



BIO BASE EUROPE PILOT PLANT

Foundation

- 2008

Turnover

- 3,3 million €

Employees

- 38

Branches

- Process Development,
Scale-up and Custom
Manufacturing of Biobased
Products and Processes

Key materials

- Biomass e.g. agricultural crops
and by-products
- Industrial side streams

Key products

- Fine chemicals, Nutraceuticals,
Food ingredients, Biopolymers,
Industrial enzymes, Biofuels ...
- Through Biomass Pretreatment,
Biocatalysis, Fermentation,
Green chemistry and Product
Recovery and Purification



Bio Base Europe Pilot Plant in Ghent (Belgium) is a flexible and diversified pilot facility for the development, scale-up and custom manufacturing of biobased processes and products. It operates at kilogram to multi ton scale and aims at closing the critical gap between scientific feasibility and industrial application of new biotechnological processes.

The Bio Base Europe Pilot Plant is a one-stop-shop that performs the entire value chain in a single plant, from the biomass green resource up to the final bioproduct. The pilot plant is equipped with state-of-the-art equipment to perform biomass pretreatment, biocatalysis, fermentation, green chemistry, product recovery and purification.

Bio Base Europe Pilot Plant focuses on conversion of biomass (a.o. agricultural crops and by-products, industrial side streams) into biochemicals, biomaterials, biofuels and other bioproducts.

The Pilot Plant is situated in the Port of Ghent in Belgium. It is an independent open innovation pilot plant and is accessible for companies and research institutions throughout the world. Bio Base Europe Pilot Plant provides services to private clients but also partners up in several public projects.

Biomass pretreatment

We offer mechanical, thermal, physico-chemical and enzymatic pretreatment of biomass feedstocks. Equipment summary:

- Reactors for chemical pretreatment (7–5,400 l) and enzymatic hydrolysis (500–50,000 l) of biomass
- Reaction vessels for slurries with high solids content
- Equipment for milling, thermal treatment, dewatering and concentration

We have experience in treating the following lignocellulosic raw materials:

- Agro-industrial side streams: paper pulp, spent grains, bagasse, press cakes, stillage ...
- Agronomic by-products: corn cobs and stover, husk, fiber, stems, leaves, verge grass ...
- Dedicated energy crops: miscanthus, poplar ...



Equipment for scale-up of fermentation processes. Bioreactors with a volume of 7 l to 15,000 l.



Bio Base Europe Pilot Plant laboratory for analyses, process development and optimization.



Production hall for biomass pretreatment, biocatalysis and filtration.



Biocatalysis

We offer:

- Development, optimisation, scale-up, demonstration and custom manufacturing of biocatalytic processes
- Single enzyme or whole cell biocatalyst systems
- Immobilization of enzymes and whole cells
- Aqueous and solvent based reactions
- Enzyme or whole cell biocatalyst production through bacterial, yeast or fungal fermentation

Fermentation

We offer:

- Development, optimisation, scale-up, demonstration and custom manufacturing of fermentation processes: batch/fed-batch and continuous mode (with or without cell cycle)
- Bacterial, yeast and fungal systems
- Quantification logging, registration
- (An)Aerobic fermenters (7–15,000 l)
- Anaerobic fermenters (7–5,400 l)
- Gas fermenters, feed CO , CO_2 , H_2 (7 l)

Green chemistry

We offer ATEX compliant installations and expertise for chemical processes. We perform chemical synthesis, conversion and hydrolysis as well as extractions.

Our equipment consists of glass lined, pressure proof and corrosion resistant reactors (7–5,400 l) coupled to a condenser and vacuum pump with auxiliary equipment such as a filter and conical dryer, a bag filter, a filter press, a basket centrifuge and a continuous liquid-liquid extraction column.

Product recovery and purification

Equipment for centrifugation, filtration, ion exchange and adsorption, crystallization, evaporation, extraction, chromatography, drying ...

For more information, go to www.bbeu.org.



Air view of Bio Base Europe Pilot Plant.



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ATEX compliant installation with glass lined, pressure proof and corrosion resistant reactors (7–5,400 l) coupled to a condenser and vacuum pump.

Contact

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