

# Automation Solutions for the Biodiesel Production

For the highest productivity and operational safety





# ABB – An Expert Partner for Plant Operators, EPC's and System Integrators

*Biodiesel plants are frequently constructed under great time pressure. This is only possible with an experienced partner who operates globally and locally. A rapid production start and the highest plant efficiency reduce the Total Cost of Ownership.*

## Shorten the Time to Market – Stay competitive

We know the requirements of our customers, which are caused by tough competition: Shortened time periods for planning, construction and commissioning of new plants, cost-saving and operational productivity increase over the entire life cycle.

The support of an experienced partner such as ABB is required to remain competitive, since we not only offer solutions based on advanced technology with provision for future extension but also have the corresponding competence in solving problems for project management and service provisions, even to assuming the responsibility for operating and supervising the plant, if required.

## Experience and know-how

As market leader in the automation sector, ABB has decades of experience and process control know-how in the chemical industry at its disposal and has experience in the management of international large-scale projects.

Innovative automation and power technology from ABB provides smooth operation in a large number of biofuel plants.

## Think globally, act locally

Planning, engineering and erection for biodiesel plants are often managed multinationally.

ABB is present throughout the world with a large number of service and support locations. The best pre-condition for smooth global project management and local support for internationally operating companies.

- Globally operating team of professionals
- Standardized engineering tools, methods and solutions
- ABB solutions are internationally reproducible
- Support and service – worldwide

## Rapid production start – reduce the risk

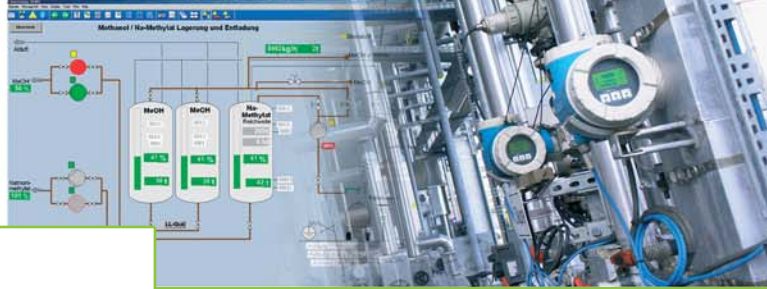
- Efficient and professional project management
- Use of standardized, pre-configured packages and libraries
- Cost-saving through pre-installed automation equipment
- Conventional wiring, remote I/O or use of fieldbus technology
- Future-proofing and investment protection through state-of-the-art technology and life-cycle concepts

## Strategic partnerships

Customer requirements can be implemented even better within the framework of partnership contracts with plant operators, EPCs and system integrators. The objectives are the simplification of the purchase and delivery transactions and a reduction in the points of intersection.

In conjunction with our partners, we prepare solutions which contribute to the standardization and optimization of the project management.





# Chemical Biodiesel

*Standardized solutions based on advanced technology provide consistently systemwide automation and communication. The basis for the highest productivity, the best possible return on investment, future-proofing and investment protection.*

## Biodiesel – the alternative fuel

Biodiesel is an alternative fuel based on renewable primary products like vegetable oils and animal fats. Rapeseed, sunflowers and soy beans are mainly used for biodiesel production. Palm oil seed is used in regions with rather tropical climate.

Biodiesel is a methyl ester resulting from a catalytic reaction of vegetable oil and methanol. A by-product is glycerine, which is a valuable basic material for the cosmetics and pharmaceutical industries.

## Tailor-made automation solutions

We offer an extensive portfolio of products and systems tailored to customer requirements, as well as pre-configured solutions for automation and safe operation in all areas of the production process such as:

- Pre-treatment of oils and fats
- Transesterification
- Handling and processing of biodiesel and glycerine
- Storage of the raw materials and end products

## State-of-the-art technology

Our product portfolio contains advanced process control enabling continuity from the field to production right through to the business management level, process instrumentation (optionally fieldbus-based), analyzer technology for quality monitoring as well as power distribution and Motor Control Center.

## The highest productivity and safety with ABB process control

- Operationally safe and high availability
- Easy and user friendly
- Environmental and safety standards are complied with
- Open for future requirements and enabled for capacity extensions of your plant

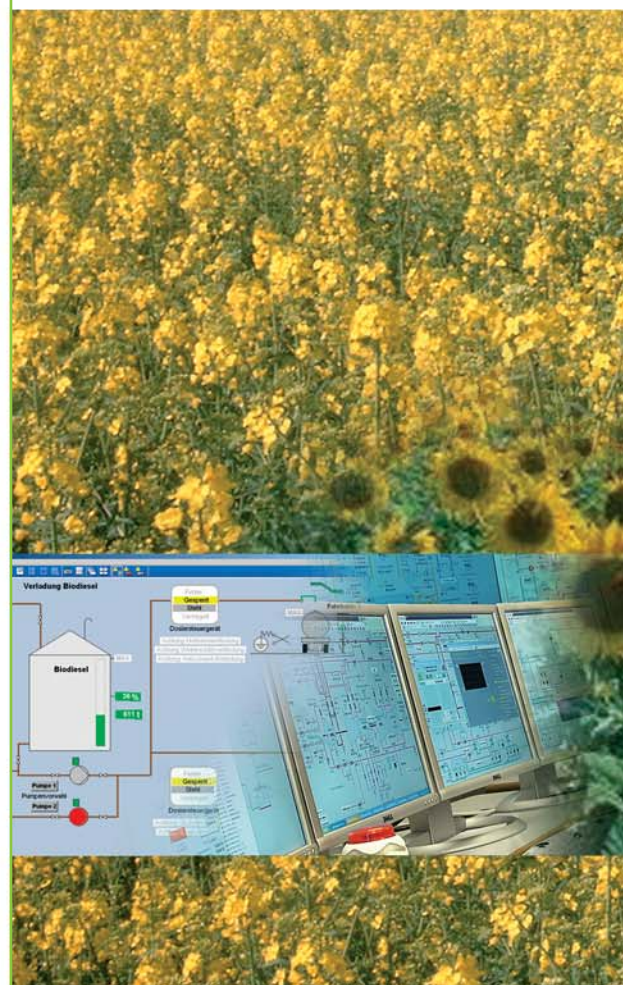
## ABB is your Partner

No matter whether it concerns the construction of new biodiesel plants or an increase in capacity: Our customers like plant operators, EPC's and system integrators can rely on ABB as a dependable partner with industrial expertise and excellent processing.

## ABB stands for:

- Expertise and experience
- Tailor-made solutions
- Advanced, future-oriented technology
- International references

## Feel free to contact us!





# An Overview of Our Solutions and Products for Biodiesel

## Reliable process control technology

- Scalable
- Object-oriented open software structure
- Integration of subsystems and package units
- Uniform engineering from the field instrument to the operator interface
- Standardized biodiesel libraries and pre-configured blocks
- Maintenance and diagnosis
- Conventional I/O, remote I/O or fieldbus solutions, incl. applications for explosion protection requirements
- Optional redundancy

## Open for future requirements

The open system structure and the use of common industrial standards allow seamless capacity extension of your plant.

## Effective engineering

Configuration and commissioning of software and hardware by means of an central engineering tool:

- Integrated fieldbus management
- Configuration languages to IEC 61131-3

## Monitoring and operation

- User-friendly operator interface
- Overview, graphic and group displays
- Easy access with quick select window and shortcuts
- Faceplates for operation and operator intervention
- Alarm and event displays
- Trend history and displays
- Logs
- Diagnosis of the overall system

## Intelligent field instruments

Extensive range of field instruments for every measuring task

- Stainless steel and explosion-proof versions
- Fieldbus-capable
- Integrated maintenance management

## ABB analyzers

Quality monitoring with FTIR/NIR spectrometer for laboratory or process analysis

- Biodiesel quality
- Methyl ester, methanol, moisture, glycerol, mono-, di- and tri-glyceride

## Electric drives and motors

- All performance classes and explosion-proof versions
- Frequency converters and soft starters

## Power distribution

- Low voltage main distribution boards
- Motor Control Center (MCC)

## Services

- Project-specific hardware engineering for process control and electrical installations
- User-specific software applications
- Project management
- Erection, installation, commissioning
- Documentation, training
- On-site and on-call services
- Repairs, spare part logistics
- Plant optimization and maintenance strategies
- Operation and supervision of plants



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