



Wal-Mart's plate dehumidifier at a store in Puerto Rico.

WAL-MART'S PUERTO RICO PROJECT

DOWN IN PUERTO RICO, Wal-Mart Stores is testing a new — for supermarkets — dehumidification system.

Over the past year, Wal-Mart has used the system, a roof-mounted plate dehumidifier from MSP Technology, Huntington, N.Y., at one supercenter and one Sam's Club, replacing Munters desiccant systems that were out of service.

Edgardo Velez Saez, president of Quantum Consulting Engineers, San Juan, Puerto Rico, serving as a consultant to Walmart Puerto Rico, helped in the selection of the MSP unit among three alternatives. The 20,000-cfm (cubic feet per minute) MSP system, which cost about \$170,000, "had the lowest consumption of energy," he said.

About six months ago, Saez measured the dew point temperature in both stores and found it to be at "acceptable levels" — between 50 and 52 degrees Fahrenheit — and also required minimal maintenance. He said Wal-Mart is also using HVAC units from AAON, Tulsa, Okla., in other Puerto Rico stores. Wal-Mart did not respond to a request for comment.

Walter Stark, president of MSP Technology, noted that Wal-Mart's dry desiccant systems require heat — derived from gas or electric energy — to remove moisture from the desiccant material. By contrast, the MSP unit pre-cools the air through a plate heat exchanger, thereby saving energy, and then sends it through a cooling coil for dehumidification and back to the heat exchanger, before being delivered to the store "cool and dry," he explained. No energy is needed to reheat the dehumidified air before it enters the store.

The MSP system uses only refrigerant for dehumidification and saves on maintenance by "having no moving parts in the dehumidification process," said Stark. The system is generally focused on managing humidity in the frozen-food area, where it is able to get the dew point temperature down to between 40 and 45 degrees. The lower humidity results in fewer defrost cycles in the frozen cases, he added.

— M.G.



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