

Technical Information

Terminations

Terminations are located at the end of the syringe barrel and function as the interface between the syringe and its mating connection such as the needle. Terminations are offered in a number of different needle and connection configurations to accommodate a broad range of applications.

Below is a listing of the most popular syringe terminations.



N, Cemented Needle

For low volume syringes the needles are cemented into the glass syringe barrel at a point corresponding to the zero graduation mark. With this termination, dead volume is limited to the internal volume of the needle. Not autoclavable. Needle gauge is determined by the syringe volume and are not user-selectable.



SN, Special Cemented Needle

For low volume syringes the special needle terminations are the same as the Cemented Needle terminations except they allow for a variety of user-defined gauges, lengths and point styles to be attached.



LTN, Luer Tip Cemented Needle

For mid volume syringes the needles are cemented into the glass syringe barrel at a point corresponding to the zero graduation mark. With this termination, dead volume is limited to the internal volume of the needle. Not autoclavable. Needle gauge is determined by the syringe volume and are not user-selectable.



LTSN, Luer Tip Special Cemented Needle

For mid volume syringes the special needle terminations are the same as the Luer Tip Cemented Needle terminations except they allow for a variety of user-defined gauges, lengths and point styles to be attached.



LT, Luer Tip

The needles are removable and fit over a ground glass hub which is tapered in the shape of a male luer. The LT termination will accept most hypodermic needles but was designed specifically for use with Hamilton Kel-F needles. This termination increases the dead volume in the syringe, which may not be appropriate for some applications. Autoclavable when disassembled.



RN, Removable Needle

The needles are removable and are a Hamilton-specific design. The design allows the needles to seat precisely at the zero graduation mark of the syringe. Users can select the needle gauge, length and point style to optimize the syringe for custom applications. Additionally, this termination allows for a removable needle without increasing the dead volume of the syringe and is ideal when there is a risk of the needle clogging. Autoclavable when disassembled. Repeated autoclaving will shorten syringe life.



KH, Knurled Hub

The knurled hub is used exclusively on 7000 Series syringes. The hub handles up to 6000 psig maximum injection pressure. The needle is removable but with a limited number of gauges available because the plunger is fitted inside the needle. Autoclavable when disassembled. Repeated autoclaving will shorten syringe life.



FN, Fixed Needle

This termination is found on CTC chromatography syringes. The unique design features a direct attachment of the needle to the barrel and eliminates contact between the sample solvent and the adhesive reducing carry-over.



TLL, PTFE[®] Luer Lock

This termination has a PTFE, male Luer taper with nickel-plated brass locking hub for use with Kel-F needles, metal hub needles and universal connectors. Also, the TLL is used with Hamilton Diluters/Dispensers, OEM applications and manual operations. Autoclavable when disassembled, except on 25 mL and greater syringes. Repeated autoclaving will shorten syringe life.

BFP, Bubble Free Prime



This syringe is used on syringe pumps like the Microlab 600 Diluters/Dispensers conical plunger tip to flush all liquid from this termination. The resulting syringe is quicker to prime and flush during washes or solvent changes.



SL, SampleLock™

The SampleLock incorporates an On/Off syringe valve with RN needle. This termination is used for headspace, environmental sample collection and storage, pre-pressurization of gaseous samples for GC analysis, and sample spiking. Not autoclavable.



C, ChemSeal

The ChemSeal termination features a 1/4-28 UNF male fitting. This syringe is used in low volume applications where system dead volume needs to be minimized. These syringes can be screwed directly into Hamilton HV, HVP, HVX valves.



CA, Carbon Analyzer

This syringe is used for water analysis with total organic carbon (TOC) analyzers. The termination is designed to minimize the chance of organic carbon contamination from the needle connection.



DX, Diluter with Stop

This is a PTFE Luer Lock Male fitting with an M6 female side port. These syringes attach to instrumentation such as the Microlab 500 series diluters and dispensers.



DAD, Diluter AccuDil

These syringes have an axial fine thread M8 x 0.75 and an M6 female side port. These syringes attach to instrumentation such as the Microlab 1000 series diluters and dispensers.



AD, AccuDil

These syringes have an axial fine thread M8 x 0.75. These syringes attach to instrumentation such as the Microlab 1000 series Diluters/Dispensers.



Tracheal

This termination accepts 5/8" I.D. flexible tubing. These syringes are used for air sampling, preparing gas standards, calibrating reservoirs and pneumographs.