Tracerco
Insight through innovation

Eliminate unnecessary downtime with Tracerco's online heat exchanger leak detection

Save time and money searching for a leak in a bank of heat exchangers with Tracerco's tracer technology.

The Approach

Tracerco's chemical leak test tracers offer precise, reliable leak detection specifically engineered for challenging process conditions. Our tracers meet all relevant criteria, selected for their solubility, chemical inertness, thermal stability, and faithful flow with the process medium, ensuring they remain stable and do not precipitate, minimising contamination risks or interference with the process.

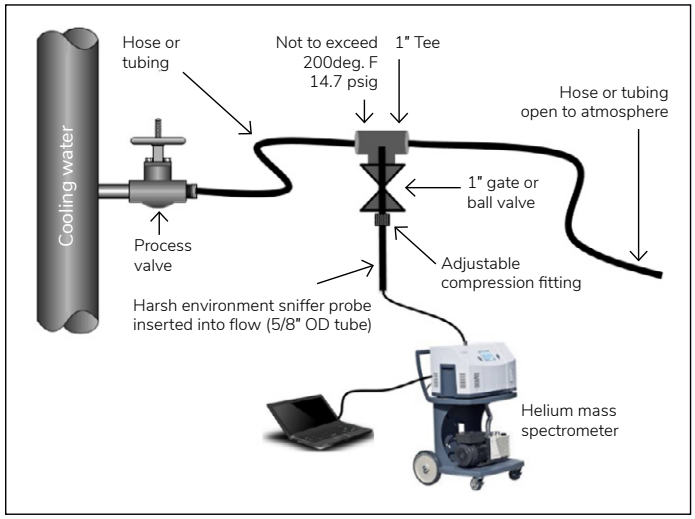
With the capability to detect leaks as small as 0.5%, Tracerco's solutions have already proven, effective globally and exceeding industrial standards. However, in response to increasing demands for detecting even smaller leaks that can affect product quality, detectable in samples at concentrations as low as 1 ppb, meaning that extremely small leaks can be detected. This allows manufacturers to monitor for leaks that might otherwise compromise quality or impact regulatory standards.

The techniques used to complete an injection program with tracers entail the introduction of the system-compatible tracer into the process medium that is unique to the system and sample for its presence downstream of the potential leak sources.

The Field Test

A Tracerco Diagnostics™ Leak Study of the E4411, E4311, E4211 and E5701 aftercoolers in a GD Level 3 Unit was performed in October 2022.

To safeguard system integrity and optimise site safety and efficiency, Tracerco's subject matter experts (SMEs) selected helium as the testing medium, after thoroughly assessing onsite conditions. Helium was chosen for its effectiveness in detecting even minute leaks, ensuring a precise and targeted analysis.



The Analysis

Helium leak test results are produced online onsite at the time of injection.

Figure 1 - Helium concentration graph E-4211 heat exchanger.

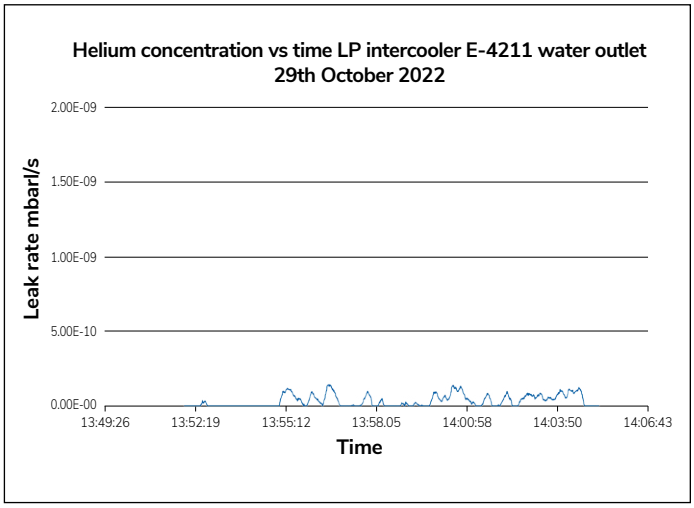


Figure 2 - Helium concentration graph E-4311 heat exchanger.

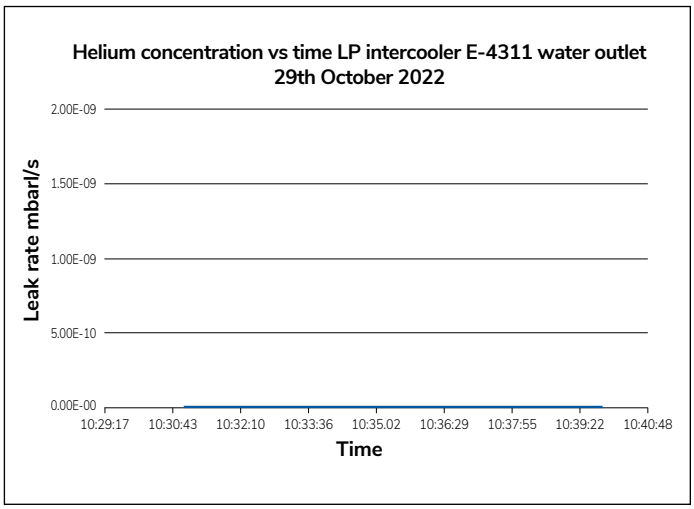


Figure 3 - Helium concentration graph E-5701 heat exchanger.

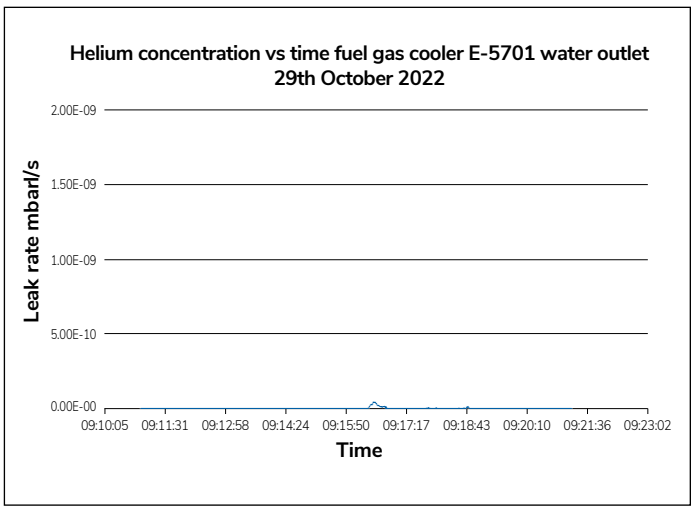


Figure 4 - Helium concentration graph E-4411 heat exchanger.

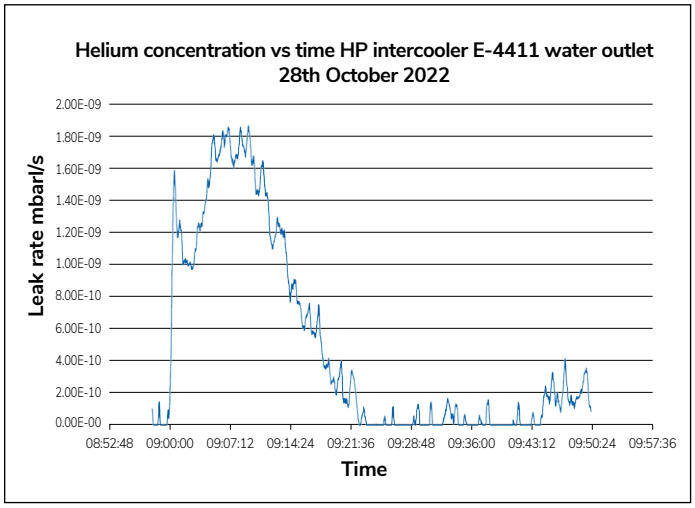
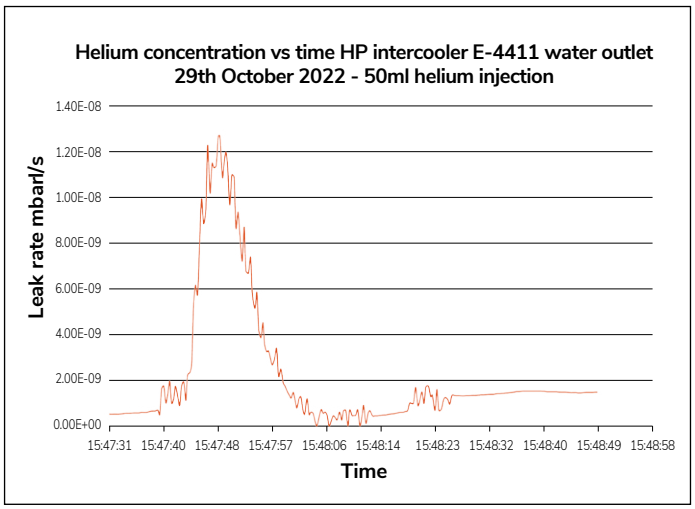


Figure 5 - Helium concentration graph E-4411 heat exchanger.



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The Conclusion

0.03% of the injected helium leaked into the cooling water stream of the HP aftercooler E4411, indicating this vessel has a leak.

By accurately pinpointing the source of leakage, Tracerco enabled its customer to enhance process reliability, reduce unnecessary maintenance efforts, and prevent further equipment strain, delivering a lasting impact on operational efficiency and system resilience.

Our innovative work gives customers the insights they need to help solve their problems. To learn more, read our case studies at **tracerco.com/downloads/case-studies**

tracerco@tracerco.com
tracerco.com

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