

# Luer and Locking Thread Comparisons

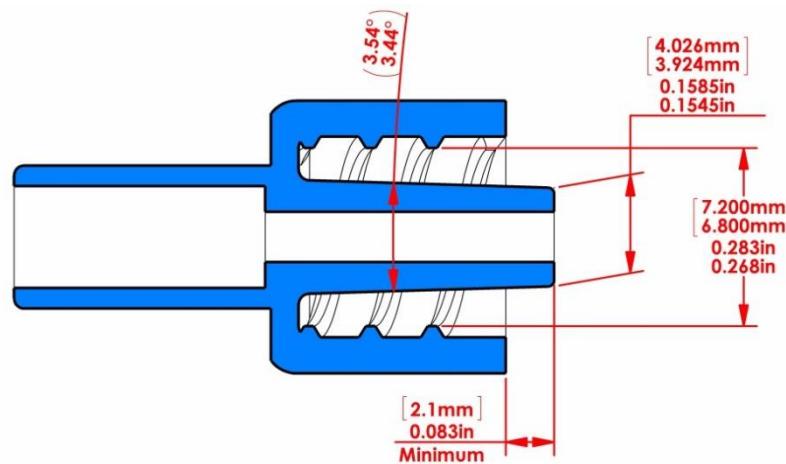
Dimensional Study of Nexus TKO<sup>®</sup>-6P and other Market Leading Vascular Access Devices

## International Standards Organization

### ISO 594 - Primary Test Standard for Luer Fittings


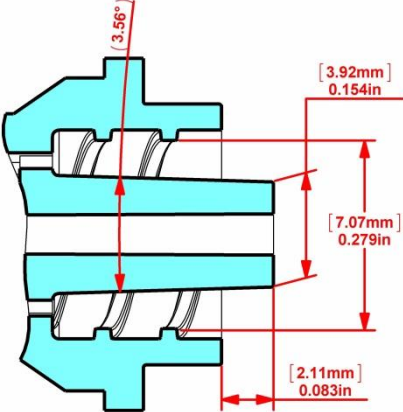

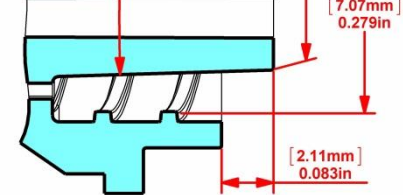

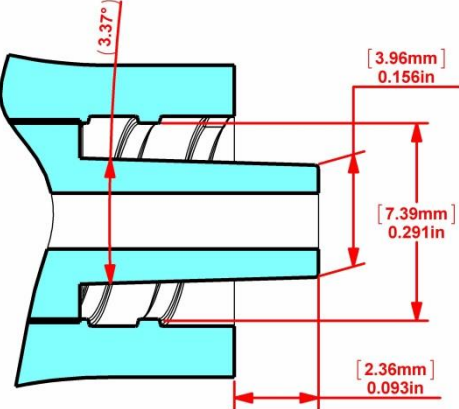

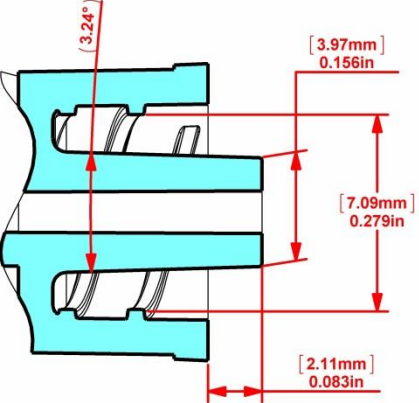
Luer fittings (6% taper) are used in many medical devices, including hypodermic needles, syringes, catheters and infusion devices. A Luer fitting is the most common means of achieving a leak-free connection between two I.V. medical devices that carry small volumes of fluids.


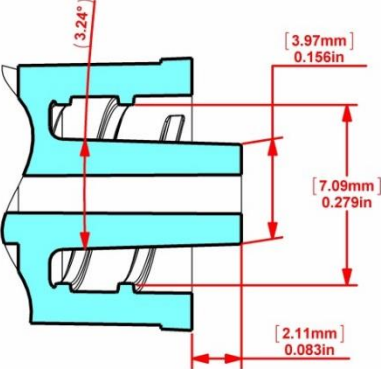

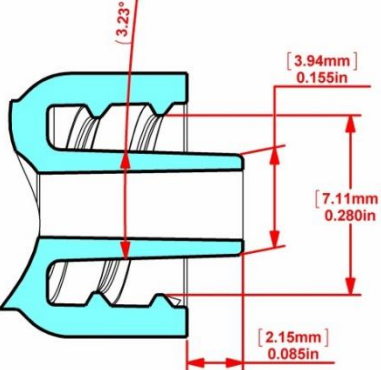

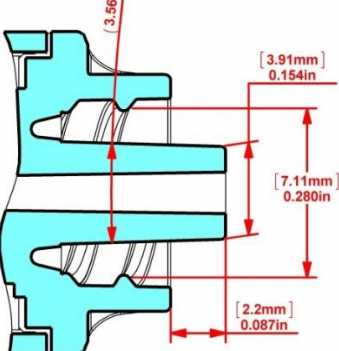

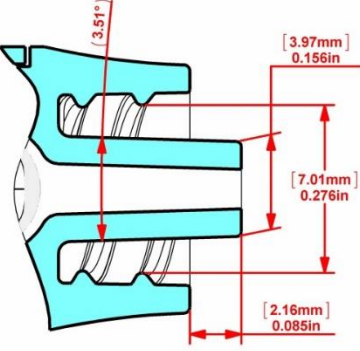
There are two types of Luer fittings, Luer slip and Luer lock. A Luer slip fitting consists of a tapered cone and a mating tapered cavity. A Luer lock fitting consists of a Luer slip fitting with locking threads added. The Luer lock fitting creates a more secure connection and is therefore the more popular of the two. DDL tests both standalone Luer adapters and Luers which are components of various devices.


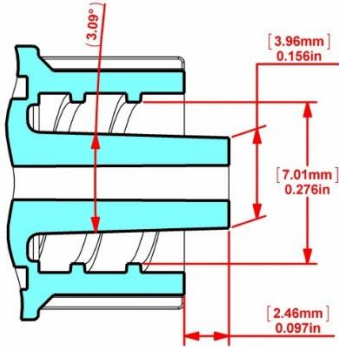


### ISO 594-1 Luer and ISO 594-2 Locking Thread Tolerances

The primary standard for dimensional and performance requirements of Luer fittings is ISO 594; *Conical fittings with a 6% (Luer) taper for syringes, needles and certain other medical equipment*. It consists of two separate standards, ISO 594-1 (*Part 1: General requirements*) and ISO 594-2 (*Part 2: Lock fittings*), first issued in 1986 and 1991, respectively. The first edition of ISO 594-2 allowed two different configurations of the female fitting thread--either full threads or two short lugs. However, other thread variants were being developed and introduced. In 1996, the European Community issued EN 1707, a European standard with the same title as ISO 594-2, but with two additional thread alternatives for the female fitting. In 1998, the second edition of ISO 594-2 was issued, containing the additional thread designs of EN 1707.

Manufacturer / Model	Dimensions
<p><b>CareFusion MaxPlus®</b></p> 	
<p><b>CareFusion MaxZero®</b></p> 	
<p><b>ICU Medical Clave®</b></p> 	
<p><b>ICU Medical MicroClave®</b></p> 	

Manufacturer / Model	Dimensions
<p><b>ICU Medical MicroClave® Clear</b></p> 	
<p><b>ICU Medical Neutron®</b></p> 	
<p><b>Baxter ONE-LINK</b></p> 	
<p><b>Nexus Medical TKO®-6P</b></p> 	

Manufacturer / Model	Dimensions
<p><b>RyMed / Invision-Plus®</b></p> 	
<p><b>BD Q-Syte™</b></p> 