



Designers and Manufacturers of Hydraulic and Pneumatic Equipment Since 1953

SC HYDRAULIC ENGINEERING CORPORATION

1130 Columbia Street - Brea, California 92821 - USA • Phone (714) 257-4800 - Fax (714) 257-4810

L3 SERIES AIR OPERATED COMPACT PUMPS



P
U
M
P
S

A "High Pressure" History...

An innovator and pioneer in the field of hydraulic engineering, SC Hydraulic has been manufacturing air-driven liquid pumps for more than a half of a century.

Founded in 1953 by Bob Vedder and Willie Mohler, the company started with only a few core products. Basically air-driven liquid pumps. Today, SC Hydraulic's product line has expanded to include an extensive collection of air and gas boosters, power units, systems and selected high-pressure valves.



The product line remained stable through the 1980s seeing successful operation in an ever-increasing number of installations and applications, while sales grew through an expansion of distribution.

Under the leadership of Bob Vedder's daughter, Donna Perez, SC Hydraulic operates a state-of-the-art 65,000 square-foot facility in Brea, California, and is well prepared for future growth and innovation.

Where Hydraulic Force Meets Custom Engineering

With products capable of achieving pressures exceeding 70,000 psig, SC Hydraulic Engineering Corp. is a force to be reckoned with in the field of hydraulic engineering.

SC Hydraulic manufactures a vast array of air-operated hydraulic pumps and boosters for a variety of industries. In addition to our current line of hydraulic products, we can work with you to custom design products to fit the exact specifications of your applications.

An international leader in hydraulic engineering, SC Hydraulic is staffed with educated and certified engineers. They are continually developing new products which are in sync with newly emerging applications, both in the United States and abroad.

For Fluid Power...

Contact SC Hydraulic today, to find out more about our capabilities or for a technical data sheet.



In a 65,000 square foot facility, SC Hydraulic is capable of setting the industry's highest standard while maintaining the best delivery times.

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 CO₂.

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.

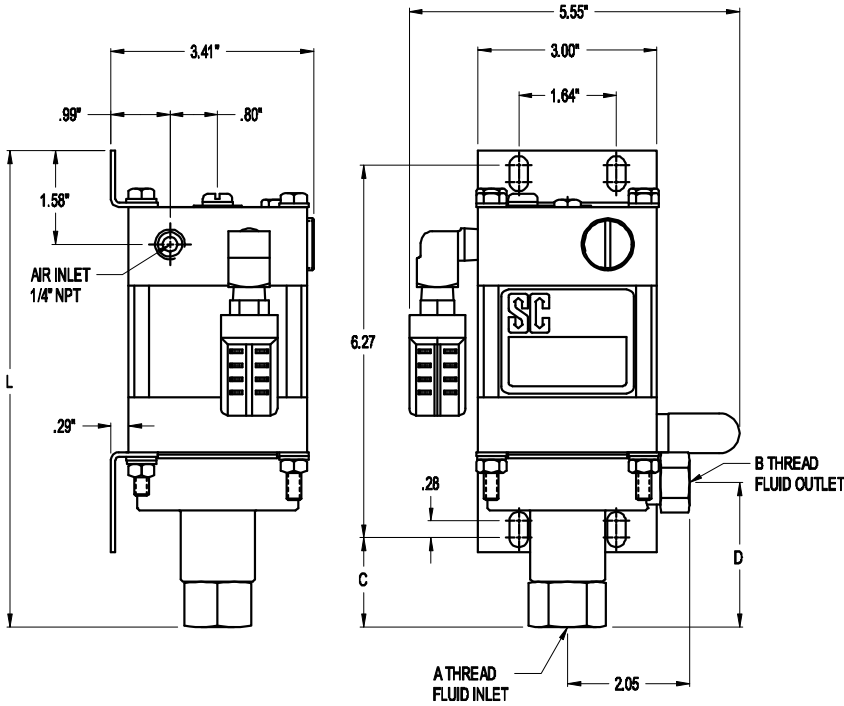
Can supply pressures up to 24,375 psi and flow rates up to 1.0 gpm.

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

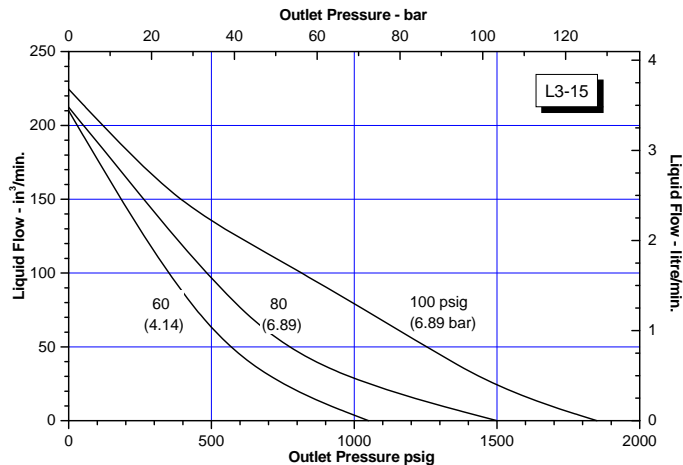
- Scissor jack lifts, aircraft jacks
- Clamping devices
- Punches and pin presses
- Valve actuation
- Roller and bolt tensioning
- Torque wrenches
- Press system overload
- Pressure testing
- Crimping
- Trash compactors

Mounting Dimensions in Inches

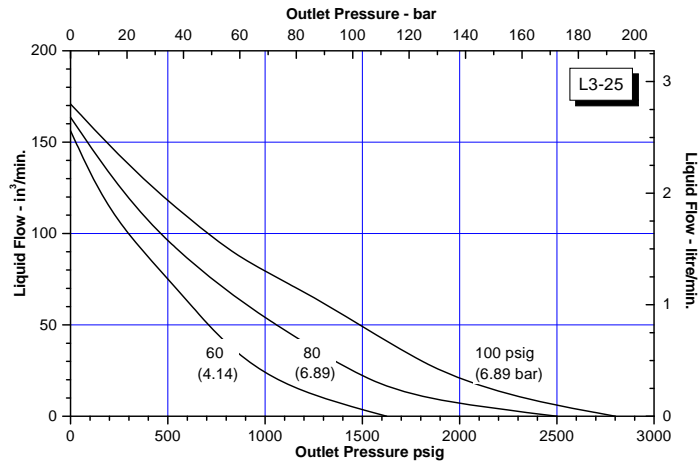
Dash Number	Actual Ratio	Max Pressure psig @ 125 Pa ⁽¹⁾	Displacement Per Cycle Cu. In.	NPT/LF4 (Std)		SAE/LF4 (Optional)			C	D	L
				A Thread	B Thread	A Thread	B Thread	B Thread			
-15	20	2,250	.27	3/8"	1/4"	-8 SAE	-6 SAE	7/16-20 *	1.50	2.43	8.02
-25	31	3,500	.18	3/8"	1/4"	-8 SAE	-6 SAE	7/16-20 *	1.50	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

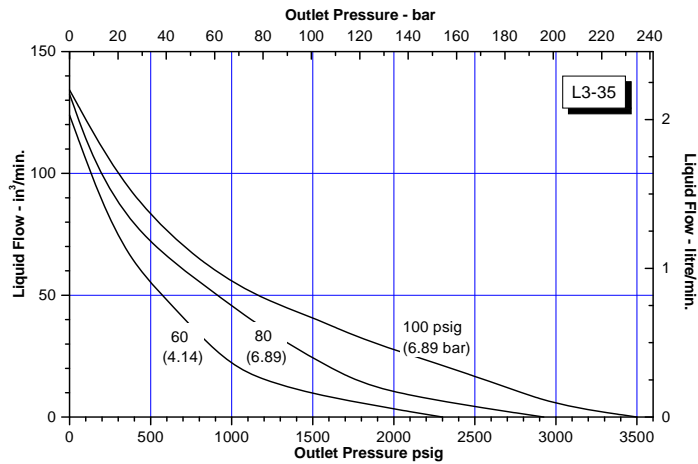
L3-15



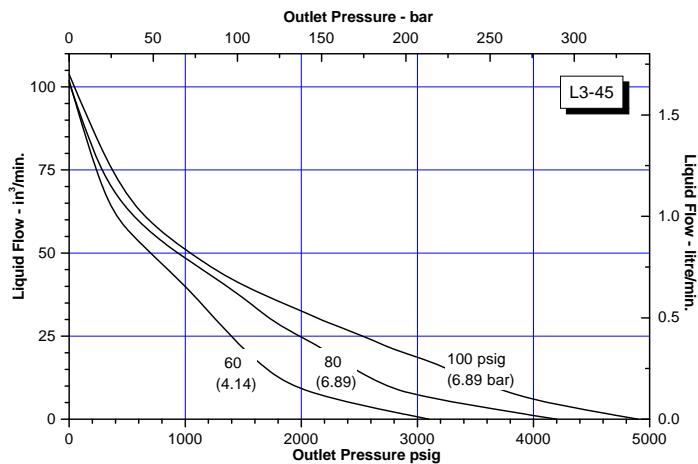
L3 Series Compact Pump



L3-25



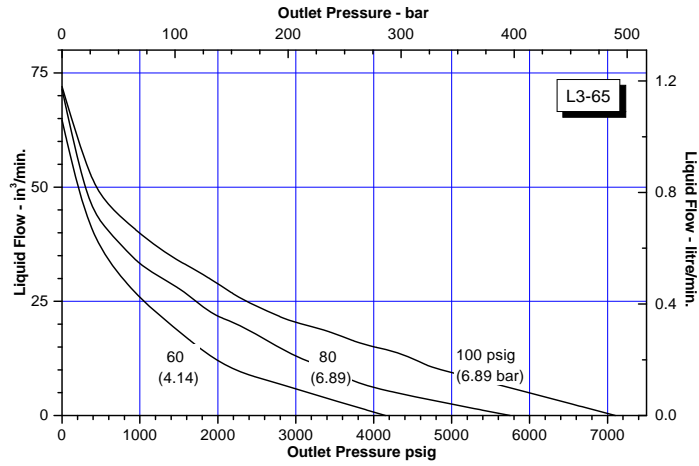
L3-35



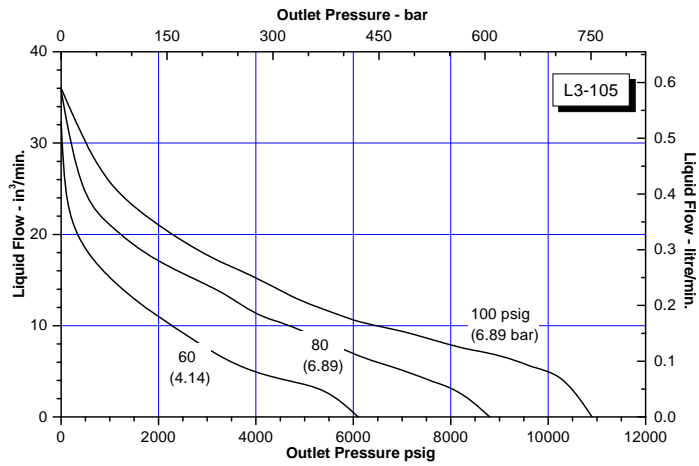
L3-45

L3 Series Compact Pump

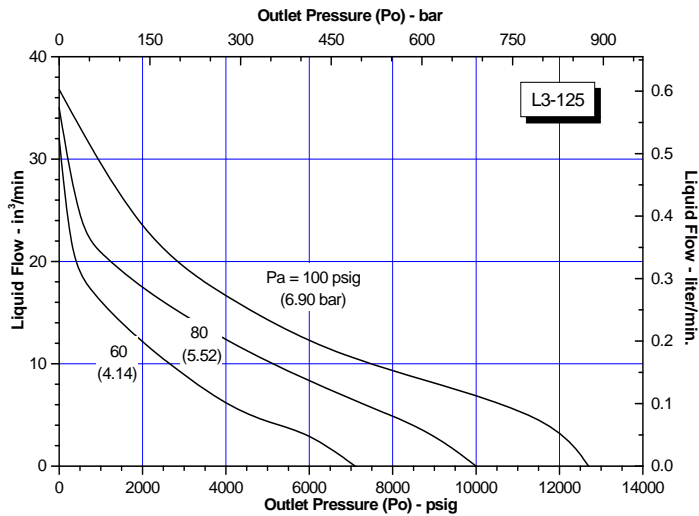
L3-65



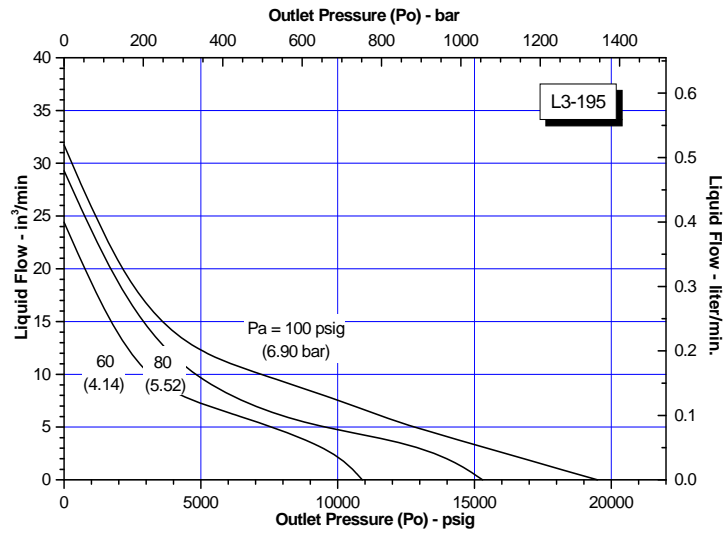
L3-105



L3-125



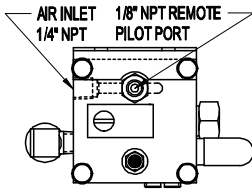
L3 Series Compact Pump



L3-195

L3 Pump Modifications

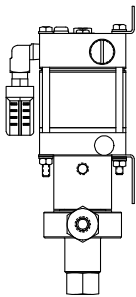
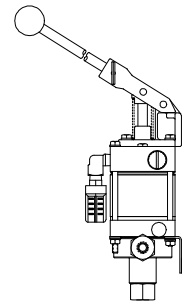
In some cases, a combination of the modifications shown can be supplied upon request. Consult factory for additional information and dimensional data if required.



- **“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.

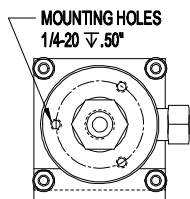
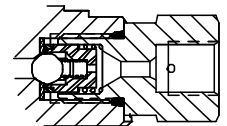


- **“M005” Distance Piece** – The distance piece models are furnished with an isolator attachment which prevents the hydraulic piston from retracting into the air drive during operation, thus providing 100% separation of the hydraulic assembly from the air drive assembly. The isolator attachment prevents 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 CO₂.

- **“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.

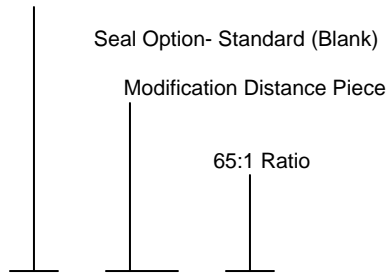
HOW TO ORDER TABLE

L3 SERIES PUMPS



Example #1 showing 1 modification

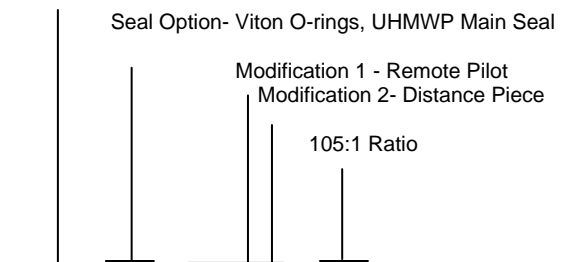
L3 Series Stainless Steel Compact Pump



L3 – M 005 - 65

Example #2 showing 2 modifications

L3C Series Carbon Steel Compact Pump



L3C- 05- M 025 - 105

TABLE 1 ⁽¹⁾ 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 ⁽²⁾
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 ⁽¹⁾ 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

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

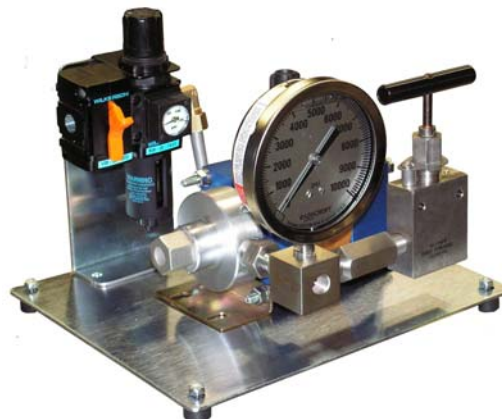
This handy power unit incorporates all the features of the above unit less the tubular frame and has a one gallon reservoir built from heavy duty polyethylene.

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

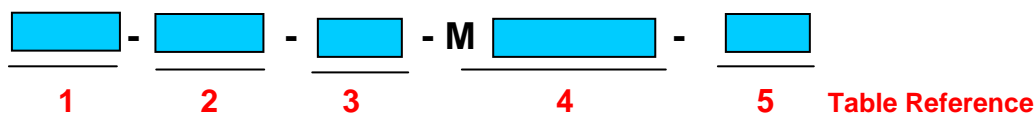
Our most basic L3 Series power unit consists of just the air controls, pump, high pressure gauge, manifold and bleed valve. The components are mounted on a 9" by 10 1/2" base by 9" high. And weighs only 20 pounds.



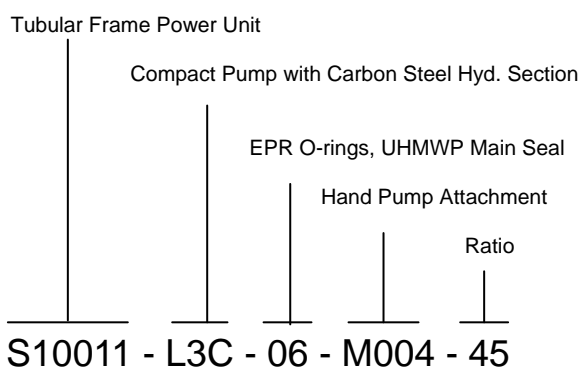
S10014 Base Mounted Power Unit

HOW TO ORDER TABLE

L3 SERIES POWER UNITS



Example #1 Power Unit Selection



Example #2 Power Unit Selection

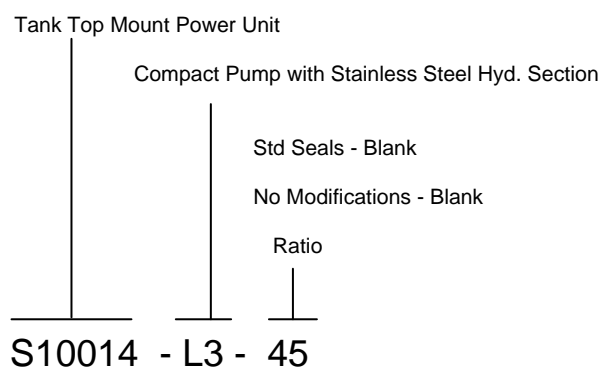


TABLE 1 Power Unit Designation

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

TABLE 2 Pump Series Designation

L3	Compact Pump Stainless Steel Hydraulic Section
L3C	Compact pump Carbon Steel Hydraulic Section
L3S	Compact Pump All Stainless Steel Construction

TABLE 3 Seal Compound - Hydraulic Section

Blank	Std- Buna-N O-rings, Polyurethane Main Seal
Blank	Std- Buna-N O-rings, UHMWP/CG-PTFE Main Seal ⁽¹⁾
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

Note:

(1) Available only for L3-195.

TABLE 4 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—Isolator
006	No Air Piston Return Spring
008	Noise Reduction
009	7/16"-20 x 1/4" High Press. Fitting Outlet

TABLE 5 Pump 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	138:1 Actual Ratio
195	213:1 Actual Ratio

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

LIMITED WARRANTY

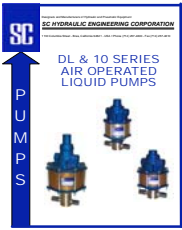
SC manufactured products are warranted free of original defects in material and workmanship for a period of one year from date of purchase to first user. This warranty does not include packing, seals or failures caused by lack of proper maintenance, incompatible fluids, foreign materials in the air media, 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.

Other catalogs available from SC Hydraulic Engineering. Contact your local distributor or us direct and request the ones(s) you need by name or number. Catalogs are also available online at www.schydraulic.com.



Catalog # D15000

D/10 SERIES AIR OPERATED LIQUID PUMPS

Three sizes to choose from with various ratios. Pressures to 65,000 psi

Catalog # D15002

L10 SERIES AIR OPERATED LIQUID PUMPS

10" Air drive double-acting pump for pressures up to 30,000 psi.



Catalog # D15004

AIR BOOSTERS & SYSTEMS

Compact and double-acting up to 5:1 ratio plus booster systems with reservoirs and air controls.

Catalog # D15005

AIR OPERATED GAS BOOSTERS

Single and double-acting and two stage boosters up to 25,000 psi plus complete gas booster systems.



Catalog # D15007

D/10 SERIES POWER UNITS

Six different types with and without reservoirs and pressures up to 65,000 psi. All non-electric.

Catalog # D15006

FLOW CONTROL & AIR PILOT SWITCH VALVES

High pressure check, sequence, release, relief, and air pilot switch valves for liquid and gas applications.



Distributed by: