

Process Instrumentation for the Chemical Industry

World-Class Field Devices



Foxboro

38 Neponset Avenue
Foxboro Massachusetts 02035-2099 USA
Telephone: +1 508-549-2424
Toll free within the USA: +1 866-746-6477

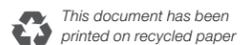
Foxboro GmbH

Pragstr. 82
D-70376 Stuttgart
Telephone: +49 (0)711 502 0

Website: fielddevices.foxboro.com

Invensys, Foxboro, Foxboro Evo, Avantis, Eurotherm, IMServ, InFusion, SimSci, Skelta, Triconex and Wonderware are trademarks of Schneider Electric (SE), its subsidiaries or affiliates. All other brands and product names may be trademarks of their respective owners.

©2015 Invensys Systems, Inc., a Schneider Electric company. All rights reserved. No part of the material protected by this copyright may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, broadcasting, or by any information storage and retrieval system, without permission in writing from Invensys Systems, Inc.





Reliable, accurate, safe, and efficient process control for the chemical industry

For more than 200 years, Foxboro by Schneider Electric, a leading manufacturer of precision controls, have served the chemical and other industries offering process control. Through the years, Foxboro has been an innovator of measurement technologies including the development of the first d/p Cell, the award-winning Digital Coriolis Mass Flowmeter, the DolpHin™ pH sensor, and the Magnetic Flowmeter.

Experience has taught us that no industry has a greater demand for process control than the thousands of chemical plants in operation worldwide. From petrochemicals to agrochemicals, industrial gases to plastics, pigments, and more, the industry that manufactures, processes, transports, and stores thousands of hazardous materials every day requires one thing above all – absolute confidence in the quality, reliability, accuracy, and safety of the devices entrusted with controlling some of the most complex, pressurized, and volatile processes known.

Foxboro field devices provide reliability and safety to an industry that must not only produce products of impeccable quality and purity, but also do so with an uncompromising commitment to environmental and plant safety.

Foxboro's complete line of robust, field-proven instrumentation provides measurement solutions for temperature, pressure, flow, process analysis, level, and data acquisition. Additionally, our line of valve positioners offers the highest accuracy in the industry.

Our SIL2 TÜV pressure transmitters cover absolute, differential, and gauge pressure and have a certification rating of over 90% Safe Failure Fraction (SFF) and the longest Mean Time Between Failure (MTBF) on the market.

Foxboro pressure transmitters provide best-in-class accuracy levels, backed by the longest standard and optional warranties in the industry. Our mass flowmeters include the most advanced Coriolis meters available. Our Radar level measurement and pioneering level displacer devices lead the industry in advanced level-measurement technology. Our liquid analytical sensors are revolutionizing pH and conductivity measurement. Our positioners offer all the precision control, interoperability benefits, and asset management advantages of the latest field device technology.

For the efficient operation of your plant utilities or the precision processing of your finished products, you can trust Foxboro process instrumentation for the ultimate in quality, reliability, accuracy, and safety.

“The Foxboro solution measures and maintains a predetermined percent solids ratio based on conductivity, which assures accurate batch composition every time.”

*Vice President
Chemical Processing Plant*

Automated process management



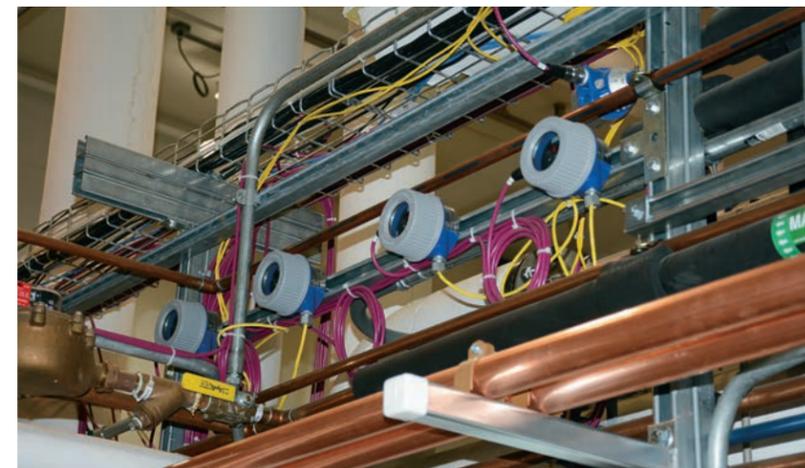
It is the lifeblood of your production efficiency, product quality and customer satisfaction. Accurate, efficient delivery of multiple media from multiple sources, at varying pressures and flow rates, requires devices of exceptional precision, and accuracy.

With Foxboro field devices, you have a range of capabilities available to meet the need of even the most complex batching and process applications:

- Highly accurate metering of multiple ingredient streams being blended into a single reactor feed line
- Start-from-empty measurement accuracy for maximum operating efficiency without workarounds, restarts, purging, or wasted materials
- Precise, reliable level measurement of reactor liquids
- High turndown metering to monitor a range of pressures while maintaining reference accuracy, eliminating the need for multiple devices to monitor at variable pressures
- Accurate measurement of cooling liquid levels in heat exchangers/cooling towers
- Special cleaning for oxygen and chlorine services to ensure absolute contaminant-free operation for high-value materials and end products

“We will be recommending the Foxboro Digital Coriolis to our clients for batching applications where entrained air is an issue. This is a significant extension of Coriolis capability.”

Director of Technical Support



To handle the wide range of application needs required by chemical processing, Foxboro offers industry-leading process management solutions:

Coriolis flowmeters: the most advanced Coriolis flowmeter in the industry – the first Coriolis meter capable of multi-phase performance, overcoming problems measuring fluids with entrained air bubbles, empty tube conditions, or flash-prone fluids.



Vortex flowmeters: the industry workhorse of flow measurement and one of the highest-performing flowmeters on the market, capable of measuring liquid, gas, and steam for temperatures up to 800°F (426°C) under every operating condition.



S-Series pressure transmitters are capable of storing 11 calibration points in its firmware, allowing customers to realize inventory savings and high turndown while maintaining reference accuracy. It lowers your cost of ownership and simplifies model range selection.

Conductivity measurement equipment.

The broadest range of electrodeless conductivity sensors, with convenient shirt-pocket calibration tools for fast, safe checking and calibration from outside the pipe. Easy-to-use analyzers and transmitters with all the most common chemical concentration and temperature compensation curves built in.

pH measurement equipment. The combination of best-performing flat, ruggedized glass pH electrodes and a unique Nafion ion barrier for protecting the reference junction from fouling results in sensors with long lifetimes and low cost of ownership.

Support for plant operations



It is one thing to produce a quality product to send out your door. But equally important to the long-term success of your enterprise is the operation of your plant at maximum efficiency and safety.

Foxboro field devices made with the same attention to quality, reliability, and safety that control your production processes can also monitor your plant utility operations:

- Measurement of fuel feed in boiler operations
- Measurement of temperature, pressure, and flow of steam production
- Analysis of steam condensate, boiler feed water, and boiler blowdown
- Flow-rate measurement for filling and emptying of storage tanks
- Analysis and measurement of flow rate for water streams
- Level measurement of feed water in high-pressure, high-temperature boilers to ensure adequate water supply for continuous steam production

“With the Foxboro DolpHin pH sensors, our equipment and maintenance costs were eight times lower than with the previous sensors, and the efficiency of our scrubber operation was optimized.”

Senior Control Systems Technician



To support your plant operations, Foxboro offers a range of meters and analyzers:

Mag flowmeters offer field-proven stability and lower cost of ownership. Vortex meters are some of the highest-performing flowmeters on the market.

IMV Series multivariable pressure transmitters allow you to use a single transmitter to do the job of three.

IDP Series intelligent two-wire Differential Pressure transmitters offer complete measurement ranges, static pressure ratings, materials, analog and digital communications and premium performance.

Valve positioners provide accurate internal valve parts monitoring to ensure the final control element is free of fugitive emissions and safe for shutdown.

Radar level measurement transmitters provide contact and non-contact antenna that is virtually unaffected by the environment, making them exceptionally effective for all liquids, including corrosive, sticky, and other difficult media.

Buoyancy level measurement devices are based on the Archimedes buoyancy principle to provide measurement inside the reactor and are designed to measure liquid level, interface or density of liquids.

Liquid analysis equipment features easy-to-use analyzers and rugged, accurate sensors for critical measurements of pH, ORP, contacting conductivity, and electrodeless conductivity.

“We found many vendors that offered quality sensors, but Foxboro was the only one that could provide a robust design that could stand up to all the reagents and solvents in our solutions.”

Senior Technical Supervisor
Pharmaceutical Manufacturing

Environmental monitoring

Foxboro offers a complete line of analyzers and sensors to monitor pH, ORP, and dissolved oxygen in effluent streams and wastewater systems with precision and reliability. Foxboro analytical, mag flow, temperature, and pressure devices are used to measure and control environmentally sensitive applications:



- Scrubbers to remove caustic and toxic gases
- Waste treatment ponds
- Early-warning system monitors for waste stream to detect when pre-treatment would optimize the process
- Level measurement of all liquids involved in wastewater neutralization

