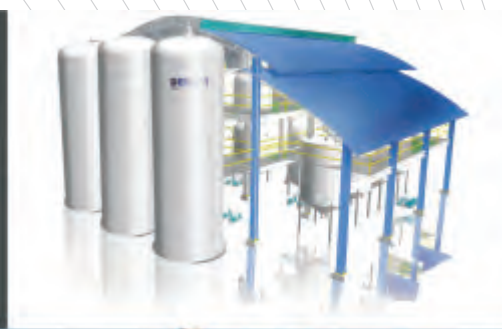




DEDINI
INDÚSTRIAS DE BASE



Complete solutions for your
BIOENERGY Plant
DEDINI

BIO - Equipment & Plants



A global company



Dedini is a 100% Brazilian company and one of most important capital goods manufacturers.

Dedini formed a large team of professionals with wide experience on various areas of the industrial sector, and is capable of offering a full range of services from feasibility studies to plant commissioning.

Dedini



Your partner

in Brazil and in 40 countries

FOR EXPORT

Innovation & Solutions

Through it's own developed technology or license agreements, Dedini provides sound, and proven designs, to meet customer requirements.

YOUR COMPLETE SOLUTION PROVIDER

Technology & Engineering

- Research & Development
- Feasibility Studies
- Basic engineering
- Process and detailed engineering

Manufacturing & Procurement

- Equipment manufacturing
- Equipment refurbishment
- Global procurement

Field Services

- Construction & Erection supervision / Commissioning, assisted operation & Training
- After sales service & spare parts supply
- Plant optimization

**GREENFIELD/BROWNFIELD
"TURN KEY" PLANTS**

- Customized process engineering solutions
- Full capability from detail design, to equipment & systems manufacturing, for the supply of complete plants



Juice Extraction

「OVER 2500
SUPPLIES」

- Mills

- Up to 30,000 TCD



USSC - 28.000 TCD TANDEM MILL

- Chainless and expandable Modular Diffusers

- From 6,000 up to 15,000 TCD



Juice Treatment

- Screens
- Heaters
- Evaporators
- Settlers
- Filters



Engineering Solutions for all Ethanol type of Products

- Fuel Ethanol hydrated and Anhydrous
- Neutral Ethanol
- Fine Ethanol
- Rectified Spirits

**OVER 950
SUPPLIES**



Fermentation

- Batch
- Continuous
- Flexible
- Yeast Propagation Plant



Distillation

- Conventional
- Flegstil
- Vacuum

Types of Trays

- Caps
- Valve
- Sieve Trays



Split Feed

Ethanol distillation is divided into two systems:

Distillation under pressure: with steam feed

Vacuum Distillation: Operates by Thermal Cascade

- Possible to use exhaust steam;
- Completely automated;
- 1.5 kg steam / liter of hydrated ethanol
- 2.1 kg steam/liter of anhydrous ethanol



Distilleries for AEHC production using the Split Feed technology

Dehydration Technologies



- Extraction via cyclohexane as dehydrating agent.



- Dehydration System via Molecular Sieve.



- Dehydration System via Polimeric Membrane



Vinasse solution

Concentration

The concentrated vinasse system offers an attractive transport and distribution cost reduction on its use for field irrigation that in turn is performed on a much better manner. The recovered water can be reused on the industrial process, saving the water intake from rivers or wells



Partner



BIOFOM

Dedini developed BIOFOM, by processing the byproducts originated from sugar and ethanol production, such as vinasse, filter cake and boiler ashes into a solid and granular fertilizer - Organo Mineral Fertilizer - that recycle back those nutrients into to the sugar cane fields.

The process enables also the recovery of spent wash that can be reused on some industrial or agricultural applications.

Additionally to the yield increase of sugar cane production, it offers a significant reduction on the application of mineral fertilizer.



Waste water Treatment

- Anaerobic & Aerobic Process



Partner



Tanks for Ethanol and Molasses

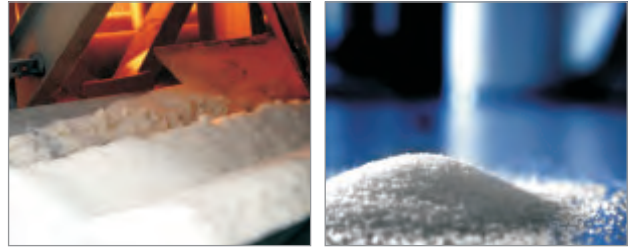
- Capacities from 5.000 to 40.000 m³



Engineering Solutions for all types of sugar



- VHP Sugar
- Amorphous
- Refined Granulated
- Liquid Sugar



Sugar Production

- Juice Heaters
- Clarifiers
- Rotary Vacuum Filters
- Belt Press
- Evaporators (Robert/Falling Film)
- Condensers
- Batch vacuum pans
- Continuous vacuum Pans
- Crystallizers
- Centrifugals (Automatic / Continuous)
- Sugar Dryers (Vertical/Horizontal)
- Sugar Conveyors



DRD - Dedini Direct Refined

This new technological development enables to obtain refined sugar without requiring sugar dissolution and recrystallization stage. The process goes from sugar cane syrup on a single step mode to obtain refined sugar assuring high quality standards .

- Lower investments required
- Reduction on production and maintenance costs
- Lower losses and energy consumption



Refined Sugar
without
Refinery

Steam Boilers

OVER 1450
SUPPLIES



Capacities

- Up to 400 TPH
- Pressure up to 120 kg/cm²
- Temperature up to 540 °C



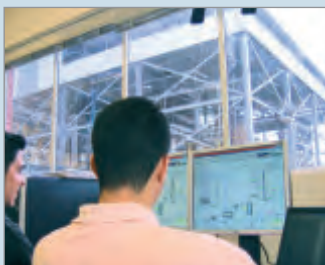
Biodiesel Plants Integrated to sugar Mills

- Biodiesel Plant integrated to a sugar & ethanol mill



US. Barrálcool - 50.000 TPY

Process Automation



Automation of **BIOENERGY** plants

Partner

ProLei.T

After Sales Service



- Field assistance, parts replacement and equipment refurbishment.



"Turn key" Plants

OVER 150
SUPPLIES

Green Energy

Since the seventies, Dedini supplies
Green Field plants on "Turn key" basis.



DSM
DEDINI SUSTAINABLE MILL

SINCE
1970



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