



# InfraLab Meat Analyzer



At-Line NIR  
Meat Process  
Measurements

- ▶ Fat
- ▶ Moisture
- ▶ Protein
- ▶ Collagen

- ▶ Achieve Consistent Quality
- ▶ Optimize Batch Fat Values
- ▶ Reduce Lean Giveaway
- ▶ Replace Laboratory Testing
- ▶ Ensure Supply Chain Satisfaction

# NDC and the Meat Further Processing Industry

## Achieving right-first-time production through reliable fat, protein and moisture measurements...

**NDC Infrared Engineering** has over 40 years' experience in the design, development 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, protein or collagen - meet specified values.

As part of its extensive development program, InfraLab has been independently tested in world-class laboratories to prove the veracity of results against accredited methods.

Performance, convenience, ease of use, and NDC's global customer support infrastructure, make InfraLab the analyzer of choice for meat processors worldwide.

For more information, visit :

[www.ndc.com/meat](http://www.ndc.com/meat)

### 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:

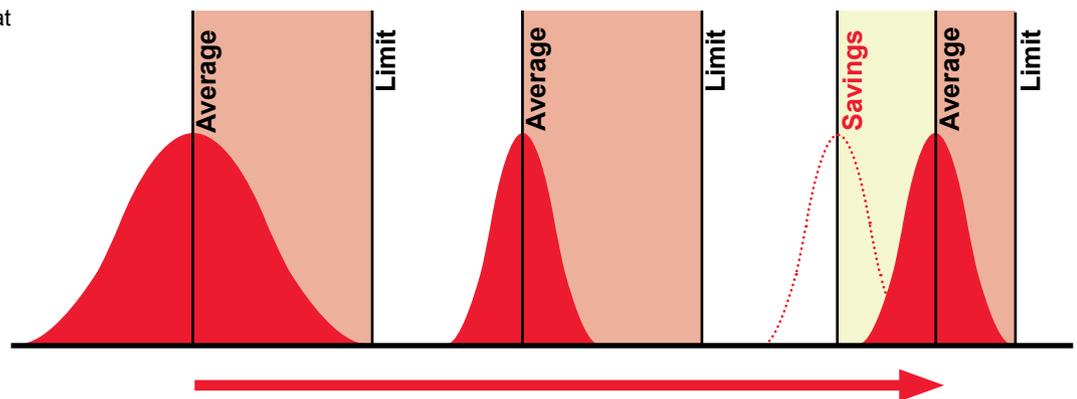
- ▶ **Soxhlet (Crude Fat)**
- ▶ **Werner Schmidt (Total Fat)**
- ▶ **Weibull Stoldt (Total Fat)**
- ▶ **Karl Fischer Titration (Moisture)**
- ▶ **Gravimetric Oven (Moisture)**
- ▶ **Kjeldahl (Protein)**
- ▶ **Hydroxyproline (Collagen)**

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.

**Calibrated to your Laboratory 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.

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.

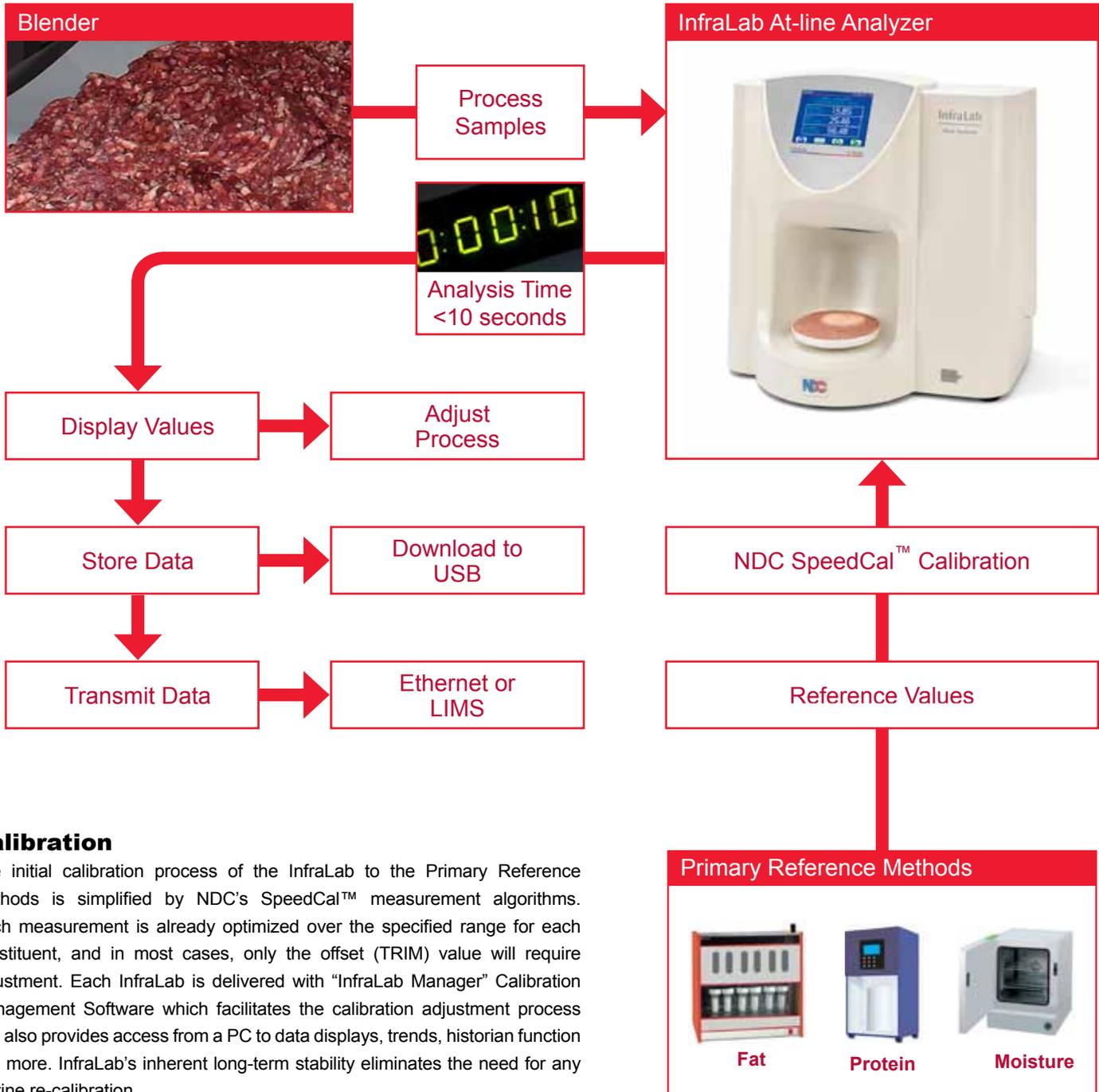


## Achieving Consistent Product Quality...

# InfraLab: the at-line replacement for lab methods

**Saving time and testing costs**

InfraLab delivers reliable results, fast...



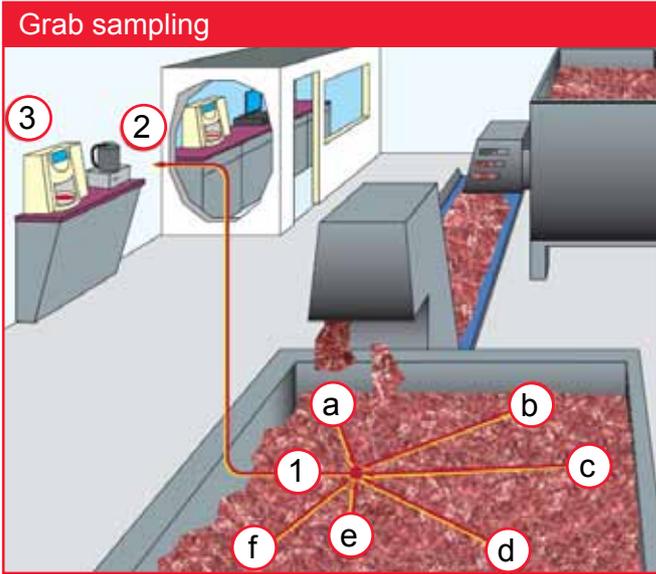
## Calibration

The initial calibration process of the InfraLab to the Primary Reference Methods is simplified by NDC's SpeedCal™ measurement algorithms. Each measurement 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 "InfraLab Manager" 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...

# Robust, accurate, easy-to-use

**InfraLab can be used as a standalone device,**  
linked to a PC or networked to management systems....



## Routine Use of the InfraLab:

- ▶ operator collects multiple grabs from batch (1)
- ▶ homogenizes them together in a Robot-Coupe™ (2)
- ▶ takes one grab from sample (3)
- ▶ 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



Display



USB Data Port



Bar Code Reader (option)



Reference Standard

## InfraLab Meat Analyzer Key Features:

- ▶ Measurement time of less than 10 seconds
- ▶ Easy-to-use quarter VGA color touchscreen with multilingual interface
- ▶ Ergonomic hygienic design
- ▶ User 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 integral 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
- ▶ "InfraLab Manager" PC Software for data management and enhanced functionality
- ▶ Rugged, unbreakable sample bowl

## Ethernet



## Communications and Networking:

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

# Applications Overview

**Optimized measurement algorithms** insure linearity and accuracy across the measurement range...

Measurements				
Product	Fat	Protein	Moisture	Collagen
Beef	■	■	■	■
Pork	■	■	■	■
Poultry	■	■	■	■
Lamb	■	■	■	■
For other applications, please consult our Applications Technical Support Group				

## InfraLab Technical Specifications:

### Weight and Dimensions

Weight: 12 kg (26.5 lbs)  
 Size: 490 mm (19.3 in) high x 470 mm (18.5 in) wide x 348 mm (13.7 in) deep

### Measurements

Single Component: Fat only  
 Multi-component: Fat, Protein & Moisture (Collagen optional)

### Sampling Period and Measurement Speed

Sampling Period: User-configurable, typically 10 seconds  
 Measurement Speed: 133 Hz equivalent to one complete measurement every 7.5 milliseconds

### Sample Preparation

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

### 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 insuring 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)

### Maintenance

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

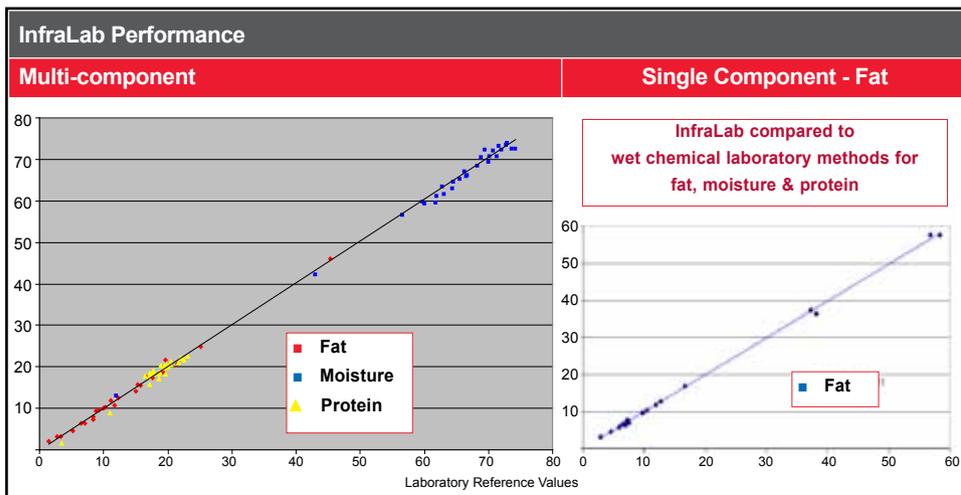
For applications in other foods industries, visit [www.ndc.com/food](http://www.ndc.com/food).

## Measurement Performance:

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:

Component	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

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, insuring 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.



[www.ndc.com/meat](http://www.ndc.com/meat)



# Company overview

## Combining industry-best performance and reliability with a global support structure

NDC, headquartered in Irwindale, California, USA, develops and manufactures measurement and control systems for a wide range of industrial applications, supporting its global customer base through its three centers of excellence:

- ▶ USA (for measurement and control systems for the web industries)
- ▶ UK (for infrared gauging and applications development)
- ▶ Belgium (for metal industry gauging systems)

There are also direct sales and customer support operations in China, Japan, Germany, France, Italy, Singapore and India, and distribution in over 60 countries.

The company's global client base features some of the world's most successful manufacturers, who rely on NDC to ensure that their product quality and performance meet the stringent standards demanded by their customers.

### NDC has two key product groups:

**NDC Systems:** for the converting, extrusion, calendering, metals and nonwovens industries, delivering real-time measurement and control of key product parameters such as product thickness, coating thickness, basis weight, width, flatness and edge shape.

**NDC Sensors:** on-line gauges and at-line analyzers for the measurement of moisture and other key product constituents in the food, chemical, pharmaceutical, mineral, bulk materials and tobacco industries.

NDC is part of Spectris plc, the leading supplier of productivity-enhancing instrumentation and controls.



NDC is represented in over 60 countries worldwide. ISO9001:2008 [www.ndc.com](http://www.ndc.com)

a **spectris** company

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Document Number: PB-01-14346-01 2013-04 InfraLab Meat Applications Brochure - English  
Date of Issue: April 2013  
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