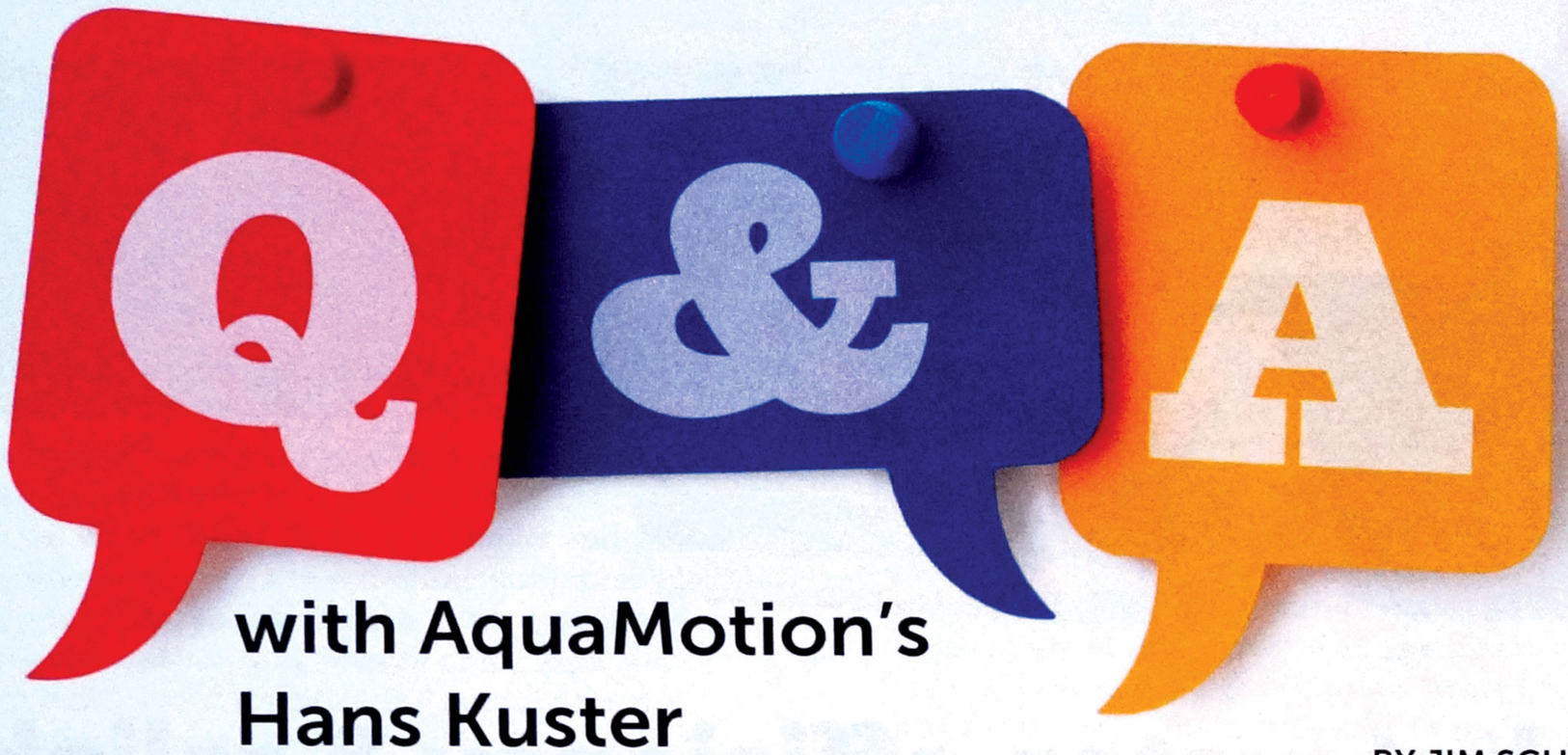
Pump start



with AquaMotion's Hans Kuster

BY JIM SCHNEIDER

Circulator pumps are literally the heart of any plumbing or hydronics system. With so much resting on the performance of a circulator, efficiency and reliability are paramount.

We recently spoke to longtime pump pro Hans Kuster, president of AquaMotion Inc., to learn more about his company's approach to pumping solutions.

Phc: Can you tell us a little about the history of AquaMotion?

HK: In 2000, I sold my previous business, Sparco Inc., to Honeywell. Sparco made hydronic heating specialties, like water mixing valves, air elimination equipment, zone valves and radiant manifolds, for the largest OEM's. After a couple of years of travel and work for nonprofits, I was restless and anxious to get back into business. With a five-year non-compete agreement with Honeywell, I made a business plan to make pumps, and called my friend and vice president of Engineering at Sparco, Benno Lebkuchner. I invited him to join me in the new adventure. Our goal was to build the best circulator in the industry.

Hans Kuster, president of AquaMotion Inc.

With Lebkuchner as senior vice president of Engineering, and I as vice president of Manufacturing, CFO and senior vice president, we have 50 years of experience in the pump industry with our previous employer, who was the market leader in water lubricated circulators. Lebkuchner and I joined forces and set out to develop the best circulator based on our experience since the beginning of the wet rotor pumps in North America and Lebkuchner's previous inventions, such as the hollow shaft and cartridge designs.

When I sold Sparco, I made an agreement with Honeywell that they could not fire any of my employees for five years. After 10 years, they moved the company out of town and I have many of my old reliable crew back with AquaMotion. They like my Swiss Quality Standard of operation, and I gained experienced workers. We wanted to make a 100 percent U.S. product, but soon found that the design was not competitive and we, like everyone else, buy the castings overseas.

Phc: Can you describe AquaMotion's overall philosophy?

HK: For AquaMotion, I set the following objectives: Design a pump line for U.S. manufacturing to control quality, lowest manufacturing cost by design, lowest power consumption for energy efficiency, highest overall efficiency and quality, interchangeability with competitors, simplicity in use and service, patentable features, competitive pricing, and best customer service. We have accomplished the objectives with our current product offering.

U.S. manufacturing was high on the list because I thought it was time to start making products here again. I believe that the trend is here and we have a good sales argument against competition.

Phc: What drives you in your business?

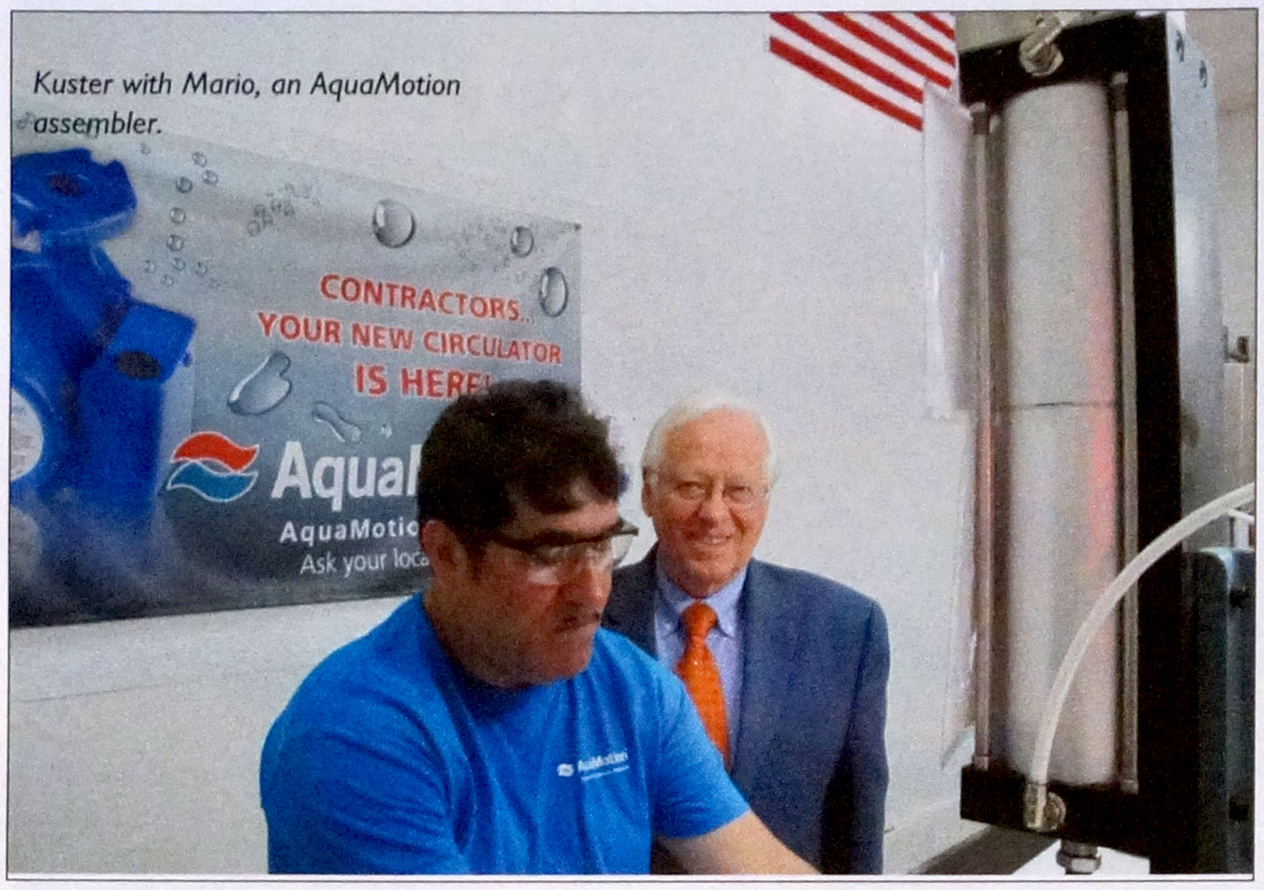
HK: The challenge to complete the mission I set out to do. That mission is to create products that are user friendly, simple to install and service, are most energy efficient, provide lower cost to the user, are recyclable to eliminate waste, and are sustainable.

Phc: What are some of AquaMotion's primary offerings?

HK: We make cast iron and stainless steel pumps for the residential and light commercial market segment with the following product applications: hydronic heating systems; plumbing systems; radiant floor and panel heating; solar heating; indirect domestic water systems; water source heat pump systems; heat recovery systems; domestic recirculation systems; and chilled water cooling systems.

Our products use much less energy than competition by 20 to 40 percent, with our own PSC motor designs. Our AM7 circulators have the same amp rating as the smart pumps and have just about the same annual operating cost.

We just launched a new product line called the AquaMotion HOT ONE, TWO, and THREE recirculation systems. The HOT ONE is a clever, compact, energy saving package that fits under the sink and has an annual operating cost of only $2.00 per year. The HOT TWO is used where a return



Kuster with Mario, an AquaMotion assembler.

line is installed and is mounted on the return line at the heat source, and not on top of the water heater where the pump is subjected to the high temperature all the time. The HOT THREE, our ON CALL System, is used where codes require the user to call for hot water. We provide a wireless call button, a motion sensor, and/or an air button for under sink installation to activate the system. The concept and execution is simple, offering options and big money savings for the consumer.

We also offer flanges, spare parts, and replacement kits for competitive products, providing lower cost to the consumer.

Phc: AquaMotion seems to be driven by technological innovation. Can you talk about your approach to staying on the cutting edge?

HK: For me, innovation is the result of looking at a product or system and figuring out how to improve upon it. Make it more useful, make it simpler, provide more features, reduce cost, and provide a service no one has thought of before. Or, discover a completely different approach to achieving the result, a new application or a problem solving solution.

Once that is done, I check the patentability of the new idea and start spending money with the patent attorney for a patent application.

To date, we have two issued patents and a couple of pending patents. One of the patents covers the circulator cartridge, which is replaceable and cleanable. This invention came about because of my desire to stop the tremendous waste of good pumps that is going on in our industry, and to extend the product life of pumps at a nominal cost.

The bearing patent was prompted by the high cost of the carbon bearings and the search for a lower cost solution. This required a long test period of many different ideas with metals and combinations, and resulted in a much stronger bearing, which is carbon filled allowing the pump to run dry for a short period while competitive pumps seize up with ceramic shafts and ceramic bearings.

We will continue to search for better solutions that make our products more efficient and more competitive, and have a technical edge.

Phc: Can you describe any accomplishments or projects you are most proud of?

HK: I started two businesses from scratch and turned them into successes. That has given me a great sense of accomplishment. Doing it and being able to compete with the world and U.S. market leader, with better, more energy efficient products, is very satisfying and keeps me stimulated to do more.

We have a small team of committed, loyal employees and a creative work environment that is conducive to teamwork, creativity, and personal work enjoyment for everyone. That is very satisfying.

My two companies have invented and accumulated 20 patents. That's not bad either.

Phc: What are some challenges you face as a business? How do you deal with them?

HK: Challenges are always the same in a growing business. One is responding to increased demand without lead-time extension and, two is servicing the customer to perfection.

To do this, I invested heavily in inventory. We are not going lean or worrying about inventory turns so that we can serve the increasing demand and assure our future growth. My motto is still the old fashioned statement, "You can't sell from an empty wagon." It works for us.

Phc: What are your thoughts on sustainability and efficiency in buildings and systems?

HK: Building efficiency is the future. Just make sure it is cost effective and not overcomplicated and serviceable. We are doing our fair share in our particular market segment by creating and offering the most energy efficient pumps. The patented cartridge design is certainly contributing to sustainability.

We are also educating the trade on the need to pick the most energy efficient pumps for the job and save the consumer a ton of money over the life of the product.

We did a national survey with wholesalers, plumbers and contractors. The big question was, "How much does it cost in electricity to run a residential circulator for a full year? "

The replies were puzzling. Most think that it costs $50 to $250 per year in electricity. When I told them that our AM7 circulator with a 0.6 Amp draw costs only $16 to $ 19, depending on how many zones are in the system, they were very surprised. The same pump in Germany costs more than $75 in electricity.

The trade needs to be aware of what they are selling and buying. Check the amp rating listed on all pump name plates, and start buying on facts not advertising. This will contribute substantially to efficiency.

Phc: Are there any plans for on the horizon that you would like to share?

HK: We have been working on new products and you will see them at the AHR show in Chicago, January 26-28. Come and see us in our booth No. 7178. More products are to follow.

I have enjoyed this industry for a long time and have derived great satisfaction from contributing in a small way to the product improvement in this industry. ●

Each AquaMotion pump is 100 percent tested before leaving the facility.