

**Uncork your knowledge on how
Emerson can help improve the
quality of your wine production**



Proven Automation Solution for the Winery Industry

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



Quality and Control of Fermentation and Blending

Ensure product quality and consistency, keep your wine batches on spec all while reducing manual processes with automation solutions.

Get **greater control over the flow of heating and cooling media** while also minimizing installation and maintenance time. Emerson's ASCO 6-port Direct-acting Temperature Control Valve is the first and only unit of its kind designed for winemaking applications. A single 6-port valve can regulate both hot and cold flows for a fermenter. This valve seamlessly integrates with Emerson's intelligent valve islands bringing greater levels of automation, feedback and monitoring. This provides the winemaker with flexibility and control over the fermentation process.

Achieve **repeatable and reliable fluid control for single cooling operations**, Emerson's ASCO 2-Way Solenoid Valves and 290 Angle Body valves are the industry standards. These valves can be compact in size, feature low electrical consumption, and the 290 Series handles backpressure eliminating the need for check valves. For enhanced control of cooling and heating media the 290 series valve can be combined with Emerson's proportional and motorized technologies.

Achieve **precise level control of the blending process** and ensure batch-batch consistency with Emerson's Rosemount 5408 non-contacting radar using high sensitivity frequency modulated continuous wave technology that makes the measurement robust even in cases where heavy foam, agitation, and vapor is present, ensuring the true surface always is traced.



Real-time density and Brix concentration during the wine fermentation process enables the improvement in wine quality and consistency for every batch. Emerson's Micro Motion Fork Density Meter solution, with an integrated Resistance Temperature Detector (RTD), can be mounted directly into the fermentation tank or on the pump over loop and frees-up 50% of winemaker's time, letting you focus on the important artistic decisions that can only be made when tasting the wine.

Ensure complete process isolation integrity with total automated valve solutions. Emerson's ball, butterfly, and knife gate valves deliver safe, zero leakage isolation for critical winery assets and processes. Emerson's integrated, automated valve systems reduce manual processes that keep plant personnel safe and minimize operator error, helping achieve consistent product quality.

Featured Products for Fermentation and Blending Solutions

ASCO 6-port Direct-Acting Temperature Control Valve



Comprised of two operators with six ports to allow both the feed and return of media allowing one valve to control both hot and cold flows plus providing greater control and precision. Ideal for applications such as wine fermentation.

Benefits include:

- Single construction valve design handles both hot and cold flows for a jacketed tank
- Direct acting piston valve reduces the need for check valves
- Eliminates potential for glycol plugging
- Greatly minimize piping and plumbing—saves material and labor costs
- Enable full automation when coupled with Emerson's G3 Platform

Micro Motion Fork Density Meter



The fast-response, direct-insertion Fork Density Meter with a Tri-clamp connection and polished stainless steel wetted material and surface finish offers continuous, real-time accurate measurement of density ($\pm 1 \text{ kg/m}^3$) and Brix concentration ($\pm 0.2\%$) in fermentation vessels, and bypass loops.

Benefits include:

- Saves time and adds visibility
- RTD for integrated temperature measurement
- Relieves need for manual sampling
- Removes product waste associated with manual sampling
- Detect when a batch is fermenting too quickly or too slowly

Rosemount 5408 Level Transmitter—Non-Contacting Radar



This versatile next generation non-contacting radar is perfect for most continuous level applications, even when process conditions are at their most challenging, and features a hygienically certified process seal antenna.

Benefits include:

- Easy to use transmitter with an intuitive software interface and built-in data historian
- FMCW technology for robust and repeatable measurement
- Two-wire technology reduces installation costs

ASCO 2-Way Solenoid Valves and 290 Angle Body Valves



The beverage industry standard 2-way and angle body piston valves are designed to be rugged, with high flow and can be used from processing to cleaning.

Benefits include:

- Select range of low power coil design (1.5W) for energy management
- Direct acting Angle Body Valve capable to handle back pressure
- Angle Body Valves can be proportionally actuated
- 290FB Series is FDA CFR21 and 1935-2004 EC Certified

Clarkson, Keystone and KTM Isolation Valves



Emerson's complete range of automated valve solutions deliver process isolation integrity and safeguard your critical assets such as tanks and pumps. Can be used for steam air service, CIP supply systems, reclaim water systems and more.

Benefits include:

- Minimize product loss and contamination
- Improve production uptime
- Reduce energy usage
- Optimize pipe routing

Proactive Monitoring Solutions

Process and condition monitoring of your assets, including leak detection that provides clear and actionable data over the entire wine production process.

Minimize downtime and troubleshooting of your devices by capturing real-time status and diagnostics. Emerson's Edge Gateway and AVENTICS G3 and AES Electronic Fieldbus Platforms monitors your assets, providing actionable information so you can easily and more effectively plan your maintenance activities and minimize troubleshooting across the wine production process. Emerson PACSystem RXi2 Industrial PC can be used to implement edge computing for enhanced insight and optimizing machine health and asset monitoring.

Benefit from a comprehensive range of compact, easy to use, hygienic pressure, temperature and level monitoring solutions from Rosemount.

- Ensure line pressures are in tolerance with the Rosemount 326P for measurement of static pressure in pipes and near pumps.
- Maintain production and reduce downtime with the Rosemount 326L Level Transmitter for Guided Wave Radar and Rosemount 1408H Level Transmitter for Non-Contacting Radar monitoring in small- to medium-sized storage, holding, or buffer tanks.
- Improve product quality and batch to batch consistency with the Rosemount 326T or 327T temperature transmitters in storage and fermentation tanks.

Achieve reliable overflow and run dry prevention with ease for holding, storage and buffer tanks using the Rosemount 2110 Vibrating Fork Level Switch.

Proactively identify sources of product loss prior to wine maturation in wooden casks or at time of bottling and palletizing with the Rosemount CT4215 Packaging Leak Detection System. Quickly identify improperly sealed casks or bottles, minimizing product spoilage and maximizing product quality.



Featured Products For Proactive Monitoring Solutions

Rosemount 326P Pressure Transmitter



Compact and hygienic pressure transmitter dedicated to measuring pressure and hydrostatic level in the food and beverage industry. Comes with an all-stainless steel construction plus a broad offering of modular industry standard process connections.

Benefits include:

- Compact form factor
- Easy to install and commission
- 4-20 mA outputs and IO-Link connectivity

Rosemount 326L and 1408H Level Transmitters



Easy-to-use guided wave and non-contacting radar level transmitters are designed with a compact form factor to be used in hygienic continuous level measurement applications. Their stainless steel construction is flexible and offers numerous modular process connections.

Benefits include:

- Compact form factor
- Easy to install and commission
- 4-20 mA outputs and IO-Link connectivity
- Wide range of antenna lengths to adapt to different vessel sizes

Rosemount 326T and 327T Temperature Transmitters



Proper temperature of your process is critical and can be monitored or controlled utilizing these compact and hygienic temperature transmitters. An all-stainless steel construction plus a broad offering of modular industry standard process connections.

Benefits include:

- Compact form factor
- Easy to install and commission
- 4-20 mA outputs and IO-Link connectivity
- Temperature drift diagnostic for higher confidence under changing process conditions (Rosemount 327T only)

Rosemount 2110 Vibrating Fork Level Switch



Reliable fork switch in a hygienic, compact form factor for point level detection applications in the beverage industry in an all-stainless steel construction.

Benefits include:

- Compact form factor
- Easy to install and commission for compact spaces and in-pipe measurement for pump protection and control
- No moving parts and needs no calibration
- Always visible heartbeat LED provides clear indication of process state and device health

Featured Products For Proactive Monitoring Solutions

PACSystem RXi2 Industrial PCs



Configured with Emerson's advanced PACEdge™ software, the PACSystems RXi2 Industrial PCs provide an easy and cost-effective solution for proactive monitoring of assets.

Benefits include:

- Reliable, high-performance Industrial PCs built to thrive in harsh industrial environments
- Patented thermal monitoring technology enables 100% performance across specified temperature range, even at -40C, and 70C options
- Long lifecycle, COMExpress-based designs ensure many years of series production and easy upgrades
- Fanless designs and SSD storage eliminate moving parts prone to failure

AVENTICS G3, 580 and AES Fieldbus Electronics



Get real time localized monitoring of air-operated valves and I/O capable devices by integrating the communication interface to the pneumatic valve system. Simple to assemble, install, commission, and maintain.

Benefits include:

- Innovative graphic display enables easy commissioning, visual status, and diagnostics directly from the valve system minimizing downtime.
- Highly flexible, distributable architecture scales up with your system's requirements.
- Networks DeviceNet, Ethernet IP, Profibus, Profinet, and Powerlink fieldbus protocols
- 580 Communication module supports IO-Link

Rosemount CT4215 Leak Detection System



The Rosemount CT4215 is an in-line leak detection system that accurately tests 100% of products on your line after filling—whether it's wooden casks prior to the maturation process or bottles and cases.

Benefits include:

- Measures up to 200 bottles packs per minute
- Detects leaks from wooden casks or bottles without disruption
- Engineered with patented Quantum Cascade Laser (QCL) technology
- Designed with a small footprint, it is easy to install and configure, and offers lifetime low maintenance costs



Flexible Bottling and Packaging

Technologies that can help bottling and packaging lines increase flexibility, improve reliability, ensure quality and meet regulatory compliance.

Simplify regulatory compliance at time of bottling, but also for bulk loading and unloading of wine for custody transfer, with accurate in-line measurement of alcohol concentration, density and temperature with Emerson's Micro Motion Coriolis flow meter, all from a single instrument.

Ensure high-speed throughput, reliability, and accuracy in pilot filling, labelling, packaging, and palletizing operations. Emerson's Directional Control Valves offer high flow in a compact package while providing unmatched life cycles. Remotely pilot process actuators and valves or directly mount on the packaging equipment for yielding fast, accurate and repeatable results. Additionally, the directional control valve can be mounted in a highly customize Integrated Enclosure Solution. The unique cabinet and panel mount solution saves time and money with a reduced number of interfaces, gateways, components as well as wiring and labor. Emerson PACSystems RX3i controller offers high-speed motion capabilities for accurate bottling and packaging positioning and better output. It also has the ability to change motion profiles while running facilitated rapid line changeover for shorter batches.

Achieve long life, control and ease of maintenance for air-operated components in bottling, labelling and packaging operations with Emerson's robust and versatile family of FRLs. Easy to assemble modular components and assorted mounting options result in the most versatile air preparation units on the market today.

Versatile and reliable motion control cylinders to meet a wide range of beverage contact applications, bottling, and packaging designs that fit your budget. Emerson's AVENTICS Cylinders provide the most comprehensive portfolio including standard stainless steel, clean to hygienic.



Featured Products For Flexible Bottling and Packaging Solutions

Integrated Enclosure Solutions

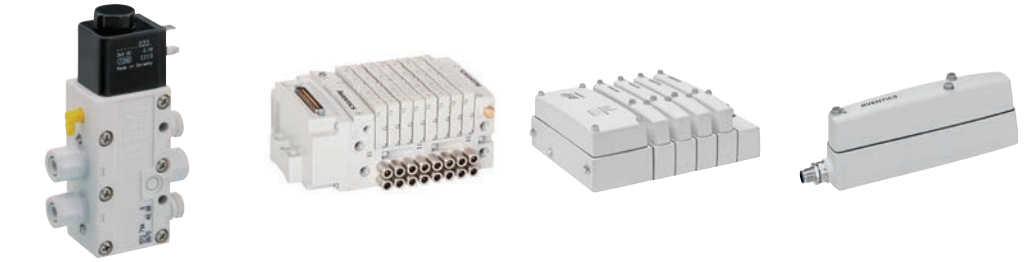


Emerson offers turnkey solutions of best-in-class ASCO and AVENTICS products mounted in stainless steel integrated enclosures. Components can include directional and fluid control valves, G3 fieldbus electronics, and FRLs. These They also eliminate complex tubing routing and bulkhead fittings.

Benefits include:

- Comprehensive engineering services from concept, design to validation
- NEMA washdown rated enclosure protects fluid automation components from external environments
- Panel Mount Solution saves install time and reduces wiring complexity

AVENTICS Directional Control Valves



Poppet, diaphragm or spool and sleeve designs to offer the widest variety of directional control valve technologies to control or pilot air-operated valves and cylinders.

Benefits include:

- High flow in compact package
- Light weight polymer design without comprising performance
- Pressure isolation of individual valves for easy maintenance
- Shut off blocks for complete control over individual valves
- Seamlessly integrates with fieldbus connections
- Select hygienic valve island designs are IP69K washdown rated. This allows the valve system to be placed directly in the process zone increasing response and machine throughput

Micro Motion Coriolis Flow & Density Meter



Unmatched accuracy and repeatability of flow and density measurement for liquids using ELITE Coriolis flow meters with a compact and drainable design.

Benefits include:

- Measure continuous alcohol concentration to meet local regulatory compliance
- RTD for integrated temperature measurement
- Obtain in-situ diagnostics with Smart Meter Verification without external tools or process shutdown
- Eliminates need for manual sampling
- Used for custody transfer of alcohol

RX3i CPE330



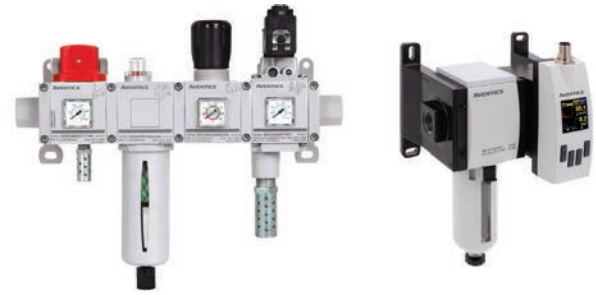
RX3i controllers provide the foundation for Industrial Internet connectivity. It is a powerful, modular Programmable Automation Controller with a focus on high availability. The RX3i features a single control engine and a universal programming environment to provide application portability across multiple hardware platforms.

Benefits include:

- High performance and high availability
- Flexibility and scalability.
- Secured with Trusted Platform Modules (TPM) and digitally signed firmware. RX3i CPUs have by Achilles Level 2 Certifications

Featured Products For Flexible Bottling and Packaging Solutions

AVENTICS Air Preparation Products Filters, Regulators and Lubricators

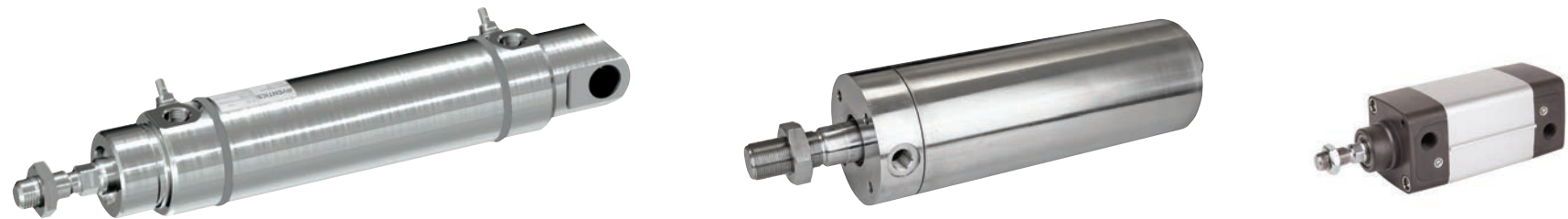


The product range offers high performance and versatility in compact modular packages. Available in port sizes 1/8–1" and features one of the highest flow characteristics of any FRL's on the market compared to its size resulting in a lower pressure drop.

Benefits include:

- Ensure air-operated valves and systems run efficiently by removing particles, oil and mist
- Lower pressure drops can deliver savings in energy consumption
- Available with integrated IIoT-ready sensor to monitor air consumption in pneumatic systems, optimizing energy consumption, preventing machine downtime, and reducing costs

AVENTICS Motion Control Cylinders



Automate motion control throughout your plant with the widest range of cylinders ideal for food contact, splash and non-food contact zones.

Benefits include:

- Constructions meet FDA and EHEDG regulations from standard stainless steel, clean, and hygienic
- Range of designs to meet your performance, cost and footprint needs
- Pneumatic positioning capability allows you to position the rod within the stroke providing greater control over the process



Get started



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



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