

COOL-FIT

The fast track to sustainable cooling in battery testing facility

Voltavision, Germany

Swift setup of a climate-neutral cooling system with pre-insulated plastic piping system.

A stress test for batteries, not for the installers

Voltavision is one of Germany's leading high-voltage battery testing providers on a mission to accelerate the transition to sustainable mobility. Seeking to extend the sustainability of smart mobility systems down to battery development and testing, the innovative and dynamic company built the first battery testing facility to rely on climate-neutral cooling technology. The innovative pre-insulated plastic piping solution COOL-FIT enabled them to meet demanding performance specs and tight deadlines.

Project background

At Voltavision's facilities, engineers assess high-voltage electric vehicle batteries in temperature stress tests. To maximize efficiency, they designed a 2 x 190 kW centralized cooling system to control the temperature in the testing labs. Anticipating the EU-mandated phase-out of F-gasses, they adopted propane as the primary cooling agent. The central unit chills ethylene glycol to -15 °C before circulating it through a ring line to the labs. There, local CO2 boosters dynamically regulate the temperature, reaching as low as -40 °C. To distribute the ethylene glycol to the testing labs, Voltavision's engineers needed a piping solution that met their high demands in terms of performance, reliability, and ease of installation.

Selected technical solution

Having seen the COOL-FIT solution at the Battery Show Stuttgart, the team at Voltavision recognized its potential to improve the performance and sustainability of their battery testing facilities. By integrating PE100 (medium-carrying inner pipe material) with GF HE foam insulation and a robust HDPE outer jacket, the over 200 meters of COOL-FIT pipes and fittings not only ensure the efficient conveyance of -15°C ethylene glycol to testing labs but also prevent condensation, corrosion, incrustations, and energy losses. On top of that, taking advantage of GF's fully pre-insulated electrofusion fittings, the solution promised swift and reliable installation.

Achieved improvement

COOL-FIT piping allowed the Voltavision team to increase their solution's energy efficiency. Its installation was made effortless thanks to electrofusion technology, allowing a single company to complete the setup ahead of its deadline. The selected contractor entrusted with the installation completed the task autonomously following a brief one-hour training session. Eliminating corrosion and condensation through robustly factory-pre-insulated plastic piping provided Voltavision with a zero-maintenance installation that would pay dividends for years to come.



More than 200m of COOL-FIT help Voltavision achieving a climate-neutral cooling system.



The fully factory pre-insulated pipes, fittings, and valves are the corrosion-, incrustation- and maintenance-free choice for conveying coolants like ethylene glycol.

Customer benefits

- **Reliable solution for temperature control of testing facilities for high-voltage battery solutions**
- **User-friendly and highly adaptable solution for fast and easy installs to meet stringent deadlines.**
- **Perfectly sealed corrosion-free cooling circuit for maintenance-free operation with an expected 25-year lifespan.**

Where next?



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