
Ultrasonic cleaning equipment maker gives pump supplier the ultimate test

Industrial parts washing company FinnSonic has switched to using Grundfos pumps in its ultrasonic cleaning equipment. The result is less electricity consumption and long-term satisfaction for FinnSonic customers around the globe.

The situation

On a muddy, autumn day in south-central Finland, every surface inside FinnSonic's headquarters is bright and spotless. With its customers in the aviation, automotive, machinery, maintenance, and metals industries, the company has built a global reputation over 35 years on outstanding results in industrial parts cleaning.

FinnSonic's customers require such parts washing in their factories. FinnSonic provides ultrasonic and spray cleaning solutions. The former floods parts with high-frequency sound waves in a tank of liquid. After just a few minutes of undergoing such treatment, filthy, greasy parts, like industrial filters or valves, come out looking shiny and new.

The challenge of pump choice

FinnSonic calibrates the optimum combination of chemicals, temperature, power and time for each customer's needs. Temperatures can be high – for instance 85°C for mould cleaning – and liquids contain a harsh cocktail of cleaning chemicals. Since these machines often run around the clock for years on end, every part must be ruggedly durable and dependable. Clogging or build-up can trigger quality problems. The myriad fluids running through the pumps range from oils and detergents to A3-class solvents.

TOPIC:

Ultrasonic cleaning equipment manufacturer

LOCATION:

Lahti, Finland

COMPANY:

FinnSonic Oy

“It’s a challenge to choose the right kind of pump, since our customers sometimes use very alkaline or acidic materials ranging between pH 1-14,” explains Lea Kumpulainen, Purchaser and Quality Manager at FinnSonic. “While removing dirt particles, the liquids may cause challenges for the shaft seals. Pumps must also tolerate some dry running. Sometimes very sticky liquids or a lot of solid particles form difficult compounds that can bind solid and moving parts of the pump together cause leakage.

“Some very alkaline chemicals may cause crystallisation on the shaft seal so the spring doesn’t work anymore,” she adds. “Excessively high temperatures may create steam bubbles and cavitation in the pump and very abrasive particles may break part of the shaft seal. So we need technical support from our pump supplier and excellent global service if something happens in any country.”

The solution

FinnSonic is constantly developing its products and processes. Seal durability issues are typical, but they can be solved in co-operation with the pump supplier and manufacturer.

Three years ago FinnSonic discussed co-operation with Grundfos, which offered several types of [centrifugal modular \(CM\) pumps](#) with housing materials from stainless steel to cast iron. Various shaft seals were specified for different liquids, including the harshest chemicals.

In early 2012, FinnSonic switched to Grundfos as its main pump supplier. “We made the decision through teamwork with our customers, dealers, R&D and other departments,” FinnSonic CEO Tea Lehto says. “It’s not a decision you make lightly, as the change affects customers as well as all technical documentation.” Teaming up with the world’s biggest pump manufacturer ended worries about whether OEM customers could get quick service in more than 50 countries around the world.

Varying the electrical requirements of clients on different continents was also no problem for Grundfos.

“Because we work around the world, we have pumps with different voltages,” says Grundfos Sales Engineer Jarkko Ursin. “We can bring pumps here from the US if needed, for instance.”

“That’s a big advantage for us,” adds Lehto. She notes that the company exports 70-80 percent of its machines.

FinnSonic is a General Electric-licensed supplier and many of its customers are well-known, such as Lufthansa, Emirates Airline, Scania, Sandvik and Hella. Key segments also include the metal and machinery industries and the plastic, rubber and glass

industry – where cleaning of steel moulds demands strong chemicals and piping-hot temperatures. Aviation customers range from airlines to the military, while in the automotive sector FinnSonic works with suppliers of air conditioning, fuel injection and power transmission systems. Machinery sector customers produce products from hydraulics to pneumatics and electronics.

The outcome

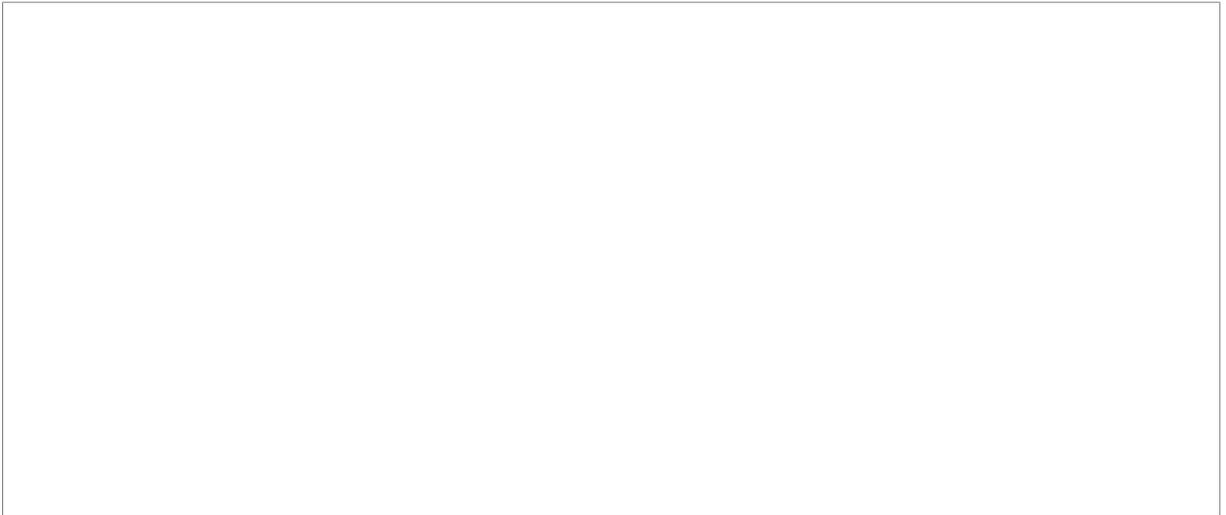
“Operating economy is where our co-operation with Grundfos comes into the picture,” says Lehto, noting that electrical consumption is very low in Grundfos pumps. “To give process liquids longer life, we use different kinds of liquid-handling technologies. Fluids are pumped between storage tanks and the filtration system, while particles, oils and grease are removed. Typically the liquid is replaced every two-six months, but it varies greatly. After all, our customers produce anywhere from one to one million parts per day.”

“We’ve had this partnership for two-to-three years now and we’ve been very satisfied,” adds Kumpulainen. “The lifetime of Grundfos pumps is long and our customers are very satisfied. And it’s good that Grundfos stores our pumps in Denmark so that we can get them very quickly.”

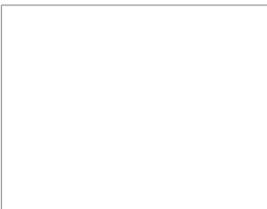
As to the future, Kumpulainen hopes for more Grundfos training of FinnSonic workers, engineers and salespeople. “And there should be three-way co-operation with Grundfos and our customers on how to choose exactly the right pumps and seals for their needs.”

FinnSonic looks forward to a long-term relationship with Grundfos and its own clientele. “We’re famous for intelligent, high capacity and durable machinery and have many repeat customers over the decades,” notes Lehto. “For instance, we recently received an order for a machine from an aviation customer. They wanted exactly the same model that we sold them in 1994 because they’re so happy with it. It’s been running 24/7 for 20 years. So they really last. We told them we’ll be happy to supply them, but that we have improved our technology over the decades,” she says with a smile.

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The Grundfos CM and CME pumps are non-self-priming, horizontal, multistage, end-suction centrifugal pumps.