

Secon-X: Case Study on Liquid Cooling in the Data Center

The global liquid cooling market for data centers is experiencing rapid growth and is expected to reach €3182 million EUR by 2028, at a CAGR of 10.46%, according to Market Watch. As the demand for efficient cooling solutions for data centers continues to grow, Brugg Pipes is seeking to help facilitate this cost-effective cooling technology with the application of our Secon-X pipe solution. This was the case of a multi-phase data center project in the UK, which was carried out by Fluidpower Group Services t/a Orange County which involved the installation of Secon-X pipes to the data center CRAC units.

The scope for one phase of the project included the supply and installation of forward and return chilled water lines at a total value of £580,000 (€666,193 EUR). The installation involved cable drums and a pull-off trailer that controlled the piping as it was removed in a confined outdoor space between the generator banks. It was pulled up the pipework gantry and continued through the building reaching lengths up to 140m.

The project utilized Brugg Pipes Secon-X DN100 double containment pipe system, featuring 24/7 SGB vacuum-monitored leak detection, ensuring the highest quality control for each pipe. During this phase, 5km of piping and 112 end fittings were installed and tested in just 7 weeks. Since then, a total of 24km of Secon-x has been installed over an 8-year period.

The primary challenges were the complex pipe route, which had to navigate through two headers, a pipework gantry, internal corridors with several 90° bends, and multiple elevation changes while simultaneously avoiding false floor pedestals. Secon-X pipes allowed for continuous flexible pipe installation, drastically reducing installation time when compared to traditional site-welded construction methods.

The project was a success, and the customer was satisfied with the short construction schedule and performance of the Secon-X pipes. This case study demonstrates the effectiveness of Secon-X pipes in providing a reliable and efficient cooling solution for data centers, even in complex and challenging installations. As the demand for data center cooling solutions continues to grow, it's clear that innovative products like Secon-X from Brugg Pipes will play a crucial role in meeting this demand.



Figure 1

Simple navigation of bends and elevation changes



Figure 2



Figure 3

Continuous pipe runs through and around obstacles