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COOLING SUMMER HEAT WITH DRY MIST FANS



Martin Engelhardt, left, and Daniel Kiehlmann of Transsolar Energietechnik GmbH in front of two of the dry mist cooling fans set up along the Camana Bay Paseo. Photo: Alan Markoff

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Visitors to Camana Bay and [Kimpton Seafire Resort + Spa](#) might have noticed pedestal fans blowing a cooling mist during their recent visits to the property. Water misting fans are nothing new, but the fans being tested at the two Dart properties are different: they're dry mist fans.

Combining the words "dry" and "mist" might seem like a contradiction in terms, but the technology used creates a mist that feels dry. Water is pushed with high pressure through a nozzle with a very small aperture. The resulting mist is so fine it evaporates very soon after emerging from the fan and from as close as two feet away, it feels dry. The process of evaporation actually lowers the temperature in front of the fans with much less energy than traditional air-cooling technology.

The dry mist fans were developed by a German-based climate engineering firm called Transsolar Energietechnik GmbH, a company that Dart Development Design Coordinator Thomas Bleicher said was first recommended by Camana Bay developer Ken Dart.

"Mr. Dart asked us to look into the ways to improve the thermal comfort in the Town Centre during the hot season," Bleicher said. "He suggested Transsolar as a consultant based on a TED talk by Wolfgang Kessling on the climate concept for the FIFA World Cup in Qatar. Mr. Kessling came to Camana Bay in September for an initial assessment and proposed dry mist as suitable technology."

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TESTING GROUNDS

To evaluate the viability of the dry mist cooling technology in the Cayman Islands climate, Dart Development had Transsolar fashion six portable fans for testing here. Two of the company's engineers, Daniel Kiehlmann and Martin Engelhardt, set the fans up in various places in Camana Bay including The Paseo, Gardenia Court and Canella Court, and at the Kimpton Seafire on the Ave Restaurant terrace.

Over a week-long period the two German engineers, who both came from Transsolar's Munich office, conducted an assortment of tests to measure the effectiveness of the dry mist fans in various locations and arrays. Many Camana Bay visitors seemed curious about the fans and they made the observation that the fans didn't create very much noise, Engelhardt said.

"They're optimised for noise," he said. "They're the quietest motors you can get."

The dry mist fans were a big hit with the guests who attended Ave Restaurant's Sunday brunch on July 30, Kiehlmann said.

"At the Kimpton Seafire, the fans made a 10 to 15 degrees Fahrenheit difference, but it wasn't only the temperature that improved; it was also the comfort level, which takes into account temperature, humidity and air movement."

PROMISING RESULTS

Bleicher said the initial test results are very encouraging.

"The visitors like it because it provides a temporary relief from the heat," he said. "It also feels very natural, just like the 'Christmas breeze' we get in the winter."

The testing showed that the fans worked best in areas cut off from natural breezes in Camana Bay, like the corner spots in

Canella Court or in Gardenia Court, Bleicher said.

“In very windy locations, the fans do not improve the conditions a lot, but those areas are usually quite pleasant on their own,” he said. “It’s in times with low wind that we see the biggest improvement in comfort.”

Although the two engineers have returned to Germany, observational testing will continue over the next months while Transsolar compiles its scientific data for a final report. Once that report is reviewed by the Dart Development team, a decision will be made whether to acquire more of the fans for specific areas of Dart properties.

“The six fans we have in operation now are a test of the potential of this new technology,” Bleicher said. “With the experience we gain from these fans we can identify suitable locations and estimate the costs for a permanent installation. If the fans continue to perform well, we can expect to see more of them around Camana Bay next summer.”