



## The most trusted name in your lab's instrumentation now brings you manual gas-tight syringes.

For 30 years, we've brought innovative design to life in high-quality laboratory equipment. Our reliable units have powered the mass spectrometry and chromatography instruments you use every day to operate as smoothly and effectively as possible.

**Now, with manual gas-tight syringes, we're putting that effectiveness in your hands.**

In the lab, you need precise, accurate, and dependable syringes for defined sample injection. Our syringes have the lowest carryover performance on the market thanks to their unique design and meticulous construction. In fact, IMI Norgren manual gas-tight syringes are proven to have, on average, seven to nine times less detected carryover in FN and RN types as compared to other leading brands. Designed to withstand most corrosive fluids, our manual gas-tight syringes also pair with PTFE tips and a smooth finish borosilicate glass to ensure an inert flow path and a tight seal to deliver outstanding accuracy performance of  $\pm 1\%$ .

Thanks to our decades of instrumentation experience, we manufacture high-quality, gas-tight syringes in a variety of volume ranges, terminations options, and needle point styles to meet your analytical needs.

### 3000 Series

The 3000 series of manual gas-tight syringes are specifically designed for GC, LC, and HPLC applications and are capable of handling corrosive fluids. Available in volumes from 10 $\mu$ L to 500 $\mu$ L, these syringes also feature color-coded flange caps for easy identification.



### 4000 Series

The 4000 series of manual gas-tight syringes are designed for the transfer of larger gas or liquid volumes and are available in 1mL to 50mL capacities. They also offer the possibility for instrumentation mounting with flanged plunger button designs and 6-32 thread connections, making them suitable for use on autosamplers.



## Syringe Terminations

Our manual syringe offerings ensure that you have reliable, high-quality syringes for all your gas and liquid handling applications.



### Fixed Needle (FN)

This needle is constructed with 304 stainless steel and is epoxy-cemented into the bore of the syringe barrel to a depth corresponding precisely to the graduation mark. The exposed needle length is 2". These needles are not removable or interchangeable.



### Removable Needle (RN)

This termination incorporates a removable type 304 stainless steel needle that seats exactly at the zero graduation mark of the syringe. This design allows you to replace needles and vary needle point style options as required.



### Tapered Luer Lock (TLL)

Used exclusively for gas transfer in general laboratory applications, the locking device keeps the needle securely in place when injecting under high pressures. The luer hub and PTFE male luer are bonded to the exterior of the glass barrel to ensure inertness.



### Tapered Luer Tip (TLT)

This termination is ideal for use with chromatographic and in-vitro needles with metal or Kel-F hubs.

## Needle Point Styles

It's time to pinpoint your specific application needs and discover our needle point styles. They're designated from A to E and perfected to meet your laboratory and instrumentation requirements.



### Point Style A

With a 22° bevel and slightly bent tip to help eliminate septum coring, this point is recommended for most applications of septum piercing.



### Point Style B

This point has a 90° bevel for decreased capillary action at the end of a dispense and is used when pipetting precise amounts of liquids.



### Point Style C

This point has a 22° bevel and is suitable for most life science applications.



### Point Style D

Primarily used when orifice plugging must be held to a minimum, this point uses a side hole for filling and dispensing. It is ideal for penetrating thicker septum materials.



### Point Style E

Electro-tapered to eliminate burrs and improve finish, this point is ideal for penetrating a Merlin Microseal septum.

## Easy Online Ordering

The benefits of fast, easy ordering are at your fingertips. Find the precise manual gas-tight syringes you need with the world's most advanced online product finder and enjoy unrivaled, 24-hour delivery.

Visit [www.imi-precision.com/manual-syringes](http://www.imi-precision.com/manual-syringes) to order.

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