

CNC West Featured Article

February • March 2001 • Vol. XIX No. 4 • An Arnold Publication

Customer Service Pays Off

A Successful Job Shop Reaps The Rewards of Great Customer Service.

by C. H. Bush, Editor; photos by John Semonish, staff photographer

Most machining job shops offer good

customer service, mainly because that's what it takes to keep customers happy. But sometimes a shop goes an extra mile to help a customer and sometimes that extra mile pays off in ways never anticipated.

"That's what happened to us," says Ken Rehling, vp general manager of Huntington Beach, CA's Hytron Manufacturing Company, Inc. "For the past five years we have worked to help one of our customers in the semi-conductor industry develop a new product called a K1S modular substrate system, which is a kind of manifold system used by the industry to deliver gases into the silicon wafer manufacturing process. Our customer's goal on the project was to find a way to reduce the size of the gas delivery system from something large and cumbersome to a system that would fit in your hand and that could be put together kind of like a jigsaw puzzle to satisfy any configuration the end user needed. The really unique thing about this product is that it's a small, tight system that reduces the footprint from a 3-foot-long welded system to a 12" modular, non-welded system."

During the development period Hytron was paid for the finished prototypes it produced, but the job shop also delivered a lot more than finished steel.

"Over the years we put in a lot of freebie time, too" explains vp production Bob Rehling (Ken's brother). "There were lots of weekends and nights when our customer desperately needed parts and we produced them. We also spent a lot of time learning to do the machining they needed to get the tolerances and finishes they needed for the product. We did these things because we like our customer and we believe in what he was trying to do. We wanted to help him succeed."

At one point the team thought the job was done, only to be disappointed by the realities of business life.

"There were a lot of highs and lows during the development process," say Ken Rehling. "Actually the first generation of the substrate was ready to go to market two years ago, but then our customer's company was acquired by another company and that pretty much killed the product, so we had to



Brothers Bob (left) and Ken Rehling discuss production requirements for Hytron Manufacturing Company's recently acquired status as only one of 2 or 3 manufacturers licensed to produce components for the K1S modular substrate system used by silicon wafer manufacturers as a kind of manifold system to distribute various gases into the chip production process. Bob is vp production manager. Ken is vp general manager. Hytron spent 5 years working with one of its customers to develop components for the modular system, which are manufactured using low-sulfur, double-remelt VIM/VAR 316L stainless steel .

start over from scratch again.”

An Exciting Development

After two more years of development work the modular substrate system was once again ready to go to market. And, according to the Rehling brothers, it really is an exciting, if not revolutionary, development.

“We’re machinists and manufacturers here, not semi-conductor experts,” says Bob Rehling, “but the way we understand it is that if a semi-conductor manufacturer wants to enlarge the size of wafers it produces, it might have to spend as much as a billion dollars to build a new facility. With this new substrate system, however, they can use the existing facility, so you can see the potential benefit and demand we’re facing.”

“What’s unusual in this case is that most products developed for the semi-conductor industry are proprietary and are kept top secret,” adds Ken Rehling. “But this time our customer has released the product to the industry at large with the goal that it might become a standard and we expect to be a part of that as component manufacturers. We have just become one of the first two companies to become a licensed supplier of substrate components. It’s amazing, but we already have customers lining up to buy from us. We’re not sure where all this is headed, but we feel certain it will have a major impact on our sales and growth.”

“What I like about this is that we’ll be selling one product to a lot of different customers,” says Bob Rehling. “It will be almost like having our own product, which is great.”

Both Rehling brothers feel that the exciting new horizon they face has come as a result of going all the way in providing good service to, not just one, but all their customers.

“Actually we think we probably can pick up two or three dozen new customers almost overnight,” says Ken Rehling. “Yes, and that will have a major impact on our production as well, but we’re ready for it,” Bob says. “We currently have 31 employees, the equipment we need and our shop is well organized for production”

Intentional Diversification

Hytron Manufacturing was founded in 1963 by Ken and Bob Rehling’s father, Jim.

“Dad started the business in a quonset hut as a one-man shop,” reports Bob. “At that time the only equipment he had was a Millwright mill and a Logan lathe.”

“In the beginning Dad was lucky to have one good customer,” Ken adds. “Now, since the recession of the early ‘90’s, we’ve



Close up photo of the new K1S modular substrate system as shown at www.topmount.net, a web site dedicated to developing a semiconductor industry standard for a new 1-1/8 inch compact format modular surface-mount substrate. The web site is the information and organizational site for OMUG. (Open Modular User's Group.) Hytron Manufacturing, Inc. has been licensed to produce components for these systems, which are produced from Vim-Var stainless steel, a metal resistant to corrosive gases. The system includes 17 components in all that can be purchased and assembled as required by silicon wafer manufacturers.



View of the Hytron Manufacturing shop floor where 10 Haas milling machines are used in both job-shop work and to produce Vim/Var components for the K1S modular substrate system. The company's machine lineup includes Haas VFO-E's and VF2 machines. which it uses for both high-and-low-volume manufacturing for customers in the telecommunications, semiconductor, electronics, aerospace, defense, medical, oil-drilling equipment and automotive industries.

intentionally diversified and have customers in a lot of industries, including telecommunications, semiconductor, electronics, aerospace, defense, medical, oil-drilling equipment and automotive industries.”

“We like diversification,” adds Bob Rehling. “We basically learned our lesson about having all our eggs in one industry basket. It’s too dangerous that way. Now when one industry is down others are up, which keeps our business on a more steady path.”

“Yes, and it was our efforts to diversify that led us to move to the semi-conductor market for customers,” Ken says.

“Without that we might not have the opportunity we have today.”

Equipped for Production

Prior to 1993 Hytron primarily used manual equipment and some Bridgeport mills to serve its customers.

“Today we’re operating a lot of modern equipment, including ten Haas machining centers,” says Bob Rehling. “We have a VF2, a couple of VFO’s and seven VFO-E’s.”

“Most of this equipment has been purchased in the last four years,” Ken adds. “It was about then that sales really started to kick in. Before that we had been kind of on a roller coaster, along with the aerospace industry.”

“I guess the main reason we bought the Haas machines was reliability,” Bob says. “We had been using Haas indexers since 1984, I believe, and they had given us really great service, so when we went looking for CNC equipment to handle higher-volume production, we naturally turned to Haas. So far, the Haas mills have done everything we ask of them, including producing the quality we need for the new substrates.”

Where To From Here?

According to the Rehling brothers, their father, Jim Rehling, is still heavily involved in Hytron’s daily operations, but they also admit good naturedly that they are pushing him in new directions for the business.

“Right now our goal is to solidify our position as a qualified supplier of these new VIM/VAR substrates to the semi-conductor industry,” admits Ken Rehling. “This is a such a fantastic opportunity for us that we haven’t even begun to realize to true impact it can have on our business.”

“We’ll continue to give the best service we can to all our customers,” adds Bob. “We believe its important that you customers have faith that when you make a promise, you’ll keep that promise.”



CNC operator, Juan Carlos Heredia, sets up one of Hytron Manufacturing’s HaasVFOE machining centers to produce VIM/VAR components for the modular substrate the company has been licensed recently to produce.



Hytron produces most of its parts to Mil Std 45082. The

“And, we’ll continue to diversify,” says Ken. “We’re young and we still have a long future ahead of us. Considering what has happened to us with the modular substrate system, I, for one, am really excited about the future.”

company performs 100% inspection on the VIM/VAR K1S modular substrate components it manufactures. Procedures include use of height stands as the products come off the Haas machines and subsequent testing on this Brown & Sharpe Gage 2000 CMM. Operator is Joe Nguyen.