

## THE SIMPLEX HIGH TONNAGE CYLINDER

### ■ Wide Variety

Simplex offers an extensive selection of high tonnage cylinders with capacities up to 1,000 tons. Single-acting, double-acting, and locking collar design with standard or **custom strokes** and capacities available.

### ■ Thick, Protective Bronze Inlays on All Internal Bearing Surfaces

All Simplex high tonnage cylinders incorporate thick, protective bronze inlaid bearings that are an integral part of a one piece piston. This design greatly reduces the effect of sideloading and promotes **long life**.

### ■ Unique Design

Simplex high tonnage cylinders use a one piece piston design that is machined to precise tolerances and is plated to resist corrosion. Cylinder housings are made of high strength alloy steel that is machined and heat treated for additional strength.

### ■ Positive Stop for Greater Safety

Most high tonnage cylinders rely on overflow ports or visual aids for piston blowout protection. At Simplex all high tonnage cylinders are built with a strong, steel positive stop, which provides complete piston blowout protection.

### ■ Built for Rugged Industrial and Construction Use

All Simplex high tonnage cylinders exceed **ANSI/ASME B30.1 Safety Standards**. Heavy duty construction provides trouble free operation and long life.

### ■ Protection from Contamination

Within the stop ring a polyurethane wiper cleans the rod surface during retraction, protecting the inner cylinder assembly from dirt, moisture, and other contaminants. (Not available on lock nut cylinders.)

### ■ RLR Series 30 to 1,000 Tons Pages 24 - 25



### ■ RLN Series 30 to 1,000 Tons Pages 26 - 27



### ■ RDA Series 10 to 1,000 Tons Pages 28 - 29



# CYLINDERS



## LOAD RETURN - 30-1000 TON

Simplex Cylinders Provided The Power & Reliability To Rearrange Our Shop Floor In One Day.



The problem was to reposition machine centers without disrupting production. "Using Simplex RLR Series cylinders and a PE70 series **Suc-O-Matic** pump, we rearranged our shop floor in one day." The low closed height and longer strokes eliminated extra jacking & blocking procedures, and the Simplex Suc-O-Matic retracted load return cylinders effortlessly.

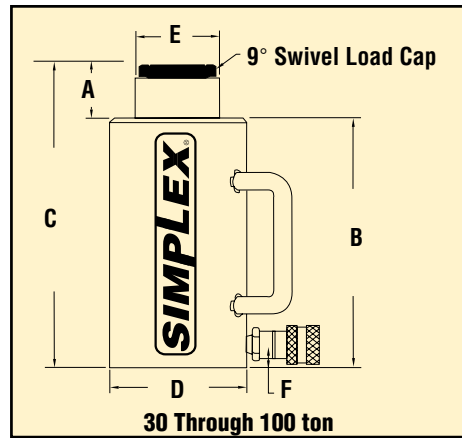
- 31 Models
- Rated for full duty.
- High flow quality couplers.
- Low closed heights.
- Plated pistons to resist scoring & corrosion.
- Stop rings for piston blow-out protection.
- Large bearings resist side load.
- Available in custom strokes & capacities.
- Rod wiper protects inner cylinder from dirt.
- Domed pistons on 150 to 1,000 ton capacities help resist side load.
- 9° Swivel on 30 to 100 ton capacity load caps for side load protection.
- Exceeds ANSI/ASME B30.1 safety standards.
- Optional swivel load caps are available for 150 through 1,000 ton models.
- Removable swivel lifting eyes on 100 through 1,000 ton models.

		
Power Pumps pgs. 39-62	Hoses pgs. 70-71	Couplers pg. 68 Manifolds & Fittings pg. 69

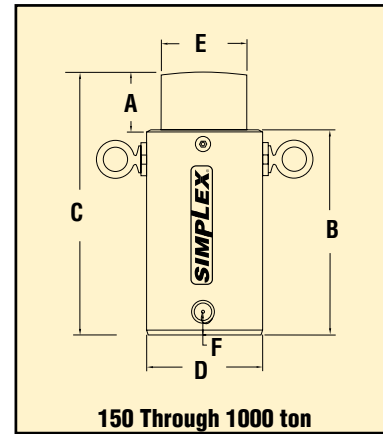


When railcar bulk heads need straightening, a 150 ton Simplex cylinder used with a SUC-O-MATIC™ power pump can save the day. Simplex load return cylinders completely retract in any position when used with the Simplex SUC-O-MATIC™ power pumps.





Note: 100 ton models have removable lifting eye bolts in lieu of carrying handles.



Note: Eye bolts are removable.

## Load Return Jacking Cylinders 30 Through 1000 Ton Capacities

Model Number	Cap. (tons)	A Stroke (in)	B Min. Ht. (in)	C Ext. Ht. (in)	Ram Bore Dia. (in)	Effect Area (sq in)	Pres. @ Cap. (psi)	Oil Cap. Req'd (cu in)	D Body O.D. (in)	E Piston O.D. (in)	F Base To Port C/L (in)	Weight (lbs)	Suggested Power Pump
RLR306	30	6	9 3/8	15 3/8	2 7/8	6.49	9,240	38.9	4	2	3/4	32.0	Simplex Suc-O-Matic™ equipped Power Pumps are highly recommended to power load return cylinders. Unlike any other power unit, Simplex Suc-O-Matic™ equipped Pumps will fully retract load return cylinders automatically.
RLR502	50	2	5 7/16	7 7/16	3 3/4	11.05	9,054	22.1	5 1/2	3	25/32	30.0	
RLR506		6	9 7/16	15 7/16				66.3				55.0	
RLR5010		10	13 7/16	23 7/16				133.0				92.0	
RLR1002	100	2	6 9/16	8 9/16	5	19.63	10,200	40.0	6 3/8	3 3/8	1 1/4	60.0	
RLR1006		6	10 9/16	16 9/16				118.0				115.0	
RLR10010		10	14 9/16	24 9/16				196.0				184.0	
RLR1502	150	2	7	9	6 1/4	30.68	9,778	66.4	9	5 9/16	1 15/16	117.0	
RLR1506		6	11	17				199.0				189.0	
RLR15012		12	17	29				398.0				297.0	
RLR2002	200	2	8	10	7 1/4	41.28	9,054	88.4	10	6 9/16	2 1/16	184.0	
RLR2006		6	12	18				265.0				282.0	
RLR20012		12	18	30				530.0				429.0	
RLR3002	300	2	11 3/4	13 3/4	8 3/4	60.13	9,978	120.0	12	7 13/16	2 7/16	277.0	
RLR3006		6	13 3/4	19 3/4				361.0				405.0	
RLR30012		12	19 3/4	31 3/4				722.0				597.0	
RLR4002	400	2	11 13/16	11 13/16	10 1/2	86.59	9,238	174.0	14	6 9/16	2 1/16	455.0	
RLR4006		6	15 13/16	21 13/16				520.0				612.0	
RLR40012		12	21 13/16	33 13/16				1040.0				842.0	
RLR5002	500	2	12 5/8	14 5/8	11 1/2	103.87	9,628	208.0	16	10 5/16	3 3/16	627.0	
RLR5006		6	16 5/8	22 5/8				623.0				855.0	
RLR50012		12	22 5/8	34 5/8				1246.0				1197.0	
RLR6002	600	2	13 1/2	15 1/2	12 1/2	122.71	9,778	246.0	17 1/2	6 9/16	2 1/16	655.0	
RLR6006		6	17 1/2	23 1/2				738.0				902.0	
RLR60012		12	23 1/2	35 1/2				1476.0				1273.0	
RLR8002	800	2	14 7/16	16 7/16	14 1/2	165.13	9,690	330.0	18	5 9/16	1 15/16	997.0	
RLR8006		6	18 7/16	24 7/16				991.0				1256.0	
RLR80012		12	24 7/16	36 7/16				1982.0				1644.0	
RLR10002	1000	2	16 1/8	18 1/8	16	201.06	9,950	402.0	21	6 9/16	2 1/16	1523.0	
RLR10006		6	20 1/8	26 1/8				1206.0				1883.0	
RLR100012		12	26 1/8	38 1/8				2412.0				2423.0	

Simplex Suc-O-Matic™ equipped Power Pumps are highly recommended to power load return cylinders. Unlike any other power unit, Simplex Suc-O-Matic™ equipped Pumps will fully retract load return cylinders automatically.

For more information on the Suc-O-Matic™ feature see pages 39-60.

CUSTOM STROKES AND CAPACITIES UP TO 1,500 TONS AVAILABLE, CONTACT FACTORY



# CYLINDERS

# LOCK NUT - 30-1000 TON

Simplex Lock Nut Cylinders Are Used In a Variety of Different Projects.

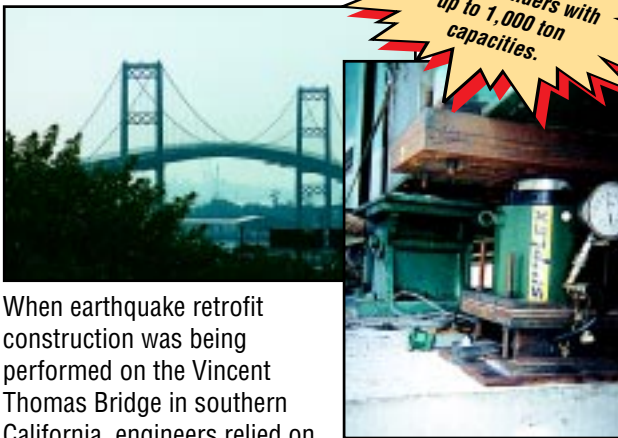


RLN Series lock nut cylinders cut installation time on this power generator by 25%. "The locknut held the load without the extra chore of cribbing." The job was completed even quicker with the use of Simplex SUC-O-MATIC™ power pumps.

- 32 Models
- Stop ring for piston blow-out protection.
- 9° Swivel load caps in 30 through 100 tons to resist side load.
- Optional swivel load caps are available for 150 through 1,000 ton models.
- Domed pistons in 150 through 1,000 tons to resist side load.
- Lock nuts for extended load holding.
- Plated pistons to resist scoring & corrosion.
- Grease fitting for added weather protection.
- High flow quality couplers.
- Available in custom strokes & capacities.
- Exceeds ANSI/ASME B30.1 safety standards.
- Removable swivel lifting eyes on 100 through 1,000 ton models.

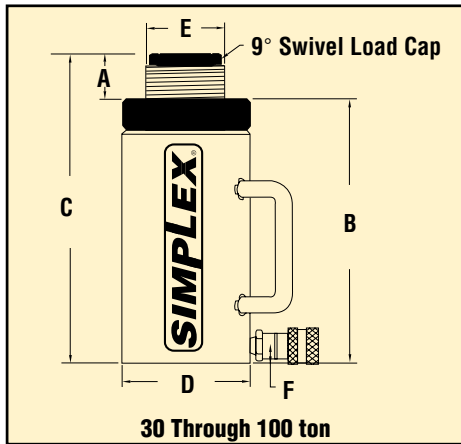
		
Power Pumps pgs. 39-62	Hoses pgs. 70-71	Couplers pg. 68 Manifolds & Fittings pg. 69

*Simplex supplies custom cylinders with up to 1,000 ton capacities.*

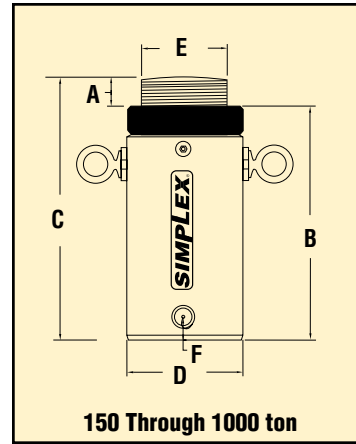


When earthquake retrofit construction was being performed on the Vincent Thomas Bridge in southern California, engineers relied on Simplex lock nut cylinders. "With bronze inlaid bearings, nickel plating and ANSI/ASME B30.1 design, Simplex cylinders were the only choice."





Note: 100 ton models have removable lifting eye bolts in lieu of carrying handles.



Note: Eye bolts are removable.

## Load Return Lock Nut Cylinders 30 Through 1000 Ton Capacities

Model Number	Cap. (tons)	A Stroke (in)	B Min. Ht. (in)	C Ext. Ht. (in)	Ram Bore Dia. (in)	Effect Area (sq in)	Pres. @ Cap. (psi)	Oil Cap. Req'd (cu in)	D Body O.D. (in)	E Piston O.D. (in)	F Base To Port C/L (in)	Weight (lbs)	Suggested Power Pump
<b>RLN302</b>	30	2	6 3/8	8 3/8	2 7/8	6.49	9,240	13.0	4	2 7/16	3/4	21.0	<b>Simplex Suc-O-Matic™ equipped Power Pumps are highly recommended to power load return cylinders. Unlike any other power unit, Simplex Suc-O-Matic™ equipped Pumps will fully retract load return cylinders automatically.</b>  <b>For more information on the Suc-O-Matic™ feature see pages 39-60.</b>
<b>RLN306</b>		6	10 3/8	16 3/8				38.9				35.0	
<b>RLN502</b>	50	2	6 3/4	8 3/4	3 3/4	11.05	9,054	22.1	5 1/4	3 3/16	25/32	38.0	
<b>RLN506</b>		6	10 3/4	16 3/4				66.2				63.0	
<b>RLN5010</b>		10	14 3/4	24 3/4				133.0				100.0	
<b>RLN1002</b>	100	2	8	10	5	19.63	10,200	40.0	6 3/8	4 5/16	1 1/4	87.0	
<b>RLN1006</b>		6	12	18				118.0				132.0	
<b>RLN10010</b>		10	16	26				196.0				202.0	
<b>RLN1502</b>	150	2	8	10	6 1/4	30.68	9,780	66.4	9	5 9/16	1 15/16	149.0	
<b>RLN1506</b>		6	12	18				199.0				221.0	
<b>RLN15012</b>		12	18	30				398.0				311.0	
<b>RLN2002</b>	200	2	9 1/2	18 1/2	7 1/4	41.28	9,054	88.4	10	6 9/16	2 1/16	233.0	
<b>RLN2006</b>		6	13 1/2	19 1/2				265.0				332.0	
<b>RLN20012</b>		12	19 1/2	31 1/2				530.0				479.0	
<b>RLN3002</b>	300	2	11 1/2	13 1/2	8 3/4	60.13	9,978	120.0	12	7 13/16	2 7/16	357.0	
<b>RLN3006</b>		6	15 1/2	21 1/2				361.0				485.0	
<b>RLN30012</b>		12	21 1/2	33 1/2				722.0				677.0	
<b>RLN4002</b>	400	2	13 13/16	15 13/16	10 1/2	86.59	9,238	174.0	14	9 5/16	3	520.0	
<b>RLN4006</b>		6	17 13/16	23 13/16				520.0				675.0	
<b>RLN40012</b>		12	23 13/16	25 13/16				1040.0				905.0	
<b>RLN5002</b>	500	2	14 3/4	16 3/4	11 1/2	103.87	9,628	208.0	16	10 5/16	3 3/16	927.0	
<b>RLN5006</b>		6	18 3/4	24 3/4				623.0				1041.0	
<b>RLN50012</b>		12	24 3/4	36 3/4				1246.0				1383.0	
<b>RLN6002</b>	600	2	15 5/8	17 5/8	12 1/2	122.79	9,778	246.0	17 1/2	11 5/16	3 1/2	985.0	
<b>RLN6006</b>		6	19 5/8	25 5/8				738.0				1232.0	
<b>RLN60012</b>		12	27 5/8	39 5/8				1476.0				1603.0	
<b>RLN8002</b>	800	2	16 15/16	18 15/16	14 1/2	165.13	9,690	330.0	18	13 5/16	4 1/8	1148.0	
<b>RLN8006</b>		6	21 15/16	27 15/16				991.0				1407.0	
<b>RLN80012</b>		12	27 15/16	39 15/16				1982.0				1795.0	
<b>RLN10002</b>	1000	2	19 5/8	21 5/8	16	201.06	9,950	402.0	21	14 13/16	4 1/4	1818.0	
<b>RLN10006</b>		6	23 5/8	29 5/8				1206.0				2178.0	
<b>RLN100012</b>		12	29 5/8	41 5/8				2412.0				2718.0	



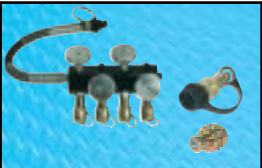
CUSTOM STROKES AND CAPACITIES UP TO 1,500 TONS AVAILABLE, CONTACT FACTORY

*Simplex Double-Acting Cylinders Increase Productivity.*



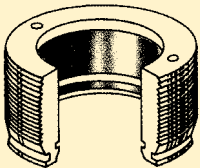
A heavy steel fabricator uses Simplex RDA10012 double acting cylinders to form large sections of I-beam. "The Simplex cylinders and pumps allow us to bend the beams to precise radiuses."

- 31 Models
- Available in custom strokes & sizes.
- Relief valves protect against over pressurizing.
- Standard collar threads on models up to 200 tons.
- Optional custom base & collar threads available on models 300 tons and up.
- Ideal for heavy duty applications.
- Provides force in advance & return cycles.
- High flow quality couplers.
- Plated pistons to resist scoring & corrosion.
- Stop ring for piston blow-out protection.
- Large bearings resist side load.
- Rod wiper protects inner cylinder from dirt.
- Carrying handles included on models RDA556 through RDA15012.

		
Power Pumps pgs. 39-62	Hoses pgs. 70-71	Couplers pg. 68 Manifolds & Fittings pg. 69

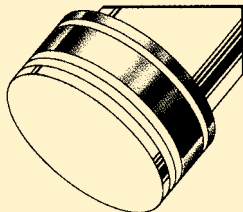
### 300 THROUGH 1,000 TON MODELS

#### RETAINING NUT



Thick bronze inlay on the inner diameter of the retaining nut protects the piston rod from scoring and minimizes the effect of damaging side loads.

#### PISTON FLANGE



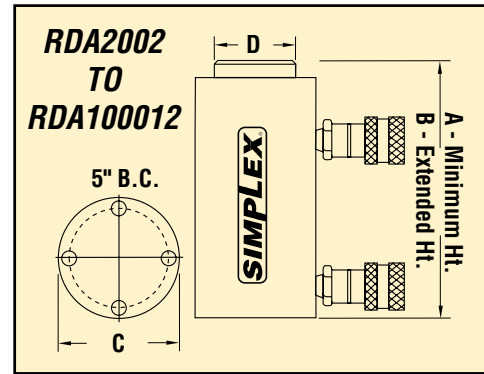
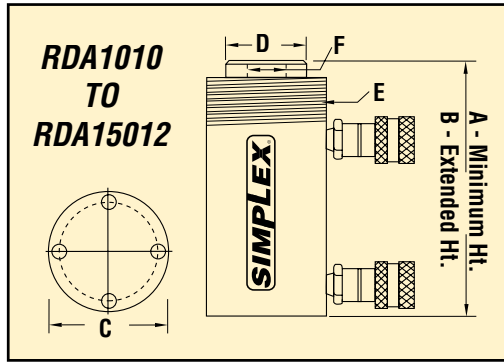
Thick bronze inlay on the piston flange virtually eliminates scoring of cylinder bore while offering the best protection against accidental side loading.





# DOUBLE-ACTING - 10-1000 TON

# CYLINDERS



Base Mounting Dimensions

Capacity	Thread		Bolt Circle Dia. (in)
	Size (in)	Depth (in)	
55 Ton	5/8-11	3/4	3 3/4
100 Ton	5/8-11	1	4 1/4
150 Ton	1-8	1 3/8	5

RDA200 Base & Collar Dimensions

Model Number	Collar Thrds. Size (in)	Collar Thrd. Lgth. (in)	Base Mounting Hole Size (in)	Base Mounting Hole Depth (in)	Bolt Circle Diameter (in)
RDA200	9 3/4 - 12	1 7/8	1 - 8	1 1/8	5

Double-Acting Cylinders 10 Through 1000 Ton Capacities

Model Number	Push Cap. (tons)	Pull Cap. (tons)	Stroke (in)	A Min. Ht. (in)	B Ext. Ht. (in)	Pull Effect Area (sq in)	Push Effect Area (sq in)	Pres. @ Cap. (psi)	Oil Cap. Req'd (cu in)	C Body O.D. (in)	D Piston O.D. (in)	Ram Bore Dia. (in)	F		E		Wgt. (lbs)
													Piston I.D. Thrds. (in)	Piston Thrd. Lgth. (in)	Collar Thrds. (in)	Collar Thrd. Lgth. (in)	
RDA1010	10	4	10	16 1/8	26 1/8	0.80	2.23	8,960	22.33	2 7/8	1 3/8	---	1 - 8	1	21/4-14	1 1/16	28
RDA308	30	5	8 1/8	15 3/4	23 3/4	3.00	6.51	9,250	33.83	4	2 1/8	---	1 1/2 - 16	1	35/16-12	1 15/16	40
RDA3014			14 1/2	21 5/8	36 1/8				92.70								64
RDA556	55	17	6 1/8	13 1/8	19 1/4	3.40	11.05	9,955	46	5	3 1/8	---	1 - 12	1 1/2	5 - 12	1 3/4	68
RDA5512			12	19 1/8	31 1/8				92								114
RDA5524			24	31 5/8	55 5/8				184								201
RDA1006	100	45	6 1/16	13 7/8	19 15/16	9.08	21.65	9,239	77	7	4	---	3 1/4 - 12	2 1/2	7 - 12	2 1/2	140
RDA10012			12	19 7/8	31 7/8				151								187
RDA1506	150	67	6 1/16	15 7/16	21 1/2	13.55	33.18	9,041	120	8 1/2	5	---	3 1/2 - 12	2 3/4	8 1/2-12	2 3/16	218
RDA15012			12	21 1/2	33 1/2				236								295
RDA2002	200	72	2	11 7/16	13 7/16	15.91	44.18	9,054	66	10	6	7 1/2	---	---	See Chart Above	See Chart Above	232
RDA2006			6	15 7/16	21 7/16				170								315
RDA20013			13	22 7/16	35 7/16				368								440
RDA3002	335	30	2	13 1/4	15 1/4	20.62	70.9	10,000	101	12	8	9 1/2	---	---	---	---	277
RDA3006			6	17 1/4	23 1/4				302								441
RDA30012			12	23 1/4	35 1/4				605								688
RDA4002	565	74	2	12 3/8	14 3/8	49.48	113	10,000	127	14 1/2	9	12	---	---	---	---	530
RDA4006			6	16 5/8	22 5/8				382								670
RDA40012			12	22 7/8	34 7/8				762								880
RDA5002	664	85	2	16 1/2	18 1/2	54.19	132	10,000	156	16	10	13	---	---	---	---	722
RDA5006			6	20 1/2	26 1/2				471								953
RDA50012			12	26 1/2	38 1/2				942								1300
RDA6002	600	110	2	15	17	44.17	122.71	10,000	158	17	10	12 1/2	---	---	---	---	917
RDA6006			6	19	25				472								1188
RDA60012			12	25	37				944								1595
RDA8002	800	130	2	16	18	52.03	165.13	9,690	226	18 1/2	12	14 1/2	---	---	---	---	1166
RDA8006			6	20	26				680								1440
RDA80012			12	26	38				1,360								1776
RDA10002	1000	75	2	16	18	50.27	227	8,810	354	21	15	17	---	---	---	---	1558
RDA10006			6	20	26				1,071								2058
RDA100012			12	27	39				2,142								2808

CUSTOM STROKES, BASE & COLLAR MOUNTINGS AND CAPACITIES UP TO 1,500 TONS AVAILABLE CONTACT FACTORY