



**MICRO MOLD, Co., Inc.**

**PLASTIKOS, INC.**  
**Custom Injection Molding**

## **Building a Partnership**

A medical device manufacturer knows all too well the inherent dangers associated with any fluid control device. A water-tight seal is required to prevent any fluid from escaping, as well as prevent any contaminants from entering the fluid passage. The device must be free of flash and other loose particulate in order to mitigate the risk of the patient's blood stream from becoming infected. These risks are all taken into consideration when selecting the right supplier for the job. Therefore the engineers at Navilyst Medical Inc., a leader in fluid management technologies, needed to find a partner who possessed the skills and experience necessary to design and build a sequence of fluid control devices to be used in their product line.

The relationship between Navilyst Medical and Micro Mold Company Inc. began to evolve in 1986. Micro Mold Co. was new to the medical device industry; however they demonstrated the characteristics needed to become successful in such a competitive and demanding field. Such characteristics included: on time delivery, precision machining, and the willingness to push beyond existing boundaries.

The engineers at Navilyst Medical recognized these characteristics and decided to entrust Micro Mold Co. with the design and build of a 4-cavity tool to produce one of several fluid control handles. Upon successful delivery of the fluid control handle, Micro Mold Co. was then awarded the mating component, known as the manifold.

In order to accurately regulate fluid within the manifold, the handle needed to form a water tight seal when assembled. In order to accomplish this task without the use of o-rings, the tool required a tolerance of 0.00005 inches on steel. In addition to these intricate tolerances, the handle needed to be easily adjusted; therefore Acetal was selected due to its natural lubricity properties. With shrinkage values of up to 0.035 in/in, Acetal has the potential to cause several assembly predicaments. However, Micro Mold Co. delivered a tool to adhere to 0.0001 inches on the finished product, thereby forming the water tight seal required for assembly. To this day, Micro Mold Co. continues to work with Navilyst Medical on various fluid control devices (Figure 1), all of which are built to the precision of the original device.

## **[ MICRO MOLD & PLASTIKOS IN THE REAL WORLD ]**

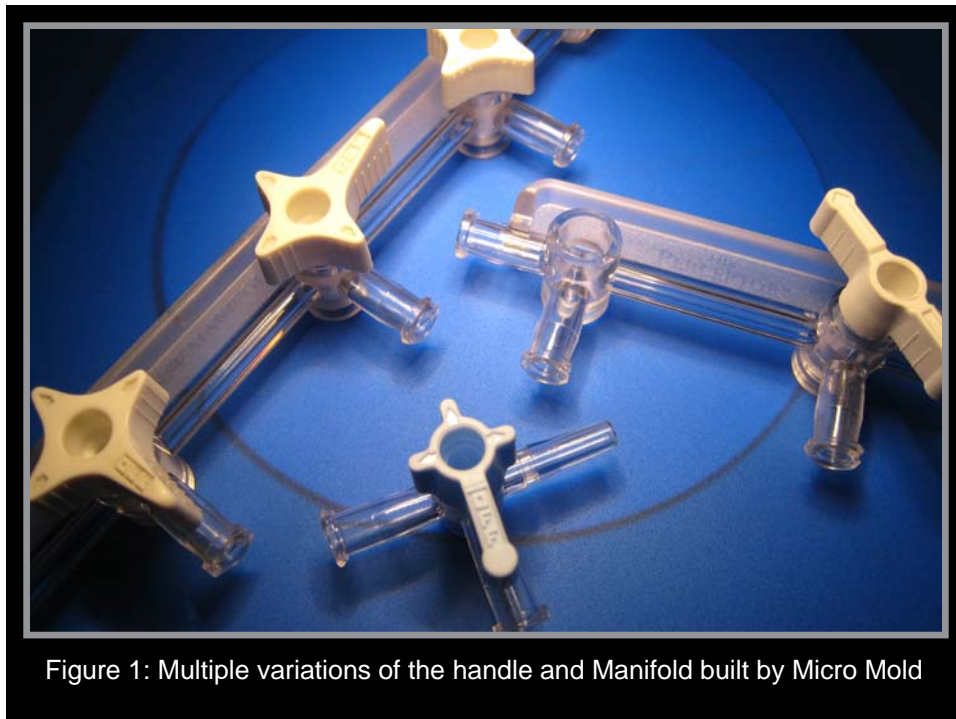


Figure 1: Multiple variations of the handle and Manifold built by Micro Mold