

CASE STUDY REPORT

CHALLENGE

The existing facility was purchased by the current owner who wanted to provide comfort cooling for the employees and also maintain the quality of the stored product. The owner required a system that was energy efficient and could be installed without interrupting the operation. It was noted that the building roof was not designed to support the weight of multiple A/C units. In addition, the owner did not want to degrade the aesthetics of both the interior and exterior of the building with the use of a conventional HVAC system.

SOLUTION

Applied Air was chosen to provide the chilled water, air turnover systems to satisfy the above criteria. The air turnover units were mounted indoors and were easily erected without interrupting the operation of the facility. Neither roof penetration or ductwork were required.

STRUCTURAL INFORMATION

Tilt-Up Concrete Construction
200,000 sq. ft + 6,600 sq. ft Mezzanine
32 ft Avg. Height

ENGINEERING INFORMATION

Air Flow: 180,000 CFM
Cooling: 316 Tons
Heating: 3,600 MBH (Existing ATOs)
Throw: 250 ft



Figure 1: IFA-400 with Economizer

PRODUCT

- Applied Air - Air Turnover System
- (2) IFA-400 w/OA Economizer
 - (1) IFA-400
 - (1) ATO-034 (Upper Mezzanine)
 - (1) ATO-024 (Lower Mezzanine)

INDUSTRY

Packaging & Distribution

FACTORY REP

Lincoln Associates

APPLICATION

Cooling & Ventilation

END USER

Chico's FAS, Inc. - Women's Clothing
and Apparel
Winder, GA

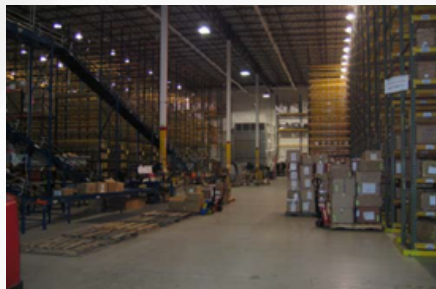


Figure 2: Distribution Facility with IFA-400 in Back

NOTES OF INTEREST

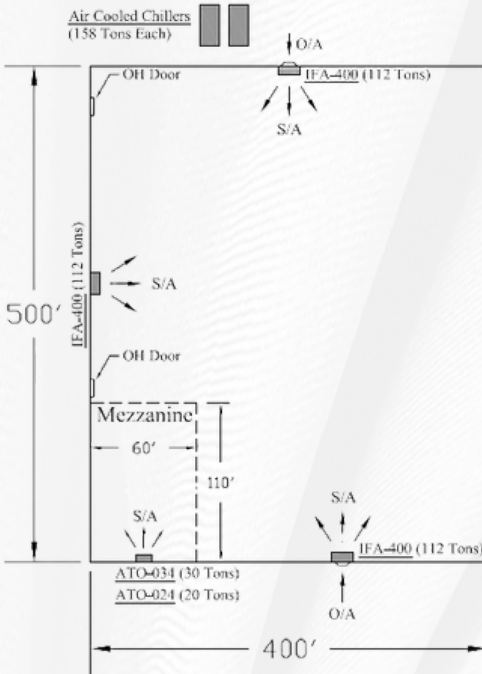
The uniform air distribution provided by the air turnover system eliminated the need for conventional ductwork in this facility. This not only saves on the cost of installation, but also allows the management team to change the layout of the facility without revamping the HVAC system.

The flexibility of the chilled water system allows the chiller to be undersized in comparison to a DX system due to heat load transfer. Because the solar load on a building is transient in nature, the chilled water system will follow the load, reducing power consumption and initial equipment cost. Since not all of the air turnover units are at maximum capacity at the same time, the required chiller capacity is less than that of the sum of all five units' individual capacities.

Air turnover units are indoor, floor mounted allowing for an easier routine maintenance program and longer life span than rood mounted air conditioning equipment.



Figure 3: ATO-024 Located Under Mezzanine



Applied Air Systems has manufactured quality industrial heating and cooling equipment since 1975.

www.appliedair.com

Lincoln Associates has represented Applied Air Systems since 1976. With Application Engineers on staff, Lincoln Associates is able to assist customers in the selection and application of Applied Air equipment.

For more information, call 770.425.1500 or visit www.lincolnassoc.com.