



## Syringes for the laboratory



**Trajan Scientific and Medical (Trajan) offer a comprehensive range of syringes that deliver precision and accuracy in analysis and ensure the integrity of analytical samples.**

We combine precision manufacturing of components and meticulous assembly, to produce syringes of the highest quality.

SGE® syringes have been a recognized syringe choice in analytical laboratories for over 50 years. They combine precision manufacturing and meticulous assembly for precise volume delivery.

L-MARK® Gold and L-MARK syringes are designed and tested for optimum performance of LC instruments. L-MARK Gold syringes feature a chemically inert needle for extremely low system carryover.

Our comprehensive expertise in liquid handling technologies enables us to develop syringes for a wide range of applications.



by  **TRAJAN**

**L-MARK®**

by  **TRAJAN**



## Contents

|                                         |           |
|-----------------------------------------|-----------|
| <b>Structure of a syringe</b>           | <b>4</b>  |
| <b>Syringe selection</b>                | <b>5</b>  |
| <b>Syringe care and maintenance</b>     | <b>8</b>  |
| <b>GC autosampler syringes</b>          | <b>10</b> |
| Agilent                                 | 10        |
| CTC Analytics                           | 11        |
| PerkinElmer                             | 13        |
| Scion Instruments                       | 13        |
| Shimadzu                                | 14        |
| Thermo Scientific                       | 15        |
| <b>LC autosampler syringes</b>          | <b>17</b> |
| CTC Analytics                           | 17        |
| PerkinElmer                             | 20        |
| Waters                                  | 20        |
| <b>LC manual syringes</b>               | <b>21</b> |
| Rheodyne and Valco                      | 21        |
| <b>Syringes for manual applications</b> | <b>22</b> |
| NanoVolume                              | 22        |
| Manual                                  | 24        |
| Luer Lock and Luer Tip                  | 26        |
| <b>Hamilton cross reference</b>         | <b>28</b> |
| <b>eVol xr syringes and accessories</b> | <b>36</b> |
| eVol xr accessories                     | 36        |
| MEPS BINs                               | 36        |

# Structure of a syringe

## Syringe type

See page 5

A comprehensive range of syringes is available for both autosampler and manual use

## Termination

See page 6

The interface between the syringe barrel and the needle

## Plunger type

See page 7

Plunger types are available to suit a range of applications and uses

## Needle type

See page 7

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

## Syringe volume

See page 6

Selection of syringe volume for the best possible reproducibility and accuracy



# Which syringe to use?

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  $\geq \pm 1\%$ .



The following syringe types\* are offered:

| Syringe type                    | Page(s) |
|---------------------------------|---------|
| GC autosampler syringes         | 10-18   |
| LC autosampler syringes         | 19-22   |
| NanoVolume syringes             | 24      |
| Manual syringes                 | 26-27   |
| Luer Lock and Luer Tip syringes | 28-29   |
| Syringes with valves            | 23      |
| Syringes with repeating adaptor | 25      |

*\* Analytical syringes manufactured by Trajan Scientific and Medical are intended for analytical and laboratory use only and are not intended or approved for use with food, including the production or packaging of food, nor medical or human in-vivo use.*

## 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 µL syringe would be 1 µL.

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

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.

| Color        | Syringe volumes |        |        |
|--------------|-----------------|--------|--------|
| Light orange | 0.5 µL          | 500 µL |        |
| Yellow       | 1 µL            |        | 1 mL   |
| Lime         | 5 µL            |        | 5 mL   |
| Dark orange  |                 | 10 µL  | 10 mL  |
| Green        |                 | 25 µL  |        |
| Purple       |                 | 50 µL  |        |
| Aqua         |                 | 100 µL |        |
| Gray         |                 | 250 µL | 2.5 mL |

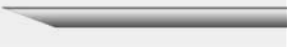
## Syringe termination

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.

| Termination type                                                                                        | Details                                                                                                                                                                                             | Trajan's termination code |
|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Fixed needle<br>     | •Recommended for autosampler use where the probability of needle bending is minimal.                                                                                                                | F                         |
| Removable needle<br> | •Allows for the needle to be changed if damaged or for different applications.                                                                                                                      | R                         |
| Luer Lock<br>        | •Fixed Luer Lock syringes have a Luer fitting that is permanently attached to the barrel.<br>•Removable needle versions have a Luer fitting that screws onto the barrel with the Luer Tip inserted. | LL                        |
| Luer Tip<br>         |                                                                                                                                                                                                     | LT                        |
| Thread<br>           | •Screw into a valve or other device, required for some LC autosamplers.<br>•Various threaded terminations are available.                                                                            | N/A                       |

## Needle selection

| Needle tip style                                                                                | Application                       | Features/applications                                                                                                                                                                                                                               | Trajan's tip code |
|-------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Bevel<br>      | 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<br>       | 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<br> | 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<br>     | 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<br>       | 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<br>  | 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

| Type                                                                                                                                             | Features                                                                                                                                                                                                                        | Application                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Metal plunger<br>                                             | <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> |
| PTFE and PE tipped plunger<br>                                | <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>   |
| Metal plunger for NanoVolume syringes (plunger-in-needle)<br> | <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>                                                                  |
| Superflex™ flexible plunger<br>                               | <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>                                                       |
| Plunger protection<br>                                        | <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>                                                               |
| Guided plunger<br>                                            | <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.

## Syringe care, cleaning and use

### Needle care: unblocking needles

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



Needle cleaning kit (part number 031782)

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

### Syringe cleaning

1. 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.
2. Rinse with distilled water.
3. Flush with acetone.
4. Remove plunger and wipe with tissue.
5. Refit plunger and flush with acetone.
6. 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

| Plunger type                      | Recommended care                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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

| Problem              | Cause                                                                                 | Solution                                                                                                               |
|----------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Blocked needles      | Improper cleaning.                                                                    | Refer to syringe cleaning tips (page 8).                                                                               |
|                      | Inappropriate needle selection.                                                       | Refer to the needle selection guide (page 7).                                                                          |
| Seized plungers      | Poor dispensing technique.                                                            | Ensure correct injection technique is being followed.                                                                  |
|                      | Build up of contaminants in samples.                                                  | Refer to syringe cleaning tips (page 6).                                                                               |
|                      | Syringe installed in autosampler incorrectly.                                         | Ensure the syringe is installed correctly.                                                                             |
| Poor reproducibility | Incorrect syringe selection.                                                          | Refer to the selection guide (page 6), 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).                     |

# SGE GC autosampler syringes | Agilent

## Product specifications and part numbers

| Specifications                                |                                                              |                                      |                                                                                 |
|-----------------------------------------------|--------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------|
| Accuracy and reproducibility                  | ±1% (dispensed volume)<br>(±2% for 0.5 µL and 1 µL syringes) | Scale length                         | 0.5 µL to 1 µL = 27.05 mm<br>5 µL to 10 µL = 54.1 mm<br>25 µL to 100 µL = 60 mm |
| Borosilicate glass barrel outer diameter (OD) | 0.5 µL to 100 µL = 6.5 mm                                    | International standards traceability | ✓                                                                               |



### Agilent 7693A, 7683, 7673, 7650A and 6850ALS

| Syringe part number                                 | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size | Replacement needle part number | Replacement plunger part number |
|-----------------------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|--------------------------------|---------------------------------|
| <b>Fixed needle syringes</b>                        |        |                    |              |                |                |            |           |                                |                                 |
| 001800                                              | 5 µL   | 42                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | -                               |
| 001804                                              | 5 µL   | 42                 | 26           | 0.47           | 0.11           | Cone       | 6         | -                              | -                               |
| 001810                                              | 5 µL   | 42                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | -                               |
| 001814                                              | 5 µL   | 42                 | 23           | 0.63           | 0.11           | Cone       | 6         | -                              | -                               |
| 001821                                              | 5 µL   | 42                 | 23/26        | 0.63/0.47      | 0.11           | Cone       | 1         | -                              | -                               |
| 001822                                              | 5 µL   | 42                 | 23/26        | 0.63/0.47      | 0.11           | Cone       | 6         | -                              | -                               |
| 002800                                              | 10 µL  | 42                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | -                               |
| 002804                                              | 10 µL  | 42                 | 26           | 0.47           | 0.11           | Cone       | 6         | -                              | -                               |
| 002810                                              | 10 µL  | 42                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | -                               |
| 002811                                              | 10 µL  | 42                 | 23           | 0.63           | 0.11           | Side hole  | 1         | -                              | -                               |
| 002813                                              | 10 µL  | 42                 | 23           | 0.63           | 0.11           | Cone       | 25        | -                              | -                               |
| 002814                                              | 10 µL  | 42                 | 23           | 0.63           | 0.11           | Cone       | 6         | -                              | -                               |
| 002821                                              | 10 µL  | 42                 | 23/26        | 0.63/0.47      | 0.11           | Cone       | 1         | -                              | -                               |
| 002822                                              | 10 µL  | 42                 | 23/26        | 0.63/0.47      | 0.11           | Cone       | 6         | -                              | -                               |
| 002824                                              | 10 µL  | 42                 | 23/26        | 0.63/0.47      | 0.11           | Cone       | 25        | -                              | -                               |
| <b>Fixed needle, gas tight syringes</b>             |        |                    |              |                |                |            |           |                                |                                 |
| 002812                                              | 10 µL  | 42                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | 031808                          |
| 002816                                              | 10 µL  | 42                 | 23           | 0.63           | 0.11           | Cone       | 25        | -                              | 031808                          |
| 002826                                              | 10 µL  | 42                 | 23/26        | 0.63/0.47      | 0.11           | Cone       | 1         | -                              | 031808                          |
| 002827                                              | 10 µL  | 42                 | 23/26        | 0.63/0.47      | 0.11           | Cone       | 6         | -                              | 031808                          |
| 003668                                              | 25 µL  | 42                 | 23/26        | 0.63/0.47      | 0.24           | Cone       | 1         | -                              | -                               |
| 004668                                              | 50 µL  | 42                 | 23/26        | 0.63/0.47      | 0.24           | Cone       | 1         | -                              | -                               |
| 005668                                              | 100 µL | 42                 | 23/26        | 0.63/0.47      | 0.24           | Cone       | 1         | -                              | 031823                          |
| <b>Fixed needle syringes with Superflex plunger</b> |        |                    |              |                |                |            |           |                                |                                 |
| 002831                                              | 10 µL  | 42                 | 26           | 0.47           | 0.11           | Cone       | 6         | -                              | -                               |
| 002838                                              | 10 µL  | 42                 | 23           | 0.63           | 0.11           | Cone       | 6         | -                              | -                               |
| <b>Removable needle syringes</b>                    |        |                    |              |                |                |            |           |                                |                                 |
| 000400                                              | 0.5 µL | 42                 | 26           | 0.47           | 0.15           | Cone       | 1         | 033708*                        | -                               |
| 000410                                              | 0.5 µL | 42                 | 23           | 0.63           | 0.15           | Cone       | 1         | 033715*                        | -                               |
| 000415                                              | 0.5 µL | 42                 | 23/26        | 0.63/0.47      | 0.1            | Cone       | 1         | 033730*                        | -                               |
| 000610                                              | 1 µL   | 42                 | 23           | 0.63           | 0.22           | Cone       | 1         | 034715*                        | -                               |
| 002805                                              | 10 µL  | 42                 | 26           | 0.47           | 0.11           | Cone       | 1         | 037715                         | -                               |
| 002815                                              | 10 µL  | 42                 | 23           | 0.63           | 0.11           | Cone       | 1         | 037717                         | -                               |
| 004665                                              | 50 µL  | 42                 | 23           | 0.63           | 0.24           | Cone       | 1         | 038717                         | -                               |
| <b>Removable needle, gas tight syringes</b>         |        |                    |              |                |                |            |           |                                |                                 |
| 002820                                              | 10 µL  | 42                 | 23           | 0.63           | 0.11           | Cone       | 10        | 037717                         | 031809                          |
| 002829                                              | 10 µL  | 42                 | 23/26        | 0.63/0.47      | 0.11           | Cone       | 1         | 037730                         | 031809                          |

\*Denotes needle and plunger kit.

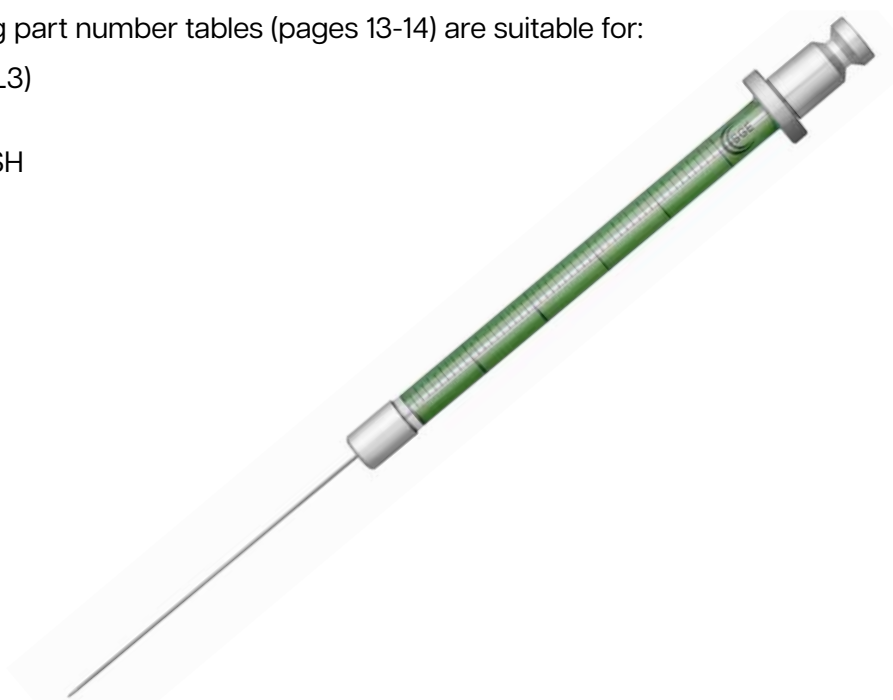
# SGE GC autosampler syringes | CTC Analytics

## Product specifications and part numbers

| Specifications                                |                                                                                                          |                                      |                                                                               |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------|
| Accuracy and reproducibility                  | ±1% (dispensed volume)<br>(±2% for 0.5 µL and 1 µL syringes)                                             | Scale length                         | 0.5 µL to 1 µL = 27.05 mm<br>5 µL to 10 µL = 54.1 mm<br>25 µL to 5 mL = 60 mm |
| Borosilicate glass barrel outer diameter (OD) | 0.5 µL to 100 µL = 6.5 mm<br>250 µL to 500 µL = 8 mm<br>1 mL = 7.6 mm<br>2.5 mL = 9.7 mm<br>5 mL = 14 mm | International standards traceability | ✓                                                                             |

Syringes listed in the following part number tables (pages 13-14) are suitable for:

- CTC Analytics PAL RTC (PAL3)
- Shimadzu AOC-6000
- Thermo Scientific TriPlus RSH
- Agilent PAL3



## CTC Analytics PAL3 RTC, Shimadzu AOC-6000, Thermo Scientific TriPlus RSH and Agilent PAL3

| Syringe part number                     | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size | Replacement needle part number | Replacement plunger part number |
|-----------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|--------------------------------|---------------------------------|
| <b>Fixed needle syringes</b>            |        |                    |              |                |                |            |           |                                |                                 |
| 001861                                  | 5 µL   | 57                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | -                               |
| 001863                                  | 5 µL   | 85                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | -                               |
| 001865                                  | 5 µL   | 57                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | -                               |
| 002861                                  | 10 µL  | 57                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | -                               |
| 002863                                  | 10 µL  | 85                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | -                               |
| 002865                                  | 10 µL  | 57                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | -                               |
| 002867                                  | 10 µL  | 85                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | -                               |
| 002869                                  | 10 µL  | 85                 | 26           | 0.47           | 0.11           | Bevel      | 1         | -                              | -                               |
| <b>Fixed needle, gas tight syringes</b> |        |                    |              |                |                |            |           |                                |                                 |
| 002862                                  | 10 µL  | 57                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | 032810                          |
| 002864                                  | 10 µL  | 85                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | 032810                          |
| 002866                                  | 10 µL  | 57                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | 032810                          |
| 002868                                  | 10 µL  | 85                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | 032810                          |

**CTC Analytics PAL3 RTC, Shimadzu AOC-6000, Thermo Scientific TriPlus RSH and Agilent PAL3 continued**

| Syringe part number                               | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size | Replacement needle part number | Replacement plunger part number |
|---------------------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|--------------------------------|---------------------------------|
| <b>Fixed needle, gas tight syringes continued</b> |        |                    |              |                |                |            |           |                                |                                 |
| 003862                                            | 25 µL  | 57                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              |                                 |
| 003864                                            | 25 µL  | 85                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | 032815                          |
| 003866                                            | 25 µL  | 57                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | 032815                          |
| 003868                                            | 25 µL  | 85                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | 032815                          |
| 004862                                            | 50 µL  | 57                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | 032821                          |
| 004864                                            | 50 µL  | 85                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | 032821                          |
| 004866                                            | 50 µL  | 57                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | 032821                          |
| 004868                                            | 50 µL  | 85                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | 032821                          |
| 005862                                            | 100 µL | 57                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | 032825                          |
| 005864                                            | 100 µL | 85                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | 032825                          |
| 005866                                            | 100 µL | 57                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | 032825                          |
| 005868                                            | 100 µL | 85                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | 032825                          |
| 005890                                            | 100 µL | 57                 | 23           | 0.63           | 0.32           | Side hole  | 1         | -                              | 032825                          |
| 005891                                            | 100 µL | 85                 | 23           | 0.63           | 0.32           | Side hole  | 1         | -                              | 032825                          |
| 006862                                            | 250 µL | 57                 | 23           | 0.63           | 0.32           | Cone       | 1         | -                              | 032831                          |
| 006864                                            | 250 µL | 85                 | 23           | 0.63           | 0.32           | Cone       | 1         | -                              | 032831                          |
| 006866                                            | 250 µL | 57                 | 26           | 0.47           | 0.2            | Cone       | 1         | -                              | 032831                          |
| 006868                                            | 250 µL | 85                 | 26           | 0.47           | 0.2            | Cone       | 1         | -                              | 032831                          |
| 006890                                            | 250 µL | 57                 | 23           | 0.63           | 0.32           | Side hole  | 1         | -                              | 032831                          |
| 006891                                            | 250 µL | 85                 | 23           | 0.63           | 0.32           | Side hole  | 1         | -                              | 032831                          |
| 007862                                            | 500 µL | 57                 | 23           | 0.63           | 0.32           | Cone       | 1         | -                              | 032835                          |
| 007864                                            | 500 µL | 85                 | 23           | 0.63           | 0.32           | Cone       | 1         | -                              | 032835                          |
| 007866                                            | 500 µL | 57                 | 26           | 0.47           | 0.2            | Cone       | 1         | -                              | 032835                          |
| 007868                                            | 500 µL | 85                 | 26           | 0.47           | 0.2            | Cone       | 1         | -                              | 032835                          |
| 007890                                            | 500 µL | 57                 | 23           | 0.63           | 0.32           | Side hole  | 1         | -                              | 032835                          |
| 007891                                            | 500 µL | 85                 | 23           | 0.63           | 0.32           | Side hole  | 1         | -                              | 032835                          |
| 008155                                            | 1 mL   | 65                 | 23           | 0.63           | 0.15           | Side hole  | 1         | -                              | 032841                          |
| 008655                                            | 2.5 mL | 65                 | 23           | 0.63           | 0.15           | Side hole  | 1         | -                              | 032846                          |
| 008855                                            | 5 mL   | 65                 | 23           | 0.63           | 0.15           | Side hole  | 1         | -                              | 032851                          |
| <b>Removable needle syringes</b>                  |        |                    |              |                |                |            |           |                                |                                 |
| 000480                                            | 0.5 µL | 57                 | 23           | 0.63           | 0.15           | Cone       | 1         | 033780*                        | -                               |
| 000680                                            | 1 µL   | 57                 | 23           | 0.63           | 0.22           | Cone       | 1         | 034780*                        | -                               |
| 001871                                            | 5 µL   | 57                 | 23           | 0.63           | 0.11           | Cone       | 1         | 036871                         | -                               |
| 001875                                            | 5 µL   | 57                 | 26           | 0.47           | 0.11           | Cone       | 1         | 036875                         | -                               |
| 001877                                            | 5 µL   | 85                 | 26           | 0.47           | 0.11           | Cone       | 1         | 036877                         | -                               |
| 002871                                            | 10 µL  | 57                 | 23           | 0.63           | 0.11           | Cone       | 1         | 037871                         | -                               |
| 002875                                            | 10 µL  | 57                 | 26           | 0.47           | 0.11           | Cone       | 1         | 037875                         | -                               |
| <b>Removable needle, gas tight syringes</b>       |        |                    |              |                |                |            |           |                                |                                 |
| 002872                                            | 10 µL  | 57                 | 23           | 0.63           | 0.11           | Cone       | 1         | 037871                         | 032810                          |
| 002874                                            | 10 µL  | 85                 | 23           | 0.63           | 0.11           | Cone       | 1         | 037873                         | 032810                          |
| 002876                                            | 10 µL  | 57                 | 26           | 0.47           | 0.11           | Cone       | 1         | 037875                         | 032810                          |
| 002878                                            | 10 µL  | 85                 | 26           | 0.47           | 0.11           | Cone       | 1         | 037877                         | 032810                          |

\*Denotes needle and plunger kit.

# SGE GC autosampler syringes | PerkinElmer

Product specifications and part numbers

| Specifications                                |                                                     |                                      |                                              |
|-----------------------------------------------|-----------------------------------------------------|--------------------------------------|----------------------------------------------|
| Accuracy and reproducibility                  | ±1% (dispensed volume)<br>(±2% for 0.5 µL syringes) | Scale length                         | 0.5 µL to 5 µL = 27.05 mm<br>50 µL = 54.1 mm |
| Borosilicate glass barrel outer diameter (OD) | 0.5 µL to 50 µL = 6.5 mm                            | International standards traceability | ✓                                            |



PerkinElmer Clarus 690, 590, 600, 500 and AutoSystem

| Syringe part number                     | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size | Replacement needle part number | Replacement plunger part number |
|-----------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|--------------------------------|---------------------------------|
| <b>Fixed needle syringes</b>            |        |                    |              |                |                |            |           |                                |                                 |
| 001953                                  | 5 µL   | 70                 | 26           | 0.47           | 0.15           | Cone       | 1         | -                              | -                               |
| 001954                                  | 5 µL   | 70                 | 23           | 0.63           | 0.15           | Cone       | 1         | -                              | -                               |
| 004670                                  | 50 µL  | 70                 | 23           | 0.63           | 0.24           | Cone       | 1         | -                              | -                               |
| <b>Fixed needle, gas tight syringes</b> |        |                    |              |                |                |            |           |                                |                                 |
| 001955                                  | 5 µL   | 70                 | 26           | 0.47           | 0.15           | Cone       | 1         | -                              | 031807                          |
| 001957                                  | 5 µL   | 70                 | 23           | 0.63           | 0.15           | Cone       | 1         | -                              | 031807                          |
| <b>Removable needle syringes</b>        |        |                    |              |                |                |            |           |                                |                                 |
| 000475                                  | 0.5 µL | 70                 | 26           | 0.47           | 0.1            | Cone       | 1         | 033750*                        | -                               |
| 000478                                  | 0.5 µL | 70                 | 23           | 0.63           | 0.1            | Cone       | 1         | 033765*                        | -                               |

\*Denotes needle and plunger kit.

# SGE GC autosampler syringes | Scion Instruments

Product specifications and part numbers

| Specifications                                |                        |                                      |                         |
|-----------------------------------------------|------------------------|--------------------------------------|-------------------------|
| Accuracy and reproducibility                  | ±1% (dispensed volume) | Scale length                         | 5 µL to 25 µL = 54.1 mm |
| Borosilicate glass barrel outer diameter (OD) | 5 µL to 25 µL = 6.5 mm | International standards traceability | ✓                       |



Scion Instruments 8410 PRO and 8400 PRO

| Syringe part number                     | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size | Replacement plunger part number |
|-----------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|---------------------------------|
| <b>Fixed needle syringes</b>            |        |                    |              |                |                |            |           |                                 |
| 0019811                                 | 5 µL   | 50                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                               |
| 0019821                                 | 5 µL   | 50                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                               |
| 0029801                                 | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                               |
| 0029861                                 | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 6         | -                               |
| <b>Fixed needle, gas tight syringes</b> |        |                    |              |                |                |            |           |                                 |
| 0029761                                 | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 6         | 03181201                        |
| 0029771                                 | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 1         | 03181201                        |
| 0029871                                 | 10 µL  | 50                 | 23           | 0.63           | 0.11           | Cone       | 1         | 03181201                        |
| 0039871                                 | 25 µL  | 50                 | 23           | 0.63           | 0.24           | Cone       | 1         | 0318171                         |

Syringes for the laboratory

# SGE GC autosampler syringes | Shimadzu

## Product specifications and part numbers

| Specifications                                |                                                     |                                      |                                              |
|-----------------------------------------------|-----------------------------------------------------|--------------------------------------|----------------------------------------------|
| Accuracy and reproducibility                  | ±1% (dispensed volume)<br>(±2% for 0.5 µL syringes) | Scale length                         | 0.5 µL = 27.05 mm<br>5 µL to 10 µL = 54.1 mm |
| Borosilicate glass barrel outer diameter (OD) | 0.5 µL to 10 µL = 6.5 mm                            | International standards traceability | ✓                                            |



## Shimadzu AOC-20i, AOC-20, AOC-17 and AOC-14

| Syringe part number                         | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size | Replacement needle part number | Replacement plunger part number |
|---------------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|--------------------------------|---------------------------------|
| <b>Fixed needle syringes</b>                |        |                    |              |                |                |            |           |                                |                                 |
| 001988                                      | 5 µL   | 42                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | -                               |
| <b>Removable needle syringes</b>            |        |                    |              |                |                |            |           |                                |                                 |
| 000440                                      | 0.5 µL | 42                 | 26           | 0.47           | 0.1            | Cone       | 1         | 033738*                        | -                               |
| 000445                                      | 0.5 µL | 42                 | 23           | 0.63           | 0.1            | Cone       | 1         | 033745*                        | -                               |
| 002897                                      | 10 µL  | 42                 | 26           | 0.47           | 0.11           | Cone       | 1         | 037745                         | -                               |
| 002898                                      | 10 µL  | 42                 | 23           | 0.63           | 0.11           | Cone       | 1         | 037747                         | -                               |
| <b>Removable needle, gas tight syringes</b> |        |                    |              |                |                |            |           |                                |                                 |
| 002902                                      | 10 µL  | 42                 | 23           | 0.63           | 0.11           | Cone       | 1         | 037747                         | 031798                          |

\*Denotes needle and plunger kit.

# SGE GC autosampler syringes | Thermo Scientific

## Product specifications and part numbers

| Specifications                                |                                                                                                          |                                      |                                                                               |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------|
| Accuracy and reproducibility                  | ±1% (dispensed volume)<br>(±2% for 0.5 µL and 2 µL syringes)                                             | Scale length                         | 0.5 µL to 1 µL = 27.05 mm<br>5 µL to 10 µL = 54.1 mm<br>25 µL to 5 mL = 60 mm |
| Borosilicate glass barrel outer diameter (OD) | 0.5 µL to 100 µL = 6.5 mm<br>250 µL to 500 µL = 8 mm<br>1 mL = 7.6 mm<br>2.5 mL = 9.7 mm<br>5 mL = 14 mm | International standards traceability | ✓                                                                             |

For syringes for TriPlus RSH, see pages 11-12 and 17.



## Thermo Scientific AI/AS 1610, AI/AS 1310 and TriPlus

| Syringe part number                         | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size | Replacement needle part number | Replacement plunger part number |
|---------------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|--------------------------------|---------------------------------|
| <b>Fixed needle syringes</b>                |        |                    |              |                |                |            |           |                                |                                 |
| 0019811                                     | 5 µL   | 50                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | -                               |
| 0019821                                     | 5 µL   | 50                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | -                               |
| 0029671                                     | 10 µL  | 50                 | 25           | 0.5            | 0.11           | Cone       | 1         | -                              | -                               |
| 0029801                                     | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | -                               |
| 002951                                      | 10 µL  | 50                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | -                               |
| 0029861                                     | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 6         | -                              | -                               |
| <b>Fixed needle, gas tight syringes</b>     |        |                    |              |                |                |            |           |                                |                                 |
| 0029761                                     | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 6         | -                              | 031803 (PK1)<br>0318120 (PK2)   |
| 0029771                                     | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | 031803 (PK1)<br>0318120 (PK2)   |
| 0029871                                     | 10 µL  | 50                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | 031803 (PK1)<br>0318120 (PK2)   |
| 0039871                                     | 25 µL  | 50                 | 23           | 0.63           | 0.24           | Cone       | 1         | -                              | 031817                          |
| 005335                                      | 100 µL | 50                 | 23           | 0.63           | 0.24           | Cone       | 1         | -                              | 0318261                         |
| 008131                                      | 1 mL   | 56                 | 23           | 0.63           | 0.15           | Side hole  | 1         | -                              | 031841                          |
| 008136                                      | 1 mL   | 56                 | 26           | 0.47           | 0.15           | Side hole  | 1         | -                              | 031841                          |
| 008631                                      | 2.5 mL | 56                 | 23           | 0.63           | 0.15           | Side hole  | 1         | -                              | 031851                          |
| 008636                                      | 2.5 mL | 56                 | 26           | 0.47           | 0.15           | Side hole  | 1         | -                              | 031851                          |
| 008831                                      | 5 mL   | 56                 | 23           | 0.63           | 0.15           | Side hole  | 1         | -                              | 031861                          |
| <b>Removable needle syringes</b>            |        |                    |              |                |                |            |           |                                |                                 |
| 000490                                      | 0.5 µL | 50                 | 26           | 0.47           | 0.15           | Cone       | 1         | 033770*                        | -                               |
| 000492                                      | 0.5 µL | 50                 | 23           | 0.63           | 0.15           | Cone       | 1         | 033772*                        | -                               |
| 000790                                      | 2 µL   | 50                 | 23           | 0.63           | 0.22           | Cone       | 1         | 034905*                        | -                               |
| 0029841                                     | 10 µL  | 50                 | 23           | 0.63           | 0.11           | Cone       | 1         | 037787                         | -                               |
| <b>Removable needle, gas tight syringes</b> |        |                    |              |                |                |            |           |                                |                                 |
| 002985                                      | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 1         | 037010                         | 0318121                         |
| 005333                                      | 100 µL | 50                 | 26           | 0.47           | 0.2            | Cone       | 1         | 038732                         | 031826                          |

\*Denotes needle and plunger kit.

## Thermo Scientific AS3000 and AS2000

| Syringe part number                     | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size | Replacement needle part number | Replacement plunger part number |
|-----------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|--------------------------------|---------------------------------|
| <b>Fixed needle syringes</b>            |        |                    |              |                |                |            |           |                                |                                 |
| 0019811                                 | 5 µL   | 50                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | -                               |
| 0019821                                 | 5 µL   | 50                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | -                               |
| 0029671                                 | 10 µL  | 50                 | 25           | 0.5            | 0.11           | Cone       | 1         | -                              | -                               |
| 0029741                                 | 10 µL  | 80                 | 22           | 0.72           | 0.17           | Cone       | 1         | -                              | -                               |
| 0029781                                 | 10 µL  | 70                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | -                               |
| 0029801                                 | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | -                               |
| 0029861                                 | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 6         | -                              | -                               |
| 0029891                                 | 10 µL  | 80                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | -                               |
| 0029921                                 | 10 µL  | 80                 | 26           | 0.47           | 0.15           | Cone       | 1         | -                              | -                               |
| <b>Fixed needle, gas tight syringes</b> |        |                    |              |                |                |            |           |                                |                                 |
| 0029761                                 | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 6         | -                              | 03181201                        |
| 0029771                                 | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | 03181201                        |
| 0029871                                 | 10 µL  | 50                 | 23           | 0.63           | 0.11           | Cone       | 1         | -                              | 03181201                        |
| 0039871                                 | 25 µL  | 50                 | 23           | 0.63           | 0.24           | Cone       | 1         | -                              | 0318171                         |
| <b>Removable needle syringes</b>        |        |                    |              |                |                |            |           |                                |                                 |
| 0029841                                 | 10 µL  | 50                 | 23           | 0.63           | 0.11           | Cone       | 1         | 037787                         | -                               |
| 0029931                                 | 10 µL  | 80                 | 26           | 0.47           | 0.15           | Cone       | 1         | 031535                         | -                               |



# L-MARK® LC autosampler syringes | CTC Analytics

## Product specifications and part numbers

| Specifications                                |                                                                                                       |                                      |                                           |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------|
| Accuracy and reproducibility                  | ±1% (dispensed volume)                                                                                | Scale length                         | 10 µL = 54.1 mm<br>25 µL to 10 mL = 60 mm |
| Borosilicate glass barrel outer diameter (OD) | 10 µL to 100 µL = 6.5 mm<br>250 µL to 500 µL = 8 mm<br>1 mL = 7.6 mm<br>5 mL = 14 mm<br>10 mL = 18 mm | International standards traceability | ✓                                         |

## CTC Analytics PAL DLW (Dynamic Load and Wash)

| Syringe part number | Volume | Pack size | Replacement needle part number (PK3) | Replacement plunger part number (PK6) |
|---------------------|--------|-----------|--------------------------------------|---------------------------------------|
| LMK.2620736         | 100 µL | 1         | LMK.21080733                         | LMK.2636735                           |
| LMK.2620740         | 100 µL | 1         | LMK.21080733                         | -                                     |
| LMK.2620735-BL      | 100 µL | 1         | LMK.21080733                         | LMK.2636735-BL                        |
| LMK.2620835-BL      | 250 µL | 1         | LMK.21080733                         | LMK.2636835-BL                        |
| LMK.2620935-BL      | 500 µL | 1         | LMK.21080733                         | LMK.2636935-BL                        |
| LMK.2620080-BL      | 1 mL   | 1         | LMK.21080733                         | LMK.2636086-BL                        |



## CTC Analytics PAL3 RTC and Thermo Scientific TriPlus RSH

| Syringe part number                             | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size |
|-------------------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|
| Fixed needle, gas tight syringes (PTFE plunger) |        |                    |              |                |                |            |           |
| LMK.2616422C*                                   | 10 µL  | 57                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2616422                                     | 10 µL  | 57                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.3030021                                     | 10 µL  | 85                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.3030022                                     | 25 µL  | 57                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2616502C*                                   | 25 µL  | 57                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2616704C*                                   | 100 µL | 57                 | 22           | 0.72           | 0.37           | LC         | 1         |
| LMK.3030908                                     | 100 µL | 85                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2616822                                     | 250 µL | 57                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.3030029                                     | 250 µL | 57                 | 22           | 0.72           | 0.37           | LC         | 1         |
| LMK.2616922                                     | 500 µL | 57                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.3030031                                     | 1 mL   | 57                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.3030095                                     | 5 mL   | 57                 | 22           | 0.72           | 0.37           | LC         | 1         |
| LMK.3030485                                     | 10 mL  | 57                 | 19           | 1.07           | 0.65           | LC         | 1         |

\*Denotes L-MARK Gold syringe.



Syringes for the laboratory

## CTC Analytics PAL-xt

| Syringe part number                                          | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size |
|--------------------------------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|
| <b>L-MARK Gold syringes</b>                                  |        |                    |              |                |                |            |           |
| <b>Fixed needle, gas tight syringes (PTFE plunger)</b>       |        |                    |              |                |                |            |           |
| LMK.2606416C                                                 | 10 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2606416C-6P                                              | 10 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         |
| LMK.2620517C                                                 | 25 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2620517C-6P                                              | 25 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         |
| LMK.2620521C                                                 | 25 µL  | 51                 | 22           | 0.72           | 0.37           | LC         | 1         |
| LMK.2620617C                                                 | 50 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2620615C                                                 | 50 µL  | 51                 | 22           | 0.72           | 0.37           | LC         | 1         |
| LMK.2620719C                                                 | 100 µL | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2620719C-2P                                              | 100 µL | 51                 | 22s          | 0.72           | 0.17           | LC         | 2         |
| LMK.2620719C-6P                                              | 100 µL | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         |
| LMK.2620721C                                                 | 100 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         |
| LMK.2620721C-6P                                              | 100 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 6         |
| LMK.2620821C                                                 | 250 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         |
| LMK.2620821C-6P                                              | 250 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 6         |
| <b>Fixed needle, gas tight syringes (black PTFE plunger)</b> |        |                    |              |                |                |            |           |
| LMK.2606416C-BL                                              | 10 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2620517C-BL                                              | 25 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2620617C-BL                                              | 50 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2620615C-BL                                              | 50 µL  | 51                 | 22           | 0.72           | 0.37           | LC         | 1         |
| LMK.2620719C-BL                                              | 100 µL | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2620719CBL6                                              | 100 µL | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         |
| LMK.2620721C-BL                                              | 100 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         |
| LMK.2620821C-BL                                              | 250 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         |
| <b>Fixed needle, gas tight syringes (PE plunger)</b>         |        |                    |              |                |                |            |           |
| LMK.2620518C                                                 | 25 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2620616C                                                 | 50 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2620616C-6P                                              | 50 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         |
| LMK.2620614C                                                 | 50 µL  | 51                 | 22           | 0.72           | 0.37           | LC         | 1         |
| LMK.2620718C                                                 | 100 µL | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         |
| LMK.2620720C                                                 | 100 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         |
| LMK.2620820C                                                 | 250 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         |



## CTC Analytics PAL-xt continued

| Syringe part number                                          | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size | Replacement plunger part number |
|--------------------------------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|---------------------------------|
| <b>L-MARK syringes</b>                                       |        |                    |              |                |                |            |           |                                 |
| <b>Fixed needle, gas tight syringes (PTFE plunger)</b>       |        |                    |              |                |                |            |           |                                 |
| LMK.2606416                                                  | 10 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | -                               |
| LMK.2606416-2P                                               | 10 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 2         | -                               |
| LMK.2606416-6P                                               | 10 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         | -                               |
| LMK.2620517                                                  | 25 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | LMK.2636505                     |
| LMK.2620517-2P                                               | 25 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 2         | LMK.2636505-2P                  |
| LMK.2620517-6P                                               | 25 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         | LMK.2636505-6P                  |
| LMK.2620617                                                  | 50 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | LMK.2636605                     |
| LMK.2620617-2P                                               | 50 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 2         | LMK.2636605-2P                  |
| LMK.2620617-6P                                               | 50 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         | LMK.2636605-6P                  |
| LMK.2620615                                                  | 50 µL  | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | LMK.2636605                     |
| LMK.2620615-2P                                               | 50 µL  | 51                 | 22           | 0.72           | 0.37           | LC         | 2         | LMK.2636605-2P                  |
| LMK.2620615-6P                                               | 50 µL  | 51                 | 22           | 0.72           | 0.37           | LC         | 6         | LMK.2636605-6P                  |
| LMK.2620719                                                  | 100 µL | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | LMK.2636707                     |
| LMK.2620719-2P                                               | 100 µL | 51                 | 22s          | 0.72           | 0.17           | LC         | 2         | LMK.2636707-2P                  |
| LMK.2620719-6P                                               | 100 µL | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         | LMK.2636707-6P                  |
| LMK.2620721                                                  | 100 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | LMK.2636707                     |
| LMK.2620721-2P                                               | 100 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 2         | LMK.2636707-2P                  |
| LMK.2620721-6P                                               | 100 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 6         | LMK.2636707-6P                  |
| LMK.2620821                                                  | 250 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | -                               |
| LMK.2620821-2P                                               | 250 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 2         | -                               |
| LMK.2620821-6P                                               | 250 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 6         | -                               |
| <b>Fixed needle, gas tight syringes (black PTFE plunger)</b> |        |                    |              |                |                |            |           |                                 |
| LMK.2606416BL                                                | 10 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | -                               |
| LMK.2606416B-6P                                              | 10 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         | -                               |
| LMK.2620517BL                                                | 25 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | -                               |
| LMK.2620617BL                                                | 50 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | -                               |
| LMK.2620617BL6P                                              | 50 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         | -                               |
| LMK.2620719-BL                                               | 100 µL | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | -                               |
| LMK.2620719B-6P                                              | 100 µL | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         | -                               |
| <b>Fixed needle, gas tight syringes (PE plunger)</b>         |        |                    |              |                |                |            |           |                                 |
| LMK.2620518                                                  | 25 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | -                               |
| LMK.2620518-6P                                               | 25 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         | -                               |
| LMK.2620616                                                  | 50 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | LMK.2636606                     |
| LMK.2620616-2P                                               | 50 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 2         | LMK.2636606-2P                  |
| LMK.2620616-6P                                               | 50 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         | LMK.2636606-6P                  |
| LMK.2620614                                                  | 50 µL  | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | LMK.2636606                     |
| LMK.2620614-2P                                               | 50 µL  | 51                 | 22           | 0.72           | 0.37           | LC         | 2         | LMK.2636606-2P                  |
| LMK.2620614-6P                                               | 50 µL  | 51                 | 22           | 0.72           | 0.37           | LC         | 6         | LMK.2636606-6P                  |
| LMK.2620718                                                  | 100 µL | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | LMK.2636708                     |
| LMK.2620718-2P                                               | 100 µL | 51                 | 22s          | 0.72           | 0.17           | LC         | 2         | LMK.2636708-2P                  |
| LMK.2620718-6P                                               | 100 µL | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         | LMK.2636708-6P                  |
| LMK.2620720                                                  | 100 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | LMK.2636708                     |
| LMK.2620720-2P                                               | 100 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 2         | LMK.2636708-2P                  |
| LMK.2620720-6P                                               | 100 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 6         | LMK.2636708-6P                  |
| LMK.2620820                                                  | 250 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | LMK.2636808                     |
| LMK.2620820-2P                                               | 250 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 2         | LMK.2636808-2P                  |
| LMK.2620820-6P                                               | 250 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 6         | LMK.2636808-6P                  |



# SGE LC autosampler syringes | PerkinElmer

Product specifications and part numbers

| Specifications                                |                                                         |                                      |                         |
|-----------------------------------------------|---------------------------------------------------------|--------------------------------------|-------------------------|
| Accuracy and reproducibility                  | ±1% (dispensed volume)                                  | Scale length                         | 50 µL to 2.5 mL = 60 mm |
| Borosilicate glass barrel outer diameter (OD) | 50 µL to 500 µL = 8 mm<br>1 mL = 9 mm<br>2.5 mL = 11 mm | International standards traceability | ✓                       |



## PerkinElmer Series 200

| Syringe part number | Volume | Termination | Pack size |
|---------------------|--------|-------------|-----------|
| 004995              | 50 µL  | ¼-28 UNF    | 1         |
| 005990              | 100 µL | ¼-28 UNF    | 1         |
| 006995              | 250 µL | ¼-28 UNF    | 1         |
| 007995              | 500 µL | ¼-28 UNF    | 1         |
| 008185              | 1 mL   | ¼-28 UNF    | 1         |
| 008687              | 2.5 mL | ¼-28 UNF    | 1         |

# SGE LC autosampler syringes | Waters

Product specifications and part numbers

| Specifications                                |                        |                                      |                         |
|-----------------------------------------------|------------------------|--------------------------------------|-------------------------|
| Accuracy and reproducibility                  | ±1% (dispensed volume) | Scale length                         | 25 µL to 250 µL = 60 mm |
| Borosilicate glass barrel outer diameter (OD) | 25 µL to 250 µL = 8 mm | International standards traceability | ✓                       |



## Waters WISP

| Syringe part number | Volume | Termination | Pack size | Replacement plunger part number |
|---------------------|--------|-------------|-----------|---------------------------------|
| 003990              | 25 µL  | ¼-28 UNF    | 1         | 031819                          |
| 006690              | 250 µL | ¼-28 UNF    | 1         | 031834                          |

# SGE LC manual syringes | Rheodyne and Valco

## Product specifications and part numbers

| Specifications                                |                                                                                   |                                      |                                                    |
|-----------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------|----------------------------------------------------|
| Accuracy and reproducibility                  | ±1% (dispensed volume)                                                            | Scale length                         | 5 µL to 10 µL = 54.1 mm<br>25 µL to 2.5 mL = 60 mm |
| Borosilicate glass barrel outer diameter (OD) | 5 µL to 10 µL = 6.5 mm<br>25 µL to 500 µL = 8 mm<br>1 mL = 9 mm<br>2.5 mL = 11 mm | International standards traceability | ✓                                                  |



## Rheodyne and Valco valves

| Syringe part number                                 | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size | Replacement needle part number | Replacement plunger part number |
|-----------------------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|--------------------------------|---------------------------------|
| <b>Fixed needle syringes</b>                        |        |                    |              |                |                |            |           |                                |                                 |
| 001301                                              | 5 µL   | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | -                              | -                               |
| 002301                                              | 10 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | -                              | -                               |
| 002315                                              | 10 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         | -                              | -                               |
| 003300                                              | 25 µL  | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | -                              | -                               |
| 004300                                              | 50 µL  | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | -                              | -                               |
| 005300                                              | 100 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | -                              | -                               |
| 006300                                              | 250 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | -                              | -                               |
| 007300                                              | 500 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | -                              | -                               |
| <b>Fixed needle, gas tight syringes</b>             |        |                    |              |                |                |            |           |                                |                                 |
| 002335                                              | 10 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | -                              | 031810                          |
| <b>Fixed needle syringes with Superflex plunger</b> |        |                    |              |                |                |            |           |                                |                                 |
| 002300                                              | 10 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | -                              | -                               |
| 002330                                              | 10 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 6         | -                              | -                               |
| <b>Removable needle syringes</b>                    |        |                    |              |                |                |            |           |                                |                                 |
| 006310                                              | 250 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | 038250                         | -                               |
| 007310                                              | 500 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | 038250                         | -                               |
| <b>Removable needle, gas tight syringes</b>         |        |                    |              |                |                |            |           |                                |                                 |
| 002313                                              | 10 µL  | 51                 | 22s          | 0.72           | 0.17           | LC         | 1         | 037250                         | 031811                          |
| 003312                                              | 25 µL  | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | 038250                         | 031815                          |
| 004312                                              | 50 µL  | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | 038250                         | 031820                          |
| 005312                                              | 100 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | 038250                         | 031825                          |
| 006312                                              | 250 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | 038250                         | 031830                          |
| 007312                                              | 500 µL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | 038250                         | 031835                          |
| 008105                                              | 1 mL   | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | 039250                         | 031842                          |
| 008505                                              | 2.5 mL | 51                 | 22           | 0.72           | 0.37           | LC         | 1         | 039250                         | -                               |

# SGE syringes | NanoVolume

## Product specifications and part numbers

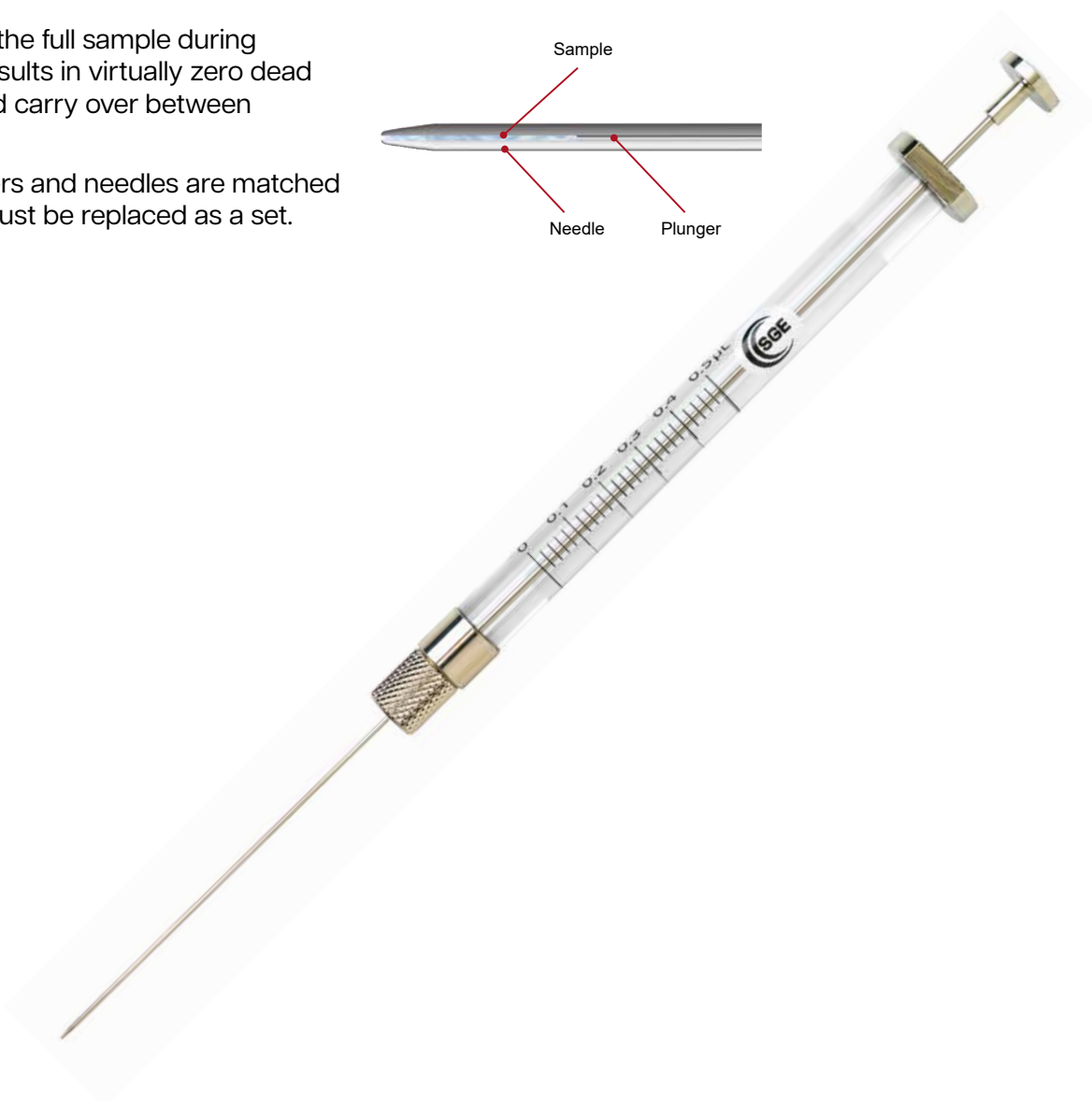
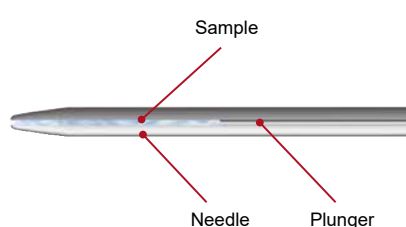
| Specifications                                |                                                                                             |                                      |                                             |
|-----------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------|
| Accuracy and reproducibility                  | ±2% (dispensed volume)                                                                      | Scale length                         | 0.5 µL and 1 µL = 54.1 mm<br>5 µL = 48.7 mm |
| Borosilicate glass barrel outer diameter (OD) | 0.5 µL to 5 µL = 8 mm (except part numbers 000300, 000301, 000303, 000350, 000353 = 6.5 mm) | International standards traceability | ✓                                           |

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.

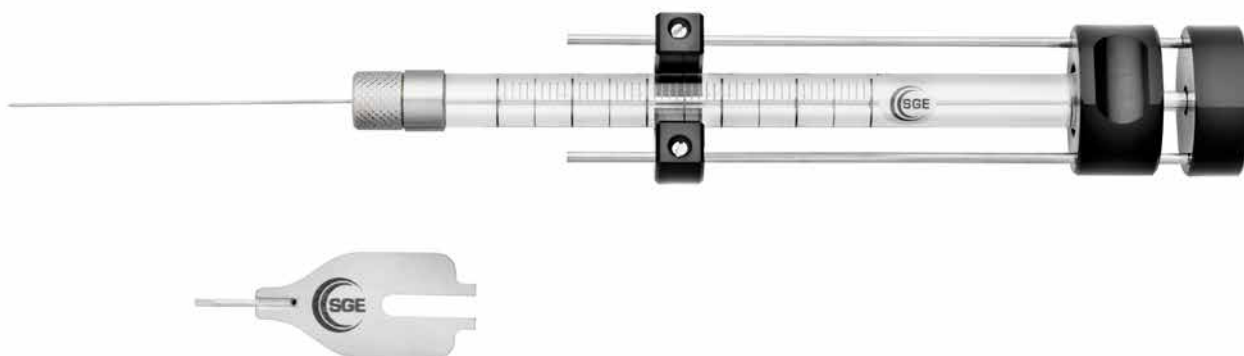
Displacing the full sample during injection results in virtually zero dead volume and carry over between injections.

The plungers and needles are matched sets and must be replaced as a set.



## NanoVolume syringes

| Syringe part number                               | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size | Replacement needle and plunger part number |
|---------------------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|--------------------------------------------|
| <b>NanoVolume syringes</b>                        |        |                    |              |                |                |            |           |                                            |
| 000300                                            | 0.5 µL | 50                 | 23           | 0.63           | 0.15           | Cone       | 1         | 033010                                     |
| 000301                                            | 0.5 µL | 50                 | 23           | 0.63           | 0.15           | Bevel      | 1         | 033011                                     |
| 000303                                            | 0.5 µL | 50                 | 26           | 0.47           | 0.15           | Cone       | 1         | 033012                                     |
| 000310                                            | 0.5 µL | 70                 | 23           | 0.63           | 0.1            | Cone       | 1         | 033057                                     |
| 000311                                            | 0.5 µL | 70                 | 23           | 0.63           | 0.1            | Bevel      | 1         | 033060                                     |
| 000376                                            | 0.5 µL | 70                 | 26           | 0.47           | 0.1            | Cone       | 1         | 033630                                     |
| 000380                                            | 0.5 µL | 75                 | 26           | 0.47           | 0.1            | On-column  | 1         | 033620                                     |
| 000500                                            | 1 µL   | 50                 | 23           | 0.63           | 0.15           | Cone       | 1         | 034055                                     |
| 000501                                            | 1 µL   | 50                 | 23           | 0.63           | 0.15           | Bevel      | 1         | 034056                                     |
| 000505                                            | 1 µL   | 70                 | 23           | 0.63           | 0.15           | Cone       | 1         | 034057                                     |
| 000506                                            | 1 µL   | 70                 | 23           | 0.63           | 0.15           | Bevel      | 1         | 034060                                     |
| 000510                                            | 1 µL   | 115                | 23           | 0.63           | 0.15           | Cone       | 1         | 034059                                     |
| 000570                                            | 1 µL   | 70                 | 26           | 0.47           | 0.15           | Cone       | 1         | 034610                                     |
| 000800                                            | 5 µL   | 50                 | 23           | 0.63           | 0.37           | Cone       | 1         | 035055                                     |
| 000801                                            | 5 µL   | 50                 | 23           | 0.63           | 0.37           | Bevel      | 1         | 035056                                     |
| 000802                                            | 5 µL   | 70                 | 23           | 0.63           | 0.37           | Cone       | 1         | 035057                                     |
| 000803                                            | 5 µL   | 70                 | 23           | 0.63           | 0.37           | Bevel      | 1         | 035058                                     |
| 000804                                            | 5 µL   | 115                | 23           | 0.63           | 0.37           | Cone       | 1         | -                                          |
| <b>NanoVolume syringes with repeating adaptor</b> |        |                    |              |                |                |            |           |                                            |
| 000350                                            | 0.5 µL | 50                 | 23           | 0.63           | 0.15           | Cone       | 1         | 033010                                     |
| 000353                                            | 0.5 µL | 50                 | 26           | 0.47           | 0.15           | Cone       | 1         | 033012                                     |
| 000355                                            | 0.5 µL | 70                 | 23           | 0.63           | 0.1            | Cone       | 1         | 033057                                     |
| 000550                                            | 1 µL   | 50                 | 23           | 0.63           | 0.15           | Cone       | 1         | 034055                                     |
| 000553                                            | 1 µL   | 70                 | 23           | 0.63           | 0.15           | Cone       | 1         | 034057                                     |
| 000850                                            | 5 µL   | 50                 | 23           | 0.63           | 0.37           | Cone       | 1         | 035055                                     |
| 000852                                            | 5 µL   | 70                 | 23           | 0.63           | 0.37           | Cone       | 1         | 035057                                     |



# SGE syringes | Manual

## Product specifications and part numbers

| Specifications                                |                                                                                                                    |                                      |                                                   |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------|
| Accuracy and reproducibility                  | Operator dependent                                                                                                 | Scale length                         | 5 µL to 10 µL = 54.1 mm<br>25 µL to 10 mL = 60 mm |
| Borosilicate glass barrel outer diameter (OD) | 5 µL to 10 µL = 6.5 mm<br>25 µL to 500 µL = 8 mm<br>1 mL = 9 mm<br>2.5 mL = 11 mm<br>5 mL = 14 mm<br>10 mL = 18 mm | International standards traceability | ✓                                                 |



## General purpose manual syringes

| Syringe part number                                | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size | Replacement needle part number | Replacement plunger part number |
|----------------------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|--------------------------------|---------------------------------|
| <b>Fixed needle, metal syringes</b>                |        |                    |              |                |                |            |           |                                |                                 |
| 001000                                             | 5 µL   | 50                 | 26           | 0.47           | 0.11           | Bevel      | 1         | -                              | -                               |
| 002000                                             | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Bevel      | 1         | -                              | -                               |
| 002003                                             | 10 µL  | 70                 | 26           | 0.47           | 0.11           | Bevel      | 1         | -                              | -                               |
| 002005                                             | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | -                               |
| 002030                                             | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Bevel      | 6         | -                              | -                               |
| 002033                                             | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Bevel      | 10        | -                              | -                               |
| 002035                                             | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Bevel      | 25        | -                              | -                               |
| 003000                                             | 25 µL  | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | -                              | -                               |
| 004000                                             | 50 µL  | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | -                              | -                               |
| 005000                                             | 100 µL | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | -                              | -                               |
| 006000                                             | 250 µL | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | -                              | -                               |
| 007000                                             | 500 µL | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | -                              | -                               |
| <b>Fixed needle, gas tight syringes</b>            |        |                    |              |                |                |            |           |                                |                                 |
| 002200                                             | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Bevel      | 1         | -                              | 031810                          |
| 002202                                             | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Bevel      | 6         | -                              | 031810                          |
| 002208                                             | 10 µL  | 70                 | 26           | 0.47           | 0.11           | Bevel      | 6         | -                              | 031810                          |
| 003200                                             | 25 µL  | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | -                              | 031815                          |
| 004200                                             | 50 µL  | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | -                              | 031820                          |
| 005200                                             | 100 µL | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | -                              | 031825                          |
| 006200                                             | 250 µL | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | -                              | 031830                          |
| 007200                                             | 500 µL | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | -                              | 031835                          |
| 008102                                             | 1 mL   | 50                 | 22           | 0.72           | 0.37           | Bevel      | 1         | -                              | 0318441                         |
| 008502                                             | 2.5 mL | 50                 | 22           | 0.72           | 0.37           | Bevel      | 1         | -                              | 031852                          |
| <b>Fixed needle syringes with flexible plunger</b> |        |                    |              |                |                |            |           |                                |                                 |
| 001100                                             | 5 µL   | 50                 | 26           | 0.47           | 0.11           | Bevel      | 1         | -                              | -                               |
| 002100                                             | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Bevel      | 1         | -                              | -                               |
| 002105                                             | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 1         | -                              | -                               |
| 002130                                             | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Bevel      | 6         | -                              | -                               |
| 002133                                             | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Cone       | 6         | -                              | -                               |
| 002135                                             | 10 µL  | 50                 | 23           | 0.63           | 0.11           | Cone       | 6         | -                              | -                               |
| <b>Fixed needle syringes with guided plunger</b>   |        |                    |              |                |                |            |           |                                |                                 |
| 001400                                             | 5 µL   | 50                 | 26           | 0.47           | 0.11           | Bevel      | 1         | -                              | -                               |
| 002400                                             | 10 µL  | 50                 | 26           | 0.47           | 0.11           | Bevel      | 1         | -                              | -                               |

## General purpose manual syringes continued

| Syringe part number                              | Volume            | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size | Replacement needle part number | Replacement plunger part number |
|--------------------------------------------------|-------------------|--------------------|--------------|----------------|----------------|------------|-----------|--------------------------------|---------------------------------|
| <b>Removable needle syringes</b>                 |                   |                    |              |                |                |            |           |                                |                                 |
| 001050                                           | 5 µL              | 50                 | 26           | 0.47           | 0.11           | Bevel      | 1         | 036110                         | -                               |
| 002050                                           | 10 µL             | 50                 | 26           | 0.47           | 0.11           | Bevel      | 1         | 037110                         | -                               |
| 002080                                           | 10 µL             | 50                 | 26           | 0.47           | 0.11           | Bevel      | 6         | 037110                         | -                               |
| 002180*                                          | 10 µL             | 50                 | 26           | 0.47           | 0.11           | Bevel      | 6         | 037110                         | -                               |
| 003050                                           | 25 µL             | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | 038110                         | -                               |
| 004050                                           | 50 µL             | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | 038110                         | -                               |
| 005050                                           | 100 µL            | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | 038110                         | -                               |
| 005055                                           | 100 µL            | 70                 | 25           | 0.5            | 0.2            | Bevel      | 1         | 038130                         | -                               |
| 006050                                           | 250 µL            | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | 038110                         | -                               |
| 007050                                           | 500 µL            | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | 038110                         | -                               |
| <b>Removable needle, gas tight syringes</b>      |                   |                    |              |                |                |            |           |                                |                                 |
| 002250                                           | 10 µL             | 50                 | 26           | 0.47           | 0.11           | Bevel      | 1         | 037110                         | 031811                          |
| 002252                                           | 10 µL             | 50                 | 26           | 0.47           | 0.11           | Bevel      | 6         | 037110                         | 031811                          |
| 003250                                           | 25 µL             | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | 038110                         | 031815                          |
| 004250                                           | 50 µL             | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | 038110                         | 031820                          |
| 005250                                           | 100 µL            | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | 038110                         | 031825                          |
| 006250                                           | 250 µL            | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | 038110                         | 031830                          |
| 007250                                           | 500 µL            | 50                 | 25           | 0.5            | 0.2            | Bevel      | 1         | 038110                         | 031835                          |
| 008100                                           | 1 mL              | 50                 | 23           | 0.63           | 0.32           | Bevel      | 1         | 039110                         | 031842                          |
| 008500                                           | 2.5 mL            | 50                 | 23           | 0.63           | 0.32           | Bevel      | 1         | 039110                         | 031852                          |
| 008700                                           | 5 mL              | 50                 | 23           | 0.63           | 0.32           | Bevel      | 1         | 031516                         | 031856                          |
| 008900                                           | 10 mL             | 50                 | 23           | 0.63           | 0.32           | Bevel      | 1         | 031516                         | 031862                          |
| <b>Removable needle, guided plunger syringes</b> |                   |                    |              |                |                |            |           |                                |                                 |
| 001450                                           | 5 µL              | 50                 | 26           | 0.47           | 0.11           | Bevel      | 1         | 036110                         | -                               |
| 001495                                           | 5 µL (half scale) | 50                 | 26           | 0.47           | 0.11           | Bevel      | 1         | 037110                         | -                               |
| 002450                                           | 10 µL             | 50                 | 26           | 0.47           | 0.11           | Bevel      | 1         | 037110                         | -                               |
| 002455                                           | 10 µL (GT)        | 50                 | 26           | 0.47           | 0.11           | Bevel      | 1         | 037110                         | 031805                          |
| <b>Removable needle, valve syringes</b>          |                   |                    |              |                |                |            |           |                                |                                 |
| 004279                                           | 50 µL             | 50                 | 23           | 0.63           | 0.2            | Bevel      | 1         | -                              | 031820                          |
| 005279                                           | 100 µL            | 50                 | 23           | 0.63           | 0.2            | Bevel      | 1         | -                              | 031825                          |
| 006279                                           | 250 µL            | 50                 | 23           | 0.63           | 0.2            | Bevel      | 1         | -                              | 031830                          |
| 007279                                           | 500 µL            | 50                 | 23           | 0.63           | 0.2            | Bevel      | 1         | -                              | 031835                          |
| 008110                                           | 1 mL              | 50                 | 23           | 0.63           | 0.2            | Bevel      | 1         | -                              | 031842                          |
| 008510                                           | 2.5 mL            | 50                 | 23           | 0.63           | 0.2            | Bevel      | 1         | -                              | 031852                          |

\*Denotes repeating adaptor.



# SGE syringes | Luer Lock and Luer Tip

## Product specifications and part numbers

| Specifications                                |                                                                                                                                                            |                                      |                                                                   |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------|
| Accuracy and reproducibility                  | Operator dependent                                                                                                                                         | Scale length                         | 50 $\mu$ L to 25 mL = 60 mm<br>50 mL = 84.2 mm<br>100 mL = 104 mm |
| Borosilicate glass barrel outer diameter (OD) | 50 $\mu$ L to 500 $\mu$ L = 8 mm<br>1 mL = 9 mm<br>2.5 mL = 11 mm<br>5 mL = 14 mm<br>10 mL = 18 mm<br>25 mL = 27 mm<br>50 mL = 32.8 mm<br>100 mL = 40.8 mm | Thread in plunger stem               | 6-32 UNC                                                          |
|                                               |                                                                                                                                                            | International standards traceability | ✓                                                                 |

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.



## Luer Lock and Luer Tip syringes

| Syringe part number                                  | Volume | Pack size | Replacement plunger part number |
|------------------------------------------------------|--------|-----------|---------------------------------|
| <b>Fixed, gas tight Luer Tip syringes</b>            |        |           |                                 |
| 004229                                               | 50 µL  | 1         | 031820                          |
| 005229                                               | 100 µL | 1         | 031825                          |
| 006229                                               | 250 µL | 1         | 031830                          |
| 007229                                               | 500 µL | 1         | 031835                          |
| 008020                                               | 1 mL   | 1         | 031842                          |
| 008420                                               | 2.5 mL | 1         | 031852                          |
| <b>Fixed, gas tight Luer Lock syringes</b>           |        |           |                                 |
| 004230                                               | 50 µL  | 1         | 031820                          |
| 004232*                                              | 50 µL  | 1         | -                               |
| 005230                                               | 100 µL | 1         | 031825                          |
| 005232*                                              | 100 µL | 1         | -                               |
| 006230                                               | 250 µL | 1         | 031830                          |
| 006232*                                              | 250 µL | 1         | -                               |
| 007230                                               | 500 µL | 1         | 031835                          |
| 007232*                                              | 500 µL | 1         | -                               |
| 008025                                               | 1 mL   | 1         | 0318441                         |
| 008425                                               | 2.5 mL | 1         | 031852                          |
| 008762                                               | 5 mL   | 1         | 0318562                         |
| 008962                                               | 10 mL  | 1         | 031864                          |
| 009463                                               | 25 mL  | 1         | 031874                          |
| <b>Removable, gas tight Luer Lock syringes</b>       |        |           |                                 |
| 008760                                               | 5 mL   | 1         | 031856                          |
| 008960                                               | 10 mL  | 1         | 031862                          |
| 009462                                               | 25 mL  | 1         | 031870                          |
| 009660                                               | 50 mL  | 1         | 0312170                         |
| 009760                                               | 100 mL | 1         | 0312176                         |
| <b>Removable, gas tight Luer Lock valve syringes</b> |        |           |                                 |
| 008160                                               | 1 mL   | 1         | 031842                          |
| 008560                                               | 2.5 mL | 1         | 031852                          |
| 008770                                               | 5 mL   | 1         | 031856                          |
| 008970                                               | 10 mL  | 1         | 031862                          |
| 009472                                               | 25 mL  | 1         | 031870                          |
| 009670                                               | 50 mL  | 1         | 0312170                         |
| 009770                                               | 100 mL | 1         | 0312176                         |

\*Denotes plunger stop.



# Hamilton cross reference

## Variation notes:

F = fixed, N = needle, GT = gas tight, with PTFE tipped plunger,  
LL = Luer Lock, LT = Luer Tip, OC = On-column, R = removable, WO = without

| Hamilton part number | Part description and detail       | Trajan part number | Volume | Termination | Needle length | Gauge | Needle tip | Equivalent or option | Variation                 |
|----------------------|-----------------------------------|--------------------|--------|-------------|---------------|-------|------------|----------------------|---------------------------|
| 160310               | 1750 HITACHI SYRINGE              | 007660             | 500 µL | M10 GT      | -             | -     | -          | E                    | -                         |
| 202640               | 701RSN AOC 14/17(22s/1.69"/2)     | 002898             | 10 µL  | RN          | 42 mm         | 23    | Cone       | O                    | 23 g needle               |
| 202660               | 1002LTN FN CTC SYR (22/56/5)      | 008631             | 2.5 mL | FN GT       | 56 mm         | 23    | Side hole  | O                    | 23 g needle               |
| 202880               | 701RN VARIAN 8100/8200 (26s/57/5) | 002924             | 10 µL  | RN GT       | 53 mm         | 25    | Side hole  | O                    | 25 g needle, 53 mm length |
| 203043               | 1702N CTC SYRINGE (26s/51/AS)     | 003700             | 25 µL  | FN GT       | 50 mm         | 26    | Cone       | O                    | 26 g needle               |
| 203072               | SYR,701 FN CTC,SLIM (26s/51/2)    | 002980             | 10 µL  | FN          | 50 mm         | 26    | Cone       | O                    | 26 g cone tipped needle   |
| 203073               | 701N FN CTC SYRINGE (22s/51/3)    | 002710             | 10 µL  | FN          | 51 mm         | 22s   | LC         | E                    | -                         |
| 203074               | SYR,1702 FN CTC,SLIM (26s/51/AS)  | 0039871            | 25 µL  | FN GT       | 50 mm         | 23    | Cone       | O                    | 23 g needle               |
| 203075               | 1702N FN CTC SYRINGE (22s/51/3)   | 003715             | 25 µL  | FN GT       | 51 mm         | 22s   | LC         | E                    | -                         |
| 203076               | SYR,1710 FN CTC,SLIM (26s/51/AS)  | 005700             | 100 µL | FN GT       | 50 mm         | 26    | Cone       | E                    | -                         |
| 203077               | SYR,1710N FN CTC,SLIM (22s/51/3)  | 005715             | 100 µL | FN GT       | 51 mm         | 22s   | LC         | E                    | -                         |
| 203078               | 1725N FN CTC SYRINGE (26/51/AS)   | 006700             | 250 µL | FN GT       | 50 mm         | 26    | Cone       | E                    | -                         |
| 203079               | 1725N CTC SYRINGE (22/51/LC)      | LMK.2620821        | 250 µL | FN GT       | 51 mm         | 22    | LC         | E                    | -                         |
| 203082               | 1001LTN CTC SYRINGE (23/56/5)     | 008131             | 1 mL   | FN GT       | 56 mm         | 23    | Side hole  | E                    | -                         |
| 203084               | 1002LTN CTC SYRINGE (23/56/5)     | 008631             | 2.5 mL | FN GT       | 56 mm         | 23    | Side hole  | E                    | -                         |
| 203141               | 1001LTN CTC SYRINGE (26/56/5)     | 008136             | 1 mL   | FN GT       | 56 mm         | 26    | Side hole  | E                    | -                         |
| 203181               | 1002LTN CTC SYRINGE (26/56/5)     | 008636             | 2.5 mL | FN GT       | 56 mm         | 26    | Side hole  | E                    | -                         |
| 203185               | 7701.2 CTC SYRINGE (26/51/AS)     | 000790             | 2.0 µL | RN          | 50 mm         | 23    | Cone       | O                    | 2 µL instead of 1.2 µL    |
| 203189               | 75 FN CTC SYRINGE (26s/51/AS)     | 001982             | 5 µL   | FN          | 50 mm         | 26    | Cone       | O                    | 26 g needle               |
| 203194               | 1701N CTC SYRINGE (22s/51/3)      | LMK.2606416        | 10 µL  | FN          | 51 mm         | 22s   | LC         | E                    | -                         |
| 203205               | 701 FN CTC SYRINGE (26s/51/AS)    | 002700             | 10 µL  | FN          | 50 mm         | 26    | Cone       | O                    | 26 g needle               |
| 203235               | 1710 FN CTC SYRINGE (22/51/3)     | 005720             | 100 µL | FN GT       | 51 mm         | 22    | LC         | E                    | -                         |
| 203235               | 1710N CTC SYRINGE (22/51/3)       | LMK.2620721        | 100 µL | FN GT       | 51 mm         | 22    | LC         | E                    | -                         |
| 203274               | 1702N CTC SYRINGE (22s/51/3)      | LMK.2620517        | 25 µL  | FN GT       | 51 mm         | 22s   | LC         | E                    | -                         |
| 203349               | 1750 FN CTC SYR (22/51/3)         | 007720             | 500 µL | FN GT       | 51 mm         | 22    | LC         | E                    | -                         |
| 203361               | 701 FN CTC SYR (23S/51/AS)        | 002981             | 10 µL  | FN          | 50 mm         | 23    | Cone       | O                    | 23 g needle               |
| 203362               | 701 FN CTC SYR (23S-26S/51/AS)    | 002980             | 10 µL  | FN          | 50 mm         | 26    | Cone       | O                    | 26 g needle               |
| 203363               | 701 FN CTC SYR (23S/51/2)         | 002981             | 10 µL  | FN          | 50 mm         | 23    | Cone       | O                    | 23 g cone tipped needle   |
| 203566               | 1710 CTC A200S SYR (22s/51/3)     | 005331             | 100 µL | FN GT       | 51 mm         | 22s   | LC         | E                    | -                         |
| 204000               | SYRINGE,75N(26S/50/2)             | 0019821            | 5 µL   | FN          | 50 mm         | 26    | Cone       | O                    | 26 g cone tipped needle   |
| 204001               | SYRINGE,701SN(26S/50/2)           | 0029801            | 10 µL  | FN          | 50 mm         | 26    | Cone       | O                    | 26 g cone tipped needle   |
| 204051               | SYRINGE,75SN(26S/50/AS)           | 0019821            | 5 µL   | FN          | 50 mm         | 26    | Cone       | O                    | 26 g needle               |
| 204052               | SYRINGE,701SN 26S/50/AS)          | 0029801            | 10 µL  | FN          | 50 mm         | 26    | Cone       | O                    | 26 g needle               |
| 204379               | 1705 CTC SYRINGE (22s/51/3)       | LMK.2620617C       | 50 µL  | FN GT       | 51 mm         | 22s   | LC         | E                    | -                         |
| 204400               | 1710 CTC SYRINGE (22/51/LC)       | LMK.2620721C       | 100 µL | FN GT       | 51 mm         | 22    | LC         | E                    | -                         |
| 204452               | 1710 CTC SYRINGE (22s/51/LC)      | LMK.2620719C       | 100 µL | FN GT       | 51 mm         | 22s   | LC         | E                    | -                         |
| 204475               | 1702 CTC SYRINGE (22s/51/LC)      | LMK.2620517C       | 25 µL  | FN GT       | 51 mm         | 22s   | LC         | E                    | -                         |
| 207189               | 701 FN PAL3 (26S/85/AS)           | 002867             | 10 µL  | FN          | 85 mm         | 26    | Cone       | O                    | 26 g needle               |
| 207290               | 1002 FN CTC PAL3 (23/65/5)HS      | 008655             | 2.5 mL | FN GT       | 65 mm         | 23    | Side hole  | E                    | -                         |
| 207292               | 1010 RN CTC PAL3(19/57/3)         | 008951             | 10 mL  | FN GT       | 57 mm         | 19    | LC         | E                    | -                         |
| 207803               | 701 FN PAL3 (23S/57/AS)           | 002861             | 10 µL  | FN          | 57 mm         | 23    | Cone       | O                    | 23 g needle               |
| 207807               | 701 FN PAL3 (26S/57/AS)           | 002865             | 10 µL  | FN          | 57 mm         | 26    | Cone       | O                    | 26 g needle               |
| 207813               | 1701 RN PAL3 (22S/57/3)           | 002880             | 10 µL  | FN GT       | 57 mm         | 22    | LC         | O                    | 22 g needle               |

| Hamilton part number | Part description and detail      | Trajan part number | Volume | Termination | Needle length | Gauge | Needle tip | Equivalent or option | Variation                                           |
|----------------------|----------------------------------|--------------------|--------|-------------|---------------|-------|------------|----------------------|-----------------------------------------------------|
| 207826               | 1710 PAL3 (22s/57/LC)            | LMK.3030908        | 100 µL | FN GT       | 57 mm         | 22s   | LC         | E                    | -                                                   |
| 207829               | 1725 FN PAL3 (23/57/AS)          | 006862             | 250 µL | FN GT       | 57 mm         | 23    | LC         | E                    | -                                                   |
| 207831               | 1725 FN PAL3 (26/85/AS)          | 006868             | 250 µL | FN GT       | 85 mm         | 26    | LC         | E                    | -                                                   |
| 207832               | 1750 PAL3 (22/57/LC)             | LMK.2616922        | 500 µL | FN GT       | 57 mm         | 22    | LC         | E                    | -                                                   |
| 207836               | 1001 FN PAL3 (22/57/3)           | 008150             | 1 mL   | FN GT       | 57 mm         | 22    | LC         | E                    | -                                                   |
| 207837               | 1701 FN PAL3 (26S/57/AS)         | 002866             | 10 µL  | FN GT       | 57 mm         | 26    | Cone       | O                    | 26 g needle                                         |
| 207839               | 1701 FN PAL3 (23S/57/AS)         | 002862             | 10 µL  | FN GT       | 57 mm         | 23    | Cone       | O                    | 23 g needle                                         |
| 207840               | 1710 FN PAL3 (26S/57/AS)         | 005866             | 100 µL | FN GT       | 57 mm         | 26    | Cone       | O                    | 26 g needle                                         |
| 207853               | 1001 FN CTC PAL3 (23/65/5)HS     | 008155             | 1 mL   | FN GT       | 65 mm         | 23    | Side hole  | E                    | -                                                   |
| 208311               | 1710 PAL3 (22/57/LC)             | LMK.2616704C       | 100 µL | FN GT       | 57 mm         | 22    | Cone       | E                    | -                                                   |
| 54658-01             | SYRINGE,1710C,AUTO SAMPLER       | 005696             | 100 µL | GT          | -             | -     | -          | E                    | -                                                   |
| 54659-01             | SYRINGE,1725C,AUTO SAMPLER       | 006683             | 250 µL | GT          | -             | -     | -          | E                    | -                                                   |
| 54660-01             | SYRINGE,1750C,AUTO SAMPLER       | 007696             | 500 µL | GT          | -             | -     | -          | E                    | -                                                   |
| 54661-01             | SYRINGE,1001C,AUTO SAMPLER       | 008196             | 1 mL   | GT          | -             | -     | -          | E                    | -                                                   |
| 54662-01             | SYRINGE,1002C,AUTO SAMPLER       | 008596             | 2.5 mL | GT          | -             | -     | -          | E                    | -                                                   |
| 62161-01             | SYRINGE,1702C,SPARK AUTO         | 003696             | 25 µL  | GT          | -             | -     | -          | E                    | -                                                   |
| 67430-01             | SYR,1702N,(23/51/AS),CTC-S       | 003700             | 25 µL  | FN GT       | 50 mm         | 26    | Cone       | O                    | 26 g needle                                         |
| 67432-01             | SYR,1710N,(22S/51/3),CTC-S-X     | 005331             | 100 µL | FN GT       | 51 mm         | 22    | LC         | O                    | 22 g needle                                         |
| 67434-01             | SYR,1710N,(23/51/AS),CTC-S       | 005335             | 100 µL | FN GT       | 50 mm         | 23    | Cone       | E                    | -                                                   |
| 67436-01             | SYR,75N,(26S/51/AS),CTC-S        | 0019821            | 5 µL   | FN          | 50 mm         | 26    | Cone       | O                    | 26 g needle                                         |
| 67438-01             | SYR,701N,(26S/51/AS),CTC-S       | 0029801            | 10 µL  | FN          | 50 mm         | 26    | Cone       | O                    | 26 g needle                                         |
| 67440-01             | SYR,701SN,(23S/51/AS),CTC-S      | 002951             | 10 µL  | FN          | 50 mm         | 23    | Cone       | O                    | 23 g needle                                         |
| 67442-01             | SYR,1725N,(22/51/3),CTC-S        | 006720             | 250 µL | FN GT       | 51 mm         | 22    | LC         | E                    | -                                                   |
| 67442-01             | SYR,1725N,(22/51/3),CTC-S        | LMK.2620821        | 250 µL | FN GT       | 51 mm         | 22    | LC         | E                    | -                                                   |
| 67444-01             | SYR,1701N,(22/51/3),CTC-S        | LMK.2606416        | 10 µL  | FN GT       | 51 mm         | 22s   | LC         | O                    | 22s g needle                                        |
| 67446-01             | SYR,1702N,(22S/51/3),CTC-S       | 003715             | 25 µL  | FN GT       | 51 mm         | 22    | LC         | O                    | 22 g needle                                         |
| 67446-01             | SYR,1702N,(22S/51/3),CTC-S       | LMK.2620517        | 25 µL  | FN GT       | 51 mm         | 22    | LC         | O                    | 22 g needle                                         |
| 67448-01             | SYR,1750N,(22/51/3),CTC-S        | 007720             | 500 µL | FN GT       | 51 mm         | 22    | LC         | E                    | -                                                   |
| 67450-01             | SYR,1705N,(22/51/3),CTC-S        | 004810             | 50 µL  | FN GT       | 51 mm         | 22    | LC         | E                    | -                                                   |
| 67450-01             | SYR,1705N,(22/51/3),CTC-S        | LMK.2620615        | 50 µL  | FN GT       | 51 mm         | 22    | LC         | E                    | -                                                   |
| 67452-01             | SYR,1710SN,(22S/51/3),CTC-S      | 005715             | 100 µL | FN GT       | 51 mm         | 22    | LC         | O                    | 22 g needle                                         |
| 67452-01             | SYR,1710SN,(22S/51/3),CTC-S      | LMK.2620719        | 100 µL | FN GT       | 51 mm         | 22    | LC         | O                    | 23 g needle                                         |
| 67454-01             | SYR,1701SN,(23S/51/AS),CTC-S     | 0029871            | 10 µL  | FN GT       | 50 mm         | 23    | Cone       | O                    | 23 g needle                                         |
| 80000                | 1701N 10 µL SYR (26s/2"/2)       | 002200             | 10 µL  | FN GT       | 50 mm         | 26    | Bevel      | O                    | 26 g needle                                         |
| 80004                | 1701NCH 10 µL SYR (26s/2"/2)     | 002200 + 031930    | 10 µL  | FN GT       | 50 mm         | 26    | Bevel      | O                    | 26 g needle                                         |
| 80020                | 1702 WISP SYR 25 µL              | 003990             | 25 µL  | GT          | -             | -     | -          | E                    | -                                                   |
| 80024                | 1725 WISP SYR 250 µL             | 006690             | 250 µL | GT          | -             | -     | -          | E                    | -                                                   |
| 80030                | 1701RN 10 µL SYR (26s/2"/2)      | 002250             | 10 µL  | RN GT       | 50 mm         | 26    | Bevel      | O                    | 26 g needle                                         |
| 80039                | 1701NPT5 FN 10 µL SYR (26s/2"/5) | 002250 + 037410    | 10 µL  | RN GT       | 50 mm         | 26    | Side hole  | O                    | 26 g RN                                             |
| 80065                | 1701RNR 10 µL SYR (22s/2"/3)     | 002313             | 10 µL  | RN GT       | 51 mm         | 22    | LC         | O                    | 22 g needle                                         |
| 80074                | SYRINGE,175ASN FN,23S GA,1.71    | 001810             | 5 µL   | FN          | 42 mm         | 23    | Cone       | O                    | Not GT, full scale 5 µL instead of half scale 10 µL |
| 80074                | SYRINGE,175ASN FN,23S GA,1.71    | 002812             | 10 µL  | FN GT       | 42 mm         | 23    | Cone       | O                    | Full scale 10 µL instead of half scale 5 µL         |
| 80075                | 1701N 10 µL SYR (26s/2"/3)       | 002335             | 10 µL  | FN GT       | 51 mm         | 22    | LC         | O                    | 22 g needle                                         |
| 80076                | 175ASN FN SYR (23-26/1.71"/HP)   | 001821             | 5 µL   | FN          | 42 mm         | 23/26 | Cone       | O                    | Not GT, full scale 5 µL instead of half scale 10 µL |
| 80076                | 175ASN FN SYR (23-26/1.71"/HP)   | 002826             | 10 µL  | FN GT       | 42 mm         | 23/26 | Cone       | O                    | Full scale 10 µL instead of half scale 5 µL         |

| Hamilton part number | Part description and detail          | Trajan part number | Volume | Termination | Needle length | Gauge | Needle tip  | Equivalent or option | Variation                                                      |
|----------------------|--------------------------------------|--------------------|--------|-------------|---------------|-------|-------------|----------------------|----------------------------------------------------------------|
| 80079                | 1701ASN SYR(23S/26S/1.71"/HP)        | 002826             | 10 µL  | FN GT       | 42 mm         | 23/26 | Cone        | O                    | 23/26 g needle                                                 |
| 80080                | 1701ASN SYR (23s/1.71"/HP)           | 002812             | 10 µL  | FN GT       | 42 mm         | 23    | Cone        | O                    | 23 g needle                                                    |
| 80084                | 175AS RN(23s/1.71"/HP)               | 002829             | 10 µL  | RN GT       | 42 mm         | 23/26 | Cone        | O                    | Dual gauge needle, full scale 10 µL instead of half scale 5 µL |
| 80085                | 1701N 10 µL SYR (26/2"/3)            | 002335             | 10 µL  | FN GT       | 51 mm         | 22s   | LC          | O                    | 22s g needle                                                   |
| 80086                | 175AS RN SYR (23-26/1.71"/HP)        | 002829             | 10 µL  | RN GT       | 42 mm         | 23/26 | Cone        | O                    | Full scale 10 µL instead of half scale 5 µL                    |
| 80087                | 1701ASRN 10 µL SYR 23s/1.71"/HP      | 002829             | 10 µL  | RN GT       | 42 mm         | 23/26 | Cone        | O                    | Dual gauge needle                                              |
| 80088                | 1701ASRN 10 µL SYR 26s/1.71"/HP      | 002829             | 10 µL  | RN GT       | 42 mm         | 23/26 | Cone        | O                    | Dual gauge needle                                              |
| 80089                | 1701ASRN SYR (23S/26S/1.71"/HP)      | 002829             | 10 µL  | RN GT       | 42 mm         | 23/26 | Cone        | O                    | 23/26 g needle                                                 |
| 80090                | 175ASN FN 5 µL (23S/1.71"/HP) 6/PK   | 002812             | 10 µL  | FN GT       | 42 mm         | 23    | Cone        | O                    | Full scale 10 µL instead of half scale 5 µL                    |
| 80090                | 175ASN FN 5 µL (23S/1.71"/HP) 6/PK   | 002816             | 10 µL  | RN GT       | 42 mm         | 23    | Cone        | O                    | Full scale 10 µL instead of half scale 5 µL                    |
| 80092                | 175ASN FN 5 µL (23-26/1.71"/HP) 6/PK | 002827             | 10 µL  | FN GT       | 42 mm         | 23/26 | Cone        | O                    | Full scale 10 µL instead of half scale 5 µL                    |
| 80094                | 1701ASN SYR (23s/1.71"/HP) 6/PK      | 002812             | 10 µL  | FN GT       | 42 mm         | 23    | Cone        | O                    | PK1                                                            |
| 80094                | 1701ASN SYR (23s/1.71"/HP) 6/PK      | 002816             | 10 µL  | FN GT       | 42 mm         | 23    | Cone        | O                    | PK1                                                            |
| 80096                | 1701ASN (23-26/1.71"/HP) 6/PK        | 002827             | 10 µL  | FN GT       | 42 mm         | 23/26 | Cone        | E                    | -                                                              |
| 80100                | 7001KH 1 µL SYR (25/2.75"/3)         | 000570             | 1.0 µL | RN          | 70 mm         | 26    | Cone        | O                    | 26 g cone tipped needle                                        |
| 80104                | 7001KHCH 1 µL SYR (25/2.75"/3)       | 000570 + 031930    | 1.0 µL | RN          | 70 mm         | 26    | Cone        | O                    | 26 g cone tipped needle                                        |
| 80107                | 7001KHWG 1 µL SYR (25s/2.75"/3)      | 000570 + 031930    | 1.0 µL | RN          | 70 mm         | 26    | Cone        | O                    | 26 g cone tipped needle                                        |
| 80135                | 7001KH 1.0 µL SYR (25/2.75"/2)       | 000506             | 1.0 µL | RN          | 70 mm         | 23    | Cone        | O                    | 23 g needle                                                    |
| 80175                | 7001ASRN (26/1.71"/HP)               | 000610             | 1.0 µL | RN          | 42 mm         | 23    | Cone        | O                    | 23 g needle                                                    |
| 80176                | 7001ASRN (23/1.71"/HP)               | 000610             | 1.0 µL | RN          | 42 mm         | 23    | Cone        | E                    | -                                                              |
| 80200                | 1702N 25 µL SYR (22s/2"/2)           | 003200             | 25 µL  | FN GT       | 50 mm         | 25    | Bevel       | O                    | 25 g needle                                                    |
| 80201                | 1702LT 25 µL SYR                     | 004229             | 50 µL  | F LT GT     | -             | -     | -           | O                    | 50 µL                                                          |
| 80222                | 1702TLLX 25 µL SYR                   | 004232             | 50 µL  | F LL GT     | -             | -     | -           | O                    | 50 µL                                                          |
| 80223                | 1702TLLX SYR W/BSHG STD BTN          | 004232             | 50 µL  | F LL GT     | -             | -     | -           | O                    | 50 µL, non-adjustable plunger stop                             |
| 80230                | 1702RN 25 µL SYR (22s/2"/2)          | 003250             | 25 µL  | RN GT       | 50 mm         | 25    | Bevel       | O                    | 25 g needle                                                    |
| 80238                | 1702RNW 25 µL SYR (25s/1.97"/3)      | 003250 + 038260    | 25 µL  | RN GT       | 50 mm         | 25s   | LC (Waters) | E                    | -                                                              |
| 80239                | 1702NPT5 25 µL SYR (22s/2"/5)        | 003250 + 038410    | 25 µL  | RN GT       | 50 mm         | -     | Side hole   | O                    | 25 g RN                                                        |
| 80265                | 1702RNR 25 µL SYR (22s/2"/3)         | 003312             | 25 µL  | RN GT       | 51 mm         | 22    | LC          | O                    | 22 g needle                                                    |
| 80275                | 1702N 25 µL SYR (22s/2"/3)           | 003300             | 25 µL  | FN          | 51 mm         | 22    | LC          | O                    | Not GT, 22 g needle                                            |
| 80285                | 1702N 25 µL SYR (22/2"/3)            | 003300             | 25 µL  | FN          | 51 mm         | 22    | LC          | O                    | Not GT                                                         |
| 80300                | 701N 10 µL SYR (26s/2"/2)            | 002000             | 10 µL  | FN          | 50 mm         | 26    | Bevel       | O                    | 26 g needle                                                    |
| 80300                | 701N 10 µL SYR (26s/2"/2)            | 002950             | 10 µL  | FN          | 50 mm         | 26    | Bevel       | O                    | 26 g needle                                                    |
| 80304                | 701NCH 10 µL SYR (26s/2"/2)          | 002000 + 031930    | 10 µL  | FN          | 50 mm         | 26    | Bevel       | O                    | 26 g needle                                                    |
| 80307                | 701NWG 10 µL SYR (26s/2"/2)          | 002000 + 031930    | 10 µL  | FN          | 50 mm         | 26    | Bevel       | O                    | 26 g needle                                                    |
| 80318                | 701SN 10 µL SYR (26s/3.15"/AS)       | 0029921            | 10 µL  | FN          | 80 mm         | 26    | Cone        | O                    | 26 g needle                                                    |

| Hamilton part number | Part description and detail      | Trajan part number | Volume | Termination | Needle length | Gauge | Needle tip | Equivalent or option | Variation               |
|----------------------|----------------------------------|--------------------|--------|-------------|---------------|-------|------------|----------------------|-------------------------|
| 80330                | 701RN 10 µL SYR (26s/2"/2)       | 002050             | 10 µL  | RN          | 50 mm         | 26    | Bevel      | O                    | 26 g needle             |
| 80334                | 701RNCH 10 µL SYR (26s/2"/2)     | 002050 + 031930    | 10 µL  | RN          | 50 mm         | 26    | Bevel      | O                    | 26 g needle             |
| 80336                | 701RN 10 µL SYR 6/PK (26s/2"/2)  | 002080             | 10 µL  | RN          | 50 mm         | 26    | Bevel      | O                    | 26 g needle             |
| 80337                | 701RNWG 10 µL SYR (26s/2"/2)     | 002050 + 031930    | 10 µL  | RN          | 50 mm         | 26    | Bevel      | O                    | 26 g needle             |
| 80339                | 701NPT5 10 µL SYR (26s/2"/5)     | 002050 + 037410    | 10 µL  | RN          | 50 mm         | 26    | Side hole  | O                    | 26 g RN                 |
| 80342                | 701SN 10 µL SYR (23s/2"/HP)      | 002005             | 10 µL  | FN          | 50 mm         | 26    | Cone       | O                    | 26 g needle             |
| 80350                | 701SN 10 µL SYR (26s/2.75"/2)    | 002003             | 10 µL  | FN          | 70 mm         | 26    | Bevel      | O                    | 26 g needle             |
| 80357                | 701ASRN 10 µL SYR (23s/1.71"/HP) | 002815             | 10 µL  | RN          | 42 mm         | 23    | Cone       | O                    | 23 g needle             |
| 80358                | 701ASRN 10 µL SYR (26s/1.71"/HP) | 002805             | 10 µL  | RN          | 42 mm         | 26    | Cone       | O                    | 26 g needle             |
| 80359                | 701ASRN 10 µL (23-26/1.71"/HP)   | 002829             | 10 µL  | RN GT       | 42 mm         | 23/26 | Cone       | O                    | GT                      |
| 80360                | 901N 10 µL SYR (26s/2"/2)        | 002400             | 10 µL  | FN          | 50 mm         | 26    | Bevel      | O                    | 26 g needle             |
| 80365                | 701SNR 10 µL SYR (22s/2"/3)      | 002301             | 10 µL  | FN          | 51 mm         | 22s   | LC         | E                    | -                       |
| 80366                | 701N 10 µL SYR 6/PK (26s/2"/2)   | 002030             | 10 µL  | FN          | 50 mm         | 26    | Bevel      | O                    | 26 g needle             |
| 80370                | 901RN 10 µL SYR (26s/2"/2)       | 002450             | 10 µL  | RN          | 50 mm         | 26    | Bevel      | O                    | 23 g needle             |
| 80383                | 701SN 10 µL SYR (26s/2"/3)       | 002301             | 10 µL  | FN          | 51 mm         | 22s   | LC         | O                    | 22s g needle            |
| 80384                | 701SN 10 µL SYR (26s/3"/2)       | 002003             | 10 µL  | FN          | 70 mm         | 26    | Bevel      | O                    | 70 mm needle            |
| 80387                | 701ASN 10 µL SYR (23s/1.71"/HP)  | 002810             | 10 µL  | FN          | 42 mm         | 23    | Cone       | O                    | 23 g needle             |
| 80388                | 701ASN 10 µL SYR (26s/1.71"/HP)  | 002800             | 10 µL  | FN          | 42 mm         | 26    | Cone       | O                    | 26 g needle             |
| 80389                | 701ASN 10 µL SYR-HP 26s (6/PK)   | 002804             | 10 µL  | FN          | 42 mm         | 26    | Cone       | O                    | 26 g needle             |
| 80390                | 701ASN 10 µL SYR-HP 23s (6/PK)   | 002814             | 10 µL  | FN          | 42 mm         | 23    | Cone       | O                    | 23 g needle             |
| 80391                | 701ASN 6/PK (23s-26s/1.71"/HP)   | 002822             | 10 µL  | FN          | 42 mm         | 23/26 | Cone       | O                    | Dual gauge needle       |
| 80393                | 701ASN SYR (23s-26s/1.71"/HP)    | 002821             | 10 µL  | FN          | 42 mm         | 23/26 | Cone       | O                    | Dual gauge needle       |
| 80398                | 701ASN 10 µL SYR (23S/1.71"/2)   | 002810             | 10 µL  | FN          | 42 mm         | 23    | Cone       | O                    | 23 g cone tipped needle |
| 80399                | 701ASN 10 µL SYR (26S/1.71"/2)   | 002800             | 10 µL  | FN          | 42 mm         | 26    | Cone       | O                    | 26 g cone tipped needle |
| 80400                | 702N 25 µL SYR (22s/2"/2)        | 003000             | 25 µL  | FN          | 50 mm         | 25    | Bevel      | O                    | 25 g needle             |
| 80404                | 702NCH FN 25 µL SYR (22s/2"/2)   | 003000 + 031930    | 25 µL  | FN          | 50 mm         | 25    | Bevel      | O                    | 25 g needle             |
| 80407                | 702NWG 25 µL SYR (22s/2"/2)      | 003000 + 031930    | 25 µL  | FN          | 50 mm         | 25    | Bevel      | O                    | 25 g needle             |
| 80419                | 702SN FN 25 µL SYR (22/2"/3)     | 003300             | 25 µL  | FN          | 51 mm         | 22    | LC         | E                    | -                       |
| 80430                | 702RN 25 µL SYR (22s/2"/2)       | 003050             | 25 µL  | RN          | 50 mm         | 25    | Bevel      | O                    | 25 g needle             |
| 80439                | 702NPT5 25 µL SYR (22s/2"/5)     | 003050 + 038410    | 25 µL  | RN          | 50 mm         | 25    | Side hole  | O                    | 25 g RN                 |
| 80465                | 702SNR 25 µL SYR (22s/2"/3)      | 003300             | 25 µL  | FN          | 51 mm         | 22    | LC         | E                    | -                       |
| 80500                | 705N 50 µL SYR (22s/2"/2)        | 004000             | 50 µL  | FN          | 50 mm         | 25    | Bevel      | O                    | 25 g needle             |
| 80501                | 705LT 50 µL SYR                  | 004229             | 50 µL  | F LT GT     | -             | -     | -          | O                    | GT                      |
| 80505                | 705NCH 50 µL SYR (22s/2"/2)      | 004000 + 031930    | 50 µL  | FN          | 50 mm         | 25    | Bevel      | O                    | 25 g needle             |
| 80521                | 705SN 50 µL SYR (22/2"/3)        | 004300             | 50 µL  | FN          | 51 mm         | 22    | LC         | E                    | -                       |
| 80530                | 705RN 50 µL SYR (22s/2"/2)       | 004050             | 50 µL  | RN          | 50 mm         | 25    | Bevel      | O                    | 25 g needle             |
| 80539                | 705NPT5 50 µL SYR (22s/2"/5)     | 004050 + 038410    | 50 µL  | RN          | 50 mm         | -     | Side hole  | O                    | 25 g RN                 |
| 80565                | 705SNR 50 µL SYR (22s/2"/3)      | 004300             | 50 µL  | FN          | 51 mm         | 22    | LC         | O                    | 22 g needle             |
| 80600                | 710N 100 µL SYR (22s/2"/2)       | 005000             | 100 µL | FN          | 50 mm         | 25    | Bevel      | O                    | 25 g needle             |
| 80601                | 710LT 100 µL SYR                 | 005229             | 100 µL | F LT GT     | -             | -     | -          | E                    | -                       |
| 80605                | 710NCH 100 µL SYR (22s/2"/2)     | 005000 + 031930    | 100 µL | FN          | 50 mm         | 25    | Bevel      | O                    | 25 g needle             |
| 80621                | 710SN 100 µL SYR (22/2"/3)       | 005300             | 100 µL | FN          | 51 mm         | 22    | LC         | E                    | -                       |
| 80630                | 710RN 100 µL SYR (22s/2"/2)      | 005050             | 100 µL | RN          | 50 mm         | 25    | Bevel      | O                    | 25 g needle             |
| 80639                | 710NPT5 100 µL SYR (22s/2"/5)    | 005050 + 038410    | 100 µL | RN          | 50 mm         | 25    | Side hole  | O                    | 25 g RN                 |
| 80665                | 710SNR 100 µL SYR (22s/2"/3)     | 005300             | 100 µL | FN          | 51 mm         | 22    | LC         | E                    | -                       |
| 80700                | 725N 250 µL SYR (22S/2"/2)       | 006000             | 250 µL | FN          | 50 mm         | 25    | Bevel      | O                    | 25 g needle             |

| Hamilton part number | Part description and detail      | Trajan part number | Volume | Termination | Needle length | Gauge | Needle tip  | Equivalent or option | Variation               |
|----------------------|----------------------------------|--------------------|--------|-------------|---------------|-------|-------------|----------------------|-------------------------|
| 80701                | 725LT 250 µL SYR                 | 006229             | 250 µL | F LT GT     | -             | -     | -           | O                    | GT                      |
| 80730                | 725RN 250 µL SYR (22s/2"/2)      | 006050             | 250 µL | RN          | 50 mm         | 25    | Bevel       | O                    | 25 g needle             |
| 80739                | 725N 250 µL SYR (22S/2"/5)       | 006050 + 038410    | 250 µL | RN          | 50 mm         | 25    | Side hole   | O                    | 25 g RN                 |
| 80765                | 725NR 250 µL (22/2"/3)           | 006300             | 250 µL | FN          | 51 mm         | 22    | LC          | E                    | -                       |
| 80800                | 750N 500 µL SYR (22/2"/2)        | 007000             | 500 µL | FN          | 50 mm         | 25    | Bevel       | O                    | 25 g needle             |
| 80801                | 750LT 500 µL SYR                 | 007229             | 500 µL | F LT GT     | -             | -     | -           | O                    | GT                      |
| 80830                | 750RN 500 µL SYR (22/2"/2)       | 007050             | 500 µL | RN          | 50 mm         | 25    | Bevel       | O                    | 25 g needle             |
| 80839                | 750N 500 µL SYR (22/2"/5)        | 007050 + 038410    | 500 µL | RN          | 50 mm         | 25    | Side hole   | O                    | 25 g RN                 |
| 80865                | 750N 500 µL SYR (22/2"/3)        | 007300             | 500 µL | FN          | 51 mm         | 22    | LC          | E                    | -                       |
| 80900                | 1705N 50 µL SYR (22s/2"/2)       | 004200             | 50 µL  | FN          | 50 mm         | 25    | Bevel       | O                    | 25 g needle             |
| 80901                | 1705LT 50 µL SYR                 | 004229             | 50 µL  | F LT GT     | -             | -     | -           | E                    | -                       |
| 80920                | 1705TLL 50 µL SYR                | 004230             | 50 µL  | F LL GT     | -             | -     | -           | E                    | -                       |
| 80922                | 1705TLLX 50 µL SYR               | 004232             | 50 µL  | F LL GT     | -             | -     | -           | E                    | -                       |
| 80927                | 1705TLL 50 µL SYR W/SLOTS        | 004230             | 50 µL  | F LL GT     | -             | -     | -           | E                    | -                       |
| 80930                | 1705RN 50 µL SYR (22s/2"/2)      | 004250             | 50 µL  | RN GT       | 50 mm         | 25    | Bevel       | O                    | 25 g needle             |
| 80938                | 1705RNW 50 µL SYR(25s/1.97"/3)   | 004250 + 038260    | 50 µL  | RN GT       | 50 mm         | 26    | LC (Waters) | O                    | 26 g needle             |
| 80939                | 1705NPT5 50 µL SYR (22s/2"/5)    | 004250 + 038410    | 50 µL  | RN GT       | 50 mm         | 25    | Side hole   | O                    | 25 g RN                 |
| 80956                | 1705SL 50 µL SYR (22s/2"/2)      | 004279             | 50 µL  | RN GT       | 50 mm         | 23    | Cone        | O                    | 23 g cone tipped needle |
| 80962                | 1705CX 50 µL SYR W/STOP          | 004995             | 50 µL  | 1/4-28 UNF  | -             | -     | -           | E                    | -                       |
| 80965                | 1705RNR 50 µL SYR (22s/2"/3)     | 004312             | 50 µL  | RN GT       | 51 mm         | 22    | LC          | O                    | 22 g needle             |
| 80975                | 1705N 50 µL SYR (22s/2"/3)       | 004312             | 50 µL  | RN GT       | 51 mm         | 22    | LC          | O                    | 22 g RN                 |
| 80985                | 1705N 50 µL SYR (22/2"/3)        | 004312             | 50 µL  | RN GT       | 51 mm         | 22    | LC          | O                    | RN                      |
| 81000                | 1710N 100 µL SYR (22s/2"/2)      | 005200             | 100 µL | FN          | 50 mm         | 25    | Bevel       | O                    | 25 g needle             |
| 81001                | 1710LT 100 µL SYR                | 005229             | 100 µL | F LT GT     | -             | -     | -           | E                    | -                       |
| 81020                | 1710TLL 100 µL SYR               | 005230             | 100 µL | F LL GT     | -             | -     | -           | E                    | -                       |
| 81022                | 1710TLLX 100 µL SYR              | 005232             | 100 µL | F LL GT     | -             | -     | -           | E                    | -                       |
| 81027                | 1710TLL 100 µL SYR W/SLOTS       | 005230             | 100 µL | F LL GT     | -             | -     | -           | E                    | -                       |
| 81030                | 1710RN 100 µL SYR (22s/2"/2)     | 005250             | 100 µL | RN GT       | 50 mm         | 25    | Bevel       | O                    | 25 g needle             |
| 81038                | 1710RNW 100 µL SYR (25s/1.97"/3) | 005250 + 038260    | 100 µL | RN GT       | 50 mm         | 26s   | LC (Waters) | O                    | 26s g needle            |
| 81039                | 1710NPT5 100 µL SYR (22s/2"/5)   | 005250 + 038410    | 100 µL | RN GT       | 50 mm         | 25    | Side hole   | O                    | 25 g RN                 |
| 81056                | 1710SL 100 µL SYR (22s/2"/2)     | 005279             | 100 µL | RN GT       | 50 mm         | 23    | Cone        | O                    | 23 g cone tipped needle |
| 81060                | 1710C 100 µL SYR                 | 005990             | 100 µL | 1/4-28 UNF  | -             | -     | -           | O                    | With plunger stop       |
| 81062                | 1710CX 100 µL SYR W/STOP         | 005990             | 100 µL | 1/4-28 UNF  | -             | -     | -           | E                    | -                       |
| 81065                | 1710RNR 100 µL SYR (22s/2"/3)    | 005312             | 100 µL | RN GT       | 51 mm         | 22    | LC          | E                    | -                       |
| 81075                | 1710N 100 µL SYR (22s/2"/3)      | 005312             | 100 µL | RN GT       | 51 mm         | 22    | LC          | O                    | 22 g RN                 |
| 81085                | 1710N 100 µL SYR (22/2"/3)       | 005312             | 100 µL | RN GT       | 51 mm         | 22    | LC          | O                    | RN                      |
| 81100                | 1725LTN 250 µL SYR (22s/2"/2)    | 006200             | 250 µL | FN          | 50 mm         | 25    | Bevel       | O                    | Not LT, 25 g needle     |
| 81101                | 1725LT 250 µL SYR                | 006229             | 250 µL | F LT GT     | -             | -     | -           | E                    | -                       |
| 81120                | 1725TLL 250 µL SYR               | 006230             | 250 µL | F LL GT     | -             | -     | -           | E                    | -                       |
| 81122                | 1725TLLX 250 µL SYR              | 006232             | 250 µL | F LL GT     | -             | -     | -           | E                    | -                       |
| 81127                | 1725TLL 250 µL SYR W/SLOTS       | 006230             | 250 µL | F LL GT     | -             | -     | -           | E                    | -                       |
| 81130                | 1725RN 250 µL SYR (22s/2"/2)     | 006250             | 250 µL | RN GT       | 50 mm         | 25    | Bevel       | O                    | 25 g needle             |
| 81138                | 1725RNW 250 µL SYR (25s/1.97"/3) | 006250 + 038260    | 250 µL | RN GT       | 50 mm         | 25    | LC (Waters) | E                    | -                       |
| 81139                | 1725LTN 250 µL SYR (22S/2"/5)    | 006250 + 038410    | 250 µL | RN GT       | 50 mm         | 25    | Side hole   | O                    | Not LT, 25 g RN         |
| 81156                | 1725SL 250 µL SYR (22s/2"/2)     | 006279             | 250 µL | RN GT       | 50 mm         | 23    | Cone        | O                    | 23 g needle             |
| 81162                | 1725CX 250 µL SYR W/STOP         | 006995             | 250 µL | 1/4-28 UNF  | -             | -     | -           | E                    | -                       |
| 81165                | 1725RNR 250 µL SYR (22/2"/3)     | 006312             | 250 µL | RN GT       | 51 mm         | 22    | LC          | E                    | -                       |

| Hamilton part number | Part description and detail     | Trajan part number | Volume | Termination | Needle length | Gauge | Needle tip | Equivalent or option | Variation               |
|----------------------|---------------------------------|--------------------|--------|-------------|---------------|-------|------------|----------------------|-------------------------|
| 81175                | 1725LTN 250 µL SYR (22/2"/3)    | 006312             | 250 µL | RN GT       | 51 mm         | 22    | LC         | O                    | Not LT, 22 g RN         |
| 81185                | 1725LTN 250 µL SYR (22/2"/3)    | 006312             | 250 µL | RN GT       | 51 mm         | 22    | LC         | O                    | Not LT, RN              |
| 81201                | 1750LT 500 µL SYR               | 007229             | 500 µL | FN LT GT    | -             | -     | -          | E                    | -                       |
| 81216                | 1750LTN 500 µL SYR (22/2"/3)    | 007312             | 500 µL | RN GT       | 51 mm         | 22    | LC         | O                    | Not LT, RN              |
| 81217                | 1750LTN 500 µL SYR (22/2"/2)    | 007200             | 500 µL | FN          | 50 mm         | 25    | Bevel      | O                    | Not LT, 25 g needle     |
| 81220                | 1750TLL 500 µL SYR              | 007230             | 500 µL | FN LL GT    | -             | -     | -          | E                    | -                       |
| 81222                | 1750TLLX 500 µL SYR             | 007232             | 500 µL | FN LL GT    | -             | -     | -          | E                    | -                       |
| 81227                | 1750TLL 500 µL SYR W/SLOTS      | 007230             | 500 µL | FN LL GT    | -             | -     | -          | E                    | -                       |
| 81230                | 1750RN 500 µL SYR (22/2"/2)     | 007250             | 500 µL | RN GT       | 50 mm         | 25    | Bevel      | O                    | 25 g needle             |
| 81243                | 1750LTNPT5 500 µL SYR (22/2"/5) | 005250 + 038410    | 500 µL | RN GT       | 50 mm         | 25    | Side hole  | O                    | Not LT, 25 g needle     |
| 81256                | 1750SL 500uL SYR (22/2"/2)      | 007279             | 500 µL | RN GT       | 50 mm         | 23    | Cone       | O                    | 23 g cone tipped needle |
| 81262                | 1750CX 500 µL SYR W/STOP        | 007995             | 500 µL | 1/4-28 UNF  | -             | -     | -          | E                    | -                       |
| 81265                | 1750RNR 500 µL SYR (22/2"/3)    | 007312             | 500 µL | RN GT       | 51 mm         | 22    | LC         | E                    | -                       |
| 81301                | 1001LT 1.0 mL SYR               | 008020             | 1 mL   | F LT GT     | -             | -     | -          | E                    | -                       |
| 81316                | 1001LTN 1.0 mL SYR (22/2"/3)    | 008105             | 1 mL   | RN GT       | 51 mm         | 22    | LC         | O                    | RN                      |
| 81317                | 1001LTN 1.0 mL SYR (22/2"/2)    | 008102             | 1 mL   | FN GT       | 50 mm         | 22    | Bevel      | O                    | Not LT                  |
| 81318                | 1001LTNCH 1.0 mL SYR (22/2"/2)  | 008102             | 1 mL   | FN GT       | 50 mm         | 22    | Bevel      | O                    | Not LT, WO adaptor      |
| 81320                | 1001TLL 1.0 mL SYR              | 008025             | 1 mL   | F LL GT     | -             | -     | -          | E                    | -                       |
| 81324                | 1001TLLCH 1.0 mL SYR            | 008025             | 1 mL   | F LL GT     | -             | -     | -          | O                    | WO adaptor              |
| 81327                | 1001TLL 1.0 mL SYR W/SLOTS      | 008025             | 1 mL   | F LL GT     | -             | -     | -          | E                    | -                       |
| 81330                | 1001RN 1.0 mL SYR (22/2"/2)     | 008100             | 1 mL   | RN GT       | 50 mm         | 23    | Bevel      | O                    | 23 g needle             |
| 81343                | 1001LTNPT5 1.0 mL SYR (22/2"/5) | 008100 + 039120    | 1 mL   | RN GT       | 50 mm         | -     | Side hole  | O                    | Not LT, 23 g needle     |
| 81356                | 1001SL 1.0 mL SYR (22/2"/2)     | 008110             | 1 mL   | RN GT       | -             | -     | -          | O                    | 23 g needle             |
| 81360                | 1001C 1.0 mL SYR                | 008185             | 1 mL   | 1/4-28 UNF  | -             | -     | -          | -                    | -                       |
| 81365                | 1001RNR 1.0 mL SYR (22/2"/3)    | 008105             | 1 mL   | RN GT       | 51 mm         | 22    | LC         | E                    | -                       |
| 81401                | 1002LT 2.5 mL SYR               | 008420             | 2.5 mL | F LT GT     | -             | -     | -          | E                    | -                       |
| 81403                | 1002LTCH 2.5 mL SYR             | 008420             | 2.5 mL | F LT GT     | -             | -     | -          | O                    | WO adaptor              |
| 81416                | 1002LTN 2.5 mL SYR (22/2"/3)    | 008505             | 2.5 mL | RN GT       | 51 mm         | 22    | LC         | O                    | Not LT, RN              |
| 81417                | 1002LTN 2.5 mL SYR (22/2"/2)    | 008502             | 2.5 mL | FN GT       | 50 mm         | 22    | Bevel      | O                    | Not LT                  |
| 81418                | 1002LTNCH 2.5 mL SYR (22/2"/2)  | 008502             | 2.5 mL | FN GT       | 50 mm         | 22    | Bevel      | O                    | WO adaptor              |
| 81420                | 1002TLL 2.5 mL SYR              | 008425             | 2.5 mL | FN LL GT    | -             | -     | -          | E                    | -                       |
| 81424                | 1002TLLCH 2.5 mL SYR            | 008425             | 2.5 mL | FN LL GT    | -             | -     | -          | O                    | WO adaptor              |
| 81427                | 1002TLL 2.5 mL SYR W/SLOTS      | 008425             | 2.5 mL | F LL GT     | -             | -     | -          | E                    | -                       |
| 81430                | 1002RN 2.5 mL SYR (22/2"/2)     | 008500             | 2.5 mL | RN GT       | 50 mm         | 23    | Bevel      | O                    | 23 g needle             |
| 81443                | 1002LTNPT5 2.5 mL SYR (22/2"/5) | 008500 + 039120    | 2.5 mL | RN GT       | 50 mm         | 23    | Side hole  | O                    | Not LT, 23 g FN         |
| 81456                | 1002SL 2.5 mL SYR (22/2"/2)     | 008510             | 2.5 mL | RN GT       | -             | 23    | -          | O                    | 23 g needle             |
| 81460                | 1002C 2.5 mL SYR                | 008687             | 2.5 mL | 1/4-28 UNF  | -             | -     | -          | E                    | -                       |
| 81501                | 1005LT 5.0 mL SYR               | 008760             | 5 mL   | R LL GT     | -             | -     | -          | O                    | LL not LT               |
| 81516                | 1005LTN 5 mL SYR (22/2"/3)      | 008700 + 0315233   | 5 mL   | RN GT       | 50 mm         | 22    | LC         | O                    | Not LT, RN              |
| 81517                | 1005LTN 5.0 mL SYR (22/2"/2)    | 008700             | 5 mL   | RN GT       | 50 mm         | 23    | Bevel      | O                    | Not LT, 23 g needle     |
| 81518                | 1005LTNCH 5.0 mL SYR (22/2"/2)  | 008762             | 5 mL   | F LL GT     | -             | -     | -          | O                    | Not LT, WO needle       |
| 81520                | 1005TLL 5.0 mL SYR              | 008762             | 5 mL   | F LL GT     | -             | -     | -          | E                    | -                       |
| 81524                | 1005TLLCH 5.0 mL SYR            | 008762             | 5 mL   | F LL GT     | -             | -     | -          | O                    | WO adaptor              |
| 81527                | 1005TLL 5 mL SYR W/SLOTS        | 008762             | 5 mL   | F LL GT     | -             | -     | -          | E                    | -                       |
| 81530                | 1005RN 5.0 mL SYR (22/2"/2)     | 008700             | 5 mL   | RN GT       | 50 mm         | 23    | Bevel      | O                    | 23 g needle             |
| 81560                | 1005C 5.0 mL SYR                | 008787             | 5 mL   | 1/4-28 UNF  | -             | -     | -          | E                    | -                       |
| 81601                | 1010LT 10.0 mL SYR              | 008962             | 10 mL  | F LL GT     | -             | -     | -          | O                    | LL not LT               |
| 81610                | 1010W 10.0 mL (WATERS) SYR      | 008962             | 10 mL  | F LL GT     | -             | -     | -          | E                    | -                       |

| Hamilton part number | Part description and detail          | Trajan part number | Volume | Termination | Needle length | Gauge | Needle tip | Equivalent or option | Variation                         |
|----------------------|--------------------------------------|--------------------|--------|-------------|---------------|-------|------------|----------------------|-----------------------------------|
| 81616                | 1010LTN 10 mL SYR (22/2"/3)          | 008900 + 0315233   | 10 mL  | RN GT       | 50 mm         | 22    | LC         | O                    | Not LT, RN                        |
| 81617                | 1010LTN 10.0 mL SYR (22/2"/2)        | 008900             | 10 mL  | RN GT       | 50 mm         | 23    | Bevel      | O                    | RN                                |
| 81618                | 1010LTNCH 10.0 mL SYR (22/2"/2)      | 008962             | 10 mL  | F LL GT     | -             | -     | -          | O                    | LL not LT, WO adaptor             |
| 81620                | 1010TLL 10.0 mL SYR                  | 008962             | 10 mL  | F LL GT     | -             | -     | -          | E                    | -                                 |
| 81624                | 1010TLLCH 10.0 mL SYR                | 008962             | 10 mL  | F LL GT     | -             | -     | -          | O                    | WO adaptor                        |
| 81627                | 1010TLL 10 mL SYR W/SLOTS            | 008962             | 10 mL  | F LL GT     | -             | -     | -          | E                    | -                                 |
| 81630                | 1010RN 10.0 mL SYR (22/2"/2)         | 008900             | 10 mL  | RN GT       | 50 mm         | 23    | Bevel      | O                    | 23 g needle                       |
| 81660                | 1010C 10.0 mL SYR                    | 008987             | 10 mL  | 1/4-28 UNF  | -             | -     | -          | E                    | -                                 |
| 82017                | 1001.25LTN 1.25 mL SYR (22/2"/2)     | 008502             | 2.5 mL | FN GT       | 50 mm         | 22    | Bevel      | O                    | Not LT, 2.5 mL instead of 1.25 mL |
| 82520                | 1025TLL 25.0 mL SYR                  | 009463             | 25 mL  | F LL GT     | -             | -     | -          | E                    | -                                 |
| 82525                | 1025TLL W/O FL 25 mL SYR W/SLOT      | 009463             | 25 mL  | F LL GT     | -             | -     | -          | O                    | -                                 |
| 82527                | 1025TLL 25 mL SYR W/SLOTS            | 009463             | 25 mL  | F LL GT     | -             | -     | -          | E                    | -                                 |
| 84850                | 85N 5 µL SYR (26s/2"/2)              | 001400             | 5 µL   | FN          | 50 mm         | 26    | Bevel      | O                    | 26 g needle                       |
| 84851                | 85RN 5 µL SYR (26s/2"/2)             | 001450             | 5 µL   | RN          | 50 mm         | 26    | Bevel      | O                    | 26 g needle                       |
| 84852                | 801N 10 µL SYR (26s/2"/2)            | 002400             | 10 µL  | FN          | 50 mm         | 26    | Bevel      | O                    | 26 g needle                       |
| 84853                | 801RN 10 µL SYR (26s/2"/2)           | 002450             | 10 µL  | RN          | 50 mm         | 26    | Bevel      | O                    | 26 g needle                       |
| 85020                | 1050TLL 50.0 mL SYR                  | 009660             | 50 mL  | R LL GT     | -             | -     | -          | E                    | -                                 |
| 85027                | 1050TLL 50 mL SYR W/SLOTS            | 009660             | 50 mL  | R LL GT     | -             | -     | -          | E                    | -                                 |
| 86020                | 1100TLL 100.0 mL SYR                 | 009760             | 100 mL | R LL GT     | -             | -     | -          | E                    | -                                 |
| 86204                | 7101KHCH 1 µL SYR (22/2.75"/3)       | 000553             | 1.0 µL | RN          | 70 mm         | 23    | Cone       | O                    | 23 g cone tipped needle           |
| 86207                | 7101KHGW 1 µL SYR (22/2.75"/3)       | 000553             | 1.0 µL | RN          | 70 mm         | 23    | Cone       | O                    | 23 g cone tipped needle           |
| 86211                | 7101KH 1 µL SYR (22s/2.75"/2)        | 000506             | 1.0 µL | RN          | 70 mm         | 23    | Bevel      | O                    | 23 g needle                       |
| 86250                | 7000.5KH 0.5 µL SYR (25/2.75"/3)     | 000310             | 0.5 µL | RN          | 70 mm         | 23    | Cone       | O                    | 23 g cone tipped needle           |
| 86252                | 7000.5KHCH .5 µL SYR(25/2.75/3)      | 000355             | 0.5 µL | RN          | 70 mm         | 23    | Cone       | O                    | 23 g cone tipped needle           |
| 86254                | 7000.5KHGW .5 µL SYR(25/2.75/3)      | 000355             | 0.5 µL | RN          | 70 mm         | 23    | Cone       | O                    | 23 g cone tipped needle           |
| 86259                | 7000.5KH 0.5 µL SYR (25/2.75"/2)     | 000311             | 0.5 µL | RN          | 70 mm         | 23    | Bevel      | O                    | 23 g needle                       |
| 86274                | 7000.5ASRN (26/1.71"/HP)             | 000400             | 0.5 µL | RN          | 42 mm         | 26    | Cone       | E                    | -                                 |
| 86276                | 7000.5ASRN (23/1.71"/HP)             | 000410             | 0.5 µL | RN          | 42 mm         | 23    | Cone       | E                    | -                                 |
| 86311                | S0500 0.5L SYR (TLL)                 | 009910             | 500 mL | F LL GT     | -             | -     | -          | E                    | -                                 |
| 86312                | S1000 1.0L SYR (TLL)                 | 009920             | 1 L    | F LL GT     | -             | -     | -          | E                    | -                                 |
| 86313                | S1500 1.5L SYR (TLL)                 | 009930             | 2 L    | F LL GT     | -             | -     | -          | O                    | 2 L                               |
| 86314                | S2000 2.0L SYR (TLL)                 | 009930             | 2 L    | F LL GT     | -             | -     | -          | E                    | -                                 |
| 86326                | 1025SL 25 mL SYR (22/2"/2)           | 009472             | 25 mL  | R LL GT     | -             | -     | -          | O                    | LL, WO needle                     |
| 86336                | 1050SL 50 mL SYR (22/2"/2)           | 009670             | 50 mL  | R LL GT     | -             | -     | -          | O                    | LL, WO needle                     |
| 86346                | 1100SL 100 mL SYR (22/2"/2)          | 009770             | 100 mL | R LL GT     | -             | -     | -          | O                    | LL, WO needle                     |
| 87402                | 701RNFS 10 µL SYR (0.17 mm/10 cm/3)  | 002050 + 037610    | 10 µL  | RN          | 100 mm        | -     | OC         | E                    | -                                 |
| 87404                | 1701RNFS 10 µL SYR (0.17 mm/10 cm/3) | 002250 + 037610    | 10 µL  | RN GT       | 50 mm         | -     | OC         | E                    | -                                 |
| 87900                | 75N 5 µL SYR (26s/2"/2)              | 001000             | 5 µL   | FN          | 50 mm         | 26    | Bevel      | O                    | 26 g needle                       |
| 87919                | 75N 5 µL SYR (26s/2"/3)              | 001301             | 5 µL   | FN          | 51 mm         | 22s   | LC         | O                    | 22 g needle                       |
| 87930                | 75RN 5.0 µL SYR (26s/2"/2)           | 001050             | 5 µL   | RN          | 50 mm         | 26    | Bevel      | O                    | 26 g needle                       |
| 87943                | 65RNR 5.0 µL SYR (22s/2"/3)          | 001450             | 5 µL   | RN          | 50 mm         | 26    | Bevel      | O                    | 26 g bevel tipped needle          |
| 87957                | 75ASRN 5 µL SYR (23s/1.71"/HP)       | 001810             | 5 µL   | FN          | 42 mm         | 23    | Cone       | O                    | 23 g FN                           |
| 87958                | 75ASRN 5 µL SYR (26s/1.71"/HP)       | 001800             | 5 µL   | FN          | 42 mm         | 26    | Cone       | O                    | 26 g FN                           |
| 87959                | 75ASRN SYR (23S/26S/1.71"/HP)        | 001821             | 5 µL   | FN          | 42 mm         | 23/26 | Cone       | O                    | Dual gauge FN                     |
| 87987                | 75ASN 5 µL SYR (23s/1.71 "/HP)       | 001810             | 5 µL   | FN          | 42 mm         | 23    | Cone       | O                    | 23 g needle                       |

| Hamilton part number | Part description and detail      | Trajan part number | Volume | Termination | Needle length | Gauge | Needle tip | Equivalent or option | Variation               |
|----------------------|----------------------------------|--------------------|--------|-------------|---------------|-------|------------|----------------------|-------------------------|
| 87988                | 75ASN 5 µL SYR (26s/1.71"/HP)    | 001800             | 5 µL   | FN          | 42 mm         | 26    | Cone       | O                    | 26 g needle             |
| 87989                | 75ASN 5 µL SYR(26s/1.71"/HP) 6PK | 001804             | 5 µL   | FN          | 42 mm         | 26    | Cone       | O                    | 26 g needle             |
| 87990                | 75ASN 5 µL SYR(23s/1.71"/HP) 6PK | 001814             | 5 µL   | FN          | 42 mm         | 23    | Cone       | O                    | 23 g needle             |
| 87991                | 75ASN 5 µL SYR (23s/1.71"/2)     | 001810             | 5 µL   | FN          | 42 mm         | 23    | Cone       | O                    | 23 g cone tipped needle |
| 87992                | 75ASN 5 µL SYR (26s/1.71"/2)     | 001800             | 5 µL   | FN          | 42 mm         | 26    | Cone       | O                    | 26 g cone tipped needle |
| 87993                | 75ASN 5 µL SYR (23-26/1.71"/HP)  | 001821             | 5 µL   | FN          | 42 mm         | 23/26 | Cone       | E                    | -                       |
| 87994                | 75ASN 5 µL 6/PK (23-26/1.71"/HP) | 001822             | 5 µL   | FN          | 42 mm         | 23/26 | Cone       | E                    | -                       |
| 88000                | 7105KH 5.0 µL SYR (24/2.75"/3)   | 000802             | 5 µL   | RN          | 70 mm         | 23    | Cone       | O                    | 23 g cone tipped needle |
| 88004                | 7105KHCH 5.0 µL SYR (24/2.75"/3) | 000852             | 5 µL   | RN          | 70 mm         | 23    | Cone       | O                    | 23 g cone tipped needle |
| 88007                | 7105KHWG 5.0 µL SYR (24/2.75"/3) | 000852             | 5 µL   | RN          | 70 mm         | 23    | Cone       | O                    | 23 g cone tipped needle |
| 88011                | 7105KH 5.0 µL SYR (24/2.75"/2)   | 000803             | 5 µL   | RN          | 70 mm         | 23    | Bevel      | O                    | 23 g needle             |
| 88035                | 75ASN/PE SYR 5 µL 0.63 mm OD     | 001954             | 5 µL   | FN          | 70 mm         | 23    | Cone       | O                    | Cone tipped needle      |
| 88040                | 75ASN/PE SYR 5 µL 0.47 mm OD     | 001953             | 5 µL   | FN          | 70 mm         | 26    | Cone       | O                    | Cone tipped needle      |

Every effort has been made to ensure the SGE and L-MARK branded equivalents and similar close options suggested here are suitable alternative products, however the appropriateness for individual applications must remain the responsibility of the user.



# eVol XR syringes and accessories

## Product specifications and part numbers

### 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

| 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% |

#### eVol and eVol MEPS syringes

| Syringe part number                 | Volume | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size | Replacement needle part number | Replacement plunger part number |
|-------------------------------------|--------|--------------------|--------------|----------------|----------------|------------|-----------|--------------------------------|---------------------------------|
| <b>eVol gas tight syringes</b>      |        |                    |              |                |                |            |           |                                |                                 |
| 2910020                             | 5 µL   | 50                 | 26s          | 0.50           | 0.12           | Bevel      | 1         | 036910                         | 2910380                         |
| 2910021                             | 5 µL   | -                  | -            | -              | -              | -          | 1         | -                              | 2910380                         |
| 2910022                             | 50 µL  | 50                 | 25           | 0.50           | 0.20           | Bevel      | 1         | 038110                         | 2910382                         |
| 2910023                             | 50 µL  | -                  | -            | -              | -              | -          | 1         | -                              | 2910382                         |
| 2910024                             | 500 µL | 50                 | 23           | 0.63           | 0.32           | Bevel      | 1         | 039110                         | 2910384                         |
| 2910025                             | 500 µL | -                  | -            | -              | -              | -          | 1         | -                              | 2910384                         |
| 2910029                             | 100 µL | 50                 | 25           | 0.50           | 0.20           | Bevel      | 1         | 038110                         | 2910383                         |
| 2910035                             | 1 mL   | 50                 | 23           | 0.63           | 0.32           | Bevel      | 1         | 039110                         | 2910385                         |
| 2910037                             | 100 µL | -                  | -            | -              | -              | -          | 1         | -                              | 2910383                         |
| 2910320                             | 5 µL   | 50                 | 26s          | 0.50           | 0.12           | Bevel      | 3         | 036910                         | 2910380                         |
| 2910322                             | 50 µL  | 50                 | 25           | 0.50           | 0.20           | Bevel      | 3         | 038110                         | 2910382                         |
| 2910324                             | 500 µL | 50                 | 23           | 0.63           | 0.32           | Bevel      | 3         | 039110                         | 2910384                         |
| 2910329                             | 100 µL | 50                 | 25           | 0.50           | 0.20           | Bevel      | 3         | 038110                         | 2910383                         |
| 2910335                             | 1 mL   | 50                 | 23           | 0.63           | 0.32           | Bevel      | 3         | 039110                         | 2910385                         |
| <b>eVol MEPS gas tight syringes</b> |        |                    |              |                |                |            |           |                                |                                 |
| 2910026                             | 500 µL | -                  | -            | -              | -              | -          | 1         | -                              | 2910384                         |
| 2910027                             | 50 µL  | -                  | -            | -              | -              | -          | 6         | -                              | 2910382                         |
| 2910028                             | 100 µL | -                  | -            | -              | -              | -          | 6         | -                              | 2910383                         |

#### eVol XR accessories

| Part number             | Part description and detail |
|-------------------------|-----------------------------|
| <b>eVol accessories</b> |                             |
| 2910010                 | eVol stand (acrylic)        |
| 2910012                 | eVol charger                |
| 2910030                 | eVol charging stand         |
| 2910040                 | eVol replacement battery    |

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.

## MEPS BINs

| Part number                                                    | MEPS phase | Needle length (mm) | Needle gauge | Needle OD (mm) | Needle ID (mm) | Needle tip | Pack size |
|----------------------------------------------------------------|------------|--------------------|--------------|----------------|----------------|------------|-----------|
| <b>MEPS barrel insert and needle (BIN) for LC applications</b> |            |                    |              |                |                |            |           |
| 2900701                                                        | C18        | 55.5               | 22           | 0.72           | 0.17           | LC         | 5         |
| 2900702                                                        | C8         | 55.5               | 22           | 0.72           | 0.17           | LC         | 5         |
| 2900703                                                        | APS        | 55.5               | 22           | 0.72           | 0.17           | LC         | 5         |
| 2900705                                                        | HVDB       | 55.5               | 22           | 0.72           | 0.17           | LC         | 5         |
| 2900706                                                        | SDVB       | 55.5               | 22           | 0.72           | 0.17           | LC         | 5         |
| 2900707                                                        | C2         | 55.5               | 22           | 0.72           | 0.17           | LC         | 5         |
| <b>MEPS barrel insert and needle (BIN) for GC applications</b> |            |                    |              |                |                |            |           |
| 2900711                                                        | C18        | 55.5               | 23           | 0.63           | 0.14           | Cone       | 5         |
| 2900712                                                        | C8         | 55.5               | 23           | 0.63           | 0.14           | Cone       | 5         |
| 2900713                                                        | APS        | 55.5               | 23           | 0.63           | 0.14           | Cone       | 5         |
| 2900715                                                        | HVDB       | 55.5               | 23           | 0.63           | 0.14           | Cone       | 5         |
| 2900716                                                        | SDVB       | 55.5               | 23           | 0.63           | 0.14           | Cone       | 5         |
| 2900717                                                        | C2         | 55.5               | 23           | 0.63           | 0.14           | Cone       | 5         |

## Notes

## Notes

## Notes

For more information about this product  
visit [www.trajanscimed.com](http://www.trajanscimed.com) or contact  
[techsupport@trajanscimed.com](mailto:techsupport@trajanscimed.com)

*Specifications are subject to change without notice.*

*Analytical syringes manufactured by Trajan Scientific and Medical  
are intended for analytical and laboratory use only and are not intended  
or approved for use with food, including the production or packaging  
of food, nor medical or human in-vivo use.*

*Agilent is a registered trademark of Agilent Technologies, Inc.  
Bruker is a registered trademark of Bruker Corporation.  
PerkinElmer is a registered trademark of PerkinElmer, Inc.  
Shimadzu is a registered trademark of Shimadzu Corporation.  
Thermo Scientific is a registered trademark of Thermo Fisher Scientific, Inc.*

# Syringes for the laboratory



BR-0519-G\_RevM © Trajan Scientific Australia Pty Ltd 09/2025