



# Vortex CHC

MAKING CAVITATION WORK FOR YOU

## Vortex CHC Case Study

**Customer / Project:**

**Tropicana**

**Website:**

<http://www.tropicana.com>

**Location:**

**Bradenton, FL**

**Industry:**

**Food refrigeration**

**Challenges:**

**New installation**

**Solution:**

**(3) 250 gpm units with automated high capacity filtration**

**Results:**

**Microbial growth lower than chemically treated system**

**Corrosion < 3.0 mpy**

**Annual savings: > \$100,000**

**Water savings: > 5 million gal**

**ROI: 22 months**

**Vortex CHC**

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### The Challenge:

A producer of orange juice was building new (15,000 ton) “State of the art” refrigerated warehouse and wanted all aspects to be “best available technology”. They had concerns on water usage, environmental impact, worker safety, and wanted the lowest overall operating cost from their water management program. The selection committee was open to any technology that had a proven track record and met their requirements.

### The Solution:

Vortex Systems CHC units were chosen as the best available technology to meet the needs of the project. Based upon the system size and water quality, three 250 GPM CHC units and a high capacity automated filtration system were installed in January 2003. In addition, a conductivity controller was installed on the main sump return and a corrosion coupon rack was also installed to monitor corrosion rates for various metals. The condensers were properly passivated during the initial startup of system. Once the system had been passivated and lined out, results met all expectations. Corrosion rates are below the industrial recommendations: < 3.0 mpy for mild and galvanized steel; and < 0.03 mpy for stainless steel (304). Microbiological growth are well under control; the aerobic bacterial counts (CFU/ml) are 50% less than the older systems that were still using chemical treatment. Frequent visual inspections and compressor head pressures show no scale formation. The customer is saving over 5 million gallons of water annually versus a standard chemical treatment program. The annual cost savings is over \$100,000 and the entire project was paid off in less than 22 months. The customer also enjoys the added benefits of no chemicals to report or handle, and the ability to reuse 2 million gallons of nonpotable water per month.