



## Huhtamaki United Arab Emirates

### The industrial plant

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 installation

The main aim for the first project (which has been made 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 summertime can overcome 50°C, resulting in extremely high power consumption for the Air Handling Unit to cool the air.

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

**System installed:**  
Indirect Evaporative Cooling System  
**Committee:**  
Huhtamaki Units in UAE  
**Designer Engineer:**  
Climagulf  
**Supplier:**  
Climagulf  
**Installed products:**  
23 x CW H15  
**Application system:**  
Stand alone or Pre-Cooling  
**Commissioning:**  
Peter Robinson & Sabu Abraham



component.

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

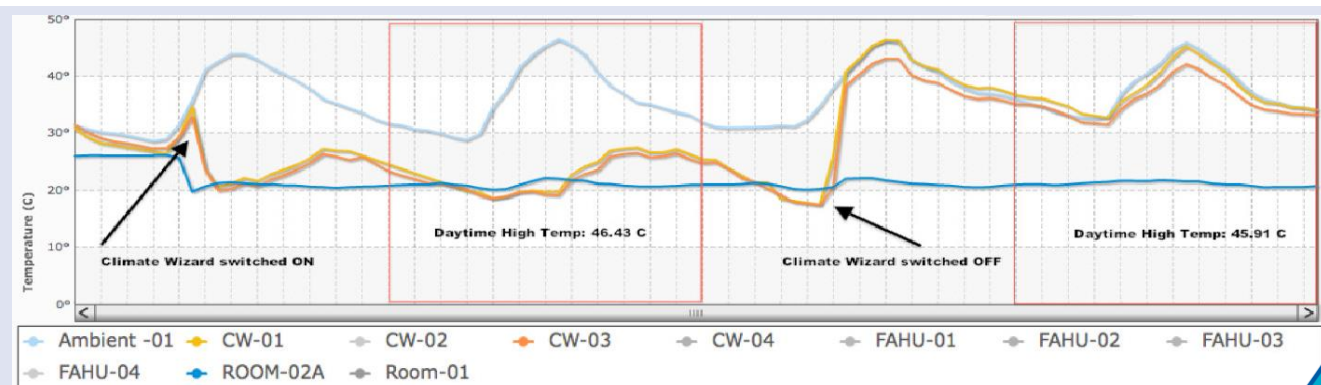
- ambient air temperature,
- temperature of the air supplied by one of the Air Handling Units,
- room temperature inside the industrial plant (operator level).

### Water re-use

Huhtamaki-UAE Management was concerned about Climate Wizard water consumption. "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 condensing 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.



### Data logger installation:

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

"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, 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 twelve Climate Wizard installed in stand alone application to cool one entire process line and seven units combined with Air Handling Units to pre-cool the air and reduce power consumption (and consequently to reduce running costs)."



## Benefits and advantages

Climate Wizard indirect evaporative air conditioner uses a hyper-efficient counter-flow heat exchanger to cool the air. Not adding moisture to the air, it is particularly suitable for humid climates. Climate Wizard's cooling performance can rival that of refrigerated systems, using up to 80% less energy. That is not only great for reducing power bills, it's also great for the environment, especially because this system does not use chemical refrigerants to cool the air. Taking 100% fresh air from outside, Climate Wizard's performances and cost-saving capabilities actually increase, when the heat is at its highest, in complete contrast with refrigerated systems, which rely on recirculating the air inside the building. When used in Pre-cooling mode, it reduces power consumption of Air Handling Units, to reduce power bills, especially in extremely hot climates (e.g. UAE).

*"Our Vision is to lead the world in creating climate control solutions which continue to be highly innovative, of premium quality and inspirational in their delivery of energy efficiency"*

*Frank Seeley AM, Seeley International Founder and Chairman*

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