

Oil Recovery

Skid-mounted Tricanter® centrifuge maximizes recovery efficiency of ICM's oil extraction system

ICM is hard at work turning today's innovations into tomorrow's common practices.

We've developed a menu of nearly three dozen products and services tailored specifically for the ethanol industry — including products like our non-food grade oil recovery skid that increase your plant's bottom line, create a value-added co-product stream, and provide your operations a competitive advantage.



Proven Performance, Increases in Gross Margin up to \$4.2 MM/year

ICM's oil extraction technology utilizing Tricanter® centrifuges has proven to be what we believe is the most superior oil recovery system on the market.

Assuming a non-food grade* corn oil market of \$0.25 per pound, and subtracting \$0.05 per pound for the associated opportunity and operational cost, an average 110 MGY ICM-designed plant with no current oil extraction system could expect to add more than \$4.2 million to your gross margin every year after installing our oil recovery system.

The ICM Advantage

Compare the actual performance and up time of the ICM oil extraction system to other systems on the market, then calculate the difference to your bottom line

When markets are favorable and margins are up, it's a smart move for ethanol producers to invest in upgrades like oil extraction equipment that will create new product streams to help provide a layer of insulation against future market downturns.

With current market prices, the decision really isn't whether to invest in oil extraction, it is choosing which oil extraction technology is right for your plant.

Criteria such as initial purchase price, guaranteed yield, ease of operation, and uptime are key factors in figuring true return on investment. ICM is confident that once you have considered each aspect, you will agree that our system is the best available. Key design differences:

- **Simple to clean**, with no disassembly necessary
- **Easy to maintain**, with experienced 24/7 help only a phone call away
- **Superior yield**; Our field-installed units' average yield is approximately 20% above our guarantee.
- This puts our yield at about double what we believe other technologies on the market are achieving.
- **A better financial decision for your plant**

At \$0.25 per pound oil price, the advantage offered by ICM's system is significant when compared to other units. The difference between our proven performance and other technology available today can be as much as:

\$1.2 million/year MORE than other technology for a 50MMGY plant*

\$2.3 million/year MORE than other technology for a 110MMGY plant*

Impressive Yields & Attractive Markets

Depending on your proximity to end users, the extracted oil can be marketed as either a feed additive or a biodiesel feedstock.**

Reduced solid debris and decreased free fatty acid (FFA) content make the oil from ICM's system an ideal product for biodiesel production — earning you a premium price over other forms of yellow grease in some markets.



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* Assumes current market conditions and ICM oil extraction system recovery rate of 0.6 lb/bushel.

** Since the oil is recovered from the back end of the process, it's not viable as a food-grade commodity without further processing.



DDGS value and marketability remains unchanged with corn oil extraction. Selling corn oil as a separate, higher-value product still allows a remaining fat content in DDGS above 8.5% and provides a pro-fat content in excess of 35%.***

Add Revenue Without Adding Staff

The design, sized to match your production rate, can be monitored with your plant's DCS system, requiring no additions to existing staff. After installation, we will make sure your employees are well-prepared for safe and efficient operation during a one-week commissioning and training period.

Your operations and maintenance teams will appreciate the integrated CIP systems and minimal routine maintenance utilized for the 95%+ availability of our system.

Plug & Play

ICM's corn oil recovery system utilizes a skid-mounted Tricanter® centrifuge, and contains all the necessary piping, electrical components, and controls for quick and easy installation. This modular system is optimized for ICM-engineered plants and can be modified to function as a stand-alone system in plants designed with other technologies.

Standard package includes installed equipment skid featuring a Tricanter® centrifuge, indoor storage tank/tanks, and truck load out. Other options & services available for additional fees include:

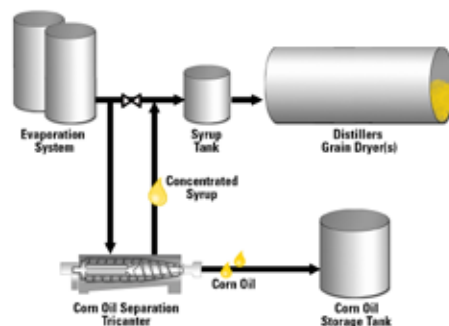
- Outdoor Storage Tank/Tanks & Tank Farm w/ Containment
- Rail Load Out
- Environmental Permitting

Oil Recovery Skid Flow Diagram Overview

The oil recovery system separates corn oil from the post-fermentation syrup stream as it leaves the evaporators. The corn oil is routed to storage tanks, and the remaining concentrated syrup is routed to your plant's existing syrup tank.

Utilizing Flottweg's differentiated Tricanter® centrifuge, the ICM oil extraction process offers:

- Improved Corn Oil Yield
- Increased Operation Time
- Ability to Select Different Oil
- Product Standards
- Operator & Maintenance-Friendly Equipment



No Capital Cost Income Opportunity

Due to the difficulty of raising funds for technology improvements during this period of tight financial conditions, ICM recognized the need for a solution.

Along with the option for your plant to purchase the equipment outright, we have secured funding to install a limited number of these systems at no cost to the facility. We have developed a robust and detailed business model that matches the needs of your plant and your lenders. Please contact ICM about the Agricultural Grain Resources (AGR) no capital cost option.

*** Assumes average-quality corn.

Contact us for pricing, and for no capital cost options

Whether you would like to purchase your equipment direct from ICM or take advantage of no capital cost options with profit sharing through Agricultural Grain Resources (AGR), the technology you will receive is the same high-performance package.

Learn more about ICM's Oil Recovery technology or other products and services ICM offers to meet your plant's needs! Call our Customer Service department today.

877.456.8588



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