

King Edward Memorial Hospital - Bermuda

Custom Air Handling Units

PROJECT SUMMARY

- **No. Units:** 9
- **Type:** Custom Design AHUs
- **Application:** Healthcare Facility
- **Total Air Volume:** 159,340 CFM
- **Client:** KEMH
- **GC & Engineer:** Sir Robert McAlpine Ltd
- **Rep:** Shelly Williams Company - Richmond, VA

Unit Features

- ▶ 2.25" thick polyester-coated galvanized steel casings with pressure injected foam insulation & No Thru Metal construction
- ▶ Stainless steel drain pans with low-point drains (designed to meet ASHRAE 62.1 standards)



About

The project at King Edward Memorial Hospital stemmed from a unique customer requirement for custom air handlers that met their specifications and could be delivered faster than a competitor's current 50-week lead time. A recent change in the Bermudian hospital code mandated redundant air handlers for all critical hospital spaces, ensuring uninterrupted operation in case of failure. This required two identical air handlers per space to maintain continuous airflow in operating rooms and other critical areas.

Challenge

The existing hospital mechanical room did not have enough space to fit two air handlers of the same capacity.

The Solution

Klimak collaborated with the hospital and their engineering firm to propose a single air handler unit, with casing guaranteed for life, incorporating fully redundant fan wall technology. Each air handler featured double the required number of fans to ensure full airflow. In the event of a fan failure, its backdraft damper would close, and the unit would automatically adjust the airflow with the remaining ECM fans to maintain the required airflow. Even if half of the fans failed, the air handler would still deliver full airflow.

Testing

KEMH sent their engineers to Italy to witness the testing of the air handlers firsthand. Klimak set up ductwork connected to the supply and return of the AHU to simulate the exact external static pressures of the duct system and demonstrate the air handler's ability to maintain full airflow, even with half of the fans turned off.



The Result

The quality and attention to detail Klimak has provided to KEMH has resulted in repeat business and a plan to replace all of the air handlers in the hospital system with Klimak units.