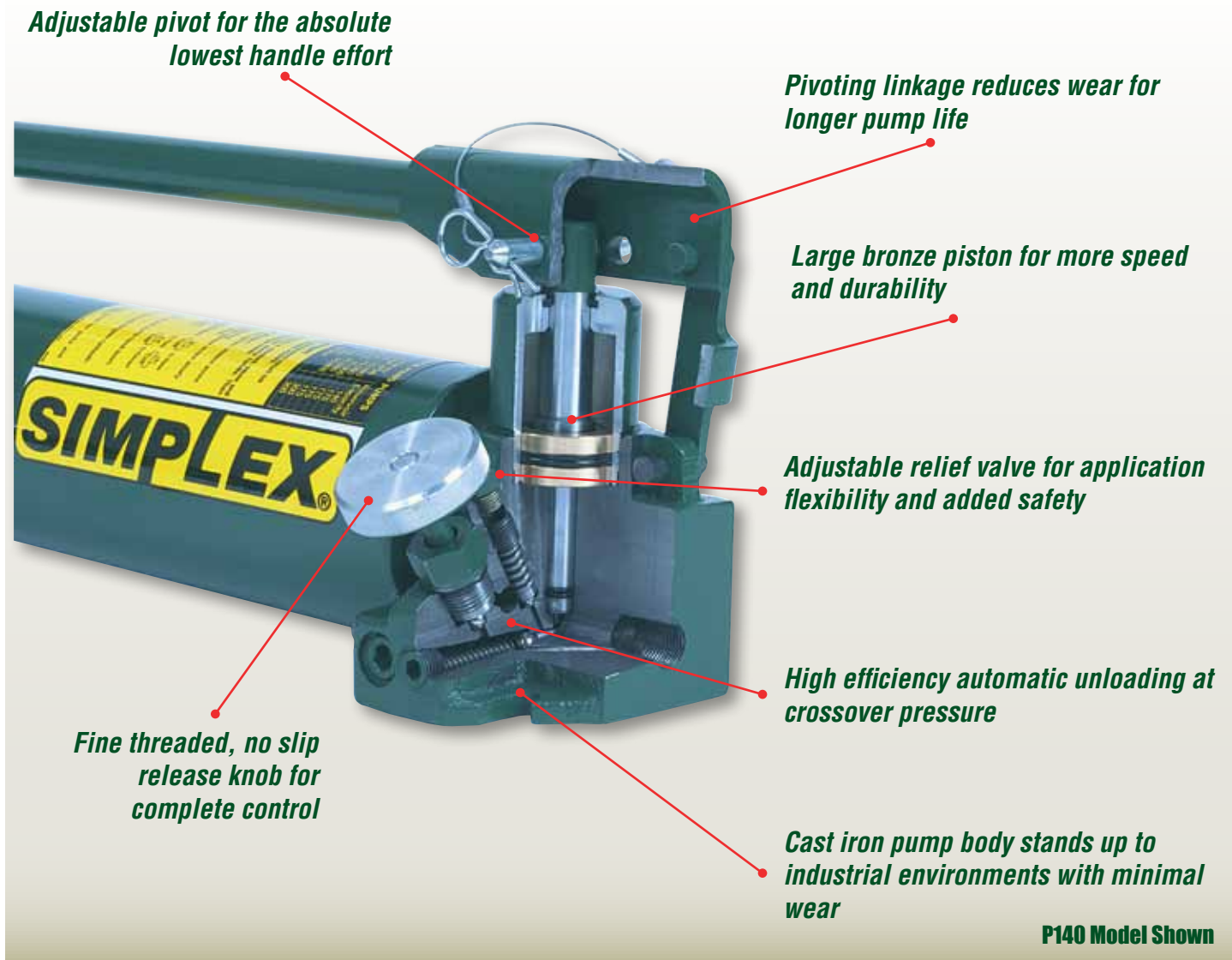


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SIMPLEX HAND PUMP PRODUCT OVERVIEW

✓ **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.

HAND PUMPS

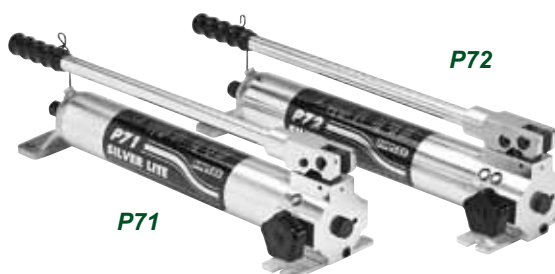
PROPER SIZE & SELECTION

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



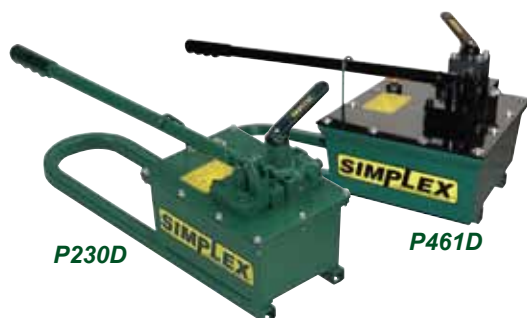
Heavy duty, two speed hand pumps in the low pressure stage deliver a high volume of oil per stroke for fast cylinder speed. Once the load is engaged, the pump automatically switches to the high pressure stage.

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.



Two high tonnage cylinders with heavy duty hand pump with a high volume of oil per stroke.



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 32.2 cu. in. The P42 hand pump (page 34) with a reservoir capacity of 45 cu. in. can pump this cylinder to its full stroke. If two R256 cylinders are to be raised, use a P140 with a reservoir capacity of 180 cu. in. 1/4" I.D. hose requires .6 cu. in. oil per foot. 3/8" I.D. hose requires 1.3 cu. in. per foot.

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 (in)	CYLINDER CAPACITY (TONS)										
	5 Ton	10 Ton	15 Ton	20 Ton	25 Ton	30 Ton	50/55 Ton	60 Ton	75 Ton	100 Ton	150 Ton
1	P22/P32	P22/P32	----	P41/P71	P42/P72	P42/P72	P42/P72	----	P42/P72	P42/P72	P42/P72
2	----	P22/P32	P42/P72	P42/P72	P42/P72	P42/P72	P42/P72	----	----	P82/P140	P140
3	P22/P32	----	----	----	----	----	----	P82/P140	----	----	----
4	----	P22/P32	P42/P72	----	P42/P72	----	----	----	----	----	----
5	P22/P32	----	----	----	----	----	----	----	----	----	----
6	----	P42/P72	P42/P72	----	P42/P72	P82/P140	P82/P140	----	P82/P140	P230	P230
7	P42/P72	----	----	----	----	----	----	----	----	----	----
8	----	P42/P72	P42/P72	----	P82/P140	P82/P140	----	----	----	P230	P300
9	P42/P72	----	----	----	----	----	----	----	----	----	----
10	----	P42/P72	P42/P72	----	P82/P140	----	----	----	----	P230	P461
12	----	P42/P72	----	----	P82/P140	----	----	----	----	----	----
13	----	----	----	----	----	----	P230	----	----	----	----
14	----	P42/P72	P82/P140	----	P82/P140	----	----	----	----	----	----

For higher speeds, use power pumps to operate multiple cylinder systems or long stroke cylinders over 50 tons.

HAND PUMP / CYLINDER SPEED CHART

Use this chart to determine the number of full pump handle strokes required to extend a Simplex cylinder 1". You may take handle stroke per inch and multiply it by the cylinder stroke to determine the number of strokes required to fully extend the cylinder.

Cylinder Stroke (in)	Strokes Per 1 inch of Cylinder Travel	CYLINDER CAPACITY (TONS)									
		5 Ton	10 Ton	15 Ton	20 Ton	25 Ton	30 Ton	50/55 Ton	60 Ton	75 Ton	100 Ton
P41/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/P82	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

Lightweight Steel
Hand Pumps

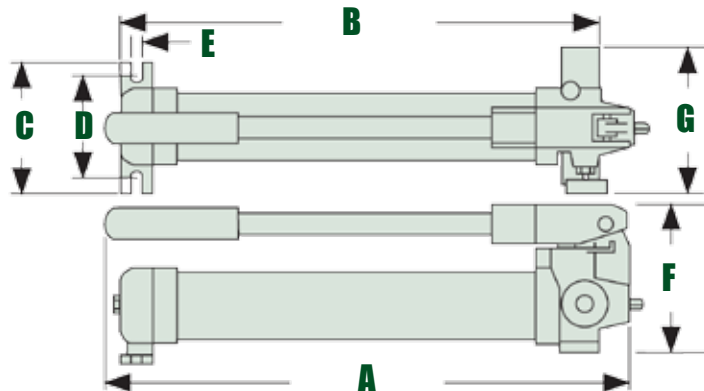


With its compact footprint, the Simplex P22 hand pump is perfect for fixed mounting. In this application, the hand pump supplies the hydraulic power to adjust the feed tables on this fiber processing machine.

SIMPLEX ADVANTAGES

- ✓ Welded carrying handles on P41, P42 & P82 for easy pick-up.
- ✓ Large 3/8" pressure port for maximum flow.
- ✓ Low handle effort for easy operation.
- ✓ Single and two speed models.
- ✓ All metal construction for durability.

P22 & P82 Shown
See table for additional models



HANDLE LATCH

Wire spring latch simplifies transport on P20 and P22 models.



HOSES

Large selection of standard, heavy duty and thermo plastic hydraulic hoses to meet your requirements and safety factor.

- Pg. 82-83



P SERIES STEEL HAND PUMPS

Our Hand Pump design specifications meet or exceed ANSI /ASME B30.1 Safety Standards.

Product Ordering & Dimensional Specifications

Model	Speed	Pressure Rating (PSI)	Oil Volume Per Stroke (cu.in.)		Usable Oil Capacity (cu.in.)	A	B	C	D	E	F	G	Wgt. (lbs)
			1st Stage	2nd Stage		(in)	(in)	(in)	(in)	(in)	(in)	(in)	
P20	2	1st Stage 200 2nd Stage 2,850	.82	.16	20	13	11 1/2	2 5/8	1 1/2	1 1/2	5 3/4	4 3/4	10
P22	2	1st Stage 200 2nd Stage 10,000	.23	.06	20	13 1/2	11 1/2	2 5/8	1 1/2	1 1/2	5 3/4	5 3/4	10
P41	1	10,000	.16	----	45	23	21 3/4	5	---	---	5 3/4	5 3/4	18
P42	2	1st Stage 200 2nd Stage 10,000	.82	.16		23	21 3/4	5	---	---	5 3/4	5 3/4	19
P82	2	1st Stage 200 2nd Stage 10,000	.82	.16	145	23	17 1/2	5 1/2	5	1/2	6 5/8	5 3/4	24



HAND PUMPS

Lightweight Aluminum
Hand Pumps



From the shop floor to large construction sites, the Silver Lite line of hand pumps are your best choice when portability and easy handling is needed. This P32 provided the power and control to lift this 10 ton CNC machine during routine maintenance.

SIMPLEX ADVANTAGES

- ✓ All aluminum construction makes these pumps extremely lightweight and easy to handle.
- ✓ P30 is ideal for low pressure applications when a small, light weight pump is required.
- ✓ 25% faster per stroke than comparative pumps means less work for operator.
- ✓ Large 3/8" NPT pressure port for maximum flow.
- ✓ Integrated handle latch simplifies transport.



PRECISION GRIP RELEASE KNOB
Precise load lowering with large knob and fine pitched threads.



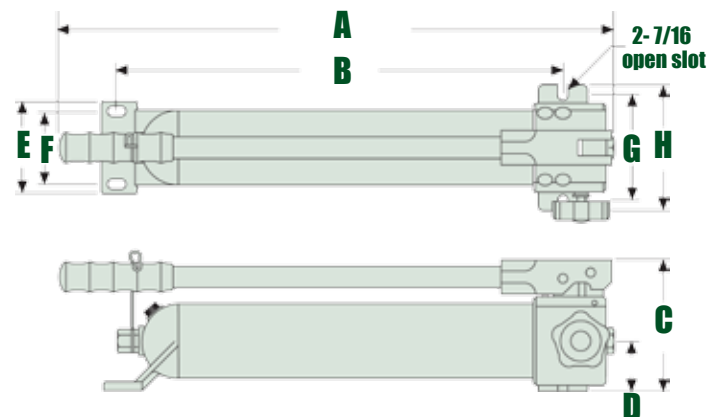
SPRING LATCH
An easy to use spring latch handle provides quick carrying mobility.



P SERIES ALUMINUM HAND PUMPS
Our Hand Pump design specifications meet or exceed ANSI /ASME B30.1 Safety Standards.



P32 & P72 Shown
See table for additional models



Product Ordering & Dimensional Specifications

Model	Speed	Pressure Rating (PSI)	Oil Volume Per Stroke (cu.in.)	Usable Oil Capacity (cu.in.)	A	B	C	D	E	F	G	H	Wgt. (lbs)
					(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	
P30	2	1st Stage 200	.91	30	16.46	11.81	5.55	2	4.41	3.19	4.56	5.50	8
		2nd Stage 3,000	.19										
P32	2	1st Stage 200	.82	30	16.46	11.81	5.55	2	4.41	3.19	4.56	5.50	8
		2nd Stage 10,000	.16										
P71	1	10,000	.19	70	24.09	19.44	5.55	2	4.41	3.19	4.56	5.50	10
P71V*	1	10,000	.19	70	24.09	19.44	5.55	2	4.41	3.19	4.56	5.50	10
P72	2	1st Stage 200	.91	70	24.09	19.44	5.55	2	4.41	3.19	4.56	5.50	11
		2nd Stage 10,000	.19										

* Viton Seals

SIMPLEX

HAND PUMPS

Heavy Duty
Hand Pumps



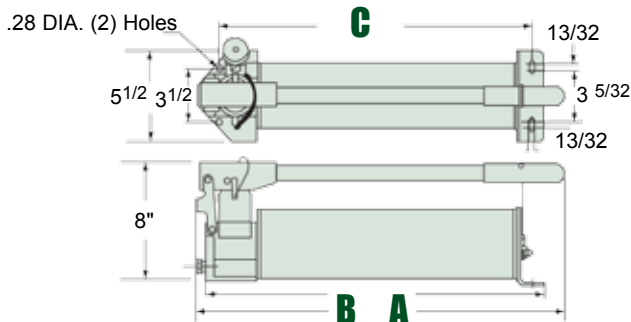
When US recovery teams needed to dismantle and remove a downed US Navy aircraft, they used Simplex P140D hand pumps and 50 ton cylinders. With the short time frame in which to complete the job, crews used the fastest portable hand pump in the industry.

SIMPLEX ADVANTAGES

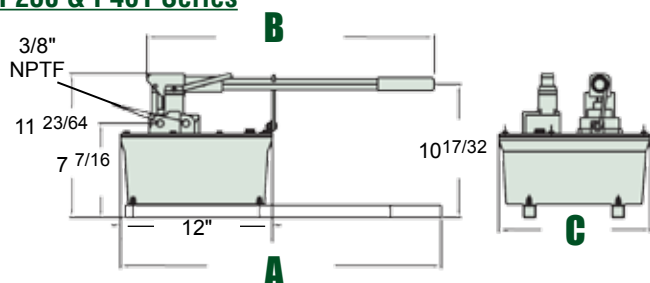
- ✓ Heavy duty, all metal construction for durability.
- ✓ High displacements of oil per stroke.
- ✓ Adjustable handle effort / dual pivot points.
- ✓ Low, back saving handle effort.
- ✓ Handle latch for easy carrying.
- ✓ Large, easy fill reservoirs.
- ✓ External adjustable relief valves.

P140 & P461D Shown
See table for additional models

P140 & P300 Series



P230 & P461 Series



PRESSURE PORT

Large 3/8" NPT pressure port for maximum flow.



GAUGES

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

- Pg. 86



P SERIES HAND PUMPS

Our Hand Pump design specifications meet or exceed ANSI /ASME B30.1 Safety Standards.

Product Ordering & Dimensional Specifications

Model	Tool Type	Pressure Rating (PSI)	Oil Volume Per Stroke (cu.in.)		Usable Oil Capacity (cu.in.)	A	B	C	Wgt. (lbs)
			1st Stage	2nd Stage		(in)	(in)	(in)	
P140	Single Acting	1st Stage 400 2nd Stage 10,000	2.8	.24	180	24 13/16	27 1/4	23 5/16	26
P300			2.8	.24	300	28 1/2	31	26 1/2	37
P230			7.7	.3	230	25 3/8	22 3/4	9	49
P461			7.7	.3	460	25 3/8	22 3/4	12	61
P140D	Double Acting	1st Stage 400 2nd Stage 10,000	2.8	.24	180	29 1/2	31 1/2	23 5/16	30
P300D			2.8	.24	300	32 11/16	34 11/16	26 1/2	41
P230D			7.7	.3	230	25 3/8	22 3/4	9	49
P461D			7.7	.3	460	25 3/8	22 3/4	12	61



HAND PUMPS

Special Application
Hand Pumps

This Simplex P10006A is used as an auxiliary pump to position scaffolding for fabrication of the docking system for a new airline maintenance hangar. Their compact size and standard mounting holes make these pumps the perfect choice for OEM applications.

SIMPLEX ADVANTAGES

- ✓ Ideal for tight mounting space, backup manual power or lower pressure and high flows.
- ✓ Ideal for fixed applications when pumps need to be bolted in place.
- ✓ Wide range of operating pressures to select from.
- ✓ P1000A offers a swivel pump head for flexible fixturing.
- ✓ Adjustable linkage for reduced handle force.



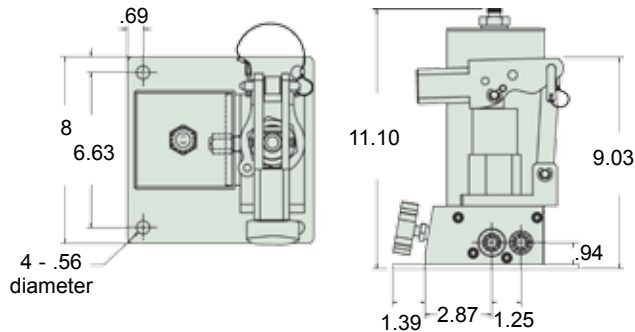
P SERIES HAND PUMPS

Our Hand Pump design specifications meet or exceed ANSI /ASME B30.1 Safety Standards.

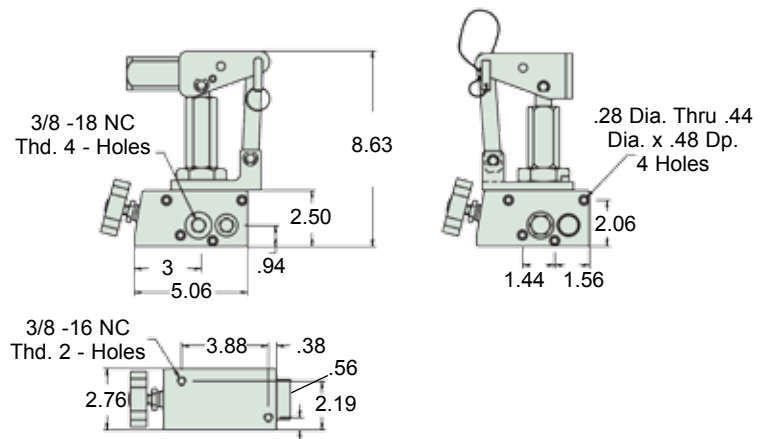


P10004A & P1606A Shown
See table for additional models

P160A Series



P1000A Series



Product Ordering & Dimensional Specifications

Model	Usable Reservoir Capacity (cu.in.)	Operating Pressure (PSI)	Volume per Stroke (cu.in.)	Maximum Handle Effort (lbs)	Weight (lbs)
P1603A	148	12,000	.30	119	20
P1604A	148	6,500	.53	116	20
P1606A	148	3,000	1.33	119	20
P10003A	---	12,000	.30	119	9
P10004A	---	6,500	.53	116	9
P10006A	---	3,000	1.33	119	9
P10008A	---	1,000	2.11	106	11
P100012A	---	750	4.56	79	11

SIMPLEX

HAND PUMPS

Ultra High Pressure
Hand Pump



Ideal for lab testing, the P60 offers safe and easy operation for applications requiring up to 40,000 psi.



P60 Shown

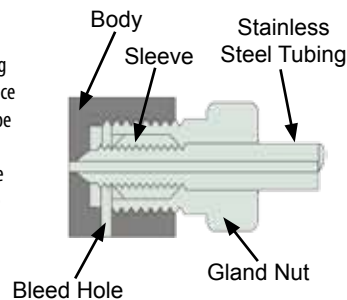
SIMPLEX ADVANTAGES

- ✓ 40,000 psi maximum pressure.
- ✓ 60 cu. in. reservoir provides more usable oil capacity.
- ✓ Large pressure release knob, fine threaded for added control.
- ✓ Lower handle effort provides less operator fatigue.
- ✓ Closed back mounting hole feet for easy mounting.
- ✓ Slotted front mounting hole offers more flexibility.

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 40,000 psi seal.

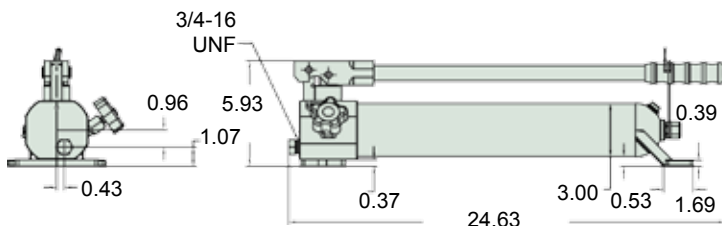


SPRING LATCH

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



P SERIES ALUMINUM HAND PUMPS
Our Hand Pump design specifications meet or exceed ANSI /ASME B30.1 Safety Standards.



Product Ordering & Dimensional Specifications

Model	Usable Reservoir Capacity (cu.in.)	Pressure Rating (PSI)		Oil Volume Per Stroke (cu. in.)		Handle Effort (lbs)	Weight (lbs)
		1st Stage	2nd Stage	1st Stage	2nd Stage		
P60	60	200	40,000	0.86	0.04	90	10

ACCESSORIES

HAND PUMPS Ultra High Pressure

Note: .25" cone fittings use 9/16" - 18 threads, 3/8" cone fittings use 3/4" - 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	.38" cone
	Elbow	UH2	.38" cone
	Tee	UH3	.38" cone
	Gauge Adapter	UH4	.38" cone side/ .25" cone gauge port
	Coupling	UH5	.38" cone
	Gland Nut with Sleeve	UH6	.38" cone
	Gauge Connector	UH7	.25" cone
	Gauge	UH8	0 - 40,000 psi (2,760 Bar) Ultra High Pressure Gauge
	Tubing	UH9 UH10 UH11	4" tube, O.D. .38" * 8" tube, O.D. .38" * 12" tube, O.D. .38" *

PUMP AND CYLINDER SETS

Steel Hand Pump, Hose, Gauge and Cylinder



Eliminate the hassle of matching the right pump to the right cylinder by ordering our pre-matched pump & cylinder sets. All 2 speed pumps have been carefully chosen to provide maximum efficiency and service.

SIMPLEX ADVANTAGES

- ✓ All steel construction.
- ✓ Each set comes with a 6' hose equipped with a high flow coupler, gauge and gauge adapter.
- ✓ Cylinders can be used in upright, inverted or horizontal position.
- ✓ Heavy duty spring for fast and full cylinder retraction.
- ✓ Maximum control and safety is provided with the pressure gauge.
- ✓ Optimal performance provided with matched pump and cylinder.



ST106A

See table for additional models

Center Hole Cylinder Sets

Product Ordering & Dimensional Specifications

Model	Cap. (tons)	Stroke (in)	Closed Height (in)	Included in Set				
				Cylinder Model	Pump Model	Hose	Gauge	Gauge Adapter
ST302HCA	30	2 ½	7	RC302	P42	HCA6	GTH12	GA1
ST306HCA	30	6 ⅝	12 ¼	RC306	P82	HCA6	GTH12	GA1

Low Profile Cylinder Sets

Model	Cap. (tons)	Stroke (in)	Closed Height (in)	Included in Set				
				Cylinder Model	Pump Model	Hose	Gauge	Gauge Adapter
ST101A	10	1 ½	3 15/32	RLS101	P42	HCA6	GT5	GA1
ST201A	20	1 ¾	3 ⅞	RLS201	P42	HCA6	GT20	GA1
ST302A	30	2 ¼	4 ⅝	RLS302	P42	HCA6	GT30	GA1
ST502A	50	2 ¾	4 13/16	RLS502	P42	HCA6	GT20	GA1
ST1002A	100	2 ¼	5 ⅞	RLS1002	P82	HCA6	GT20	GA1

Spring Return Cylinder Sets

Model	Cap. (tons)	Stroke (in)	Closed Height (in)	Included in Set				
				Cylinder Model	Pump Model	Hose	Gauge	Gauge Adapter
ST102A	10	2 ⅝	4 25/32	R102	P42	HCA6	GT5	GA1
ST106A	10	6 ⅝	9 ¾	R106	P42	HCA6	GT5	GA1
ST1010A	10	10 ⅝	13 ¾	R1010	P42	HCA6	GT5	GA1
ST252A	25	2	6 ½	R252	P42	HCA6	GT25	GA1
ST254A	25	4	8 ½	R254	P42	HCA6	GT25	GA1
ST256A	25	6 ¼	10 ¾	R256	P82	HCA6	GT25	GA1
ST2514A	25	14 ¼	18 ¾	R2514	P82	HCA6	GT25	GA1
ST556A	55	6 ¼	11 ⅞	R556	P82	HCA6	GT25	GA1



PUMP AND CYLINDER SETS

Aluminum Hand Pump, Hose, Gauge and Cylinder

Simplex Aluminum pump and cylinder sets are ideal for shop equipment servicing, such as this scrap metal receptacle requiring welding maintenance.

SIMPLEX ADVANTAGES

- ✓ All aluminum construction.
- ✓ Optimal performance is provided with matched hand pump and cylinder.
- ✓ Cylinders can be used in upright, inverted or horizontal position.
- ✓ Maximum control and safety is provided with the pressure gauge.
- ✓ Heavy duty spring for fast and full cylinder protection.
- ✓ Each set comes with a 6' hose equipped with a high flow coupler, gauge and gauge adapter.

Advisory



Please refer to pages 4 & 5 for a complete list of safety tips and recommendations to ensure that your Simplex equipment will perform to its full potential.

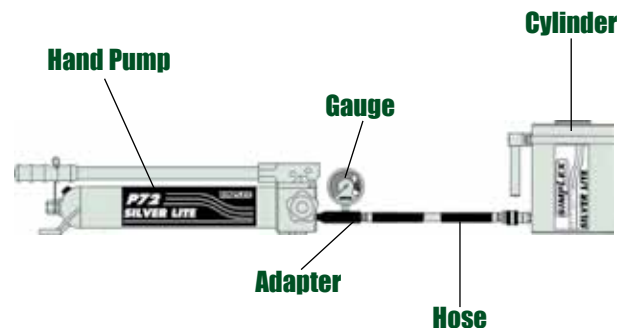


PUMP & CYLINDER SETS
Our Pump & Cylinder design specifications meet or exceed ANSI /ASME B30.1 Safety Standards.



STL306

See table for additional models



Silver Lite Aluminum Spring Return Sets

Product Ordering & Dimensional Specifications

Model	Cap. (tons)	Stroke (in)	Closed Height (in)	Included in Set				
				Cylinder Model	Pump Model	Hose	Gauge	Gauge Adapter
STL302	30	2	6 1/2	RAS302B	P72	HCA6	G5	GA1
STL306	30	6	10 1/2	RAS306B	P72	HCA6	G5	GA1
STL502	50	2	6 1/2	RAS502B	P72	HCA6	G5	GA1
STL504	50	4	8 1/2	RAS504B	P72	HCA6	G5	GA1
STL1002	100	2	6 1/2	RAS1002B	P72	HCA6	G5	GA1

Silver Lite Aluminum Spring Return Center Hole Sets

Model	Cap. (tons)	Stroke (in)	Closed Height (in)	Included in Set				
				Cylinder Model	Pump Model	Hose	Gauge	Gauge Adapter
STL303HC	30	3	13 3/4	RAC303	P72	HCA6	G5	GA1
STL306HC	30	6	17 3/4	RAC306	P72	HCA6	G5	GA1
STL603HC	60	3	13 1/8	RAC603	P72	HCA6	G5	GA1

SIMPLEX