

## World leader in the packaging industry switches to evaporative cooling and energy efficiency

### Huhtamaki

Food packaging supply and material

#### System installed

Indirect Evaporative Cooling System

#### Designer Engineer and Supplier

Climagulf Trading

#### Equipment & Configuration

Dubai Plant: 4 Climate Wizard units for pre-cooling FAHU

RAK Plant: 18 Climate Wizard units in stand alone and 10 for pre-cooling FAHU

**Huhtamaki group (worldwide packaging company) has three operating facilities in the United Arab Emirates, one located in Ras Al Khaimah and two in Jebel Ali Free Zone.**

**Two facilities are into flexible packaging business and the third one manufactures printing cylinders.**

**The three industrial plants employ above 550 people and occupy 48 500 square meters in total.**



### The project requirements

The main aim for the first project (which has been done in the Jebel Ali Plant), was to reduce the power consumption of the Air Handling Units with DX type condensing units.

The fresh air requirement for the AHUs is very high due to the treatment process implemented in the plant, which includes chromic acid as well.

Moreover, UAE temperatures in the Summer can overcome 50°C, thus resulting in extremely high power consumption for the Air Handling Unit to cool the air.

### The suggested solution

Huhtamaki-UAE approached Climagulf, official distributor of Seeley International products in the UAE, to try and solve the problem.

They suggested four Climate Wizard Indirect Evaporative Air Coolers (model CW-H15) directly coupled to four of the Air Handling Units for their Outside Air component.

To evaluate the performance, data loggers were installed to track:

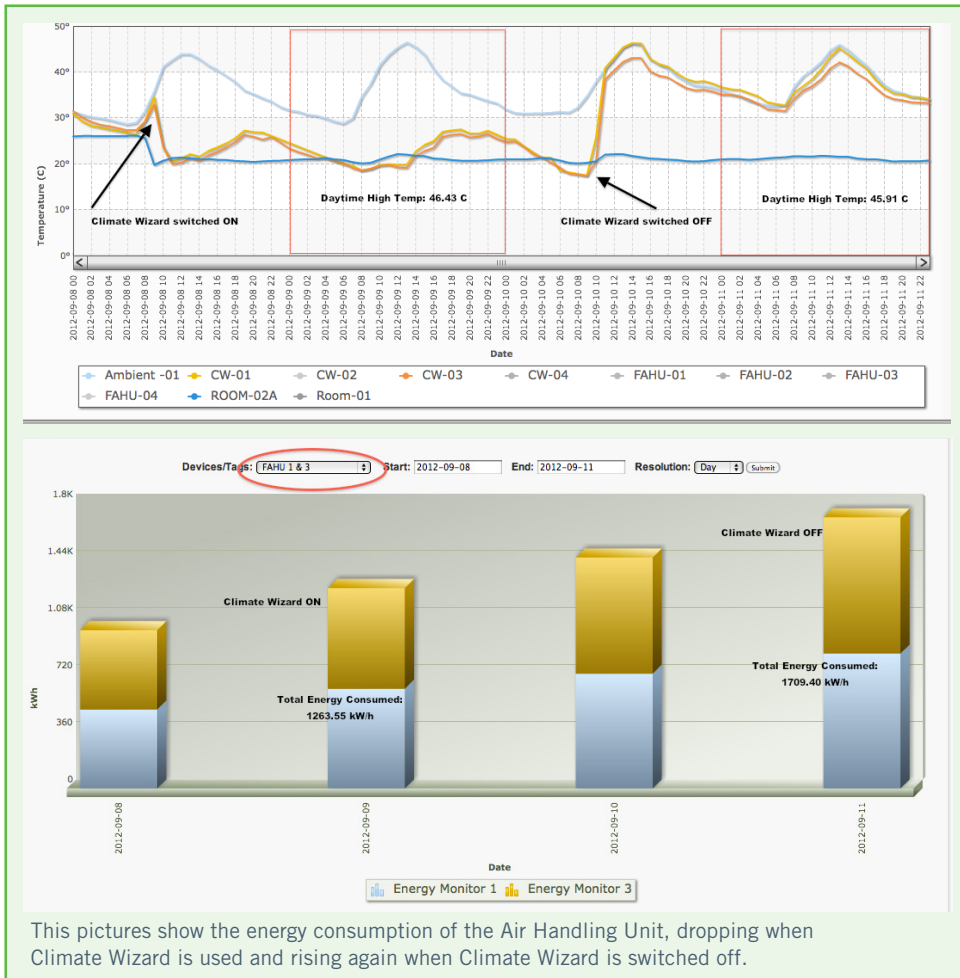
- ambient air temperature,
- temperature of the air supplied by one of the Air Handling Units,
- room temperature inside the industrial plant (operator level).

### Water re-use

“When Climagulf approached us with Indirect Evaporative Cooling solution, we were concerned that the machines would have consumed too much water, which can be a real issue in UAE.” says Deepak Bist, Head Projects and Technical Support at Huhtamaki-UAE.

“In fact, AHU produce condensation, and we decided to collect this water in a tank: the four Climate Wizard installed work with condensating water from the Air Handling Units, so our Indirect Evaporative Coolers are almost water neutral.”

Moreover, this water is particularly clean and pure, being the result of condensation: this increase Climate Wizards’ life, which also require less maintenance.



This pictures show the energy consumption of the Air Handling Unit, dropping when Climate Wizard is used and rising again when Climate Wizard is switched off.

“Efficient use of materials and energy has an important role in our day to day operations.

The most significant negative environmental impacts of our manufacturing operations are greenhouse gas emissions and production waste.

We continuously look for ways to reduce the use of energy and improve the recycling ratio of production waste in our operations.

Investments in improving our energy efficiency are an integral part of our annual capital expenditure.”

Deepak Bist,

Head Projects and Technical Support  
Huhtamaki-UAE

## The Climate Wizard installation gets bigger...

Huhtamaki-UAE Management was so satisfied about the Climate Wizard installation and the benefits that this system has brought to them, that they decided to install more units in their Ras Al Khaimah (UAE) plant.

“Working conditions in a hot environment like the one in the United Arab Emirates can be challenging: to improve working morale and operators wellness, we need to ensure that an air cooling system is in place.” continues Mr Bist .

“After having tried Climate Wizard as a pre-cooling solution in our Jebel Ali plant, we decided to have the same installation in our Ras Al Khaimah plant. Now we have 18 Climate Wizard installed in stand alone application to cool one entire process line and 10 units combined with Air Handling Units to pre-cool the air and reduce power consumption (and consequently to reduce running costs).”



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