



Hotel Poses A Plant Room Puzzle For Hot Water Retrofit

Large commercial buildings can exhibit large-scale issues when it comes to the end-of-life replacement of domestic hot water (DHW) systems. This was a challenge faced by a hotel located on the South Coast. Boasting numerous rooms and its own spa facility, the hotel was operating a system supplying 400kW of heat from a pair of horizontal calorifiers. But age meant one had already failed, and the second was now leaking. The system offered no backup and threatened loss of business-critical service to the hotel guests and operational functions.

With 25 years of electrical and mechanical experience, Hampshire-based Inovolt was contracted by the hotel to provide the necessary system retrofit with minimal to zero down-time to avoid closure and disruption to business whilst works were concluded. Once on site, it became clear to the team that the project would be more challenging than initially believed. Expansion of the system works with other critical plant items, had now blocked both internal and external plant room door access necessary to remove and replace the old calorifiers. To rectify the situation would typically require intrusive,

noisy and messy work. Far from the non-disruptive requirements of the hotel owner.

Inovolt, however, has concluded numerous turnkey projects and saw an opportunity to leverage its building division in support of the necessary refurbishment work. Rather than engaging in expensive, disruptive work to rectify the issues with the plantroom, the team proposed building a plantroom extension on the back wall to house new cylinders, bringing services through the existing wall for final connections.



Faced with very high system demands, Inovolt worked in conjunction with Adveco to find an alternative, selecting a pair of indirect Stainless Steel Twin-Coil (SST) 1500/6.0 cylinders as replacements. The robust stainless steel construction meant the SSTs would provide the necessary longevity, despite water conditions, and each SST is equipped with a pair of independent internal heat exchange coils designed to serve DHW systems with high capacity needs. Each high-output coil can be used with a separate heat source, enabling effective integration of renewable technologies or multiple heat sources, or alternatively can be combined to increase the heat transfer capacity from a single high-output source.

The latter option was employed by Inovolt for a combined coil capacity of 216kW. With both cylinders in operation, they would easily meet the high demands for hot water.

To further ensure system resilience, Adveco provided electric immersions for both SST cylinders to supply a secondary heat source should there ever be a failure of the primary heat supply or if peak demand ever exceeds the required levels established for the application design.

Installed vertically, the SST offered a smaller footprint, which made them perfect for installation alongside plant in the new compact extension. With the extension constructed, new cylinders and supporting plant were installed without accessing hotel front-of-house, creating minimal disruption. The final live changeover from the leaking calorifiers and resumption of full hot water service from the new cylinders was executed overnight, with zero downtime of hotel operations.

Please visit:
<https://adveco.co/>
<https://inovolt.co.uk/>

