



A Closer Look



**Commerical** Solutions in Action

Solutions for Energy Recovery & Dehumidification

## Westin St. Maarten Dawn Beach Resort and Spa Saint Martin Island, The Caribbean

### The Project:

Optimize performance of HVAC system for a sub-tropical, 4-star resort. Key elements are building efficiency (i.e. energy cost savings) and dehumidification improvement along with reduced maintenance.

### The Solution:

Custom design, manufacture and install 4-row controllable TRAHP™ units into (6) JCI, XTO 42 x 51 DOAS air handlers, operating at 2400 CFM.



### Individual Unit Performance Results:

The wrap around TRAHP™ provides inline energy recovery and latent enhancement for each of the JCI DOAS units. Based on bin hour weather data for Puerto Rico, the inline energy recovery performance projects a 4.3 ton/hour load reduction on the cooling system and 52 MBH of Free Reheat. The incremental air pressure drop across the heat pipe coils requires an additional 5,060 KWH/year. The net annual energy savings will result in a simple payback of 1 year while providing neutral make up air of 72° at 50% Rh year-round.

**“Working with Carolina Heat Pipe on this project was a very positive experience, I have been looking for the right project to apply a heat pipe system to and this was certainly the one. We were able to nearly eliminate an electric heat reheat system for dehumidification by incorporating the heat pipe system, creating not only significant savings for the customer but a much more simplified and less-maintenance consuming solution as compared to a desiccant wheel (which was the original design)”**

Mark A. Zip, LEED AP, Account Executive, Johnson Controls

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