



Carrier delivers bespoke chiller solution for Crossrail project

The challenge

Cooling is vital to ensure comfortable conditions for customers and staff on London's new Elizabeth Line, part of the colossal Crossrail project. It is also essential to ensure the reliability of power and electronic systems. However, the contractors found no commercially available chiller that complied with the strict safety standards for equipment deployed underground.

What did we do?

Carrier's UK team worked closely the company's chiller research and development centre in Montluel, France, to develop a solution that met the stringent fire prevention and safety standards for the project.

We assessed the detailed material and design requirements for the underground chillers and identified the variances from our standard factory specification. This required detailed research on alternative components and their application. The result was a design for a bespoke chiller that fully met the requirements for the project.

How did we do it?

The units are equipped with zero-halogen, low-smoke insulation and cables, and finished with specialist paint, formulated to emit very limited smoke and/or fumes if exposed to heat or flame. The team went back to the drawing board and designed a completely new chiller wiring loom.

In addition to the importance of fire-safe materials for equipment used underground, reliability is a key issue. The chillers are built on a heavy-gauge galvanized steel frame and come with a range of security grilles and hail guard options. Safety features include low ambient head pressure control and high short circuit current rating.

The bespoke design was assessed by the contractor and the Crossrail engineering team and found to be fully compliant.



Results

Having gained approval, Carrier built and supplied 15 customised Carrier AquaSnap® air-cooled liquid chillers with Greenspeed Intelligence® to provide resilient, reliable cooling for new Elizabeth Line stations at Tottenham Court Road, Paddington, Woolwich and Farringdon.

Matthew Maleki, Carrier's product manager who headed the compliance project, said: "The brief was challenging. However, Carrier's technology specialists were very innovative, and we worked closely with them to develop a custom-made chiller that met all of the requirements, in order to provide efficient and reliable cooling with proven Carrier technology."

Carrier is believed to be the only manufacturer able to supply chillers in full compliance with the fire safety and materials standards for use on London underground stations.

END USER	Elizabeth Line, Crossrail
APPLICATION	Cooling for underground stations
EQUIPMENT	15 customised Carrier AquaSnap® air-cooled liquid chillers with Greenspeed Intelligence®

CHILLERS / HEAT PUMPS | FAN COILS | AIR HANDLING UNITS | AIR TREATMENT | PACKAGE ROOFTOPS | CONTROLS
SERVICE AND MAINTENANCE | REFRIGERATION | ENERGY EFFICIENCY ASSESSMENTS

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