

## Case Study

# “The Landmark Group” bridges the gap between energy efficiency and operational excellence with the help of HMX cooling solutions.

### Background

Ever expanding, 'The Landmark Group' set-up a logistics and distribution hub in Riyadh, Saudi Arabia in 2015. This facility enabled Landmark to expand in the retail and hospitality sectors. Their massive hub included a state-of-the-art warehouse spread over 500,000 sq. ft.

### Challenges

Designing the facility necessitated the careful balancing of a number of competing needs to ensure:

- Optimal health, comfort and productivity of the employees
- An appropriate environment for stored goods
- Achievement of Landmark’s sustainability and profitability goals

The Landmark Group was finding it difficult to figure out how to meet all these requirements in Riyadh's sweltering dry climate.

### Why HMX?

Following their discussions with team HMX, Landmark was able to determine a solution meeting all their needs simultaneously. They decided to implement HMX's Indirect Direct Evaporative Cooling solution (HMX-IDEC) since they were convinced about the efficacy of HMX's technology:

- A comfortable and fresh environment would be created, due to 100% outdoor air supply in the warehouse at a cool temperature, which would ultimately result in enhanced employee productivity
- The temperature inside the warehouse would be continuously maintained at the desired level, resulting in improved product shelf life
- Power consumption would be substantially lower than conventional air conditioners, leading to operational savings and reduced greenhouse gas emissions

### Solution

The cooling was initially planned with a conventional centralized air-conditioning system that required a total capacity of 700 tons. HMX studied the requirements and weather conditions of Riyadh, and proposed an energy-efficient, reliable and cost-effective alternative: HMX's Indirect Direct Evaporative Cooling (HMX-IDEC) solution.



A total of 18 HMX-IDEA systems with a combined capacity of 540,000 CFM were installed and commissioned at this facility in the year 2018. HMX-IDEA is a combination of sensible and adiabatic cooling. A highly efficient sensible heat exchanger, DAMA, is at the core of HMX-IDEA. The DAMA combined with a cellulose pad, delivers cooling efficiencies above 120% in the extreme dry and hot weather conditions of Saudi Arabia. It is a proven solution that has been accepted by major companies across the globe for the past 20 years.

## Result

In the past four years, Landmark has consistently maintained a comfortable temperature in its warehouse with HMX-IDEA machines, saving more than 60% of the energy that would have been consumed if they had chosen to use a chiller-based system instead. HMX IDEA provides them with a perfect combination of temperature, humidity and tons of fresh air that improves the shelf life of their products as well as their people's comfort. In addition, HMX-IDEA machines have also maintained a dust-free and healthy atmosphere inside the warehouse.

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