

## Tricool Thermal customises high ambient chillers for Nigerian packaging manufacturer

When Plastic Packaging Industries Ltd, expanded its manufacturing facilities in Onitsha, Anambra State, Nigeria and decided to replace aged cooling systems, the company approached Tricool Thermal to provide chillers for its manufacturing processes.



Plastics Packaging Industries Ltd. is a privately owned company and specialises in the manufacture of containers for the food and lubrication industry in Nigeria.

As part of a major expansion, Plastic Packaging Industries Ltd. installed 12 new plastic moulding machines to cope with demand for its products. This required a greater cooling capacity and the company took advantage of the opportunity to install new chillers to meet its process requirements and replace a number of aged chillers.

### Tricool Thermal's expertise

Already a valued customer of Tricool Thermal, Plastic Packaging Industries Ltd. approached Tricool Thermal to custom build three chillers to supply chilled water to blow moulding and injection moulding machines for cooling the mouldings inside the moulds. Chilled water was also required to supply all the machines' heat exchangers for cooling the hydraulic oil. Climate, safety and location were key parameters in the build.



Custom-built TEC 90210SP unit

### The Design

Based on a design ambient of 37°C, the chillers were custom-built TEC 90210SP units designed to dissipate 150kW. Chilled water leaves at 10°C and the returning water at 15°C.

Internal components include 75hp open drive Copeland reciprocating type compressors, each direct driven by a 55kW Siemens motor with star delta start operation. Single circulating pumps with 2.2kw motors were fitted on all units.

Special safety features included reverse phase protection, low/high voltage protection to protect the chillers against operation when the power supply fluctuates, circuit breakers and overloads with Siemens components specified.

Climate is a major factor in Africa. The country's high ambient also impacted the design of the control boxes which were fitted with anti-condensation heaters and a fan to circulate the air and prevent condensation build up.

This latest order from Plastic Packaging Industries Ltd. now brings the total order of Tricool Thermal chillers up to 10 units ranging from 150kW to 350kW cooling capacities.

Visit our website [www.tricool.com](http://www.tricool.com) for more information, or contact us on **0800 977 5709** or at [info@icstemp.com](mailto:info@icstemp.com).