Case Study

HMX-FAAC makes storage of medicinal drugs safe and cost effective

Background

The Himalaya Drug Company is a leading multinational medicinal drug company. It produces health care products under the brand Himalaya Herbal Healthcare. It has grown manifold and is spread across locations in India and abroad. Today, brand Himalaya is synonymous with safe and efficacious herbal products; their products are prescribed by 400,000 doctors worldwide and millions of customers trust them for their health and personal care needs.

Challenges

Himalaya's state-of-art factory in Bengaluru commenced operation in 2006 and is spread over 200 acres. Its existing finished goods warehouse of approximately 16,000 square feet area faced issues of high temperature during the summer season and high humidity during the monsoon season. This had an adverse effect on the stored finished goods resulting in the reduction of their shelf life.

The ideal environment to store the manufactured goods is: to maintain temperatures under 26°C throughout the year and relative humidity (RH) levels between 55% and 60% in the monsoon season.

The management had planned to install an 80 TR air-conditioning system to maintain the desired conditions but envisaging the high operational expenditure they started to look for alternatives.

Solution

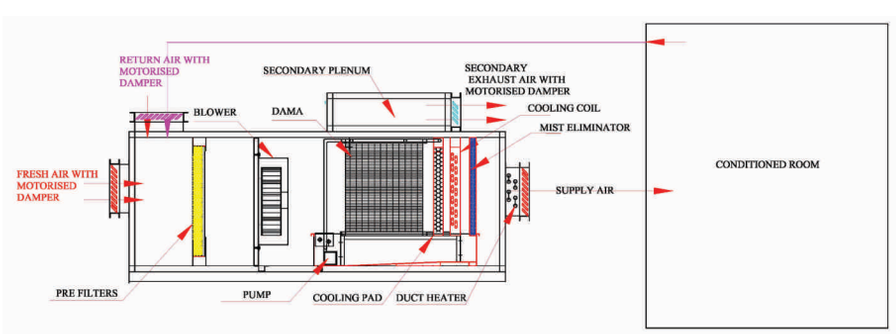
Encouraged by the satisfactory performance of the previously installed HMX-Ambiator in their raw material warehouse, Himalaya again turned to HMX for a feasible solution.

HMX carried out an extensive study of the seasonal weather conditions in Bengaluru and found out that the HMX-Ambiator on its own was capable of maintaining the desired conditions for 70% time of the year. For the balance 30% time of the year, air-conditioning of the warehouse was the ideal solution. As a result an air-conditioning system of only 25 TR was required instead of the originally planned 80 TR.

This is when HMX came out with the proposal of fresh air air-conditioning (FAAC). It is a revolutionary concept in comfort that brings best of both of Indirect Direct Evaporative Cooling and refrigerated air-conditioning. The FAAC is designed to provide comfort in all seasons and ideal for applications where maintaining temperature and RH is critical.

Looking at the apparent benefits, the management at Himalaya decided to install a single HMX-FAAC unit of 25,000 CFM capacity with a cooling coil of 25 TR.

This unit works in evaporative cooling mode when the outside weather is hot and dry and in air-conditioning mode during the monsoon season. The switch between the two modes is automatic, based on the ambient weather conditions.



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Result

Temperature readings were taken inside the warehouse after the installation of the HMX-FAAC unit, in both the summer and monsoon seasons.

Temperature recordings taken on 6 May 2015, during the summer season when the unit was running in 100% fresh air mode

Sr. No.	Unit details	Time	Ambient		Room	
			DBT (°C)	WBT (°C)	DBT (°C)	WBT (°C)
1	HMX-FAAC 25k	1.30 pm	36°C	22°C	25°C	18°C
		3.30 pm	34°C	22°C	25°C	18°C

Temperature recordings taken on 7 August 2015, during the monsoon season when the unit was running in air-conditioning mode

Sr. No.	Unit details	Time	Ambient		Room	
			DBT (°C)	WBT (°C)	DBT (°C)	WBT (°C)
1	HMX-FAAC 25k	1.30 pm	27°C	23°C	25°C	22°C
		3.30 pm	26°C	23°C	25°C	22°C

The Himalaya Drug Company is quite happy with the performance of the HMX-FAAC unit and the benefits it provides.

About HMX

HMX, a business unit of A.T.E., designs and manufactures unique, energy-efficient, and eco-friendly products for space and process cooling for the industrial and commercial sectors, using its patented and highly successful DAMA technology. The product range includes stand alone units, fresh air pre-cooling units, and fresh air air-conditioning units. With an installation base of 21 million CFM covering more than 4.5 million ft^2 all over India, HMX is making fast strides in providing eco-friendly cooling solutions for people and process comfort.

HMX...
A.T.E. ENTERPRISES PRIVATE LIMITED
(Business Unit: **HMX**)
T | +91 - 80 - 2372 1065 / 2372 2325
E | ambiator@hmx.co.in
W | www.hmx.co.in / www.ateindia.com
ate Group