

3. Series Descriptions

Complete descriptions for Hamilton syringe series used for manual applications are given below. The descriptions include product features and typical applications along with the volumes, terminations, and accessories available for each series. For some volumes, several series may include syringes with equivalent volume ranges and similar terminations.

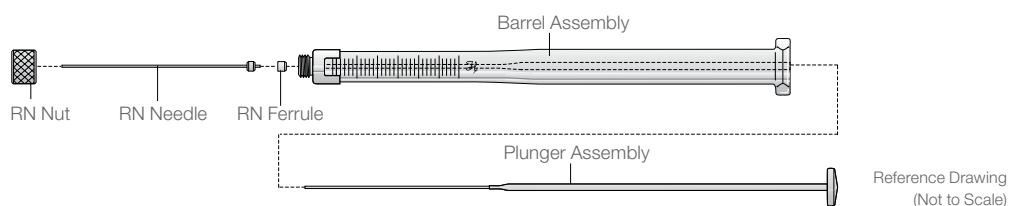
Microliter Syringes

(0.05 μL – 500 μL Delivery Volume)

This type of syringe is for use with liquids and incorporates a stainless steel plunger that is individually fitted to its matching syringe barrel. These micro-volume syringes have a very close tolerance between the plunger and the barrel which creates a liquid-tight seal without parts such as o-rings that eventually wear out.

600 Series (0.25 μL – 5 μL Delivery Volume)

The 600 series are robust syringes consisting of two distinct parts. The bottom half of the barrel accurately measures the liquid sample and the top half supports the plunger. In addition, the top section of the plunger is thicker to further reduce the risk of bending the plunger. These syringes require half of the standard stroke length making them ideal for one-handed operation. The plungers and barrels are not interchangeable or replaceable.



Recommended Use:

The 600 series is great for animal injections because one hand is free for manipulating the animal.

Volumes:

2.5 μL and 5 μL

Terminations:

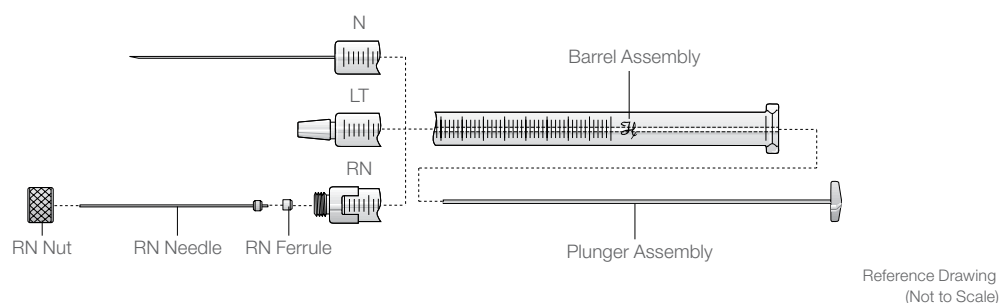
Removable Needle (RN)

Accessories:

Syringe Guide and Reproducibility Adapter

700 Series (0.5 μL – 500 μL Delivery Volume)

The 700 series is the original Hamilton syringe. It was designed to solve the general liquid handling requirements of manufacturing and research laboratories and remains the industry standard. The plungers and barrels are not interchangeable or replaceable.



Recommended Use:

The 700 series is used for manual and automated GC and HPLC injections. Also, it is used for everyday applications that require accurate measuring and dispensing of liquid.

Volumes:

5 μL , 10 μL , 25 μL , 50 μL , 100 μL , 250 μL , and 500 μL

Terminations:

Cemented Needle (N), Special Cemented Needle (SN), Removable Needle (RN), and Luer Tip (LT)

Accessories:

PB600-1 Repeating Dispenser, Reproducibility Adapter, Syringe Guide, and Digital Syringe



800 Series (0.5 µL – 250 µL Delivery Volume)

The 800 series has the same liquid handling capabilities as the 700 series but with the addition of an aluminum syringe holder designed to eliminate plunger damage. The syringe holder screws onto the glass barrel. A two-piece extended plunger further eliminates the risk of breakage. A friction screw at the top of the barrel can be adjusted to give the user some control over dispensing speed and prevent the accidental removal of the plunger. In addition, the syringe holder can be fitted with different barrel/plunger assemblies to cover a range of volumes.

Recommended Use:

This syringe is intended for applications where the plunger on a 700 series syringe might be bent. Excellent for novice users.

Volumes:

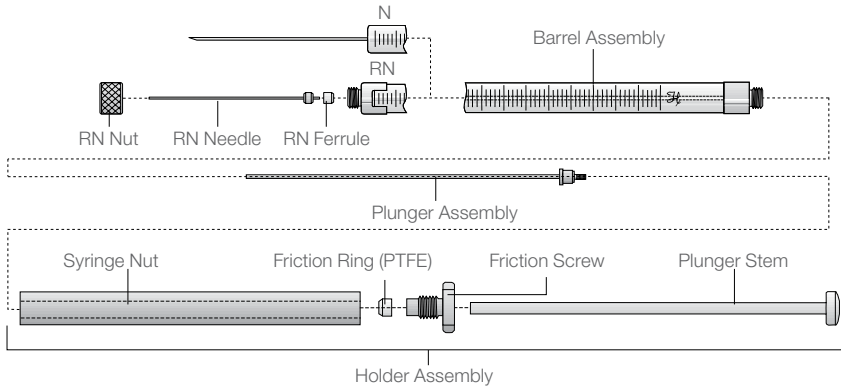
5 µL, 10 µL, 25 µL, 50 µL, 100 µL, and 250 µL

Terminations:

Cemented Needle (N) and Removable Needle (RN)

Accessories:

Reproducibility Adapter



Reference Drawing
(Not to Scale)

Modified Microliter Syringes

7000 Series (0.05 µL – 5 µL Delivery Volume)

The 7000 series employs a plunger wire inside the needle to accurately dispense ultra-low volumes. The needle is bored to extremely accurate tolerances to accommodate the plunger wire. With the plunger inside the needle, the standard dead volume inside the needle is eliminated.

Recommended Use:

The 7000 series is used for manual and automated GC and HPLC injections. Also, it is used for everyday applications that require ultra-small measurements of liquid.

Volumes:

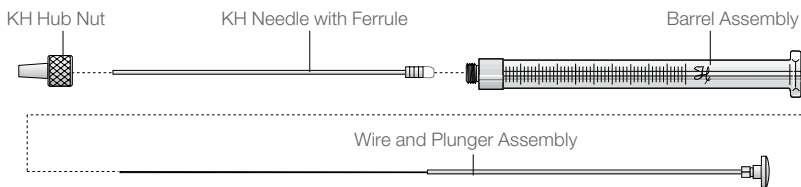
0.5 µL, 1 µL, 2 µL, and 5 µL

Terminations:

Knurled Hub (KH)

Accessories:

Reproducibility Adapter, Syringe Guide, Digital Syringe, and Syringe Cleaner



Reference Drawing
(Not to Scale)

Gastight Syringes

(1 μ L – 100 mL Delivery Volume)

These syringes can be used with both liquids and gases. The precision-machined PTFE plunger tip creates a leak-free seal. The plungers are replaceable.

1000 Series (100 μ L – 100 mL Delivery Volume)

The 1000 series is a mid-volume solution for all liquid and gas handling needs.

Recommended Use:

The 1000 series is ideal for manual and automated HPLC injections. This syringe is commonly used in syringe pumps and other liquid handling instrumentation.

Volumes:

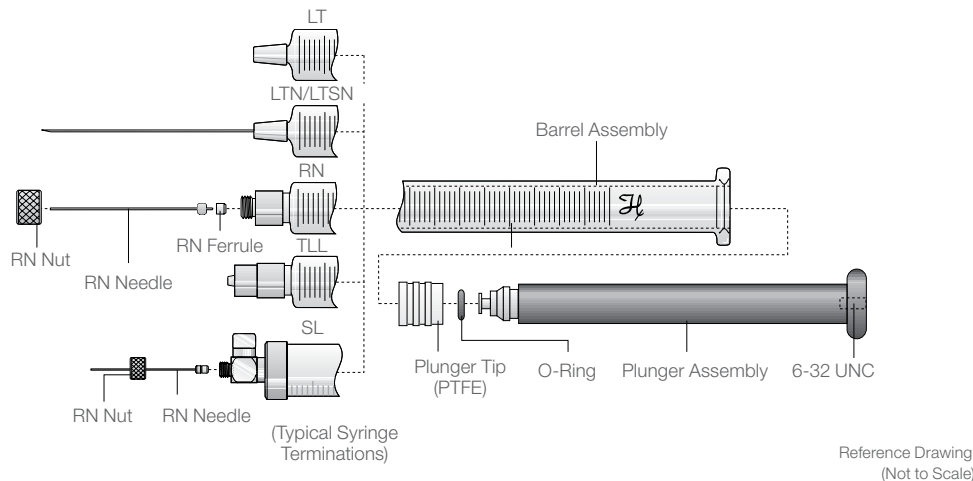
1 mL, 1.25 mL, 2.5 mL, 5 mL, 10 mL, 25 mL, 50 mL, and 100 mL

Terminations:

Luer Tip Cemented Needle (LTN), Luer Tip Special Cemented Needle (LTSN), Luer Tip (LT), Removable Needle (RN), PTFE Luer Lock (TLL), and SampleLock (SL)

Accessories:

PB600-1 Repeating Dispenser for volumes (1 to 2.5 mL)



1700 Series (1 μ L – 500 μ L Delivery Volume)

This is the Gastight version of the original Hamilton 700 series syringe. It was designed to meet the low volume liquid or gas handling needs of research and manufacturing laboratories.

Recommended Use:

The 1700 series is excellent for manual and automated GC and HPLC injections. This syringe is commonly used in syringe pumps and other liquid handling instrumentation.

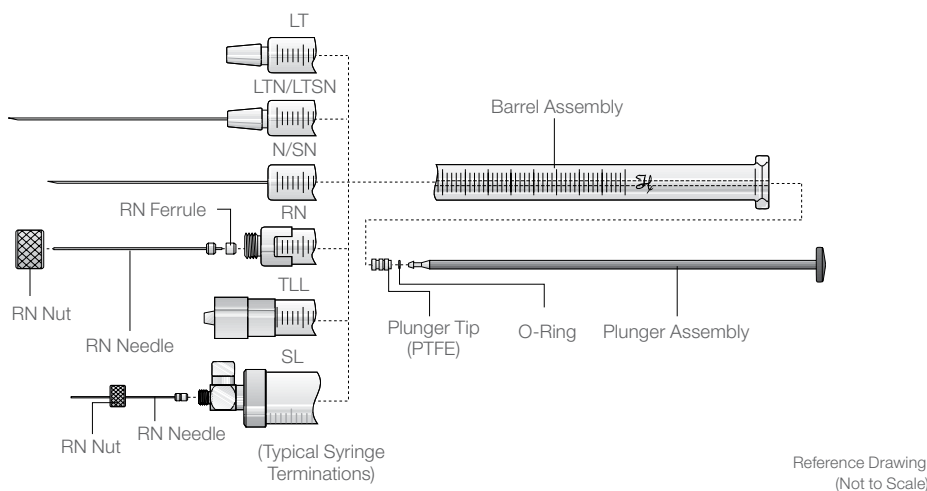
Volumes: 10 μ L, 25 μ L, 50 μ L, 100 μ L, 250 μ L, and 500 μ L

Terminations:

Cemented Needle (N), Special Cemented Needle (SN), Luer Tip Cemented Needle (LTN), Luer Tip Special Cemented Needle (LTSN), Luer Tip (LT), Removable Needle (RN), PTFE Luer Lock (TLL), and SampleLock (SL)

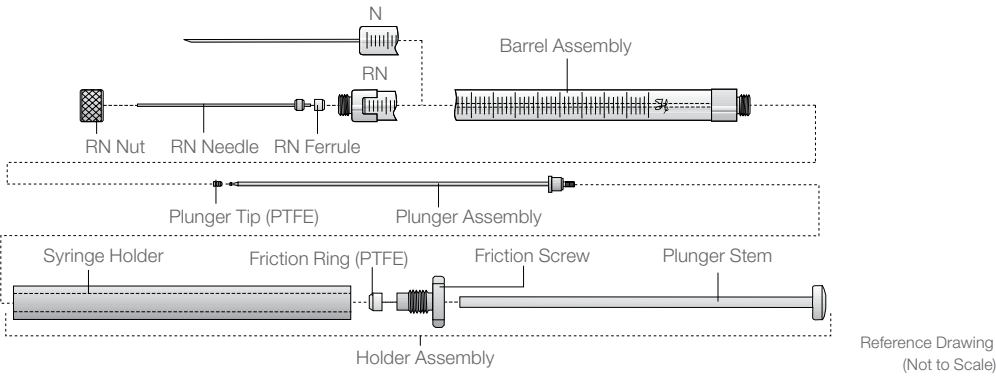
Accessories:

PB600-1 Repeating Dispenser, Reproducibility Adapter, Syringe Guide, and Digital Syringe



1800 Series (1 µL – 250 µL Delivery Volume)

The 1800 series was designed to eliminate the possibility of plunger damage. It has the same liquid handling capabilities as the 1700 series but the extended plunger eliminates breakage and allows the user some control over the dispense speed.



Recommended Use:

This syringe is intended for applications where the plunger on a 1700 series syringe might be bent.

Volumes:

10 µL, 25 µL, 50 µL, 100 µL, and 250 µL

Terminations:

Cemented Needle (N) and Removable Needle (RN)

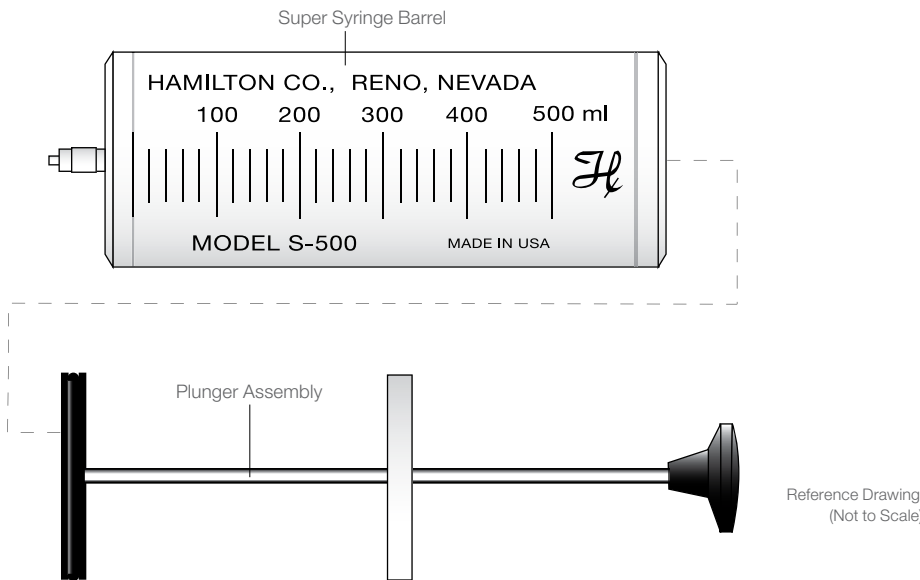
Accessories:

Reproducibility Adapter

Super Syringes — Specialty Syringes for Gases

Super Syringe (50 mL – 2L Delivery Volume)

Super Syringes were designed primarily for air sampling, preparing gas standards, calibrating reservoirs and pneumographs. The Super Syringe is the only Hamilton syringe with an acrylic barrel, which makes this syringe slightly less chemically resistant.



Recommended Use:

This syringe is intended for sampling or transfer of gases.

Volumes:

0.5 L, 1 L, 1.5 L, and 2 L

Terminations:

PTFE Luer Lock (TLL) and Tracheal Adapter (accepts 5/8 inch I.D. flexible tubing)

Accessories:

None