AMETEK | **mocon**

FEATURES & BENEFITS

IN-LINE INSTALLATION:
Real time data is sent to the factory PLC approximately every 30 seconds for automatic and continuous formula adjustments. In-line sampling saves time and eliminates waste with accuracy equivalent to laboratory methods. In-line installation ensures product quality, consistency and traceability, reduces product giveaway and out of spec product and eliminates guesswork and the need for post batch standardization.

MULTIPLE CONSTITUENT ANALYSIS:
High quality in-line NIR spectrometers and built in software simultaneously analyze protein, solids, fat and moisture for a variety of dairy applications. Off-line sampling delays and waste are eliminated and another level of quality assurance and safety for dairy plants helps to ensure compliance with food safety standards.

STAINLESS STEEL FLOW CELL & ENCLOSURE:
Engineered for the harsh conditions of any production environment and to require minimal annual maintenance. Based on over 30 years of experience in designing process systems, our products withstand moisture, vibration and temperature extremes. 3A flow cells are fully CIPable and the air conditioned, waterproof, shock mounted, hygienic stainless steel enclosure meets NEMA 4X standards.

COMPATIBLE WITH ANY SYSTEM:
Designed by process experts, ProSpect's analyzers work with your existing PLC/Control platform and seamlessly integrate within any existing process system. Engineered to have a compact footprint and installation flexibility, the analyzer can be situated to fit your space and production requirements.

The ProSpect TD-30 in-line transmission NIR analyzer for liquids and slurries delivers accurate predictions of protein, moisture, fat, solids and other organic constituent concentrations in real time. The data is communicated to the factory PLC to facilitate automated formula adjustments for optimized process control. ProSpect's unique double analyzer stainless steel enclosure houses two spectrometer assemblies that are capable of analyzing and controlling two process applications simultaneously. Two stainless steel flow cells containing the fiber optic probes are installed the production lines and fiber optic cables connect to the stainless steel enclosure.

APPLICATIONS

The versatility and efficiency of NIR spectroscopy makes it particularly effective for the in-line analysis of a wide variety of dairy applications including butter, cheese, cheese milk standardization, fluid milk, yogurt, mozzarella cheese, WPI, WPC, and MPC.

NIR SPECTROSCOPY

ProSpect's analyzers use near infared (NIR) spectrometers to measure light energy as it is transmitted through and reflected by the product constituents flowing through a process system while it is being produced.

Dual optical probes are placed within the constituent flow to analyze the representative sample in real time.

Multiple constituents and their concentrations are automatically and continuously compared

SPECIFICATIONS

SPECTROMETERS
Two high resolution transmission diode array near infared (NIR) spectrometers

FIBER OPTIC CABLES
Starting at 5M (16.4 feet) and available in longer lengths

FLOW CELLS
Fully CIPable 2", 3", 4", 6", 8" and 10" diameter flow cell assemblies include clamp fittings and meet all 3A sanitary requirements

MECHANICAL
Free standing design
Size (footprint) 26" deep x 39" wide x 77" height (66 cm d x 100 cm w x 196 cm h)
Weight 475 lbs (215 kg)

ENCLOSURE RATING
Meets NEMA 4X standards
IP 66
Internal insulation
Air conditioner – 4X
Keyboard and computer – NEMA 4X
RoHS – all units are compliant

DATA OUTPUT
10/100 Ethernet through internal isolating switch/hub

ENCLOSURE TEMPERATURE
Ambient operating:
Minimum 65 degrees F (18 C)
Maximum 95 degrees F (35 C)
High ambient temperature option available to 115 degrees F (46 C)

POWER SUPPLY
To spectrometer 115 VAC 60 Hz, FLA 7.5 amps
High ambient option 115 VAC 60 Hz, nominal FLA 12.5 amps
Optional to spectrometer 220 VAC 50 Hz, FLA 5.0 amps
Optional high ambient 220 VAC 50 Hz, FLA 7.0 amps
Note: Spectrometer is located on a vibration isolated floating subpanel. The power supply should be a separate 15 or 20 amp circuit.

AUTOMATION SOFTWARE
Built in for communication with factory control computer systems and can be matched to application.

OPERATING SYSTEM
Industrial grade computer operates on Windows 7

CALIBRATIONS

In order for NIR spectroscopy to be used to analyze constituent concentrations, the instrument must first be calibrated (evaluated and adjusted for precision and accuracy) using a set of samples of known composition. ProSpect's analyzers are pre-loaded with these starter calibrations. Established calibrations for ash, casein, fat, lactose, moisture, protein, salt, total solids (TS) and butter solids-non fat (SnF) are available. Using GRAMS chemometrics software, the calibration is quickly localized for the specific process system and product.