



## Syringes

Trajan offers a complete range of syringes with a range of capacities, termination types and needle styles to suit almost any application.

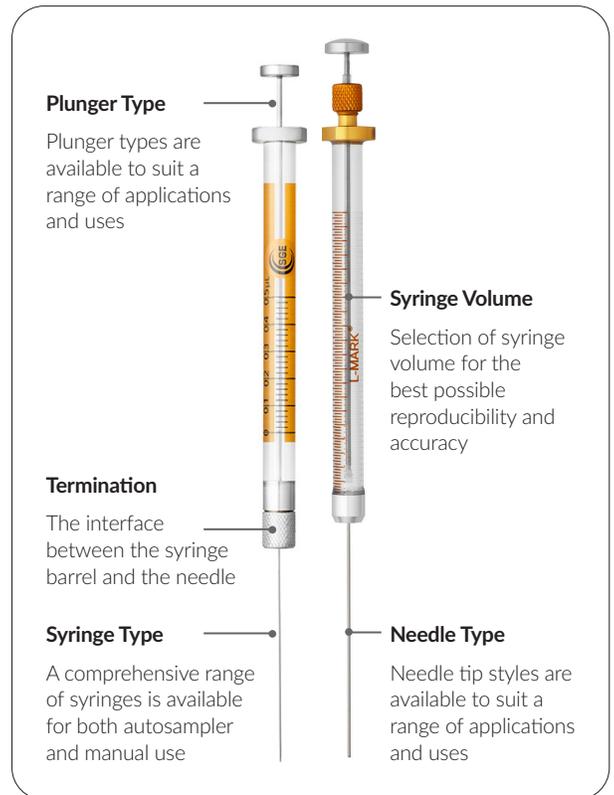
### What type of syringe?

If the syringe is being used by hand, a manual syringe is selected. If the syringe is being installed in an instrument then select an autosampler syringe to suit that particular instrument. Trajan's extensive range of autosampler syringes are designed to meet all fit, form and function criteria of a specific autosampler model. They meet dimensional specifications and have accuracy  $\geq \pm 1\%$ .

### Syringe volume

For the best possible injection reproducibility and accuracy, the smallest injectable volume from any syringe should be no less than 10% of its total capacity. For example, the smallest recommended injection volume from a 10  $\mu\text{L}$  syringe would be 1  $\mu\text{L}$ .

To accurately dispense less than 1  $\mu\text{L}$  a NanoVolume syringe is recommended. SGE® NanoVolume syringes are available with capacities ranging from 0.5  $\mu\text{L}$  to 5  $\mu\text{L}$ . These syringes can inject volumes as low as 0.05  $\mu\text{L}$  because the entire sample is contained within the needle. Designed with submicron tolerances, they provide precision and accuracy of  $\pm 2\%$ .



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Trajan's extensive range of autosampler syringes meet all fit, form and function criteria of a specific autosampler model. SGE GC autosampler syringes are color coded according to syringe volume, enabling easy identification of syringes installed in instruments.

## Syringe termination

Termination refers to the interface between the syringe barrel and the needle. Many syringes are supplied and used with needles attached, such as fixed needle (FN) and removable needle (RN). Other terminations are available where the needle is not supplied - Luer Lock (LL), Luer Tip (LT), and threaded terminations.

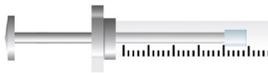
Color	Syringe volumes	
Light Orange	0.5 µL	500 µL
Yellow	1 µL	
Lime	5 µL	
Dark Orange		10 µL
Green		25 µL
Purple		50 µL
Aqua		100 µL
Gray		250 µL

Termination Type	Details	Code
Fixed Needle 	<ul style="list-style-type: none"> <li>Recommended for autosampler use where the probability of needle bending is minimal.</li> </ul>	F
Removable Needle 	<ul style="list-style-type: none"> <li>Allows for the needle to be changed if damaged or for different applications.</li> </ul>	R
Luer Lock 	<ul style="list-style-type: none"> <li>Fixed Luer Lock syringes have a Luer fitting that is permanently attached to the barrel.</li> </ul>	LL
Luer Tip 	<ul style="list-style-type: none"> <li>Removable needle versions have a Luer fitting that screws onto the barrel with the Luer Tip inserted.</li> </ul>	LT
Thread 	<ul style="list-style-type: none"> <li>Screw into a valve or other device, required for some LC autosamplers.</li> <li>Various threaded terminations are available.</li> </ul>	N/A

## Needle Selection

Needle Tip Style	Application	Features/Applications	Code
Bevel 	Manual GC	<ul style="list-style-type: none"> <li>A 20° tip which is typically used for manual injections.</li> <li>Designed for optimum septa penetration and prevention of septa coring.</li> </ul>	BV
Cone 	GC Autosampler	<ul style="list-style-type: none"> <li>Designed to withstand multi-injection requirements and improve septa lifetime when used with a GC autosampler.</li> <li>The needle passes through the septa during use and does not cause a slit.</li> </ul>	C
Dual gauge 	On-Column Injection - Autosampler	<ul style="list-style-type: none"> <li>Narrow gauge at the tip is suitable for large bore on-column injection.</li> <li>The wider gauge part of the needle gives increased strength to the needle for autosampler use</li> </ul>	N/A
Square 	LC	<ul style="list-style-type: none"> <li>Used for LC valve injection and have a 90° square tip with rounded and polished edges.</li> <li>This eliminates damage to the valve's rotor seal and stator face.</li> </ul>	LC
Dome 	With Pre-Drilled Septa	<ul style="list-style-type: none"> <li>The rounded and polished tip make this needle ideal for use with pre-drilled septa.</li> </ul>	D
Side hole 	Large Volume Injection (LVI)	<ul style="list-style-type: none"> <li>Samples are filled and dispensed through the side hole eliminating septa plugging of the needle.</li> <li>Ideal for large volume gas injections and headspace.</li> </ul>	H

## Plunger Selection

Termination Type		
 <p>Metal Plunger</p>	<ul style="list-style-type: none"> <li>Stainless steel plunger individually fitted to its own syringe barrel.</li> <li>Plunger is not replaceable nor interchangeable.</li> </ul>	<ul style="list-style-type: none"> <li>Industry-standard syringe for chromatography applications.</li> <li>For use when injection volume is greater than 1 µL.</li> </ul>
 <p>PTFE and PE Tipped Plunger</p>	<ul style="list-style-type: none"> <li>Plunger is replaceable.</li> <li>Easy to remove and clean to extend plunger lifetime.</li> <li>Capacities: 10 µL to 100 µL.</li> </ul>	<ul style="list-style-type: none"> <li>Liquid and gas samples.</li> <li>Headspace applications.</li> <li>Ideal for samples with high levels of contaminants.</li> </ul>
 <p>Metal Plunger for Nanovolume Syringes (Plunger-In-Needle)</p>	<ul style="list-style-type: none"> <li>Plunger extends into the needle tip.</li> <li>Sample is contained only in the needle i.e. no glass contact.</li> <li>Capacities: 0.5 µL, 1 µL and 5 µL.</li> </ul>	<ul style="list-style-type: none"> <li>Dispensing very small liquid volumes (less than 1 µL).</li> </ul>
 <p>Superflex™ Flexible Plunger</p>	<ul style="list-style-type: none"> <li>Made from titanium/nickel alloy.</li> <li>Virtually indestructible plunger.</li> <li>Capacities: 5 µL and 10 µL.</li> </ul>	<ul style="list-style-type: none"> <li>Chromatography applications requiring greater plunger durability.</li> </ul>
 <p>Plunger Protection</p>	<ul style="list-style-type: none"> <li>Extended protection from the top of the syringe back flange to help prevent plunger bending during injection and improve plunger stroke.</li> <li>Capacities: 5 µL and 10 µL.</li> </ul>	<ul style="list-style-type: none"> <li>General use for both experienced and inexperienced users.</li> </ul>
 <p>Guided Plunger</p>	<ul style="list-style-type: none"> <li>Extended barrel guides plunger during injection.</li> <li>Robust and rugged.</li> <li>Capacities: 5 µL and 10 µL.</li> </ul>	<ul style="list-style-type: none"> <li>Industrial applications.</li> </ul>

## Syringe Care and Maintenance

Regular maintenance of a syringe is important for ensuring long life and robust performance.

Syringes should be routinely checked for damage to the barrel and needle. Look for fine cracks in the barrel. Needles should also be checked for burrs and rough surfaces which may cause tearing and excessive wear on the septa.

### Needle Care: Unblocking Needles

- Remove the plunger and fill the syringe with solvent using another syringe.
- Insert plunger and gently push solvent through the needle. Never force the plunger as too much pressure may crack the syringe barrel.

The syringe needle cleaning kits contain a range of stylet wires for needle cleaning, tweezers, and a surfactant material for barrel cleaning.

### Syringe Cleaning

- Flush the syringe thoroughly with suitable solvents (such as methanol, methylene chloride, acetonitrile and acetone). Depending on the type of contaminant, this may have to be done up to 20 times.
- Rinse with distilled water.
- Flush with acetone.
- Remove plunger and wipe with tissue.
- Refit plunger and flush with acetone.
- Allow syringe to dry.

Cleaning steps for NanoVolume syringes can be found in the manual supplied with the syringe.

### Syringe temperature specifications

Heating will remove semi-volatile material from the syringe. Before heating or autoclaving, remove the plunger.

Syringe Type	Maximum Temperature
Fixed Needle And Fixed Luer	70 °C
Removable Needle and Removable Luer	100 °C
Nanovolume	70 °C
Headspace	150 °C

Rapid changes in temperature can lead to damage of the glass barrel. Ensure heating and cooling of a syringe is a gradual process.



## Syringe Use

- Always inspect the syringe before use. Check the barrel for cracks and the needle tip for burrs.
- To eliminate carryover between samples, flush the syringe with solvent 5-20 times, remembering to discard at least the first 2-3 washes.
- To eliminate air bubbles from the barrel, repeatedly draw and expel the sample while keeping the needle tip immersed in the solution. Bubbles can also be removed by turning the barrel upright while expelling some of the sample. If bubbles persist, slow the aspiration speed.
- To make an injection, overfill the syringe then press the plunger until the correct volume is reached. Draw the plunger back slightly, wipe the needle tip with a lint-free tissue, then make the injection. For improved precision, a repeating adaptor may be used to pre-set the volume.
- Before storage always flush the syringe with solvent and air dry.

## Plunger Care

Termination Type	Details
Metal	<ul style="list-style-type: none"> <li>• Never force the plunger.</li> <li>• Do not pump the plunger when the needle is blocked as the high pressure generated could crack the barrel.</li> <li>• Replacement plungers are not available. Plungers are individually fitted to the barrels to achieve a perfect seal.</li> <li>• Avoid unnecessary movement of plungers when the syringe is dry.</li> </ul>
Metal for NanoVolume Syringes	<ul style="list-style-type: none"> <li>• Always loosen needle cover nut before removing or inserting plunger.</li> <li>• Wipe plunger with a lint-free tissue before replacing into the syringe.</li> </ul>
PTFE and Polyethylene (PE) Tipped	<ul style="list-style-type: none"> <li>• Avoid unnecessary movement of plungers when the syringe is dry.</li> <li>• Replacement PTFE and PE tipped plungers are available for many syringes.</li> </ul>

## Syringe Troubleshooting

Termination Type	Cause	Solution
Blocked Needles	Improper cleaning.	Refer to syringe cleaning tips (page 3).
	Inappropriate needle selection.	Refer to the needle selection guide (page 2).
Seized Plungers	Poor dispensing technique	Ensure correct injection technique is being followed.
	Build up of contaminates in samples	Refer to syringe cleaning tips (page 3).
	Syringe installed in autosampler incorrectly.	Ensure the syringe is installed correctly.
Poor Reproducibility	Incorrect syringe selection.	Refer to the selection guide (page 2), the dispensed volume should be greater than 10% of the entire syringe capacity.
	Operator technique.	Check that each sample is being injected in the same way.
	Incorrect instrument set up.	Check if any changes have been, or need to be made to your instrument or set up (septa, injection port liner etc.).
Air Bubbles	Incorrect instrument set up.	Check if any changes have been, or need to be made to your instrument or set up (septa, injection port liner etc.).
Leakages	Incorrectly fitted needle.	Remove and refit the needle. Check the seal is in place and undamaged.
	No seal at plunger tip – plunger tip damaged or worn due to use or using syringe dry.	Replace plunger assembly if using a PTFE or PE tipped plunger.
Ghost Peaks	Contaminated needle.	Between samples flush the syringe with solvent 5-20 times (discard at least the first 2-3 washes).

## Luer Lock and Luer Tip



Luer Lock and Luer Tip terminations offer universal connections for a number of different applications. This allows different needles or accessories to be connected quickly for workflows in analytical settings. This termination type can be used with a valve to enable samples to be easily stored and transported prior to analyses, from the field to the laboratory.

Specifications			
Accuracy And Reproducibility	Operator Dependent	Scale Length	50 µL to 25 mL = 60 mm 50 mL = 84.2 mm 100 mL = 104 mm
Borosilicate Glass Barrel Outer Diameter (OD)	50 µL to 500 µL = 8 mm 1 mL = 9 mm 2.5 mL = 11 mm 5 mL = 14 mm 10 mL = 18 mm 25 mL = 27 mm 50 mL = 32.8 mm 100 mL = 40.8 mm	Thread in Plunger Stem	6-32 UNC
		International Standards Traceability	✓

## eVol syringes

eVol syringes are designed for use with the eVol xr digital analytical syringe.

Accuracy of eVol syringes					
Syringe volume	1 mL	500 µL	100 µL	50 µL	5 µL
At 100% (uncalibrated)*	±0.7%	±0.7%	±0.7%	±1.0%	±1.0%
At 100% (calibrated)**	±0.2%	±0.2%	±0.2%	±0.2%	±0.2%
At 10% (calibrated)***	±0.5%	±0.5%	±0.5%	±0.5%	±1.0%

\*Calibration factor of 1.0000 applied to handle.

\*\*Syringe and handle calibrated at full volume.

\*\*\*Syringe and handle calibrated at 10% of capacity. Accuracy based on the 10% dispensed volume closest to zero position.

**Note:** For best results when performing repeat dispense (one aspiration followed by multiple dispense steps) use a calibration factor of 1.0000.

## Precision of eVol syringes

Accuracy of eVol syringes					
Syringe volume	1 mL	500 µL	100 µL	50 µL	5 µL
At 100%	±0.3%	±0.3%	±0.4%	±0.4%	±0.5%
At 10%	±0.6%	±0.6%	±0.7%	±0.8%	±1.0%

## MEPS®

MEPS® is microextraction by packed sorbent, the miniaturization of conventional SPE (solid phase extraction) packed bed devices from milliliter bed volumes to microliter volumes.

The MEPS approach to sample preparation is suitable for reversed phase, normal phase, mixed mode or ion exchange chemistries.

MEPS advantages over conventional SPE:

Less sample required giving you greater flexibility when you have small sample quantities.

- Less solvent used means less solvent waste and ultimately reduced expense.
- Faster preparation time, reducing from hours to minutes for improved laboratory workflow.

MEPS incorporates packed phase in a micro-cartridge or BIN (barrel insert and needle) which is then integrated into an SGE analytical syringe to make miniaturized SPE possible. With MEPS, the sample processing, extraction and injection steps are performed using the same syringe.

## Configuration for MEPS

MEPS BINs are available for use with eVol MEPS syringes, with a range of packing material phases.

- MEPS BINs can be used with 50 µL, 100 µL and 500 µL eVol MEPS syringes.
- LC needles are 55.5 mm in length, 22 gauge and LC tipped.
- GC needles are 55.5 mm in length, 23 gauge and cone tipped.

## NanoVolume

With the ability to inject down to 50 nL with high precision and accuracy, SGE® NanoVolume syringes are perfect for NanoVolume capillary chromatography injection as well as making accurate standards that require small volumes.

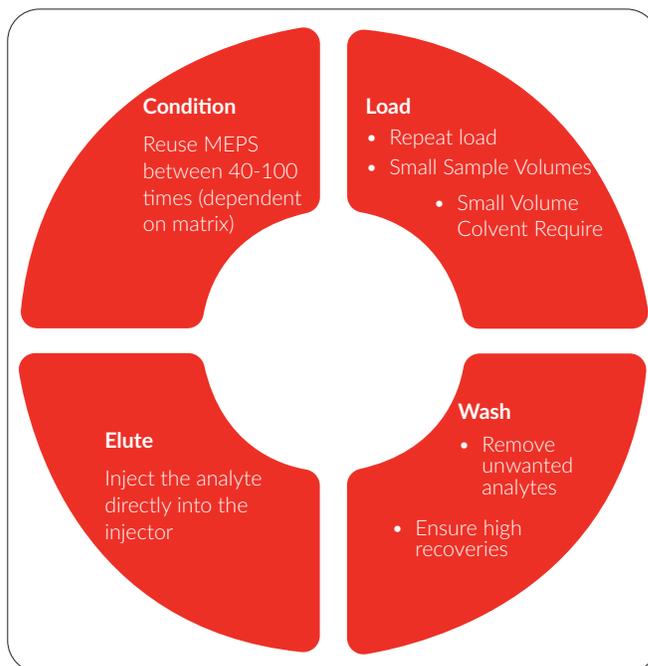
The sample is only drawn into the needle, not the syringe barrel. When the plunger is depressed, the sample is completely dispensed by the NanoVolume plunger that extends to the tip of the needle.

### Features and Benefits

- Plunger extends into the needle tip.
- Sample is contained only in the needle, i.e. no glass contact.
- Ideal for dispensing very small liquid volumes. Virtually zero dead volume and carry over between injections. prevent plunger bending during injection.

### Recommended Applications

Recommended for use when sample volume is less than 1 µL.



**Product Specifications**

Available in 0.5 µL, 1 µL and 5 µL volumes for autosampler and manual applications.

Specifications	
Accuracy and Reproducibility	±2% (dispensed volume)
Temperature Range	5-70°C
International standards traceability	

The image shows a NanoVolume syringe with a clear barrel and a long, thin needle. The barrel has a scale with markings for 0.5, 1, and 5 µL. The needle is very fine and has a sharp tip. A circular inset at the bottom shows a magnified view of the needle tip, highlighting its precision.

## Guided Plunger

Guided plunger syringes are the most rugged syringe available, making them perfect for industrial environments.

### Features and Benefits

- Extended barrel guides plunger during injection.
- Robust and rugged.

### Recommended Applications

Ideal for student and industrial use.

### Product Specifications

Available in 5 µL to 10 µL capacities.

## Manual

The comprehensive range of SGE® syringes are designed and tested to meet critical specifications. We combine precision manufacturing of components and meticulous assembly, to produce syringes of the highest quality.

### Features and Benefits

- Minimal carryover, adhesive contamination and sample interaction.
- Gas tight syringes with PTFE plunger tip for optimum sealing.
- Resistant to wide range of solvents.
- Plunger protection on 5 µL and 10 µL syringes helps prevent plunger bending during injection.
- Syringe valves allow fluid to be stored in the syringe without contamination.

### Recommended Applications

- Manual GC and LC sample injection
- Liquid dispensing

### Product Specifications

- Fixed and removable needle
- Luer Lock and Luer Tip
- Syringes with valves

Specifications	
Borosilicate glass barrel outer diameter	5 µL to 10 µL = 6.5 mm 25 µL to 500 µL = 8 mm 1 mL = 9 mm 2.5 mL = 11 mm 5 mL = 14 mm 10 mL = 18 mm 25 mL = 27 mm 50 mL = 32.8 mm 100 mL = 40.8 mm
Scale length	5 µL to 10 µL = 54.1 mm 25 µL to 25 mL = 60 mm 50 mL = 84.2 mm 100 mL = 104 mm

### Guided Plunger

Specifications	
Accuracy and Reproducibility	±1% (dispensed volume)
Temperature Range	5-70°C fixed needle 5-120°C removable needle

**Syringe Volume**  
Selection of syringe volume for the best possible reproducibility and accuracy

**Needle Type**  
Needle tip styles are available to suit a range of applications and uses

**Manual syringe**      **Syringe with valves**      **Gas tight syringe**

## GC autosampler

The comprehensive range of SGE® GC autosampler syringes are designed and tested to meet critical autosampler specifications.

### Features and Benefits

Unique plunger design minimizes bending and seizing, and the cone tip needle point style has been developed specifically to withstand multiple fast septum injections.

### Recommended Applications

Metal plungers are individually fitted to the syringe glass barrel for a perfect 'feel', optimized life with minimal carryover, liquid tight seal between the barrel and plunger and excellent performance.

PTFE tipped replaceable plunger syringes reduce the risk of plunger seizing when working with samples that are contaminated with particulate matter, reducing instrument downtime, and minimizing the risk of instrument shutdown during the processing of large batches of samples.

**Product specifications** Wide range of fixed needle and removable needle options available for Agilent, CTC Analytics, PerkinElmer, Scion Instruments, Shimadzu, and Thermo Scientific autosamplers. PTFE tipped replaceable plunger versions are available for use with gas and headspace samples.



### GC autosampler

In addition, multi-packs are available for most popular autosamplers.

Specifications	
For Nano Volume Syringes	
Accuracy and Reproducibility	±2% (Dispensed Volume)
Temperature Range	5-70 °C
For Fixed Needle Syringes	
Accuracy and Reproducibility	±1% (Dispensed Volume)
Temperature Range	5-70 °C
For Removable Needle Syringes	
Accuracy and Reproducibility ±1% (Dispensed Volume)	±1% (Dispensed Volume)
Temperature Range	5-100 °C

**Syringe Volume**  
Selection of syringe volume for the best possible reproducibility and accuracy

**Needle Type**  
Needle tip styles are available to suit a range of applications and uses

## Manual Application without Repeating Injector

### NanoVolume Syringes

Description	Part No.
0.5 µL NanoVolume Syringe with 5 cm 0.63 mm OD Cone Tipped Needle	CY-100000
0.5 µL NanoVolume Syringe with 5 cm 0.63 mm OD Bevel Tipped Needle	CY-100001
0.5 µL NanoVolume Syringe with 7 cm 0.63 mm OD Cone Tipped Needle	CY-100002
0.5 µL NanoVolume Syringe with 7 cm 0.63 mm OD Bevel Tipped Needle	CY-100003
1.0 µL NanoVolume Syringe with 5 cm 0.63 mm OD Cone Tipped Needle	CY-100010
1.0 µL NanoVolume Syringe with 5 cm 0.63 mm OD Bevel Tipped Needle	CY-100011
1.0 µL NanoVolume Syringe with 7 cm 0.63 mm OD Cone Tipped Needle	CY-100012
1.0 µL NanoVolume Syringe with 7 cm 0.63 mm OD Bevel Tipped Needle	CY-100013
1.0 µL NanoVolume Syringe with 7 cm 0.47 mm OD Cone Tipped Needle	CY-100014
5.0 µL NanoVolume Syringe with 5 cm 0.63 mm OD Cone Tipped Needle	CY-100015
5.0 µL NanoVolume Syringe with 7 cm 0.63 mm OD Cone Tipped Needle	CY-100016
5.0 µL NanoVolume Syringe with 7 cm 0.63 mm OD Bevel Tipped Needle	CY-100017
Replacement Kit for Plunger-in-needle Syringe, NP1B-5C, 1 µL, L: 50 mm, Cone	CY-100018
Replacement Kit for Plunger-in-needle Syringe, NP1B-7C, 1 µL, L: 70 mm, Cone	CY-100019
Replacement Kit for Plunger-in-needle Syringe, NP0.5B-7C, 0.5 µL, 23 G, L: 70 mm, Cone	CY-100026
Replacement Kit for Plunger-in-needle Syringe, NP0.5B-S-0.63, 0.5 µL, 23 G, L: 42 mm	CY-100027
Replacement Kel-F Luer Cone, Pkg. 2	CY-100024
Agilent 7693A, 7683, 7673, 7650A and 6850 ALS	
0.5 µL NanoVolume Agilent Syringe with 4.2 cm 0.47 mm OD Cone Tipped Needle	CY-100004
0.5 µL NanoVolume Agilent Syringe with 4.2 cm 0.63 mm OD Cone Tipped Needle	CY-100005
Shimadzu AOC-20i, AOC-20, AOC-17 and AOC-14	
0.5 µL NanoVolume Shimadzu Syringe with 4.2 cm 0.63 mm OD Cone Tipped Needle	CY-100006

## Manual Application without Repeating Injector

PerkinElmer Clarus 690, 590, 600, 500 and AutoSystem	
Description	Part No.
0.5 µL NanoVolume PerkinElmer Syringe with 7 cm 0.47 mm OD Cone Tipped Needle	CY-100007
0.5 µL NanoVolume PerkinElmer Syringe with 7 cm 0.63 mm OD Cone Tipped Needle	CY-100008
Thermo Scientific AI/AS 1610, AI/AS 1310 and TriPlus	
Description	Part No.
0.5 µL NanoVolume CTC Analytics and Thermo Syringe with 5 cm 0.63 mm OD Cone Tipped Needle	CY-100009
Syringe Valve Accessories	
Push-pull Valve with Replacement 5 cm 0.63 mm OD Cone Tip Needle for 25 µL to 2.5 mL Rem. Needle Syringes	CY-100020
Push-button Valve with Luer Lock Termination for 5 mL to 2 L Rem. Luer Lock or Rem. Needle Syringes	CY-100021
Push-button Valve with Luer Lock Termination for any Luer Lock and Luer Tip Syringes	CY-100022
Syringe Racks	
6 Syringe Rack for 8 mm Barrel OD Syringes, Holds 6 Standard SGE Syringes with Barrel OD up to 8 mm	CY-100023
Syringe Repeating Adaptor (RAX)	
Syringe Repeating Adaptor (RAX) with Assembly Tool	CY-100025
Guided Plunger Syringes	
5 µL Fixed Needle Guided Plunger Syringe with 5 cm 0.47 mm OD Bevel Tipped Needle	CY-100028
GC Autosampler Syringes	
Agilent 7693A, 7683, 7673, 7650A and 6850ALS	
5 µL Fixed Needle Agilent Syringe with 4.2 cm 0.63/0.47 mm OD Cone Tipped Dual Gauge Needle	CY-100029
5 µL Fixed Needle Agilent Syringe with 4.2 cm 0.63/0.47 mm OD Cone Tipped Dual Gauge Needle, Pkg. 6	CY-100030
10 µL Fixed Needle Agilent Syringe with 4.2 cm 0.63 mm OD Cone Tipped Needle	CY-100034
10 µL Fixed Needle Agilent Syringe with 4.2 cm 0.63 mm OD Cone Tipped Needle, Pkg. 6	CY-100035
10 µL Fixed Needle Agilent Syringe with 4.2 cm 0.63/0.47 mm OD Cone Tipped Dual Gauge Needle	CY-100036
10 µL Fixed Needle Agilent Syringe with 4.2 cm 0.63/0.47 mm OD Cone Tipped Dual Gauge Needle, Pkg. 6	CY-100037
CTC Analytics PAL3 RTC, Shimadzu AOC-6000, Thermo Scientific TriPlus RSH and Agilent PAL3	
10 µL Fixed Needle Syringe with 5.7 cm 0.47 mm OD Cone Tipped Needle	CY-100038
PerkinElmer Clarus 690, 590, 600, 500 and AutoSystem	
5 µL Fixed Needle PerkinElmer Syringe with 7 cm 0.63 mm OD Cone Tipped Needle	CY-100031
Shimadzu AOC-20i, AOC-20, AOC-17 and AOC-14	
5 µL Fixed Needle Shimadzu Syringe with 4.2 cm 0.63 mm OD Cone Tipped Needle	CY-100033
10 µL Removable Needle Shimadzu Syringe with 4.2 cm 0.63 mm OD Cone Tipped Needle	CY-100039
Thermo Scientific AI/AS 1610, AI/AS 1310 and TriPlus	
5 µL Fixed Needle CTC Analytics and Thermo Syringe with 5 cm 0.47 mm OD Cone Tipped Needle	CY-100032
Other Autosampler Syringes	
Autosampler-Syringe, 10F-VA8400/BT-5/0.63C, 10 µL, Needle: Fixed, 23 G, L: 50 mm, Tip: Coned	CY-100040
Autosampler-Syringe, 10uL, Needle: Exchangeable, L: 50 mm, 26 G, Tip: Coned	CY-100041
Autosampler-Syringe, 5 µL, Needle: Fixed, 23 G, L: 70 mm, Tip: Coned, Gas Tight, GT-plunger	CY-100066
Autosampler-Syringe, Needle: Fixed, 23-26 G, L: 42 mm, tip: Coned, Gas Tight, GT-plunger, Pkg. 6	CY-100068
Autosampler-Syringe, 10 µL Needle: Exchangeable, 23 G, L: 42 mm, tip: Coned, Gas Tight, GT-plunger	CY-100069
Autosampler-Syringe, 25 µL DIAMOND MS, Needle: Exchangeable, Gas Tight, GT-plunger	CY-100070
Autosampler-Syringe, 25 µL, Needle: Fixed, 23 G, L: 50 mm, Tip: Coned, Gas Tight, GT-plunger	CY-100071
Autosampler-Syringe, 25 µL, Needle: Exchangeable, 23 G, L: 50 mm, Tip: Coned, Gas Tight, GT-plunger	CY-100072
Autosampler-Syringe, 100 µL, Needle: Fixed, 23 G, L: 50 mm, Tip: Coned, Gas Tight, GT-plunger	CY-100076
10 µL Fixed Needle Syringe with 5 cm 0.5 mm OD Cone Tipped Needle	CY-100042
10 µL Fixed Needle CTC Analytics and Thermo Syringe with 5 cm 0.47 mm OD Cone Tipped Needle	CY-100043

## Manual Application without Repeating Injector

### Other Autosampler Syringes - Continued

Description	Part No.
10 µL Fixed Needle CTC Analytics and Thermo Syringe with 5 cm 0.63 mm OD Cone Tipped Needle	CY-100044
10 µL Removable Needle CTC Analytics and Thermo Syringe with 5 cm 0.47 mm OD Cone Tipped Needle	CY-100045
10 µL Fixed Needle Syringe with 5 cm 0.47 mm OD Cone Tipped Needle, Pkg. 6	CY-100046
100 µL Fixed Needle Syringe with 5.1 cm 0.72 mm OD LC Tipped Needle	CY-100047

### Plunger Syringes

Plunger P5F-PE-GT, 5 µL, Gas Tight, GT-plunger, Pkg. 2	CY-100048
Plunger P10R-HP-GT, 10 µL, Gas Tight, GT-plunger, Pkg. 2	CY-100049
Plunger P25-GT, 25 µL, Gas Tight, GT-plunger	CY-100050
Plunger P25F-C/T-GT, 25 µL, Gas Tight, GT-plunger	CY-100051
Plunger P100-GT, 100 µL, Gas Tight, GT-plunger	CY-100052
Plunger P5MD-GT, 5 mL, Gas Tight, GT-plunger	CY-100053
Plunger P5MDF-GT, 5 mL, Gas Tight, GT-plunger	CY-100054
Plunger P10MD-GT, 10 mL, Gas Tight, GT-plunger	CY-100055
Plunger P10MDF-LL, 10 mL, Gas Tight, GT-plunger	CY-100056
Plunger P25-RSH-MS1, 25 µL	CY-100057

### Replacement Needles

Luer Lock 5 cm 0.63 mm OD Bevel Tipped Needle, Pkg. 5	CY-100058
Luer Lock 5 cm 0.63 mm OD Side Hole Dome Tipped Needle, Pkg. 2	CY-100059
Luer Lock 7 cm 0.63 mm OD Bevel Tipped Needle, Pkg. 5	CY-100060
Luer Lock 11.5 cm 0.63 mm OD Bevel Tipped Needle, Pkg. 5	CY-100061
Luer Lock 5 cm 1.07 mm OD Bevel Tipped Needle, Pkg. 5	CY-100062
Luer Lock 5 cm 1.07 mm OD Side Hole Dome Tipped Needle, Pkg. 2	CY-100063
Luer Lock 5 cm 1.27 mm OD Bevel Tipped Needle, Pkg. 5	CY-100064
Luer Lock 5.1 cm 0.72 mm OD LC Tipped Needle, Pkg. 2	CY-100065

### Manual Syringes

#### Fixed needle, gas tight syringes

Syringe, 10F-GT, 10 µL, Needle: Fixed, 26 G, L: 50 mm, Tip: Bevel, Gas Tight, GT-plunger	CY-100067
Syringe, 50F-GT, 50 µL, Needle: Fixed, 25 G, L: 50 mm, Tip: Bevel, Gas Tight, GT-plunger	CY-100073
Syringe, 100F-GT, 100 µL, Needle: Fixed, 25 G, L: 50 mm, Tip: Bevel, Gas Tight, GT-plunger	CY-100074
Syringe, 100R-GT, 100 µL, Needle: Exchangeable, 25 G, L: 50 mm, Tip: Bevel, Gas Tight, GT-plunger	CY-100075
Syringe, 250F-GT, 250 µL, Needle: Fixed, 25 G, L: 50 mm, tip: bevel, Gas Tight, GT-plunger	CY-100077
Syringe, 1MDF-LL-GT, 1 mL, Fixed Luer Lock, Gas Tight, GT-plunger	CY-100078
Syringe, 1MR-GT, 1 mL, Needle: Exchangeable, 23 G, L: 50 mm, Tip: Bevel, Gas Tight, GT-plunger	CY-100079
Syringe, 5MDR-LL-GT, 5 mL, Exchangeable Luer Lock, Gas Tight, GT-plunger	CY-100080
Syringe, 5MDF-LL-GT, 5 mL, Fixed Luer Lock, Gas Tight, GT-plunger	CY-100081
Syringe with Valve, 5MDR-VLLMA-GT, 5 mL, Needle: Exchangeable, Gas Tight, GT-plunger	CY-100082
Syringe, 10MDR-LL-GT, 10 mL, Exchangeable Luer Lock, Gas Tight, GT-plunger	CY-100083
Syringe with Valve, 10MDR-VLLMA-GT, 10 mL, Needle: Exchangeable, Gas Tight, GT-plunger	CY-100084
Syringe, 50MR-LL-GT, 50 mL, Exchangeable Luer Lock, Gas Tight, GT-plunger	CY-100085