



# The Single Source for Superior Control of Your Ethanol Process



**Foxboro instrumentation:  
leading expertise for a growing industry**





*Invensys is a proud member of the Ethanol Promotion and Information Council and supporter of Team Ethanol.*



### Why Foxboro?

- Largest installed base in ethanol industry
- Most ethanol plant experience by far
- Wide range of suitable products
- Fastest, most reliable delivery
- Competitive pricing
- Convenient 90-day return policy
- Longest warranties
- Nationwide sales and service
- Made in U.S.A.
- Easy installation and startup.



### Controlling the Ethanol Future

At 5 billion gallons per year and rising, the growth of the U.S. ethanol industry shows no signs of slowing down.

Regulatory incentives only increase ethanol's momentum. Positive mandates loom for clean-burning, renewable fuels. Consensus expands on the need to reduce dependence on foreign oil. Interest grows in replacing the groundwater pollutant MTBE as a fuel element. The advantages of ethanol-burning fuel cell technology look better every day. Ethanol's fire safety properties — and promise of reduced costs — become more and more attractive to consumers.

No wonder that literally hundreds of new plants are already under construction or planned in the U.S. alone. But as an ethanol producer, where can you find the experience you need to keep your new plant under control?

### Unequaled Ethanol Experience

With the industry growing so fast, it makes sense to go with the instrumentation supplier you can trust.

Foxboro has all the experience, expertise, and expansive product lines you need. A respected U.S. manufacturer since 1908, we've provided instrumentation for corn processing since the 1950s. Today, Foxboro instruments and Invensys systems add up to the largest installed base of automation solutions in the ethanol industry.

In fact, to date Foxboro has been the primary process instrument supplier for the majority of the nation's dry mill plants. Foxboro instruments control more than half of all ethanol plants in the U.S., from grassroots to retrofit. That's many more than any other instrumentation manufacturer.

### Clear Benefits

Whether you're a designer/builder/contractor, a plant operator, or a process engineer, it makes sense to choose instrumentation for your ethanol plant from the clear leader in the industry. Foxboro experts supply or specify the correct instrument for your every application. We're your single source for every instrument you need.

Foxboro maintains a large production capacity. We can readily keep up with sudden surges in demand from fast-track ethanol plant construction. And our wide range of products are made at competitive prices to Six Sigma standards in ISO 9000 facilities right here in the U.S.A. Your instrument performance is backed by the long, strong Foxboro tradition of best-in-class quality.

Nor will you have to wait for our products — or our attention. Nationwide, first-class Foxboro sales and service coverage leverages our high plant capacity and efficient manufacturing methods to provide the fastest delivery times in the industry.

Superior support also includes the longest warranties in our industry — 5 years on some of our most popular products. And for your fast-changing ethanol instrumentation plans, we offer a 90-day return on unused instruments. No questions asked. No charge.

*To make ethanol a net energy profit source, ultimately you must refine the efficiency of your process and the effectiveness of your control. Foxboro instrumentation makes a critical contribution to your success.*





### Unmatched Advantages

- Trouble-free installation and startup
- Easy configuration and use
- Unequaled plant availability and uptime
- Renowned reliability

### Premier Product Lines

- Pressure transmitters
- Temperature transmitters
- Flowmeters
- Analytical analyzers and sensors
- Positioners
- Automation systems



## All the Products You Need

The typical ethanol production facility contains several hundred measurement points. The accuracy and reliability of each are critical to your plant's success.

Foxboro instruments offer trouble-free installation and startup. Most use the same innovative, durable topworks packaging with modular intelligent electronics.

Configuration and use are also effortless, using built-in LCD/pushbutton displays for simple setup and easy reading in the field. And most of our products supply your choice of communications protocol: HART, PROFIBUS, FOUNDATION fieldbus, or FoxCom.

Foxboro furnishes unequaled plant uptime as well. Our reliability is famous industry-wide. So Foxboro instruments give you impressively low cost of ownership, too. Expect long years of service in ethanol plant environments. That's why we can back many of our products with a 5-year warranty — the longest in the business.

We've got the broad range of products you require. Our quality is unequaled. Our prices are competitive. Our low-maintenance ease is assured. And our performance has been proven in more ethanol plants than any other brand.

### Pressure

Foxboro transmitters offer accurate, reliable measurement of differential, gauge, and absolute pressure, as well as remote seal and flanged level, plus hydrostatic tank level, interface, and density. Multirange and multivariable models let you choose maximum performance. Our newest pressure offerings include both traditional and low-profile structures, plus the highest accuracies and longest warranties in the business.

Apply Foxboro pressure measurements for uses from preparation tanks to fermentation scrubbers and tanks to distillation columns, evaporators, and utilities.

### Temperature

Foxboro temperature transmitters deliver the highest available reliability and flexibility, combined with best-in-class intelligence. Our universal format means a single transmitter can accommodate integrally or remotely mounted RTD or thermocouple sensors.

These instruments supply the dependable temperature data you need, from slurry and fermentation tanks to drying beds to evaporators and stillage tanks.

### Flow

Foxboro magnetic flowmeters have set an industry standard for high performance, wide applicability, and low total cost of ownership. One innovative model delivers reliable results on even your worst, noisiest flows. Our vortex meters are the industry's most popular, due to smart, durable design; high



intelligence; and a choice of versions. Finally, our Coriolis mass flowmeters provide breakthrough measurement of even entrained air flows.

Use your Foxboro flowmeters to track every measurement from your fermentors and syrup tanks to percent alcohol density and challenging load-out flows.

### Analytical

Foxboro analyzers and transmitters provide accurate, flexible electrochemical measurement — especially of vital pH and conductivity levels. Their diagnostics and usability features rank with the industry's best. And our sensors include innovative pH models that furnish unheard-of stability and long life in challenging process environments.

These analytical instruments and sensors provide the accurate pH control that's your key to efficient fermentation.

### Positioners

Our high-performance Foxboro Eckardt intelligent positioners deliver solid functionality and reliability. They're also packed with advanced features such as 100% solid-state sensing and control circuitry, upgradable electronics, and purged housings.

For precise operation of pneumatic valve actuators at critical points throughout your ethanol facility, our products are positioned as your best-in-class choice.

### Systems

Foxboro instruments also provide seamless integration with our world-renowned Invensys automation systems and services:

- **I/A Series** intelligent automation systems furnish total distributed control of your entire ethanol production facility
- **Wonderware** industrial automation and information software powers intelligent plant decisions in real time
- **Avantis** enterprise asset management (EAM) software delivers intelligent asset utilization
- **SimSci-Esscor** process simulation software and systems provide optimized control ideal for the new generation of "green" ethanol plants
- **InFusion ECS**, truly the world's first enterprise control system, lets you affordably tie together your automation and information systems — regardless of supplier or generation — into one unified ethanol enterprise







### Superior Services

- Quickest delivery
- Most support on the spot
- Greatest application knowledge
- Widest array of services
- Focused project engineering



### All the Support You Require

Even great products occasionally require service. So as you're constantly urged to achieve high performance from dwindling resources, extensive Foxboro services can help.

### Fast Delivery

The world of ethanol production is characterized by both constant pressures to have plants up and running as fast as possible — and frustrating delays in many equipment deliveries. Foxboro can make a real difference.

Under our unique Rocket program, our most popular models ship *the next business day!*

### Local Support

In this era of multinational companies, your connection with a vendor in another country can be tenuous and fraught with difficulty.

Invensys Foxboro does bring all the power of a large global enterprise to your benefit.

We maintain the largest force of authorized service technicians of any ethanol plant instrument vendor in the country.

Chances are, expert Foxboro support is available within a few hours of your plant.

### Application Expertise

Again, Foxboro has instrumented more U.S. ethanol plants than any other supplier — by far.

From preparation and fermentation to distillation, drying, and utilities, we know your process. We're intimately familiar with its principles and its problems. No other vendor brings as much successful ethanol production experience to bear.

Let Foxboro ethanol industry experts recommend and supply just the right instruments. We'll show you precisely how to cut costs, increase efficiencies, and maximize productivity for your plant.

### LifeTime Services

Our LifeTime Support Services provide extensive technical expertise. We're eager to help you engage the high performance capabilities of your instruments and automation systems.

Professional service specialists guide and supplement your in-house experts. They rapidly ship replacement parts. They dispatch field assistance experts onsite to meet your reported needs. Our integrated resources are managed and deployed by Customer Support Centers and our locally based field resources to give you the most efficient, timely service in the industry.



Specialists are on call 24 hours a day, 7 days a week to answer your questions or offer the help you require. In the U.S., call our technical support toll-free at **1-866-746-6477**.

On the Web, visit [www.foxboro.com/instrumentation](http://www.foxboro.com/instrumentation) to obtain more information, including electronic documentation plus in-depth spec sheets and drawings. Visit [www.flowexpertpro.com](http://www.flowexpertpro.com) for flow selection and sizing software. And explore [www.buyautomation.com](http://www.buyautomation.com) to check your order status and project or agreement pricing yourself, in real time.

### Project Engineering

Our focused Project Services deliver equipment solutions executed to your specifications. Project managers have vast experience in managing plant floor-to-boardroom projects, including management information systems and enterprise resource planning projects.



### Tailored Training

Knowledge is key to the overall success of your people and to achieving the business goals of your ethanol enterprise. Foxboro Learning Services offer a wealth of educational opportunities for individuals and companies. Our up-to-date, cost-effective training leads you via learning paths that are scaled and customized to your personal and corporate requirements.

Choose from a wide menu of intelligent training possibilities. Send your people to classes at our dedicated Foxboro, Massachusetts, training center, led by experienced technology education professionals. Customize a class at your own site. Or arrange for a concentrated course of Internet-based learning.

*Go to the ethanol instrumentation experts for the best-performing, most cost-effective choices in ethanol production measurement today.*

*Visit [www.foxboro.com/instrumentation](http://www.foxboro.com/instrumentation) or just call 1-866-746-6477.*



## The Foxboro Difference

New instrumentation ideas — applied at the point where the control system meets your process — can make all the difference. They allow you to greatly improve your operation's economic, safety, and environmental performance.

Others may imitate our successful designs of the past. Today, Foxboro instrumentation furnishes further innovations instead. We offer a broad range of pressure transmitters, flowmeters, pH meters, and other measurement product lines ideal for your applications.



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Flow selection & sizing:  
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