



**HYDROREX**

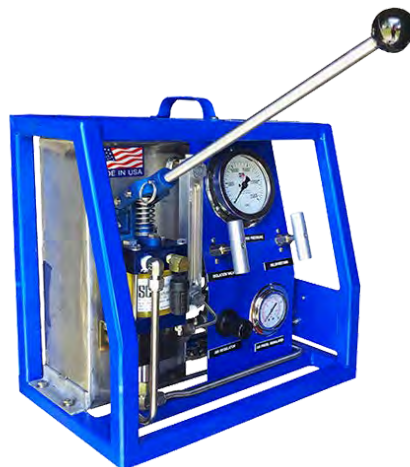


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Designers and Manufacturers of Hydraulic and Pneumatic Equipment Since 1953

**SC HYDRAULIC ENGINEERING CORPORATION**

# L3 SERIES AIR OPERATED COMPACT PUMPS



P  
U  
M  
P  
S



# 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** eight ratios: 15, 25, 35, 45, 65, 105, 125 and 195.

**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 24,375 psi and flow rates up to 1.0 gpm.

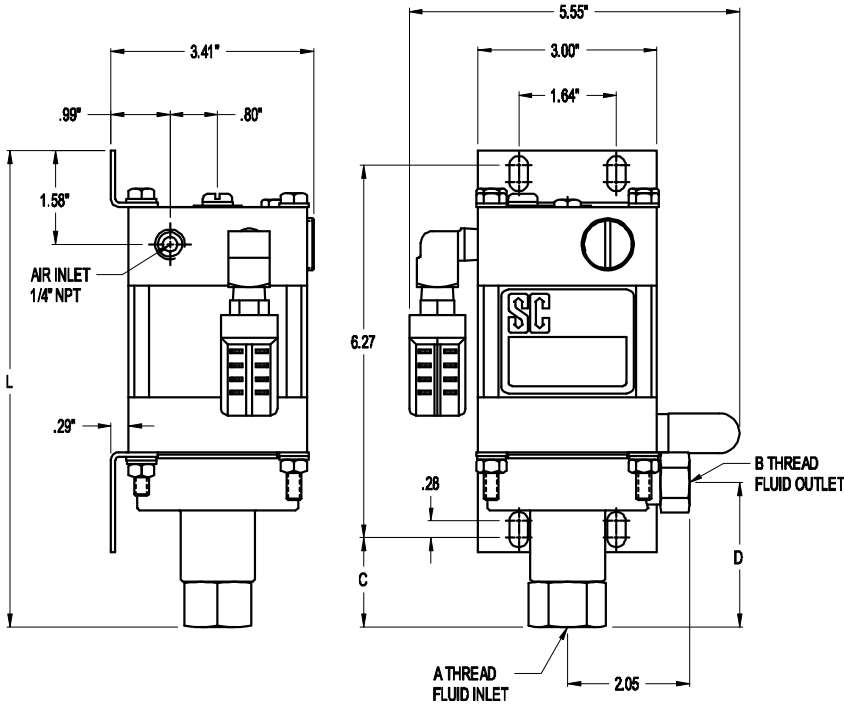
**Requires no** electrical power or connections.

**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

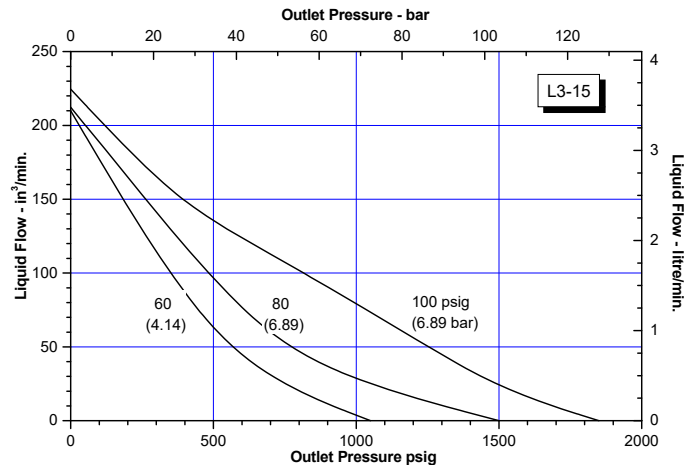
- Scissor jack lifts, aircraft jacks
- Clamping devices
- Punches and pin presses
- Valve actuation
- Roller and bolt tensioning
- Torque wrenches
- Press system overload
- Pressure testing
- Crimping
- Trash compactors

Mounting Dimensions in Inches

Dash Number	Actual Ratio	Max Pressure psig @125 Pa <sup>(1)</sup>	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
-195	213	24,375	.038	3/8"	9/16-18	-	-	-	2.24	2.71	8.75

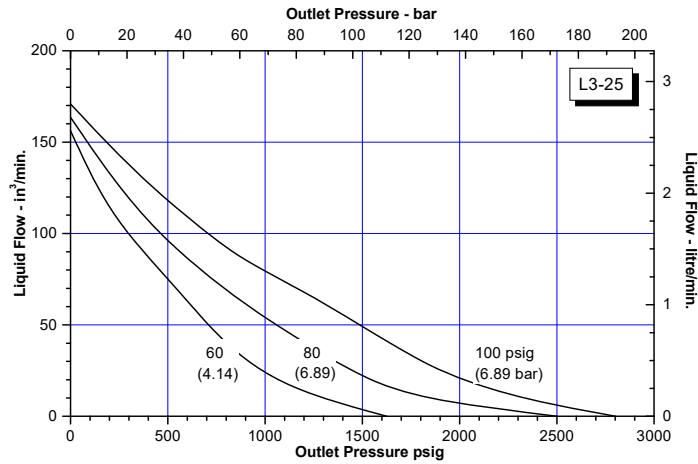
\*Coned and Threaded High Pressure Connection for 20KSI O.D. Tubing  
 (1) Maximum Static Outlet Pressure. Do not exceed 125-psi of air supply pressure

L3-15

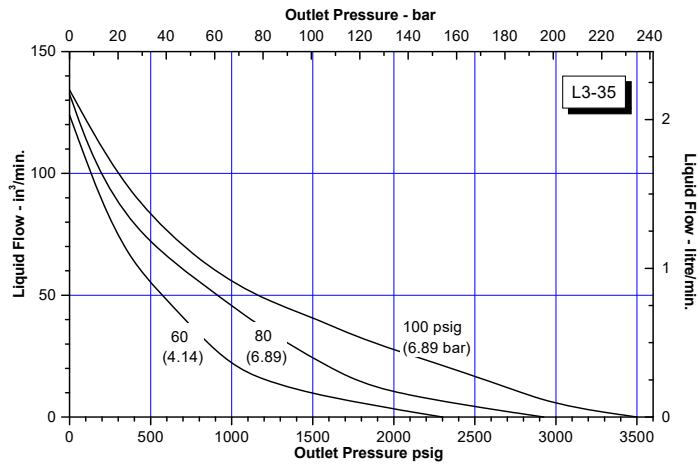




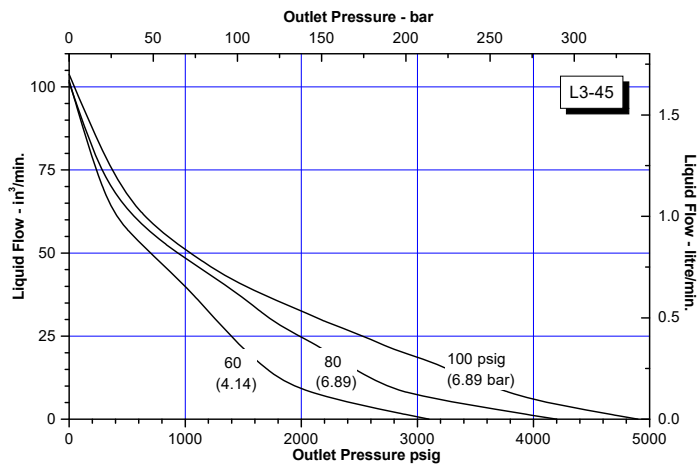
# L3 Series Compact Pump



L3-25



L3-35



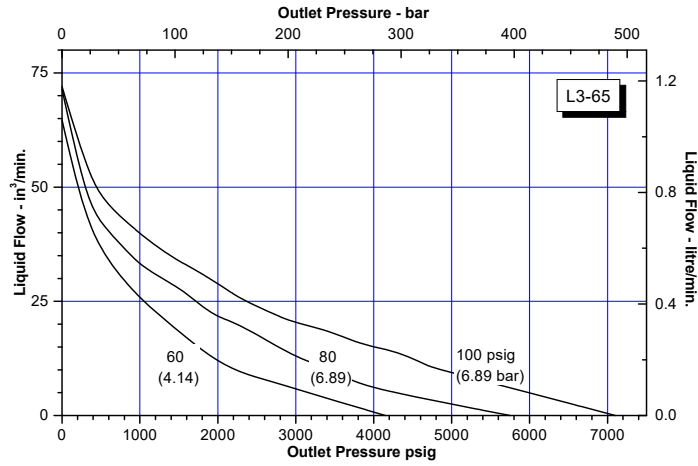
L3-45



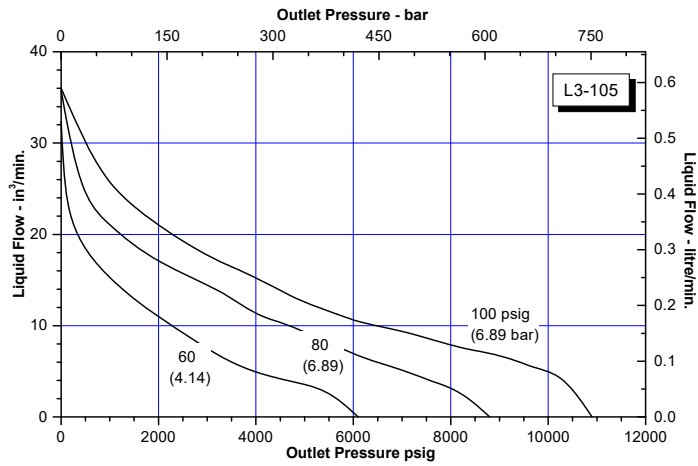
# L3 Series Compact Pump



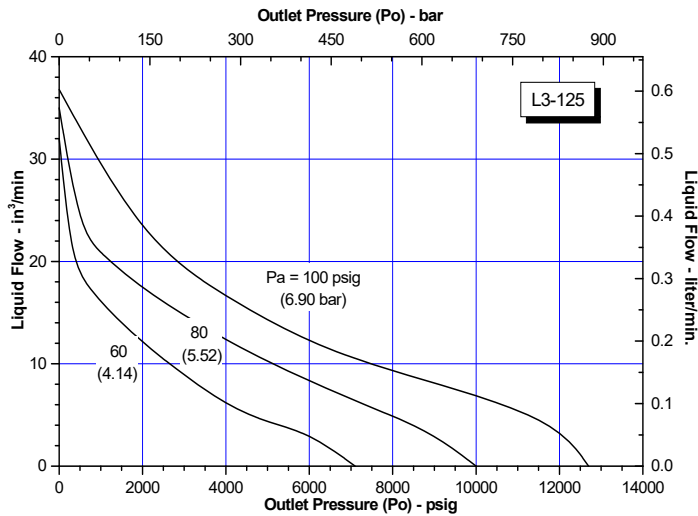
L3-65



L3-105

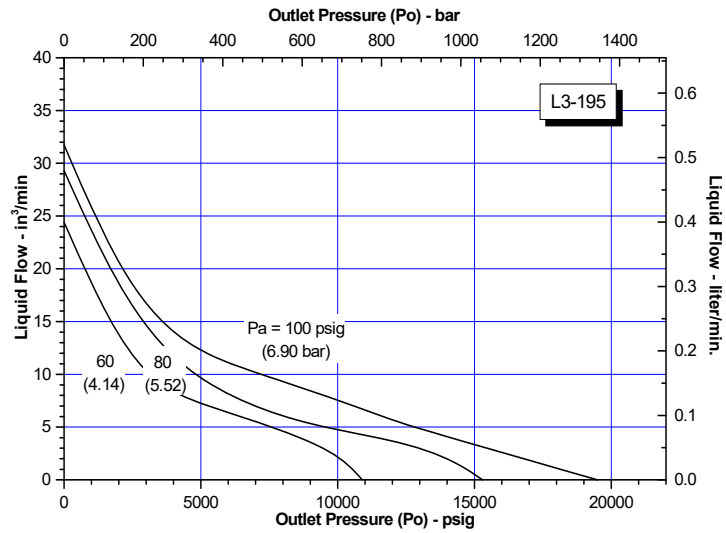


L3-125





# L3 Series Compact Pump



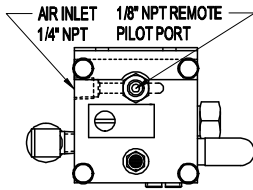
L3-195



# L3 Pump Modifications



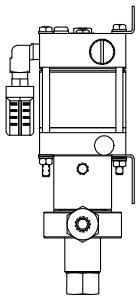
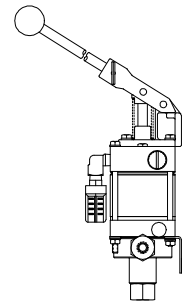
In some cases, a combination of the modifications shown can be supplied upon request. Consult factory for additional information and dimensional data if required.



- **“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” & “M027” 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.

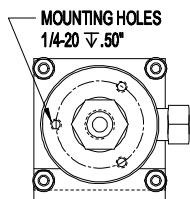
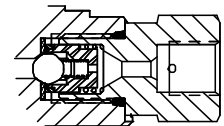


- **“M005” Distance Piece** – The distance piece models are furnished with an isolator attachment which prevents the hydraulic piston from retracting into the air drive during operation, thus providing 100% separation of the hydraulic assembly from the air drive assembly. The isolator attachment prevents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



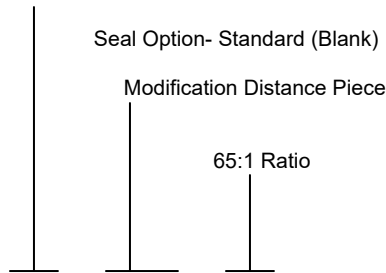
# HOW TO ORDER TABLE

## L3 SERIES PUMPS



Example #1 showing 1 modification

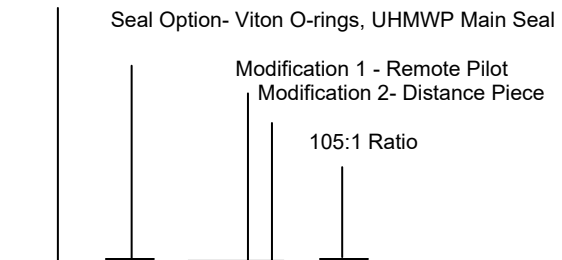
L3 Series Stainless Steel Compact Pump



L3 – M 005 - 65

Example #2 showing 2 modifications

L3C Series Carbon Steel Compact Pump



L3C- 05- M 025 - 105

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

- L3** Stainless Steel Hyd. Section Compact Pump
- L3C** Carbon Steel Hyd. Section Compact Pump
- L3S** All Stainless Steel Construction

### TABLE 2 Seal Compound – Hydraulic Section

- Blank** Std- Buna-N O-rings, polyurethane Main Seal
- Blank** Std- Buna-N O-rings, UHMWP/CG-PTFE Main Seal<sup>(2)</sup>
- 03** EPR O-rings, Polyurethane Main Seal
- 04** Viton O-rings, Polyurethane Main Seal
- 05** Viton O-rings, UHMWP Main Seal
- 06** EPR O-rings, UHMWP Main Seal
- 07** Buna-N O-rings, UHMWP Main Seal

### TABLE 3 Modifications

- Blank** Standard- No Modifications
- 002** Remote Pilot
- 003** SAE Straight Thread Ports
- 004** Hand Pump Attachment, -15 thru -125 Ratios
- 027** Hand Pump Attachment, -195 Ratio
- 005** Distance Piece
- 006** No Air Piston Return Spring
- 008** Noise Reduction
- 009** 7/16-20 x 1/4" High Press Fitting Outlet

### TABLE 4 <sup>(1)</sup> Actual Ratio

- 15** 20:1 Actual Ratio
- 25** 31:1 Actual Ratio
- 35** 40:1 Actual Ratio
- 45** 55:1 Actual Ratio
- 65** 79:1 Actual Ratio
- 105** 123:1 Actual Ratio
- 125** 133:1 Actual Ratio
- 195** 213:1 Actual Ratio

Notes:

- (1) Do not fill gap on a two digit description. Refer to example above.
- (2) Available only for L3-195.

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





# L3 Series Power Units



Hydrorex 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.

## The L3-REX Series

This portable unit weighs only 45 pounds so it can easily be carried from one place to another. Dimensions are 16" wide by 18" high by 12" 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 stainless steel reservoir with fill cap, level & drain port.

## Air & Hand Operated Hydrostatic, Calibrator & Burst



## The CSS Case



## Air & Hand Operated Hydrostatic, Calibrator & Burst

Designed for instruments pressure test and pressure calibration. and for all industries hydrostatic test. Air and hand operate compatible with all hydraulic fluids, water and many other liquids.

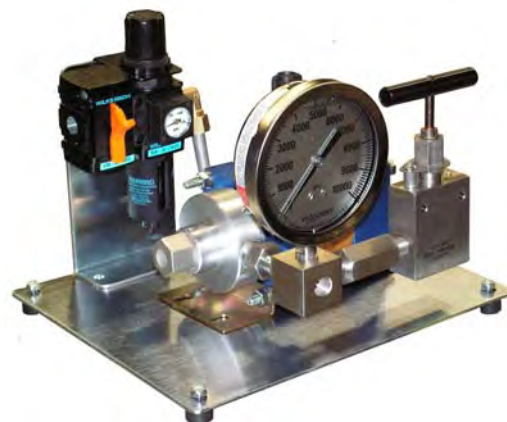
A lightweight yet rugged mobile weatherproof case with 1.5 gallon stainless steel tank. Requires 30 – 100 Psi air drive pressure to operate, self priming for immediate operation.

Hand pump attachment allows for manual operation when shop air is not available or for Precision Pressure Control.

Shipping Weight: 40LBS / Package Weight: 22" x 18" x 16"

## S10014 Base Mounted Power Unit

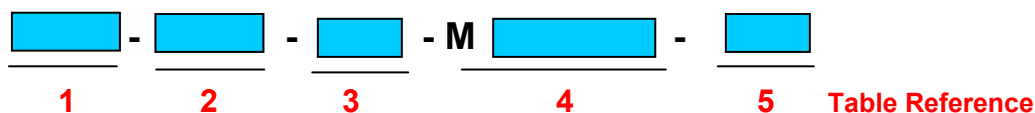
Our most basic L3 Series power unit consists of just the air controls, pump, high pressure gauge, manifold and bleed valve. The components are mounted on a 9" by 10 1/2" base by 9" high. And weighs only 20 pounds.



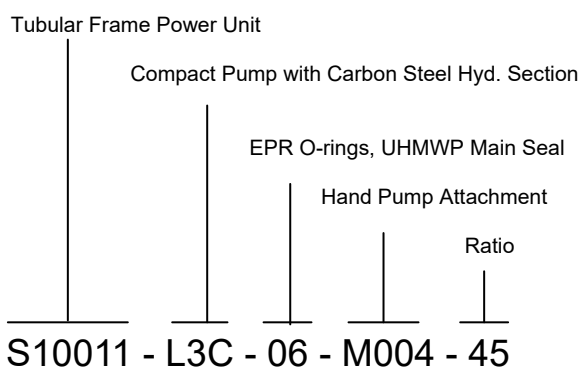
## S10014 Base Mounted Power Unit

# HOW TO ORDER TABLE

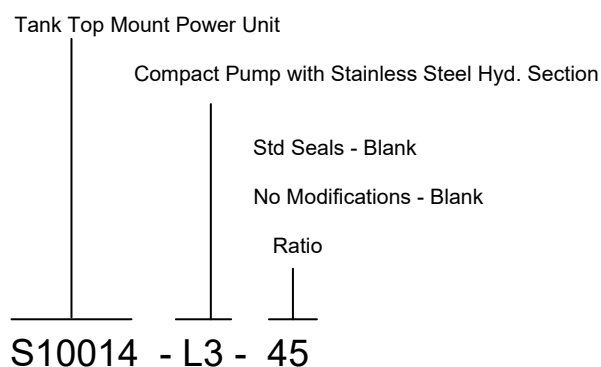
## L3 SERIES POWER UNITS



### 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>Blank</b>	Std- Buna-N O-rings, UHMWP/CG-PTFE Main Seal <sup>(1)</sup>
<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) Available only for L3-195.

#### 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, -15 thru -125 Ratios
<b>027</b>	Hand Pump Attachment, -195 Ratio
<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
<b>195</b>	213:1 Actual Ratio

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

## LIMITED WARRANTY

SC manufactured products are warranted free of original defects in material and workmanship for a period of one year from date of purchase to first user. This warranty does not include packing, seals or failures caused by lack of proper maintenance, incompatible fluids, foreign materials in the air media, in the fluid media or application of pressures beyond catalog ratings. Products believed to be originally defective may be returned, freight prepaid, for repair and/or replacement to the distributor, authorized service representative or to the factory. If upon inspection by the factory or authorized service representative and the problem is found to be originally defective material or workmanship, repair or replacement will be made at no charge for labor and materials, F.O.B. the point of repair or replacement. Permission to return under warranty should be requested prior to shipment. A Return Material Authorization Number (RMA), the original purchase date, purchase order number, serial number, model number, reason for return or other pertinent data to establish warranty claim must be included in the documentation to expedite the return or replacement to the owner.

If the unit has been disassembled, misused, or altered without prior **written** authorization, warranty is void. If it has been improperly reassembled or substitute parts have been used in place of factory manufactured parts, warranty is void.

Any modification to any SC product which you have made or may make in the future will void warranty. SC disclaims any and all liability obligation, or responsibility for the modified product, and for any claims, demands or causes of action for damage or for personal injuries resulting from the modification and/or use of such a modified SC product.

**SC's obligation with respect to its products shall be limited to replacement, and in no event shall SC be liable for any loss or damage, consequential or special, of whatever kind or nature, or any other expense which may arise in connection with or as a result of such products or the use or incorporation thereof in a job. This warranty is expressly made in lieu of all other warranties of merchantability and fitness for a particular purpose. No express warranty and no implied warranties whether of merchantability or fitness for a particular purpose or otherwise, other than those expressly set forth above, shall apply to SC products.**