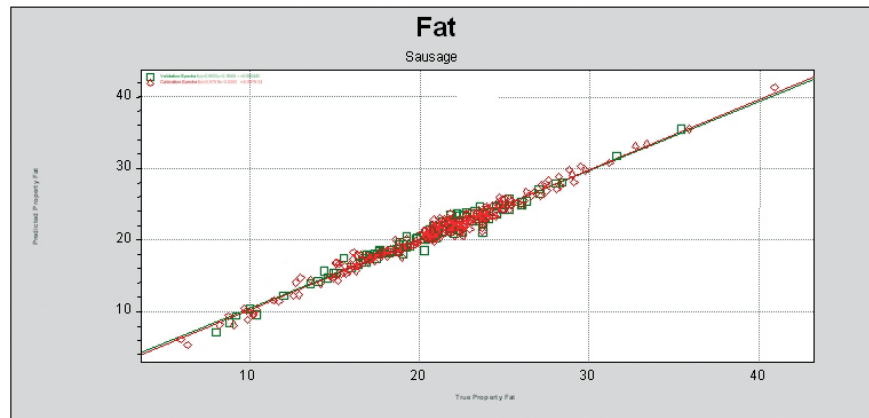


# NIRFlex N-500 Pre-calibrated applications

Calibration is a question of experience. The Büchi pre-calibrated applications relieve you completely from that task. On the other hand you are not limited. The major Büchi advantage: you can use our pre-calibrations or you can calculate your own with NIRCal.



## Example of a typical Büchi pre-calibration for Food&Feed products



Sample matrix	Property	Cal.range [%]	SEP	No.of samples
Sausage	Fat	6.0 - 40.9	0.75	720
	Protein	9.5 - 26.7	0.47	830
	Moisture	34.5 - 74.9	0.71	800
	NaCl	1.4 - 6.0	0.12	620

### NIR Calibration

At Büchi, our database consists of thousands of samples covering the widest possible range of materials with seasonal and geographical variation.

### Reference methods

All the reference chemistry is performed with official methods; e.g. heating oven for solids, Soxhlet for fat, Kjeldahl for Protein...

### Parameters

A «robust» calibration is guaranteed because samples from several customers and countries had been involved to develop the calibrations.

### Basis of calculation

The Büchi chemometric software NIRCal® is used for the development of the calibrations. NIRCal® is a proven and tested software tool with comprehensive calibration possibilities.

### Precise

The precision of a calibration is judged by the standard error of prediction (SEP) and the regression coefficient of the calibration fit. A regression coefficient close to 1 is optimal for the precise prediction of new samples.

### Flexible

The pre-calibrated applications for the NIRFlex N-500 are ready-to-use. They allow results to be generated from the very beginning. With the necessary experience in chemometrics, the user can expand the calibration to a different sample matrix – alone or with our support.

## Available pre-calibrated applications for Food & Feed products:



### Grain & Cereals & Flour

Sample matrix Property	Rice	Wheat Flour
Protein	5.0 - 9.4%	7.3 - 19.6%
Moisture	9.6 - 15.8%	9.2 - 15.0%
Fat	0.1 - 2.7%	
Ash		0.3 - 1.4 %
Partical Size		20 - 57 µm
Order Number	N555-519	N555-515

Additional applications and feasibility studies are available for the following product groups:

Ketchup, curd cheese, custard cream, liquid egg, powder soup, tapioca starch, barley, corn, wheat, hay.



### Sauces and Dressings

Sample matrix Property	Mayonnaise	Soy Sauce
Protein		0.1 - 13.0%
Moisture		5.5 - 82.7%
NaCl	0.8 - 2.1%	2.5 - 24.8%
pH	3.4 - 4.0	
AcOH	0.2 - 0.7%	
Order Number	N555-504	N555-512



### Feed & Feed Ingredients

Sample matrix Property	Feed	Fish Meal	Soy Bean	Soya Bean Meal
Fat	1.3 - 12.7%	5.2 - 12.8%	13.1 - 21.5%	0.7 - 2.2%
Protein	6.5 - 39.7%	30.0 - 71.9%	29.6 - 38.5%	33.0 - 51.3%
Moisture	5.2 - 14.4%	2.3 - 10.4%	5.7 - 12.7%	9.0 - 14.7%
Fiber	2-3 - 18.5%			26.0 - 8.1%
Ash	19.5 - 32.7%			5.4 - 9.6%
Phosphorus	0.16 - 1.0%			
Order Number	N555-503	N555-510	N555-513	N555-514



### Meat and Sausages

Sample matrix Property	Beef/Veal/Pork	Chicken	Turkey	Sausage
Fat	8.7 - 35.2%	1.3 - 30.5%	1.6 - 15.3%	6.0 - 40.9%
Protein	10.1 - 17.6%	14.0 - 4.2%	17.8 - 26.3%	9.5 - 26.7%
Moisture	51.0 - 79.0%	58.0 - 77.0%	67.0 - 75.0%	34.5 - 74.9%
Salt				1.4 - 6.0%
Order Number	N555-501	N555-517	N555-516	N555-502



### Dairy and related products

Sample matrix Property	Milk	Chocolate	Ice Cream	Hard Cheese	Processed Cheese	Yogurt
Fat	0.01 - 4.6%	25.6 - 43.6%	0.8 - 18.2%	14.7 - 35.9%		0.1 - 9.0%
Protein	1.1 - 5.0%		2.3 - 4.5%			
Saturated fatty acids	0.0 - 4.68%					
Unsaturated fatty acids	0.01 - 2.34%					
Moisture	84.5 - 92.2%		30.4 - 49.7%	26.4 - 49.3%	44.1 - 61%	
NaCl				0.5 - 2.6%	1.6 - 2.3%	
Fat in DM				27.2 - 55.8%	41.2 - 48.9%	
Moisture in fatless cheese				39.9 - 63.8%		
pH					5.6 - 6.0	
Order Number	N555-509	N555-518	N555-508	N555-507	N555-506	N555-505

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