

Case study



Comfort | Healthcare in Italy

- Hospital
- Olbia, Sardinia, Italy
- Project year: 2020

Project description

A large hospital with over 240 beds, undergoing significant renovation and an extension required a new HVAC system for comfort heating and cooling of the extension which includes operating theatres and laboratory rooms housing MRI scanners and other cutting edge technological equipment.

Project drivers

- Lower CO₂ and NO_x emissions
- Improve comfort levels for building occupants
- Lower CapEx investment

Trane approach

Since the customer showed interest in a **low-emissions solution** to keep its carbon footprint to a minimum, Trane proposed the fully electric combination of multi-pipe units (model CMAF) and a heat pump (model CXAF) to fulfill the entire heating requirements. No fossil-fueled boilers would be installed in the extension. Both the design contractor and the hospital management also much appreciated the large, and unique, heating and cooling operating maps of the CMAF multi-pipe units.

The heat generated in the high-heat areas of the building is recovered and repurposed for post-heating coils of the air-handling units to ensure optimal comfort for patients and over 500 employees.

The Trane units will deliver a reliable supply of 50°C hot water to the system.

The CXAF heat pump generates approximately 500 kW of cooling and about the same for heating supplying 45/50°C hot water.

The three CMAF provide 400 kW of heating capacity per unit, in heat pump mode with +7°C of ambient air temperature. In heat recovery mode the same units deliver approximately 500 kW heating capacity per unit.

Trane solution

- 3 x CMAF 110 SE SN (400 kW each)
- 1 x CXAF 150 (500 kW)