FOSS

FOSS IN SUGAR

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 payment system giving them a fair payment 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 sugar process, the production manager is doing a great job using continuous data on key process parameters to maximise sucrose extraction, making record yields the rule, rather than the exception. Meanwhile, at the refinery, rapid tests in production are allowing the plant manager to minimise sucrose losses in molasses and other byproducts, taking output to new, consistently-high levels.

It's not just an idea. It is a reality that over 40 key players in the sugar industry worldwide are already building based on FOSS analytical solutions. Whatever the process, accurate test data is empowering everyone, from cooperative management to machinery operatives to gain more from the sugar process and, most important of all, to deliver the right final product quality every time.

SUPPORTING A SUSTAINABLE FUTURE

Sugar is a vital source of food for a growing middle class population around the globe. 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.

Continuous tests on incoming cane and bagasse to improve extract yield by 0.5%

Use an in-line NIR analyzer to provide continuous measurements of Pol and moisture to spot trends early and make money-saving adjustments for optimal yield. Users report improvements in sugar yield by up to 0.5% from controlling extraction using ProFoss™. In financial terms, a plant crushing 15,000 tonnes of cane per day can save more than 350,000 USD per year on cost of cane alone.

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

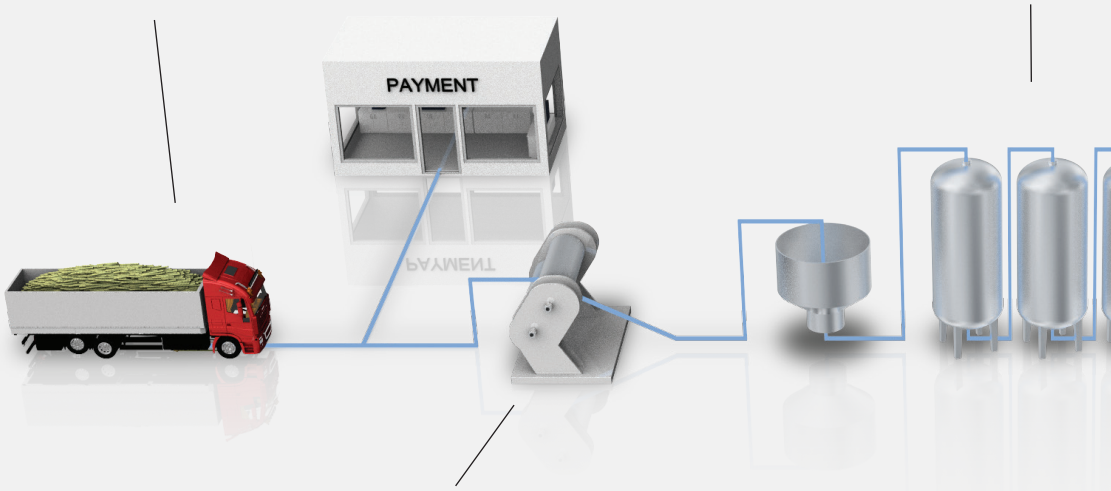
WHAT YOU CAN MEASURE AND WHERE

Fair payment and fast feed-back to farmers

- Measure pol and brix directly on prepared cane / brei or juice
- Avoids use of hazardous chemicals
- Both laboratory and on-line solutions

Evaporation performan

- Analyse juice and syru
  and track sucrose losse
- Pol, brix, pH, reducing



Extraction performance

- Combine on-line analyses of shredded cane before milling with continuous measurements on bagasse to optimize mill settings
- Pol, brix, fibre and water content

Crystallisation and cen

- Check seed magma, m
  to optimize crystallizat
- Pol, brix, reducing sug

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:

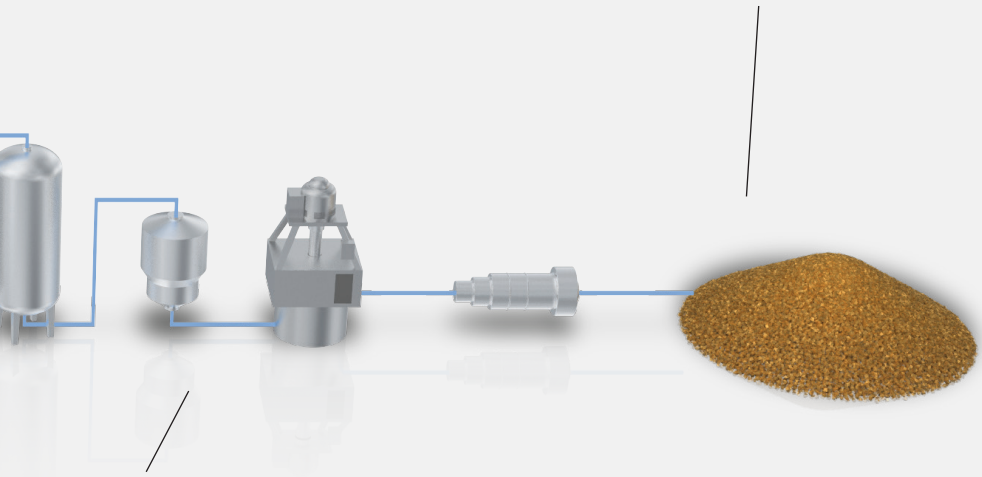
- Readymade calibrations are available for a variety of solid and liquid samples
- Robust, easy to use instruments
- Solutions for analysis in the laboratory or directly in the process line
- Instrument networking for cost-effective management of analytical instruments

nce

p to optimize evaporation performance
es
sugars

Final product control

- Ensure that products are within specification
- Brand protection
- Pol, moisture, colour



trifugation performance

hassecuite, centrifugals and molasses
ion and separation processes
ars

Optimise value of by-products

- Easy analyses of filter cake, bagasse, beet pulp, beet pellets and molasses to optimize value and use of by-products
- Pol, brix,reducing sugars, fibre, water content

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 sugar
- An innovative partner – we always strive to delevop 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 NIRS™ DS 2500 analyser to test raw sugar for pol and reducing sugars simultaneously in less than a minute. The test results enable improved control and optimization of processes across the plant. Savings on sucrose losses and reduced energy consumption in evaporator and centrifuge operation can help pay-back instrument investment 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 brix, pol, fibre 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 brix and pol 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.

FOSS IN SUGAR

Built on over 60 years experience of serving the food and agri industry, FOSS solutions provide the data you need to improve quality and yield while avoiding unnecessary waste and reprocessing

- 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

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