

Easy Energy Systems, Inc.

Modular Ethanol Production System MEPS™

The Modular Ethanol Production System (MEPS)™ is a fully self-contained, fully automatic ethanol production system that is pre-built in a factory and can be shipped anywhere in the world. Just as Henry Ford's development of the factory-built automobile led to rapid expansion of cars in the world – so too will this modularized factory-built ethanol production system (patents pending) lead to rapid development of ethanol production worldwide.

Fuel the World™



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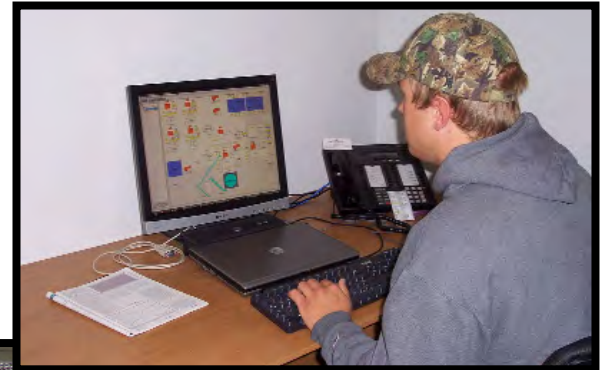


Fully Automatic

The fully automatic computer controlled system is the secret to allowing smaller scale ethanol production to be economically viable.

Similar to the operation of an automatic grain dryer, the Modular Ethanol Production System is fully automatic. A master control computer system controls all functions of the ethanol production. All operations can be controlled and viewed on the full color graphics computer screen. Automatic ethanol production is performed according to a user defined set of parameters that can be changed with just a few clicks of your mouse. Just key in the desired formulation, the desired temperature settings, the enzyme or yeast levels, and the desired timing parameters – and the system will automatically produce batch after batch of high grade ethanol.

- All heating and cooling is controlled automatically.
- The material flow control and cooling valves are fully automatic allowing batches to be transferred from segment to segment of the module and desired temperatures to be precisely maintained.
- The cooking, cooling, fermentation, and distillation processes are performed 24 hours per day – 7 days a week.
- Automatic systems on the module rinse, clean tanks and lines between batches.
- Many automatic safety checks are performed on the system to prevent problems and provide for the orderly shut down of equipment in the event of component failure.
- The system continuously records many different data points such as various actual temperatures, material PH, ethanol proof, cooling water gallons, water usage gallons, heating material utilization, Brix testing, ethanol gallon yield, etc. This data can then be analyzed by outside experts to further improve system performance.
- Many reports are available to allow you to monitor the system's operation and efficiency.
- Option: The system can be set up to be fully remote controlled and monitored from a central location that can then be configured to monitor and control many plants simultaneously.



All pipes and plumbing are located below the removable center walkway, running the full length of the module.

Scaleable System

You can start out by just purchasing a modular unit and control system. As you become comfortable with the economics and operation of the system, you can set more modules next to the first, plug the systems together and make any size ethanol plant. While intended for .5 - 20 million gallon plants, the system could be capable of producing up to 100 million gallons. The same master control system is expandable to control all of the modules from one simple control screen. **This allows many cooperatives, entities, and individuals to start up an ethanol production system at a fraction of the cost of larger plants.** The wealth is preserved in rural areas. A greater distribution of ethanol profits and wealth are generated in rural America rather than having the ethanol industry owned by only a few large companies on Wall Street.

Efficient Production

The system has an efficiency yield in comparison with most large scale ethanol production plants (2.6 - 3.0 gallons of ethanol per bushel of corn). New technologies are being developed and tested that may increase the yield to 3.2 gallons per bushel by adding an additional module as the technologies are proven.



Safer System to Operate

Because the process utilized to make the ethanol does not use high pressure steam as found in most plants, the safety of the entire system is greatly improved. No need to have a high pressure steam boiler to maintain. This also saves on the need for an expensive water treatment facility and eliminates the unsightly steam cloud surrounding traditional ethanol plants. As most states' regulations require a high pressure boiler permit, the Modular Ethanol Production System does NOT require the high pressure steam and thus you do not need to have a person with a high pressure boiler license on hand 24 hours per day – 7 days a week as would be needed at traditional steam driven plants.

Reduced Chance of Obsolescence

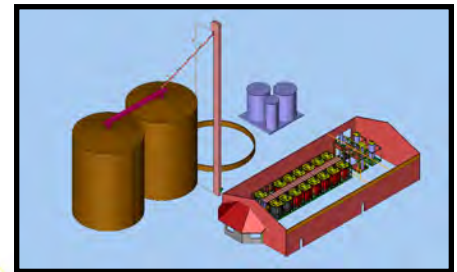
The technology of producing ethanol is continually changing and improving. By building the system as a modular unit, each segment of the ethanol production process is contained within its own pod. **Therefore, if technology changes should render one portion of the process obsolete – simply remove this one pod and insert a new pod with the new technology.** This is a much better solution than traditional plants which are very difficult to change and modify and often require abandonment of the entire plant as the new technology obsoletes the technology from which the plant had been originally designed. This will keep you competitive in the market place for years to come.

Stainless Steel Construction

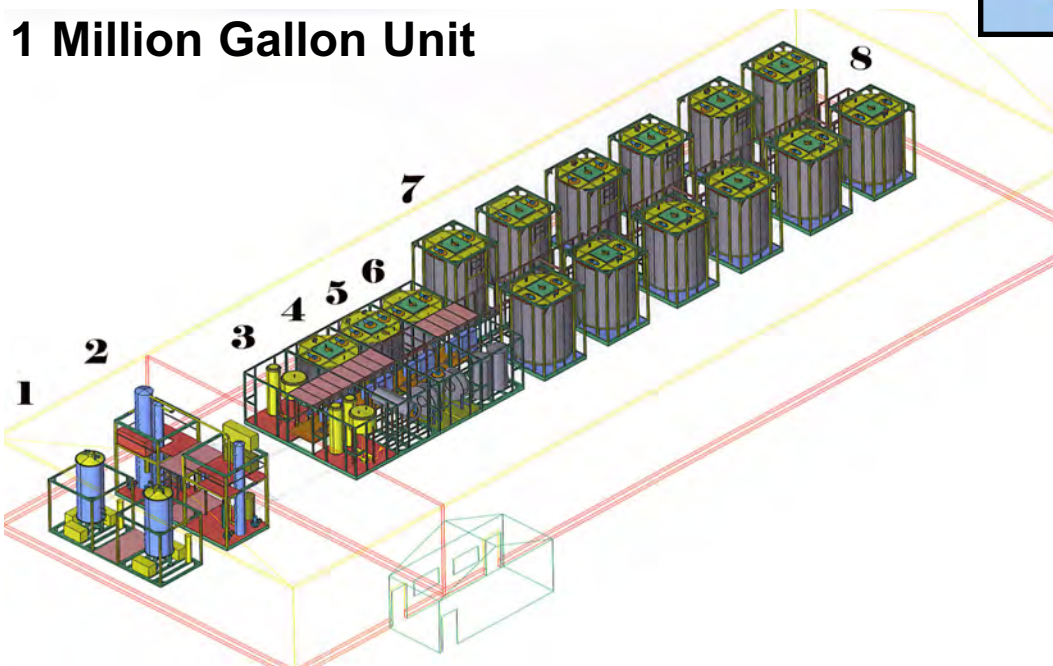
The fermentation tanks are built from poly with a stainless steel lid. (Optional: full stainless steel construction) Every other surface that can come into contact with the process material is constructed of stainless steel. This includes all of the piping, the valves, the heat exchangers, and the distillation columns. This prevents corrosion from quickly rendering your investment worthless.

Easily Shipped

The Modular Ethanol Production System is built in our factory and can be trucked or shipped anywhere in the world. Each pod of the module is contained within a modular tube framed skid that can be picked up with a large forklift or crane. The system is designed to fit on a standard drop deck trailer and still be within normal Department of Transportation (D.O.T.) size and weight limits. There's no need for expensive extra wide shipping permits or lead and trailer cars to aid in shipping the system to your site. For those foreign destinations, the system can ship similar to large shipping containers to any location in the world.



1 Million Gallon Unit



1. Molecular Sieve Module
2. Distillation Module
3. Evaporation Module
4. Separator Module
5. Liquefaction Module
6. Beer/Yeast/CIP Module
7. Fermentation Tanks
8. Ferment Racks

Available Sizes

Available with yearly capacities of 500K, 1 million, 2 million, or 5 million gallons and any multiples thereof.

A Good Environmental Steward

As the ethanol is produced using lower temperatures than that of traditional plants, unsightly steam emitted into the air is eliminated. The "goodies" in the feed byproduct are not boiled into the air causing noxious gases. No effluent is discharged into any stream or river. No massive amounts of water are boiled and discharged as steam. The water used to cool one batch is used as already preheated water for the next batch, reducing energy consumption and water usage.

Easy to Finance

The Modular Ethanol Production Systems are all identical and fully transportable units. This makes financing of the systems much more attractive to leasing companies. If someone would not meet the payment obligations, the system can be picked up, carried down the road to the next site, set in place and quickly become operational. With this in mind, a large scale system could be obtained by investing a small down payment and then utilizing the profits from the production of ethanol to make the monthly payments and excess cash flow thereafter. No need to tie up large sums of operating capital or take on large numbers of outside investors. As the initial unit becomes paid for, customers can keep adding more units to grow the plant to any size desired.

Quick and Easy Installation

The entire system is shipped from our factory, all pre-wired and pre-plumbed, to your site. Simply set the system in place, connect the pods together with our coupling system, route your grain source into the unit, and turn on the system. **You can be making ethanol in a matter of weeks versus months of cash flow draining construction periods as found with traditional plants.** No need to worry about transporting, housing, feeding, and staffing the many construction workers for long periods of time to remote locations where plants will typically be located. Included in our quotation to you will be a few days of training and system start up by a member of our experienced Easy Energy Systems, Inc. staff.

Cellulosic Ethanol Production

Easy Energy Systems is currently developing an add on pod that will add cellulosic ethanol production capability to the standard unit. This pod will provide the initial conversion of the cellulose and then carry it through the rest of the standard ethanol production system. It is our belief that our Modularized Ethanol Production System will be the only way that cellulosic ethanol production will ever become a reality.

Instead of building a huge 100 million gallon plant and trying to be competitive transporting thousands of bales of cellulosic material to the mammoth plant, the smaller Modular Ethanol Production System plants can be evenly distributed throughout a region. This greatly reduces the enormous transportation cost of delivering the cellulosic material to the plant. **This will be the key to economical cellulosic ethanol production.**

EAI Customer Locations



Easy Energy Systems, Inc. is an affiliate of Easy Automation Inc. (EAI) who has been providing feed software and automation for many years to thousands of customers as represented on this map.

