FluorLite-MC™ Cutting Time Control Technology

Controls Cutting Time and Gel Firmness

"Your firmness on your schedule"

Updated April 9, 2024

FluorLite-MC cutting time control technology provides the most advanced process control available for monitoring and controlling the milk coagulation step in cheesemaking by providing control of the **cutting time setpoint** and **desired gel firmness**.

FEATURES

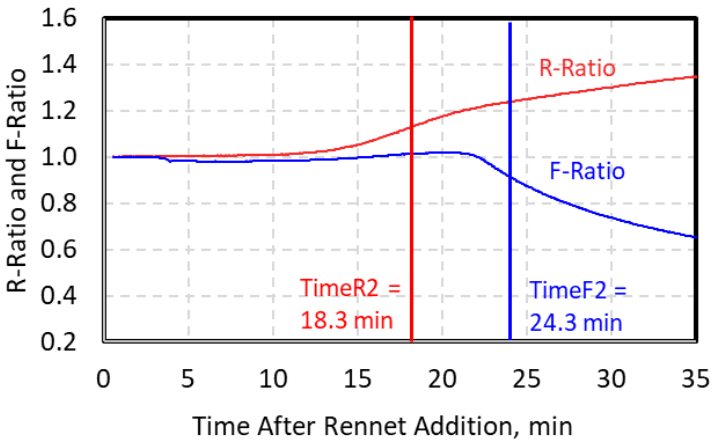
- Controls to a consistent cutting time setpoint
- Provides for control of gel firmness
- Provides operator with an enzyme-added confirmation signal
- Alerts operator to non-standard or no-enzyme batches
- Enzyme Assistant helps operator control enzyme addition to obtain both desired cutting time and gel firmness

- Keeping multiple vats on a schedule keeps the downstream processing operating smoothly.
- Cutting to a consistent gel firmness produces a product with the desired characteristics.
- Incorporated in this technology is the novel **Enzyme Assistant** software which assists the operator in adjusting the enzyme addition.
- PLC software alerts the operator if no enzyme was added, confirms the addition of enzyme, and assists in establishing setpoints for each recipe.

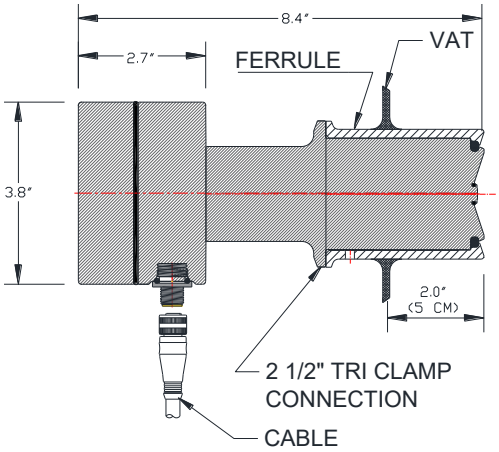
The FluorLite-MC Sensor

FluorLite-MC™ Technical Specifications

❖ Standard Compliance	NEMA 4X (watertight, corrosion resistant), 3A Sanitary Standard 46-04, CE
❖ Product Contact O-Rings	Viton
❖ Sensor housing and ferrule	316 SS
❖ Window	Sapphire and Grade 2 Titanium
❖ Output Signals	Two 4-20 mA signals
❖ Input Signal	One 24V digital signal
❖ Cable	M12 5 pole
❖ Operating Temperature Limits	Head, 60 °C; Probe, 90 °C
❖ Connections	2.5” Tri-Clamp to proprietary port
❖ Power Supply	+24 VDC, 100 mA max., grounded common.
❖ Serial Number	Etched onto SS (S/N plus mfg. date year-month-day)



The FluorLite-MC sensor response is shown



FluorLite-MC Sensor

The measured infrared light backscatter signal (Red) and measured fluorescent signal (Blue) are shown with the time-parameters TimeR2 and TimeF2 identified. The time parameters characterize the coagulation and are used to predict the cutting time.

The infrared signal yields a time-parameter, TimeR2, of 18.3 minutes. The fluorescent signal yields a time-parameter, TimeF2, of 24.3 minutes. These time parameters are used with a cutting time prediction equation to predict cutting time.

The cutting time prediction equation along with the Enzyme Assistant software work together to control the coagulation to the setpoints for **desired cutting time** and **desired gel firmness**.

Contact Reflectronics for a more information on this novel technology.

reflectronics.com/products