

Case story | Merlin

Danfoss PAHT pumps at the heart of Merlin Technology's innovative high-pressure humidifiers



**25,000
hours**

without service has been experienced with several PAHT pumps from Danfoss

hpp.danfoss.com

When Johann Reisinger from Merlin needed to control air humidity for engineering projects in Austria, he couldn't find a humidification system that lived up to his exacting standards. So he designed and built his own, using Danfoss axial piston PAHT pumps.

The challenge:

Build air humidification systems so clean that they are suitable for the most demanding production processes in the world - and make them energy-efficient and reliable with minimum maintenance.

Proper humidity is vital to a broad range of industries. Carton and wood literally change their shape depending on ambient humidity, but many other production processes also require effective humidity control.

Johan Reisinger, whose Merlin Technology started out by providing surface engineering solutions, was familiar with both his clients' needs and all air humidification systems available to meet them.

"There were plenty of companies making humidifiers, but nothing with the specifications we were looking for," says Reisinger.

"Many applications require demineralized water, with no chance of spreading minerals, bacteria or other contaminants. So the systems needed to be all stainless steel, and oil lubricants for pumps were a no-go. Energy and maintenance costs of available systems were also too high."

The solution:

Innovative high-pressure air humidifiers built around Danfoss PAHT axial piston pumps.

Since no one else was producing the right air humidification system for his growing roster of projects, Reisinger decided to make his own. "We were our own first customer, and we knew exactly what we wanted," he explains. "We also knew that if we developed the right system, we could sell it to many more companies."

Johann Reisinger
Merlin Technology

MERLIN
TECHNOLOGY

Merlin Technology built and installed its first air humidification system in 1997, then launched its patented high-pressure system, in which the atomization unit draws in air from above, in 2000. Superior quality, outstanding reliability and great design all come together just the way Reisinger knew was possible.

Danfoss high pressure pumps have been part of the solution from the start. "We have been using Danfoss PAHT pumps for more than 15 years. Of course, self-lubricating pumps are critical for many of our applications, since there is no zero risk of oil contamination. But they are also far more energy efficient than any other pump, and so reliable that we are confident in sending them all over the world."

The results:

Clean humidity, low total costs of ownership - and worldwide sales.

Merlin Technology now controls humidity in some of the most demanding supply chains on earth, with customers like IKEA and Audi.



Danfoss PAHT pump installed in Merlin Technology's humidifiers

The larger the space to be humidified, the greater the energy costs. "When we started out," recalls Reisinger, "people still used steam for even very large spaces, at an energy cost of 700 - 800 watts per liter. With Danfoss PAHT pumps, we've managed to reduce energy costs to just 3 watt per liter."

Maintenance is another cost driver especially when installations are worldwide. "Danfoss tells us that their pumps typically run at least 8,000 hours before they require service, but I'd say at least 80% of their pumps actually run twice as long before service. We even have pumps that have run 25,000 hours without service."

Payback time and total costs of ownership are key elements in practically every sale the innovative Austrians have made over the last 15 years. "Ask anyone who has experience selling to the automotive industry about cost," smiles Reisinger. "With Danfoss PAHT pumps in our humidifiers, customers generally recapture their investment within a year."

Established in 1995, Merlin Technology develops, produces and sells a growing portfolio of solutions within air humidification and cooling and humidity/moisture measurement. www.merlin-technology.com

Danfoss A/S High Pressure Pumps · Nordborgvej 81 · DK-6430 Nordborg, Denmark · hpp.danfoss.com

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without consequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.