

# Copeland installed sanitary heat pumps in topmost search engine company office facility in India



## *Background*

Recently, US based search engine company has inaugurated its biggest office in Bengaluru located at Bagmane Constellation Tech Park. The facility would accommodate 900-1,000 employees with all basic amenities including hot water usage in washrooms, gymnasium, dormitories, canteen etc. Company management appointed Bengaluru based consultant for selecting green product to serve hot water requirement.

## Challenge

As part of company's green initiative, project required to use renewable source of energy to generate 50,000 LPD of hot water. However, to address the limitations of renewable technology like unavailability of sufficient sunlight all through the year, it was decided to install hybrid system using most efficient, reliable & locally developed technology.



## Solution

Copeland system integrator, Bisineer Engineering partnered with consultant to supply robust and dependable heat pump system and coupled it with solar heaters. Copeland supplied 6 machines of 1,000 LPH capacity which is integrated with 50KL capacity hot water mixing tank. Hot water temperature requirement is different for various end use in the same office building as mentioned below.

Canteen kitchen	40 °C - 45 °C
Bathroom showers in gymnasium	38 °C - 42 °C
Steam bath in gymnasium area	60 °C
Wash basins in office area	32 °C - 35 °C

Heat pump works on simple principle. Heat absorbed from atmospheric air by evaporator and heat of compression is rejected through water cooled condenser. The maximum water temperature that can be reached is limited by condenser design LMTD and the maximum condensing temperature permissible for the compressor. Similarly, Heat pump heating capacity is limited by the evaporating temperature range of the compressor. It helps in reduction of carbon emission in atmosphere, as it offers up to 70% higher efficiency compared to conventional heating methods.

\*Note: The results being published are based on a study / project conducted by Veermata Jijabai Technological Institute from Mumbai in India over a period of 3 months.



It is environment friendly, climate independent with low maintenance. Besides being reliable & efficient, heat pump contributes to more sustainable environment by utilising renewable energy sources. Combining renewable sources and applying vapor compression technology results in sustainable means of water heating. It is helping large corporations to achieve sustainability goals. These systems are fully automatic, so manual interventions are not needed. Copeland heat pumps are indigenously designed, manufactured, and proven for Indian climatic conditions.

## Result

Copeland team worked closely with consultant & project owner to calculate LPD hot water requirement of the project. Heat pump integration with hot water mixing tank alongside plumbing work is seamlessly completed by Copeland's authorised System Integrator partner. The team was present during installation and commissioning of heat pumps at the site.

Copeland is in unique position to serve sanitary water heating requirement in India by providing locally built, GreenPro Certified, highly efficient, reliable product range supported with strong channel network and service support.