Super Syringe Instruction Sheet

Congratulations! You have just purchased a Super Syringe from Hamilton. We combine the highest quality materials with skilled craftsmanship, ensuring the highest possible performance level of every precision fluid device we manufacture. With proper care and handling, Super Syringes will provide years of use.

The Super Syringe, a large volume, clear acrylic syringe, is available in volumes from 0.5 liters to 2.0 liters for a variety of applications, including: gas sampling, preparing gas standards, air pollution sampling, EPA sample testing, calibration of reservoirs, pneumographs, spirometers and pulmonary research. The Super Syringe is available with two choices of adapters, PTFE luer lock or tracheal.

Syringes and needles manufactured by Hamilton Company are intended for scientific research and laboratory use only and are not intended for human *in vivo* use.

Originally the 2.0 liter syringe was designed to calibrate spirometers used in the field of pulmonary health care. The Occupational Safety and Health Administration (OSHA) rules and regulations include the Cotton Dust Law, which became enforceable in 1978. The law mandated the testing of pulmonary function of employees working in areas contaminated with cotton dust in the air. The testing is done with spirometers that must be calibrated frequently. The law has been expended to include other industries such as mining, chemical production, grinding and mineral processing.

The Super Syringe is accurate to ±1% of its total volume. The syringe is pressure rated to 30 psig, with a maximum temperature range of 50°C (122°F). The PTFE luer lock (TLL) model accepts a variety of Hamilton stainless steel needles, fittings, valves, adapters and PTFE tube assemblies. The tracheal model accepts soft flexible tubing with a 5/8" ID.

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Maintenance and Cleaning

The Hamilton Super Syringe has been designed to be completely maintained on-site. A complete list of replacement parts is provided in this document.

When cleaning your acrylic plastic syringe, it is best to use a household liquid detergent and warm water with a soft, lint-free laboratory wipe. Thoroughly rinse and air dry parts before re-assembly. Prior to installing the plunger/piston disk, lightly lubricate the O-ring with a suitable lubricant, such as Halocarbon 25-5S chlorofluorocarbon grease (applied at the factory prior to shipment). Another option is a light coating of Dow Corning Silicone Release Spray (10 oz. aerosol can), which can be applied directly to the piston disk O-ring. Avoid the use of heavy greases for lubrication.

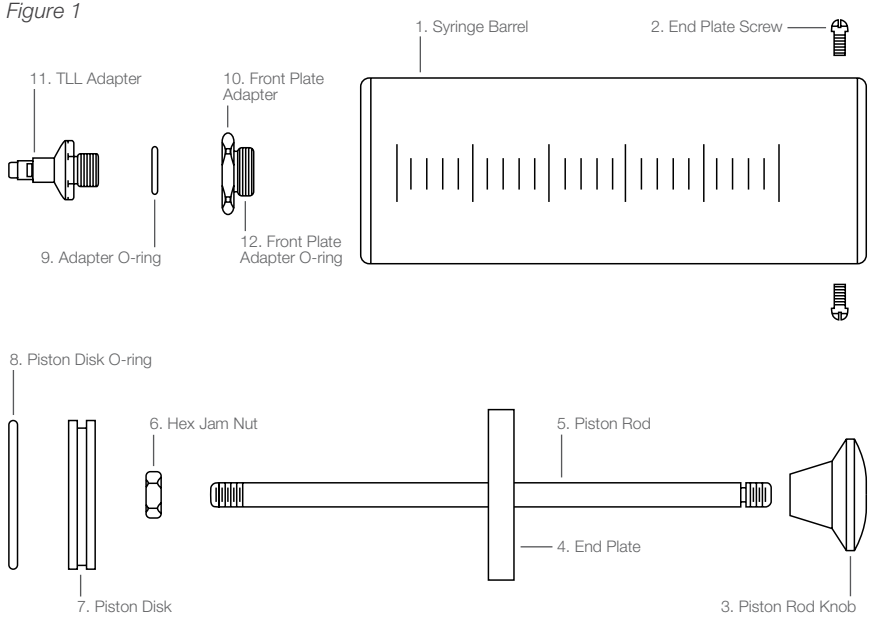
Note: Test any application and independently conclude that a given lubricant provides adequate performance, without contamination, for your specific use.

Do not sterilize the super syringe by autoclaving. Sterilization can be done by gas (ethylene oxide), radiation (gamma irradiation at 2.5 MRad) or disinfectants.

Note: Do not use solvents that may cause a physical change, including the absorption of solvents, resulting in the softening and swelling of the plastic (depolymerization). Some of these solvents include strong concentrated acids; esters; aromatic, halogenated and aliphatic hydrocarbons, ketones and strong oxidizing agents.

Note: Do not use abrasive cleaners which may scratch the plastic surfaces.

Figure 1



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Parts and Accessories for the Super Syringe

Please reference Hamilton Company's general Product Catalog for additional items.

Model Number	Description	Part Number
S500	0.5 liter Tracheal Syringe	86301
S1000	1.0 liter Tracheal Syringe	86302
S500	0.5 liter PTFE Luer Lock Syringe	86311
S1000	1.0 liter PTFE Luer Lock Syringe	86312
S1500	1.5 liter PTFE Luer Lock Syringe	86313
S2000	2.0 liter PTFE Luer Lock Syringe	86314

Description*	Super Syringe Model Number					
	86301	86302	86311	86312	86313	86314
(1) Syringe Barrel	18050	18051	18050	18051	—	—
(2) End Plate Screw	16204	16204	16204	16204	16204	16204
(3) Piston Rod Knob	18007	18007	18007	18007	18007	18007
(4) End Plate	18046	18047	18046	18047	18047	18047
(5) Piston Rod	18005	18005	18005	18005	—	—
(6) Hex Jam Nut	16578	16578	16578	16578	16578	16578
(7) Piston Disk	18053	18054	18053	18054	18054	18054
(8) Piston Disk O-ring	16160	16161	16160	16161	16161	16161
(9) Adapter O-ring	16107	16107	16107	16107	16107	16107
(10) Front Plate Adapter	—	—	—	—	—	18070
(11) TLL Adapter	—	—	18026	18026	18026	18026
(12) Front Plate Adapter O-ring	—	—	—	—	—	16169

* Numbers in parentheses refer to part numbers in Figure 1.

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