

Case Study

## Akshaya Patra Temple at Vrindavan plugs in HMX-IDECool for devotees' comfort!

### Background

Located on the outskirts of Vrindavan at Mathura, UP, India, and spread over a vast area near the ISKCON temple, the Radha Vrindavan Chandra Mandir is a very popular shrine that has also been built by ISKCON. The temple is also known as the Akshaya Patra Temple because of the huge kitchen established by the Akshaya Patra Foundation in the temple's premises for providing food to thousands of school children.

The temple is in the form of a blooming lotus and the statues of deities of Radha and Krishna that are among the temples' main attractions are located on the first floor, inside the semi-spherical structure of the temple. Two separate staircases leading to and back from the first floor allows for free movement of people. The domed structure above the temple stretches to a height of around 25 feet and is constructed in a way that allows sunlight inside the temple.

### Challenges

Temperatures in Vrindavan reach up to 45°C in summer. This, with the direct heat entering the temple along with sunlight through the dome, and the presence of a large number of devotees during pooja hours, further add to the heat stress of visitors to the temple.

The trustees of Akshaya Patra wanted to provide a comfortable environment for devotees inside the temple. Air conditioning the space was out of question because of the open staircases and the huge cost of investment and operational expenses of AC. Conventional air coolers were also ruled out as they add a lot of moisture in the air, which would create discomfort for the devotees, especially during monsoon.

### Solution

The trustees approached HMX to find a solution. After a site study, HMX recommended installing 2 units of HMX-IDECool 6 to cool an area of 1700 square feet. The HMX-IDECool works on the principle of Indirect Direct Evaporative Cooling and is an energy efficient alternative to air-conditioning. This technology is highly preferred over conventional air coolers as it delivers 4-5°C lower temperatures as compared to air coolers, while adding up to 60% less moisture in the air versus the moisture added by air coolers. This project was coordinated by HMX's channel partner, Evapoler Eco Cooling Solutions from Jaipur.

Each unit of HMX-IDECool 6 delivers 6000 CFM of fresh air, which is distributed through the ducts inside the area being cooled. Since the HMX-IDECool is a 100% fresh air system, most of the air is to be exhausted out so as to maintain healthy cross ventilation in the cooled area. In this case, the air is naturally exhausted through the open staircases.

### Result

HMX-IDECool proved to be the best solution that Akshaya Patra Temple could get to solve the problems: Temperature is now maintained below 30 °C at all times and all at an affordable capex and opex!

HMX and Evapoler Eco Cooling Solutions also ensured that the unique structure and round dome of the temple are not aesthetically affected by the duct and machine placement.

Naturally, the Akshaya Patra management is very happy with the performance of the HMX-IDECool. As HMX-IDECool is equally effective in cooling kitchens, they have further also installed a number of machines for many of their kitchens at different locations.

