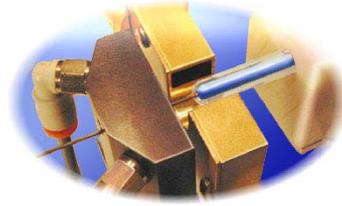


FBK Medical Tubing, Inc/

**BEAHM**  
DESIGNS  
For a Complete Line  
of Machine Designs



## Catheter Tipping Process Case Study

### **Brief:**

*FBK Medical Tubing, Inc. a leading contract manufacturer of custom plastic medical device extruded components, develops methodology to cost effectively resolve accuracy, repeatability and through put issues with tipping equipment and thermoplastic tubing.*

How does an industry leader of made-to-order, multi-lumen plastic, medical extrusion, develop a foolproof method for cost-effectively creating smooth, repeatable tip geometries? This was the challenge faced by the management team of FBK Medical, Tubing Inc. (FBK).

“We needed to easily form smooth radiuses, both closed and open ended at the tips of the tubes. This manual operation was artsy and dependent upon the operator’s talents and fatigue level. It required patience and a measure of forearm and hand strength in order to repetitively apply a constant pressure while the tip is being formed. Problems with product consistency coupled with the high costs of training employees motivated us to seek a new solution. We began to shop around for an automated tipping system, but the systems we reviewed were not cost effective and lacked the ability to easily accommodate our consistency needs, production demand and existing tipping die types and sizes.” states Hubert Thomas, Production Manager.

### **Background:**

FBK, a 38 person medical extrusion company based in Birmingham, Alabama, was looking for a system to meet their customer’s demand for higher through put and consistent quality. Faced with the possibility of losing a major client if no effective resolution could be found, FBK elected to work with Beahm Designs, a preferred vendor to develop a custom solution. “We were impressed with the reliability and innovation we’d come to associate with Beahm Designs, so when Brian Beahm, company President and CEO, suggested we work with him to develop the Dual Tipper (512-A), we were glad to give it a try” Hubert Thomas adds.

FBK was familiar with Beahm Designs’ expertise in creating tipping equipment which precisely and quickly forms thermoplastic catheter tips. The key feature introduced in the Dual Tipper is that it is not limited to catheter size, offering FBK a new level flexibility in terms of production capability. Additionally, the Beahm Designs Dual Tipper

processes two catheters at a time and is capable of closed or open, rounded or tapered tubing ends allowing FBK a wide range of offerings to its customers.

FBK R&D staff found the equipment solution easy to operate. Once the parameters were set, the thermal nozzle is traversed to the tipping die where the tubing to be tipped is simultaneously inserted.

Upon completion of tip forming the thermal nozzle is retracted and cooling air cools the mold and tubing. The digital timers and pressure controls of the forming process decrease the likelihood of user error. Tubing is pneumatically withdrawn from tipping die

FBK has proprietary forming tools which they use in conjunction with the Dual Tipper to customize to customer requirements, enabling them to tip a wide variety of disposable thermoplastics with the Beahm Designs Dual Tipper. Their ability to process an array of tubing durometers, shapes and sizes using this equipment keeps this company on the leading edge of processing and development which their customers have come to rely upon.

**Conclusion:** The combination of Beahm Designs Dual Tipper and the “one stop shopping” convenience offered by FBK is unbeatable in terms of cost effectiveness, flexibility and expertise. The Beahm Designs Dual Tipper has helped FBK to increase profits by reducing production costs and increasing sales volume. FBK was able to increase production capacity by approximately 120%, more than double per hour from the previous manual method. The Dual Tipper effectively eliminated the inconsistency and waste associated with manual labor dependency. The digital heat-control feature allows FBK to document job specifications for instant repeatability. The results were immediate. “We went from 1 of the Beahm machines to 5 due to increased demand”, states Jim Ward, CEO.

**Operating Specifications:**

**Temperature Range:** ambient to 600 deg. f

**Heat/Cool Timing Range:** 1-999 seconds

**Insertion Force:** 3-100 psi

**Grip Force:** 3-100 psi

**Dimensional** 21” Deep X 8” High X 25”

**Facilities Requirements:** 120 volts AC, 500 watts, 100 psi compressed air.

**Die Types:** Stainless Steele, Glass, Teflon, Silicon

**About FBK:** FBK Medical Tubing, Inc. (FBK) was established over 20 years ago in Birmingham, Alabama. FBK extrudes a wide variety of disposable thermoplastics to many medical device customers with R&D and “one-stop-shop” extrusion needs, including tipping, skiving, punching, thermoforming and printing.

**About Beahm Designs:**

Beahm Designs, located in Campbell, California, is an industry leader in supplying a premier line of cost effective catheter manufacturing equipment.

Beahm Designs has been supplying, multi purpose workstations to the medical device industry for more than 14 years. Beahm Designs supplies a complete line of shrinking systems, necking, bonding and tipping systems for the purpose of delivering heat to thermoplastic tubings and components allowing adhesion or modification of the parts. From custom equipment to a complete line of catheter manufacturing systems, Beahm Designs equipment provides solutions for improved catheter productivity, repeatability and ease of use.