



**Able Electropolishing Co.**  
2001 S Kilbourn Ave  
Chicago IL 60623  
Phone: 773-277-1600

## #1004 - Brite Ultraclean and Micro - Inch Finish

**Industry:** Medical - Manufacturers of portable dialysis equipment

**Mfg/Method:** Shaft Assembly comprised of a weldment of machined components

**Alloy:** 316L stainless steel

**Problem:** The 316L stainless steel shaft has two 316L stainless steel tabs that are welded on the outside of the shaft. This causes weld discoloration, a contaminating oxide. The Shaft Assembly is an important part in an assembly for a portable blood dialysis machine. The tip must be sharp to puncture a carton containing a solution pre-mixture of powder and liquid. The fluid is dispersed through the portable dialysis machine. The inside must be clean and the surface must be smooth.



**Solution:** Our customer electropolished several samples. After electropolishing the outside and inside Shaft Assembly they found that electropolishing solved several problems. By removing a controlled amount of material, the ground burr around the puncture area was removed. This exposed the true sharpness, which allowed a smooth puncture into the container. Secondly the inside surfaces are smoother and the microfinish was improved. The better inside surface finish means less micro-crevices and inclusions for bacteria to harbor. The discoloration from the welded tabs was cleaned. Overall, the Shaft Assembly is bright passive and ultraclean with a smooth finish on the inside.

Electropolishing is the finish of choice for this important medical device.

**Note to engineer:** *Able has processed literally thousands of different parts for the medical industry since 1954. Please contact our technical representatives for questions on process acceptance in the industry.*