

ACCURATE TEMPERATURE CONTROL PROVIDES IMPROVED YIELD AND QUALITY IN BATCH CONTROLLED DOUGH MAKING**BACKGROUND**

Water temperature is one of the most critical components in the yeast-raised dough making process as it affects the rate of activity of the yeast.

Overall production quality and yield is directly affected by the ability to regulate water temperature as it is added to the final dough, which should be 75°F to 77°F (23°C to 25°C) to foster optimal fermentation



Emech Mixing Station

PROBLEM

The temperature of the production environment, the impact of seasonal temperature variances and other required ingredients, as well as heat generated during the mixing and yeast activation, will affect dough temperature.

If the dough temperature is too warm, the dough will ferment too quickly and be ready at an untimely moment or may become over-fermented during make-up.

If too cold, the dough will take too long to ferment and proof, and will not be ready for baking.

Finished dough temperature is invariably controlled by the temperature of the water added to the dough.

Like many industrial food manufacturing processes, providing consistency of control at the point of application previously required expensive solution sets



This bread is the result of the dough mix excessively fermenting prior to the baking process

SOLUTION

Adjusting water temperature with an Emech™ system is an easy way to compensate for variables and still achieve a final dough temperature of 76°F (24°C).

After calculating the temperature of ingredients and the heat generated during the mixing process, the 'perfect dough mix' will require water at the precise temperature to provide the optimal dough temperature.

When a successful recipe is proven by the Baker, it is then easily repeatable in production with the Emech™ mixing system compensating for input variances in the normal factory pressure and temperature supplies and through its own closed loop control, patented swirl-mix ceramic disc mixing valve and with an intelligent actuator the Emech system ensures "in specification" water is delivered.

This system can be installed with an existing automated equipment PLC interface to accept a 4-20mA temperature signal or can be used in 'local' mode and controlled by an operator.

The entire system is designed for minimal ongoing maintenance and has already been incorporated into Original Equipment vendors of Dough Making Equipment deployed in major Food Manufacturers.

Contact Emech directly or your local distribution representative for more information.