ProxiMate™ NIR
Optimized Analysis for the Food & Feed Industry
ProxiMate™ – NIR Instrument
Improving your process and quality control

ProxiMate is a robust, compact and easy to use at-line NIR instrument for the food and feed industry. It reduces downtime in production and provides fast quality control of batch samples. The intuitive user interface allows operation by everybody and a wide selection of precalibration packages make it suitable for all applications.

Applicative fit thanks to many ready-to-use precalibrations

Extreme Robustness
waterproof, stainless steel housing

Simple Operation with the intuitive touch-screen user interface

Our applications chemists have developed many ready-to-use precalibrations for the main food and feed industries. Whether you are analyzing cheese, milk powder or minced meat: Setting ProxiMate up to get accurate results requires minimal effort and can be done by everybody.

ProxiMate is designed to work effectively in the most adverse conditions. Measurements are unaffected by temperature or humidity fluctuations. The instrument can be placed where results matter: right next to the production line. With IP69 ingress protection ProxiMate can be pressure-hosed down to meet even the most stringent hygiene standards.

Thanks to the intuitive, modern touchscreen interface, ProxiMate operation has been optimized to make it logical, easy and straightforward. The touchscreen follows the proven interface logic of other BUCHI products, making it easy for everybody to setup applications, test samples or set preferences.
**Applicative fit for your Food and Feed**  
Thanks to many ready-to-use precalibrations

<table>
<thead>
<tr>
<th>Common Sample Types</th>
<th>Dairy</th>
<th>Meat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yogurt, Cheese, Butter and Milk Powders</td>
<td>Typical products include Beef, Pork, Chicken, Fish and Sausage</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Typical Parameters</th>
<th>Dairy</th>
<th>Meat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moisture, Dry Matter, Fat, Protein and Lactose</td>
<td>Moisture, Protein, fat and connective tissue.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Dairy</th>
<th>Meat</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Measure finished products and intermediates.</td>
<td>· Rapid decisions in the slaughterhouse.</td>
<td></td>
</tr>
<tr>
<td>· Optimize your process</td>
<td>· Optimize formulation during production</td>
<td></td>
</tr>
<tr>
<td>· Control the quality of your finished product</td>
<td>· Inspect goods at the packaging stage.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Conveniently, ProxiMate can be placed right at the incoming goods weighbridge.</td>
</tr>
</tbody>
</table>

Dairy

Meat
<table>
<thead>
<tr>
<th>Grain</th>
<th>Edible Oil</th>
<th>Feed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical products include whole cereals such as wheat, barley and maize (corn), ground cereals, wheat flour and semolina.</td>
<td>Crude and refined palm and olive oil. Press cake and meals plus other vegetable oils and animal fats.</td>
<td>Mixed and finished feed (ruminant, swine, poultry plus concentrates) plus ingredients such as oil seed meals, cereals and hulls &amp; bran.</td>
</tr>
<tr>
<td>Moisture, Protein, fat, Ash, starch and gluten.</td>
<td>Moisture, Peroxide value, Free fatty acids (FFA) and residual fat.</td>
<td>Moisture, Total Fat, Protein, Fiber and ash.</td>
</tr>
<tr>
<td>· Decide which flours should be blended &lt;br&gt; · Control relevant ingredients in finished product.</td>
<td>· Check oil seeds before crushing &lt;br&gt; · Monitor your production process &lt;br&gt; · Check relevant parameters in final product.</td>
<td>· Check your raw materials to get the finished mix right. &lt;br&gt; · Conveniently, ProxiMate can be placed right at the incoming goods weighbridge.</td>
</tr>
</tbody>
</table>
What is IP?
This denotes the degree of dust proofing and water resistance. IP is an abbreviation of the international standard Ingress Protection.

<table>
<thead>
<tr>
<th>Level</th>
<th>Degree of protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Protection from 4 micron dust particles penetrating under reduced pressure</td>
</tr>
<tr>
<td>9</td>
<td>Protection from water projected from a powerful nozzle in any direction towards the instrument</td>
</tr>
</tbody>
</table>

Extreme Robustness
Due to its waterproof, stainless steel housing

ProxiMate is the most robust NIR instrument on the market. The instrument can be placed where results matter: right next to the production line.

Dust and Waterproof (IP69)
ProxiMate can be pressure-hosed down using the same procedures as other at-line equipment or machinery. The instrument is completely dust and water proof. You can place it next to mixers, conveyors, blenders or homogenizers so that production operatives can take frequent measurements, thus giving you better control over your process.

Hygiene Design
Made from food grade stainless steel, ProxiMate has been designed with smooth surfaces that have no sharp edges or voids. This design naturally reduces the risk of material accumulation that could encourage bacteria growth and has been assessed and endorsed by the food hygiene agency HALAG.

Mechanical and Chemical Resistance
The stainless steel body of the ProxiMate can resist all detergents commonly used for sanitation in food production areas, even if they contain acidic, alkaline or chlorine based ingredients. This includes high pressure application at elevated temperatures making the instrument suitable to undergo the harsh cleaning necessary for perfect food safety.
Simple Operation
With the intuitive touch-screen user interface

ProxiMate is designed for everyone to use. Operation of the touch-screen user interface has been optimized to facilitate rapid measurement execution, uncomplicated application development and straightforward preference setting. All BUCHI touch-screen interfaces are similar, reducing operator training requirements.

Results with one Click
Everybody can use ProxiMate! Simply select the correct application (product) and enter a sample ID. At the touch of a button, the analysis starts and results are calculated. The operator is guided toward taking the appropriate action as results are evaluated against preset criteria. The angle of the display can be adjusted so that it always remains perfectly legible, irrespective of light conditions, bench height or operator.

Hands free or with Gloves
Fast throughput is vital in the production environment. ProxiMate can be operated when wearing hygiene gloves and even offers the facility to automatically start analysis without operator interaction. As soon as the sample is present on the tray, measurement starts, considerably speeding up measurement acquisition, freeing up operator time to complete additional tasks.

AutoCal
AutoCal makes calibrations development and calibration maintenance easy. Highlight the required calibration samples then press the AutoCal button. The system does the rest and optimizes the calibration.

Magnetic drive
Samples are rotated using a magnetically coupled drive unit. When the analysis is complete, this is removed to facilitate easy cleaning.
Easy System Integration and Networking
Standardized, compatible, connectible

Factory standardization, legacy data integration and networking options make ProxiMate the ideal instrument for comprehensive process control.

Data Library Transfer
Existing calibration data collected on legacy instruments is valuable. During installation, NIR spectra can be transferred to ProxiMate helping to speed up the commissioning process.

Connect to your Production System
Real time control of your production process is possible by connecting ProxiMate to your production control system via standard RJ-45 network cables, Wi-Fi or blue tooth. Rapid information access allows operators to adjust a blending process, the speed of a conveyor belt or the feed of a raw material in real time to yield the desired result.

Factory Standardized
All ProxiMates are factory standardized. Calibrations copied between instruments work in exactly the same way. No further standardization is required. This is particularly important if multiple instruments are used in the same facility or in different factories producing the same product. Instrument standardization leads to improved product consistency irrespective of the location of manufacture.

Calibration Finder
Quickly find relevant precalibration details and expected performance for your application using the online calibration finder. Continuously updated by our experts to ensure that the most recent information is at your fingertips, instantly.

More information about our calibration finder:
www.nircalibration.buchi.com
Perfect Adaption to Every Sample
To get the best result in every case

ProxiMate offers a range of sample presentation options, allowing you to select the most suitable for your product type and analysis.

Down and Up View
Sample type variety can require different analytical approaches for optimum performance or practicality. ProxiMate allows you to capitalize on the best approach by allowing measurement from the top (down view) or from the bottom (up view).

Glass free Environment
Many production environments prohibit the use of glass. ProxiMate offers the option of using plastic petri-dishes in down-view mode. Using this mode the type of plastic of the sample container will not affect the measurement.

Sample type flexibility
Getting the sample presentation right is key for accurate measurements. To reduce sampling error, larger sample volumes are needed when samples are inhomogeneous. Smaller samples are preferred when sample are valuable. ProxiMate offers options to cover all preferences.
Put Color on Your Agenda
And measure appearance as well

Augment NIR measurements with an optional visible detector as many food products require careful control of color and appearance as part of quality control.

Visible Detector Option
ProxiMate allows users to maximize their measurement performance by capitalizing on NIR only, visible only or by combining both visible and NIR signals to improve measurement performance and evaluate samples fully.

Improve Accuracy
An integrated visible light detector enables measurement of the color of the sample. This signal can be used individually to provide, for example, a measurement of sample color (such as degree of brownness, I*, a* and b* color measurement) or the VIS signal can be combined mathematically with NIR signals to improve the performance of some parameter measurements, such as ash in flour.

Color Determination
Fast and simple color measurements enable quick assessment of an additional quality parameter. No further preparation is required as color data is captured at the same time as NIR.
Main Features

Magnetic Drive
Samples are rotated using a magnetically coupled drive unit. When analysis is complete this is removed to facilitate easy cleaning.

IP Module and Connectivity
A range of connectivity options are available. Choose from a range of options from Wi-Fi through blue tooth all whilst retaining IP69 protection.
## Technical Data

### Specification

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>23 kg</td>
</tr>
<tr>
<td>Protection rating</td>
<td>IP69</td>
</tr>
<tr>
<td>Power consumption</td>
<td>60 W</td>
</tr>
<tr>
<td>Frequency</td>
<td>50 / 60 Hz</td>
</tr>
<tr>
<td>Dimensions (W × D × H)</td>
<td>260 × 435 x 500 mm</td>
</tr>
<tr>
<td>Wavelength range NIR</td>
<td>900 – 1700 nm</td>
</tr>
<tr>
<td>Resolution NIR</td>
<td>7.0 nm</td>
</tr>
<tr>
<td>Wavelength range VIS</td>
<td>400 – 900 nm</td>
</tr>
<tr>
<td>Resolution VIS</td>
<td>10 nm</td>
</tr>
<tr>
<td>Measurement time</td>
<td>15 seconds (user configurable)</td>
</tr>
</tbody>
</table>

### Ambient Conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. altitude above sea level</td>
<td>2000 m</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>5 – 40 °C (25 °C)</td>
</tr>
<tr>
<td>Maximum relative humidity</td>
<td>80% for temperatures up to 31 °C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>max. 45 °C</td>
</tr>
</tbody>
</table>

### Configuration

<table>
<thead>
<tr>
<th>View</th>
<th>NIR “Standard”</th>
<th>NIR+Vis “Pro”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Down &amp; Up View Combined</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Down View</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Up View</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>
Software

Automatic Results Storage
NIRWise™ software is based on a Microsoft SQL database. All results are automatically stored in the database and can easily be backed up and transferred to other instruments. Never lose your precious results!

Customized Reporting
Report generation is easy with NIRWise™. Sample and batch reports are easily customized to end-user requirements using the report configuration tool. Comply easily with your documentation standards thanks to ProxiMate’s customizable reports.

AutoCal
Develop new and extend existing calibrations easily. Select the samples you want to include, then AutoCal advance algorithms do the rest. No expertise required.
Accessories

Large Sample Cups
Enables reduction in sampling error with inhomogeneous samples.

Standard Sample Cups
Choose from a range of cups, best suited for your application. Options include toughened glass, plastic and high performance.

Transflectance Cover
Use with a petri-dish to make transflectance measurements of liquids. Path-length is 0.3 mm.

Connectivity Module Upgrade
Upgrade to multiple USB ports for maximum flexibility. Available with waterproof covers to maintain IP protection during operation.

NIRWise™+ Software
Develop and review quantitative calibrations. NIRWise™+ offers a full suite of chemometric tools.
Service & Training
Customized for your needs

Worldwide Presence
Our worldwide network of 18 subsidiaries and support centers as well as over 70 qualified
distribution partners ensure proximity where ever you are. Factory trained service engineers and
application specialists make sure your ProxiMate remains up and running at all times.
www.buchi.com/worldwide

Remote Support
The remote session tool is pre-installed to make it as easy as possible to get support. No
additional installation or special skills are required. Just connect ProxiMate to the internet and the
BUCHI Service Network will be able to support you and diagnose issues from afar minimizing
downtime and service costs.
www.buchi.com/remote-support

Preventive Maintenance Package
To ensure many years of reliable operation, BUCHI recommends that ProxiMate is serviced and
maintained regularly. Maintenance package contracts are available ensuring the your instrument
continues to offer optimum performance and which also includes the following benefits.

- Reduced service part cost
- Regular maintenance visits and checks
- Regular updates
- Reduced down time
- Regular contact with your local BUCHI Service Engineer

Training on request
Customer training courses either on-site, at the local BUCHI subsidiary or at the global headquarter
in Flawil (Switzerland) are available to train operators and people responsible for instrumentation to
learn all there is to know about generating great analytical results with ProxiMate.

BUCHI training center, located in Flawil (Switzerland), supports customer success by offering a
wide range of courses. All trainings cover basic theory, hands on, trouble shooting and process
optimization.

Do you have a specific questions related to any training topics or are you interested in attending
training in your country? Address your requests and inquiries to training@buchi.com
The N-500 FT-NIR spectrometer provides reliable analysis results for quality control as well as research and development in the pharmaceutical, chemical, food, beverage and feed industry. The NIRFlex N-500 offers a wide range of measuring cells and accessories for highest performance.
You need to measure fat or residue and contaminants in different matrix? We cover the whole range of automated extraction methods, from Soxhlet, to hot extraction and pressurized solvent extraction.

Measure Nitrogen and Protein efficiently and in an automated way. The KjelMaster K-375 meets the highest demands in usability, automation, user administration and sophisticated data management. For both potentiometric and colorimetric titration methods.
Core messages to our customers
BUCHI creates added value

“Quality in your hands” is the guiding principle that shapes our philosophy and our actions. It challenges us to provide outstanding services that are precisely tailored to your needs. This means that we must stay in close contact with our customers. That is why we keep in touch and continue to work very hard to understand you and your business even better.

We help you by providing high-quality products, systems, solutions, applications and services that offer you added value. This allows you to focus entirely on your processes and your work.

Quality in your hands

BUCHI Labortechnik AG
CH – 9230 Flawil
T +41 71 394 63 63
F +41 71 394 64 64
info@buchi.com

www.buchi.com