

ONE-STOP-SHOP : Sugar, Ethanol & Co-generation Plants



● EQUIPMENT ● PROCUREMENT ● CONSTRUCTION SERVICES



From energy crops to biofuels...from feedstock handling to wastewater treatment, recycle and reuse...from concept to commissioning and beyond, Praj offers the most comprehensive solution for distillery industry worldwide.

With reference base of over 450 plants, across 45 countries, Praj is acknowledged as a leading Company offering cutting edge, innovative processes and systems for production of beverage, industrial and fuel grade ethanol from a variety of feedstocks including sugarcane (juice/molasses), beet (juice/molasses), grains (wheat, corn, sorghum, broken rice, and triticale) and tubers like cassava.

Each solution is backed by well equipped fabrication facility; largest resource base of professionals; latest design and project management tools, vast experience of installing projects across different geographies. A state-of-the-art R&D Center, Praj Matrix-the innovation center, helps to create appropriate technical propositions for each plant.



Engineering, Procurement & Construction Service for Cane to Ethanol Plant

Praj offers seamlessly integrated cane juice/syrup to ethanol plant wherein technology, design and supply of equipment, installation and commissioning is taken up as a single point responsibility. Value addition accrues through integration of front-end cane juice production system with the back-end wastewater treatment, recycle and re-use system. The entire plant is optimized for water and utility use as well as for lower wastewater generation.

Health, safety and environmental factors are taken into account right from design to manufacture to the installation and operational stage of the plant. GHG norms are also incorporated while designing the plant.

Services offered include:

- Feasibility Study
- Technical Audit
- Process and Detailed Engineering
- Manufacture and Supply of Equipment
- Project Management
- Engineering and Supervision
- Civil & Structural
- Equipment Erection
- Commissioning and Training
- After Sales Support

ONE-STOP-SHOP for Sugar, Ethanol & Co-generation Plants



Systems offered for Cane to Ethanol Plant

- Sugarcane reception and preparation
- Sugarcane juice Extraction and Bagasse Handling
- Juice Treatment and Clarification including juice Evaporation
- Fermentation
- Integrated Distillation, Dehydration and Vinasse Evaporation
- Vinasse Treatment
- Steam and Power Generation
- Wastewater Treatment, recycle and reuse

Sugarcane Reception and Preparation

Totally integrated sugarcane preparation package consisting of :

- Weigh Bridges
- Cane Sampling System
- Unloading System
- Shredder / Fibrizer
- Sugarcane Feed
- Bagasse Conveying System

Sugarcane Juice Extraction and Bagasse Handling

Integrated sugarcane juice extraction and bagasse handling consisting of :

- Highly efficient Diffuser / Milling Tandem
- Bagasse Dewatering Mills

Juice Treatment and Clarification including Juice Evaporation

We design and manufacture complete sugarcane juice treatment systems including :

- Juice Heaters
- Juice Clarification & Settling
- Filtration
- Evaporation
 - Robert Type
 - Semi Kesner
 - Falling Film Type

Fermentation

Hiferm systems for alcohol production are designed to handle variety of raw materials including sugarcane juice streams (primary, secondary, mixed, syrup, filtrate, etc.). Our process engineering team considers many variables while designing the fermentation plant. This results into a rugged plant ensuring reliable and consistent operations.

Highlights

- High fermentation efficiency
- Low wastewater generation
- Options to operate continuous, semi-continuous as well as flexi mode depending on characteristics of the raw material.
- Rugged operations
- Provision to tap high purity CO₂.

Integrated Distillation, Dehydration and Evaporation

Classical heat & mass transfer principles are applied to deliver energy integrated systems. We have incorporated highly efficient column internals for ensuring better separation of impurities along with reduced scaling and downtime. What ethanol producers get is a plant optimized for quality, energy and operational ease.

Highlights

Multi-product distillation system to produce as per stipulated standards for industrial, potable and fuel alcohol applications :

- Energy conservation through Multipressure distillation
- Maximization of production by using Vacuum / Multipressure distillation technique
- Plant automation based on SCADA/PLC
- Consistency in product quality.

ECOMOL Dehydration Plants

EcoMol Molecular sieve is state-of-the-art pressure swing adsorption based molecular sieve dehydration plant designed for reliable and fool-proof performance, meeting most stringent quality norms.

Highlights

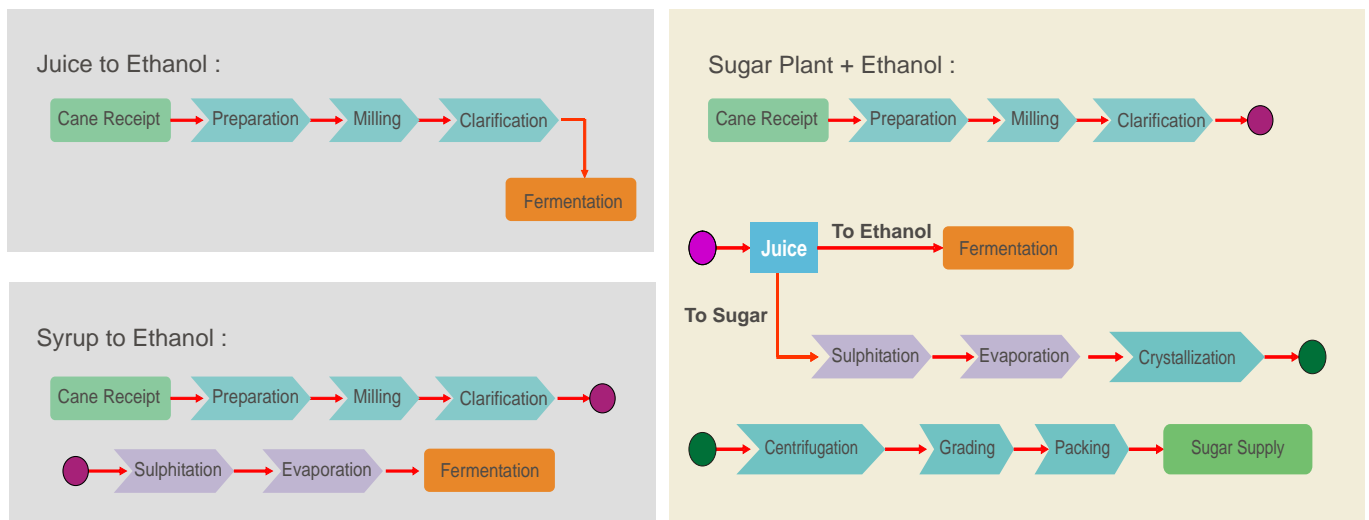
- Compact Design
- High Ethanol Dryness
- Lowest energy consumption
- Higher dessicant (Molecular sieve) life
- Consistent product quality

Steam and Energy Generation

Integrated system maximizing steam and power generation consisting of :

- Steam Boilers • High Pressure and Temperature
- Boilers Designed for Burning Bagasse, Coal, Straw and other fuels • Bagasse and Straw Conveyors
- Water Demineralization System • Flue Gas Treatment System to suit Pollution Control Norms
- Steam Turbines for Process Steam and Power generation or Export of Power
- Electrical Power Generation and Distribution • Control and Automation Systems

Plant Models on Offer



Wastewater Treatment, Recycle and Reuse

Water & Wastewater Treatment, Recycle and Reuse :

- Complete package for water & wastewater treatment:
 - Raw Water Treatment Plant
 - Process Water & R.O./D.M. Water Treatment Plant
- Vinasse Evaporation followed
 - Boiler
 - Dryer
- Biomethenation and Co-generation

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