

L3 SERIES  
AIR OPERATED  
COMPACT PUMPS  
AND  
POWER UNITS

# L3 SERIES COMPACT PUMPS

- **PORTABLE**
- **ECONOMICAL**
- **LIGHTWEIGHT**
- **EASY TO INSTALL & OPERATE**
- **REQUIRES NO LUBRICATION**
- **IDEAL FOR OEM APPLICATIONS**

**SC** air driven compact liquid pumps operate on the principal of differential areas. An air piston drives a smaller diameter hydraulic plunger to provide a pressure ratio. The pressure ratio determines the maximum outlet pressure.

**SC** compact liquid pumps cycle automatically. When compressed air is first applied to the pump, it will cycle at its maximum speed producing maximum flow. At this stage, the pump is acting as a transfer pump filling the pressure receiver with liquid. The pump will then gradually start to cycle at a slower rate as the pressure in the receiver increases and offers more resistance to the reciprocating differential piston.

**SC** pumps stop automatically when the output pressure force and the air drive force is balanced to create a stall condition. At this point, the pump will maintain pressure without energy consumption, thus providing an economical source for hydraulic power.

**SC** pumps will cycle with a slight drop in the outlet pressure or increase in the air drive pressure due to very low frictional resistance.

**SC** pumps are suitable for use on scissor jack lifts, aircraft jacks, clamping devices, punches and pin presses, valve actuation, roller tensioning, torque wrenches, press system overload, pressure testing, crimping, trash compactors, paper and printing paper cutters.



**Compatible with** all hydraulic fluids, plain water, distilled and di-ionized water, solvents, mild chemicals and liquefied CO<sub>2</sub>.

**316 Stainless steel** wetted hydraulic construction, light weight (six pounds), 3.5" x 7.00" body includes inlet and exhaust muffler.

**Available in** seven ratios: 15, 25, 35, 45, 65, 105, and 125.

**Requires less** than 15 psi air drive pressure to operate, the L3 series pump is self priming for immediate operation. Maximum air drive pressure is 125 psi.

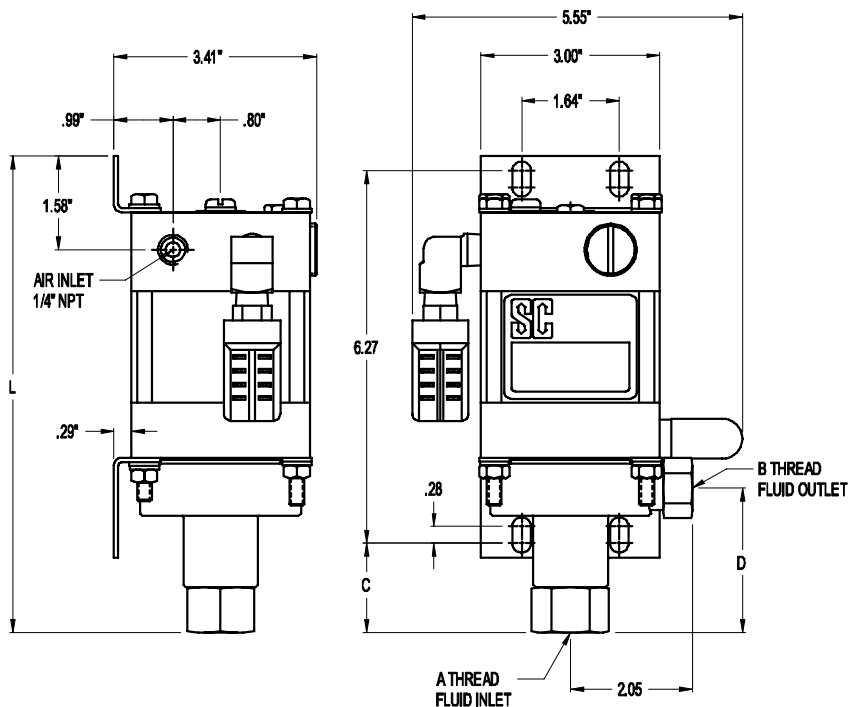
**Can supply** pressures up to 15,600 psi and flow rates up to 1.0 gpm.

**Requires no** electrical power or connections.

**Alternative gases** that can drive the pump include nitrogen vapor from liquefied gas or natural gas pipeline, thus offering a completely self-contained package independent of external power sources.

**Hand pump attachment** option allows for manual operation when shop air is not available or for precision pressure control.

# L3 Series Compact Pump



## APPLICATIONS

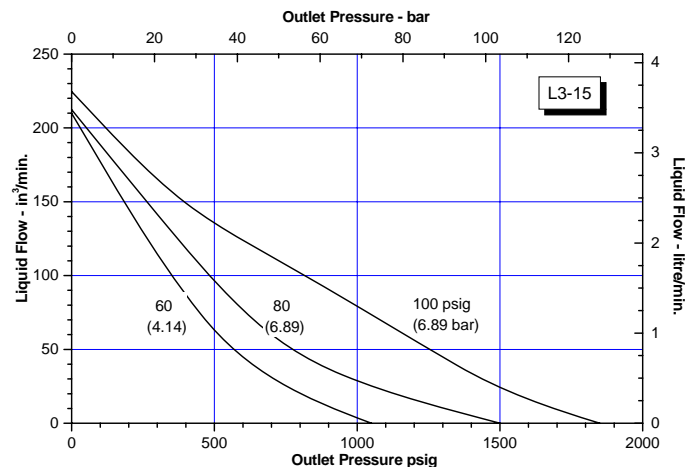
- Scissor jack lifts, aircraft jacks
- Clamping devices
- Punches and pin presses
- Valve actuation
- Roller and bolt tensioning
- Torque wrenches
- Press system overload
- Pressure testing
- Crimping
- Trash compactors

Mounting Dimensions in Inches

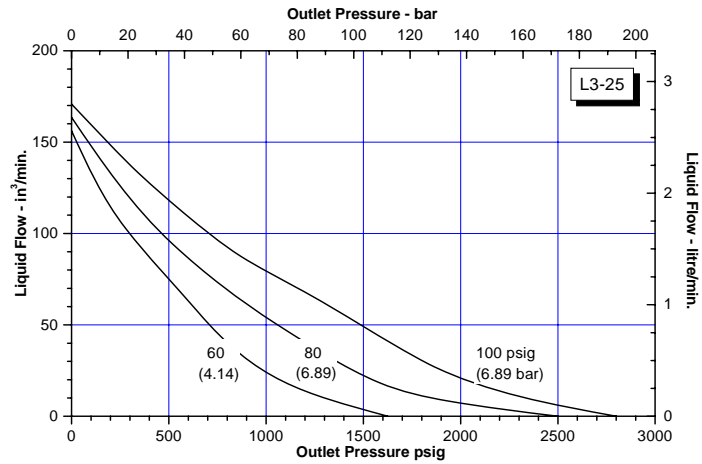
Dash Number	Actual Ratio	Max Pressure psig @ 125 Pa	Displacement Per Cycle Cu. In.	NPT/LF4 (Std)		SAE/LF4 (Optional)			C	D	L
				A Thread	B Thread	A Thread	B Thread	B Thread			
-15	20	2,250	.27	3/8"	1/4"	-8 SAE	-6 SAE	7/16-20 *	1.50	2.43	8.02
-25	31	3,500	.18	3/8"	1/4"	-8 SAE	-6 SAE	7/16-20 *	1.50	2.43	8.02
-35	40	4,375	.14	3/8"	1/4"	-8 SAE	-6 SAE	7/16-20 *	1.50	2.43	8.02
-45	55	6,125	.10	3/8"	1/4"	-8 SAE	-6 SAE	7/16-20 *	1.50	2.43	8.02
-65	79	8,875	.069	1/4"	1/4"	-6 SAE	-6 SAE	7/16-20 *	1.00	1.93	7.52
-105	123	14,000	.044	1/4"	1/4"	-6 SAE	-6 SAE	7/16-20 *	1.00	1.93	7.52
-125	138	15,600	.044	1/4"	7/16-20 *	-6 SAE	-	-	1.00	1.93	7.52

\*Coned and Threaded High Pressure Connection for 20KSI O.D. Tubing

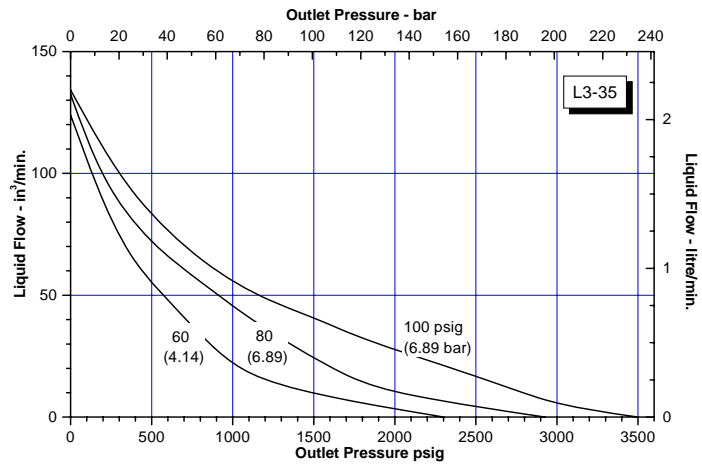
L3-15



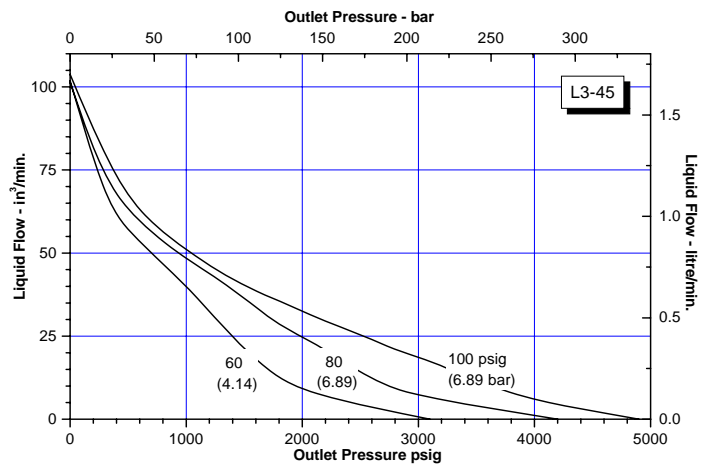
# L3 Series Compact Pump



L3-25



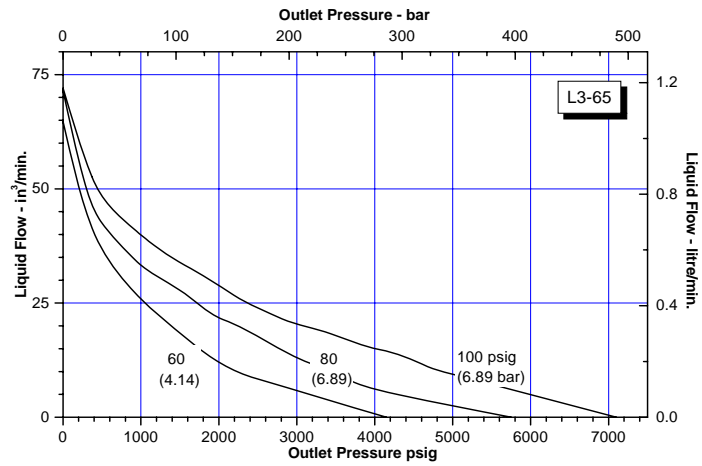
L3-35



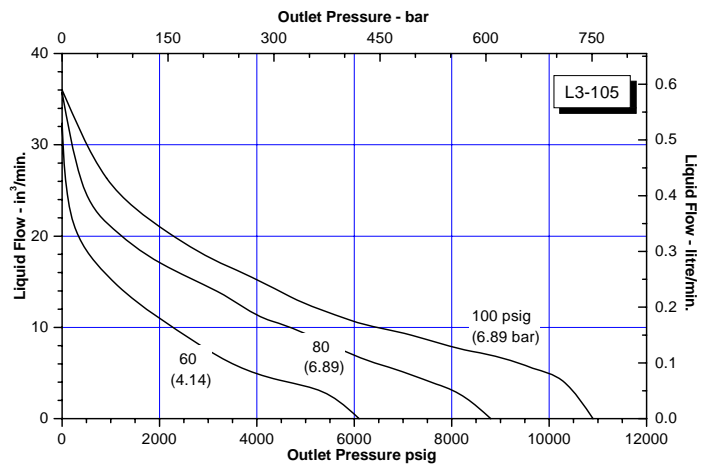
L3-45

# L3 Series Compact Pump

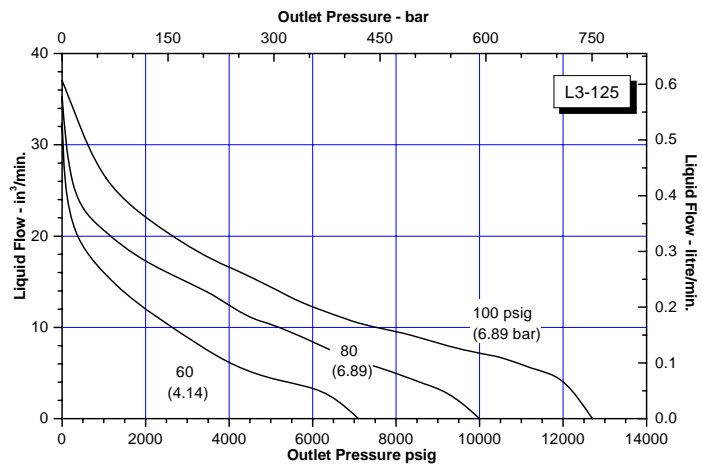
L3-65



L3-105

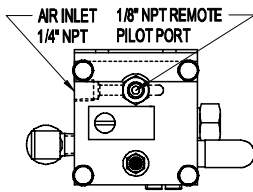


L3-125



# L3 Pump Modifications

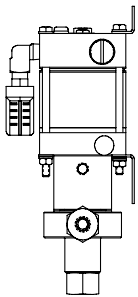
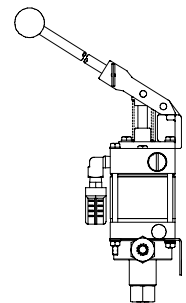
In some cases, a combination of the modifications shown can be supplied upon request. Consult factory for additional information and dimensional data if required.



- **“M002” Remote Pilot** – This option provides for a separate 1/8” NPT external air to pilot cycling valve. Useful for remote control operation of the pump.

- **“M003” Straight Threads** – The straight thread modification offers the fluid inlet and outlet ports with SAE straight thread options.

- **“M004” Integral Hand Pump Attachment** – This modification permits supplementary operation of the pump by hand. Useful in precise testing or emergency back-up applications requiring a hand pump in addition to pneumatic power.

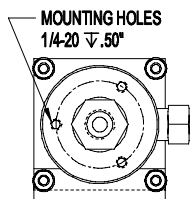
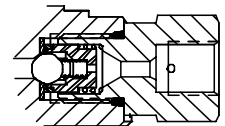


- **“M005” Distance Piece** – The distance piece models are furnished with an isolator attachment which prevents the hydraulic piston from retracting into the air drive during operation, thus providing 100% separation of the hydraulic assembly from the air drive assembly. The isolator attachment prevents contamination and acts as a heat barrier.

- **“M006” No Air Piston Return Spring** – This modification provides improved fill on the suction stroke when pumping liquefied gases such as CO<sub>2</sub>.

- **“M008” Noise Reduction** – Noise reduction incorporates a special internal bumper allowing the pump to run quieter without impairing performance.

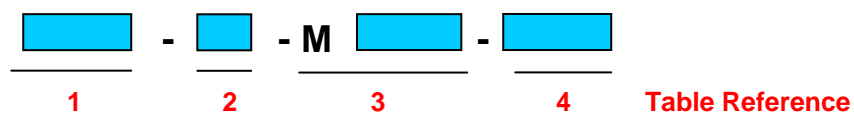
- **“M009” 1/4” O.D. High Pressure Tubing Fluid Outlet** – This modification provides a coned and threaded high pressure connection for 20 KSI 1/4” O.D. tubing (7/16-20 thread LF4 connection).



- **“M011” Mounting Holes** – Tapped and threaded bottom mounting holes are available for tank top mounting applications.

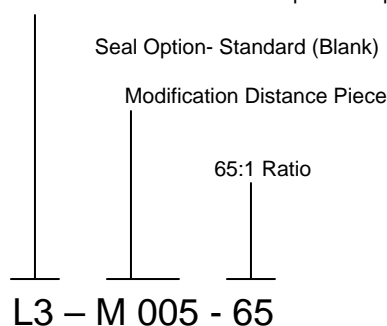
# HOW TO ORDER TABLE

## L3 SERIES PUMPS



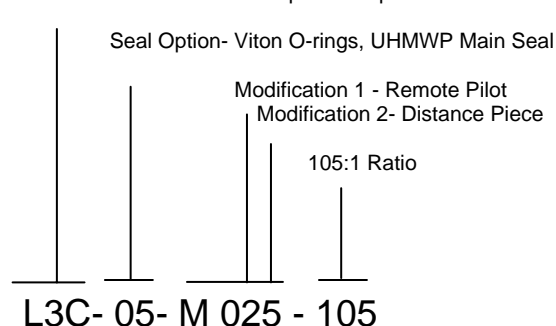
Example #1 showing 1 modification

L3 Series Stainless Steel Compact Pump



Example #2 showing 2 modifications

L3C Series Carbon Steel Compact Pump



**TABLE 1** <sup>(1)</sup> Pump Series Designation

<b>L3</b>	Stainless Steel Hyd. Section Compact Pump
<b>L3C</b>	Carbon Steel Hyd. Section Compact Pump
<b>L3S</b>	All Stainless Steel Construction

**TABLE 2** Seal Compound – Hydraulic Section

<b>Blank</b>	Std- Buna-N O-rings, polyurethane Main Seal
<b>03</b>	EPR O-rings, Polyurethane Main Seal
<b>04</b>	Viton O-rings, Polyurethane Main Seal
<b>05</b>	Viton O-rings, UHMWP Main Seal
<b>06</b>	EPR O-rings, UHMWP Main Seal
<b>07</b>	Buna-N O-rings, UHMWP Main Seal

Note:

(1) Do not fill gap on a two digit description.  
Refer to example above.

**TABLE 3** Modifications

<b>Blank</b>	Standard- No Modifications
<b>002</b>	Remote Pilot
<b>003</b>	SAE Straight Thread Ports
<b>004</b>	Hand Pump
<b>005</b>	Distance Piece
<b>006</b>	No Air Piston Return Spring
<b>008</b>	Noise Reduction
<b>009</b>	7/16-20 x 1/4" High Press Fitting Outlet

**TABLE 4** <sup>(1)</sup> Actual Pressure Ratio

<b>-15</b>	20:1 Actual Ratio
<b>-25</b>	31:1 Actual Ratio
<b>-35</b>	40:1 Actual Ratio
<b>-45</b>	55:1 Actual Ratio
<b>-65</b>	79:1 Actual Ratio
<b>-105</b>	123:1 Actual Ratio
<b>-125</b>	133:1 Actual Ratio

Additional Special Modifications may be included with an "M" suffix at the end of the model number.

# L3 Series Power Units

SC Hydraulic Engineering offers three different L3 Series Compact Pump Power Units to fit individual needs when high volume is not required. All the options available on the L3 Series pump can be incorporated in these power units.

## S10011 Tubular Power Unit

This portable unit weighs only 25 pounds so it can easily be carried from one place to another. Dimensions are 18" wide by 19" high by 15" deep.

The power unit includes air controls with gauge and shut-off, protected high pressure gauge, high pressure manifold and bleed valve, and 2.2 gallon polyethylene reservoir with fill cap and strainer.



**S10011 Power Unit shown with optional Hand Pump Attachment**



**S10013 Tank Top Power Unit**

## S10013 Tank Top Power Unit

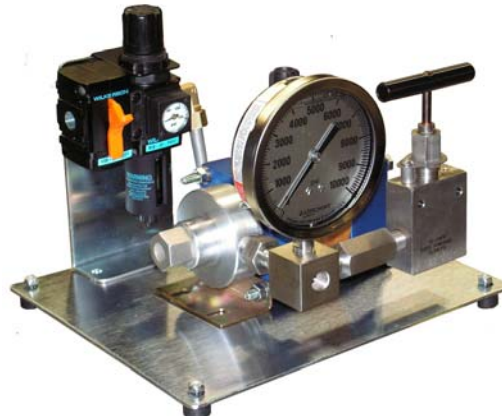
This handy power unit incorporates all the features of the above unit less the tubular frame and has a one gallon reservoir built from heavy duty polyethylene.

The power unit is lightweight weighing only 15 pounds and has a small footprint of only 8" by 10" and 16" high.

The low cost S10013 is perfect for auxiliary hydraulic power for clamps, cylinders, etc. when volume is not a factor.

## S10014 Base Mounted Power Unit

Our most basic L3 Series power unit consists of just the air controls, pump, high pressure gauge, manifold and bleed valve. The components are mounted on a 9" by 10 1/2" base by 9" high. And weighs only 20 pounds.



**S10014 Base Mounted Power Unit**

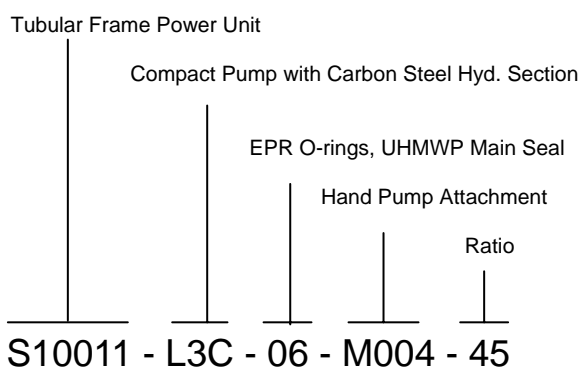


# HOW TO ORDER TABLE

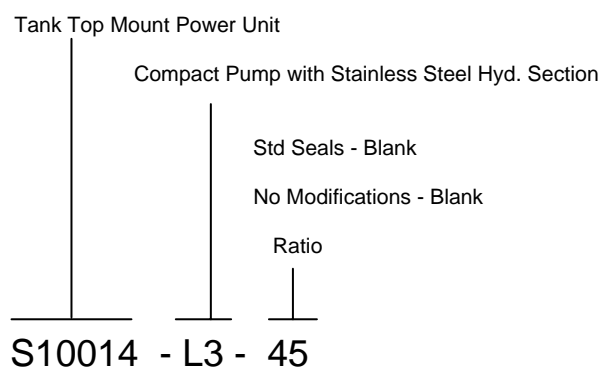
## L3 SERIES POWER UNITS



### Example #1 Power Unit Selection



### Example #2 Power Unit Selection



#### TABLE 1 Power Unit Designation

<b>S10011</b>	Tubular Frame 2.2 Gal. Reservoir
<b>S10013</b>	Tank Top Mount 1.0 Gal. Reservoir
<b>S10014</b>	Base Mount No reservoir

#### TABLE 2 Pump Series Designation

<b>L3</b>	Compact Pump Stainless Steel Hydraulic Section
<b>L3C</b>	Compact pump Carbon Steel Hydraulic Section
<b>L3S</b>	Compact Pump All Stainless Steel Construction

#### TABLE 3 Seal Compound - Hydraulic Section

<b>Blank</b>	Std- Buna-N O-rings, Polyurethane Main Seal
<b>03</b>	EPR O-rings, Polyurethane Main Seal
<b>04</b>	Viton O-rings, Polyurethane Main Seal
<b>05</b>	Viton O-rings, UHMWP Main Seal
<b>06</b>	EPR O-rings, UHMWP Main Seal
<b>07</b>	Buna-N O-rings, UHMWP Main Seal

#### TABLE 4 Modifications

<b>Blank</b>	Standard - No Modifications
<b>002</b>	Remote Pilot
<b>003</b>	SAE Straight Thread Ports
<b>004</b>	Hand Pump Attachment
<b>005</b>	Distance Piece—Isolator
<b>006</b>	No Air Piston Return Spring
<b>008</b>	Noise Reduction
<b>009</b>	7/16"-20 x 1/4" High Press. Fitting Outlet

#### TABLE 5 Pump Ratio

<b>15</b>	20:1 Actual Ratio
<b>25</b>	31:1 Actual Ratio
<b>35</b>	40:1 Actual Ratio
<b>45</b>	55:1 Actual Ratio
<b>65</b>	79:1 Actual Ratio
<b>105</b>	123:1 Actual Ratio
<b>125</b>	138:1 Actual Ratio

Additional Special Modifications may be included with an "M" suffix at the end of the model number.