

Electrical System Test

The following test is subject to determine the proper operating control for the Automated Water Dose System. The test will verify that the sensor has been set up correctly. Initial set up will connect the sensor to a voltage meter. The sensor will be blocked to test for sensor functionality and sensor output. Once the output of the sensor is verified the control system of the sensor can then be calibrated and modified.

The timing of the sensor and the threshold of the sensor will be calibrated initially to a rough estimation of the proper amount of water to be dispensed. Further calibration might be required for accurate result.

The sensor will then be connected to the PLC for recognition. If the output value for the sensor can be observed in the logic for the PLC through RSlogix then further testing can be implemented.

The next step would be to test if the PLC programmed via RSlogix would be able to communicate with the solenoid valve to ensure proper operation for shut off. Even during an event of power failure (Ensure that valve is closed when power is off)

PLC will be tested to obtain proper preset results regarding preset parameters that only apply to cheesecake production. The switching of setting will be tested to see if design interferes with other manufacturing process. (I.e. the dosing system will not function when other settings are chosen and only function when the cheesecake preset is chosen)

Control for the solenoid shutoff valves are first tested separately from the mechanical components. The operation of the valve (open and closing) is verified before actually connecting the valves to other mechanical components and piping.

Equipment Needed:

1. Sensor and Reflector
2. Voltage Meter
3. PLC
4. Solenoid Valve

Resources Needed:

1. Electric Power
2. RSLogix

Start Date: TBD

Finish Date: TBD

Engineer set-up experiment: Tony Shen

Assistant: Noah Mauer and Rodrigo Velarde Gonzalez

Are there any visual defects before testing: Yes No

If yes then Explain: _____