

FOSS

FOSS IN COCOA & CHOCOLATE



ANALYTICS BEYOND MEASURE

"In 2030 we have a global middle class of 4.9 billion demanding quality food"

BETTER DATA FOR IMPROVED BUSINESS

As the raw material arrives, the truck drivers are met with a fast, efficient quality control based on consistent and objective test data. That same data enables production staff to make the best use of the raw material for quality and yield optimization.

Further downstream in the processing of cocoa beans and production of chocolate, the production manager is doing a great job using data on key process parameters to maximise production efficiency.

It's not just an idea. It is a reality several of the key players within cocoa processing and chocolate manufacturing are already building based on FOSS analytical solutions. Whatever the process, accurate test data is empowering everyone, from management to machinery operatives to gain more from the process and, most important of all, to deliver the right final product quality every time.

SUPPORTING A SUSTAINABLE FUTURE

Demand for cocoa based products like chocolate is increasing. Pressure is on to not only produce more, but also more sustainably. With better data available, producers can trim their processes to balance quality and yield while avoiding unnecessary waste and reprocessing.

Nature is rarely consistent from harvest to harvest, but with rapid tests at the factory gate, you can segregate raw materials for consistent quality flowing into the process. Energy consumption is cut and rework is avoided because plant operators know exactly what they are working with. Likewise in the process, constant feedback on control parameters keep the controllers on the ball, spotting trends before they turn into problems and allowing them to trim the control systems to get the very best out of valuable natural resources.



**Improved cocoa mass spec
Yearly savings of 250,000 EURO**

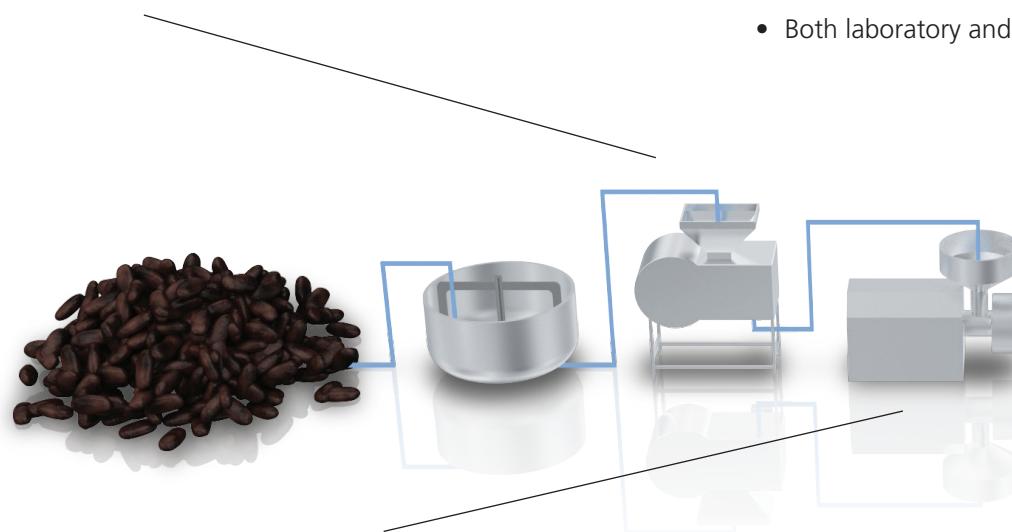
A plant processing 25,000 kg of cocoa mass per day can use ProFoss™ to continuously monitor the standardisation process. This can help produce cocoa mass closer to sales specifications leading to annual savings of up to 250,000 EURO.



WHAT YOU CAN MEASURE AND WHERE - COCOA PROCESS

Control separation of shell and nibs

- Measure shells in nibs or nibs in shells



Control nibs quality

- Optimise mixing of different qualities of nibs
- Measure fat, moisture, FFA

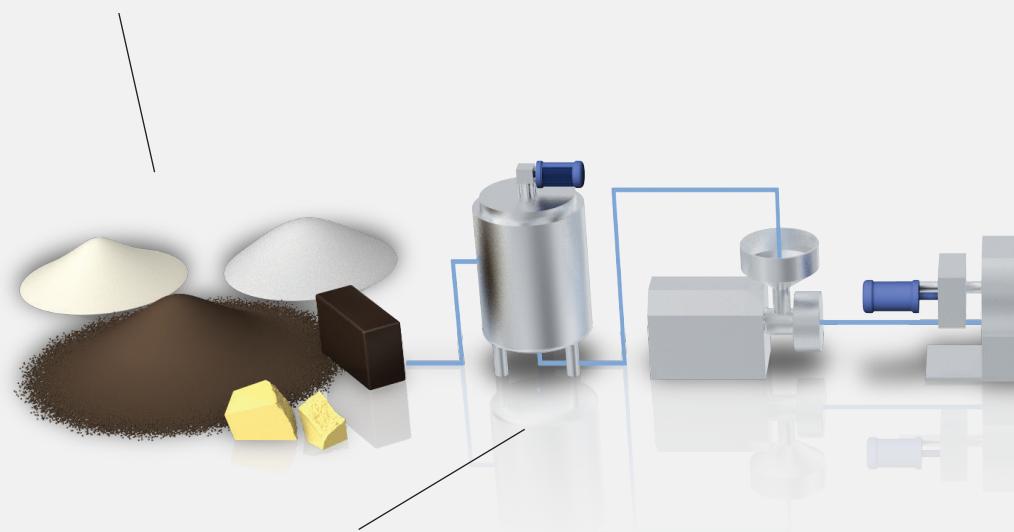
Standardisation of cocoa

- Control dosing of cocoa
- Measure fat
- Both laboratory and on-line

WHAT YOU CAN MEASURE AND WHERE - CHOCOLATE MANUFACTURE

Control of raw materials

- Analysis of cocoa mass/liquor, cocoa butter, cocoa powder, milk powder, sugar and more



Mixing and blending of raw materials

- Measure fat, moisture
- Both laboratory and on-line solutions

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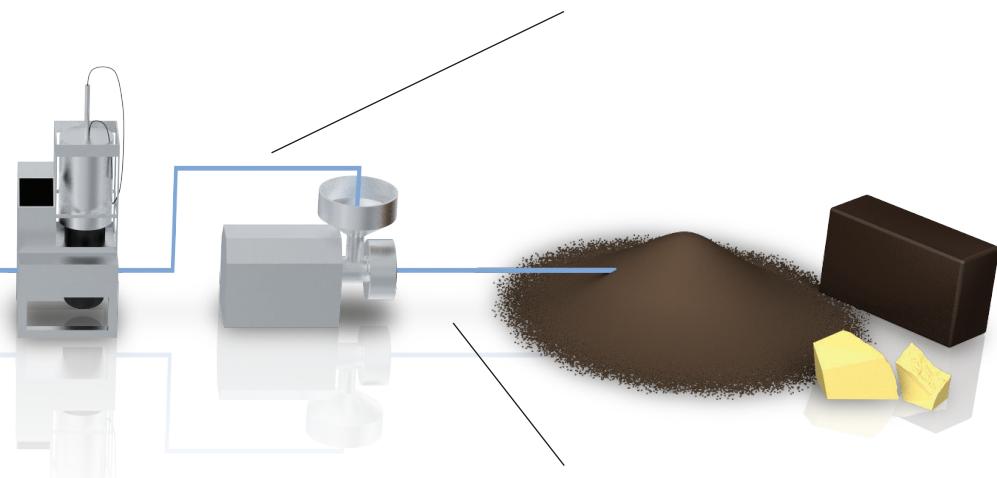
cocoa mass/liquor

cocoa butter to milling process

on-line solutions

Final cocoa butter control

- Ensure cocoa butter is within specification
- Brand protection
- Measure FFA, Iodine value



cocoa butter control

cocoa butter is within specification

FFA pH

Final cocoa powder control

- Ensure cocoa powder is within specification
- Brand protection
- Measure moisture, fat, pH

UFACTURING

Final product (chocolate) control

- Ensure that products are within specification
- Brand protection
- Measure fat, moisture, butterfat, fat free cocoa mass, lactose, sucrose



Optimise chocolate production processes

- Both laboratory and on-line solutions



HOW ANALYTICAL SOLUTIONS CAN IMPROVE YOUR BUSINESS

From raw material to delivery of final products, rapid analysis with FOSS solutions provides many opportunities to boost quality, yield and output. With FOSS NIR solutions you can:

- Build trust with suppliers and pay the right price for raw material
- Improve yield and reduce energy consumption in manufacturing
- Always deliver the right product quality

WHY USE FOSS NIR?

FOSS solutions offer fast and accurate analysis with minimal sample preparation and low labour costs. No hazardous chemicals are involved and you get measurements for several parameters together in just one easy-to-perform test. Keys aspects of FOSS solutions include:

- Readymade calibrations are available for a variety of solid and liquid samples
- Robust, easy to use instruments
- Solutions for analysis in the laboratory or directly in the process line
- Instrument networking for cost-effective management of analytical instruments

NOW IT IS YOUR TURN TO GAIN

With over 60 years of experience of working with routine analysis in the food and agri industry, FOSS offers a unique insight into how routine analytical technology can be applied to your business and the advantages to be achieved through higher quality products and financial gain.

Our goal is to engage in a dialogue with you to understand your challenges and find the ideal analytical solution which, once found, is delivered as a complete package of hardware, software and customer services to ensure a lasting return on investment.

Choosing FOSS as your partner gives you access to:

- Leading NIR technology and expertise in Food- Agri applications
- A partner with global solutions within cocoa processing and chocolate manufacturing
- An innovative partner – we always strive to develop new solutions
- Robust and easy ready-to-use solutions
- Both in-line, at-line and laboratory solutions
- FossManager™ – network software for more easy instrument use
- A global sales and service network

Example

Use a NIRST™ DS 2500 analyser to test raw materials for manufacturing of chocolate in less than a minute. The test results enable improved control and optimization of processes across the plant. Correct blending at processing of raw materials can ensure optimal use of raw materials and consistent quality of final products and help pay-back instrument investments in less than a year.



PRODUCTS

ProFoss™

In-line analyser for continuous monitoring and control of production process lines, IP69K certified. Delivers accurate measurements for fat and moisture.



NIRs™ DA 1650

Robust, easy to use analyser for mainstream applications, built in PC and IP65 certified, available with FossManager™ network software. Give fast and accurate measurements for fat and moisture on both liquid and solid samples.



NIRs™ DS2500

Versatile NIR analyser for a wide range of applications in process and quality control, IP69 certified, available with FossManager™ network software. Handles both solid and liquid samples, measuring a range of parameters simultaneously and with high accuracy.



FossCare™

Preventative maintenance agreements to ensure optimal performance and minimal downtime. 24/7 support worldwide from more than 300 dedicated service and application specialists increase the uptime of the instrument, minimising cost of ownership. Up to 10 years industry leading warranty conditions.



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