Get On Tap with how Emerson can Optimize your Brewing Operation

Complete Solutions for the Brewing Industry
Proven automation solutions and local expertise to help you overcome your toughest challenges.
Get On Tap with how Emerson can Optimize your Brewing Operation

In today’s highly competitive and rapidly evolving Brewing Industry there is a need to strive continually to improve production throughput and flexibility, reduce product costs and meet aggressive sustainability targets. By teaming with Emerson, you’ll gain the tools and insights to maximize your production capacity, reduce your production costs and associated product losses, and achieve a step change in reaching your sustainability targets.
Solutions for your Brewing Operation

Maximize Your Production Capacity
A lack of flexibility and excessive amounts of planned and unplanned downtime can prevent you from maximizing your production, subjecting you to higher operating costs. Emerson’s solutions help you overcome these challenges by shortening your changeover time, increasing the effectiveness of your planned downtime, and reducing the frequency, impact and duration of unplanned events.

Reduce Production Costs
Product losses, rising labor costs and inefficient energy usage can erode your operation’s profitability. Emerson’s solutions help you reduce these production costs with advanced automation technologies that provide enhanced insight into your processes for assured product quality, more efficient operations and improved energy management.

Meet Your Sustainability Goals
Inefficient processes and/or insufficient equipment can impede your sustainability efforts by causing your operations to use too much water, produce excess waste, and increase your carbon footprint. Emerson’s solutions provide enhanced insight into your operations for increased efficiency throughout your production process so that you can meet your sustainability goals.
Measurable Improvements

From enhancements to facility expansions to a new build, beer producers are turning to OEM’s, engineering firms, consultants, integrators and automation solutions experts to maximize the return on investment and make use of the most recent technology advances to get a competitive edge in the market. Emerson offers a complete portfolio of software, product, solutions and services, along with deep expertise to support your Brewing Operations:

- Digital Smart Brewery
- Blending and cleaning
- Motion control for packaging
- Smart diagnostics that reduce downtime
- Process sensing technologies
- Monitoring and diagnostics of pneumatic machinery
- Reliable valves
- Mass balance solutions
- In-line quality control and analytical devices
- Leak detection solutions
- Workforce effectiveness
- Smart Wireless solutions
- Energy management
- LED lighting and electrical solutions
- Extensive service and support
Milling, Mashing & Lautering
Milling, Mashing & Lautering

Overcome the challenge of measuring large grain silos with a Rosemount 5408 Non-Contacting Radar solution. Advanced surface tracking ensures the level reading is correct and the air purging system avoids blockage of the antenna. The Rosemount 5708 3D Solids Scanner gives accurate volume measurement to ensure adequate stock for production. Its visualization software provides knowledge of the formation of the stored material.

Conditioning the malt to increase throughput by reducing processing time starts with adding water to the malt before it enters the mill to soften the husks. Measuring the water to optimally condition the malt and maximize extract separation and husk quality can be achieved with the Rosemount Magnetic 8705 Flow Meter, a cost effective and low maintenance solution.

Precise addition of liquid enzymes to the mash to enhance the conversion of starches to sugar can be achieved with a Micro Motion Coriolis Flow Meter with 5700 Transmitter. The Mash pH and temperature impacts enzyme activity and how efficiently the starch is converted to fermentable sugars. The Rosemount TF396 Non-Glass ISFET pH Sensor provides accurate in-line pH measurement and has a reduced calibration frequency due to increased sensor stability. The Rosemount 644 Temperature Transmitter features transmitter-sensor matching with Callendar-Van Dusen constants which reduces total measurement error and ensures proper conversion of fermentable sugars.

There are various points in the brewing process where measuring the wort density are key. Using a Micro Motion Fork Density Meter, high accuracy monitoring and control of wort density or “sweet wort” can be achieved to both eliminate manual sampling and reduce waste. One example is at the Lauter tun, where the clear liquid wort is separated from the mash and measured. Another key variable is the concentration or the density of beer wort in terms of percentage of extract by weight. This measurement is usually performed in a lab and can take up to an hour. In addition, different beers have different concentration curves, and to optimize each specific brew, the Micro Motion 5700 Transmitter can be easily loaded with custom curves, making it an ideal choice on measuring the Lauter Tun run off flow to identify the point where it is no longer efficient to recover more wort from the mash.

Achieve a step change in the design of a brewery with the automation of air-operated valves and cylinders, for a variety of brewing steps with the ASCO Numatics Valve Islands with G3 Electronics. An easy, cost effective solution for Digital I/O and Valve Automation, using G3 Electronics with its innovative graphic display provides easy commissioning, visual status & diagnostics. These can be built into the ASCO Integrated Enclosures Solutions, a customized stainless steel control cabinet for sanitary & wash-down environments.

Grains

Malt Conditioning

Mash Optimization

Wort Density & Flow

Process Automation
## Featured Products for Milling, Mashing & Lautering

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Description</th>
<th>Image</th>
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</thead>
<tbody>
<tr>
<td><strong>Rosemount 8705 Magnetic Flow Meter</strong></td>
<td>The Rosemount 8705 Magnetic Flowmeter, an all-welded construction with a robust hermetic seal that protects against moisture and other contaminants. Adding the wireless option makes it simple to integrate with EtherNet/IP and ideal for hard to reach and remote installation locations.</td>
<td><img src="image1" alt="Image" /></td>
</tr>
<tr>
<td><strong>Rosemount 644 Temperature Transmitter</strong></td>
<td>This temperature transmitter offers transmitter-sensor matching with Callendar-Van Dusen constants which provides superior temperature control for your process. Single and dual sensor capability as well as optional diagnostic features gives the option to customize this assembly to meet the needs of your measurement point.</td>
<td><img src="image2" alt="Image" /></td>
</tr>
<tr>
<td><strong>Micro Motion Fork Density Meter</strong></td>
<td>Featuring an innovative new integral transmitter, the fast-response, direct-insertion Micro Motion Fork Density Meter (FDM) offers installation flexibility with continuous, real-time density and concentration measurement in pipelines, bypass loops and tanks.</td>
<td><img src="image3" alt="Image" /></td>
</tr>
<tr>
<td><strong>Rosemount 5408 Level Non-Contacting Radar</strong></td>
<td>The Rosemount 5408 provides easy to use continuous level measurement of both liquids and solids. Two-wire FMCW technology maximizes radar signal strength to produce a more robust, reliable measurement and an intuitive software interface guides the operator through installation, commissioning and trouble shooting. The process seal antenna option is 3-A certified for hygienic applications.</td>
<td><img src="image4" alt="Image" /></td>
</tr>
<tr>
<td><strong>Rosemount 5708 3D Solids Scanner</strong></td>
<td>The Rosemount 5708 3D Solids Scanner provides accurate measurements of solid materials for production tracking, inventory management, and usage forecasting of all vessel sizes. Providing a three dimensional measurement, Rosemount 5708 offers accurate volume readings even if the surface is rough and uneven.</td>
<td><img src="image5" alt="Image" /></td>
</tr>
<tr>
<td><strong>Micro Motion 5700 Transmitter</strong></td>
<td>The Micro Motion 5700 Transmitter’s intuitive design ensures measurement confidence, valuable process insight and productivity through simplified solutions. Achieve the best response in the most challenging applications, and benefit from the feature to pre-load custom Plato curves to optimize your brews.</td>
<td><img src="image6" alt="Image" /></td>
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**Featured Products for Milling, Mashing & Lautering**

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<tr>
<th>Rosemount TF396 Non-Glass ISFET pH Sensor</th>
<th>Micro Motion F-Series, H-Series and ELITE® Coriolis Flow Meters</th>
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<tr>
<td>The Rosemount TF396 sensor features an ion-selective field effect transistor (ISFET) pH electrode that provides a stable pH measurement. Its rate of response can be ten times faster than glass electrodes, enabling better process control. Aging effects caused by temperature fluctuations or large changes of process pH are greatly reduced, providing longer intervals between calibration and maintenance of the sensor.</td>
<td>With unmatched flow and density measurement for liquids, Emerson offers a full range of Micro Motion Coriolis flow meters. From the compact and drainable F-Series, the H-Series Hygienic to the ELITE, the full range is designed to deliver accurate, repeatable flow and concentration measurement, and is perfectly suited for specific brewing applications.</td>
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<tr>
<th>ASCO Numatics Directional Control Valve Island with G3 Electronics</th>
<th>ASCO Integrated Enclosure Solutions</th>
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<tr>
<td>ASCO Numatics valve islands pilot air operated valves, cylinders, and actuators for brewing, bottling, and packaging. Their embedded fieldbus and I/O capability simplify installation and commissioning by eliminating individual wiring and piping. The ASCO Numatics G3 RTD Temperature Module can be integrated for temperature sensing in fermentation and conditioning. The LED display allows for easy monitoring, diagnostics and configuration, plus an auto recovery module reloads configuration data to ensure fast change-out.</td>
<td>Emerson offers turnkey solutions of best-in-class ASCO and ASCO Numatics products mounted in stainless steel integrated enclosures. Components can include directional and fluid control valves, G3 fieldbus electronics, and FRLs. These NEMA wash-down-rated solutions eliminate contamination and protect components from corrosion that may cause downtime. They also eliminate complex tubing, routing, and bulkhead fittings.</td>
</tr>
</tbody>
</table>
Brewing control can be optimized with reliable Keystone Butterfly Valves for key inputs. Installing the Rosemount 2110 Level Switch at high and low level provides reliable pump control for automated filling of intermediate tanks, with good resistance to changing temperatures and presence of foam.

Monitoring the wort pH determines hop solubility and controls body, flavor and clarity. Accurate in-line pH measurement using the Rosemount TF396 Non-Glass ISFET pH Sensor eliminates the need to extract samples and bring to a laboratory for pH determination. Hot wort can also be monitored using the Rosemount Hx338+ Steam Sterilizable & Autoclavable pH Sensor.

The wort is often brought to boil from steam lines within the brew kettle. Too little steam flow boils the wort slower, while too much steam flow wastes valuable steam. Precise steam flow can be monitored using Rosemount 8600 Vortex Flow Meters or Rosemount 3051SF DP Flow Meters.

Level control can be a key way to see density changes in the brew kettle. Strong vapors and agitators make controlling level very challenging. Rosemount 3051S Electronic Remote Sensor (ERS™) Systems can be used to correct for strong vapors, turbulent fluids, and changing ambient temperatures, while providing reliable level measurements and tracking density changes.

Adding the precise sugar content to the brewkettle in order to increase the fermentability of the wort requires the critical measurement of sugar content of adjunct syrups. Micro Motion Coriolis Flow Meters can be used to directly measure the sugar concentration of the syrups and ensure the correct Plato of the wort leaves the kettle for fermentation.
### Featured Products for Brewing

#### Keystone Figure 990/920 Butterfly Valve

A split body thin disc valve for high and modulating flow. Designed for brewing, the one-piece, thin profile, disc stem provides minimum obstruction to flow, resulting in highest flow coefficient, lowest pressure drops and best control characteristics.

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#### Rosemount 3051S Electronic Remote Sensor (ERS™) System

Featuring best-in-class performance and measurement stability, the Rosemount 3051S Electronic Remote Sensor (ERS™) System is engineered with flexible, digital architecture. The ERS System calculates differential pressure electronically using two pressure sensors linked together with an electrical cable. Easy to install, this safety-certified system is engineered for faster response time than traditional systems, providing you with exceptional performance in the brew kettle.

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#### Rosemount 3051SF Differential Pressure (DP) Flow Meters

The Rosemount 3051SF family of differential pressure flow meters offers an accurate and easy to install solution for utility measurement. Available with a Conditioning Orifice for limited straight run applications or Annubar™ primary element for low pressure loss, this flow meter family is ideal for the brewing industry.

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#### Rosemount 8600 Utility Vortex Flow Meters

The Rosemount 8600 Utility Vortex flow meter is optimized for general purpose flow metering and utility applications including clean fluids and steam flow. The 8600 Utility Vortex meter offers enhanced reliability and simplified maintenance with superior vibration immunity without any moving parts. Installation is easy with no impulse lines or zeroing required and internal verification of both the electronics and sensor add enhanced process insight.
### Featured Products for Brewing

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<th><strong>Rosemount 2110 Level Switch</strong></th>
<th><strong>Micro Motion F-Series, H-Series and ELITE® Coriolis Flow Meters</strong></th>
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<tr>
<td>The Rosemount 2110 Level Switch offers simple and reliable level detection for compact spaces and in-pipe measurement. Hygienic certificates and all-stainless steel construction expands application capability to include sanitary processes. The vibrating fork technology has no moving parts, needs no calibration, and is virtually unaffected by process conditions.</td>
<td>With unmatched flow and density measurement for liquids, Emerson offers a full range of Micro Motion Coriolis flow meters. From the compact and drainable F-Series, the H-Series Hygienic to the ELITE, the full range is designed to deliver accurate, repeatable flow and concentration measurement, and is perfectly suited for specific brewing applications.</td>
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<th><strong>Rosemount Hx338 Steam Sterilizable &amp; Autoclavable pH Sensor</strong></th>
<th><strong>Keystone Model OptiSeal F14-F17 Butterfly Valve</strong></th>
</tr>
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<tr>
<td>The Rosemount Hx338+ sensor provides a unique pre-pressurized pH reference technology. The pre-pressurized reference stops contamination between batches by not allowing the process to leak into the sensor. The pH reference also features a triple barrier junction which works to maintain a drift-free pH signal and fight poisoning ions (i.e., sulfides, proteins, or sugars), even after numerous sterilization cycles.</td>
<td>A resilient and proven valve for general purpose applications in brewing operations. The body locating holes ease installation and centering between the flanges, rounded polished disc edge gives full concentric sealing, lower torques, longer seat life and bubble-tight shut-off. No flange gaskets required. With no need to remove the actuator during seat replacement, the butterfly valve is suited for the brewing industry.</td>
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</table>
Fermentation

Fermenters hold as much as 70% of the total production volume of a brewery, and represent 70% of CO₂ production. Automation solutions that optimize the fermentation process provide measurable benefits from quality to throughput.

To improve taste and mouth feel of beer, many brewers use enhancers which usually contain a mix of dextrose and maltodextrin. Achieving a consistent blend ratio of these costly additives can be achieved using a high accuracy flow precision measurement. A Micro Motion Coriolis Flow Meter used for high precision dosing eliminates the need for manual sampling and ensures product quality by using the correct amount of beer enhancers.

Wort aeration prior to fermentation is done to ensure the yeast has sufficient oxygen to complete fermentation and prevent a hung fermentation. Thermal mass or rotameters are typically used yet can be fouled leading to incorrect aeration impacting throughput and product quality. Micro Motion Coriolis Flow Meters can be used for air measurement, providing a repeatable process.

Once yeast activity slows and glucose conversion is complete, the specific gravity of a tank will stop changing and the beer can advance to the filtration process. Using the Rosemount 3051S Electronic Remote Sensor (ERS™) System or the Micro Motion Fork Density Meter (FDM) to accurately monitor the specific gravity, brewers receive a trigger immediately at the End of Fermentation (EOF), providing a significant throughput improvement potential, in many cases in excess of 10%. A key feature of the FDM is the ability to validate its performance in the customer's brewery using Micro Motion Known Density Verification (KDV). This gives additional confidence in the FDM's performance while greatly reducing the need for costly re-calibration.

Temperature control during fermentation is vital. Emerson has a variety of solutions for regulating fermentation and maturation process temperatures. ASCO Temperature Control Valves can eliminate multiple valves for double and single-jacketed tanks, enabling the use of a single body valve in a tank or vessel. An ASCO PositionerD Valve can be incorporated to proportionally add glycol to conserve cooling fluid. ASCO temperature control valves can be combined with the ASCO Numatics G3 Electronics and ASCO Numatics air preparation equipment for piloting and temperature sensing.

Once yeast has settled in the bottom of the fermenter it is removed and can either be re-used or sold as a nutritional supplement. Measuring the fluid density enables the ability to identify the interface between yeast and beer. Further CO₂ may be present and can impact the density measurement. Micro Motion Coriolis Flow Meters use an algorithm to identify yeast from beer accurately ensuring proper yeast recovery and preventing premature fouling of filters downstream.
## Featured Products for Fermentation

### Micro Motion F-Series, H-Series and ELITE® Coriolis Flow Meters

With unmatched flow and density measurement for liquids, Emerson offers a full range of Micro Motion Coriolis flow meters. From the compact and drainable F-Series, the H-Series Hygienic to the ELITE, the full range is designed to deliver accurate, repeatable flow and concentration measurement, and is perfectly suited for specific brewing applications.

### Rosemount 3051S Electronic Remote Sensor (ERS™) System

Featuring best-in-class performance and measurement stability, the Rosemount 3051S Electronic Remote Sensor (ERS™) System is engineered with flexible, digital architecture. The ERS System calculates differential pressure electronically using two pressure sensors linked together with an electrical cable. Easy to install, this safety-certified system is engineered for faster response time than traditional systems, providing you with exceptional performance in the fermentation process for breweries.

### Micro Motion Fork Density Meter

Featuring an innovative new integral transmitter, the fast-response, direct-insertion Micro Motion Fork Density Meter (FDM) offers installation flexibility with continuous, real-time density and concentration measurement in pipelines, bypass loops and tanks.

### ASCO Temperature Control Valves

The ASCO air operated Direct Acting Temperature Control Valve is engineered to reduce the overall complexity and footprint in wiring and number of valves required for fermentation tank heat exchange. The valve is comprised of two valves in one body, with six ports to allow both feed and return of media allowing the same valve to control both hot and cold glycol flows. The ASCO 290FB Series meets the FDA CFR21 certification, making it an ideal choice for areas that require sanitary conditions. Furthermore, our range of valves can be intelligently combined with the ASCO Numatics G3 Fieldbus Electronics providing high-level precision in temperature regulation and level sensing.

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Packaging
Packaging

Transfer to Packaging
Overcome the challenges associated with the presence of air entrainment and changing flow profiles when transferring beer from the filtering to the packaging operations using **Micro Motion Coriolis Flow Meter** with **5700 Transmitter** and **Advanced Phase Measurement**. Also ensure filling lines are full and correctly pressurized to provide consistent flow rates to the bottling operations with the **Rosemount 3051HT Hygienic Pressure Transmitter**.

Taxation Verification
Local taxation authorities require that breweries measure and report the amount of alcohol produced for tax purposes when transferred from the brewing to bottling, and that a verification be performed on a regular basis. This verification process is typically done manually, and requires the process to be stopped. With Emerson’s **Smart Meter Verification**, measure the critical taxation points while obtaining in-line verification with an automatic scheduler without interrupting your process.

Keg Filling Innovations
Obtain in-line continuous keg leak detection to reduce product losses and associated product quality risks such as flat beer or mold formation from leaking kegs with the **Rosemount CT4215 Leak Detection Solution**. In addition, new advances in packaging are also benefiting from keg filling innovations from Emerson. For instance, BrewLock is a revolutionary new dispensing system developed by Heineken to bring brewery fresh beer to the consumer. This new keg is 100% recyclable and will eliminate reverse logistics costs of kegs and associated CIP. The BrewLock is made using the spin welding Emerson **Branson SW300**.

Packaging Solutions
Typical power supplies that support bottling and packaging 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. Power outages and voltage sags can prematurely wear bottling and packaging equipment, leading to machine failures and shutdowns that result in increased waste and loss of production. Emerson’s **SolaHD SDU-A Series DIN Rail AC UPS Solutions** is an uninterruptible power supply solution.

Line Automation
For the automation of conveying, bottling, canning and kegging, OEMs and brewers work with the widest array of ASCO fluid and motion control solutions. The **ASCO Numatics Valve Islands with G3 Electronics** intelligently control your pneumatic actuators and air pilot valves. Our select FDA-certified **ASCO Numatics Corrosion-resistant Cylinders** are designed for easy cleaning, eliminating the risk of food contamination. In addition, Emerson has a full product range of **ASCO Solenoid Pilot Valves** designed to meet the high cycling demands of bottling and can be coupled with spring-return and double acting cylinders for use throughout the bottling process.
# Featured Products for Packaging

## Smart Meter Verification

Smart Meter Verification is an easy-to-use, automatic diagnostic tool that monitors the entire flow meter’s performance and integrity – without requiring you stop your process and is available on Coriolis meters and magnetic meters. It can even eliminate the need for you to go to the field when scheduled or combined with a digital control network or Emerson’s Smart Wireless. It can also be used to extend calibration intervals.

## 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.

## Branson SW300

Precision servo-driven spin welding system capable of circular joint interface parts with accurate control and highly consistent results, used to enable new product innovation in the brewing industry, like the revolutionary BrewLock keg and dispensing system.

## ASCO Cylinders – Numatics Motion Controls M, C, S, 450, 453, CST and CGT Series

ASCO offers an extensive range of motion control devices that automate a variety of processes in any brewery such as conveying, bottling, canning and kegging. Available in stainless steel for protection from caustic wash-down procedures enabling a sanitary production environment.

## ASCO Solenoid Pilot Valves

Dependable ASCO solenoid valves are found in almost every brewery. These renowned products offer piloting control of process valves and cylinders in liquid transfer for water supply, washout, bottling and packaging lines, mashing, steam or cooling water in outdoor tanks.

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## Featured Products for Packaging

### Rosemount 3051HT Pressure Transmitter

Best in class reference accuracy plus up to a 7 year stability ensure the Rosemount 3051HT will deliver precise and repeatable pressure measurements in even the toughest applications. Batch to Batch Repeatability testing ensures that pressure measurements will stay within specification even after being subjected to routine, high temperature cleanings.

### Rosemount CT4215 Leak Detector

An automated, in-line system that allows for each beer keg to be tested for leaks. Unidentified leaks can impact product quality and create customer issues. The Quantum Rosemount Laser technology offers high-speed detection and automatically rejects defective leaking beer kegs from the assembly line. The system is easy to install and configure, minimizing disruption to the production line.

### ASCO Numatics Filters, Regulators, and Lubricators (FRL)

The ASCO Numatics Series 651/652 offers a complete range of modular, easy-to-assemble air preparation products. It includes the several filtration options (particulate, coalescing & adsorbing) with an extensive selection of bowl types and drains. Extended temperature range capabilities (-40°F to 176°F / -40°C to 80°C) allow the series 651/652 to be specified across a broad range of applications in the brewing industry. Our regulators and filter-regulators provide customers with the highest in-class flows in the industry. Available port size/thread types include 1/4, 3/8 and 1/2 (NPTF, ISO 228/1-G and ISO 7/1 Rc).

### SolaHD SDN-C DIN Rail Power Supplies and SDU-A DIN Rail Uninterruptible Power System

SDN-C DIN Rail Power Supplies are designed for easy selection and installation. Reliable at temperatures from -40°C to +70°C they are ideal for power automated equipment. A wide array of safety approvals ensures that the system stays powered and safe in a both ordinary and classified environments. The SDU-A protects critical controls and communications from damaging power disturbances and interruptions. The SDU-A is also able to inform the control system of power interruptions allowing the system to take action to minimize product loss and downtime. The SDU-A has a full suite of safety approvals allowing it to be easily specified and installed inside the control panel of the automation system.
Utility & Electrical

With a focus on sustainability, brewers are seeking automation solutions to reduce utilities, energy and water consumption.

Utility Management Solutions

Utilize wired or wireless measurements of steam, water (cooling towers, recovery, treatment, reclaim and spent grains) utilities, fuel and gas flows throughout the brewery to establish a baseline to identify saving targets and achieve regulatory compliance. The solution can include multiple inputs for key sources:

- **Steam measurement, control and monitoring with** Rosemount 3051SF DP Flow Meters, Rosemount 708 Wireless Acoustic Transmitter with Plantweb Insight Steam Trap Application, and the Vanessa Triple Offset ZERO Leakage Valve.
- **Water measurement, control and quality with** Rosemount 8750W Magnetic Flow Meter as well as measuring water quality parameters for optimal process control, including pH, conductivity, low-level dissolved oxygen, and chlorine with the Rosemount 1056 Dual Channel Transmitter.

CIP Solutions

Making use of robust seat valves like the Emerson ASCO 290 Stainless Steel Valve for CIP fluid control where hot water, acid, soda and hydrogen peroxide is used.

- **Micro Motion Fork Density Meter** can be used in the blending and concentration control of caustic soda for fermenter cleaning.
- **Conductivity sensors** monitor the various cleaning steps and final rinse in a CIP application and with broad measurement ranges and sanitary designs, the Rosemount 225 and 410VP Conductivity Sensors are ideal.
- **Control the CIP Supply System automation with the** Keystone K-lok High Performance Butterfly Valve.
- **Use the Rosemount 2120 Level Switch** to control CIP tank levels. An adjustable switch delay prevents false switching from spray balls.

Ammonia Safety

Ammonia cooling systems are an important and dangerous part of brewing. Ammonia leaks through pressure relief valves must be carefully monitored to ensure the safety of personal working near these tanks. The Rosemount 708 Wireless Acoustic Meter with the Plantweb Insight Pressure Relief Device Application can be used to detect pressure relief valve releases and notify personnel when and how long Ammonia has been released to atmosphere.

- **The ASCO Positioner** in which glycol can be proportionally added to conserve usage and monitor spool position to provide better flow control. This valve can be intelligently combined with the ASCO Numatics G3 Integrated Electronics Platform providing high-level precision in temperature regulation.

Cooling Optimization

- **Lighting is key to creating a comfortable and safe work environment. Achieving this can be complex due to unique work spaces, bad light color, shadows, glare, and inconsistent illumination. Appleton Mercmaster LED luminaires solutions can deliver a tailored lighting solution for any mounting height or level of illumination in demanding harsh and hazardous environments.**

Electrical Solutions

- **With a focus on sustainability, brewers are seeking automation solutions to reduce utilities, energy and water consumption.**
**Featured Products For Utility & Electrical**

### ASCO 290 Proportional Valves

The ASCO Valves 290 valve allows for the controlled introduction of glycol into the cooling system allowing for the gradual addition of glycol depending on the cooling needs and size of the batch.

### Rosemount 2120 Level Switch - Vibrating Fork

A level switch that’s easy-to-install with no on-site calibration and 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.

### Rosemount Magnetic and Vortex Flow Meters

A full range of Rosemount Magnetic flow meters designed for general purpose, utility and process applications, including clean fluids, steam and utility water. In addition, a Vortex flow meter product range that is also designed for utility and process applications. Features include the Adaptive Digital Signal Processing (ADSP) to provide immunity from vibration causing unstable or false flow readings and the robust design enables the sensor to be replaced without down-time. Adding the wireless option, makes it ideal for hard to reach and remote installation locations, and provides simple integration with EtherNet/IP.

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**Featured Products For Utility & Electrical**

**Rosemount Conductivity Sensors**

The Rosemount 410VP - PUR-Sense™ Four-Electrode Conductivity Sensor (left) and the Rosemount 225 PUR-Sense Toroidal Conductivity Sensor (right) are intended to be used in many Pharmaceutical and Food and Beverage applications where a sanitary design is required. These sensors are ideal for measuring the concentration of CIP solutions, detecting product/water interfaces, checking product quality, and monitoring effluents in chromatographic separations.

**Rosemount 708 Wireless Acoustic Transmitter with Plantweb Insight Applications**

Featuring ultrasonic acoustic event detection that mounts externally, the Rosemount 708 provides a cost effective installation and allows visibility into steam traps and pressure relief valves. The Plantweb Insight Steam Trap Application and the Platweb Insight Pressure Relief Device Application offer easy-to-use visual dashboards and a single place to check the health of your assets. Platweb Insight Applications deliver automatic device data interpretation and predictive diagnostics which provides you with actionable information.

**Rosemount 1056 Dual Channel Transmitter**

Displays up to two independent liquid analytical process measurements. Measurements can include pH, conductivity, dissolved oxygen, ozone, turbidity, free chlorine, and total chlorine.

**Rosemount 3051SF Differential Pressure (DP) Flow Meters**

The Rosemount 3051SF family of differential pressure flow meters offers an accurate and easy to install solution for utility measurement. Available with a Conditioning Orifice for limited straight run applications or Annubar™ primary element for low pressure loss, this flow meter family is ideal for the brewing industry.
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<td><strong>Keystone Figure 360/362 and 370/372 K-LOK High Performance Butterfly Valve</strong></td>
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<td><img src="image" alt="Keystone Figure 360/362 and 370/372 K-LOK High Performance Butterfly Valve" /></td>
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<tr>
<td>This unique two-piece shaft and double-offset disc/shaft design allows for high cycling and creates a lower disc profile with increased capacity and is ideal for CIP supply system.</td>
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| **ASCO 290 Angle Seat Valve** |
| ![ASCO 290 Angle Seat Valve](image) |
| 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. |

| **Vanessa Triple Offset ZERO Leakage Valve** |
| ![Vanessa Triple Offset ZERO Leakage Valve](image) |
| With a robust integral-to-body valve seat and optimized seating angles, this valve is capable of handling isolation and process control through multiple functionalities, and is suited for steam isolation. |

| **Appleton Mercmaster LED Low Profile Series Luminaires** |
| ![Appleton Mercmaster LED Low Profile Series Luminaires](image) |
| Appleton Mercmaster LED Low Profile Series Luminaires have a compact, lightweight, low-profile design suited for low mounting heights. Six standard mounting hood designs allow for mounting in any location and four different globe options, clear and diffused polycarbonate, clear glass, or prismatic glass refractor, enable customization to the application requirements. |
Get Started

With the most complete automation solutions expertise and offering suite for the industry, Emerson is the supplier of choice to simplify and scale your Brewing Operations.

Getting started is easy. Just contact us now for world-class technologies and services that can maximize your return on investment. Visit www.Emerson.com/FoodandBeverage