

Case Study

HMX-Ambiator provides comfort cooling to employees working at ADF Foods

The high temperatures near the roasting ovens at ADF Foods, Nadiad, made conditions for operators difficult to work in, especially during the summer. HMX's spot cooling solution solved this problem, while ensuring that the efficiency of the roasting ovens remained unaffected.

Background

ADF Foods started in 1932 with a small retail store by the name of American Dry Fruits. In time, this retail outlet evolved to become a globally known company called ADF Foods Limited having operations in six continents and a number of well-known food brands.

Challenges

ADF Foods, Nadiad, produces semi-cooked chicken nuggets which is packed and dispatched to consumers worldwide. After preliminary processing, the raw material is placed on conveyor belts which travel through the roasting ovens before being finally packed.

The three ovens at ADF Food's facility generate enormous amounts of heat that is necessary for roasting the raw food. However, with temperatures inside the 6000 square feet area soaring to 50°C in the peak of summer, the heat generated by the ovens made it difficult for operators to work. Additionally, the summers at Nadiad are not only hot and humid but could last up to six months.

The main challenge was to provide a comfortable temperature for all 15 operators to work in, without disrupting the efficiency of the roasting process. Space cooling was out of the question because that would result in energy losses for the heating process leading to very heavy expenditure. Additionally, a huge volume of air flow would be needed to cool the operators whose stations were located at different places in the area. This was when ADF Foods engaged with HMX for a solution to this dilemma.

Solution

To provide comfort to the people working near the ovens without affecting the efficiency of the ovens, HMX recommended spot cooling each of the operators' stations with an HMX-Ambiator. The HMX-Ambiator works on Indirect Direct Evaporative Cooling technology and is ideal for this application. HMX installed a 30,000 CFM HMX-Ambiator unit outside the area which delivered cool air through ducting to each operator station. The outlets of the ducts were positioned above each operator; each of the 15 openings delivers 2,000 CFM of 100% fresh and cool air.

Result

During the entire year, the HMX-Ambiator helped maintain temperatures at each station at less than 27°C. The HMX-Ambiator makes this possible since there are two stages of evaporative cooling involved. Operators get a draft of cool air over them which makes the conditions comfortable to work in. Since the cooling is only directed towards the operators, there is no flow of cooled air over the ovens, thus ensuring that their efficiency remains unaffected. This has also helped boost the employees' productivity.

ADF Food's management is very happy with HMX's solution.