

FOSS



Biodiesel production with FOSS
Quality in your hands

Dedicated Analytical Solutions



“Quality is the most important consideration”

Wilfred Hadders, Managing Director, Sunoil Biodiesel b.v.

Premium quality – now everyone has the power

In the rapidly developing biodiesel industry it is the quality of your fuel that sets you apart as a preferred supplier – a factor that can only become more important in the years to come. Achieving that quality can be a challenge when existing quality control methods are difficult or time consuming to use. You need fast results, especially when:

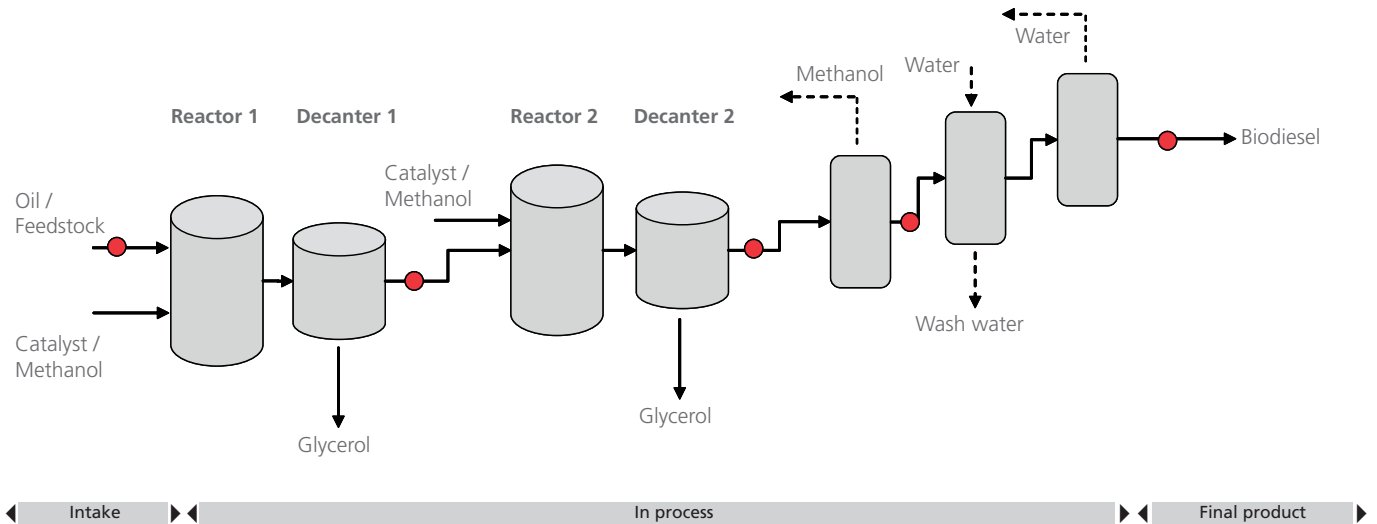
- Handling multiple sources of raw material
- Tracking effectiveness of the conversion process
- Checking that final product meet expectations

Frequent process control with easy to use FOSS dedicated analytical solutions makes quality control a matter of

routine. Tests take a minute or two and anyone working in the plant can perform them. You can say goodbye to the delays and uncertainties arising from long analysis time, whether it is for handling raw material intake or concerns about your process efficiency.

With FOSS dedicated analytical solutions the whole plant can now contribute to improved quality throughout the biodiesel process.

Optimise the process every step of the way



FFA
Moisture
Phosphorous



Acidity
Moisture
Ester content
Methanol
Total glycerol
Free glycerol
Mono-glyceride
Di-glyceride
Tri-glyceride
Iodine value
Linolenic acid



Acidity
Moisture
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Intake

Too much FFA?
Is moisture within spec?

Rapid analysis in minutes with the XDS Biodiesel Analyser™ gives you the information you need to optimise quality from the start of the process.

In process

Maximum conversion?
Can I do this cheaper?

Another simple test with the XDS for key parameters allows you to track the effectiveness of the conversion process, allowing rapid reaction to process problems. You can reduce the use of catalyst and reagents as well as overall processing time and storage needs.

Final product

Can I match the standards?
Are we getting it right?

Take control of final product quality with frequent in process measurement of all the critical parameters required to keep production in line with your standards such as EN 14214 and ASTM D6751.

“Human error is removed and I can get on with other things instead of checking the validity of measurements”

Marc Arends, Laboratory manager, Sunoil Biodiesel b.v.

Control by anyone

Rapid and easy to use analysers enable everyone in the plant to perform the vital analysis – at any time. Solutions such as the XDS Biodiesel Analyser from FOSS, based on Near-Infrared Technology, involve no reagents and require no special training.

With the XDS Biodiesel Analyser, measurements take around a minute. Place the vial in the instrument, press the start button and that’s it. The results are displayed on a computer screen. Result data is automatically stored for future reference and reporting.

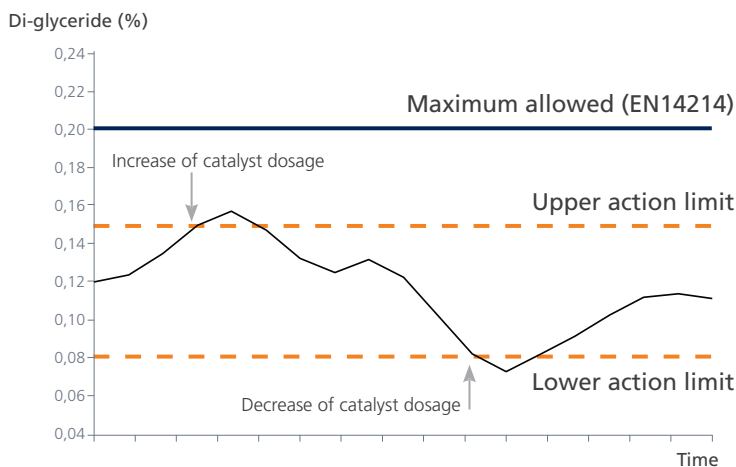
Parameter	Result
Moisture, ppm	158,6
Methanol	0,05
Ester	97,93
Acid Value	0,33
Mono glyceride	0,309
Di glyceride	0,106
Tri glyceride	0,224
Total Glycerol	0,161
Free Glycerol	0,006
Iodine Value	114,5
Linolenic Acid	7,54

Empowered and pre-calibrated

The XDS Biodiesel Analyser is delivered pre-calibrated to measure multiple key parameters. You’re then ready to start improving quality from day one. The procedure is so simple that anyone can make a measurement and you can rely on accuracy of results. The ability to entrust routine testing to staff in the plant reduces costs and time involved in external analysis.



XDS Biodiesel Analyser™



An example of how rapid analysis of di-glyceride can be used for instant process adjustment.

- above 0.15 % you are close to the allowed limit (according to EN14214) and need to increase catalyst dosage
- below 0.08 % you are well on the safe side but could save money by reducing catalyst dosage



Understand the true value of your raw material

When your biodiesel production starts with crushing oilseeds, on-the-spot analysis of incoming seeds with FOSS solutions allows you to optimise the value of your raw material.

- Rapid and reliable control of incoming oilseeds
- Track crushing efficiency
- Compositional analysis of press cake

Oil seeds vary in oil and moisture content. With Infratec™ 1241, you can perform rapid analysis at the weighbridge to ensure that the correct price is given for each arriving truckload.

Continuous monitoring of the press cake tells you when the crushing efficiency drops below target. Too much oil in the press cake is a waste of valuable oil and even small losses will over time add up to a significant impact on your bottom line.

Solutions for moisture and oil analysis in oilseeds and press cakes include Infratec 1241. It's built on NIT technol-

ogy (Near Infrared Transmission) and utilizes the highly advanced ANN chemometric technique (Artificial Neural Nets). Together with robust, ready-to-use and transferable calibrations this has helped paved the way to Infratec 1241's market-leading position in grain-analysis world wide.



FOSS in the biofuel industry

FOSS is the world's leading supplier of dedicated analytical solutions for optimal production of food, agricultural, pharmaceutical and chemical products.

In the biofuel industry, FOSS dedicated analytical solutions help everyone involved in the value chain to increase yield, productivity and profitability, from growers and grain elevators to oil crushers and biofuel producers.

Taking biodiesel production as a specific example, FOSS solutions help you to:

- Source the best feed stock for your process with respect to yield and productivity
- Optimize the process with respect to efficiency and costs
- Match standards and quality expectations

Visit www.foss.dk for more information about how FOSS dedicated analytical solutions can help you to produce quality biofuel effectively and with optimal profit.



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