddles

All RCS-Series cylinders have plunger mounting holes for installation of tilt saddles. See table for selection and dimensional information.

Page: 25



Lifting the first few millimeters

The LW-16 Lifting Wedge and SOH-Series Machine Lifts are the perfect choice for lifting the first few millimeters.

Page: 172

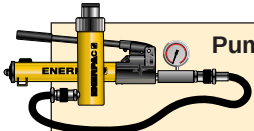
▼ Only a couple of centimeters will do for an RSM-cylinder to lift a large construction. The V-82 needle valve is used to control cylinder speed during lifting and lowering.



Cyl. Capacity ton (kN)	Stroke (mm)	Model Number	Cyl. Effect. Area (cm ²)	Oil Cap. (cm ³)
5 (45)	6	RSM-50	6,5	4
10 (101)	12	RSM-100	14,5	18
20 (201)	11	RSM-200	28,7	32
30 (295)	13	RSM-300	42,1	55
45 (435)	16	RSM-500	62,1	99
75 (718)	16	RSM-750	102,6	164
90 (887)	16	RSM-1000	126,7	203
150 (1386)	16	RSM-1500	198,1	317
10 (101)	38	RCS-101*	14,5	55
20 (201)	45	RCS-201*	28,7	129
30 (295)	62	RCS-302*	42,1	261
45 (435)	60	RCS-502*	62,1	373
90 (887)	57	RCS-1002*	126,7	722

* Available as set, see note on next page.

Single-Acting, Low Height Cylinders



Pump and Cylinder Sets

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

Page: 64

RSM RCS Series



Capacity:

5-150 ton

Stroke:

6-62 mm

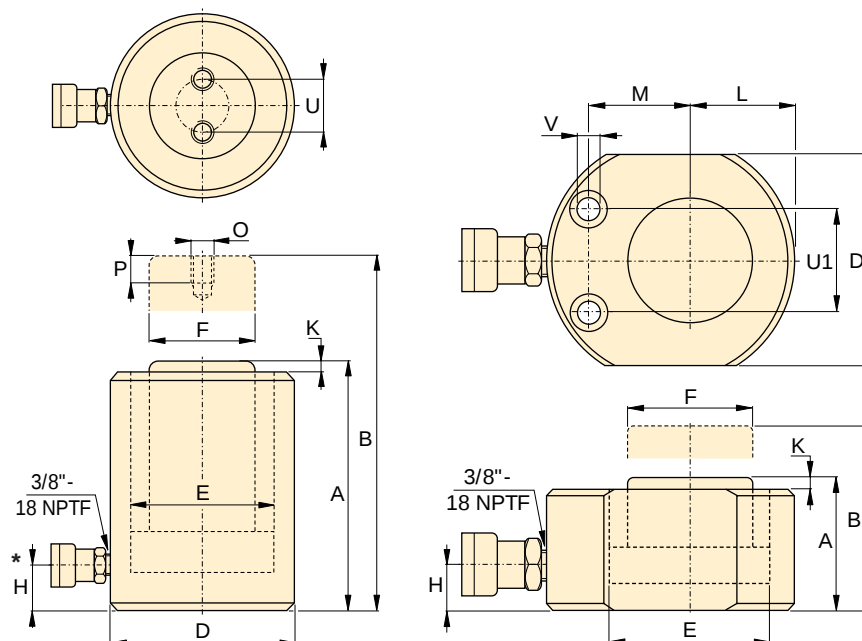
Maximum Operating Pressure:

700 bar

Optional Bolt On Tilt Saddle Dimensions (mm)

For Cylinder Model:	Model Number	A	B	C*
RCS-101	CAT-11	35	11	21
RCS-201, -302, -502	CAT-51	50	15	29
RCS-1002	CAT-101	71	17	35

* 'C' dimension equals saddle protrusion from plunger. Mounting screws are included.



RCS-Series

RSM-Series

* 5° angle position of coupler on RCS-101, 201,302

RSM Cylinder Mounting Hole Dimensions (mm)

Model Number	Bolt Circle U1	Hole Dia. V	Counter Bore Dia.	Counter Bore Depth
RSM-50	28,5	5,5	9,1	4,3
RSM-100	36,6	7,1	10,7	7,9
RSM-200	49,3	10,0	15,1	9,9
RSM-300	52,3	10,0	15,9	11,2
RSM-500	66,5	11,0	19,0	12,7
RSM-750	76,2	13,5	20,6	14,2
RSM-1000	76,2	13,5	20,6	14,2
RSM-1500	117,3	13,5	20,6	14,2

	Collapsed Height A (mm)	Extended Height B (mm)	Outside Diameter D (mm)	Cylinder Bore Dia. E (mm)	Plunger Dia. F (mm)	Base to Advance Port H (mm)	Plunger Protrusion from Base K (mm)	Plunger to Base L (mm)	Plunger to Mtg. Hole M (mm)	Thread O (mm)	Thread Depth P (mm)	Bolt Circle U (mm)	(kg)	Model Number
	32	38	58 x 41	28,7	25,4	16	1	20	22	—	—	—	1,0	RSM-50
	43	54	82 x 55	42,9	38,1	19	1	27	34	—	—	—	1,4	RSM-100
	51	62	101 x 76	60,5	50,8	19	1	39	39	—	—	—	3,1	RSM-200
	58	71	117 x 95	73,2	63,4	19	2	47	44	—	—	—	4,5	RSM-300
	66	82	140 x 114	88,9	69,8	19	2	57	53	—	—	—	6,8	RSM-500
	79	95	165 x 139	114,3	82,6	19	2	69	66	—	—	—	11,3	RSM-750
	85	101	178 x 153	127,0	92,2	19	2	76	74	—	—	—	14,5	RSM-1000
	100	116	215 x 190	158,8	114,3	23	2	95	82	—	—	—	26,3	RSM-1500
	88	126	69	42,9	38,1	17	5	—	—	M4	8	26	4,1	RCS-101*
	98	143	92	60,5	50,8	17	3	—	—	M5	8	39	5,0	RCS-201*
	117	179	101	73,2	66,5	19	3	—	—	M5	8	39	6,8	RCS-302*
	122	182	124	88,9	69,8	23	2	—	—	M5	8	39	10,9	RCS-502*
	141	198	165	127,0	92,2	31	1	—	—	M8	10	55	22,7	RCS-1002*

BRC/BRP-Series, Pull Cylinders

▼ Shown from left to right: BRC-25, BRC-46, BRP-306, BRP-606, BRP-106C

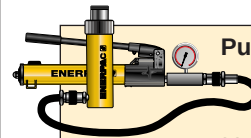


- High strength alloy steel construction
- Plunger blow-out protection to prevent rod over-extension
- Hard chrome-plated plunger for long life
- Replaceable links on BRP-models
- Baked enamel finish for increased corrosion resistance
- CR-400 coupler and dust cap included on all models
- Plunger wiper reduces contamination, extending cylinder life
- Single-acting, spring return

▼ Ship building, welding and Enerpac pull cylinders go hand in hand.



For use with Subassemblies and Modules



Pump and Cylinder Sets

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

Page: 64



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.

Page: 119



Attachments and Accessories

BRC-25 and BRC-46 units have base, collar and plunger threads to affix a range of optional attachments and accessories, such as chains, saddles and extension tubes.

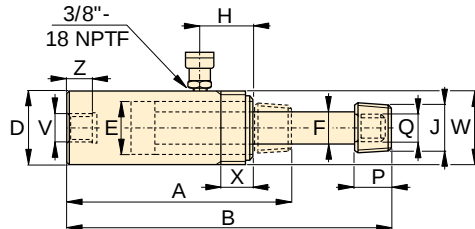
Page: 168

▼ To lift a load bearing mast into place, BRP-series cylinders were used to tension the supporting cables.

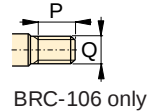


Single-Acting, Pull Cylinders

BRC Cylinder Mounting Dimensions (mm)				
Model Number	Base Mounting Hole V	Collar Thread W	Collar Thd. Lgth. X	Mtg. Thd. Lgth. Z
BRC-25	3/4" - 14 NPT	1 1/2" - 16 UN	24	17
BRC-46	1 1/4" - 11 1/2 NPT	2 1/4" - 14 UN	26	24
BRC-106	M30 x 2	M85 x 2	25	24



BRC-25, -46, 106



BRC-106 only

**BRC/
BRP
Series**



Capacity:

2,5- 50 ton

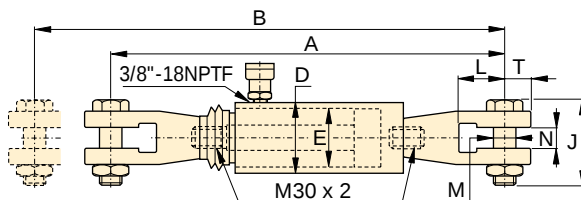
Stroke:

127-155 mm

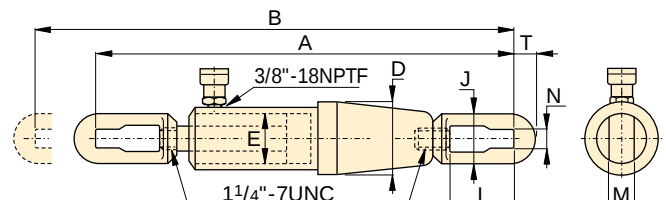
Maximum Operating Pressure:

700 bar

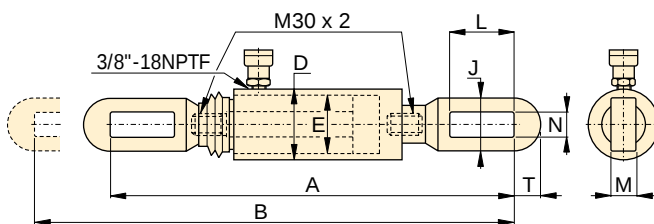
Cylinder Capacity	Stroke	Model Number	Cyl. Effect. Area	Oil Cap.	Coll. Height	Ext. Height	Outs. Dia.	Cyl. Bore Dia.	Plgr. Dia.	Top to Inlet Port H	Saddle Diameter J	Plgr. Thd. Lgth. P	Plunger Outside Thread Q	
ton (kN)	(mm)		(cm ²)	(cm ³)	A (mm)	B (mm)	D (mm)	E (mm)	F (mm)	(mm)	J (NPT)	(mm)	Q	(kg)
2,5 (24)	127	BRC-25	3,5	45	264	391	48	28,4	19,0	45	3/4" - 14	28	1 1/16" - 24	1,8
5 (51)	140	BRC-46	7,3	101	301	441	57	42,9	30,2	42	1 1/4" - 11 1/2	32	1 3/16" - 16	4,5
10 (105)	151	BRC-106	15,0	228	289	440	85	54,1	31,8	39	—	25	M30x2	9,5



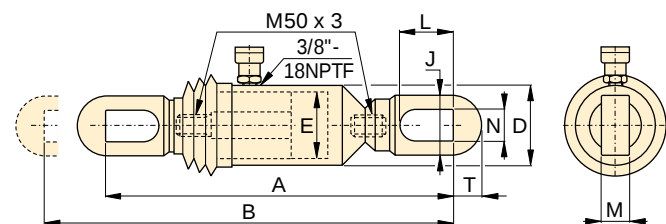
BRP-106C



BRP-306



BRP-106L



BRP-606

Cylinder Capacity	Stroke	Model Number	Cyl. Effect. Area	Oil Cap.	Coll. Height	Ext. Height	Outside Dia.	Cyl. Bore Dia.	Link Height	Link Opening L	Link Thickness M	Link Width N	Slot to Link End T	
ton (kN)	(mm)		(cm ²)	(cm ³)	A (mm)	B (mm)	D (mm)	E (mm)	J (mm)	(mm)	(mm)	(mm)	(mm)	(kg)
10 (105)	151	BRP-106C*	15,0	227	587	738	85	54,1	119	62	30	35	32	15,9
	151	BRP-106L*	15,0	227	541	692	85	54,1	67	115	22	30	32	13,2
30 (326)	155	BRP-306*	46,6	722	1085	1240	136	88,9	114	145	35	39	50	48,1
50 (505)	152	BRP-606*	72,1	1096	719	871	140	110,0	130	149	39	50	70	53,5

* Available as set, see note on previous page. NOTE: BRP-106C, BRP106L and BRP-606 are fitted with rubber bellows for rod protection.

RCH-Series, Hollow Plunger Cylinders

ENERPAC
Hydraulic Technology Worldwide

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

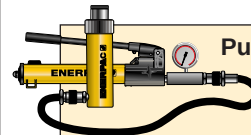


- Hollow plunger design allows for both pull and push forces
- Single-acting, spring return
- Nickel-plated, floating center tube on models over 20 ton increases product life
- Baked enamel finish for increased corrosion resistance
- Collar threads for easy fixturing
- RCH-120 includes AR-630 coupler 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.

Page: 64



Ultra-Lightweight Aluminium Cylinders

If you need a higher cylinder capacity-to-weight-ratio the Ultra-lightweight **RACH-Series** are the perfect choice.

Page: 18



Saddles

Most RCH-Series cylinders are equipped with smooth saddles. See table at next page for optional threaded

saddles and all dimensional information.

Page: 29

Cylinder Capacity	Stroke	Model Number	Cyl. Effect. Area	Oil Cap.	
ton (kN)	(mm)		(cm ²)	(cm ³)	
13 (125)	8	RCH-120	17,9	14	
	42	RCH-121*	17,9	75	
	42	RCH-1211	17,9	75	
	76	RCH-123	17,9	136	
20 (215)	49	RCH-202*	30,7	150	
	155	RCH-206	30,7	476	
30 (326)	64	RCH-302*	46,6	298	
	155	RCH-306	46,6	722	
60 (576)	76	RCH-603*	82,3	626	
	153	RCH-606	82,3	1259	
95 (931)	76	RCH-1003*	133,0	1011	

* Available as 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.

Page: **120**

RCH Series



Capacity:

13-95 ton

Stroke:

8-155 mm

Center Hole Diameter:

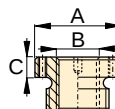
19,6 - 79,0 mm

Maximum Operating Pressure:

700 bar

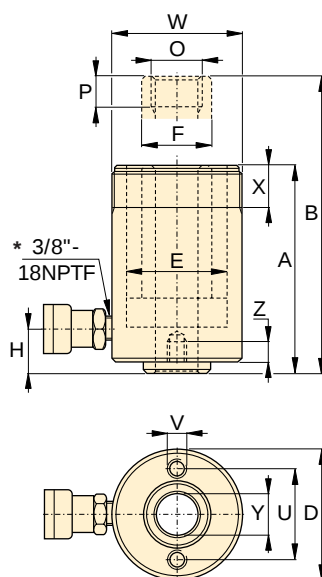
Optional Heat Treated Hollow Saddles

Saddle Type	Cylinder Model Number	Saddle Model Nr.	Saddle Dimensions (mm)		
			A	B	C
Threaded Hollow	RCH-202, 206	HP-2015	53	1" - 8	9
	RCH-302, 306	HP-3015	63	1 1/4" - 7	9
	RCH-603, 606	HP-5016	91	1 5/8" - 5 1/2	12
	RCH-1003	HP-10016	126	2 1/2" - 8	13

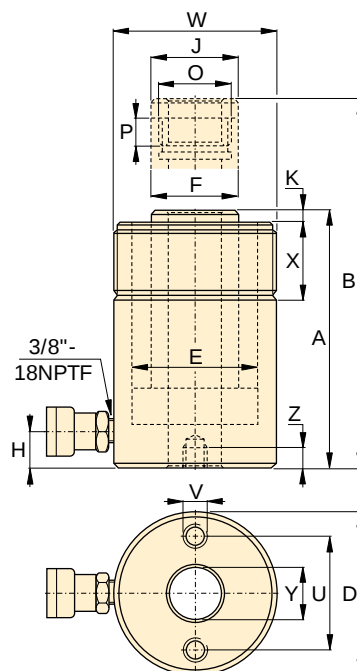


Smooth hollow saddles are standard on all RCH-models (except RCH-120, RCH-1211).

RCH-121 and RCH-1211 have a 47 mm dia. boss that protrudes 6 mm from base.



RCH-120 to RCH-123 models
* 1/4" NPT for RCH-120 only



RCH-202 to RCH-1003 models

Base Mounting Hole Dimensions (mm)			
Model Number	Bolt Circle U	Thread V	Thread Depth Z
RCH-120	50,8	5/16" - 18 UNC	9,0
RCH-121	—	—	—
RCH-1211	—	—	—
RCH-123	50,8	5/16" - 18 UNC	12,7
RCH-202	82,6	3/8" - 16 UNC	9,4
RCH-206	82,6	3/8" - 16 UNC	9,4
RCH-302	92,2	3/8" - 16 UNC	14,0
RCH-306	92,2	3/8" - 16 UNC	14,0
RCH-603	130,3	1/2" - 13 UNC	14,0
RCH-606	130,3	1/2" - 13 UNC	14,0
RCH-1003	177,8	5/8" - 11 UNC	19,0

Coll. Height A (mm)	Ext. Height B (mm)	Out. Dia. D (mm)	Cyl. Bore Dia. E (mm)	Plgr. Dia. F (mm)	Cyl. Base to Advance Port H (mm)	Saddle Dia. J (mm)	Saddle Protrusion from Plgr. K (mm)	Plunger Internal Thread O	Plunger Thread Length P (mm)	Collar Thread W	Collar Thread Length X (mm)	Center Hole Dia. Y (mm)	(kg)	Model Number
55	63	69	54,1	35,1	9	—	—	3/4" - 16 UN	16	2 3/4" - 16	30	19,6	1,5	RCH-120
120	162	69	54,1	35,1	19	—	—	—	—	2 3/4" - 16	30	19,6	2,8	RCH-121*
120	162	69	54,1	35,1	19	—	—	3/4" - 16 UN	16	2 3/4" - 16	30	19,6	2,8	RCH-1211
184	260	69	54,1	35,1	19	—	—	—	—	2 3/4" - 16	30	19,6	4,4	RCH-123
162	211	98	73,1	54,1	19	54	9,7	1 9/16" - 16 UN	19	3 7/8" - 12	38	26,9	7,7	RCH-202*
306	461	98	73,1	54,1	25	54	9,7	1 9/16" - 16 UN	19	3 7/8" - 12	38	26,9	14,1	RCH-206
178	242	114	88,9	63,5	21	63	9,0	1 13/16" - 16 UN	22	4 1/2" - 12	42	33,3	10,9	RCH-302*
330	485	114	88,9	63,5	25	63	9,0	1 13/16" - 16 UN	22	4 1/2" - 12	42	33,3	21,8	RCH-306
247	323	159	123,9	91,9	31	91	12,0	2 3/4" - 16 UN	19	6 1/4" - 12	48	53,8	28,1	RCH-603*
323	476	159	123,9	91,9	31	91	12,0	2 3/4" - 16 UN	19	6 1/4" - 12	48	53,8	35,4	RCH-606
254	330	212	165,1	127,0	38	126	12,0	4" - 16 UN	25	8 3/8" - 12	60	79,0	63,0	RCH-1003*

RRH-Series, Hollow Plunger Cylinders

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



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

Versatility in Testing, Maintenance and Tensioning Applications



Pump Selection

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

Page: 67



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.

Page: 119



Saddles

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

Page: 31

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



Cylinder Capacity ton	Stroke (mm)	Model Number	Max. Cylinder Capacity (kN)		Cylinder Effective Area (cm ²)		Oil Capacity (cm ³)	
			Advance	Retract	Advance	Retract	Advance	Retract
30	178	RRH-307	326	213	46,6	30,4	829	541
	258	RRH-3010	326	213	46,6	30,4	1202	784
60	89	RRH-603	576	380	82,3	54,2	733	482
	166	RRH-606	576	380	82,3	54,2	1366	900
	257	RRH-6010	576	380	82,3	54,2	2115	1393
95	38	RRH-1001	931	612	133,0	87,4	505	333
	76	RRH-1003	931	612	133,0	87,4	1011	666
	153	RRH-1006	931	612	133,0	87,4	2035	1337
	257	RRH-10010	931	612	133,0	87,4	3420	2246
145	203	RRH-1508	1429	718	204,1	102,6	4144	2083

Double-Acting, Hollow Plunger Cylinders



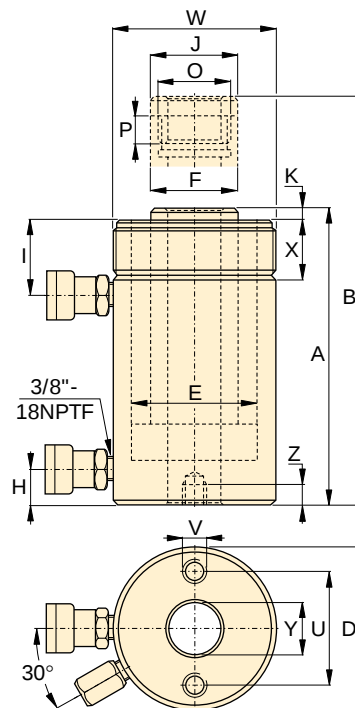
Hoses

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

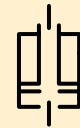
Page: 120

Optional Heat Treated Hollow Saddles					
Saddle Type	Cylinder Model Number	Saddle Model Nr.	Saddle Dimensions (mm)		
			A	B	C
Threaded Hollow	RRH-307, 3010	HP-3015	63	1 ¹ / ₄ " - 7	9
	RRH-603, 606, 6010	HP-5016	91	1 ⁵ / ₈ " - 5 ¹ / ₂	12
	RRH-1001, 1003, RRH-1006, 10010	HP-10016	126	2 ¹ / ₂ " - 8	13

Smooth hollow saddles are standard on all RRH-models.



RRH Series



Capacity:

30-145 ton

Stroke:

38- 258 mm

Center Hole Diameter:

33,3 - 79,2 mm

Maximum Operating Pressure:

700 bar

Base Mounting Hole Dimensions (mm)			
Model Number	Bolt Circle U	Thread V	Thread Depth Z
RRH-307	92,2	3/8" - 16	15,7
RRH-3010	92,2	3/8" - 16	15,7
RRH-603	130,0	1/2" - 13	14,0
RRH-606	130,0	1/2" - 13	14,0
RRH-6010	130,0	1/2" - 13	14,0
RRH-1001	177,8	5/8" - 11	19,0
RRH-1003	177,8	5/8" - 11	19,0
RRH-1006	177,8	5/8" - 11	19,0
RRH-10010	177,8	5/8" - 11	19,0
RRH-1508	—	—	—

	Coll. Height	Ext. Height	Out. Dia.	Cyl. Bore Dia.	Plgr. Dia.	Cyl. Base to Adv. Port	Cyl. Top to Return Port	Saddle Dia.	Saddle Protr. fr. Plgr.	Thread	Plunger Thread Length	Collar Thread	Collar Thread Length	Center Hole Dia.	Weight (kg)	Model Number
	A (mm)	B (mm)	D (mm)	E (mm)	F (mm)	H (mm)	I (mm)	J (mm)	K (mm)	O	P (mm)	W	X (mm)	Y (mm)		
	330	508	114	88,9	63,5	25	60	63	9	1 ¹³ / ₁₆ " - 16	22	4 ¹ / ₂ " - 12	42	33,3	21	RRH-307
	431	689	114	88,9	63,5	25	60	63	9	1 ¹³ / ₁₆ " - 16	22	4 ¹ / ₂ " - 12	42	33,3	27	RRH-3010
	247	336	159	123,9	91,9	31	66	91	12	2 ³ / ₄ " - 16	19	6 ¹ / ₄ " - 12	48	53,8	28	RRH-603
	323	489	159	123,9	91,9	31	66	91	12	2 ³ / ₄ " - 16	19	6 ¹ / ₄ " - 12	48	53,8	35	RRH-606
	438	695	159	123,9	91,9	31	66	91	12	2 ³ / ₄ " - 16	19	6 ¹ / ₄ " - 12	48	53,8	45	RRH-6010
	165	203	212	165,1	127,0	38	44	126	12	4" - 16	25	—	—	79,2	33	RRH-1001
	254	330	212	165,1	127,0	38	85	126	12	4" - 16	25	8 ³ / ₈ " - 12	60	79,2	61	RRH-1003
	342	495	212	165,1	127,0	38	85	126	12	4" - 16	25	8 ³ / ₈ " - 12	60	79,2	79	RRH-1006
	460	717	212	165,1	127,0	38	85	126	12	4" - 16	25	8 ³ / ₈ " - 12	60	79,2	106	RRH-10010
	349	552	247	190,5	152,4	38	60	127	4	4 ¹ / ₄ " - 12	25	—	—	79,2	111	RRH-1508

BRD-Series, Precision Production Cylinders

ENERPAC
Hydraulic Technology Worldwide

▼ Shown from left to right: BRD-2510, BRD-96, BRD-256, BRD-41, BRD-166



High Precision and High Cycle Performance



Speed Chart

See the Enerpac Cylinder Speed Chart in our 'Yellow Pages' to determine your approximate cylinder speed.

Page: 117



Golden Ring Design

Enerpac BRD-Cylinders are provided with the Golden Ring Design, for long, trouble-free performance.

- Designed for long life, the best choice for production applications
- Unique mounting configurations simplify fixturing
- Baked enamel finish for increased corrosion resistance
- Double-acting operation develops force in both directions, providing maximum versatility
- Plunger wiper reduces contamination, extending cylinder life
- Imperial models (RD-series) available on request

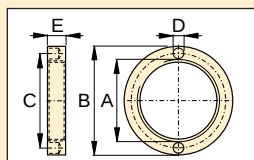
▼ Clamping application using Enerpac BRD cylinders (with clevis eye attachments on both ends) for their high pressure capability and mounting flexibility.



Cylinder Capacity (ton)	Stroke (mm)	Model Number	Max. Cylinder Capacity (kN)		Cylinder Effective Area (cm²)		Oil Capacity (cm³)		Coll. Height	Ext. Height	Body Length	Out. Dia.	Cyl. Bore Dia.	Plgr. Dia.	
			Advance	Retract	Advance	Retract	Advance	Retract	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	
4	28	BRD-41	35	16	5,1	2,2	14	6	186	214	162	50	25,4	19,0	
	79	BRD-43	35	16	5,1	2,2	40	17	237	316	213	50	25,4	19,0	
	155	BRD-46	35	16	5,1	2,2	79	34	313	468	289	50	25,4	19,0	
8	28	BRD-91	80	44	11,4	6,3	32	18	223	251	198	65	38,1	25,4	
	79	BRD-93	80	44	11,4	6,3	90	50	274	353	249	65	38,1	25,4	
	155	BRD-96	80	44	11,4	6,3	177	98	350	505	325	65	38,1	25,4	
	257	BRD-910	80	44	11,4	6,3	293	162	452	709	427	65	38,1	25,4	
15	159	BRD-166	142	77	20,3	10,6	323	169	389	548	359	80	50,8	35,0	
	260	BRD-1610	142	77	20,3	10,6	528	276	491	751	461	80	50,8	35,0	
23	159	BRD-256	222	98	31,7	13,7	504	218	424	583	397	92	63,5	47,8	
	260	BRD-2510	222	98	31,7	13,7	824	356	526	786	499	92	63,5	47,8	

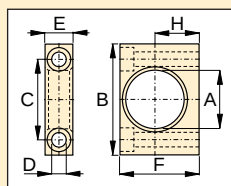
Double-Acting, Precision Production Cylinders

▼ BRD CYLINDER ATTACHMENTS



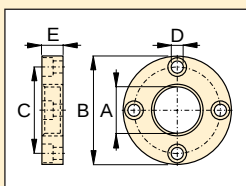
Retainer Nut

For locking foot or flange mountings. Tightens onto cylinder collar threads (Included with foot and flange mounting kits).



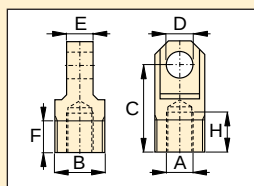
Foot Mounting

Mounts onto cylinder collar.



Flange Mounting

Mounts onto cylinder collar.



Clevis Eye

Threads onto plunger or into cylinder base.

Model Number	BRD-Cyl. (ton)	Dimensions (mm)						
		A	B	C	D	E	F	H
Foot Mounting with Retainer Nut								
BAD-141	4	42,1	80	58,0	10,5	20,0	57,0	31,8
BAD-171	8	56,1	105	78,0	13,5	25,0	82,5	44,5
BAD-181	15	70,1	127	95,2	20,0	35,0	100,0	52,4
BAD-191	23	85,1	159	117,5	26,5	45,0	125,0	63,5
Flange Mounting with Retainer Nut								
BAD-142	4	42,1	98,4	78,6	11,0	19,0	–	–
BAD-172	8	56,1	121	98,4	11,0	25,4	–	–
BAD-182	15	70,1	143	115,9	16,0	35,0	–	–
BAD-192	23	85,1	159	135,7	17,0	44,5	–	–
Retainer Nut								
BAD-143	4	M42 x 1,5	57	49,5	6,3	9,5	–	–
BAD-173	8	M56 x 2	75	65,5	6,7	12,7	–	–
BAD-183	15	M70 x 2	92	81,0	6,7	19,0	–	–
BAD-193	23	M85 x 2	108	96,5	6,7	25,4	–	–
Clevis Eye (see chart below for mounting dimensions L, L1 and M)								
BAD-150	4	M16 x 1,5	M30 x 1,5	52,4	16,0	15,9	19,1	23,8
BAD-151	8	M22 x 1,5	M42 x 1,5	57,1	20,0	25,4	25,4	23,8
BAD-152	15	M30 x 1,5	M56 x 2	77,8	25,0	31,8	25,4	30,2
BAD-153	23	M42 x 1,5	M70 x 2	77,8	32,0	38,2	25,4	27,0

BRD Series



Capacity:

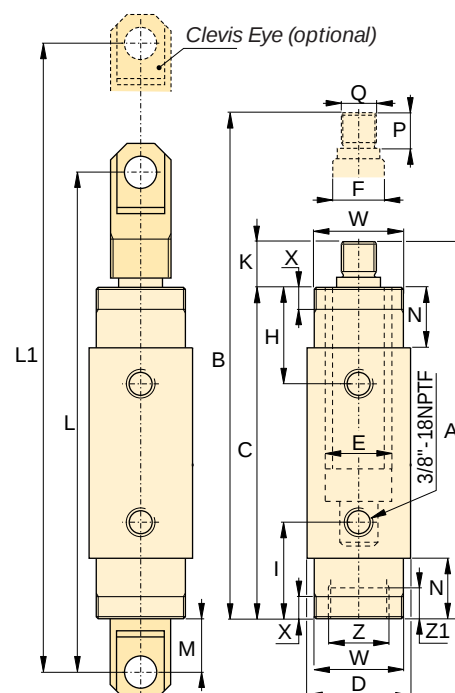
4-23 ton

Stroke:

28-260 mm

Maximum Operating Pressure:

700 bar



	Top to Retract Port H (mm)	Bottom to Advance Port I (mm)	Plunger Protrusion K (mm)	Clevis Eye Mounting Dimensions			Neck Length N (mm)	Plunger Thread Length P (mm)	Plunger External Thread Q (mm)	Cylinder Mounting Dimensions (mm)				Model Number
				L (mm)	L1 (mm)	M (mm)				Collar Thread W	Collar Thread Length X	Int. Base Thread Z	Int. Base Thread Length Z1	
	47	47	24	258	286	41	29	22	M16 x 1,5	M42 x 1,5	11	M30 x 1,5	9	2,0 BRD-41
	47	47	24	308	387	41	29	22	M16 x 1,5	M42 x 1,5	11	M30 x 1,5	9	2,6 BRD-43
	47	47	24	385	540	41	29	22	M16 x 1,5	M42 x 1,5	11	M30 x 1,5	9	3,6 BRD-46
	57	57	25	295	323	38	38	22	M22 x 1,5	M56 x 2	14	M42 x 1,5	14	3,0 BRD-91
	57	57	25	346	425	38	38	22	M22 x 1,5	M56 x 2	14	M42 x 1,5	14	4,2 BRD-93
	57	57	25	422	577	38	38	22	M22 x 1,5	M56 x 2	14	M42 x 1,5	14	5,6 BRD-96
	57	57	25	524	781	38	38	22	M22 x 1,5	M56 x 2	14	M42 x 1,5	14	7,3 BRD-910
	73	73	30	492	651	52	54	28	M30 x 1,5	M70 x 2	22	M56 x 2	24	10,2 BRD-166
	73	73	30	593	853	52	54	28	M30 x 1,5	M70 x 2	22	M56 x 2	24	14,5 BRD-1610
	89	89	27	524	683	53	70	25	M42 x 1,5	M85 x 2	29	M70 x 2	26	16,0 BRD-256
	89	89	27	626	886	53	70	25	M42 x 1,5	M85 x 2	29	M70 x 2	26	20,3 BRD-2510

RR-Series, Double-Acting Cylinders

ENERPAC 
 Hydraulic Technology Worldwide

▼ Shown from left to right: RR-10013, RR-1502, RR-20013, RR-1010, RR-7513



- Collar threads, plunger threads and base mounting holes for easy fixturing (on most models)
- Baked enamel finish for increased corrosion resistance
- Removable hardened saddles protect plunger during lifting and pressing
- Built-in safety valve prevents accidental over-pressurization
- CR-400 couplers included on all models
- Plunger wiper reduces contamination, extending cylinder life

▼ These long stroke RR-cylinders are attached in a sliding and guiding system pulling the arched roof assembly of Athens Olympic Stadium step by step into the final position.



Most Versatile Performers

Rugged enough for the toughest job site uses and precision designed for high-cycle industrial uses



Saddles

RR-Series cylinders up to 75 ton have plunger mounting holes for installation of CAT-Series tilt saddles.

Page: 35



Remote Lifting

For heavy lifting in remote locations use the Enerpac ZE-Series electric pumps.

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

Page: 90

▼ RR-cylinders provide power and precision in a special hydraulic press.



Double-Acting Long Stroke Cylinders



Cylinder retract capacity for certain RR cylinders may be less than theoretical values, as a result of reduced relief

valve pressure settings:
RR-308/3014: 275 bar
RR-506/5013/5020: 480 bar
RR-756/7513: 495 bar

▼ QUICK SELECTION CHART

For complete technical information see next page.

Cylinder Capacity ton (kN)	Stroke (mm)	Model Number	Cylinder Effective Area (cm ²)		Oil Capacity (cm ³)		Coll. Height (mm)
			Push	Pull	Push	Pull	
10 (101)	254	RR-1010*	14,5	4,8	368	122	409
	305	RR-1012*	14,5	4,8	442	147	457
30 (295)	209	RR-308*	42,1	19,1	879	400	387
	368	RR-3014*	42,1	19,1	1549	703	549
50 (498)	156	RR-506	71,2	21,5	1111	335	331
	334	RR-5013	71,2	21,5	2378	718	509
	511	RR-5020	71,2	21,5	3638	1099	733
75 (718)	156	RR-756	102,6	31,4	1601	490	347
	333	RR-7513	102,6	31,4	3417	1046	525
95 (933)	168	RR-1006	133,3	62,2	2238	1045	357
	333	RR-10013	133,3	62,2	4439	2071	524
	460	RR-10018	133,3	62,2	6132	2861	687
140 (1386)	57	RR-1502	198,1	95,4	1129	544	196
	156	RR-1506	198,1	95,4	3090	1488	385
	333	RR-15013	198,1	95,4	6597	3177	582
	815	RR-15032	198,1	95,4	16145	7775	1116
200 (1995)	152	RR-2006	285,0	145,3	4332	2209	430
	330	RR-20013	285,0	145,3	9405	4795	608
	457	RR-20018	285,0	145,3	13025	6640	765
	610	RR-20024	285,0	145,3	17385	8863	917
	914	RR-20036	285,0	145,3	26049	13280	1222
	1219	RR-20048	285,0	145,3	34741	17712	1527
325 (3201)	153	RR-3006	457,3	243,2	6997	3721	485
	305	RR-30012	457,3	243,2	13947	7418	638
	457	RR-30018	457,3	243,2	20889	11114	790
	609	RR-30024	457,3	243,2	27850	14811	943
	915	RR-30036	457,3	243,2	41843	22253	1247
	1219	RR-30048	457,3	243,2	55745	29646	1552
440 (4292)	152	RR-4006	613,1	328,1	9319	4987	538
	305	RR-40012	613,1	328,1	18700	10007	690
	457	RR-40018	613,1	328,1	28018	14995	843
	610	RR-40024	613,1	328,1	37400	20014	995
	914	RR-40036	613,1	328,1	56037	29988	1300
	1219	RR-40048	613,1	328,1	74737	39996	1605
520 (5108)	153	RR-5006	729,7	405,4	11164	6203	577
	305	RR-50012	729,7	405,4	22256	12365	730
	457	RR-50018	729,7	405,4	33347	18526	882
	609	RR-50024	729,7	405,4	44440	24689	1035
	915	RR-50036	729,7	405,4	66768	36973	1339
	1219	RR-50048	729,7	405,4	88951	49418	1644

RR Series



Capacity:

10 - 520 ton

Stroke:

57-1219 mm

Maximum Operating Pressure:

700 bar



Enerpac CLRG-Series

If your application does not require high cycle, Enerpac CLRG-Series cylinders may be the right alternative.

Page: 46



Speed Chart

See the Enerpac Cylinder Speed Chart in our 'Yellow Pages' to determine your approximate cylinder speed.

Page: 117



Optional Snap-in Saddles

Optional snap-in saddles for RR-Series double-acting cylinders:

Saddle Type	Cylinder Model Number	Saddle Model Number
Flat	RR-1010, 1012	A-102F
Tilt	RR-1010, 1012	CAT-10
	RR-308, 3014	CAT-50
	RR-506, 5013 RR-5020, 756 RR-7513	CAT-100

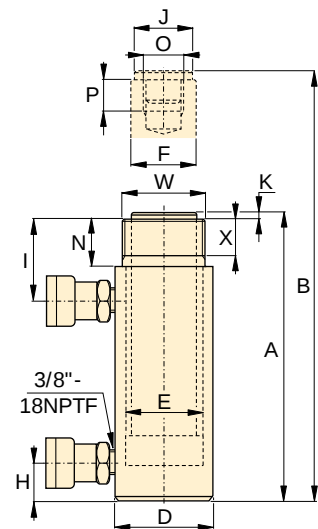
Standard Saddles:

Grooved	RR-1010, 1012	A-102G
	RR-308, 3014	A-252G

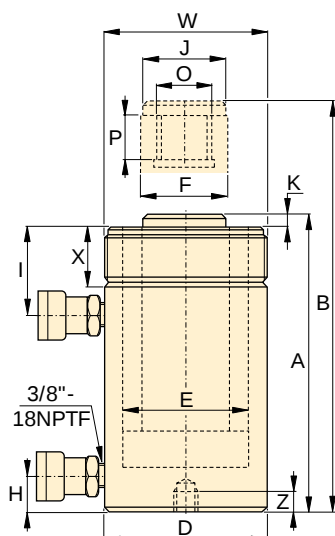
For additional information on saddles:

Page: 12

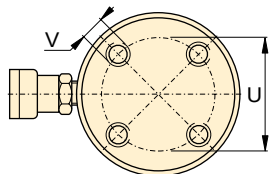
RR-Series, Double-Acting Cylinders

ENERPAC
Hydraulic Technology Worldwide


RR-1010 - RR-3014

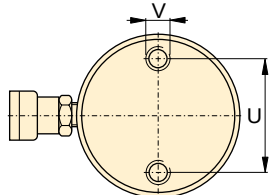


RR-506 - RR-50048



RR-1006 - RR-30048

No mounting holes on:
RR-506, 5013
RR-756, 7513
RR-1502, 15013



RR-4006 - RR-50048

Base mounting hole location is for reference only, as it is affected by assembly.



Cylinder retract capacity for certain RR cylinders may be less than theoretical values, as a result of reduced relief valve pressure settings:

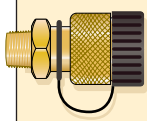
RR-308/3014: 275 bar
RR-506/5013/5020: 480 bar
RR-756/7513: 495 bar

◀ For full features see previous page.

Cylinder Capacity	Stroke	Model Number	Max. Cylinder Capacity		Cylinder Effective Area		Oil Capacity		Coll. Height	Ext. Height	Outside Dia.	
			(kN)		(cm²)		(cm³)		A	B	D	
ton	(mm)		Push	Pull	Push	Pull	Push	Pull	(mm)	(mm)	(mm)	
10	254	RR-1010*	101	33	14,5	4,8	368	0122	409	663	73	
	305	RR-1012*	101	33	14,5	4,8	442	147	457	762	73	
30	209	RR-308*	295	53	42,1	19,1	879	400	387	596	101	
	368	RR-3014*	295	53	42,1	19,1	1549	703	549	917	101	
50	156	RR-506	498	103	71,2	21,5	1111	335	331	487	127	
	334	RR-5013	498	103	71,2	21,5	2378	718	509	843	127	
	511	RR-5020	498	103	71,2	21,5	3638	1099	733	1244	127	
75	156	RR-756	718	156	102,6	31,4	1601	490	347	503	146	
	333	RR-7513	718	156	102,6	31,4	3417	1046	525	858	146	
95	168	RR-1006	933	435	133,3	62,2	2238	1045	357	525	177	
	333	RR-10013	933	435	133,3	62,2	4439	2071	524	857	177	
	460	RR-10018	933	435	133,3	62,2	6132	2861	687	1147	177	
140	57	RR-1502	1386	668	198,1	95,4	1129	544	196	253	203	
	156	RR-1506	1386	668	198,1	95,4	3090	1488	385	541	203	
	333	RR-15013	1386	668	198,1	95,4	6597	3177	582	915	203	
	815	RR-15032	1386	668	198,1	95,4	16145	7775	1116	1931	203	
200	152	RR-2006	1995	1017	285,0	145,3	4332	2209	430	582	247	
	330	RR-20013	1995	1017	285,0	145,3	9405	4795	608	938	247	
	457	RR-20018	1995	1017	285,0	145,3	13025	6640	765	1222	247	
	610	RR-20024	1995	1017	285,0	145,3	17385	8863	917	1527	247	
	914	RR-20036	1995	1017	285,0	145,3	26049	13280	1222	2136	247	
	1219	RR-20048	1995	1017	285,0	145,3	34741	17712	1527	2746	247	
325	153	RR-3006	3201	1703	457,3	243,2	6997	3721	485	638	311	
	305	RR-30012	3201	1703	457,3	243,2	13947	7418	638	943	311	
	457	RR-30018	3201	1703	457,3	243,2	20889	11114	790	1247	311	
	609	RR-30024	3201	1703	457,3	243,2	27850	14811	943	1552	311	
	915	RR-30036	3201	1703	457,3	243,2	41843	22253	1247	2162	311	
	1219	RR-30048	3201	1703	457,3	243,2	55745	29646	1552	2771	311	
440	152	RR-4006	4292	2297	613,1	328,1	9319	4987	538	690	358	
	305	RR-40012	4292	2297	613,1	328,1	18700	10007	690	995	358	
	457	RR-40018	4292	2297	613,1	328,1	28018	14995	843	1300	358	
	610	RR-40024	4292	2297	613,1	328,1	37400	20014	995	1605	358	
	914	RR-40036	4292	2297	613,1	328,1	56037	29988	1300	2214	358	
	1219	RR-40048	4292	2297	613,1	328,1	74737	39996	1605	2824	358	
520	153	RR-5006	5108	2838	729,7	405,4	11164	6203	577	730	397	
	305	RR-50012	5108	2838	729,7	405,4	22256	12365	730	1035	397	
	457	RR-50018	5108	2838	729,7	405,4	33347	18526	882	1339	397	
	609	RR-50024	5108	2838	729,7	405,4	44440	24689	1035	1644	397	
	915	RR-50036	5108	2838	729,7	405,4	66768	36973	1339	2254	397	
	1219	RR-50048	5108	2838	729,7	405,4	88951	49418	1644	2863	397	

* For RR-1010 and RR-1012: N = 32 mm; for RR-308 and RR-3014: N = 55 mm.

Double-Acting Long Stroke Cylinders



Couplers Included!

CR-400 couplers included on all models. Fits all HC-Series hoses.

Capacity:

10 - 520 ton

Stroke:

57-1219 mm

Maximum Operating Pressure:

700 bar

RR Series



	Cyl. Bore Dia. E (mm)	Plgr. Dia. F (mm)	Base to Adv. Port H (mm)	Top to Ret. Port I (mm)	Saddle Dia. J (mm)	Saddle Protr. fr. Plgr. K (mm)	Plunger Internal Thread O	Plunger Thread Length P (mm)	Base Mounting Holes			Collar Thread W	Collar Thread Length X (mm)	 (kg)	Model Number
	42,9	34,9	36	57	35	6	1" - 8	25	—	—	—	2 1/4" - 14	26	12	RR-1010*
	42,9	34,9	36	57	35	6	1" - 8	25	—	—	—	2 1/4" - 14	26	14	RR-1012*
	73,2	54,1	39	81	50	10	1 1/2" - 16	25	—	—	—	3 5/16" - 12	49	18	RR-308*
	73,2	54,1	39	81	50	10	1 1/2" - 16	25	—	—	—	3 5/16" - 12	49	29	RR-3014*
	95,2	79,5	28	76	71	2	1" - 12	25	—	—	—	5" - 12	44	30	RR-506
	95,2	79,5	28	76	71	2	1" - 12	25	—	—	—	5" - 12	44	52	RR-5013
	95,2	79,5	57	76	71	2	1" - 12	25	76	1/2" - 13	25	5" - 12	44	68	RR-5020
	114,3	95,2	30	76	71	6	1" - 12	38	—	—	—	5 3/4" - 12	38	41	RR-756
	114,3	95,2	30	81	71	6	1" - 12	38	—	—	—	5 3/4" - 12	38	68	RR-7513
	130,3	95,2	38	71	76	3	1 3/4" - 12	35	139	3/4" - 10	25	6 7/8" - 12	50	61	RR-1006
	130,3	95,2	38	71	76	3	1 3/4" - 12	35	139	3/4" - 10	25	6 7/8" - 12	50	93	RR-10013
	130,3	95,2	41	92	76	3	1 3/4" - 12	35	139	3/4" - 10	25	6 7/8" - 12	50	117	RR-10018
	158,8	114,3	22	66	114	19	—	—	—	—	—	—	—	49	RR-1502
	158,8	114,3	49	84	114	19	3 3/8" - 16	35	158	3/4" - 16	28	8" - 12	55	93	RR-1506
	158,8	114,3	49	84	114	19	3 3/8" - 16	35	158	3/4" - 16	28	8" - 12	55	124	RR-15013
	158,8	114,3	76	88	114	19	3 3/8" - 16	35	—	—	—	8" - 12	55	238	RR-15032
	190,5	133,4	57	96	133	22	—	—	127	1" - 8	25	—	—	147	RR-2006
	190,5	133,4	57	96	133	22	2 1/2" - 12	63	127	1" - 8	25	9 3/4" - 12	54	199	RR-20013
	190,5	133,4	85	101	133	22	2 1/2" - 12	63	127	1" - 8	25	9 3/4" - 12	54	204	RR-20018
	190,5	133,4	85	101	133	22	2 1/2" - 12	63	127	1" - 8	25	9 3/4" - 12	54	279	RR-20024
	190,5	133,4	85	101	133	22	2 1/2" - 12	63	127	1" - 8	25	9 3/4" - 12	54	383	RR-20036
	190,5	133,4	85	101	133	22	2 1/2" - 12	63	127	1" - 8	25	9 3/4" - 12	54	483	RR-20048
	241,3	165,1	88	114	165	28	2 1/2" - 12	82	158	1 1/4" - 7	44	12 1/4" - 12	58	200	RR-3006
	241,3	165,1	88	114	165	28	2 1/2" - 12	82	158	1 1/4" - 7	44	12 1/4" - 12	58	312	RR-30012
	241,3	165,1	88	114	165	28	2 1/2" - 12	82	158	1 1/4" - 7	44	12 1/4" - 12	58	385	RR-30018
	241,3	165,1	88	114	165	28	2 1/2" - 12	82	158	1 1/4" - 7	44	12 1/4" - 12	58	469	RR-30024
	241,3	165,1	88	114	165	28	2 1/2" - 12	82	158	1 1/4" - 7	44	12 1/4" - 12	58	628	RR-30036
	241,3	165,1	88	114	165	28	2 1/2" - 12	82	158	1 1/4" - 7	44	12 1/4" - 12	58	780	RR-30048
	279,4	190,5	108	133	190	28	3" - 12	95	203	1 1/2" - 6	50	14 1/8" - 8	65	303	RR-4006
	279,4	190,5	108	133	190	28	3" - 12	95	203	1 1/2" - 6	50	14 1/8" - 8	65	399	RR-40012
	279,4	190,5	108	133	190	28	3" - 12	95	203	1 1/2" - 6	50	14 1/8" - 8	65	453	RR-40018
	279,4	190,5	108	133	190	28	3" - 12	95	203	1 1/2" - 6	50	14 1/8" - 8	65	597	RR-40024
	279,4	190,5	108	133	190	28	3" - 12	95	203	1 1/2" - 6	50	14 1/8" - 8	65	792	RR-40036
	279,4	190,5	108	133	190	28	3" - 12	95	203	1 1/2" - 6	50	14 1/8" - 8	65	980	RR-40048
	304,8	203,2	120	152	203	28	3 1/4" - 12	108	203	1 3/4" - 5	57	15 5/8" - 8	79	432	RR-5006
	304,8	203,2	120	152	203	28	3 1/4" - 12	108	203	1 3/4" - 5	57	15 5/8" - 8	79	589	RR-50012
	304,8	203,2	120	152	203	28	3 1/4" - 12	108	203	1 3/4" - 5	57	15 5/8" - 8	79	680	RR-50018
	304,8	203,2	120	152	203	28	3 1/4" - 12	108	203	1 3/4" - 5	57	15 5/8" - 8	79	816	RR-50024
	304,8	203,2	120	152	203	28	3 1/4" - 12	108	203	1 3/4" - 5	57	15 5/8" - 8	79	1002	RR-50036
	304,8	203,2	120	152	203	28	3 1/4" - 12	108	203	1 3/4" - 5	57	15 5/8" - 8	79	1224	RR-50048

CLSG-Series, High Tonnage Cylinders

ENERPAC 
Hydraulic Technology Worldwide

▼ Shown from left to right: CLSG-506, CLSG-5006, CLSG-4006



- Integral stop ring provides piston blow-out protection
- Baked enamel outside finish and plated pistons provide superior corrosion protection
- Unique bearing design withstands sideload forces up to 10% of rated cylinder capacity without scoring
- Interchangeable, hardened grooved saddles are standard
- Base mounting holes are standard on all models
- Plunger wiper reduces contamination, extending cylinder life
- Single-acting, load return

▼ Eight CLSG-2506 equipped with tilting saddles lifted the planking of the bridge as the pier heads were being rebuilt.



The Single-Acting Heavy Lifting Solution with Integral Stop Ring



Saddles

All CLSG-Series cylinders are equipped with bolt-on removable grooved saddles. For information on optional tilt saddles, see selection chart.

Page: 41



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.

Page: 119



Remote Lifting

For heavy lifting in remote locations use the Enerpac ZE-series electric pumps.

Page: 90



Low Height - High Tonnage

When low height with high force is required, CLP-Series Pancake Cylinders with lock-nut offer the solution to lift

the first few centimetres.

Page: 22



Standard Features

- Interchangeable, hardened grooved saddles
- Top and side mounted lifting eyes
- CR-400 coupler and dustcap
- All cylinders meet ASME B-30.1 and ISO 10100 standards.

Single-Acting, High Tonnage Cylinders

▼ QUICK SELECTION CHART

For complete technical information see next page.

Cylinder Capacity	Stroke	Model Number	Cylinder Effective Area	Oil Capacity	Collapsed Height	
ton (kN)	(mm)		(cm ²)	(cm ³)	(mm)	(kg)
50 (539)	50	CLSG-502	77,0	385	162	17
	100	CLSG-504	77,0	770	212	20
	150	CLSG-506	77,0	1155	262	23
	200	CLSG-508	77,0	1540	312	27
	250	CLSG-5010	77,0	1924	362	31
	300	CLSG-5012	77,0	2309	412	34
100 (929)	50	CLSG-1002	132,7	664	182	19
	100	CLSG-1004	132,7	1327	232	29
	150	CLSG-1006	132,7	1991	282	40
	200	CLSG-1008	132,7	2655	332	50
	250	CLSG-10010	132,7	3318	382	61
	300	CLSG-10012	132,7	3982	432	71
150 (1390)	50	CLSG-1502	198,6	993	196	39
	100	CLSG-1504	198,6	1986	246	52
	150	CLSG-1506	198,6	2978	296	65
	200	CLSG-1508	198,6	3971	346	78
	250	CLSG-15010	198,6	4964	396	92
	300	CLSG-15012	198,6	5957	446	105
200 (1861)	50	CLSG-2002	265,9	1330	216	55
	150	CLSG-2006	265,9	3989	316	91
	300	CLSG-20012	265,9	7977	466	146
250 (2565)	50	CLSG-2502	366,4	1832	235	102
	150	CLSG-2506	366,4	5497	335	136
	300	CLSG-25012	366,4	10993	485	207
300 (3193)	50	CLSG-3002	456,2	2281	312	184
	150	CLSG-3006	456,2	6843	412	232
	300	CLSG-30012	456,2	13685	562	303
400 (3919)	50	CLSG-4002	559,9	2800	375	270
	150	CLSG-4006	559,9	8399	475	330
	300	CLSG-40012	559,9	16797	625	421
500 (5114)	50	CLSG-5002	730,6	3653	419	401
	150	CLSG-5006	730,6	10959	519	480
	300	CLSG-50012	730,6	21918	669	599
600 (5987)	50	CLSG-6002	855,3	4276	429	474
	150	CLSG-6006	855,3	12829	529	565
	300	CLSG-60012	855,3	25659	679	701
800 (8234)	50	CLSG-8002	1176,3	5881	474	741
	150	CLSG-8006	1176,3	17644	574	880
	300	CLSG-80012	1176,3	35288	724	1058
1000 (10260)	50	CLSG-10002	1465,7	7329	564	1062
	150	CLSG-10006	1465,7	21986	664	1213
	300	CLSG-100012	1465,7	43972	814	1439

CLSG Series



Capacity:

50-1000 ton

Stroke:

50 - 300 mm

Maximum Operating Pressure:

700 bar



Higher Capacities

1500 and 2000 ton models available on request.

Additional Stroke Lengths

Models above 150 ton are also available with standard stroke lengths of 100, 200 and 250 mm. Please contact Enerpac for ordering information.



Lifting an Unbalanced Load

When lifting an unbalanced load **Enerpac Integrated Lifting Systems** can be the solution with multiple lift point capabilities from 4 to 64 points. See our "Yellow Pages" for multi-cylinder set-ups.

Page: **54**



Optional features

To add optional features to your cylinders, add the following suffixes to the end of the model number.

Collar thread *

E002

* On 400 ton models and higher.

Example:

- For CLSG-5006 cylinder with collar thread, order: **CLSG-5006E002**

Technical specifications for these features are available from Enerpac.

CLSG-Series, High Tonnage Cylinders

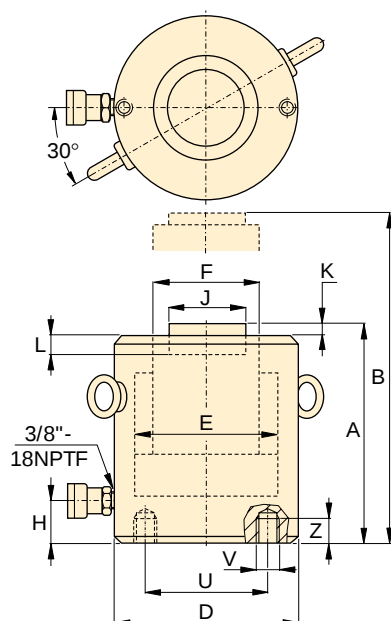
ENERPAC
Hydraulic Technology Worldwide


Speed Chart

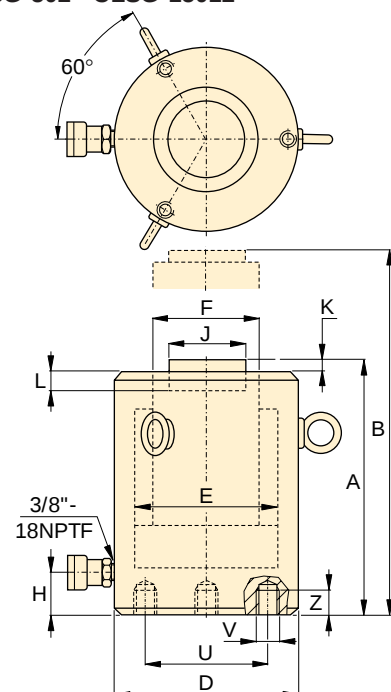
See the Enerpac Cylinder Speed Chart in our 'Yellow Pages' section.

Page: **117**

◀ For full features see previous page.



CLSG-502 - CLSG-15012



CLSG-2002 - CLSG-100012

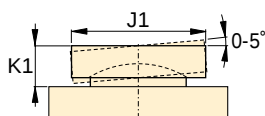
Base Mounting Hole ¹⁾ Dimensions (mm)			
Model / Capacity ton	Bolt Circle U	Thread Size V	Min. Thread Depth Z
CLSG-50	65	2x M12	22
CLSG-100	95	2x M12	22
CLSG-150	130	2x M12	22
CLSG-200	165	3x M12	22
CLSG-250	190	3x M12	22
CLSG-300	180	3x M16	30
CLSG-400	205	3x M16	30
CLSG-500	250	3x M24	36
CLSG-600	275	3x M24	36
CLSG-800	330	3x M24	36
CLSG-1000	375	3x M24	36

¹⁾ Base mounting holes are random positioned in regard to coupler position.

Cylinder Capacity ton (kN)	Stroke (mm)	Model Number	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)
50 (539)	50	CLSG-502	77,0	385
	100	CLSG-504	77,0	770
	150	CLSG-506	77,0	1155
	200	CLSG-508	77,0	1540
	250	CLSG-5010	77,0	1924
	300	CLSG-5012	77,0	2309
100 (929)	50	CLSG-1002	132,7	664
	100	CLSG-1004	132,7	1327
	150	CLSG-1006	132,7	1991
	200	CLSG-1008	132,7	2655
	250	CLSG-10010	132,7	3318
	300	CLSG-10012	132,7	3982
150 (1390)	50	CLSG-1502	198,6	993
	100	CLSG-1504	198,6	1986
	150	CLSG-1506	198,6	2978
	200	CLSG-1508	198,6	3971
	250	CLSG-15010	198,6	4964
	300	CLSG-15012	198,6	5957
200 (1861)	50	CLSG-2002	265,9	1330
	150	CLSG-2006	265,9	3989
	300	CLSG-20012	265,9	7977
250 (2565)	50	CLSG-2502	366,4	1832
	150	CLSG-2506	366,4	5497
	300	CLSG-25012	366,4	10993
300 (3193)	50	CLSG-3002	456,2	2281
	150	CLSG-3006	456,2	6843
	300	CLSG-30012	456,2	13685
400 (3919)	50	CLSG-4002	559,9	2800
	150	CLSG-4006	559,9	8399
	300	CLSG-40012	559,9	16797
500 (5114)	50	CLSG-5002	730,6	3653
	150	CLSG-5006	730,6	10959
	300	CLSG-50012	730,6	21918
600 (5987)	50	CLSG-6002	855,3	4276
	150	CLSG-6006	855,3	12829
	300	CLSG-60012	855,3	25659
800 (8234)	50	CLSG-8002	1176,3	5881
	150	CLSG-8006	1176,3	17644
	300	CLSG-80012	1176,3	35288
1000 (10260)	50	CLSG-10002	1465,7	7329
	150	CLSG-10006	1465,7	21986
	300	CLSG-100012	1465,7	43972

Single-Acting, High Tonnage Cylinders

Optional Tilt Saddle *



Capacity:

50-1000 ton

Stroke:

50 - 300 mm

Maximum Operating Pressure:

700 bar
CLSG
Series


Collapsed Height	Extended Height	Outside Dia.	Cylinder Bore Dia.	Plunger Dia.	Base to Adv. Port H	Standard Saddle Dia.	Saddle Protr. from Plgr.	Depth of Plunger Hole		Model Number	* Optional Tilt Saddle		
											Saddle Dia. J1	Saddle Height K1	Saddle Model Number
A (mm)	B (mm)	D (mm)	E (mm)	F (mm)	H (mm)	J (mm)	K (mm)	L (mm)	(kg)		(mm)	(mm)	
162	212	130	99,0	70,0	52	50	1	19	17	CLSG-502	50	24	CATG-50
212	312	130	99,0	70,0	52	50	1	19	20	CLSG-504	50	24	CATG-50
262	412	130	99,0	70,0	52	50	1	19	23	CLSG-506	50	24	CATG-50
312	512	130	99,0	70,0	52	50	1	19	27	CLSG-508	50	24	CATG-50
362	612	130	99,0	70,0	52	50	1	19	31	CLSG-5010	50	24	CATG-50
412	712	130	99,0	70,0	52	50	1	19	34	CLSG-5012	50	24	CATG-50
182	232	165	130,0	95,0	54	75	1	19	19	CLSG-1002	73	29	CATG-100
232	332	165	130,0	95,0	54	75	1	19	29	CLSG-1004	73	29	CATG-100
282	432	165	130,0	95,0	54	75	1	19	40	CLSG-1006	73	29	CATG-100
332	532	165	130,0	95,0	54	75	1	19	50	CLSG-1008	73	29	CATG-100
382	632	165	130,0	95,0	54	75	1	19	61	CLSG-10010	73	29	CATG-100
432	732	165	130,0	95,0	54	75	1	19	71	CLSG-10012	73	29	CATG-100
196	246	205	159,0	114,0	61	94	1	19	39	CLSG-1502	91	31	CATG-150
246	346	205	159,0	114,0	61	94	1	19	52	CLSG-1504	91	31	CATG-150
296	446	205	159,0	114,0	61	94	1	19	65	CLSG-1506	91	31	CATG-150
346	546	205	159,0	114,0	61	94	1	19	78	CLSG-1508	91	31	CATG-150
396	646	205	159,0	114,0	61	94	1	19	92	CLSG-15010	91	31	CATG-150
446	746	205	159,0	114,0	61	94	1	19	105	CLSG-15012	91	31	CATG-150
216	266	235	184,0	133,0	67	113	1	24	55	CLSG-2002	118	35	CATG-200
316	466	235	184,0	133,0	67	113	1	24	91	CLSG-2006	118	35	CATG-200
466	766	235	184,0	133,0	67	113	1	24	146	CLSG-20012	118	35	CATG-200
235	285	275	216,0	165,0	73	145	1	24	102	CLSG-2502	144	46	CATG-250
335	485	275	216,0	165,0	73	145	1	24	136	CLSG-2506	144	46	CATG-250
485	785	275	216,0	165,0	73	145	1	24	207	CLSG-25012	144	46	CATG-250
312	362	310	241,0	197,0	101	177	1	19	184	CLSG-3002	160	62	CATG-300
412	562	310	241,0	197,0	101	177	1	19	232	CLSG-3006	160	62	CATG-300
562	862	310	241,0	197,0	101	177	1	19	303	CLSG-30012	160	62	CATG-300
375	425	350	267,0	216,0	114	196	3	27	270	CLSG-4002	193	51	CATG-400
475	625	350	267,0	216,0	114	196	3	27	330	CLSG-4006	193	51	CATG-400
625	925	350	267,0	216,0	114	196	3	27	421	CLSG-40012	193	51	CATG-400
419	469	400	305,0	248,0	114	228	3	27	401	CLSG-5002	228	63	CATG-500
519	669	400	305,0	248,0	114	228	3	27	480	CLSG-5006	228	63	CATG-500
669	969	400	305,0	248,0	114	228	3	27	599	CLSG-50012	228	63	CATG-500
429	479	430	330,0	267,0	114	247	3	27	474	CLSG-6002	241	76	CATG-600
529	679	430	330,0	267,0	114	247	3	27	565	CLSG-6006	241	76	CATG-600
679	979	430	330,0	267,0	114	247	3	27	701	CLSG-60012	241	76	CATG-600
474	524	505	387,0	317,0	149	297	3	27	741	CLSG-8002	287	75	CATG-800
574	724	505	387,0	317,0	149	297	3	27	880	CLSG-8006	287	75	CATG-800
724	1024	505	387,0	317,0	149	297	3	27	1058	CLSG-80012	287	75	CATG-800
564	614	560	432,0	343,0	174	323	3	27	1062	CLSG-10002	311	93	CATG-1000
664	814	560	432,0	343,0	174	323	3	27	1213	CLSG-10006	311	93	CATG-1000
814	1114	560	432,0	343,0	174	323	3	27	1439	CLSG-100012	311	93	CATG-1000

CLS-Series, High Tonnage Cylinders

ENERPAC 
 Hydraulic Technology Worldwide

▼ Shown from left to right: CLS-1002, CLS-506, CLS-502



- Lowest collapsed height for use in confined spaces
- Overflow port functions as a stroke limiter
- Plunger wiper reduces contamination, extending cylinder life
- Interchangeable, hardened grooved saddles are standard
- Special synthetic coating for improved corrosion resistance and lower friction for smoother operation
- CR-400 coupler and dust cap included on all models
- Single-acting, load return

▼ CLS-cylinders doing their job, synchronised lifting a complete fly-over for exact positioning.



The Single-Acting Heavy Lifting Solution With Reduced Collapsed Height



Saddles

All CLS cylinders are equipped with bolt-on removable grooved saddles. For information on optional tilt saddles, see selection chart.

Page: 45



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.

Page: 119



Remote Lifting

For heavy lifting in remote locations use the Enerpac ZE-Series electric pumps.

Page: 90



Low Height - High Tonnage

When low height with high force is required, CLP-Series Pancake Cylinders with lock-nut offer the solution to lift the first few centimetres.

Page: 22



Synchronous Lifting Systems

The solution for multiple lift point capabilities from 4 to 64 points.

Page: 54

Single-Acting, High Tonnage Cylinders

▼ QUICK SELECTION CHART

For complete technical information see next page.

Cylinder Capacity	Stroke	Model Number	Cylinder Effective Area	Oil Capacity	Collapsed Height	
ton (kN)	(mm)		(cm ²)	(cm ³)	(mm)	(kg)
50 (496)	50	CLS-502	70,9	355	128	14
	100	CLS-504	70,9	709	178	18
	150	CLS-506	70,9	1064	228	23
	200	CLS-508	70,9	1418	278	28
	250	CLS-5010	70,9	1773	327	33
	300	CLS-5012	70,9	2127	378	38
100 (929)	50	CLS-1002	132,7	664	143	24
	100	CLS-1004	132,7	1327	193	32
	150	CLS-1006	132,7	1991	243	40
	200	CLS-1008	132,7	2654	293	49
	250	CLS-10010	132,7	3318	343	58
	300	CLS-10012	132,7	3981	392	66
150 (1390)	50	CLS-1502	198,6	993	165	43
	100	CLS-1504	198,6	1986	215	55
	150	CLS-1506	198,6	2979	265	69
	200	CLS-1508	198,6	3972	315	82
	250	CLS-15010	198,6	4965	365	95
	300	CLS-15012	198,6	5958	414	108
200 (1859)	50	CLS-2002	265,6	1330	193	66
	150	CLS-2006	265,6	3989	293	101
	300	CLS-20012	265,6	7977	443	154
250 (2562)	50	CLS-2502	366,1	1832	193	90
	150	CLS-2506	366,1	5496	293	137
	300	CLS-25012	366,1	10996	443	208
300 (3193)	50	CLS-3002	456,2	2281	235	137
	150	CLS-3006	456,2	6843	335	198
	300	CLS-30012	456,2	13710	485	288
400 (3919)	50	CLS-4002	559,9	2800	265	200
	150	CLS-4006	559,9	8399	365	275
	300	CLS-40012	559,9	16770	515	390
500 (5118)	50	CLS-5002	731,1	3656	295	289
	150	CLS-5006	731,1	10967	395	390
	300	CLS-50012	731,1	21900	545	540
600 (5983)	50	CLS-6002	854,8	4277	310	350
	150	CLS-6006	854,8	12830	410	465
	300	CLS-60012	854,8	25710	560	640
800 (8238)	50	CLS-8002	1176,9	5882	355	549
	150	CLS-8006	1176,9	17645	455	709
	300	CLS-80012	1176,9	35370	605	950
1000 (10260)	50	CLS-10002	1466,4	7329	385	729
	150	CLS-10006	1466,4	21986	485	921
	300	CLS-100012	1466,4	43950	635	1210

CLS Series



Capacity:

50-1000 ton

Stroke:

50 - 300 mm

Maximum Operating Pressure:

700 bar



Higher Capacities

1500 and 2000 ton models are available on request.

Additional Stroke Lengths

Models above 150 ton are also available with standard stroke lengths of 100, 200 and 250 mm. Please contact Enerpac for ordering information.



Lifting an Unbalanced Load?

See our 'Yellow Pages' for multi-cylinder set-ups.

Page: **113**



Optional features

To add optional features to your cylinders, add the following suffixes to the end of the model number.

Spring return

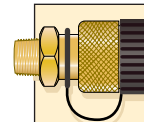
E001

Example:

- For CLS-5006 cylinder with spring return, order: **CLS-5006E001**

Technical specifications for these features are available from Enerpac.

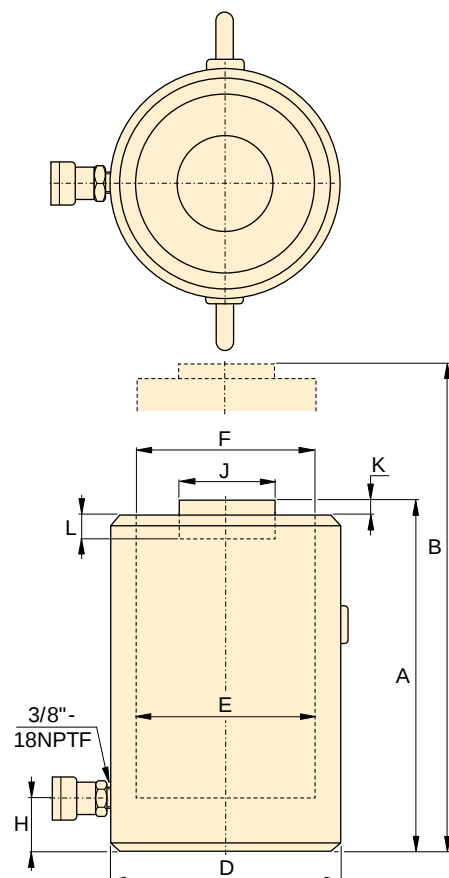
CLS-Series, High Tonnage Cylinders

ENERPAC 
 Hydraulic Technology Worldwide


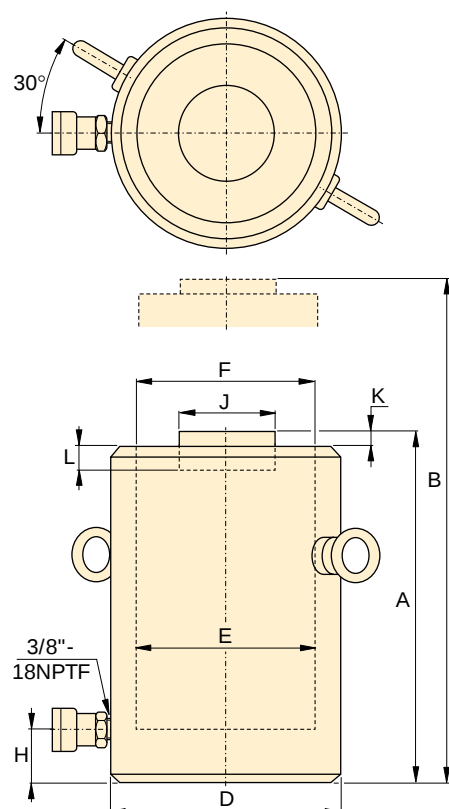
Couplers Included!

CR-400 couplers
included on all models.
Fit all HC-Series hoses.

◀ For full features see previous page.



CLS-502 - CLS-25012

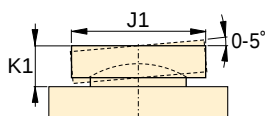


CLS-3002 - CLS-100012

Cylinder Capacity ton (kN)	Stroke (mm)	Model Number	Cylinder Effective Area (cm ²)	Oil Capacity (cm ³)
50 (496)	50	CLS-502	70,9	355
	100	CLS-504	70,9	709
	150	CLS-506	70,9	1064
	200	CLS-508	70,9	1418
	250	CLS-5010	70,9	1773
	300	CLS-5012	70,9	2127
100 (929)	50	CLS-1002	132,7	664
	100	CLS-1004	132,7	1327
	150	CLS-1006	132,7	1991
	200	CLS-1008	132,7	2654
	250	CLS-10010	132,7	3318
	300	CLS-10012	132,7	3981
150 (1390)	50	CLS-1502	198,6	993
	100	CLS-1504	198,6	1986
	150	CLS-1506	198,6	2979
	200	CLS-1508	198,6	3972
	250	CLS-15010	198,6	4965
	300	CLS-15012	198,6	5958
200 (1859)	50	CLS-2002	265,6	1330
	150	CLS-2006	265,6	3989
	300	CLS-20012	265,6	7977
250 (2562)	50	CLS-2502	366,1	1832
	150	CLS-2506	366,1	5496
	300	CLS-25012	366,1	10996
300 (3193)	50	CLS-3002	456,2	2281
	150	CLS-3006	456,2	6843
	300	CLS-30012	456,2	13710
400 (3919)	50	CLS-4002	559,9	2800
	150	CLS-4006	559,9	8399
	300	CLS-40012	559,9	16770
500 (5118)	50	CLS-5002	731,1	3656
	150	CLS-5006	731,1	10967
	300	CLS-50012	731,1	21900
600 (5983)	50	CLS-6002	854,8	4277
	150	CLS-6006	854,8	12830
	300	CLS-60012	854,8	25710
800 (8238)	50	CLS-8002	1176,9	5882
	150	CLS-8006	1176,9	17645
	300	CLS-80012	1176,9	35370
1000 (10260)	50	CLS-10002	1466,4	7329
	150	CLS-10006	1466,4	21986
	300	CLS-100012	1466,4	43950

Single-Acting, High Tonnage Cylinders

Optional Tilt Saddle *



Capacity:

50-1000 ton

Stroke:

50 - 300 mm

Maximum Operating Pressure:

700 bar

CLS Series



Collapsed Height A (mm)	Extended Height B (mm)	Outside Dia. D (mm)	Cylinder Bore Dia. E (mm)	Plunger Dia. F (mm)	Base to Adv. Port H (mm)	Standard Saddle Dia. J (mm)	Saddle Protr. from Plgr. K (mm)	Depth of Plunger Hole L (mm)	 (kg)	Model Number	* Optional Tilt Saddle		
											Saddle Dia. J1 (mm)	Saddle Height K1 (mm)	Saddle Model Number
128	178	125	95,0	95,0	30	71	2	13	14	CLS-502	71	24	CAT-100
178	278	125	95,0	95,0	30	71	2	13	18	CLS-504	71	24	CAT-100
228	378	125	95,0	95,0	30	71	2	13	23	CLS-506	71	24	CAT-100
278	478	125	95,0	95,0	30	71	2	13	28	CLS-508	71	24	CAT-100
327	578	125	95,0	95,0	30	71	2	13	33	CLS-5010	71	24	CAT-100
378	678	125	95,0	95,0	30	71	2	13	38	CLS-5012	71	24	CAT-100
143	193	165	130,0	130,0	30	71	2	13	24	CLS-1002	71	24	CAT-100
193	293	165	130,0	130,0	30	71	2	13	32	CLS-1004	71	24	CAT-100
243	393	165	130,0	130,0	30	71	2	13	40	CLS-1006	71	24	CAT-100
293	493	165	130,0	130,0	30	71	2	13	49	CLS-1008	71	24	CAT-100
343	593	165	130,0	130,0	30	71	2	13	58	CLS-10010	71	24	CAT-100
392	693	165	130,0	130,0	30	71	2	13	66	CLS-10012	71	24	CAT-100
165	215	205	159,0	159,0	39	130	2	25	43	CLS-1502	130	20	CAT-200
215	315	205	159,0	159,0	39	130	2	25	55	CLS-1504	130	20	CAT-200
265	415	205	159,0	159,0	39	130	2	25	69	CLS-1506	130	20	CAT-200
315	515	205	159,0	159,0	39	130	2	25	82	CLS-1508	130	20	CAT-200
365	615	205	159,0	159,0	39	130	2	25	95	CLS-15010	130	20	CAT-200
414	715	205	159,0	159,0	39	130	2	25	108	CLS-15012	130	20	CAT-200
193	243	235	183,9	183,9	50	130	2	25	66	CLS-2002	130	20	CAT-200
293	443	235	183,9	183,9	50	130	2	25	101	CLS-2006	130	20	CAT-200
443	743	235	183,9	183,9	50	130	2	25	154	CLS-20012	130	20	CAT-200
193	243	275	215,9	215,9	50	150	2	25	90	CLS-2502	150	21	CAT-250
293	443	275	215,9	215,9	50	150	2	25	137	CLS-2506	150	21	CAT-250
443	743	275	215,9	215,9	50	150	2	25	208	CLS-25012	150	21	CAT-250
235	285	310	241,0	241,0	59	139	5	25	137	CLS-3002	195	75	CAT-300
335	485	310	241,0	241,0	59	139	5	25	198	CLS-3006	195	75	CAT-300
485	785	310	241,0	241,0	59	139	5	25	288	CLS-30012	195	75	CAT-300
265	315	350	267,0	267,0	70	159	5	25	200	CLS-4002	225	85	CAT-400
365	515	350	267,0	267,0	70	159	5	25	275	CLS-4006	225	85	CAT-400
515	815	350	267,0	267,0	70	159	5	25	390	CLS-40012	225	85	CAT-400
295	345	400	305,1	305,1	80	179	5	25	289	CLS-5002	250	91	CAT-500
395	545	400	305,1	305,1	80	179	5	25	390	CLS-5006	250	91	CAT-500
545	845	400	305,1	305,1	80	179	5	25	540	CLS-50012	250	91	CAT-500
310	360	430	329,9	329,9	85	194	5	25	350	CLS-6002	275	96	CAT-600
410	560	430	329,9	329,9	85	194	5	25	465	CLS-6006	275	96	CAT-600
560	860	430	329,9	329,9	85	194	5	25	640	CLS-60012	275	96	CAT-600
355	405	505	387,1	387,1	100	224	5	25	549	CLS-8002	320	123	CAT-800
455	605	505	387,1	387,1	100	224	5	25	709	CLS-8006	320	123	CAT-800
605	905	505	387,1	387,1	100	224	5	25	950	CLS-80012	320	123	CAT-800
385	435	560	432,1	432,1	110	249	5	25	729	CLS-10002	360	136	CAT-1000
485	635	560	432,1	432,1	110	249	5	25	921	CLS-10006	360	136	CAT-1000
635	935	560	432,1	432,1	110	249	5	25	1210	CLS-100012	360	136	CAT-1000

CLRG-Series, High Tonnage Cylinders

ENERPAC
Hydraulic Technology Worldwide

▼ Shown from left to right: CLRG-506, CLRG-5006, CLRG-4006



- Double-acting, for push and pull
- Safety valve in retract side of cylinder helps to prevent damage in case of accidental over-pressurization
- Special bearing design withstands sideload forces up to 10% of rated cylinder capacity without scoring
- Plunger wiper reduces contamination, extending cylinder life
- CR-400 coupler and dust cap included on all models
- Baked enamel finish and plated pistons provide superior corrosion resistance

▼ CLRG-cylinders supported and positioned these automobile deck elements.



Double-Acting Power Lifters



Saddles

All CLRG cylinders are equipped with bolt-on removable grooved saddles. For information on optional tilt saddles, see selection chart.

Page: 49



Safety Device

A pilot-operated check valve (V-42) can be inserted between cylinder and pump. This valve provides a safety lock on the cylinder under load at any position and remote control for unlocking.

Page: 138



Low Height - High Tonnage

When low height with high force is required, Pancake Cylinders with locknut offer the solution to lift the first

few centimetres.

Page: 22



Standard Features

- Interchangeable, hardened grooved saddles
- Top and side mounted lifting eyes
- CR-400 coupler and dustcap
- All cylinders meet ASME B-30.1 and ISO 10100 standards.

▼ Replacing adjustment rolls under a fly-over with CLRG cylinders, for controlled lifting and lowering.



Double-Acting, High Tonnage Cylinders



RR-series

For loads below 50 ton Enerpac RR-series cylinders are a good alternative.

Page: **34**

▼ QUICK SELECTION CHART

For complete technical information see next page.

Cylinder Capacity ton (kN)	Stroke (mm)	Model Number	Cylinder Effective Area (cm ²)		Oil Capacity (cm ³)		Collapsed Height (mm)
			Push	Pull	Push	Pull	
50 (539)	50	CLRG-502	77,0	38,5	385	192	162
	100	CLRG-504	77,0	38,5	770	385	212
	150	CLRG-506	77,0	38,5	1155	577	262
	200	CLRG-508	77,0	38,5	1540	770	312
	250	CLRG-5010	77,0	38,5	1924	962	362
	300	CLRG-5012	77,0	38,5	2309	1155	412
100 (929)	50	CLRG-1002	132,7	61,9	664	309	179
	100	CLRG-1004	132,7	61,9	1327	619	229
	150	CLRG-1006	132,7	61,9	1991	928	279
	200	CLRG-1008	132,7	61,9	2655	1237	329
	250	CLRG-10010	132,7	61,9	3318	1546	379
	300	CLRG-10012	132,7	61,9	3982	1856	429
150 (1390)	50	CLRG-1502	198,6	96,5	993	482	196
	100	CLRG-1504	198,6	96,5	1986	965	246
	150	CLRG-1506	198,6	96,5	2978	1447	296
	200	CLRG-1508	198,6	96,5	3971	1930	346
	250	CLRG-15010	198,6	96,5	4964	2412	396
	300	CLRG-15012	198,6	96,5	5957	2895	446
200 (1861)	50	CLRG-2002	265,9	127,0	1330	635	212
	150	CLRG-2006	265,9	127,0	3989	1905	312
	300	CLRG-20012	265,9	127,0	7977	3809	462
250 (2565)	50	CLRG-2502	366,4	152,6	1832	763	235
	150	CLRG-2506	366,4	152,6	5497	2289	335
	300	CLRG-25012	366,4	152,6	10993	4578	485
300 (3193)	50	CLRG-3002	456,2	151,4	2281	757	322
	150	CLRG-3006	456,2	151,4	6843	2270	422
	300	CLRG-30012	456,2	151,4	13685	4541	572
400 (3919)	50	CLRG-4002	559,9	193,5	2800	967	374
	150	CLRG-4006	559,9	193,5	8399	2902	474
	300	CLRG-40012	559,9	193,5	16797	5804	624
500 (5114)	50	CLRG-5002	730,6	247,6	3653	1238	419
	150	CLRG-5006	730,6	247,6	10959	3713	519
	300	CLRG-50012	730,6	247,6	21918	7427	669
600 (5987)	50	CLRG-6002	855,3	295,4	4276	1477	429
	150	CLRG-6006	855,3	295,4	12829	4431	529
	300	CLRG-60012	855,3	295,4	25659	8862	679
800 (8234)	50	CLRG-8002	1176,3	387,0	5881	1935	484
	150	CLRG-8006	1176,3	387,0	17644	5806	584
	300	CLRG-80012	1176,3	387,0	35288	11611	734
1000 (10260)	50	CLRG-10002	1465,7	541,7	7329	2709	564
	150	CLRG-10006	1465,7	541,7	21986	8126	664
	300	CLRG-100012	1465,7	541,7	43972	16252	814

CLRG Series



Capacity:

50-1000 ton

Stroke:

50 - 300 mm

Maximum Operating Pressure:

700 bar



Pump Selection

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

Page: **67**



Higher Capacities

1500 and 2000 ton models are available on request.

Additional Stroke Lengths

Models above 150 ton are also available with standard stroke lengths of 100, 200 and 250 mm. Please contact Enerpac for ordering information.



Optional features

To add optional features to your cylinders, add the following suffixes to the end of the model number.

Collar thread *	E002
Plunger thread	E003
Collar * and plunger thread	E005

* On 400 ton and higher

Example:

- For CLRG-5006 cylinder with collar thread, order: **CLRG-5006E002**

Technical specifications for these features are available from Enerpac.

CLRG-Series, High Tonnage Cylinders

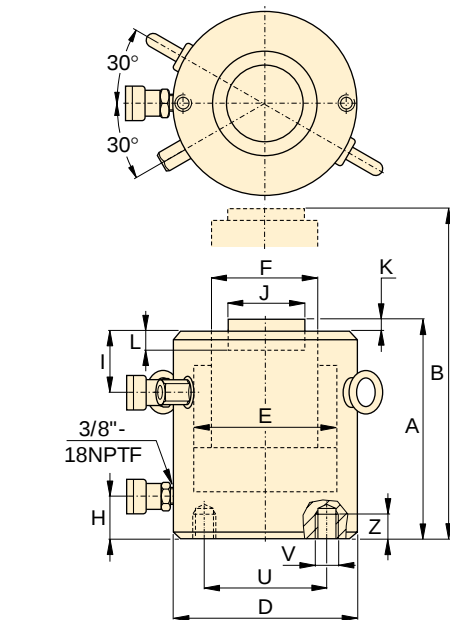
ENERPAC
Hydraulic Technology Worldwide


Speed Chart

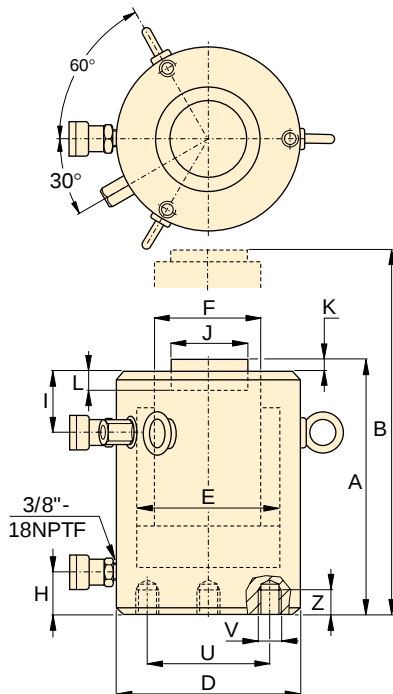
See the Enerpac Cylinder Speed Chart in our 'Yellow Pages' section.

Page: **117**

◀ For full features see previous page.



CLRG-502 - CLRG-15012



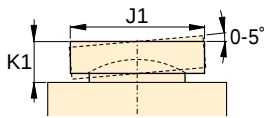
CLRG-2002 - CLRG-100012

Base Mounting Hole ¹⁾ Dimensions (mm)			
Model / Capacity ton	Bolt Circle U	Thread Size V	Min. Thread Depth Z
CLRG-50	65	2x M12	22
CLRG-100	95	2x M12	22
CLRG-150	130	2x M12	22
CLRG-200	165	3x M12	22
CLRG-250	190	3x M12	22
CLRG-300	180	3x M16	30
CLRG-400	205	3x M16	30
CLRG-500	250	3x M24	36
CLRG-600	275	3x M24	36
CLRG-800	330	3x M24	36
CLRG-1000	375	3x M24	36

¹⁾ Base mounting holes are random positioned in regard to coupler position.

Cylinder Capacity (ton)	Stroke (mm)	Model Number	Maximum Cylinder Capacity (kN)		Cylinder Effective Area (cm ²)		Oil Capacity (cm ³)	
			Push	Pull	Push	Pull	Push	Pull
50	50	CLRG-502	539	269	77,0	38,5	385	192
	100	CLRG-504	539	269	77,0	38,5	770	385
	150	CLRG-506	539	269	77,0	38,5	1155	577
	200	CLRG-508	539	269	77,0	38,5	1540	770
	250	CLRG-5010	539	269	77,0	38,5	1924	962
	300	CLRG-5012	539	269	77,0	38,5	2309	1155
100	50	CLRG-1002	929	433	132,7	61,9	664	309
	100	CLRG-1004	929	433	132,7	61,9	1327	619
	150	CLRG-1006	929	433	132,7	61,9	1991	928
	200	CLRG-1008	929	433	132,7	61,9	2655	1237
	250	CLRG-10010	929	433	132,7	61,9	3318	1546
	300	CLRG-10012	929	433	132,7	61,9	3982	1856
150	50	CLRG-1502	1390	675	198,6	96,5	993	482
	100	CLRG-1504	1390	675	198,6	96,5	1986	965
	150	CLRG-1506	1390	675	198,6	96,5	2978	1447
	200	CLRG-1508	1390	675	198,6	96,5	3971	1930
	250	CLRG-15010	1390	675	198,6	96,5	4964	2412
	300	CLRG-15012	1390	675	198,6	96,5	5957	2895
200	50	CLRG-2002	1861	889	265,9	127,0	1330	635
	150	CLRG-2006	1861	889	265,9	127,0	3989	1905
	300	CLRG-20012	1861	889	265,9	127,0	7977	3809
250	50	CLRG-2502	2565	1068	366,4	152,6	1832	763
	150	CLRG-2506	2565	1068	366,4	152,6	5497	2289
	300	CLRG-25012	2565	1068	366,4	152,6	10993	4578
300	50	CLRG-3002	3193	1060	456,2	151,4	2281	757
	150	CLRG-3006	3193	1060	456,2	151,4	6843	2270
	300	CLRG-30012	3193	1060	456,2	151,4	13685	4541
400	50	CLRG-4002	3919	1354	559,9	193,5	2800	967
	150	CLRG-4006	3919	1354	559,9	193,5	8399	2902
	300	CLRG-40012	3919	1354	559,9	193,5	16797	5804
500	50	CLRG-5002	5114	1733	730,6	247,6	3653	1238
	150	CLRG-5006	5114	1733	730,6	247,6	10959	3713
	300	CLRG-50012	5114	1733	730,6	247,6	21918	7427
600	50	CLRG-6002	5987	2068	855,3	295,4	4276	1477
	150	CLRG-6006	5987	2068	855,3	295,4	12829	4431
	300	CLRG-60012	5987	2068	855,3	295,4	25659	8862
800	50	CLRG-8002	8234	2709	1176,3	387,0	5881	1935
	150	CLRG-8006	8234	2709	1176,3	387,0	17644	5806
	300	CLRG-80012	8234	2709	1176,3	387,0	35288	11611
1000	50	CLRG-10002	10260	3792	1465,7	541,7	7329	2709
	150	CLRG-10006	10260	3792	1465,7	541,7	21986	8126
	300	CLRG-100012	10260	3792	1465,7	541,7	43972	16252

Double-Acting, High Tonnage Cylinders



* Optional Tilt Saddle

Capacity:
50-1000 ton

Stroke:
50-300 mm

Maximum Operating Pressure:
700 bar

CLRG
Series



Collaps. Height	Extend. Height	Outside Dia.	Cyl. Bore Dia. E	Plunger Dia. F	Base to Advance Port H	Top to Retract Port I	Standard Saddle Dia. J	Saddle Protr. from Plgr. K	Depth of Plunger Hole L	(kg)	Model Number	Optional Tilt Saddle *		
												Saddle Dia. J1 (mm)	Saddle Height K1 (mm)	Saddle Model Number
162	212	130	99	70	52	33	50	1	19	17	CLRG-502	50	24	CATG-50
212	312	130	99	70	52	33	50	1	19	20	CLRG-504	50	24	CATG-50
262	412	130	99	70	52	33	50	1	19	23	CLRG-506	50	24	CATG-50
312	512	130	99	70	52	33	50	1	19	27	CLRG-508	50	24	CATG-50
362	612	130	99	70	52	33	50	1	19	31	CLRG-5010	50	24	CATG-50
412	712	130	99	70	52	33	50	1	19	34	CLRG-5012	50	24	CATG-50
179	229	165	130	95	54	48	75	1	19	29	CLRG-1002	73	29	CATG-100
229	329	165	130	95	54	48	75	1	19	34	CLRG-1004	73	29	CATG-100
279	429	165	130	95	54	48	75	1	19	40	CLRG-1006	73	29	CATG-100
329	529	165	130	95	54	48	75	1	19	46	CLRG-1008	73	29	CATG-100
379	629	165	130	95	54	48	75	1	19	52	CLRG-10010	73	29	CATG-100
429	729	165	130	95	54	48	75	1	19	58	CLRG-10012	73	29	CATG-100
196	246	205	159	114	61	56	94	1	19	39	CLRG-1502	91	31	CATG-150
246	346	205	159	114	61	56	94	1	19	52	CLRG-1504	91	31	CATG-150
296	446	205	159	114	61	56	94	1	19	65	CLRG-1506	91	31	CATG-150
346	546	205	159	114	61	56	94	1	19	78	CLRG-1508	91	31	CATG-150
396	646	205	159	114	61	56	94	1	19	92	CLRG-15010	91	31	CATG-150
446	746	205	159	114	61	56	94	1	19	105	CLRG-15012	91	31	CATG-150
212	262	235	184	133	67	66	113	1	24	55	CLRG-2002	118	35	CATG-200
312	462	235	184	133	67	66	113	1	24	91	CLRG-2006	118	35	CATG-200
462	762	235	184	133	67	66	113	1	24	146	CLRG-20012	118	35	CATG-200
235	285	275	216	165	73	78	145	1	24	89	CLRG-2502	144	46	CATG-250
335	485	275	216	165	73	78	145	1	24	136	CLRG-2506	144	46	CATG-250
485	785	275	216	165	73	78	145	1	24	207	CLRG-25012	144	46	CATG-250
322	372	310	241	197	101	75	177	1	19	184	CLRG-3002	160	62	CATG-300
422	572	310	241	197	101	75	177	1	19	232	CLRG-3006	160	62	CATG-300
572	872	310	241	197	101	75	177	1	19	303	CLRG-30012	160	62	CATG-300
374	424	350	267	216	114	105	196	3	27	270	CLRG-4002	193	51	CATG-400
474	624	350	267	216	114	105	196	3	27	330	CLRG-4006	193	51	CATG-400
624	924	350	267	216	114	105	196	3	27	421	CLRG-40012	193	51	CATG-400
419	469	400	305	248	114	135	228	3	27	401	CLRG-5002	228	63	CATG-500
519	669	400	305	248	114	135	228	3	27	480	CLRG-5006	228	63	CATG-500
669	969	400	305	248	114	135	228	3	27	599	CLRG-50012	228	63	CATG-500
429	479	430	330	267	114	135	247	3	27	474	CLRG-6002	241	76	CATG-600
529	679	430	330	267	114	135	247	3	27	565	CLRG-6006	241	76	CATG-600
679	979	430	330	267	114	135	247	3	27	701	CLRG-60012	241	76	CATG-600
484	534	505	387	317	149	135	297	3	27	741	CLRG-8002	287	75	CATG-800
584	734	505	387	317	149	135	297	3	27	868	CLRG-8006	287	75	CATG-800
734	1034	505	387	317	149	135	297	3	27	1058	CLRG-80012	287	75	CATG-800
564	614	560	432	343	174	170	323	3	27	1062	CLRG-10002	311	93	CATG-1000
664	814	560	432	343	174	170	323	3	27	1213	CLRG-10006	311	93	CATG-1000
814	1114	560	432	343	174	170	323	3	27	1439	CLRG-100012	311	93	CATG-1000