

# Unlocking new possibilities to test heat pumps on the system level

**Demand for reliable and efficient heating systems is increasing, and that means growing pressure to ensure heat pumps and hydronic systems meet specific end-user needs. Because after all, no two homes are the same. And each one has completely different heating system requirements and specifications.**

**One way we've worked to address these challenges is through a long-standing experience in testing of pumps. But now we have the possibility to test heat pumps and hydronic systems in a full setup.**

**Our new dedicated Grundfos Heat Pump Laboratory accurately emulates real-world operating conditions, making it possible for us to analyse the impact of changes, including:**

- Outdoor or indoor temperature variations
- Flow resistance changes
- Different system designs

Data collected from this testing allows us to see what works and what doesn't, enabling us to optimise heat pumps and, in turn, the entire system to improve efficiency, enhance comfort, simplify installation, and minimise system errors and disruptions.

## Promoting hands-on customer dialogues

Under development for over two years, our laboratory marks a significant investment in creating a more practical, holistic approach to heat pump testing by evaluating full solutions within an entire heating system.

This offers significant opportunities to foster collaborative partnerships with our OEM customers and welcome them to the laboratory, where we can test and showcase first-hand the different system components and digital features in real-world conditions – and how heat pumps react to specific environments based on their input.

One example is showcasing the impact of software features such as leakage detection to see its benefits within the context of a complete heating system. Another is demonstrating system performance with different types of heat emitters, such as underfloor heating, electrical heaters and radiators. Or looking at optimised system architectures that challenge conventional hydronic design paradigms.



The goal is to connect with our OEM customers and engage in constructive, hands-on dialogues to optimise overall heating systems. This way, we can expand on our expertise in simulations and component testing with full-scale application tests.

## System-level testing under all conditions

By conducting tests under controlled conditions that emulate diverse indoor and outdoor environments, we can do the following:

- Assess heat pump-based system vulnerabilities and sensitivities, and use these insights to present optimised and practical solutions.
- Identify and fix potential system errors, including leaks and noise issues.
- Optimise the system based on subsequent test data for maximum comfort, performance and reliability.

And because we have full control over the testing parameters, we can adjust the environment and build on digital solutions to suit any specific heat system requirements.

Read more about our heat pump solutions [here](#)

And discover more about the future of customisable hydronic components and integrated solutions [here](#)

## Want to find out more about our Heat Pump Laboratory?

Located at our headquarters in Bjerringbro, Denmark, the Grundfos Heat Pump Laboratory is a huge leap forward for heat pump and hydronic system testing. For further information about the facility or who to get in contact with for a demonstration, please reach out to Bitten Christensen at [bittenchristensen@grundfos.com](mailto:bittenchristensen@grundfos.com).