

SPOTLIGHT

Perfecting water heat-load tests for colocation data centre performance

THE CHALLENGE

Ensure optimal performance of cooling systems

In the fast-paced world of data centres, where efficiency and reliability are paramount, ensuring optimal performance of cooling systems is critical.

Data centres rely heavily on chillers to maintain the appropriate temperature for servers and sensitive equipment. Conducting heat-load tests enables the thorough validation of chiller performance under real-world conditions.

Our client wanted to conduct a series of water heat-load tests - a crucial procedure for assessing the capacity and effectiveness of cooling infrastructure. They were looking for water cooled load banks to test a brand-new chiller on the roof of their customer's site.

Technical requirements:

- 1.5 MW capacity
- Temperature in: 20°C
- Water flow: 162m³/h.
- Temperature out: 28°C

As temporary power and temperature control specialists, offering this service in Germany, we readily accepted the challenge.

LOCATION

Germany

SECTOR

Data Centres

PROJECT DETAILS**3x600kW**

Electric boilers

75 m³/H

Water flow

24/7

Real-time monitoring

360°

Bespoke testing

6 weeks

Full support



THE SOLUTION

Switching on to the benefits of electric boilers

Our solution was to provide warm water electric boilers:

- 1.8MW capacity.
- Temperature in: 20°C
- Water flow: 75m³/h
- Temperature out: 38°C

We were able to simulate water cooled servers at 1.5MW and test the maximum load of the chiller without any risk. For further resilience, we could adjust the temperatures until the chiller stopped and display the boundaries.

To ensure maximum load stability, all new chillers on site were tested on 4 hours, 8 hours and 12 hours operation time.

Our advanced capabilities extend to displaying and adjusting delivery temperatures and heat capacity to match the specific requirements of the data centre. This precision ensures that cooling systems operate within optimal parameters, maximising efficiency and minimising energy consumption.

With our cutting-edge control system, data centre operators gain access to real-time monitoring of water flow, temperatures, and heat capacity. This level of visibility empowers proactive decision-making, allowing for immediate adjustments to maintain optimal performance.

THE AGGREKO DIFFERENCE

Sector experience, technical expertise and commitment to innovation.

THE RESULT

Optimise cooling infrastructure with confidence

The tests were a success and can be utilised for different applications :

- Perfect for new chillers on site to get tested before a data centre will go live
- Ideal for the refurbishment of chillers that need to be tested before going live
- Suitable to simulate loads for AI data centres, requiring water cooled Servers. In this instance we used the electrical load to test the UPS & back up generation at the same time, saving the need for a separate test.

With the capacity to conduct heat-load tests of up to 1.8MW of warm water and the flexibility to handle up to 15MW of heat on-site, we cater to the diverse needs of data centres, from small-scale facilities to large enterprise deployments.

By offering a comprehensive suite of services, including chiller testing, real-time monitoring, and comprehensive heat simulation, we are able to support data centre operators to optimise cooling infrastructure with confidence.