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SarTime Revolutionizes Steam Flaking

by Taylor Galarneault

How would you like to know your energy cost per ton on a daily basis? SarTime is a patented system developed by the researchers at SarTec Corporation that helps control the cost of steam flaking by automatically measuring the residence time of grain in a steam chest and with the SarComputer allows for the energy cost per ton to be known.

The SarTime System features a touch screen display as shown in Figure 1. Measured information, including residence time, is shown in real time. With real-time data, an issue can be taken care of immediately before it turns into a problem. This data can also be accessed from a computer, tablet or smart phone.

One SarTime System can

manage two flakers, and the information for each flaker can be displayed on the same screen. This provides information that is convenient and helps control the steam flaking process.

The SarTime system automatically measures the residence time of the grain in the steam chest, which is the amount of time grain spends in the steam chest. If this amount of time is too long, money is being wasted on heating the grain without any gain in flake quality. If the residence time is too short, the flake quality is adversely affected.

SarTime can measure the residence time multiple times per day if desired. SarTime is safer, more accurate and faster than manual dye tests. If the residence time is not ideal, the peg feeder speed can be adjusted to bring the time back within an optimal range. Controlling the flaker so that it always runs in an optimal range allows the feed yard to produce the highest quality flakes for the least amount of money consistently.

SarTime measures the residence time by injecting a small amount of solution into the top of

the steam chest. Sensors located at the bottom of the chest detect the solution and *report the actual residence time of the grain in the steam chest.*

SarTime - Key Benefits

- Automatic Measurements
 - Residence Time
 - Steam Chest Temperature
 - Peg Feeder RPM
 - Flaker Motor Amp Draw
- Text Alerts
- Data Emailed Daily
- Real Time and Historical Data
- Control Flaking Costs

Besides the residence time, the SarTime System also measures steam chest temperature, peg feeder RPM, and flaker motor amp draw. All this data is backed up to the internet and accessible on a customer specific portal.

The real time and historical data is graphed to display the measurements in an easy to read format. The data is accessible from mobile and desktop devices. An example of a type of graph that is available is shown in Figure 2.

This graph displays the continuous sensor readings for one flaker for a typical day of flaking the residence time is the measurement of time (x-axis) between the injection peak and the conductivity spike. Each light

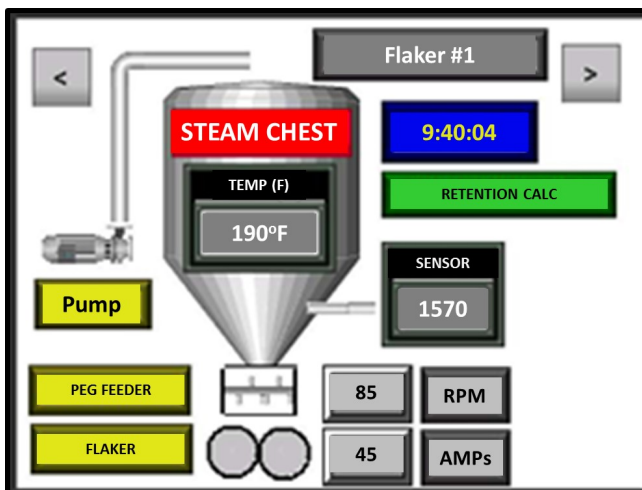


Figure 1. SarTime Touch Screen Display

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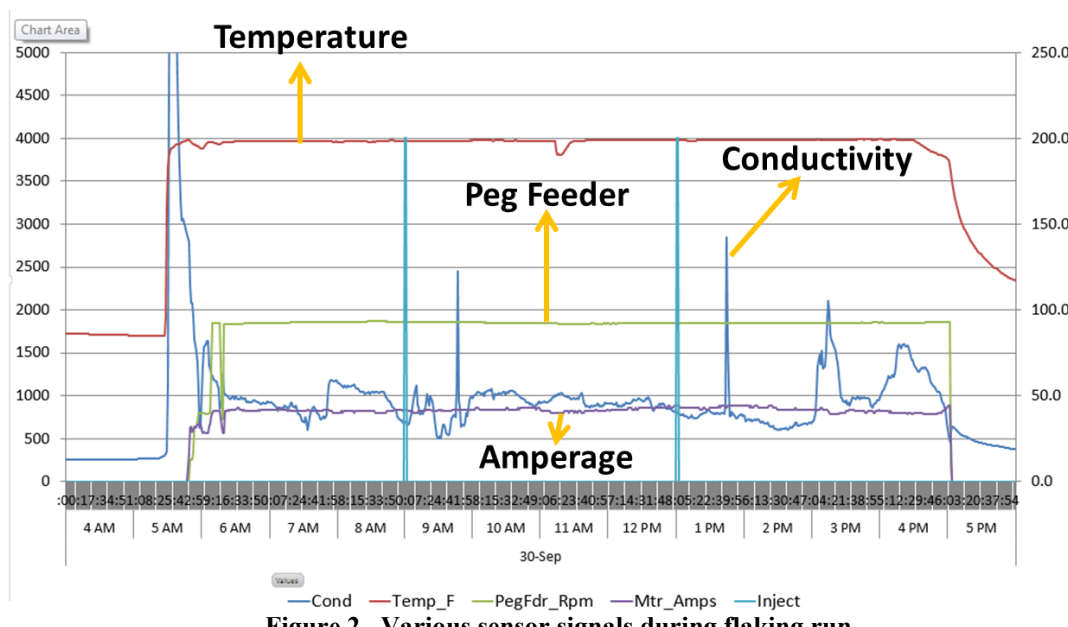


Figure 2. Various sensor signals during flaking run

blue spike is an injection point, and the dark blue peaks are conductivity peaks resulting from the conductive solution crossing the conductivity rods. *The distance between those two peaks is the residence time.*

Some examples of information that can be displayed include residence time, daily operating costs, average daily peg feeder RPM, average daily chest temperature, hours of operation, and average daily motor current.

A custom email is sent out every morning with information regarding the flaking data from the previous day. This email contains summarized operational data for each flaker, attachments, and a link to the historical data. The attachments included are a pdf file with information about the previous day and an excel spreadsheet with information from the last two weeks.

SarTime can also send out real time text alerts for any of the

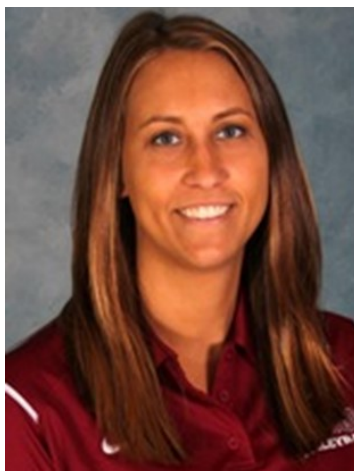
measurements taken to alert you if a parameter is out of range (for example, the temperature drops or the peg feeder setting is changed).

For more information, please call 1-800-472-7832 (1-800-SARTEC).

EMPLOYEE SPOTLIGHT - DR. JULIE JENKINS

Dr. Julie Jenkins joined the SarTec team (again) on July 3rd, 2017. Julie was born and raised in Edina, Minnesota. She has a Bachelor's degree in Chemistry from Augsburg College and a Ph.D in Chemistry from the University of Connecticut. The title of her thesis is "Gold Nanoparticles and Quantum Dots: Their Optical Interaction and Application in a Hydrogel Modified Lateral Flow Sensing Device."

Julie currently works as the Assistant General Manager. She is responsible for managing the service force, human resources, writing and administrating research grants, IT,



and more.

She previously worked at SarTec for a year as a research scientist. Julie also worked as a Lab Manager and Quality Control Chemist at Ever Cat Fuels for two years. While she was going to school in Connecticut, she worked as a Teaching and Research Assistant at the University of Connecticut and as an Assistant Volleyball Coach at Eastern Connecticut State University.

She enjoys playing and coaching volleyball, reading, biking, playing board games, traveling, kayaking, and watching *Friends*.