



## Beverage Warehouse Benefits From Hyper-Efficient Cooling Solution

### Beverage Warehouse

Boulder, CO  
(12,000 sq. ft. for storage of retail alcohol products)

#### Consulting Engineer

Mechanical Concepts

#### Contractor

Timberline Mechanical

#### Equipment

3x Climate Wizard Indirect/Direct Evaporative air conditioners

Model: CW3

### Project Objective

The warehouse had three direct evaporative coolers on the roof. Alcoholic beverages are stored in cardboard boxes. The existing direct evaporative units were adding too much moisture to the space. The customer was looking for a new climate cooling solution that was energy efficient and that didn't add as much moisture as a direct evaporative cooler so the CW3 units were selected.

### Project Challenges

Installing the distribution ductwork around the pallets of alcohol, wine and spirits.

### Solution

Three CW3 units were mounted on the roof and ducted down into the building. The units used the existing openings where the direct evaporative coolers were, eliminating the need for additional roof penetrations. Timberline Mechanical added the ductwork to distribute the supply air. Existing wall louvers mounted high on the outside walls with powered actuators were used to exhaust the warm air from the warehouse. Each CW3 unit with its own MagIQtouch controller was mounted on the building columns on top of the building. The project was installed in July 2021 when the outdoor temperatures were quite high. The Beverage warehouse customer is very happy with the performance of the units as they provide cool dry air to the space.





## Performance Data

Model	CW3
Ambient design conditions	94/60 Fv
Space temp	70°F
Supply temp	58°F
Stand Alone Cooling Capacity	9.6 tons
Conditioned Outside Air	8,700 cfm
Input power	6.9 kW
EER	20

Energy savings: 80% energy savings as compared to traditional DX. Electrical Demand Reduction: Reduced electrical demand kW by 50%

## Results

Cooler temperatures in the warehouse with reduced moisture in the space. High ventilation rates for employee comfort and improved product stability due to less moisture in the space. Reduction in energy usage as compared to traditional DX system by 80% with less maintenance costs as compared to DX units.

When the outdoor air temperatures are cool enough, the CW3 can be put into a ventilation mode to reduce water consumption.

For the alcoholic beverages that require refrigeration at the retail store, the products were pre-cooled reducing the cooling needed in the store.



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