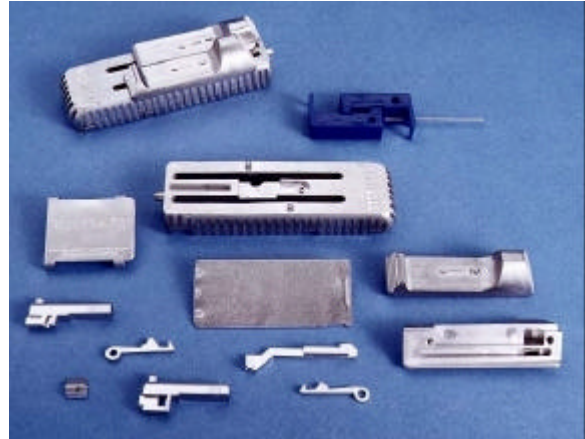


**FloMet LLC**  
[www.flomet.com](http://www.flomet.com)

**Component:** Biopsy Instrument



**(Summary)**

**Challenge:** A medical device manufacturer had a complex biopsy instrument set that consisted of eleven parts made out of plastic. However field results indicated that the plastic set could not meet the strength requirements for the application. Machining the eleven piece set from barstock would render the part too costly to produce.

**Solution:** A metal injected molded set that would deliver the strength requirements needed and be significantly less than machining thus making it feasible for production.

**(Details)**

When the medical device manufacturer developed a complex biopsy instrument set out of plastic their test results indicated that the plastic did not have the strength requirements for the application. They needed stainless steel to meet the strength requirements so they looked at machining the set out of barstock. While this solved the strength requirements for the application they now faced another hurdle: machining

would render the set too costly to produce. Essentially they were without a viable product until they talked to FloMet. After careful analysis, the decision was made to use FloMet's 316L duplex alloy. Typical properties of the 316L include an ultimate tensile strength of 73 kpsi, yield strength of 43 kpsi, elongation of 40%, and a HR (B scale) hardness of 70 to 80. This solved the material problem, however, now FloMet had to develop eleven production tools that would produce the components to make the biopsy instrument set. The components had to be made to exact tolerances that would enable them to fit together. With craftsmen detail the tools were designed, modeled, and built. All eleven components were molded and processed meeting the dimensional tolerance required to allow them to fit together in order to form a viable instrument. No easy task when there are that many required for the assembled set. The production process proved to be cost effective while producing functionally sound product. By choosing FloMet, the customer was able to reach its objectives of product requirements and cost effectiveness.