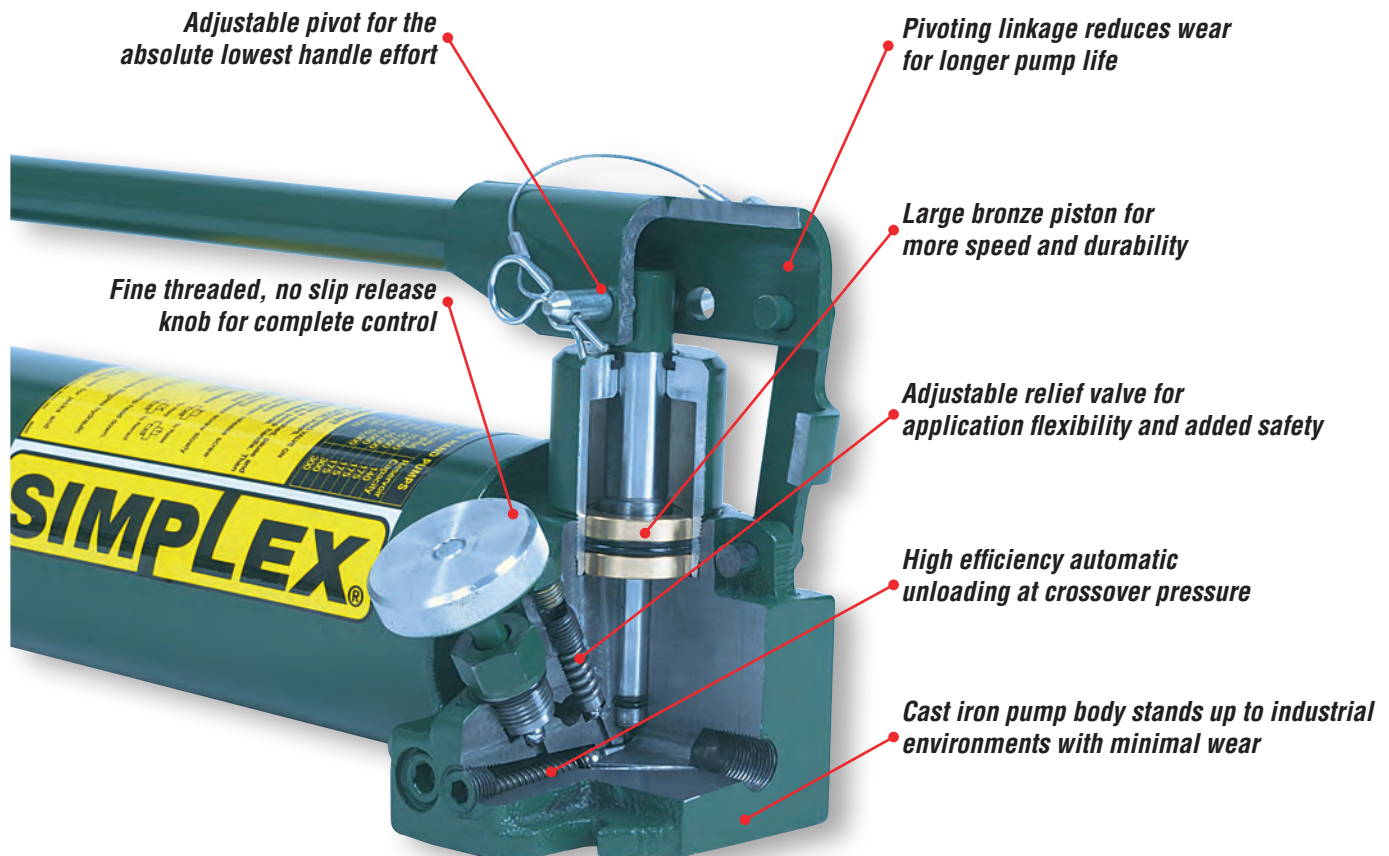


HAND PUMPS





P140 Model Shown

PRODUCT LINE OVERVIEW

► Wide Variety

Simplex offers the widest selection of hand pump styles, reservoir sizes, and flow rates to meet your everyday needs. Each pump has specific features that make certain models better suited for particular jobs. Select a hand pump with features that best fit your application.

► Built for Rugged Industrial/Construction Use

Shipyards, steel mills, construction sites and weld shops can be rough environments for hand pumps. Simplex's all metal and aluminum designs withstand real world conditions and applications.

► Total Control of Hand Pump Operation

Simplex release valves have a fine pitch screw and large valve handle for maximum control. Check ball valve design is more reliable than needle valves, and less costly to repair.

► Lowest Handle Effort

Simplex hand pumps have low, back saving handle efforts to reduce operator fatigue & back injury.

► Optimal Oil Displacement Per Stroke

More oil per stroke means less handle strokes per job. Simplex pumps have the highest available oil displacement per stroke, in many cases reducing the number of handle strokes as much as 50%.

► Easy To Use / Built To Last

Pivot linkage provides uniform handle effort at all points along the arc of the pump handle stroke. The pivot reduces piston side loading for longer pump life. Some pump models have four-way valves for use with double-acting cylinders.

Portable Hand Pumps



Single & two speed compact hand pumps deliver a constant flow to smaller cylinders or hydraulic powered tools regardless of load. Ideal when durability as well as portability are important.

Aluminum Hand Pumps



Aluminum hand pumps are the perfect choice when a light weight pump is required. The alloy construction resists corrosion and stands up to heat, welding sparks and other environments where composite pumps may not be suited.

Heavy Duty Hand Pumps



Heavy duty, two speed hand pumps in the low pressure stage deliver a high volume of oil per stroke for fast cylinder speed. Once the load is engaged, the pump automatically switches to the high pressure stage.

Specialty Hand Pumps



Specialty hand pumps are perfect for OEM applications or as emergency backup pumps. The pumps were designed to fit in tight spaces and are ideal for fixed bolt down applications.

Hi-Flow Hand Pumps With Large Reservoirs



Heavy duty hand pumps with 4 way valves are used to power double-acting cylinders or tools.

Configured Sets



Standard hand pump and single acting cylinder configuration.

Sizing The Proper Hand Pump To Your Cylinder

Once you have selected your cylinder, find the required reservoir capacity in the cylinder specification chart, and choose a hand pump with at least 10% more reservoir capacity per cylinder.

Example

An R256 cylinder (page 11) has a required oil capacity of 527.6 cm³. The P42 hand pump (page 34) with a reservoir capacity of 737.4 cm³ can pump this cylinder to its full stroke. If two R256 cylinders are to be raised, use a P140 with a reservoir capacity of 2867.7 cm³. 6.35 mm I.D. hose requires 32.2 cm³ oil per meter. 9.65 mm I.D. hose requires 69.9 cm³ per meter.

Type Of Cylinders

Most hand pumps are designed to operate single-acting cylinders. Hand pumps with 4-way valves can operate double-acting cylinders.

Quick Reference Chart

Use this chart to match the appropriate size hand pump to your single-acting Simplex cylinders. Match your cylinder capacity (across the top) with the cylinder strokes listed (in the left hand column). The intersecting box will give you the recommended hand pump for general applications.

Cylinder Stroke (mm)	Cylinder Capacity (kN)										
	44.5	89.0	133.4	177.9	222.4	266.9	444.8/489.3	533.8	667.2	889.6	1334.5
25.4	P22/P32	P22/P32	----	P41A/P71	P42/P72	P42/P72	P42/P72	----	P42/P72	P42/P72	P42/P72
50.8	----	P22/P32	P42/P72	P42/P72	P42/P72	P42/P72	P42/P72	----	----	P82A/P140	P140
76.2	P22/P32	----	----	----	----	----	----	P82A/P140	----	----	----
101.6	----	P22/P32	P42/P72	----	P42/P72	----	----	----	----	----	----
127.0	P22/P32	----	----	----	----	----	----	----	----	----	----
152.4	----	P42/P72	P42/P72	----	P42/P72	P82A/P140	P82A/P140	----	P82A/P140	P230	P230
177.8	P42/P72	----	----	----	----	----	----	----	----	----	----
203.2	----	P42/P72	P42/P72	----	P82A/P140	P82A/P140	----	----	----	P230	P300
228.6	P42/P72	----	----	----	----	----	----	----	----	----	----
254.0	----	P42/P72	P42/P72	----	P82A/P140	----	----	----	----	P230	P461
304.8	----	P42/P72	----	----	P82A/P140	----	----	----	----	----	----
330.2	----	----	----	----	----	----	P230	----	----	----	----
355.6	----	P42/P72	P82A/P140	----	P82A/P140	----	----	----	----	----	----

For higher speeds, use power pumps to operate multiple cylinder systems or long stroke cylinders over 444.8 kN.

Hand Pump / Cylinder Speed Chart

Use this chart to determine the number of full pump handle strokes required to extend a Simplex cylinder 25.4 mm. You may take handle stroke per 25.4 mm and multiply it by the cylinder stroke to determine the number of strokes required to fully extend the cylinder.

Hand Pump	Strokes Per 25.4 mm of Cylinder Travel	Cylinder Capacity (kN)									
		44.5	89.0	133.4	177.9	222.4	266.9	444.8/489.3	533.8	667.2	889.6
P41A/P71	NO LOAD	7	15	21	31	34	43	73	88	106	137
	LOAD	7	15	21	31	34	43	73	88	106	137
P20/P42/P32/P82A	NO LOAD	2	3	4	6	7	8	14	17	20	26
	LOAD	7	15	21	31	34	43	73	88	106	137
P72/P30	NO LOAD	2	3	4	6	7	8	13	16	18	23
	LOAD	7	15	21	31	34	43	73	88	106	137
P140/P300	NO LOAD	1	1	2	2	2	3	5	5	6	8
	LOAD	4	10	14	22	22	27	46	58	66	86
P230/P461	NO LOAD	1	1	1	1	1	1	2	2	2	3
	LOAD	3	8	11	16	18	22	38	45	54	70

HAND PUMPS

P Series – Compact Steel



P82A, P41A & P22 Shown

Reservoir Capacity▶ 327.7 - 2195.9 cm³
 Weight▶ 4.5 - 10.9 kg
 Maximum Pressure▶ 700 bars

- ▶ Large 3/8" pressure port for maximum flow.
- ▶ Low handle effort for easy operation.
- ▶ Single and two speed models.
- ▶ Two-speed operation for fast and easy operation.
- ▶ Vent free reservoir eliminates spills (P41A).
- ▶ Chrome plated plunger and wiper system for durable, long lasting performance.

GAUGES - page 77



Improve your system visibility and safety by adding an inline hydraulic gauge to your circuit.

COUPLERS - pages 74 - 75



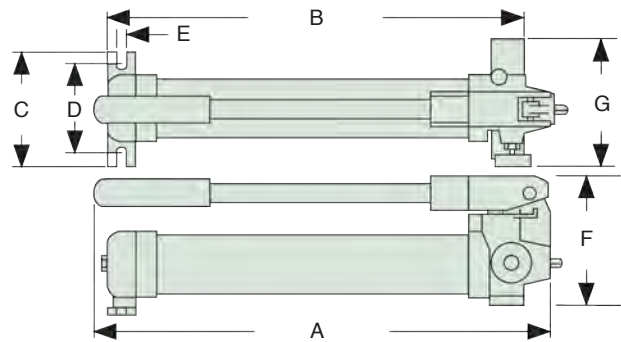
High flow quick disconnect couplers provide a quick change to a variety of pumps.

HOSES - pages 78 - 79



Heavy duty and thermo plastic hydraulic hoses to meet your requirements and safety factor.

With its compact footprint, the Simplex P22 hand pump is perfect for fixed mounting. ▼



Model	Speed	Pressure Rating (bar) Stages	Oil Volume Per Stroke (cm ³)		Usable Oil Capacity (cm ³)	A	B	C	D	E	F	G	Wgt. (kg)
			1st	2nd		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
P20	2	1st 14 2nd 197	12.9	2.6	327.7	361.4	281.4	66.5	38.1	15.0	142.0	136.9	4.5
P22	2	1st 14 2nd 700	3.8	1.0	327.7	361.4	281.4	66.5	38.1	15.0	128.5	125.0	4.5
P41A	1	700	---	2.6	655.5	585.0	464.3	133.4	---	---	119.1	101.6	5.9
P42	2	1st 14 2nd 700	12.9	2.6	737.4	651.3	529.8	89.9	---	---	146.1	136.9	8.6
P82A	2	1st 24 2nd 700	16.2	2.5	2195.9	558.0	495.3	146.1	120.9	7.9	174.8	177.8	10.9

Hand Pumps



P32 & P72 Shown

Reservoir Capacity ▶ 491.6 - 1147.1 cm³

Weight ▶ 3.6 - 5 kg

Maximum Pressure ▶ 700 bar

- ▶ All aluminum construction makes these pumps extremely light weight and easy to handle.
- ▶ 25% faster per stroke than comparative pumps means less work for operator.



RELEASE KNOB

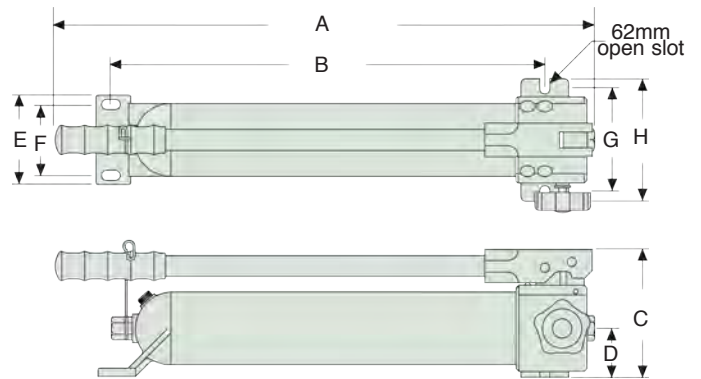
Precise load lowering with large knob and fine pitched threads.



POWER PUMPS - pages 43 - 65

Simplex offers a wide variety of lightweight power pumps to fit any application.

This P32 provided the power and control to lift this 86 kN CNC machine during routine maintenance. ▼



Model	Speed	Pressure Rating (bar) Stages	Oil Volume Per Stroke (cm ³)	Usable Oil Capacity (cm ³)	A	B	C	D	E	F	G	H	Wgt. (kg)
					(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
P30	2	1st 14 2nd 207	14.9	491.6	435.1	300	141	50.8	140	108	108	139.7	3.6
			3.1										
P32	2	1st 14 2nd 700	7.0	491.6	435.1	300	141	50.8	140	108	108	139.7	3.6
			1.0										
P71	1	700	2.3	1147.1	624.8	491.5	141	50.8	140	108	108	139.7	4.5
P71V*	1	700	2.3	1147.1	624.8	491.5	141	50.8	140	108	108	139.7	4.5
P72	2	1st 14 2nd 700	14.9	1147.1	624.8	491.5	141	50.8	140	108	108	139.7	4.5
			3.1										

*Viton Seals

HAND PUMPS

P Series – Heavy Duty Steel



Reservoir Capacity▶ 2867.7 - 7538 cm³

Weight▶ 11.8 - 27.7 kg

Maximum Pressure▶ 700 bars

- ▶ Heavy duty, metal construction for durability.
- ▶ High displacements of oil per stroke.
- ▶ Adjustable handle effort / dual pivot points.
- ▶ Low, back saving handle effort.
- ▶ External adjustable relief valves.

P140 & P461D Shown

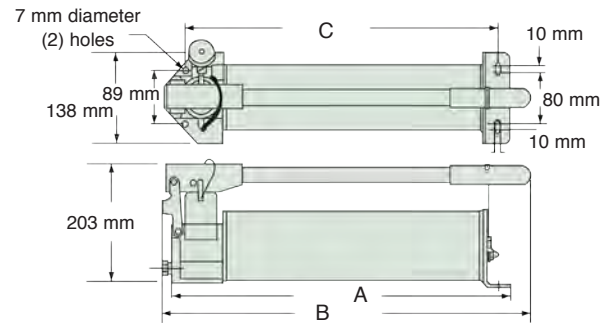


THINK SAFETY

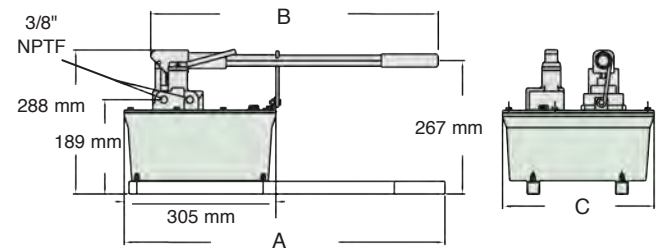
Please refer to pages 4&5 for a complete list of safety tips and recommendations.

Hand Pumps

P140 & P300 Series



P230 & P461 Series



US recovery teams needed to dismantle and remove a downed Navy aircraft, they used Simplex P140D hand pumps. ▼



Model	Tool Type	Pressure Rating (bar) Stages	Oil Volume Per Stroke (cm ³)		Usable Oil Capacity (cm ³)	A	B	C	Wgt. (kg)
			1st	2nd		(mm)	(mm)	(mm)	
P140	Single Acting	1st 28 2nd 700	45.9	3.9	2867.7	630.2	692.2	592.1	11.8
P230			126.2	4.9	3769.0	644.7	577.9	228.6	22.2
P300			45.9	3.9	4916.1	723.9	787.4	673.1	16.8
P461			126.2	4.9	7538.0	644.7	577.9	304.8	27.7
P140D	Double Acting	1st 28 2nd 700	45.9	3.9	2867.7	749.3	800.1	592.1	13.6
P230D			126.2	4.9	3769.0	644.7	577.9	228.6	22.2
P300D			126.2	4.9	7538.0	644.7	577.9	304.8	27.7
P461D			126.2	4.9	7538.0	644.7	577.9	304.8	27.7



P10004A & P1606A Shown

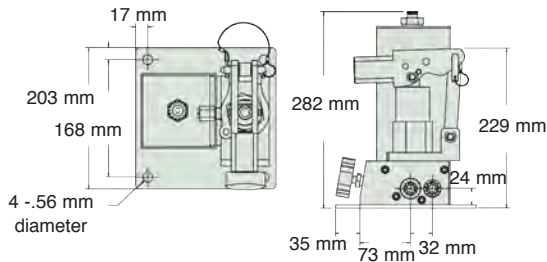
Volume Per Stroke▶ 4.9 - 74.7 cm³

Weight▶ 4.1 - 9.1 kg

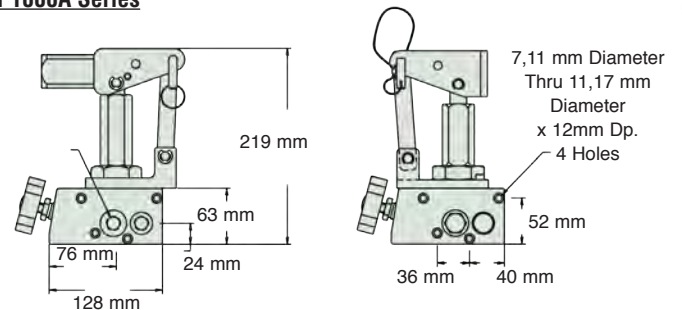
Pressure Range▶ 52 - 827 bar

- ▶ Ideal for fixed applications when pumps need to be bolted in place.
- ▶ P1000A Series offers a swivel pump head for flexible fixturing.
- ▶ Wide range of operating pressures to select from.

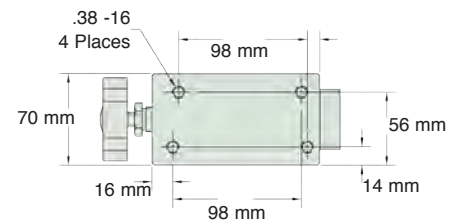
P160A Series



P1000A Series



This P10006A is used as an auxiliary pump to position scaffolding for fabrication of the docking system for a new airline hangar. ▼



Model	Usable Reservoir Capacity (cm ³)	Operating Pressure (bar)	Volume per Stroke (cm ³)	Maximum Handle Effort (kg)	Weight (kg)
P1603A	2425.3	827	4.9	49.0	9.1
P1604A	2425.3	448	8.7	47.2	9.1
P1606A	2425.3	207	21.8	49.0	9.1
P10003A	---	827	4.9	49.0	4.1
P10004A	---	448	8.7	47.2	4.1
P10006A	---	207	21.8	49.0	4.1
P10008A	---	69	34.6	48.1	5.0
P100012A	---	52	74.7	35.8	5.0

HAND PUMPS

P Series – Ultra High Pressure Aluminum



Reservoir Capacity▶ 983.2 cm³

Weight▶ 4.5 kg

Maximum Pressure▶ 2758 bar

- ▶ 2758 bar maximum pressure.
- ▶ 983.2 cm³ reservoir provides more usable oil capacity.
- ▶ Large pressure release knob, fine threaded for added control.
- ▶ Lower handle effort provides less operator fatigue.
- ▶ Slotted front mounting hole offers flexibility.

P60 Shown

Hand Pumps



THINK SAFETY

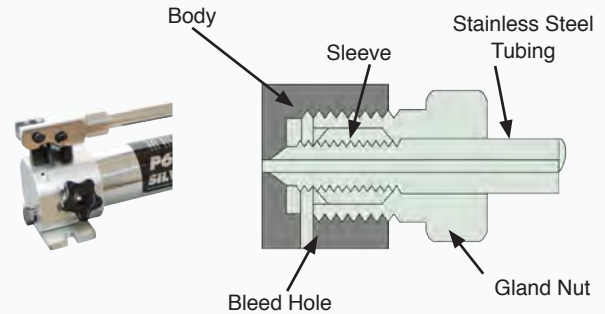
Please refer to pages 4&5 for a complete list of safety tips and recommendations.



SPRING LATCH

An easy to use spring latch handle provides quick carrying mobility.

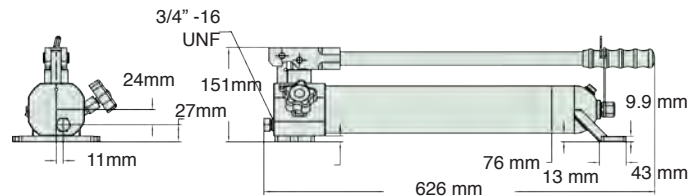
Pressure Port Details



▲ Cone Seal

High pressure fitting seal on a cone surface does not require pipe sealer. The gland nut holds the sleeve and tube to provide 2758.6 bars seal.










Ideal for lab testing, the P60 offers safe and easy operation for applications requiring up to 2758.6 bars. ▼



Model	Usable Reservoir Capacity (cm ³)	Pressure Rating (bar)		Oil Volume Per Stroke (cm ³)		Handle Effort (kg)	Weight (kg)
		1st Stage	2nd Stage	1st Stage	2nd Stage		
P60	983.2	14	2758	14.1	0.7	40.8	4.5

Note: 6,4 mm cone fittings use .56" - 18 threads, .38" cone fittings use .75" - 16 . * Actual tubing lengths are .75" less than nominal size shown. These dimensions make distance between centers of valves and fittings multiple of 4" spaces.

P60 ULTRA HIGH PRESSURE ACCESSORIES

Model	Item No.	Connection
 Gland Nut Plug	UH1	9.7mm Cone
 Elbow	UH2	9.7mm Cone
 Tee	UH3	9.7mm Cone Side
 Gauge Adapter	UH4	9.7mm Cone Side / 6.4mm Cone Gauge Port
 Coupling	UH5	9.7mm Cone
 Gland Nut with Sleeve	UH6	9.7mm Cone
 Gauge Connector	UH7	9.7mm Cone
 Gauge	UH8	0 - (2,758 Bar) Ultra High Pressure Gauge
 Tubing	UH9 UH10 UH11	101.6mm Tube, O.D.9.7 mm* 203.2 Tube, O.D. 9.7 mm* 304.8 Tube, O.D. 9.7 mm*

PUMP & CYLINDER SETS

ST & STL Series - Steel & Aluminum

SIMPLEX



ST106A Set Shown

Capacity Range▶ 89 - 889.6 kN
Stroke Range▶ 38.1 - 360.4 mm
Maximum Pressure▶ 700 bars

- ▶ Each set comes with a 1.82 m hose equipped with a high flow coupler, gauge and gauge adapter.
- ▶ Cylinders can be used in upright, inverted or horizontal position.
- ▶ Maximum control and safety is provided with the pressure gauge.
- ▶ Optimal performance provided with matched pump and cylinder.

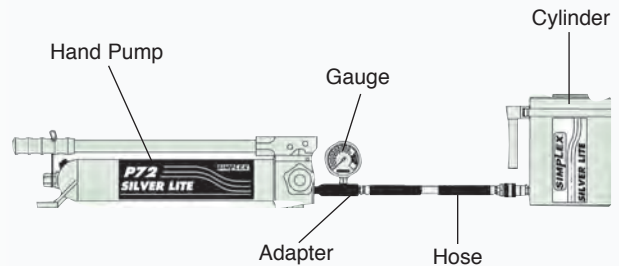
Hand Pumps



THINK SAFETY

Please refer to pages 4&5 for a complete list of safety tips and recommendations.

Each Set Includes The Following:



Eliminate the hassle of matching the right pump to the right cylinder by ordering our pre-matched pump & cylinder sets. ▼

Pump and cylinder sets are ideal for shop equipment servicing, such as this scrap metal receptacle requiring maintenance. ▼



Steel Hand Pumps

Center Hole Cylinder Sets

Model	Capacity (kN)	Stroke (mm)	Closed Height (mm)	Included in Set				
				Cylinder Model	Pump Model	Hose	Gauge	Gauge Adapter
ST302HCA	266.9	63.5	178.6	RC302A	P42	HCA6	GTH12	GA1
ST306HCA	266.9	155.7	330.2	RC306A	P82A	HCA6	GTH12	GA1

Low Profile Cylinder Sets

Model	Capacity (kN)	Stroke (mm)	Closed Height (mm)	Included in Set				
				Cylinder Model	Pump Model	Hose	Gauge	Gauge Adapter
ST101A	89.0	38.1	88.1	RLS101	P42	HCA6	GT5	GA1
ST201A	177.9	44.5	98.3	RLS201	P42	HCA6	GT20	GA1
ST302A	266.9	62.0	117.3	RLS302	P42	HCA6	GT30	GA1
ST502A	444.8	60.5	122.2	RLS502	P42	HCA6	GT20	GA1
ST1002A	889.6	57.2	141.2	RLS1002	P82A	HCA6	GT20	GA1

General Purpose Cylinder Sets

Model	Capacity (kN)	Stroke (mm)	Closed Height (mm)	Included in Set				
				Cylinder Model	Pump Model	Hose	Gauge	Gauge Adapter
ST102A	89.0	55.6	121.4	R102	P42	HCA6	GT5	GA1
ST106A	89.0	152.4	248.4	R106	P42	HCA6	GT5	GA1
ST1010A	89.0	254.0	350.0	R1010	P42	HCA6	GT5	GA1
ST252A	222.4	50.8	165.1	R252	P42	HCA6	GT25	GA1
ST254A	222.4	101.6	215.9	R254	P42	HCA6	GT25	GA1
ST256A	222.4	157.2	273.1	R256	P82A	HCA6	GT25	GA1
ST2514A	222.4	360.4	476.3	R2514	P82A	HCA6	GT25	GA1
ST556A	489.3	157.2	280.9	R556	P82A	HCA6	GT25	GA1

Aluminum Hand Pumps

Silver Lite Aluminum Spring Return Sets

Model	Capacity (kN)	Stroke (mm)	Closed Height (mm)	Included in Set				
				Cylinder Model	Pump Model	Hose	Gauge	Gauge Adapter
STL302	266.9	50.8	165.1	RAS302B	P72	HCA6	G5	GA1
STL306	266.9	152.4	266.7	RAS306B	P72	HCA6	G5	GA1
STL502	444.8	50.8	165.1	RAS502B	P72	HCA6	G5	GA1
STL504	444.8	101.6	215.9	RAS504B	P72	HCA6	G5	GA1
STL1002	889.6	50.8	165.1	RAS1002B	P72	HCA6	G5	GA1

Silver Lite Aluminum Spring Return Center Hole Sets

Model	Capacity (kN)	Stroke (mm)	Closed Height (mm)	Included in Set				
				Cylinder Model	Pump Model	Hose	Gauge	Gauge Adapter
STL303HC	266.9	76.2	222.3	RAC303	P72	HCA6	G5	GA1
STL306HC	266.9	152.4	298.5	RAC306	P72	HCA6	G5	GA1
STL603HC	533.8	76.2	257.3	RAC603	P72	HCA6	G5	GA1