


**COMPANY PROFILE ///**

**SECO/WARWICK**



# ***A CENTURY OF INDUSTRIAL FURNACES***

The Super IQ integral quench furnace.  
(Courtesy: SECO/WARWICK)

# For a hundred years, SECO/WARWICK has shaped the global metallurgical and heat-treatment industry, designing and manufacturing industrial furnaces to a host of industries, including aviation, automotive, machinery, medical, tooling, power, and commercial heat treatment.

By **KENNETH CARTER**, Thermal Processing editor

**I**n the everchanging world of heat treating, it's vitally important that a company stays on top of the latest technologies and applications in order to deliver the optimum services and equipment.

To that end, SECO/WARWICK takes that directive seriously, and, in doing so, has been adding to its impressive portfolio since it opened its doors almost a hundred years ago.

"Our largest product line is our vacuum product line," said SECO/WARWICK Group CEO Sławomir Woźniak. "We offer vacuum furnaces for various applications starting from a typical high-pressure gas quench as well as oil quench applications, low-pressure carburizing, melting, tempering, and many, many other applications including nitriding. About 30 to 40 percent of our revenue is generated by vacuum technology or our vacuum product line."

## ALUMINUM INNOVATIONS

But as Woźniak pointed out, vacuum technology is only the beginning of SECO/WARWICK's expertise, as the company also has an extensive line working with aluminum.

"Our second product line is aluminum," he said. "It includes aluminum brazing and various other solutions for heat treatment of aluminum products — brazing and brazing of aluminum heat exchanges. Especially today, it is a very interesting technology because we have a unique solution for the brazing of aluminum heat exchanges dedicated for battery coolers of electrical vehicles. This is a topnotch product that is very well received by the Asian market. Here in Europe, we do a lot of projects for OEMs, including some car manufacturers as well as electrical vehicle manufacturers. We see quite good potential in this product line."

SECO/WARWICK's thermal division is another source of pride for Woźniak as it offers a wide range of products dedicated to technologies that include carburizing, spheroidizing, and brazing.

"This is a quite competitive business segment, and we try to limit our portfolio to very well-developed solutions, which can be applied to commercial heat treaters but also aviation industry and automotive as well," Woźniak said.

## VACUUM METALLURGY

In 2008, SECO/WARWICK acquired a company dedicated to vacuum metallurgy, according to Woźniak, which allowed the group to dedicate products for aerospace, aviation, and energy projects.

"We acquired Retch and made a very wide product line with high tech equipment like electro-beam furnaces for melting of various metals, plasma applications, vacuum arc melting, and vacuum induction melting furnaces," he said. "And nowadays, there is quite a big interest in the extraction of rare earth metals, and we also



A VertiQuench® Solution HT and aging drop bottom type furnaces. (Courtesy: SECO/WARWICK)

have some applications for that technology as well as powder metal production equipment, which has become a popular product since additive manufacturing is playing a more important role in the industry market."

Through all its massive inroads in innovation, Woźniak emphasized that SECO/WARWICK's primary goal is to become the No. 1 supplier in the world.

"When somebody is thinking about that investment in new capital equipment or about some services, then we would like SECO/WARWICK to be the first choice for our customers," he said. "How would we like to achieve it? We base it on our values — we have five values as a company, but the core value is innovation," he said.



SECO/WARWICK has nine companies in the group with four locations in Europe; three locations in North America; and a location in Asia, India, and China with almost 800 employees worldwide. (Courtesy: SECO/WARWICK)

“We’re based on innovation. We would like to develop our products, but we also have partnerships. And when we say partnership, we see our customers, we see our employees, we see our stakeholders as partners.”

### A SAFE COMPANY

Other company values essential to SECO/WARWICK are safety and stability, according to Woźniak.

“We’d like to be recognized as a safe company and also as a stable partner that can stay with the customer through good and bad times and be supportive in solving problems,” he said. “We also see ourselves as a real label company, as a real label supplier with good quality, with a long-term vision where we can stay and support our customers.”

SECO/WARWICK also bases its future on its credibility, according to Woźniak.

“We see ourselves as a flexible company, because, besides our standard products, which are mainly vacuum furnaces, we are also quite flexible in providing complete solutions for our customers to meet their demands,” he said. “And very often they are very highly technological demands. For that, we have our R&D centers to provide the support for our customers to develop new solutions and new technologies. We provide quality equipment, which is built on our values and innovation that stays with the customers, which sees them returning to us for their future needs.”

### RESEARCH AND DEVELOPMENT

That all circles back to SECO/WARWICK’s innovation as it continues to improve its current products while developing new ones, according to Woźniak.

“We have two R&D centers: One is located in the U.S.: currently, we have moved it from California to Buffalo, New York, where we have our vacuum metallurgical division R&D center,” he said. “And another center is located in Poland where we develop many vacuum furnaces and aluminum and aluminum brazing.”

SECO/WARWICK uses these R&D centers to develop new products and new solutions, according to Woźniak. The company also cooperates and collaborates with universities in Europe, Asia, and the U.S. in order to meet market demands, especially when it comes to ecological solutions.

“There is a lot of discussion with carbon footprint,” he said. “So, we have adjusted the direction of the development of our products to meet all these requirements, but on the other hand, a lot of custom-

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A mesh belt furnace. (Courtesy: SECO/WARWICK)

ers are fighting with the cost, so we have to also focus on efficiency and the cost reduction so that customers can meet all the market expectations.”

### INDUSTRY 4.0

Never a company to back down from a challenge, Woźniak said a part of that challenge is dealing with the development of automation where the Industrial Internet of Things and Industry 4.0 are involved.

“These are quite interesting technologies,” he said. “We have

already implemented some solutions into our equipment. This is also the direction we see in the market as there is more and more automation and robotization required because the human factor in the long run will be costlier. There's a trend to eliminate the human factor even from key treatment processes."

As of now, that includes applications where robots have been implemented in place of human operators, according to Woźniak.

"We can reduce the cost for our customers, and our equipment is designed in a way that can fully cooperate with robots; this allows for some good added value, which we can transfer to our customers," he said. "We have to be very open and ready to pivot if there is a need and market demands require us to change direction and follow the trends."

## CUSTOMER EXPECTATION

That ability to change quickly is important when SECO/WARWICK works with customer expectation, according to Woźniak.

"It's very important to be open and to discuss the customer's expectations and the customer's needs," he said. "SECO/WARWICK



The SECO/WARWICK facility in Poland. (Courtesy: SECO/WARWICK)

has always been recognized as a very flexible company and open to offer very customized solutions. Although we have a standard product line, I can say that about 50 percent of our applications are often customized. From a standard modification of standard furnaces, we can completely design from scratch a new solution for, let's say, development projects. We can do that because we have experience with thousands of reference projects. We can use this experience from every location in our group. Our R&D centers can offer some processes, some tests, and trials to develop some new materials but also to change some new solutions or check some solutions that we can then later implement that we will offer to the customer."

## FROM THE U.S. TO POLAND

These solutions in one form or another have been at the heart of SECO/WARWICK's operating procedure since it started life in the U.S. 98 years ago.

In 1924, Warwick Furnace Company opened its doors. Years later, that company partnered with the Sunbeam Equipment Corporation,

and SECO/WARWICK was born in 1984. In 1991, a joint venture was formed between SECO/WARWICK and a small company in Poland. At that time, the joint venture was a 50/50 partnership, according to Woźniak.

As that small operation in Poland grew, developing new products and acquisitions along the way, a reverse takeover happened in 2005 where SECO/WARWICK Poland acquired the mother company of SECO/WARWICK Corporation.

"Since then, the head office of SECO/WARWICK as a group was moved to Poland, and that was the first step to prepare the company to be listed on the Polish stock market in 2008; since then, the company SECO/WARWICK Group is a stock-listed company on the Polish Warsaw Stock Market," Woźniak said.

Today, SECO/WARWICK has nine companies in the group with four locations in Europe; three locations in North America; and a location in Asia, India, and China with almost 800 employees worldwide.

Among the company's acquisitions, SECO/WARWICK acquired the previously mentioned Retch, a U.S.-based company from California

known for its unique metallurgical technology used for electron-beam furnaces, plasma furnaces, and more.

"It brought to our group a new insight to vacuum metallurgical equipment, but it also opened more widely the door to the aerospace industry, which is a very lucrative business," Woźniak said. "It stands for about 30 percent of our annual revenue."

## NEW SOLUTIONS, NEW DEVELOPMENTS

As SECO/WARWICK moves into its next 100 years, Woźniak said the company is continuously working on new solutions and developments, with a strong emphasis on additive manufacturing technology.

"We are developing a dedicated solution for that technology from our vacuum product line, but also for the vacuum metallurgy sector," he said. "We also are doing some test and trials on metal powder equipment production."

Woźniak emphasized the company is also working on new heat-treating developments for low-pressure carburizing, nitriding, and a technology for jet heating for aluminum sheeting coil.

With a constantly evolving industry, Woźniak said SECO/WARWICK is poised to be ready for a quick change in order to adjust to any market situation.

"We see less people involved in the heat-treatment process because complete heat-treatment plants or commercial heat treaters in particular will be more and more fully automated; you can plan completely the layout of the heat-treatment plant and then also have a supervisory control system to manage a complete plant to use less energy or use it more efficiently and then also plan better ways to utilize your existing equipment," he said. "As the manufacturer and supplier of industrial equipment for the heat-treatment industry, we have to watch all of this and be ready to offer the best solutions for our customers so they can get the best benefit out of our equipment." 🌟



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