



Case Study

Maintaining positive pressure becomes cost effective for Uflex

Background

Established in 1983, Uflex is India's largest flexible packaging company and an emerging global player. U-flex has a formidable market presence in more than 85 countries, a multi-billion dollar turnover, with state-of-the-art manufacturing facilities in India, Dubai and other locations around the world.

Challenges

A cool, dust-free environment, with positive pressure in the department, is critical for any print and packaging related industries. These conditions can only be maintained by 100% fresh-air systems.

One of Uflex's Indian plants is situated at Noida, Delhi, where the temperature shoots up to 45°C in the summer. Spread over an area of 100,000 square feet, the plant was equipped with air washers since its inception. But the air washers failed to meet fully the requirements. The cooling was not adequate and air washer added a too much moisture in the factory space.

The management then replaced all their existing systems with a centrally air-conditioned system for the entire plant with a total capacity of 800 TR. The power consumption of the air conditioning system added substantially to the already huge operating cost of the plant. Also, for energy efficiency reaons, the air conditioning system recirculated the same air over and over again. Hence the fumes generated in the printing processes were recirculated too without an escape route, resulting in severe deterioration in the indoor air quality (IAQ).

Solution

Dissatisfied with both the above systems, the management decided to look at other alternatives that give the appropriate amount of cooling, a dust free environment, maintain adequate positive pressure, and are economical at the same time. This is why they approached HMX for a solution based on HMX's much-sought after IDEC (Indirect Direct Evaporative Cooling) technology.

Based on the heat load calculations and process requirements, HMX installed 14 HMX-Ambiatores (IDEC technology), with a combined capacity able to deliver 420,000 CFM into U-Flex's process area.

Result

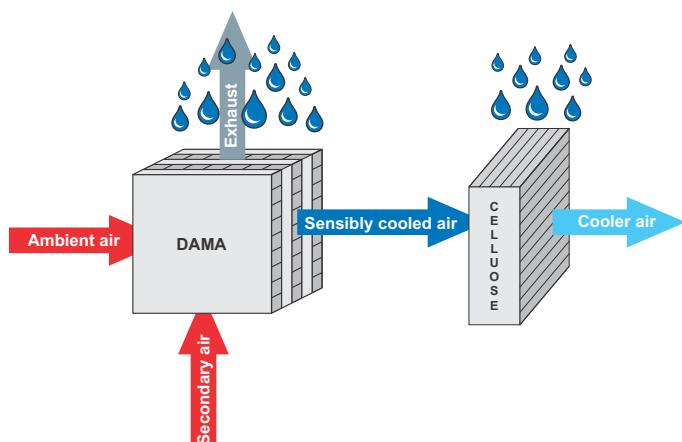
The HMX-Ambiatores proved to be the perfect solution for Uflex. The installation met the requirements of adequate cooling, maintaining a dust-free environment with positive pressure in the company's printing area, and did so very economically. HMX's Ambiatores also add significantly less moisture as compared to a conventional air washer system, thereby increasing process efficiency.

The HMX-Ambiatores provided 100% fresh air, yet were able to save 70% of the energy of the previously installed 800 TR water-cooled chiller.

Equipment	Capacity	Power consumed (kW)
Air conditioning system (screw type water cooled)	800 TR	880
HMX-Ambiatores	420,000 CFM	252

The HMX solution not only continuously saves operating expenditure, but also is approximately one fifth the cost of a central air conditioning system when capital expenditures are compared! The staff is also very pleased with the good IAQ (Indoor Air Quality) provided to them.

The management is proud to be using an eco-friendly product, and is so happy with the performance of the HMX-Ambiatores that it is now replacing all their legacy systems with HMX-Ambiatores across India.



IDEC Technology