



BUCHI NIR Applications Meat & Seafood

You need fast and reliable information about your samples in order to make far-reaching decisions. We support you in overcoming your daily challenges, from incoming goods inspection to finished product release, with more than 15 years experience supplying laboratory and at-line NIR analytical solutions for the meat and seafood industry.





NIR Pre-calibrated applications Meat & seafood industry

Your most important benefits

Time savings

- Shorter time to routine use. Measure parameters such as moisture, macronutrients, salt and much more from day one
- Measure all parameters simultaneously
- Control the value chain at each critical point, from incoming goods to finished product release

Reliability

- Deliver the same accuracy in production as in the laboratory
- Get accurate results from a robust spectral database spanning geographical and seasonal variations

Precision and accuracy

- Our NIR technology provides unparalleled measurement reproducibility and spectrometer performance
- Intimate knowledge and experience with reference methods like Kjeldahl, Dumas and Extraction have been implemented into the applications development

Your «NIRSolutions Laboratory»



Based on our NIRFlex® N-500 Spectrometer

- Flexible, with various measurement cells and add-ons to accommodate any sample matrix

Your «NIRSolutions At-line»



Based on our NIRMasteR™ Spectrometer

- Hygienic, representative sampling
- Practical, ingress-protected design
- Simple operator interface

„FT-NIR technology is a rapid method for accurate simultaneous analysis of several parameters in sausage.“

Laboratory Department, CPF Food Products Co., Ltd.



Raw meat

Pre calibrated application	Animal meat N555-501	Fish meat**
Moisture [%]	12.5 – 80.0*	44.8 – 86.9
Protein [%]	3.9 – 26.3*	10.2 – 27.6
Fat [%]	0.4 – 83.2*	0.1 – 30.6
Ash [%]	0.6 – 4.6**	0.4 – 7.1
CTP (Connective Tissue Protein) [%]	0.2 – 18.1*	
Total fatty acids [%]		2.8 – 23.8
Total volatile base nitrogen [mg/100 g]		13.2 – 41.7
Sample compatibility	Beef, pork, chicken, turkey, wild animals	Sea bream, sea bass, common dolphin, sardine, anchovy, tuna, sargo



Meat & seafood products

Pre calibrated application	Sausage N555-502	Ready-meals**
Moisture [%]	11.4 – 84.1*	29.3 – 89.4
Protein [%]	3.7 – 46.9*	2.1 – 24.6
Fat [%]	0.1 – 74.1*	0.3 – 29.1
Salt [%]	0.1 – 7.7*	0.3 – 3.1
Ash [%]	0.6 – 10.2*	0.5 – 4.2
CTP (Connective Tissue Protein) [%]	0.1– 16.8*	
BEFFE (= Protein – CTP) [%]	2.6 – 35.1**	
Non-protein nitrogen [%]	1.0 – 4.7**	
Saturated fatty acids [%]	0.40– 16.30**	
Monounsaturated fatty acids [%]	0.20 – 19.20**	
Polyunsaturated fatty acids [%]	0.02 – 5.40**	
Carbohydrates [%]	0.2 – 17.4**	
Aw (water activity)	0.83 – 0.96**	
Sample compatibility	Raw, dry, cooked, grilled, smoked, pre-boiled sausages, salami, sucuk	Lasagna, meat pie, meat & fish ready-noodles, frozen pizza

* BUCHI Pre-calibrations; **Applications in development

If not indicated otherwise, the pre-calibrations listed are compatible with both the NIRFlex® Solids and the NIRMasteR™ spectrometers and the samples are measured with a sample cup in diffuse reflectance mode.



Meat & seafood by-products and others

Product	Animal flour **	Fish meal N555-510	Pig adipose tissue**
Moisture [%]	2.4 – 9.2	1.7 – 16.2*	
Protein [%]	35.3 – 88.4	6.5 – 70.4*	
Fat [%]	6.6 – 22.7	0.2 – 17.2*	
Fiber [%]		0.4 – 32.3**	
Ash [%]	10.7 – 54.1	0.9 – 36.7**	
Iodine value			53.8 – 78.2
Saturated fatty acids [%]			34.7 – 45.4
Monounsaturated fatty acids [%]			41.3 – 53.2
Polyunsaturated fatty acids [%]			8.0 – 22.3
Sample compatibility	Meat & bone meal, blood & plasma, feather meal, poultry by-products, bone meal, crab, shrimp, fish	Tuna, salmon, herring, sea bass	

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For more information please contact your local BUCHI representative.

www.buchi.com/worldwide



**NIRFlex®
N-500**
Versatile laboratory
FT-NIR spectrometer



**NIRMaste™
IP54**
FT-NIR spectroscopy
with ingress protection



**NIRMaste™
Pro IP65**
FT-NIR spectroscopy
with maximum
protection



**LIMS Software
Interface**
Automated result data
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