



InfraLabTM

MEAT ANALYZER

- At-Line
- Quality Assurance
- Laboratory
- Quality Control

The Measure of QualityTM

Measurements in Meat Processing

NDC & the Meat Processing Industry

NDC Infrared Engineering has over 40 years of experience in the design and manufacture of process instrumentation developed specifically to meet the exacting requirements of the foods industry.

Our Applications Engineering team has in-depth knowledge of the physical and chemical attributes of food products, the measurement and control requirements in the process, and the many analytical methods used in quality assurance systems.

The InfraLab e-Series Meat Analyzer has been developed and designed specifically to replace laboratory methods in meat processing. Requiring no special skills in routine use, it enables production operators to analyze samples rapidly to ensure that the content of the key meat constituents - fat, moisture and protein - meet specified values. InfraLab can also be used to measure collagen content.

Performance, convenience, ease-of-use, and a global support infrastructure, make InfraLab the analyzer of choice for meat processors worldwide.

For more information about NDC, visit www.ndcinfrared.com.

Achieving Right-First-Time Production through Reliable Fat, Protein and Moisture Measurement...

Assuring and Controlling Quality

During the Further Processing of meat products, there is a need to monitor and control the Fat and also the Protein and Moisture content to ensure consistent quality and to meet product specifications. This applies in particular to the manufacture of burger patties, supermarket ground meat portions and bulk sausage production.

In most facilities, a Primary Reference Method is selected by the QC Laboratory to be the ultimate measurement for each constituent. Such methods include:

- Karl Fischer Titration (Moisture)
- Gravimetric Oven (Moisture)
- Soxhlet (Free Fat)
- Werner Schmidt (Total Fat)
- Weibull Stoldt (Total Fat)
- Kjeldahl (Protein)
- Hydroxyproline (Collagen)

However, the QC Lab Methods cannot deliver the volume or speed of results to enable the production manager to improve process performance, or allow batch release.

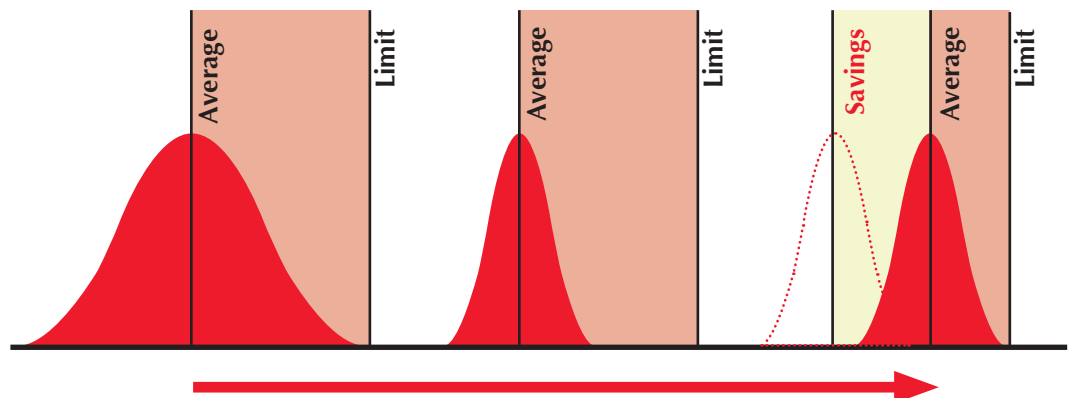
The InfraLab Meat Benchtop Analyzer

Calibrated to your Laboratory Reference Methods, the InfraLab Meat Analyzer provides frequent, rapid analysis of either just fat or up to four key constituents.

Easy-to-use and robust enough for the meat processing environment, it provides routine non-skilled access to these complex analyses, on samples collected from the process using appropriate sampling protocols.

InfraLab's on-board memory can hold up to 10,000 sample files which can be downloaded via its USB port. Its flexible Ethernet Connectivity enables communication with Management Information Systems, LIMS networks or a PC. In short, InfraLab displays, transmits or stores vital quality data at point of need.

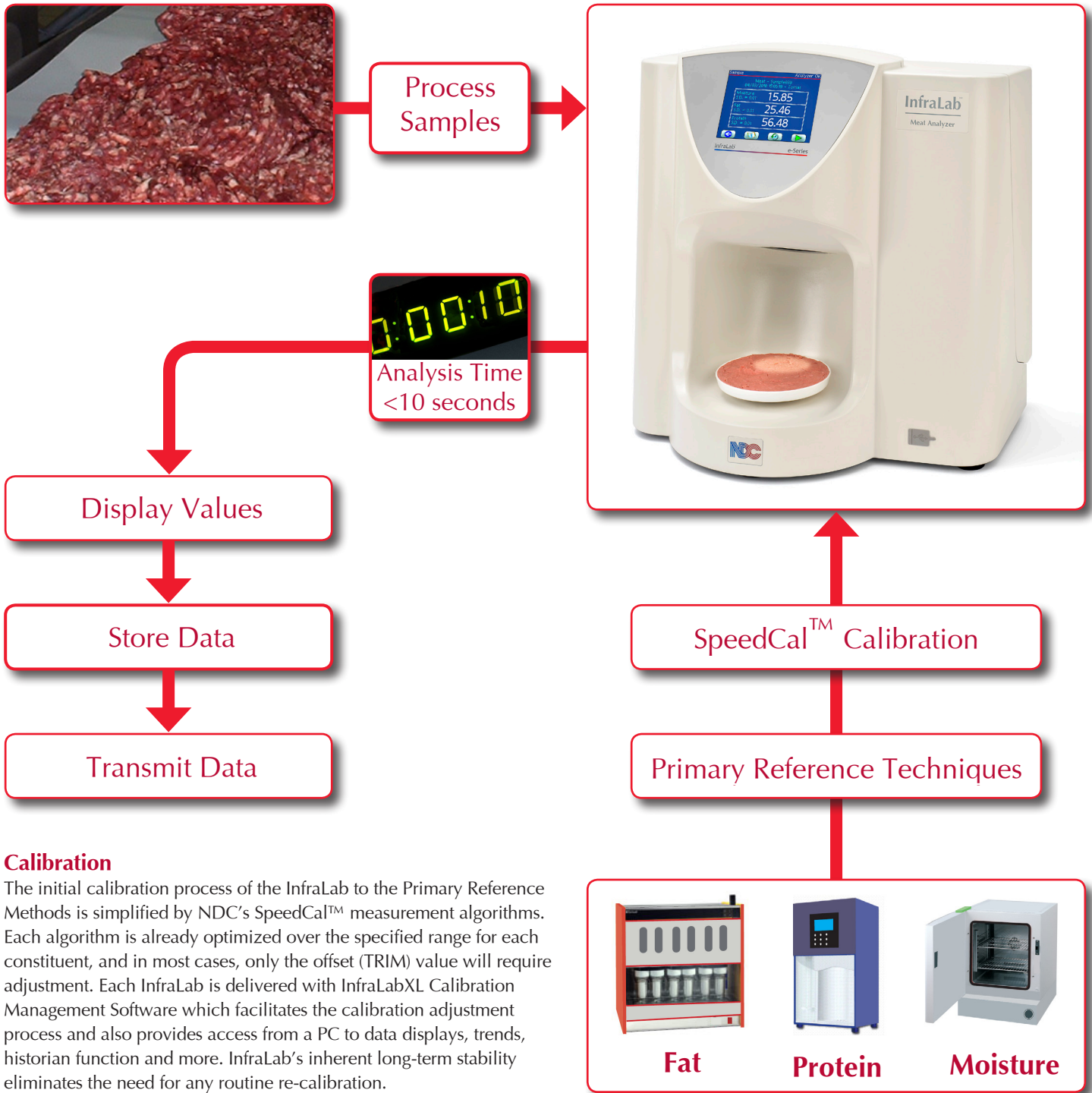
Thanks to the valuable process insight gained through enhanced testing with the InfraLab, process managers can reduce batch variation, reduce lean giveaway, and control the process average closer to specification.



Achieving Consistent Product Quality...

InfraLab - the At-Line Replacement for Lab Methods

Replacing Chemical Determination Methods in a Fast, Accurate, Robust and Easy-to-Use Benchtop Format, designed for use in the Production Area...



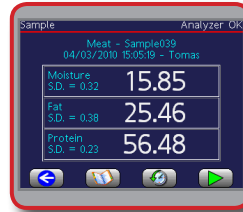
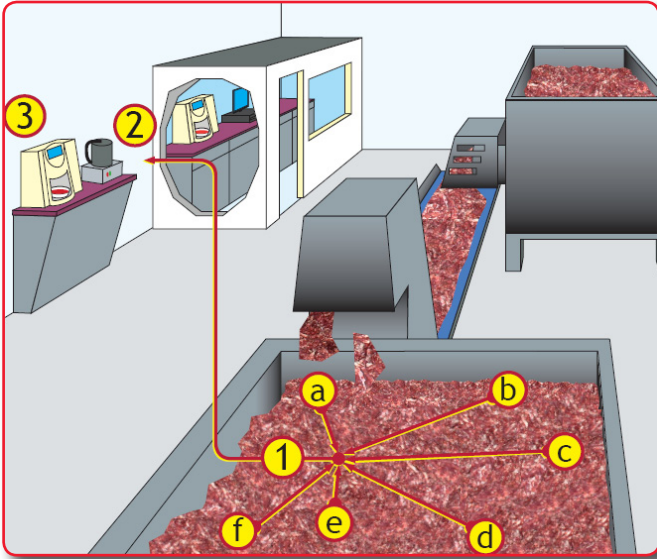
Calibration

The initial calibration process of the InfraLab to the Primary Reference Methods is simplified by NDC's SpeedCal™ measurement algorithms. Each algorithm is already optimized over the specified range for each constituent, and in most cases, only the offset (TRIM) value will require adjustment. Each InfraLab is delivered with InfraLabXL Calibration Management Software which facilitates the calibration adjustment process and also provides access from a PC to data displays, trends, historian function and more. InfraLab's inherent long-term stability eliminates the need for any routine re-calibration.

through Improved Process Visibility...

Fast, Accurate, Easy-to-Use

InfraLab is fully featured and can be used as a standalone device, linked to a PC or networked to management systems...



Display (3 component)



USB Data Port



Bar Code Reader (option)



Sample Bowl (rotating)

Routine Use of the InfraLab

- operator collects grabs from batch
- homogenizes them in a Robot-Coupe™
- takes one grab from sample
- logs on to InfraLab
- selects product name
- presents sample
- in less than 10 seconds, data is presented on screen and stored in the memory or transmitted via Ethernet

Communications and Networking

Though fully functional as a standalone device, InfraLab is Ethernet enabled, making integration into factory and LIMS networks straightforward. InfraLabXL software allows communication with a single or multiple InfraLab analyzers on the same network from a single PC.

Ethernet



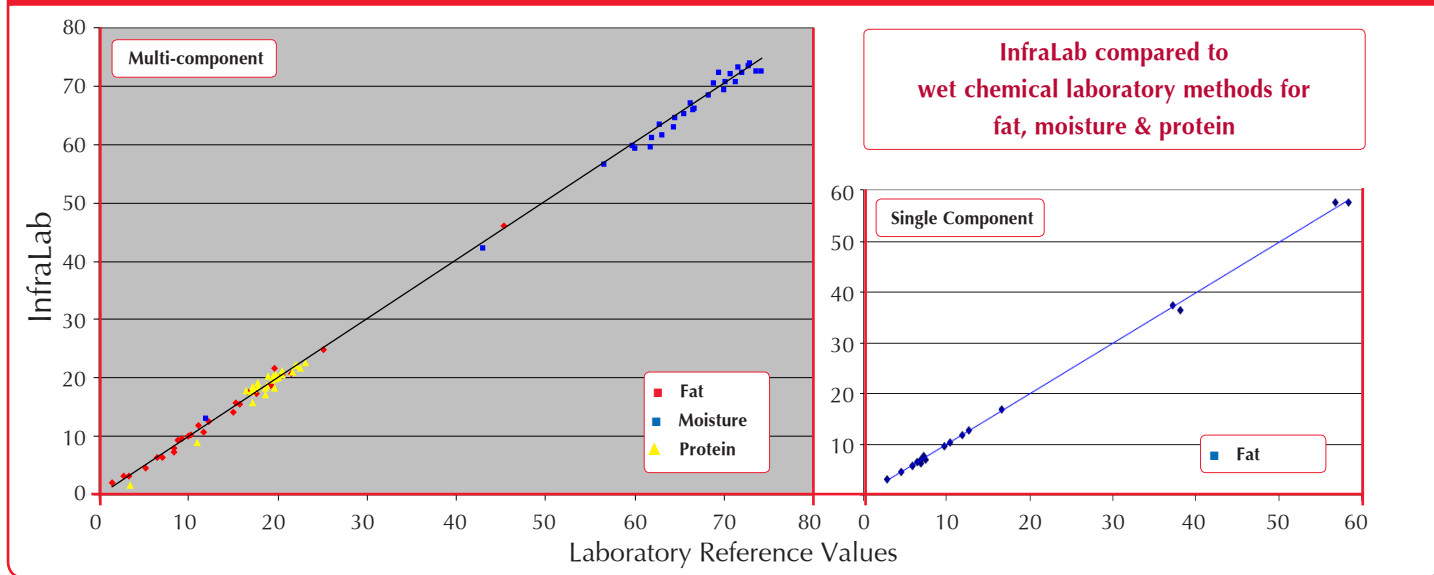
InfraLab Meat Analyzer Key Features:

- Single (Fat) or multi-component (Fat, Protein, Moisture & Collagen) analysis with a measurement time of less than 10 seconds
- Easy-to-Use Quarter VGA color touchscreen with multilingual interface
- Ergonomic hygienic design
- User security protocol with pass code protection with configurable permission levels for up to 200 users
- USB ports for data download to memory stick and barcode reader and printer connection
- Automatic window contamination monitor
- Internal (automatic) and external (manual) Reference Standards
- Internal memory capacity for up to 200 product definitions and 10,000 sample files
- History audit log (time & date) of calibration records and Reference Standard Values
- InfraLabXL PC Software for data management and enhanced functionality
- Ethernet networking for PC connectivity & LIMS capability
- Rugged, unbreakable sample bowl

Application Specifications

Optimized measurement algorithms ensure linearity and repeatability right across the range for each component...

INFRALAB PERFORMANCE:



Measurement Ranges and Accuracy

Achievable accuracy is dependent on the product being measured, the Primary Reference Method and the range of measurement, but indicative accuracy values (S.E.E. - Standard Error of Estimate), when InfraLab is compared to the primary method, are:

| | Range | S.E.E. |
|-------------|-----------|-------------|
| ■ Fat: | 2 to 60% | 0.6% |
| ■ Protein: | 9 to 23% | 0.8% |
| ■ Moisture: | 30 to 75% | 1.0% |
| ■ Collagen: | 1 to 8% | Consult NDC |

Stability

The InfraLab is designed for ultimate long-term stability. Users can test and prove the stability themselves using the external Reference Standard. However, the InfraLab automatically monitors and manages its opto-electronic stability, ensuring its measurement capability in the process environment and remaining completely uninfluenced by product and ambient changes in the process area such as temperature, relative humidity and factory lighting.

External Reference Standard

| APPLICATION AREAS: | | | |
|--------------------|---|---|---|
| MEAT TYPE | F | P | M |
| Beef | ■ | ■ | ■ |
| Pork | ■ | ■ | ■ |
| Lamb | ■ | ■ | ■ |
| Poultry | ■ | ■ | ■ |

Key: **F** = Fat, **P** = Protein, **M** = Moisture

For further application details, please refer to the relevant Application Notes or consult our Applications Technical Support Group



Maintenance

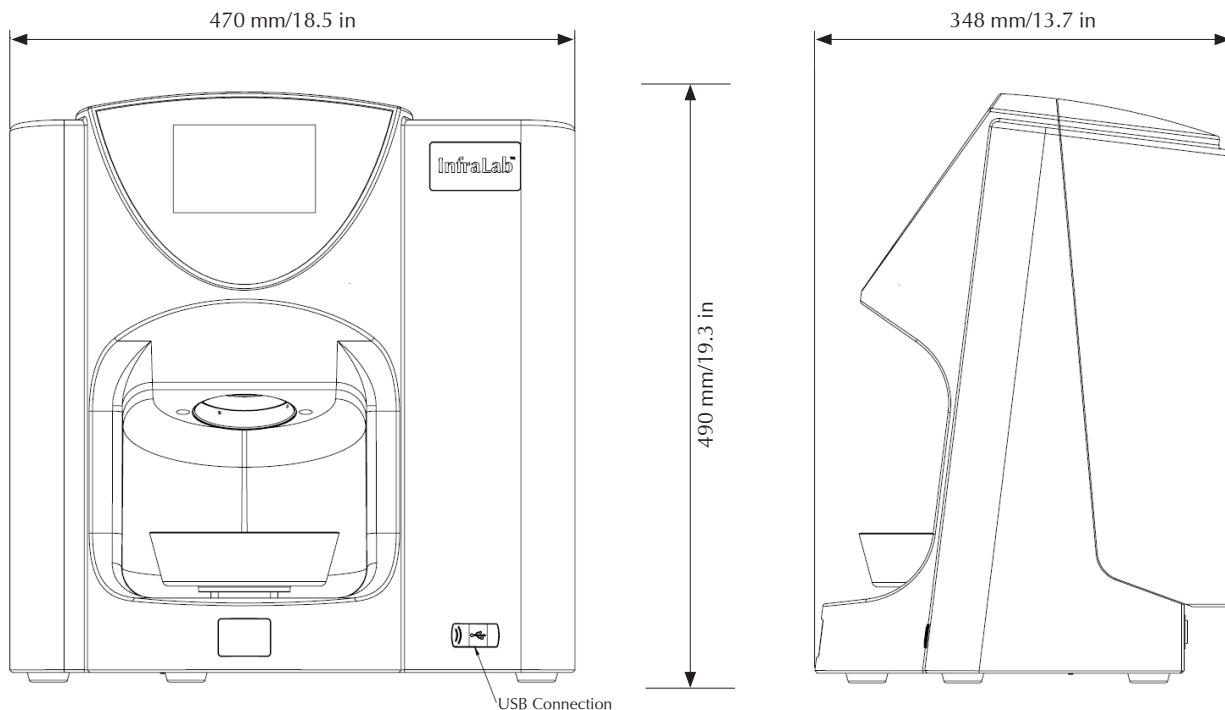
Other than simple cleaning, the InfraLab requires no routine maintenance, nor does it require any routine re-calibration.

The Measure of Quality™

Technical Specifications

Dimensions:

Weight: 12kg/26.5lbs



Technical Specifications:

Measurements

Single Component: Fat only. Multi-component: Fat, Protein, Moisture & Collagen

Sampling Period and Measurement Speed

Sampling Period: User-configurable, typically 5 - 10 seconds

Measurement Speed: 133Hz equivalent to one complete measurement, single or multi-component, every 7.5 milliseconds during the sampling period

Sample Preparation

Samples must be homogenized in a Robot-Coupe™ or similar prior to measurement. See separate application notes and guidelines for detail

Sample Size

145 mm/5.7 in diameter bowl, with a depth of 13 mm/0.5 in

Sample Presentation

Homogenized samples are simply pressed into the bowl, while ensuring that the whole of the bottom of the sample bowl is completely covered by product

Storage, Safety, Environmental and Electrical

Power Supply: 80-265VAC, 50/60Hz

Power Consumption: 50 Watts

Pollution Degree: Degree 1

Ambient Temperature Range: Storage -20 to +70°C, Operation 0 to 50°C

Humidity: 80% max. (non-condensing) over full operating temperature range

Connectors:

2 x USB, one front (for memory stick) , one rear (for barcode reader)

1 x Ethernet Port

1 x IEC Mains Socket

Sealing

The InfraLab Housing is constructed from tough Polyurethane and sealed to IP65 [NEMA 4 Equivalent] (excluding rear connector panel)

NDC is represented in over 60 countries worldwide

a **spectris** company



Reg. No Q06197
ISO9001:2008

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