



Guaranteed Performance

Aggressive energy usage and ethanol yield guarantees are backed by industry-leading technology

Our proprietary design enhances plant profitability through energy-conscious engineering. Operating with the industry's lowest fuel and electrical costs, ICM plants consistently exceed nameplate capacities. Our corn-to-ethanol and wheat-to-ethanol plants are competitively priced, and they are backed by the industry's best yield, energy, and emission guarantees.

Calculations based on real-world situations

We calculate our guarantees based on the most challenging situations we've encountered in the 90+ plants we've engineered throughout North America. As a result, ICM offers guarantees we know we can meet—guarantees our plants consistently exceed year after year.

Designed to please your accountant and Mother Earth

While superior engineering ensures reliable and efficient plant performance, ICM also takes the extra steps necessary to make sure the plants we design will be good neighbors to their surrounding communities. Thermal oxidizers reduce odor and emissions. Noise is dampened through smart design; we've incorporated lower-noise compressors and routed air flow to make our plants as quiet as possible. ICM plants discharge zero process water—wastewater is recycled after treatment by proprietary Phoenix Bio-Methanators. The Bio-Methanator also produces methane gas that is routed back to the boilers to reduce overall energy requirements of the plant.

Feedstock-based yield and energy usage guarantees

Just as ICM designs our traditional plants to run most efficiently with corn or milo as a feedstock, our wheat plants have been specifically engineered to make the same optimum use of the wheat kernel. We cover each of our plants with energy usage and yield guarantees calculated based upon the feedstock. Examples of our guarantees are shown below:

2.75 gallons of ethanol

The standard for ethanol yield has shown steady improvement over the last decade due to advances in enzyme technology and incremental improvements in process engineering and plant design.

We guarantee:

- For every bushel of US #2 Yellow Dent corn, ICM guarantees 2.75 gallons of denatured ethanol (2.0 % denaturant).



the **energy** of innovation™



30,000 BTU natural gas usage

Plants utilizing ICM technology enjoy the benefits of an efficient design and the ability to maintain a continuous steady-state operation. The ICM design incorporates a high percentage of boiler condensate return to reduce the amount of water treatment necessary for boiler makeup. It also utilizes a proprietary distillation arrangement, allowing evaporator cleaning while the plant is operational, substantially reducing downtime while improving overall production efficiency.

We guarantee:

- Your plant's total natural gas usage will not exceed 30,000 Btu per gallon of denatured ethanol, including gas-fired DDGS drying.

Electrical usage of less than 0.75 kWh

Electrical consumption varies with final plant design. As plant personnel become more experienced in plant operation, production levels will increase while electrical usage stays stable, further reducing kilowatts used per gallon.

We guarantee:

- Your plant's electrical usage per gallon of denatured ethanol will not exceed 0.75 kWh. (Guarantee does not include carbon dioxide plant, chiller, grain/DDGS handling, or storage.)

Water and air regulation compliance

Backed by the strength of a team of creative thinkers, including an Environmental Affairs department with experience providing permitting in more than 35 states and nine countries, ICM guarantees that your natural-gas fired plant will meet the requirements of each of its permits without exceeding our standard natural gas or electrical guarantees.

We guarantee:

- Your plant will be in compliance with permitted requirements when ICM assists with your permit applications.

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One-stop service provider

ICM has been trusted since 1995 to engineer and build the industry's leading plants. ICM's proprietary process technology is used in more than half of North America's existing dry-mill ethanol production facilities.

Our efforts to provide the best possible services for new partners as well as for our existing network of customers has led to the development of a menu of products designed specifically to address the unique needs of the ethanol industry.

Learn more about ICM's aggressive process guarantees and the 30-plus products and services ICM offers to meet your plant's needs! Call our Customer Service department today.

877.456.8588

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