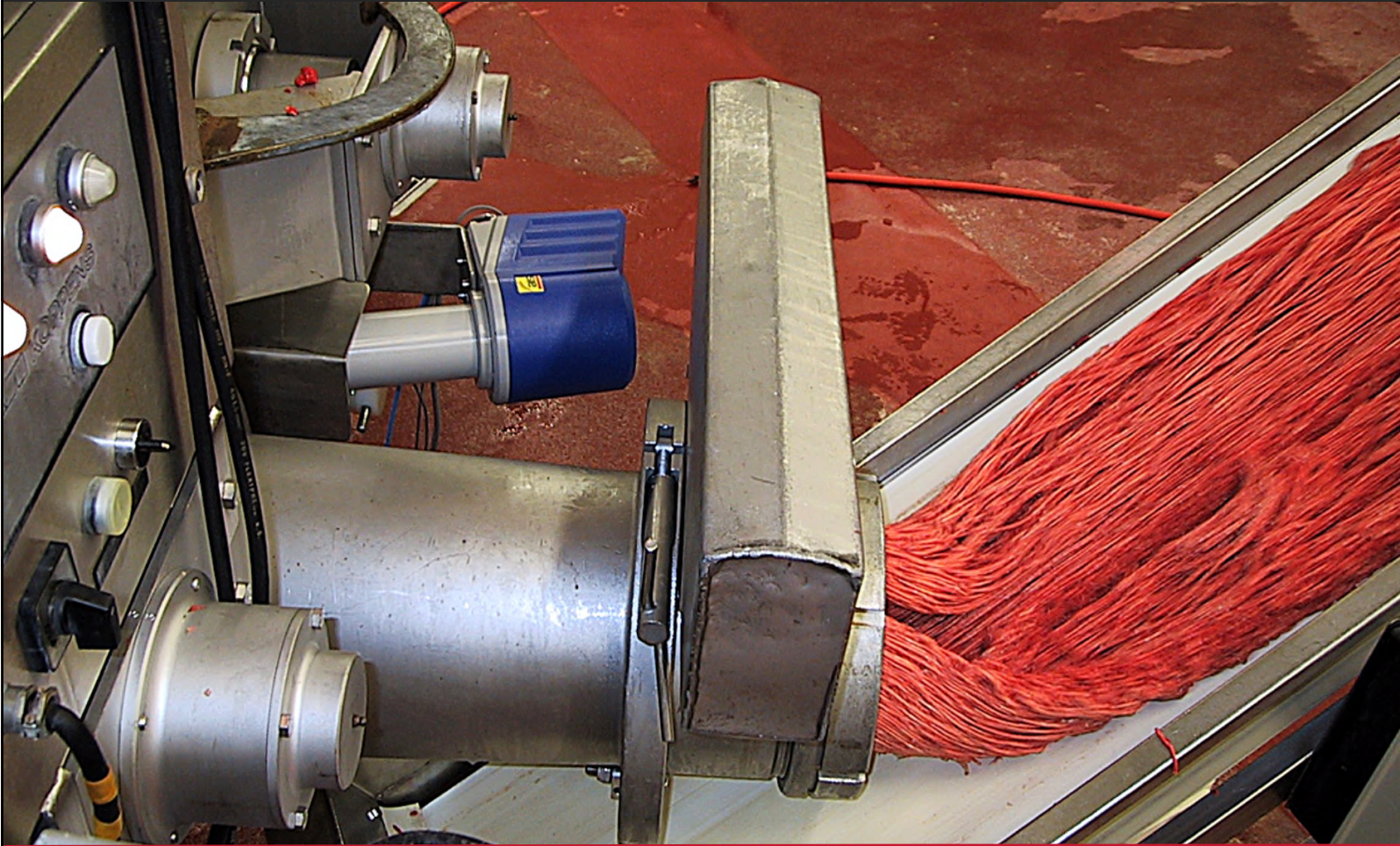


GROUND MEAT PROCESSING

NIR ON-LINE FAT ANALYZER



FEATURES

The IRPC Analyzer uses the near infrared principle to control the fat content on-line. The analyzer is a compact system, which provides the end-user with ease of operation (sixty-four calibration curves can be loaded into the sensor). Up to six filters are used, which allows for accurate measurement. The analyzer is not influenced or affected by particle size, color or thickness variations of the meat. The IRPC can measure on conveyors, grinders, blenders and pipes. The NIR Analyzer can be connected either to a digital display or to a computer depending on the application. The standard software allows the operator to calibrate and to control the quality of the measurement, and also access the internal parameters of the sensor. The calibration curve can easily be built at the customer's site, or set before the on-line installation (laboratory value comparison).

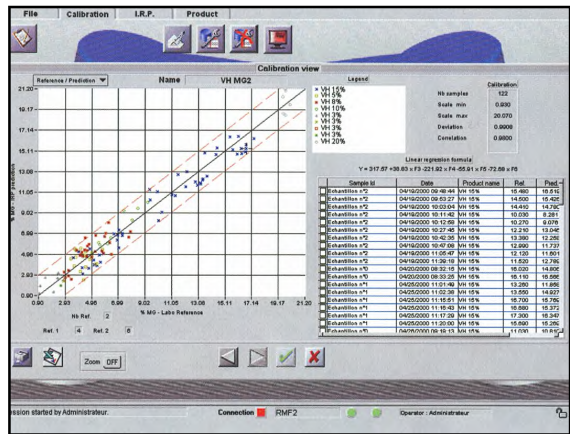
OPERATING PRINCIPLE

The principle behind the operation of the IRPC is that the materials have one or more absorption bands in the field of the Near Infrared (NIR - from 1000 to 2500 nm). The IRPC is equipped with interferential filters, which select specific wavelengths based on the application. There is a continuous source irradiating the sample, where part of the beam is retro-diffused by the product. The intensity of the received signal is a function of the specific component in the sample. The values of each filter are then treated



and fit to an internal calibration curve, which allows for direct output of the component of the product.

The source for the IRPC is a halogen lamp, which emits light in a concentrated parallel beam and is then chopped by an IR filter holder wheel. This process ensures a measurement every 33.3 ms. The measuring spot is 43 mm in diameter, and the Pbs sensor is cooled and stabilized. A reference plate can then be installed for easy control of the IRPC.



IRPC Sensor Technical Data

MEASURING RANGE	POWER SUPPLY	CALIBRATION/SETTING	HOUSING
MAX. 0 - 95%	24 VAC (OPTIONAL 110 VAC) OR 24 VDC	AUTOMATIC CALIBRATION BY COMPUTER COMMUNICATION	IP65
ACCURACY/REPRODUCIBILITY	POWER CONSUMPTION	MEASURING SYSTEM	WEIGHT
± 0.8%	MAX. 45 VA	REFLECTION WITH 3 OR 6 FILTERS	6.5 KG
RESPONSE TIME	ANALOG OUTPUT	RESOLUTION	DISPLAY UNIT
100 MS	2 X 4 - 20 mA (500 OHM MAX.)	0.01%	OPTIONAL
SAMPLING	COMMUNICATION OUTPUT	MEASURING DISTANCE/SPOT	MOUNTING
AUTOMATIC DATA ACQUISITION STARTS/STOPS BY KEY OR DIGITAL INPUT	RS232/RS485 WITH BRIDGE	300 MM (200 - 400 MM) COMPENSATED DISTANCE RANGE (DIAMETER SPOT 50 MM)	50 X 50 (4 X M6)
OPERATING TEMPERATURE	INPUT FOR COMPENSATION	COOLING	DIGITAL INPUT
MAX. 45°C (100°C WITH COOLING)	4-20 mA	AIR OR WATER COOLING AVAILABLE	FOR HOLD MEASUREMENT

IRPC Software

MEASUREMENT SETTING	SETTING OF THE SENSOR OVER SERIAL INTERFACE	CALIBRATION	DISPLAY
<ul style="list-style-type: none"> ONE OR TWO COMPONENTS MOISTURE: % FAT CONTENT: % PC SOFTWARE: MAX. 32 DETECTORS 	<ul style="list-style-type: none"> RS232 OR RS485 COMMON SETTING: IRPC PRODUCT SELECTION MEASURING RANGE SETTING: ANALOG OUTPUT CALIBRATION CURVES 	<ul style="list-style-type: none"> UPLOAD OF SAMPLE DATA SAMPLING SELECTION CALIBRATION COEFFICIENTS CALIBRATION CURVE 	<ul style="list-style-type: none"> CALIBRATION CURVE SAMPLE VALUES PARAMETER SETTINGS % H₂O % FAT

ADVANTAGES

- Measurements on-line will closely compare to the reference lab, which eliminates downtime for lab samples and analysis (no human handling and no pulling of samples for the laboratory).
- No moving parts that require replacement or cleaning. Nothing protrudes into the process stream or creates drift due to coating.
- The NIR analyzer allows for the measurement of in-process products. If mistakes are being made in production, the NIR analyzer can help to rapidly identify out of specification material as it is produced.
- The NIR analyzer provides results in seconds and allows for adjustment of the process immediately. This ability helps to eliminate re-work or scrap product.
- The NIR analyzer can also help to spot trends before the product goes out of specification.
- Simple FAT measurement (frozen and thawed ground meat).

Toll Free: 1-866-455-2921
Website: www.procontechologies.com

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