Get the Scoop on how Emerson can optimize your Dairy Operations

Complete Solutions for the Dairy Industry

Proven automation solutions and local expertise to help you overcome your toughest challenges.

EMERSON™

Automation Solutions Deliver Significant Competitive Advantages

Changing consumer preferences for dairy products and advances in equipment have resulted in the introduction of a variety of cultured, hybrid and organic dairy products.

Dairy processors around the globe are innovating, making use of new methods to appeal to these consumer tastes, fortifying products with valuable nutrients and providing health-oriented and high-protein dairy products with a broad range of flavors.

While the underlying principles involved in dairy processing have essentially remained the same over the years, the processes have become more specialized and refined, and the equipment has evolved. In addition, the size of dairy operations has grown and amplified the need to reduce waste for processing and utilities.

Adapting to these new realities, while also keeping food safety at the forefront is increasingly a challenge, and more than ever, making use of proven and reliable hygienic automation solutions creates a competitive advantage for your dairy operation.

Your Partner for Dairy Processing

From new plants to facility expansions and enhancements, dairy producers are turning to Original Equipment Manufacturers (OEMs), integrators, and automation solutions experts to maximize the return on investment and take advantage of the most recent technology advances. Emerson is the supplier of choice for optimizing your dairy operation. With a complete hygienic product portfolio, extensive automation solutions expertise and a full offering of discrete manufacturing technologies we help you optimize production processes and packaging automation, while ensuring the highest level of food safety. Emerson has a proven track record of working seamlessly with integrators, OEMs and dairy producers to ensure that projects are on budget, on-time and maximize the return on investment.

Achieve measurable gains by targeting **waste reduction** and **increased throughput**. Emerson has proven automation solutions for milking stations, milk receiving, dairy processing, final packaging and utilities.

Accelerate your competitive advantage with **easy-to-install and integrate technologies** that are accurate, **hygienic by design** and address the more specialized and refined processing areas in your dairy operation.

Enable your employees to achieve top results with **easy-to-use** automation solution technologies that allow them to be more productive with their time.

Dairy Runs Deep at Emerson

From milking systems to optimizing dairy operations and processing equipment, Emerson has proven expertise in providing innovative automation solutions to the dairy industry. That's why a leading manufacturer of dairy equipment, when redesigning its automated milking station, turned to Emerson for a turnkey solution, including design and engineering, for the station's air logic circuit. This circuit controls the pneumatic cylinders that operate the stall's entry and exit gates, which automates the start of dairy processing.
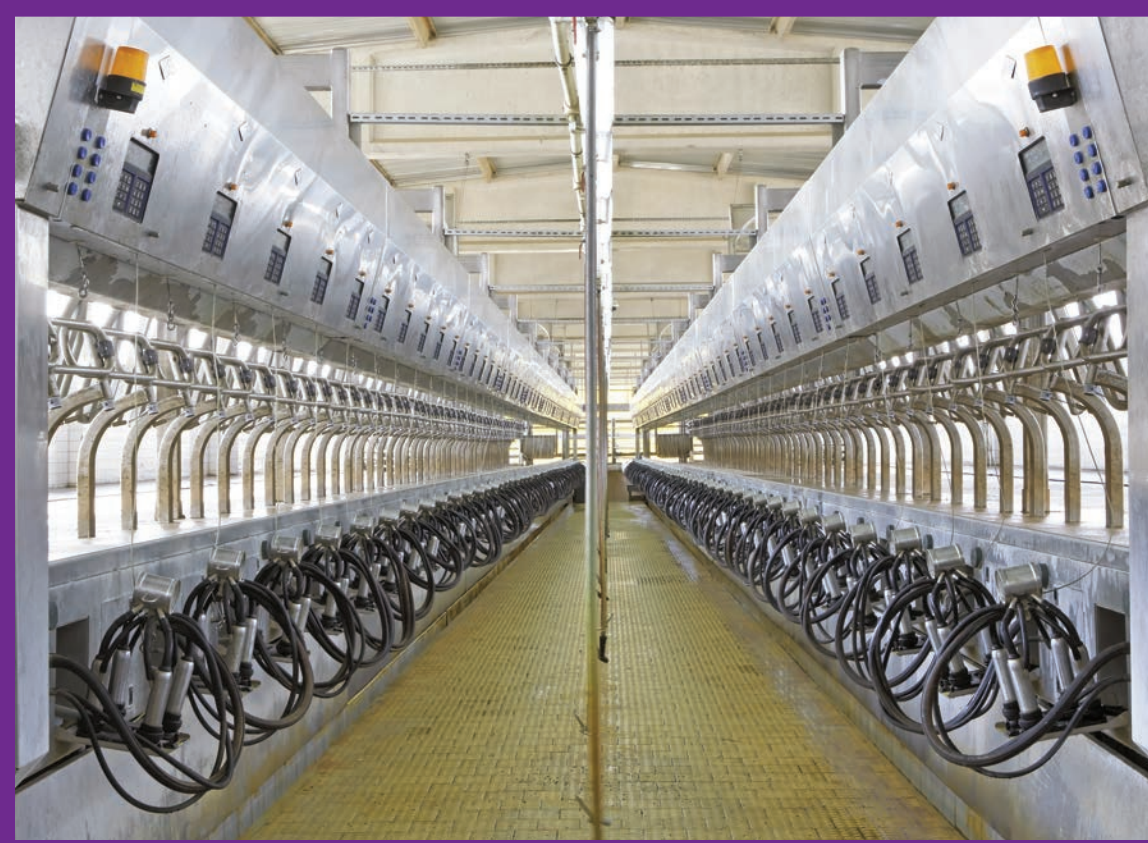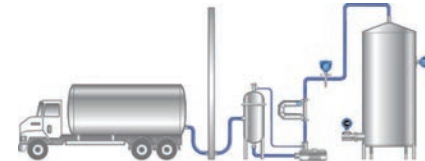

APPLETON™   **ASCO™**   **AVENTICS™**   **BRANSON™**

MICRO MOTION™   **ROSEMOUNT™**

Milk & Dairy Processing

Reducing waste and optimizing dairy inventory movements and key processes

Milk Receiving and Interplant Transfers

- Dairy receipts and interplant transfers are key measurement points for identifying and correcting potential waste or product quality concerns. **Micro Motion Hygienic H-Series Flow Meter with the 5700 Transmitter** uses the most advanced air entrainment detection technology and assures accuracy by correcting the measurement during periods of high aeration.

- Ensure precise pump control for filling and emptying of tanks and reliable overfill prevention with the plug-and-play, fast response, **Rosemount 2120 Hygienic Level Switch.**

- Simplify the measuring of bulk storage tanks is simplified for raw and skimmed milk along with cream. With the reliable 3-A approved **Rosemount 5408 Non-Contacting Radar Level Transmitter**, signal quality metrics provide antenna build-up detection, enabling preventative maintenance to be scheduled.

Storage and Buffer Tanks

- Maintain precise knowledge and control of the level of your large storage tanks with **Rosemount 3051HT Hygienic Pressure Transmitter.** Obtain best accuracy and reliable continuous measurement over numerous batches in small buffer tanks with the **Rosemount 1408H Non-Contacting Radar Level Transmitter.**

- Add an extra layer of protection by installing **Rosemount 2120 Hygienic Level Switch** to prevent overfills in your tank.
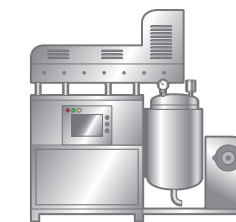
Emulsification and Homogenization

- Use the most efficient method in your dairy development lab to quickly and reliably create perfectly uniform preparations without risk of overheating with **Branson SFX 550 Sonifier.**
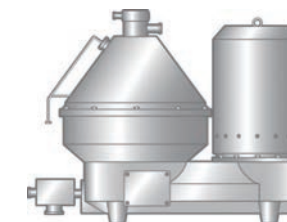
Separation and Standardization

- Measure the fat concentration and the flow rates of skim milk and cream with the most accurate meters available. **Micro Motion Hygienic H-Series Flow Meter with the 5700 Transmitter** or **Rosemount 8721 Hygienic Magnetic Flow Meter** are perfectly suited for this application.

- Monitoring back pressure of the cream with the reliable **Rosemount 3051HT Hygienic Pressure Transmitter** can ensure separator effectiveness.
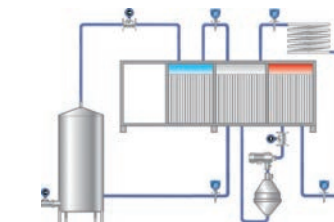
Pasteurization

- Leverage the **Rosemount X-well Technology** for non-intrusive temperature measurement on pasteurization heat exchangers. Our full range, designed-for-purpose **ASCO Hot Water Valves,** ensure optimal heating and cooling during the pasteurization process.

Featured Products for Milk & Dairy Processing

Micro Motion H-Series Coriolis Flow and Density Meter with 5700 Transmitter

A compact, drainable meter monitors in-line fat concentration and air entrainment measurement, and now includes Coating Detection as part of Smart Meter Verification. All contact surfaces are constructed of FDA-approved materials designed in accordance with 3-A and EHEDG standards. Simple integration through scalable transmitter platforms, this sensor comes standard with Smart Meter Verification, including Advanced Phase Measurement.

Rosemount 3051HT Hygienic Pressure Transmitter

A pressure transmitter built with industry standard process connections, this device meets 3-A, EHEDG industry standards and features a polished stainless steel housing. The transmitter offers best-in-class performance of 0.065% of span and 5-year stability. The sensor technology provides excellent batch repeatability, up to ±0.02% Upper Range Limit for 60 batches.

Rosemount 8721 Hygienic Magnetic Flow Meter

A flow meter with an all-welded meter body that is designed for dairy processing applications that demand safe, hygienic and reliable performance. All contact surfaces are constructed of FDA-approved materials designed in accordance with 3-A and EHEDG standards. Additionally, the 8721 is available with a variety of sanitary process connections with easily accessed process gaskets to facilitate efficient inspection and maintenance.

Rosemount X-well™ Technology

Rosemount X-well Technology provides accurate process temperature data without requiring process pipe penetration. It works by measuring the ambient and pipe surface temperatures to calculate process temperature via a thermal conductivity algorithm. X-well offers easy installation with a selection of clamp sizes and materials, providing an effective solution over a wide range of temperatures.

Featured Products for Milk & Dairy Processing

Rosemount 2120 Vibrating Fork Level Switch

A level switch that's 3-A and EHEDG approved, easy-to-install with no on-site calibration, the Rosemount 2120 provides reliable, rapid and repeatable point level measurement for high/low level alarm, overfill prevention and pump control/protection. The single-piece fast-drip fork design is resistant to build-up. An adjustable switch delay prevents false switching in turbulent conditions. The robust housing protects the electronics in humid environments. A clearly visible heartbeat LED indicates the process state.

ASCO Hot Water Valves

Emerson's select range of robust ASCO Special Service, Hot Water and Steam Valves are FDA CFR21, EC 1935-2004 and NSF approved, making them an ideal choice for auxiliary dairy processes.

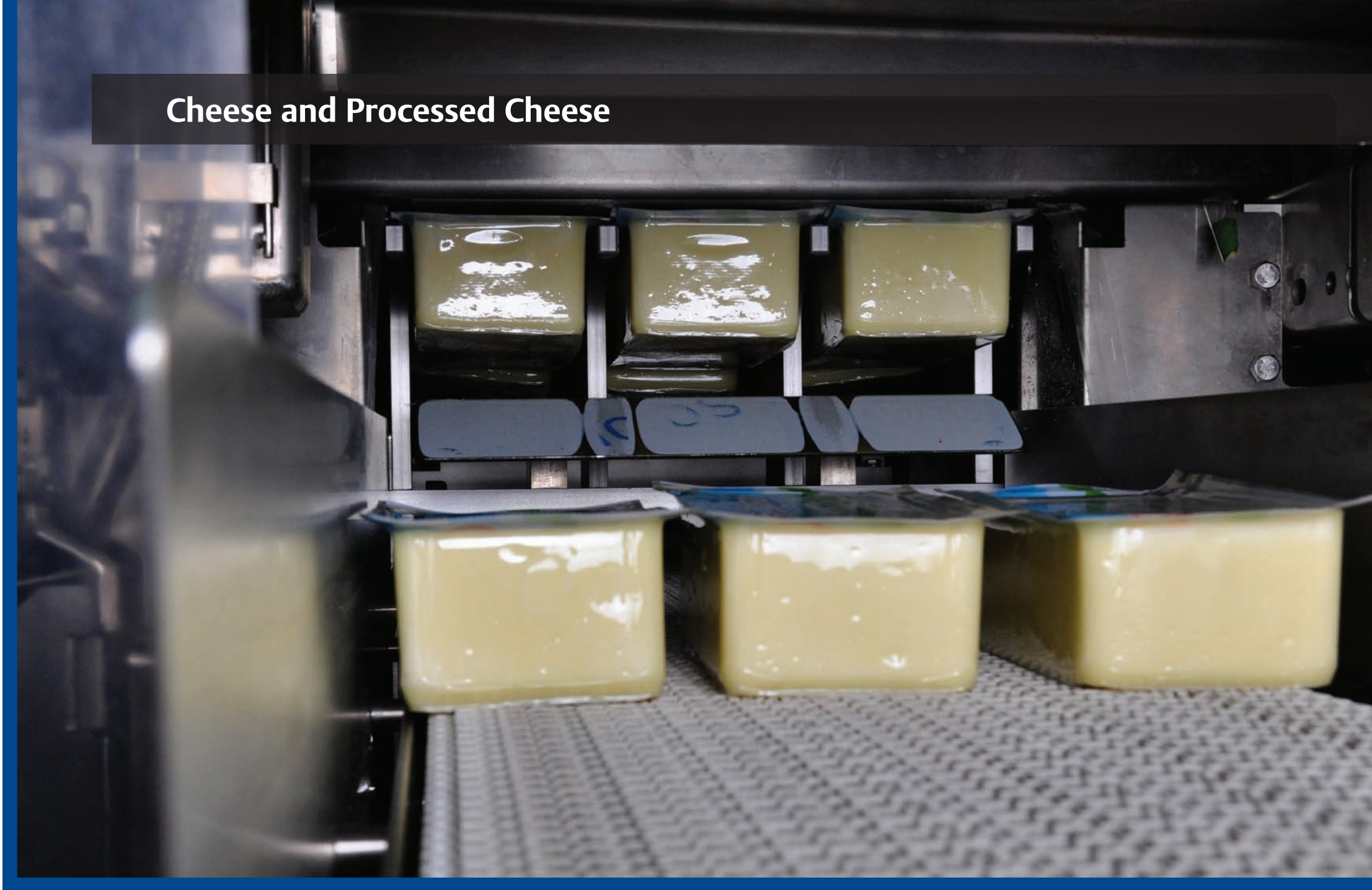### Rosemount Level Non-Contacting Radar Technology

The Rosemount 5408 Level Transmitter Non-Contacting Radar (left) provides easy to use continuous level measurement of both liquids and solids in any application. Two-wire FMCW technology maximizes radar signal strength to produce a robust and reliable measurement. The Rosemount 1408H Level Transmitter Non-Contacting Radar (right) provides continuous liquid level measurement in most applications. Featuring Fast Sweep technology that combines FMCW and smart algorithms that provide 40 times more information compared to legacy technologies, it provides accurate and reliable measurement signals.

Branson 550 Sonifier

Branson SFX 550 Sonifier can process larger, viscous samples, but also provides precise control over energy output and other parameters to accommodate experiments of all sizes. All SFX Series Sonifiers offer exclusive Branson features including advanced energy mode and true temperature control.

Cheese and Processed Cheese
Reducing product waste, increasing throughput and improving product quality

Fermenting Rennet Milling Salting Coagulation Molding Ripening Ripened Cheese Shredded Cheese
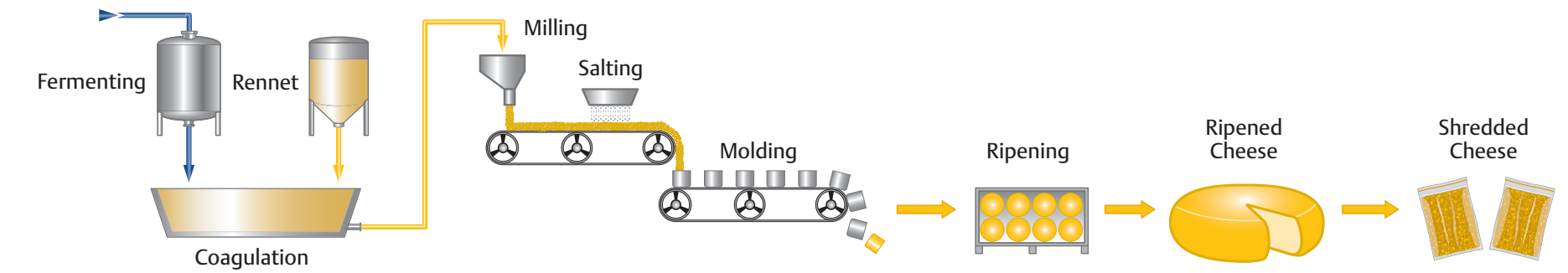
Coating

- Identify throughput improvement opportunities by making use of **Smart Meter Verification Professional** with the patented and new-to-the-market **Coating Detection**.

Mass Balance

- Interplant transfers are key measurement points for identifying and correcting potential waste or product quality concerns. Using a **Micro Motion Hygienic H-Series Flow Meter with the 5700 Transmitter** brings considerable advantages.

Molding & Ripening

- Reduce waste and improve product quality for cheese molding and ripening using **AVENTICS Pneumatics** solutions, including cylinders, manifolds with advanced electronics, and **Filter Regulator Lubricators (FRL).**

pH Measurement

- Achieve accurate measurement to control ripening from bacterial cultures. **Rosemount TF396 Non-Glass pH Sensor** is hygienically certified with rapid response time and stability of measurement over temperature fluctuations.

Temperature Control & Steam Management

- Accurately monitor process temperatures and alert variable or unsafe conditions with **Rosemount 68Q Hygienic Temperature Sensor** and **Thermowell Assembly**.

- Provide effective monitoring of steam traps to save energy and maintenance hours with **Rosemount 708 Wireless Acoustic Transmitters** provide effective monitoring of steam traps, saving energy and maintenance hours. The **Plantweb™ Steam Trap Insight Application** provides real-time information about steam trap conditions, energy usage, emissions and leak detection. The web-based platform securely accesses data anywhere and seamlessly integrates with your current system.

Shredded Cheese

- Improve modified atmosphere-packaging of shredded cheese with 100% testing of bags after sealing with **Rosemount Leak Detection.**

Precision Cheese Cutting

- **Branson DCX Series** is the benchmark in ultrasonic blade cutting technology with continuous process control for reliability and reduced maintenance due to limited blade cleaning and sharpening, and no bacteria transfers to visible surfaces.

Featured Products for Cheese Processing

Micro Motion H-Series Coriolis Flow and Density Meter with 5700 Transmitter

A compact, drainable meter monitors in-line fat concentration and air entrainment measurement, and now includes Coating Detection as part of Smart Meter Verification. All contact surfaces are constructed of FDA-approved materials designed in accordance with 3-A and EHEDG standards. Simple integration through scalable transmitter platforms, this sensor comes standard with Smart Meter Verification, including Advanced Phase Measurement.

Rosemount 68Q Sanitary Temperature Sensor

An industry-standard, resistance temperature detector (RTD). This sensor is engineered to provide flexible and reliable temperature measurements in hygienic process environments for the Dairy Industry. This RTD is designed with a Tri Clamp® sanitary endcap configuration for easy installation and its aseptic process connection is suitable for clean-in-place (CIP), dead-pocket free, measurement applications.
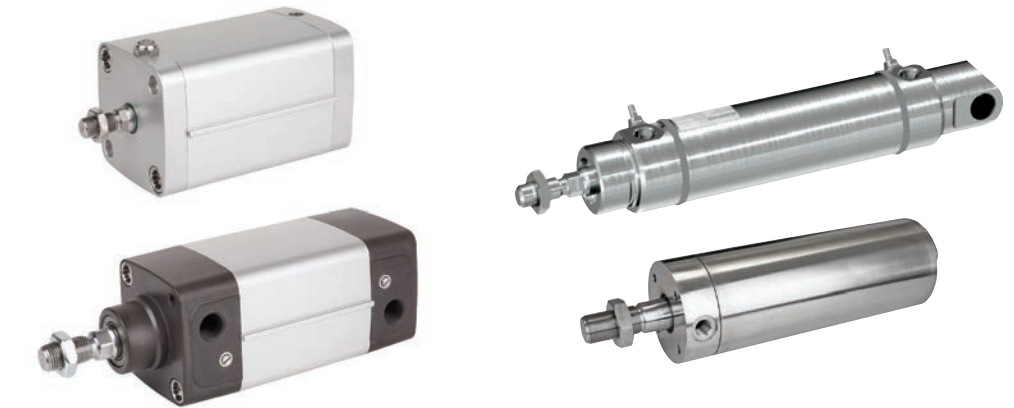
Rosemount TF396 Non-Glass ISFET pH Sensor

This sensor features an ion-selective field effect transistor (ISFET) pH electrode that provides a stable pH measurement. Its rate of response can be 10 times faster than glass electrodes, enabling better process control. Its short response time and increased stability provides longer intervals between calibration and sensor maintenance.

Rosemount 708 Wireless Acoustic Transmitter with Plantweb™ Steam Trap Insight Application

This device featuring ultrasonic acoustic event detection that mounts externally, provides a cost-effective installation and allows visibility into steam traps and pressure relief valves by accurately communicating acoustic level and temperature data as well as device data, event status and leak detection. The application verifies and identifies steam trap failures such as blow through, flooded, and plugged as well as trends on emissions and energy loss, in an easy-to-use, visual interface.

Contact us now for world-class technologies and services that can maximize your return on investment. Visit **www.Emerson.com/FoodandBeverage**

Featured Products for Cheese Processing

Enclosure Solutions

A pneumatic integrated enclosure solution that greatly simplifies your fluid automation setup while also providing a sanitary, wash-down rated solution critical for the dairy and cheese processing environments. Each enclosure is a unique turn-key solution incorporating ASCO and AVENTICS best-in-class products, such as the AVENTICS directional control valves, state-of-the-art G3 fieldbus electronics, proportional products, filters/regulators/lubricators (FRLs), and fluid control valves.

AVENTICS Cylinders

The AVENTICS product series offers options such as corrosion-resistant cylinders, which are FDA & ISO approved and designed to operate in both splash zone and food process areas for easy cleaning, eliminating the risk of food contamination. Additionally, the AVENTICS cylinders can be seamlessly integrated to work with an enclosure solution or as a standalone directional control valve, providing a total systems solution for a variety of dairy processing zones.

Branson DCX Series

The DCX Series of automation power supplies offers the latest in ultrasonic continuous process control. Patented circuitry provides significant benefits in performance and consistency, yielding higher productivity and weld quality. Advanced features include energy mode, a web interface for remote control, password protection, weld quality limits, and an EtherNet/IP fieldbus port for real-time distributed control by a PLC or over a network.

Rosemount CT4215 Leak Detection System

An in-line system that tests for leaks in modified atmosphere packaging (MAP) for shredded cheese applications. Unidentified leaks can impact product quality and cause waste or spoilage. The Quantum Rosemount Laser technology offers high-speed detection and automatically rejects defective packages from the assembly line. The system is easy to install and configure, minimizing disruption to the production line.

Yogurt
Reducing product waste and improving food safety
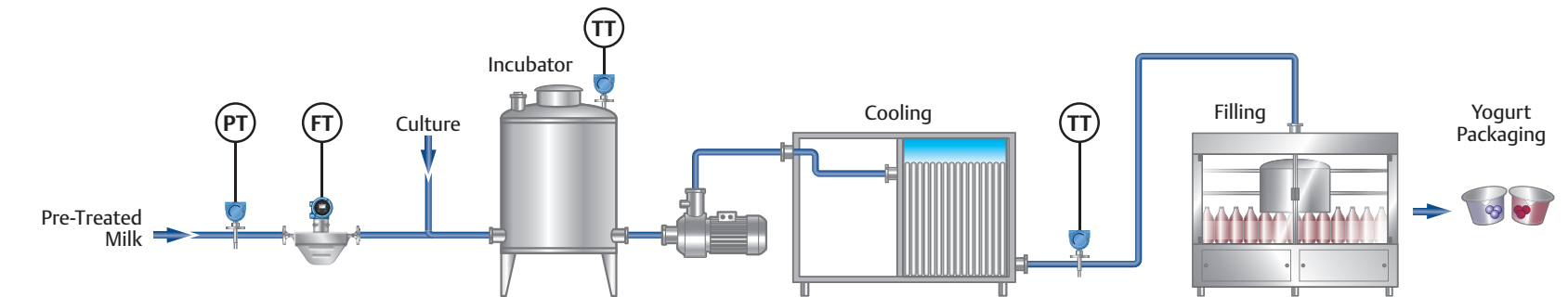
Mass Balance & Product Quality

- Reduce product waste during internal transfers with **Micro Motion Hygienic H-Series Flow Meter with the 5700 Transmitter.**

- Achieve mass balance including the measurement of flavors, fruits and puree with **Micro Motion Hygienic T-Series Flow Meter.**

- Size flow meters precisely to maximize product throughput, and limit pressure drop and ensure product quality. Emerson has deep expertise in providing the best sizing and selection of flow meter measurement for yogurt processing.

Fermenter/Incubator

- Prevent overfilling with reliable, simple to install and unique fast-drip fork for high viscosity products **Rosemount 2120 Hygienic Level Switch.**

- Utilize **Rosemount Electronic Remote Sensor (ERS)™ Systems,** to provide measurements of head pressure, level, and an indirect density change—all in a single system that improves fermentation time monitoring.

Heat Treatment/ Thermal Processing

- Ensure precise temperature control to guarantee product quality and consistency is maintained. **Rosemount 68Q Hygienic Temperature Sensor** and **Thermowell Assembly** accurately monitors ambient or process temperature and immediate alerts if variable or unsafe conditions are present. **Rosemount X-well Technology** provides non-intrusive temperature measurement and quick installation without requiring process shutdown. It's available in both wired and wireless options to seamlessly fit into your current system.

Filling

- Repeatability of yogurtfilling is critical and can be improved with the built-in overshot correction of the **Micro Motion Hygienic H-Series Flow Meter with Filling Mass Transmitter**. The compact and rugged **Rosemount 2110 Vibrating Fork Level Switch** provides rapid level detection, even on small tanks where levels change rapidly.

- **The Rosemount 1408H Non-Contacting Level Transmitter** provides excellent surface tracking, allowing for maximized accuracy and reliability. **The Rosemount 2110 Level Switch Vibrating Fork** adds an independent layer of protection to prevent dry-running situations in your filling process.

Yogurt Packaging

- Leverage the highest quality standard for packaging lid and top cover closing systems sets in the dairy industry with **Branson 2000Xc Ultrasonic Welder**. The solution is programmable and is designed to ensure compliance with manufacturing regulations, including FDA CFR21, and ensures complete batch control and processing.

Featured Products for Yogurt Production

Micro Motion T-Series Coriolis Flow and Density Meters

Flow and Density Meters offering superior flow measurement in a single straight-tube and hygienic design with 3-A and EHEDG. These are ideal for measuring accurately fruits solids used in yogurt processing and is self-draining with a plug-resistant flow path. Save time with a design that is easy to clean-in-place (CIP) and steam-in-place (SIP) and benefit from a simplified installation that doesn't need straight runs or flow conditioning.

Rosemount 68Q Sanitary Temperature Sensor

An industry-standard, resistance temperature detector (RTD). This sensor is engineered to provide flexible and reliable temperature measurements in hygienic process environments for the Dairy Industry. This RTD is designed with a Tri Clamp® sanitary endcap configuration for easy installation and its aseptic process connection is suitable for clean-in-place (CIP), dead-pocket free, measurement applications.

Rosemount X-well Technology

Rosemount X-well Technology provides accurate process temperature data without requiring process pipe penetration. It works by measuring the ambient and pipe surface temperatures to calculate process temperature via a thermal conductivity algorithm. X-well offers easy installation with a selection of clamp sizes and materials, providing an effective solution over a wide range of temperatures.

Branson 2000Xc Ultrasonic Welder

An ultrasonic Welder for cover welding and packaging solutions is designed for maximum process control. With EtherNet/IP connectivity capabilities, all weld settings are fully electronic. Its secure process controls and detailed weld data are designed to meet the global traceability requirements for the dairy industry. This system is designed to ensure compliance with manufacturing regulations including FDA CFR 21.

Contact us now for world-class technologies and services that can maximize your return on investment. Visit **www.Emerson.com/FoodandBeverage**

Featured Products for Yogurt Production

Hygienic Point Level Measurement

Level switches with 3-A and EHEDG standards and FDA-approved materials offer reliable level detection with minimum maintenance for applications in narrow spaces. They are ideal for simple fast-fit applications and basic overfill prevention. The Rosemount 2110 and Rosemount 2120 have no moving parts, need no calibration, and are virtually unaffected by process conditions. The compact hygienic stainless steel housing and plug socket connection provides for a fast fit.

Rosemount 1408H Non-Contacting Level Transmitter

The Rosemount 1408H Non-Contacting Level Transmitter combines Fast Sweep Technology and 80GHz Frequency Modulated Continuous Wave Technology in a compact form factor and provides excellent surface tracking. This allows you to achieve maximized accuracy and reliability, even in challenging rapid-fill vessels.

Rosemount 3051 Electronic Remote Sensor (ERS) System

An ERS System Featuring best-in-class performance and measurement stability which calculates differential pressure electronically using two pressure sensors linked together with an electrical cable. Easy to install, this system is engineered for a faster response time compared with traditional systems to provide you with exceptional performance.

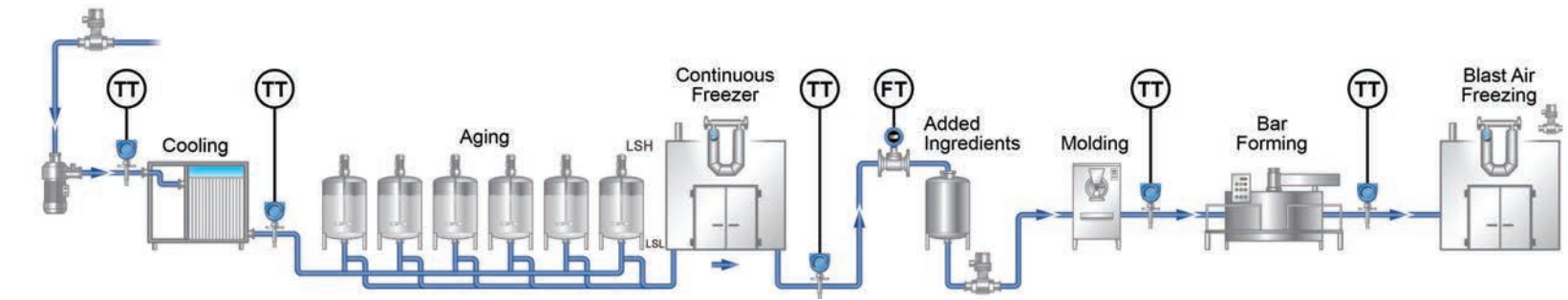### Micro Motion Filling Mass Transmitter (FMT)

The compact, lightweight Micro Motion Filling Mass Transmitter accurately measures products with high viscosities, making it ideal for high-speed, precision measurement in yogurt filling applications. The product is 3-A and EHEDG approved.

Ice Cream

Reducing product waste, and improving product quality

Mass Balance

- Reduce product waste during internal transfers with **Micro Motion Hygienic H-Series Flow Meter with 5700 Transmitter. Rosemount 3051HT Pressure Transmitter** provides an unmatched level of control for balance tanks and batch repeatability, ensuring continuous accuracy even with rapidly changing temperature.

Aeration (after aging)

- Achieve the desired air for ice cream with real time, in-line measurement of ice cream and air concentration, and correcting for periods of under and over aeration with a **Micro Motion 5700 Transmitter** with Advanced Phase Measurement. In addition, measuring the air inlet to ensure consistent air-to-ice cream blend can easily be done with a hygienic **Micro Motion ELITE Coriolis CMFS Flow Meter.**

Ingredients

- Accurately measure the blend ingredients into the ice cream base, such as flavors, fruits and ingredients, with **Micro Motion Hygienic H-Series** or **T-Series Flow Meters with the 5700 Transmitter**.

Temperature Control

- Maintain critical temperature control to guarantee product quality and consistency in ice cream production. **Rosemount 68Q Hygienic Temperature Sensors** and **Thermowell Assemblies** ensure accurate process temperature monitoring. Immediate alerts received if undesired conditions are observed, so you can take corrective action and optimize output.

Refrigeration

- Maintaining correct ice cream temperature relies on reliable and correct adjustment of ammonia. Using inadequate level sensors risks leakage of hazardous fluids and contamination. The **Rosemount 2110 Vibrating Fork Switch** with rugged all-SST design provides accurate level detection and can withstand low/fluctuating temperatures and humidenvironments.

Micro Motion H-Series Coriolis Flow and Density Meter with 5700 Transmitter

SMART METER VERIFICATION

A compact, drainable meter monitors in-line fat concentration and air entrainment measurement, and now includes Coating Detection as part of Smart Meter Verification. All contact surfaces are constructed of FDA-approved materials designed in accordance with 3-A and EHEDG standards. Simple integration through scalable transmitter platforms, this sensor comes standard with Smart Meter Verification, including Advanced Phase Measurement.

Micro Motion Advanced Phase Measurement
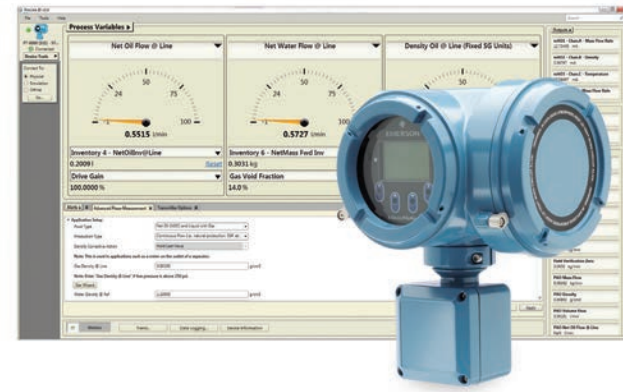
Micro Motion Advanced Phase Measurement is expertly designed to provide accurate measurement for complex processes and challenging multiphase flow environments. The advanced software improves accuracy in many multiphase applications, including ice cream production, to ensure product quality.

Rosemount 2110 Vibrating Fork Level Switch

A level switch with 3-A and EHEDG standards and FDA approved materials offering reliable level detection with minimum maintenance for applications in narrow spaces. It is ideal for simple fast-fit applications and basic overfill prevention. The Rosemount 2110 has no moving parts, needs no calibration, and is virtually unaffected by process conditions. The compact hygienic stainless steel housing and plug-socket connection provides for fast-fit.

Rosemount 68Q Sanitary Temperature Sensor

An industry-standard, resistance temperature detector (RTD). This sensor is engineered to provide flexible and reliable temperature measurements in hygienic process environments for the Dairy Industry. This RTD is designed with a Tri Clamp® sanitary endcap configuration for easy installation, and its aseptic process connection is suitable for clean-in-place (CIP), dead-pocket free, measurement applications.

Milk Powder

Accurate control to maintain optimal product quality and reduce waste

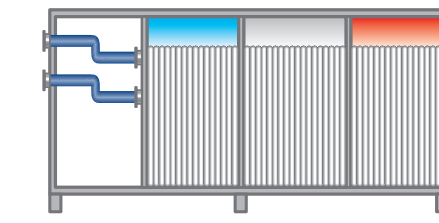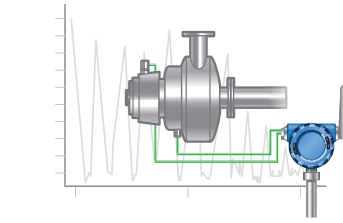| Milk Concentration	Evaporator	Spray Dryer	Steam Management	Vibration Monitoring
• Precision flow accuracy enablestighter set points on the criticalmeasurement of concentration at the start of the milk powder process. At the feed to the evaporator, a **Micro Motion H-Series Coriolis Flow Meter with the 5700 Transmitter** ensures repeatable and highquality final product. The solution also features a data historian and advanced density diagnostics.	• Measuring both the flow and temperature of the heated air entering the evaporator is critical. By installing the **Rosemount 8721 Hygienic Magnetic Flow Meter** at the point where raw milk is concentrated by evaporating off water, you can maintain the desired moisture. • Differential pressure across the evaporator is also critical. **Rosemount Electronic Remote Sensor (ERS) Systems** perform with the accuracy required to ensure high product quality.	• To maintain the desired flow and moisture from the evaporator to the spray dryer, while preventing plugging and maintaining both aroma and solubility of the product, a **Micro Motion H-Series Flow Meter with the 5700 Transmitter** can be installed at the outlet of the evaporator to measure flow and percentage of solids, and concentrated milk fed to the spray dryer.	• Optimize utility steam and identify steam losses that negatively impact energy costs. The clamp-on and easy-to-install **Rosemount 708 Wireless Acoustic Transmitter** provides effective monitoring of steam traps, saving energy and reducing maintenance costs. The solution seamlessly integrates with your current system.	• Improve machinery reliability by accurately monitoring vibration and temperature. The **AMS 9420 Wireless Vibration Transmitter** delivers data and device alerts securely and reliably, and easily integrates into any host.

Featured Products for Milk Powder Production

Micro Motion H-Series Coriolis Flow and Density Meter with 5700 Transmitter

SMART METER VERIFICATION

A compact, drainable meter monitors in-line fat concentration and air entrainment measurement, and now includes Coating Detection as part of Smart Meter Verification. All contact surfaces are constructed of FDA-approved materials designed in accordance with 3-A and EHEDG standards. Simple integration through scalable transmitter platforms, this sensor comes standard with Smart Meter Verification, including Advanced Phase Measurement.

AMS 9420 Wireless Vibration Transmitter

Connects easily to any machine. It delivers vibration information over a highly-reliable, self-organizing wireless network for use by operations and maintenance personnel. The AMS 9420 is ideal for vibration monitoring applications, especially in hard-to-reach locations.

Rosemount 8721 Hygienic Magnetic Flow Meter

The Rosemount 8721 uses an all-welded meter body that is designed for dairy processing applications that demand safe, hygienic and reliable performance. All contact surfaces are constructed of FDA-approved materials designed in accordance with 3-A and EHEDG standards. Available with a variety of sanitary process connections with easily accessed process gaskets to facilitate efficient inspection and maintenance.

Rosemount 708 Wireless Acoustic Transmitter with Plantweb™ Steam Trap Insight Application

Featuring ultrasonic acoustic event detection that mounts externally, this device provides a cost-effective installation and allows visibility into steam traps and pressure relief valves by accurately communicating acoustic level and temperature data as well as device data, event status and leak detection. The application verifies and identifies steam trap failures such as blow through, flooded, and plugged as well as trends on emissions and energy loss, in an easy-to-use, visual interface.

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CIP, Utilities and Power Solutions

Steam & Water Solutions

- Accurate measurement of steam flows with the **Rosemount 3051SMV Multivariable Flow Transmitter** or the **Rosemount 8800 Vortex Flow Meter**.

- Identify steam trap failures and reduce energy costs with the **Rosemount 708 Wireless Acoustic Transmitter.**

- Control and measurement of chilled recovery water with the **Rosemount 8750W Magnetic Flow Meter**. These solutions integrated with **Emerson Wireless 1410 Gateway**.

- Enhance supply of hot water or steam to heat exchangers with the **ASCO 290 FB Series Valve.** The solution is suitable for auxiliary utility applications supplying necessary media such as hot water, acid, soda or hydrogen peroxide to CIP processes.

- Hot CIP processes create vapors which high frequency radars have difficulty penetrating. **Rosemount 5408 Level Transmitter** with FMCW technology handles changes in the vapor space.

- Maximize dairy utilities with proven and reliable **Keystone Valves.**

Conductivity

- Slow or inaccurate conductivity measurements can lead to poor chemical control or extended rinse time. Connecting **Rosemount 56 Dual Channel Transmitter** to the **Rosemount 225 Toroidal Conductivity** and **403 Contacting Conductivity Sensors** provides an effective solution. Toroidal sensors are ideal in high conductivity harsh conditions. Contacting sensors have the accuracy and speed to quickly determine when the CIP cycle has completed.

Enhanced CIP

- Achieve efficient process changeover using a **Micro Motion H-Series Hygienic Coriolis Flow Meter** that identifies different fluid densities, rapidly differentiating between product, rinse water, and cleaning solution.

- Product left in pipes often needs to be cleaned out in the CIP process for batch changes. **Rosemount X-well Technology** provides accurate non-intrusive process temperature measurements without process penetrations that would impede pigging. It's easy to install, provides quick response time and is suitable for rapid flow rates.

- Identify throughput improvement opportunities by making use of **Smart Meter Verification Professional** with the patented Coating Detection.

- Automate CIP processes with **Emerson PACKEdge Controller CPL410** to reduce costs, enhance safety and increase OEE.

Utilities and Chemical Tanks

- Achieve accurate continuous level measurement for optimal storage in your water, detergent and chemical tanks with the **Rosemount 1408H Non-Contacting Radar Level Transmitter.** To ensure high and low level control install the **Rosemount 2120 Hygienic Level Switch** which features a robust housing suitable for humid environments, and a selectable switching delay to prevent false trips.

- Also for chemical holding tanks, the **Rosemount 3051HT Pressure Transmitter** offers high accuracy at low pressure ranges for repeatable, continuous level.

Power Solutions

- Typical power supplies that support dairy production lines are mounted inside large, expensive, specially-rated enclosures located away from production equipment. Power is routed from these enclosures to machines via cabling, which not only increases costs but limits opportunities on a line for future automation. Emerson's **SolaHD IP67-SCP-X Power Supply Solutions** remove limitations in the power architecture, allowing machine designers and operators to safely put power where needed on the machine.

- Power outages and voltage sags can prematurely wear dairy processing equipment, leading to machine failures and shutdowns that result in increased waste and loss of production. asEmerson's **SolaHD SDU-A Series DIN Rail AC UPS** solution is an uninterruptible power supply that protects equipment from damaging impulses and power interruptions.

Featured Products for CIP, Utilities and Power Solutions

Keystone Model OptiSeal F14-F17 Butterfly Valve

A broad range of valve, actuation and control products for general utility applications in dairy operations. Rounded polished disc edge gives full concentric sealing, lower torques, longer seat life and tight shut-off. Proprietary elastomer seat isolates the body and shaft from the media and provides positive flange sealing, eliminating the need for flange gaskets. Thin profile disc provides minimum obstruction to flow, resulting in high flow and low pressure drops.

Rosemount 3051SMV Multivariable Flow Transmitter

Best-in-class solution customized to obtain measurement combinations of differential pressure, static pressure and process temperature. This multivariable transmitter is a cost-effective device that reduces pipe penetrations, impulse piping and connection systems.

Rosemount 8750W Utility Magnetic Flow Meter

Designed for general purpose and utility applications including clean fluids, and utility water. Installation is easy. Adding the wireless option, makes it ideal for hard to reach and remote installation locations, and simplifies integration.

Rosemount 56 Dual Channel Transmitter

A line-powered device that can accept inputs from conductivity (contacting and toroidal) sensors as well as a wide range of other analytical technologies for continuous measurement of your process liquid.

Rosemount 225 PUR-Sense™ Toroidal Conductivity Sensor

Designed for use in hygienic applications with 3-A approval, these corrosion and fouling resistant sensors are ideal for measuring the concentration of CIP solutions, detecting product/water interfaces and checking product quality.

Rosemount 403 PUR-Sense Conductivity Sensor

Ideal for measuring conductivity in water purification systems in the food and beverage industry. Designed to work "out of box" with no initial calibration required. All wetted polymers are FDA compliant.

PACSystems RX3i CPL410 Controller

Emerson Edge Controllers use hypervisor technology to run real-time deterministic control applications concurrently with PACEdge without impacting each other. This enables connection to preferred cloud service while allowing engineers to develop and run applications next to control system.

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Featured Products for CIP, Utilities and Power Solutions

Rosemount 708 Wireless Acoustic Transmitter with Plantweb™ Steam Trap Insight Application

Featuring ultrasonic acoustic event detection that mounts externally, this device provides a cost-effective installation and allows visibility into steamtraps and pressure relieve valves by accurately communicating acoustic level and temperature data as well as device data, event status and leak detection.

Emerson Wireless 1410 Gateway

Specifically engineered to meet smaller network requirements of remote operations, this compact gateway with EtherNet/IP connectivity also maintains exceptional security and flexibility. Connects simply with host systems and data applications, and its small size and DIN-rail mount capability make it an ideal solution for limited cabinet space.

ASCO 290 Angle Seat Valve

The ASCO 290 Stainless Steel Angle Seat Valve for Fluid Control is a rugged, high-flow valve providing up to 60% higher flow than competing designs and up to 5X longer life than conventional ball valves. Tolerating media such as hot water, acid, soda, and hydrogen peroxide, the 290 series is capable in the most demanding CIP applications. The 290 FB series meets the FDA CFR21 certification, making it an ideal choice for CIP systems in dairy cleaning.

Rosemount 8800 Series Vortex Flow Meter

Unique design offers world class reliability with gasket-free, non-clog meter body that eliminates potential leak points, resulting in maximum process availability. Sensors are isolated, eliminating the need to break process seals for flow and temperature sensor replacement.

Rosemount 1408 and 1208A Non-Contacting Radar Transmitters

Use the Rosemount 1408 or Rosemount 1208A non-contacting radar for continuous measurement to control CIP tank levels. The Rosemount 1208A is a compact and robust all-plastic design radar sensor, and the Rosemount 1408 features a compact and polished stainless steel housing.

SolaHD IP67-SCP-X Power Supplies

Emerson's SolaHD IP67 SCP-X Power Supplies can be mounted directly on dairy processing and packaging equipment, freeing lines from design constraints; and eliminating the complexity and cost of unnecessary enclosures and excess wiring. The compact device does not require fans or exterior ventilation, and only one inch of free space is required on the sides and front of the unit, with no need to split supply circuits or run cables to a separate location.

SolaHD SDU-A Series DIN Rail AC UPS Solution

Emerson's SolaHD SDU-A Series DIN Rail AC UPS Solution with optional communications card is an uninterruptible power supply that helps lines maintain maximum output levels by delivering protection from damaging impulses and power interruptions to microprocessor-based devices. In the event of a power disturbance, the technology immediately provides back-up AC for up to four minutes, so that processes can safely continue or be intelligently shut-down, speeding recovery and minimizing losses. The SDU-A Series also allows users to start the UPS without AC power to troubleshoot for bad input power, and provides status updates of the UPS while it's running to ensure overall machine availability.

Rosemount X-well Technology

Rosemount X-well Technology provides accurate process temperature data without requiring process pipe penetration. It works by measuring the ambient and pipe surface temperatures to calculate process temperature via a thermal conductivity algorithm. X-well offers easy installation with a selection of clamp sizes and materials, providing an effective solution over a wide range of temperatures.

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Get started

Emerson is the supplier of choice to simplify and scale your Dairy Operations, with the most extensive automation expertise and suite of solutions for the industry. Contact us now for world-class technologies and services that can maximize your return on investment. Getting started is easy.

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