

CASE STUDY: REFRIGERATION



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FALLING FILM CHILLER TO COOL PRODUCE

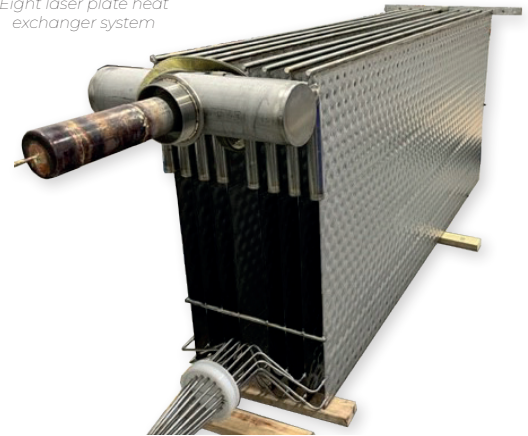
Kemper Refrigeration in Caldwell, ID, has offered complete refrigeration system installs and maintenance to many companies in the produce harvesting/packaging industry for over 40 years. Kemper Refrigeration approached the Omega Refrigeration Rep, Cooling Equipment Sales, regarding a Falling Film Chiller application at an established produce packaging facility in Salinas Valley.



PROJECT OBJECTIVES

- › Chiller must cool 60 gpm of water from 68°F to 34°F
- › Refrigeration system must be R-448a refrigerant, direct expansion
- › Evaporator edges must be fuse welded for sanitation
- › Chiller must have access doors for easy inspection and cleaning
- › Water distribution pan must be removable for easy cleaning

Eight laser plate heat exchanger system



RESULTS

Cooling Equipment and Kemper Refrigeration worked closely with the Omega engineering team and was able to meet all of the customer's requirements and provide them with a Falling Film Chiller to fit into their current wash system. The chiller consists of an eight (8) plate distribution pan for water distribution over the plates, eight (8) evaporator laser plates, a chiller cabinet with both top and end doors as well as an insulated collecting tank at the bottom that can hold up to 375 gallons of water.



*Chiller Cabinet
with doors*

Water is pumped into the distribution pan and is distributed uniformly onto the laser evaporator plates. The water flows in a thin film down the plates and chills the water to the designed water temperature. Chilled water is important in refrigerated food processes as it ensures the fastest possible cooling of the product and is required for the washing lines in all fruit and vegetable plants. Using a Falling Film Chiller is preferred as they can cool a large amount of produce quickly and there is no risk of freezing damage to the food. They are highly efficient, offer a low cost per kWh and are easy to clean.

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