



## Automatic Die Centering



### Precision and Repeatability Beyond Anything Humanly Possible!

We have leveraged our patented\* parison side wall adjustment technology for blow molding to address the challenge of concentricity in small medical tubing. Previously, 90% was the accepted standard for concentricity in tight-tolerance tubing applications. With our technology, we have successfully implemented automatic die centering technology that enables up to 99.0% concentricity, precision beyond anything humanly possible. This technology has been developed to incorporate closed-loop control of tubing wall thickness concentricity.

Significant benefits can be realized with this technology such as reduced product changeover times by eliminating operator manual adjustment of die centering during set-up that can be time consuming and difficult to accurately reproduce. Improved product quality and process capability (Cpk) are also achieved during production by maintaining concentricity with automatic closed-loop control. These benefits result in reduced start-up times, lower defect rates, and improved overall process repeatability.

Automatic die centering technology is currently being used successfully for high molecular weight bioresorbable stent tubing applications. The uniformity of the tubing wall thickness (concentricity) along the length of the stent tubing is a critical design parameter. A very concentric wall thickness is highly desirable for increasing yields during secondary operations such as expansion and laser cutting, and an ultra-uniform wall thickness improves the opportunity for more uniform circumferential vessel wall support. Automatic die centering technology is available for processing a variety of medical grade polymers including HDPE, nylon, Pebax®, and polyurethane.

\*patent number 5,674,440