

Glass Toughening Furnace

CALOGIX APPLICATION NOTE : CLA1



The Application

A glass toughening furnace with 24 heater zones is used to strengthen standard sheet glass by subjecting it to high temperatures. Problems arise when certain parts of the glass are not heated to the correct temperature, in these circumstances the finished product will have weak areas. If the glass is heated for too long a period it will begin to warp and the glass will be unusable. Therefore it is critical to have a system that can ensure that the glass is correctly heat treated but without subjecting it to heat for too long a period that it becomes damaged.

The glass also varies in type and thickness so the controllers require reconfiguring when changing between materials. It is time consuming when faced with changing the settings for 24 zones manually.

Once the glass has been successfully treated it is passed through a cooling tunnel to speed up the process of bringing the glass temperature back to ambient.

Why CALogix?

CALogix can integrate PID functionality and logic, therefore it was possible for the temperature of each zone to be monitored so that when the last zone reached the minimum temperature the process could be completed before being subjected to an excessive amount of heat.

As CALogix is a modular product it was also possible to build a system specifically for the customers' application in a simple way that is also compact. As each base-unit has RS485 communications they can be networked by using preformed 'daisy chain' cables back to a CALogix operator panel.

The operator panel can be configured to display important and relevant information for the application. Access is also restricted to other parameters within the system that are not required by the user, hence preventing inadvertent modifying of settings that could affect the operation of the system. The recipe handling feature within the panels allow a number of parameters to be downloaded to the controller by a single action such as a pushbutton or selector switch. Reconfiguring controllers for different products can be carried out almost instantaneously.

The facility within the CALogix operator panel to add Ethernet connectivity also gave the customer the ability to log system data on a remote PC running CALgrafix process monitoring and configuration software.

The system developed by the customer is shown below.



