

Case Story | Frøslev

Frøslev relies on **Danfoss high-pressure water mist system** for production of ThermoWood® timber



Plug-and-play H₂O mist

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Highlights

- Reliably rugged water mist system
- All-in-1 design: HP pump, nozzles & valves
- Plug-and-play simplicity

Frøslev, one of Denmark's leading timber providers, relies on high-pressure water mist from Danfoss to produce ThermoWood® with plug-and-play simplicity. As more and more opt for chemical-free wood for their projects, Frøslev recently added a second ThermoWood® kiln to keep up with growing demand.

The challenge:

Providing customers with **climate-resistant wood** – without the chemicals

Frøslev, one of Denmark's major timber suppliers, has experienced growing demand from architects, builders, and consumers for wood that can withstand the Danish climate without using the chemical compounds used in many pressure treatments.

According to Frøslev's wood treatment specialist, Johanna Palokangas, wood is an increasingly popular choice in many Danish building projects designed to minimize their environmental impact. "Wood is a naturally renewable resource that captures CO₂ as it grows," she explains, "and the production and processing of wood uses much less energy than other building materials like concrete and steel. But in addition to timber's low carbon footprint, it's also gaining in popularity because of its versatility and beauty."

"Although we still sell copper-treated wood, architects and builders increasingly specify chemical-free alternatives, so our production of ThermoWood® is growing steadily."

The solution:**ThermoWood® kilns with Danfoss high-pressure water mist systems**

Frøslev installed its first ThermoWood® kiln, produced by Finnish specialist Jartek, in 2022. Just one year later, it commissioned its second to keep pace with growing demand.

“The Jartek ThermoWood® kilns are quite simple to use,” says Palokangas, “not least due to the simple user interface for controlling the three-step process. First, the timber is dried in relatively high temperature. After the wood is completely dry, the second phase begins. This is when the temperature is increased to and kept steady at the modification temperature, at which the timber achieves dimensional stability and its beautiful dark brown color. Finally, in phase three, the cooling and conditioning phase, a water mist system cools the kiln’s temperature adiabatically and increases the timber’s moisture content. This third phase is critical in terms of the timber regaining moisture and preparing it for further processing. Cooling and conditioning with an efficient water mist system shortens the production time, improves the finished product quality, and reduces waste. And this is where the Danfoss high-pressure water units play their important role.”

The results:**Reliable** cooling and conditioning with **plug-and-play simplicity**

Jartek chooses Danfoss water mist systems – consisting of Danfoss’s PAHT high-pressure pumps, nozzles, and valves – for its ThermoWood® kilns to handle phase three’s cooling and conditioning precisely. According to, Harri Puolanne, business director of thermal wood modification at Jartek, this is because of Danfoss’s field-proven dependability.

“Jartek has specified Danfoss high-pressure water mist systems for our ThermoWood® kilns ever since we started producing them in the early 2000s,” he says. “They are simple to install and require very little maintenance, even when they run for years. Their precision and reliability are essential to customers like Frøslev and to us.”

**Danfoss A/S**

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FRØSLEV

About Frøslev: Frøslev is one of Denmark’s leading suppliers of timber. Since the family-owned company was founded as a sawmill in 1931, it has grown steadily and now sells a broad range treated and untreated timber via home improvement retailers and timber yards. For more information, see <https://froeslev.dk>

JARTEK

About Jartek: Jartek is a Finnish specialist in lumber-handling lines and ThermoWood® kilns. Founded in 1957 and still family-owned, Jartek collaborates with leading wood processors worldwide to provide solutions that are reliably sustainable, efficient, and competitive. For more information, see <https://www.jartek.fi/en>

ThermoWood

About ThermoWood®: ThermoWood® is the 100% natural choice for architects, builders, and designers who want to take advantage of wood’s many benefits without the use of harmful chemicals. The ThermoWood® trademark is used for wood products manufactured via a patented process developed in Finland by VTT. For more information, see <https://www.thermowood.fi>