

High Speed Machining Gives California Molder Technology Edge

From an unpretentious location in El Monte, Calif., near Los Angeles, a mold maker is successfully applying the latest machine tool and design technology to create new life-saving devices.

Steve Raiken, president of Reny & Company, Inc., is a native of Southern California. He became interested in mold making when working as a sales representative for a local plastics injection molder after graduating from the California Institute of the Arts with a bachelor of fine arts degree.

Raiken was intrigued by the art and craftsmanship of making molds, but found his strengths were in design and concept more than the hands-on tasks of polishing or detailing molds. He was most captivated, however, by the growth of the medical device industry and the business of developing high quality, highly complex tooling with demanding lead times for designs in development.

Raiken soon discovered his best means for addressing these emerging opportunities was to establish his own operation. He launched Reny & Company in the mid-'80s as a pilot and short run injection molding operation and began approaching R&D prototype projects on his own. In 1990, he expanded his mold-making specialty, adding custom injection molding production capability to the operation.

More than a decade later, Reny & Company's focus is still in the medical field, with the company realizing double-digit annual growth rates over the last several years. Raiken attributes his company's business success to achieving the right mix of man, machine and technology to stay ahead of the market's demands.

High Speed Machining Captures Company's Focus

"Our forte is highly technical, challenging products that require a complete solution," Raiken says. "We provide full development cycle capability, from advising at the development stage, to building prototypes when necessary, and building the production molds, supplying the customer with the finished plastic components they need for their products."

A key aspect to Reny's successful evolution has been the ability to explore new technologies and apply them to develop business opportunities. Raiken explained, "A couple of years back we were looking at getting



CNC EDM capability and were very close to making a machine purchase when I realized that EDM wasn't where my backlog existed. My backlog was in fabricating electrodes."

Raiken's focus changed when Mikron Bostomatic Corporation's regional sales manager, Reto Fehr, made his initial sales call. "Reto came in and exposed us to the concept of high speed machining. It was a new idea on how to approach our work. He touted the Mikron VCP 600 high speed machining center," Raiken recalled, "saying, 'this will not only cut your electrodes but will cut hard steel as well. Why even make the electrode if you can just mill the cavity?'"

Fehr said he knew immediately after looking at Raiken's business that the VCP 600 would be the perfect fit for him. "He's working in the medical industry and, in addition to making the tooling, he has to provide the molded parts. This requires great precision and short throughput times. If something isn't right with the mold, then he must go back and redo the tool itself. Also, he had limited EDM capacity which made him a good candidate for going directly into hard milling—for the time and cost savings—since the high speed machining center eliminates the need to manufacture an electrode, bench the electrode, polish the electrode, and greatly reduces EDM time."

Fehr proved to be a prophet. According to Raiken, the hard milling achieved with the Mikron VCP 600 opened more doors for more business for Reny & Company. "It's been a very



successful, highly reliable asset for us. This machine gave us greater speed and better reliability allowing us to meet the demands of high pressure, high profile jobs and has raised the bar for time-to-market expectations."

The Mikron VCP 600

The Mikron VCP 600 features a polymer concrete base construction that provides excellent thermal stability and vibration dampening characteristics up to six times better than cast iron. The result is better cutting performance, higher accuracy, and improved surface finish quality, in addition to longer tool life. The available spindle choices, from 12,000 to 42,000 rpm, suits a range of applications from conventional cutting to high speed machining of small, intricate work pieces such as small electrodes or complex cavity molds and dies.

The VCP 600 features a powerful 18 hp, 42,000-rpm vector-controlled spindle with hybrid ceramic bearings. The spindle is suitable for cutting hardened steel, graphite, and a variety of other materials.

The machining center is controlled by the highly reliable, user-friendly Heidenhain control. The control has a host of features, such as 2 GB memory, look-ahead function, Ethernet interface, graphics, and 3D cutter compensation.

Two years after purchasing the VCP 600, Raiken believed Reny needed a CNC mill for more heavy-duty milling operations. He considered acquiring a commodity CNC machine but opted to purchase a second Mikron VCP 600 high-speed machining center with a 20,000-rpm spindle. Raiken revealed that he made this choice based on the realization that "we could off-load some of the hard steel milling as well as handle our general purpose milling requirements with the VCP 600. The reliability of the machine and the people behind it inked the decision."

Investing in technology to avoid the ordinary has afforded Reny & Company more options to deliver a higher level of expertise for the highly critical business of medical device manufacturing.

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