

Case Study

Chiripal Poly Films maintains a pleasant and productive indoor work environment with HMX-IDEC

Background

Chiripal Poly Films is one of India's leading manufacturers of flexible packaging solutions. Ever since their inception, they have grown steadily. A recent expansion included the construction of a new manufacturing plant in Hyderabad spread over 400,000 sq m.

Challenges

Chiripal has used air washers (single stage evaporative coolers) to improve conditions inside their existing facilities. However, they realised that the air washers would not provide adequate cooling in the peak summer weather in Hyderabad. They therefore sought an alternative cooling solution for their plant in Hyderabad that would be very effective and cost-effective at the same time.

Their engineers outlined a few key points that the alternate option should address:

- Maintain adequate positive pressure inside the facility to ensure a dust-free environment
- Limit the relative humidity to 70%
- Maintain a comfortable temperature inside the plant for people and processes
- Achieve all of these with energy and cost efficiency

Solution

After evaluating multiple options, the engineers at Chiripal zeroed-in on HMX's Indirect Direct Evaporative Cooling (IDEC) as the best fit for meeting their requirements.

HMX-IDEC is a combination of sensible and adiabatic cooling. A highly optimised sensible heat exchanger, DAMA, is at the core of HMX-IDEC. DAMA in combination with a cellulose pad, delivers a cooling efficiency above 120% in the extreme hot & dry weather conditions in Hyderabad, this means the air can be cooled up to 6-7 °C more than air washers.

In 2020, HMX installed and commissioned 3 IDEC units each of 117,000 CFM capacity. Satisfied by the performance of these units, Chiripal installed 3 more IDEC units each of 125,000 CFM capacity, which were commissioned in 2021.

Result

These 6 HMX units have successfully met the requirements of Chiripal Poly Films. The satisfactory performance of these 6 units of HMX-IDEC has helped the company:

- Maintain high quality due to the dust-free environment inside the plant
- Smooth working of manufacturing equipment and processes by maintaining the relative humidity below 70%
- Provide comfortable conditions inside the plant, with a temperature 10 to 12°C below the ambient temperature
- Save energy up to 60% when compared with air washers

Buoyed by the incredible performance and benefits of these 6 HMX-IDEC units, the company has now entrusted HMX with an order for 3 more units of IDEC with a combined capacity of 117,000 CFM!

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