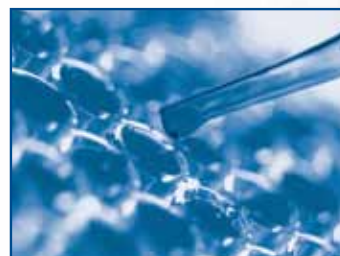


# Rosemount Instrumentation for Life Sciences



Delivering consistent results through better instrumentation

**ROSEMOUNT**<sup>®</sup>

  
**EMERSON**<sup>™</sup>  
Process Management

## Delivering consistent, measurable results through innovative instrumentation and hygienic best practices

*Every day, you're expected to deliver more with less. Keep the process running reliably and efficiently, with fewer resources. Emerson Process Management understands. We've taken our historically reliable Rosemount measurement technologies and packaged them specifically for the Life Sciences industry, making them easy to configure, support and operate. What's more, we design our pressure, temperature, flow, and level instruments to enable best practices that give you results you can measure.*

### Reduced Risk

Rosemount products enable new best practices that allow you to minimize the risk of a non-compliant batch. For example, Rosemount hygienic products withstand hundreds of CIP/SIP cycles without drifting outside your specification limit. This industry-leading "batch-to-batch" repeatability assures process measurements within specification, reducing the risk of a non-compliant product.

### Decreased Cost

The long-term stability of Rosemount products reduces the frequency of calibration, decreasing operational costs. When incorporated with Emerson's PlantWeb® digital plant architecture, PlantWeb Alerts can further increase savings by detecting process issues before they occur, communicating Advisories and Alerts and recommending a course of action to avoid process disruption.

### Improved Start-Up

Emerson provides special packaging and calibration documentation with your Rosemount Instrumentation that can expedite installation qualification. What's more, our field-intelligent Rosemount devices provide early warning of potential process and performance discrepancies, allowing you to get your process started sooner.



## Rosemount Hygienic Instrumentation

Emerson offers a complete line of hygienic instrumentation designed for the needs of the Life Sciences industry.

### Designed for Cleanliness

Stainless steel construction and polished, smooth, crevice-free surfaces create a cleaner environment for your production processes.

### Compliance to Standards

Rosemount instrumentation is 3-A authorized and EHEDG certified. With FDA approved materials, including USP Class VI gaskets and o-rings, Rosemount hygienic instrumentation is fit for purpose in the Life Sciences industry.



## Engineered for Specific Applications

Whether your application is a hygienic temperature measurement on a seed vessel or a flow measurement on a steam line, Emerson has a complete line of Rosemount instrumentation to meet your application needs.

### Best Practices for a Better Bottom Line

With Rosemount instrumentation engineered to implement best measurement practices and designed specifically for Life Sciences, Emerson delivers reliable performance that results in a better bottom line.



## Field Intelligence and Diagnostics

Intelligent field devices in combination with AMS™ Suite: Intelligent Device Manager software provides online access to maintenance-related information in a single database. Users can configure, monitor, and troubleshoot smart instruments to dramatically lower maintenance costs, streamline compliance, and simplify configuration and validation.

### Audit Trail Functionality

The Audit Trail paperless process is a feature of AMS Device Manager that documents all device maintenance activities with error free, time saving performance.

### Proactive Process Control

Field intelligence through PlantWeb® allows devices to communicate and compensate in real time to bring process beyond batching and into continuous production.



## Reliability for Consistent End Product

Every innovation in Rosemount instrumentation is focused on how it better serves the customer's needs. It's this focus that ensures Rosemount devices will enable best measurement practices to improve product consistency and integrity.

### Conformance to 3 Sigma Standards

Emerson's commitment to quality has resulted in performance specifications meeting 3 sigma standards. Reliable measurement takes risk out of your process and provides consistent product results.

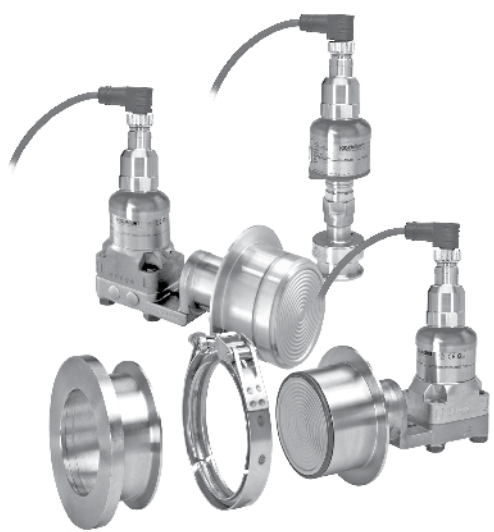
## TEMPERATURE



## PRESSURE



## FLOW



## LEVEL

## Hygienic Process Applications

Biopharmaceutical manufacturing systems are designed to ensure hygienic environments. Instrumentation being a key part of those systems, Rosemount products have been engineered to meet the most stringent hygienic requirements. The smooth, stainless steel designs enable easy cleaning and reduce risk of contamination.



## Utility Applications

Emerson provides a full line of products for utility applications where aseptic requirements are not as strict. Steam measurements can use vortex or DP flow devices while clean room pressurization monitoring applications use ultra low differential pressure devices. Many products are available with Class 1, Division 1 approvals for hazardous locations and solvent based applications.



## Monitoring vs Critical, Control and Safety Applications

Typical measurement points range from monitoring applications with minimal influence on plant performance to critical, control and safety points that have maximum impact. Rosemount instrumentation leads the process control industry with a full range of application-specific instrumentation that ensures the best return on your investment.

Monitoring	Critical, Control & Safety
Cost Effective Solutions for Single-Point and High Density Measurement Points	Safety, High Accuracy, Redundancy, Diagnostics, Long-term Stability
<b>INSTRUMENTS TAILORED TO MEET YOUR NEEDS</b>	
EASE OF COMMISSIONING AND MAINTENANCE LOWER LIFE CYCLE COSTS RELIABILITY	

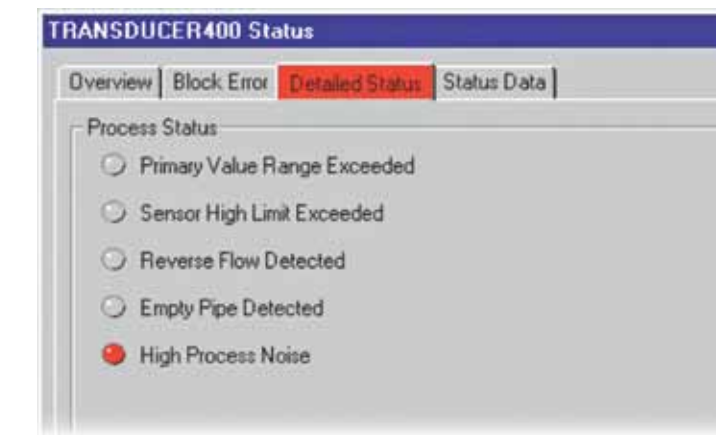
## Increase Process Availability through PlantWeb® Alerts

PlantWeb Alerts enable the full power of the PlantWeb digital architecture by immediately diagnosing instrumentation issues, communicating the details and recommending a suggested course of action. Communications in the form of Advisories, Maintenance Alerts or full fledged Failure Alerts all help to reduce unexpected downtime and its impact on throughput.



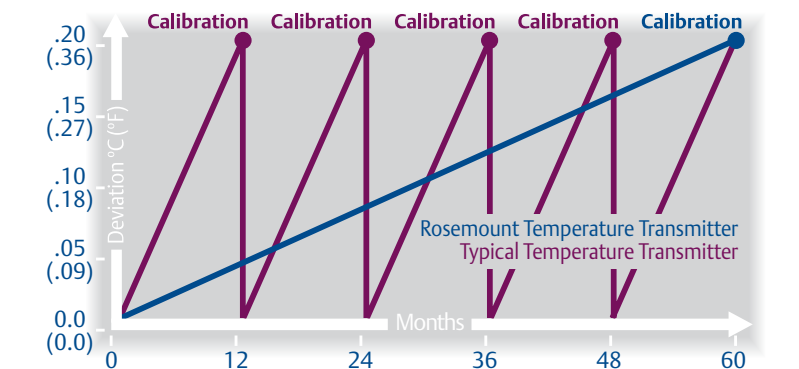
## Protect Your Product by Using Advanced Diagnostics

An embedded diagnostic in the Rosemount magnetic flowmeter monitors the signal to noise ratio. This diagnostic helps to ensure an accurate flow signal by monitoring signal noise and suggesting corrective actions, such as changing the coil frequency, to optimize the flow signal quality.



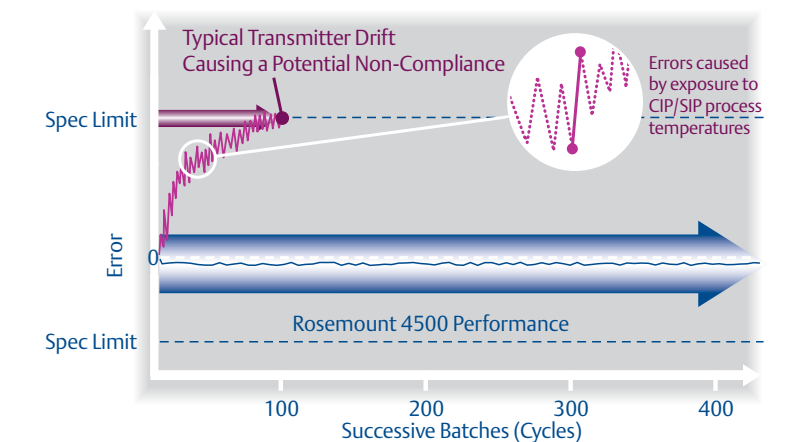
## Increase Productivity through Better Stability

Over the life of a transmitter, typical sensors and electronics can drift and require calibration. The quality and stability of Rosemount instrumentation allows extended calibration intervals, increased productivity, improved maintenance practices and a lower total cost of ownership.



## Reduce Process Variability with Batch-to-Batch Repeatability

The Rosemount 4500 withstands hundreds of CIP/SIP cycles without drifting beyond your specification limit. We've termed this type of stability "batch-to-batch repeatability". Better batch-to-batch repeatability assures process measurement within specification, reducing your risk of a non-compliant product and minimizing your batch-to-batch variability.



# Delivering consistent results through better instrumentation

## Control & Safety Temperature Transmitters

The critical measurements in your hygienic applications demand an accurate temperature solution to maximize valuable yields. These transmitters are ideal where safety, high accuracy, redundancy, diagnostics, and long-term stability are important measurement attributes:

### 1 Rosemount 3144P

- The ultimate transmitter for critical, control and safety applications
- Multi-input capability provides highest reliability with Hot Backup®, Sensor Drift Alert, and dual-compartment housing
- Best-in-class accuracy with Transmitter-Sensor Matching
- Enhanced LCD meter for local indication of readings and diagnostics



### 2 Rosemount 644

- Polished SST enclosure designed specifically for hygienic installations
- Head and rail mount styles for flexible mounting
- Best-in-class accuracy with Transmitter-Sensor Matching
- LCD provides local indication of reading and diagnostics



## Monitoring Temperature Transmitters

Monitoring applications such as media storage tanks and pipe monitoring require cost-effective solutions. Whether you have single point or high-density applications, there's a Rosemount product to fit your need.

### 3 Rosemount 848T

- Low installed cost – communicates up to 128 measurements on two wires
- 8 individually configurable inputs – RTD, thermocouple, & 4-20 mA
- Mounts anywhere – field hardened, intrinsically safe, 2-wire powered, available in a SST housing
- Interface into legacy systems with Rosemount 3420 Fieldbus Interface Module



### 4 Rosemount 248

- Polished SST enclosure designed specifically for hygienic temperature monitoring installations
- Fits any connection (DIN Form B)
- NAMUR compliant: NE21, 43, 89



### 5 Hygienic Temperature Complete Point Solutions

A wide range of process interfaces such as weld-in or tri-clamps are available to suit your application

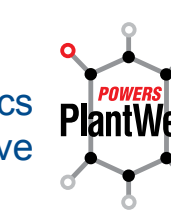
- Fractional Line Size RTDs provide the ideal solution for small-scale applications such as seed reactors and pilot plants
- Replaceable measuring inserts ensure process integrity



## PlantWeb® Capabilities

Rosemount products power PlantWeb architecture with advanced diagnostics and improved process control that can ensure process health, improve operational efficiency, and deliver consistent results, for example:

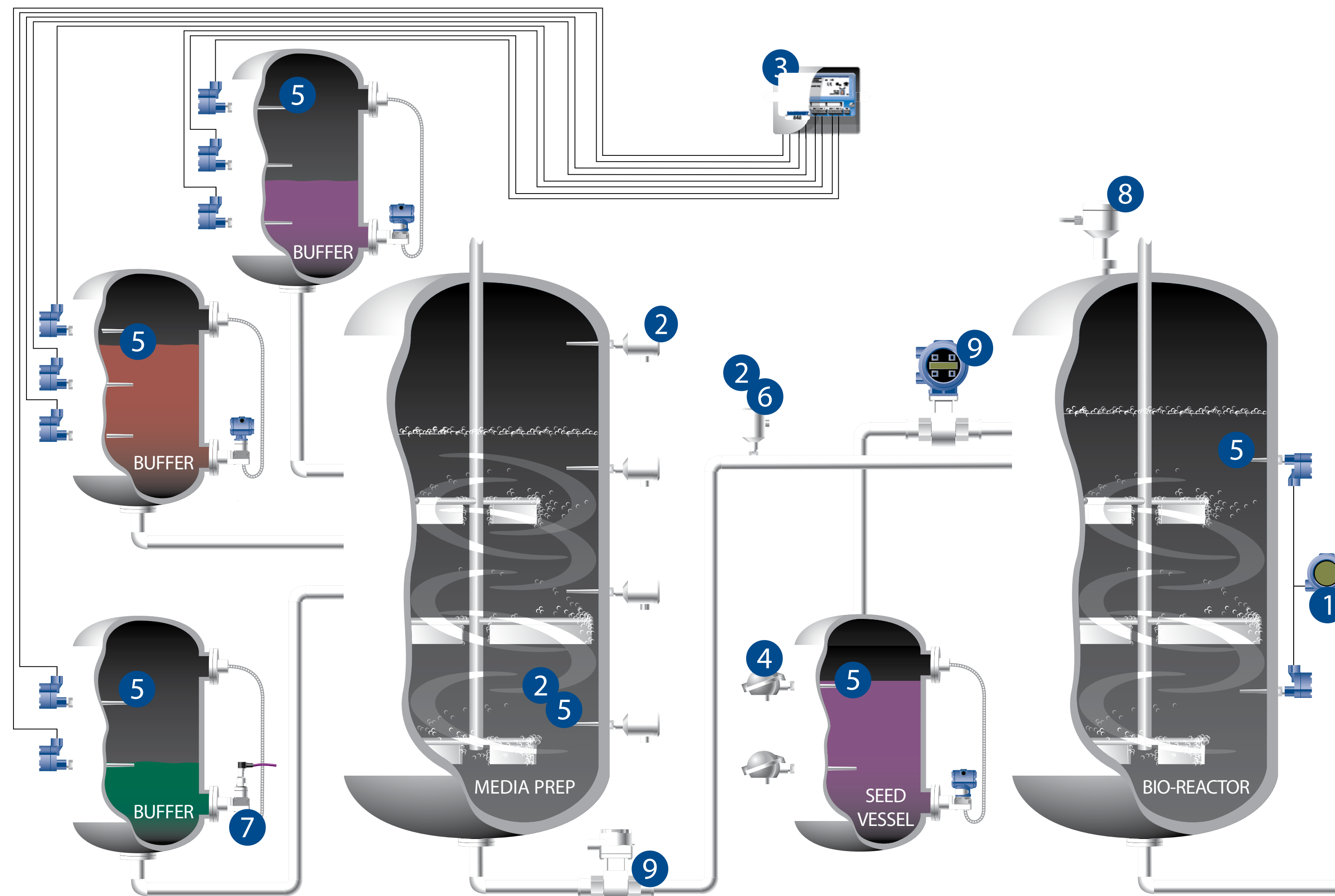
- Inform operator immediately of abnormal conditions that may affect process
- Inform maintenance of abnormal conditions and recommend best corrective action
- Integrate equipment performance and process information for audit trail and record keeping.



### 8 Rosemount 4500 Hygienic Pressure Transmitter

The Rosemount 4500 hygienic pressure transmitter leverages the industry leading technology of the 3051S to provide a tailored solution for Life Sciences applications. Features important to this industry have been enhanced making the 4500 your best choice.

- Smooth, crevice-free SST design minimizes cleaning and wipe-down time
- Performs reliably after hundreds of CIP/SIP cycles
- Programmable LCD meter outputs make applications more flexible
- Tri-clamp or fractional line fitting process connections conform to industry standards
- Best-in-class long-term stability reduces maintenance costs



### 9 Rosemount 8721 Sanitary Magmeter Flowtube

The 8721 provides the reliability and accuracy you demand for your most critical hygienic flow applications.

- Full diameter design for less product shear
- Smooth crevice-free design for CIP/SIP service
- Electropolished process connections for sensitive applications
- .25% accuracy available for 3.5 to 4920 liters per minute flows
- 15–100mm sizes (1/2–4 inch) in a variety of process connections
- The easiest to use local operator interfaces
- High performance compact, integral and remote configurations
- Software and hardware security for validated processes



### 6 Hygienic In-Line Temperature Sensors

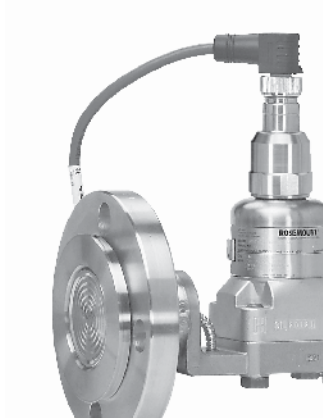
- Designed to meet the stringent hygienic requirements of EHEDG for inline (pipe) measurements
- Compact dead-pocket free sensor design is easy to install and allows sensor removal without process shutdown.
- All components made of SST for easy cleaning in CIP/SIP applications
- Ideal solution for smaller line sizes (DN10 to DN80)
- Available with SST connection head or as a cable sensor



### 7 Rosemount 3051S-L DP Liquid Level Transmitter

The 3051S-L is a high performance pressure transmitter for liquid level applications offering:

- Broad array of engineered hygienic process connections
- Best-in-class seal design improves performance and reliability
- Tuned systems reduce cost by 20% and improve performance by 15%



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**EMERSON**  
Process Management

To improve your bottom line with Rosemount products, contact your local Emerson Process Management representative or visit [www.rosemount.com/lifesciences](http://www.rosemount.com/lifesciences)

## Additional information about specific Rosemount Life Sciences products can be found in these documents on rosemount.com

**Rosemount 4500**  
**Product Data Sheet**  
00813-0100-4027

**Rosemount 951**  
**Product Data Sheet**  
00813-0100-4362

**Rosemount 3051S**  
**Product Data Sheet**  
00813-0100-4801

**Rosemount 3144P**  
**Product Data Sheet**  
00813-0100-4801

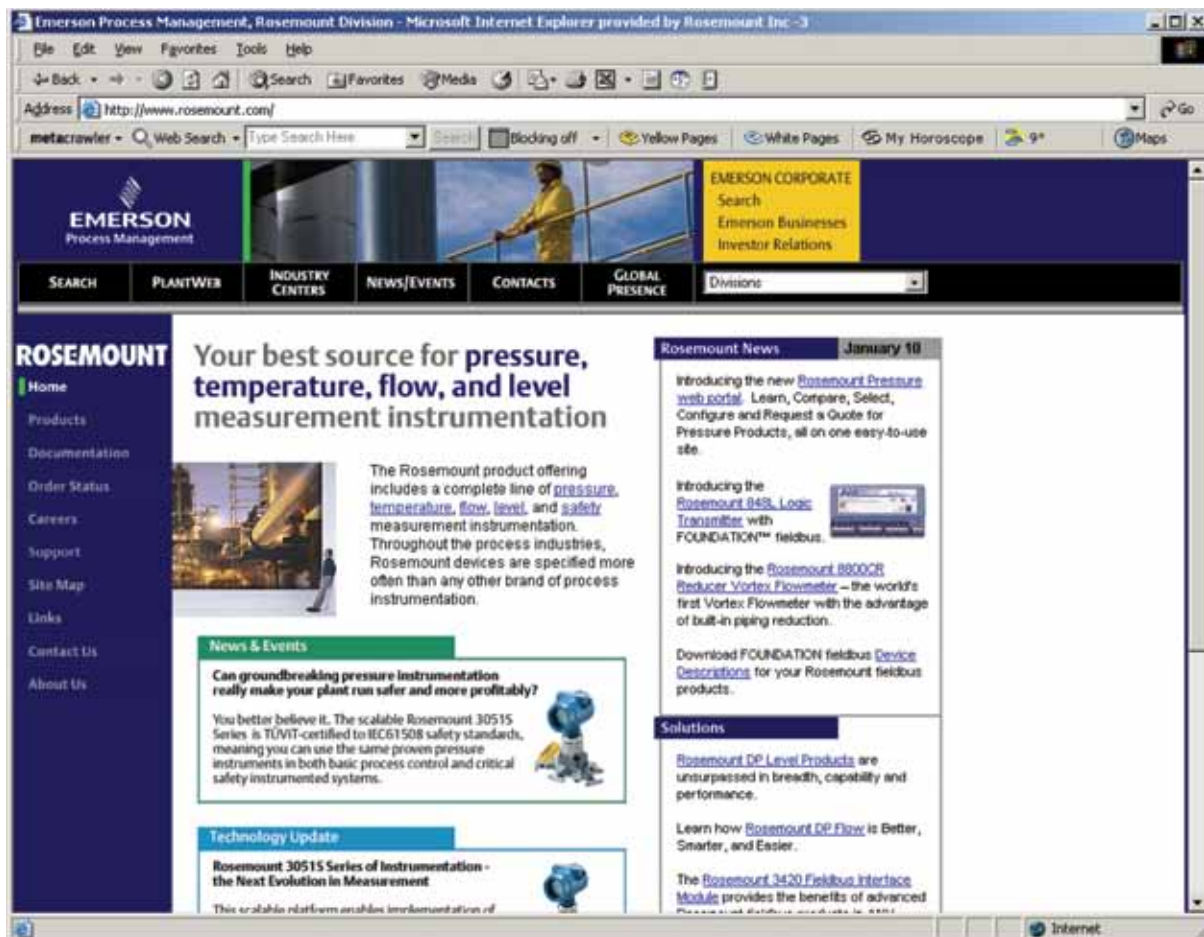
**Rosemount 644**  
**Product Data Sheet**  
00813-0100-4728

**Rosemount 848**  
**Product Data Sheet**  
00813-0100-4697

**Rosemount 248**  
**Product Data Sheet**  
00803-0100-4825

**Rosemount Volume 1**  
**Product Data Sheets**  
U.S. 00803-0100-2654  
Metric 00803-0200-2654

**Rosemount 8721**  
**Product Data Sheet**  
00803-0100-4901



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