

Case Study

Shine and Shine

"Coolnomix™ from Agile8 has been an excellent investment for us. To be honest, when I first witnessed the results I danced with excitement"

Helen Yu, Director of Finance, Shine and Shine

Highlights

- reduces refrigeration electricity consumption by >24% yielding a payback on investment of less than 12 months
- stops all icing of the cooling system allowing Shine and Shine to disable the de-icing routine heating
- removes the risk to ISO compliance by stopping space temperature spikes during de-icing cycles

About Shine and Shine



If you enjoy fresh fruit juice and you are in Hong Kong or China, it is likely you will have tasted Shine and Shine's product (www.shinejuice.com). Shine and Shine select only the highest quality fruits for processing to ensure their juices are truly fresh and naturally healthy with a delicate flavour. To assure further the quality of their produce, Shine and Shine are ISO22000 food safety certified.

The challenge

Like all companies in the FMCG manufacturing sector, Shine and Shine face pressure on margins: their retail customers face demand challenges and put backwards pressure on their suppliers; at the same time the manufacturer faces cost challenges, especially in the battle to maintain quality. A particular quality cost for Shine and Shine lies in continuing compliance with ISO22000 food safety certification.

Reliable refrigeration is at the heart of Shine and Shine's production processes and represents a direct operational cost that they cannot control: they face annual electricity cost rises imposed by their regulated but monopoly supplier.

Refrigeration designs, as is usual for applications such as Shine and Shine's, include the use of heaters that are switched on in an automated routine to de-ice the cooling fins of the refrigeration system. This routine momentarily raises the space temperature above the ISO22000 food safety standard presenting some risk to compliance (see Shine and Shine's refrigeration metrics report overleaf).

about Coolnomix™

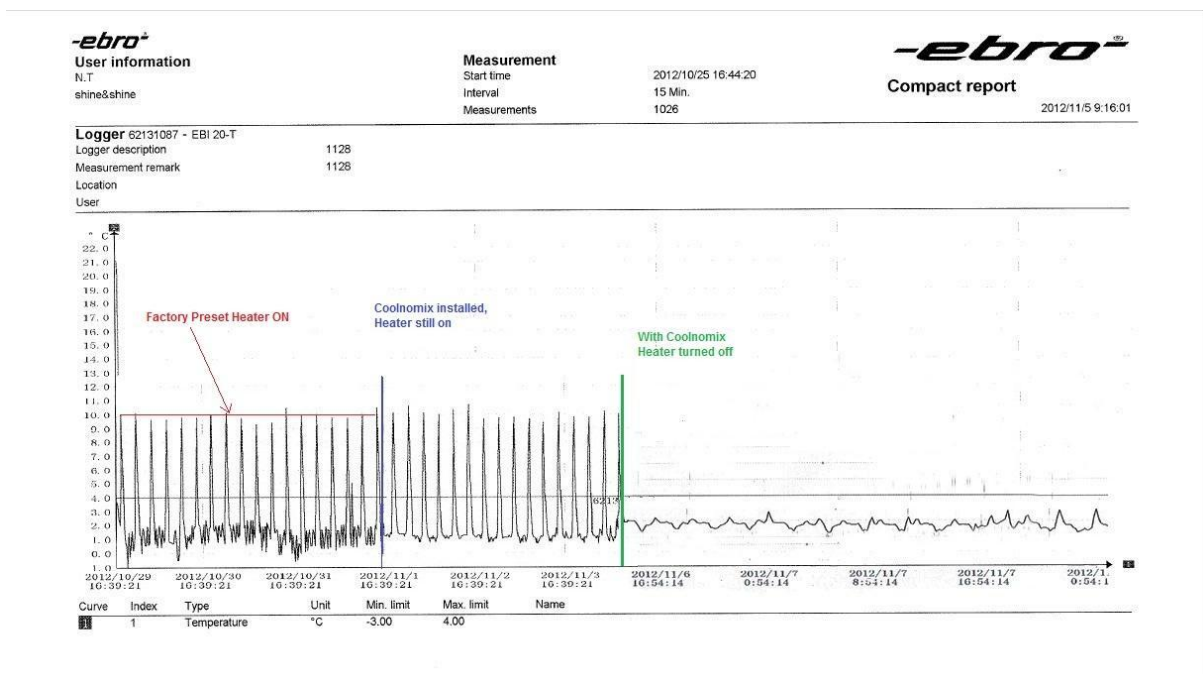
Coolnomix™ is a patent pending product of Agile8 Consulting Limited. Our objective for Coolnomix™ is to reduce worldwide running costs of refrigerant based cooling and heating systems by 30%.

The solution

Agile8 deployed Coolnomix™ AR-01 on Shine and Shine's 750 sq ft, 24 x 7 purpose-built refrigeration unit, one of three that Shine and Shine employ in their manufacturing facility. The AR-01 is a refrigeration model within the Coolnomix™ range capable of delivering significant energy savings for cooling systems that operate at temperatures from 0°C to 15°C. To measure the performance of the AR-01 a number of capabilities were used:

- The ability to measure the electricity consumption of just the target unit was deployed.
- The built-in refrigeration performance metrics were monitored particularly closely throughout the early deployment.

Deployment was phased to ensure Shine and Shine could migrate to greater dependency on Coolnomix™ confident from the results of the previous phase. For the first phase, the automated de-icing heating routine was left running whilst the Shine and Shine staff performed regular visual checks to test Agile8's claim that de-icing would no longer be needed; see second portion of the Shine and Shine refrigeration metrics. Once Shine and Shine were confident that de-icing was no longer needed and that cold temperature stability was being maintained the heater was disabled.



Having satisfactorily deployed and delivered savings of >24%, Shine and Shine proceeded to install Coolnomix™ on their two other refrigeration units, including one newly commissioned.

Benefits

- Coolnomix™ reduces refrigeration electricity consumption by >24% yielding a payback on investment of less than 12 months.
- Coolnomix™ stops all icing of the cooling system allowing Shine and Shine to disable the automated routine heating for de-icing.
- Coolnomix™ removes the risk to ISO compliance by stopping space temperature spikes during de-icing cycles.