Inline Leak Detection for Keg Beer

Process Overview

In today's highly competitive brewing and distilling industry, there is a continual need to improve production throughput, reduce losses, assure product quality, and extend plant flexibility to meet changing customer demands.

Having enhanced control of the filling process in keg beer operations relies on effective leak detection to prevent defective kegs from leaving the facility. However, traditional leak detection systems lack the high resolution sensing and speed to detect microleaks in real time and without stopping the line.

Process Challenges

Leaking product directly affects your bottom line. As a beer producer, you are challenged with:

- Ensuring highest level of quality control
- Reducing customer complaints and claims
- Eliminating unnecessary repairs on beer valves and reducing unscheduled maintenance
- Achieving quick and flexible product changeover

Traditional camera-based leak testers can detect only the presence of foam, which does not always occur when there is micro-leakage. Other systems such as vacuum-based systems rely on direct contact with the keg to detect leaks and cannot be used continuously; the line must momentarily stop to create vacuum around the valve and detect leaks.

Keg beer operations are turning to new technologies to improve product quality, reduce waste, and gain insights into production performance.

The Emerson Solution

Emerson's Rosemount™ CT4215 Packaging Leak Detection System enables 100 percent inline testing of individual filled kegs to prevent damaged kegs from leaving your facility, minimizing product losses and costly returns. The system is fully automated and uses Quantum Cascade Laser (QCL) technology to detect traces of CO_2 in real time without disrupting the production line.

With its small footprint, easy integration into your existing line and visibility into batch quantities and rejection rates, the Rosemount CT4215 will help you optimize production and operational efficiency while ensuring product quality control. Typical applications include:

Products	Packaging Type	Gases
Beer, carbonated beverages	Kegs	CO_2

Flexibility

Extend plant flexibility to meet market demands while maintaining productivity

Support all keg sizes with minimal changeover

Productivity

Gain insight into production line performance

Accurate inline automated measurement

Quality

Reduce costly product losses and waste

Detect cracks, perforations and defective seals

Compliance

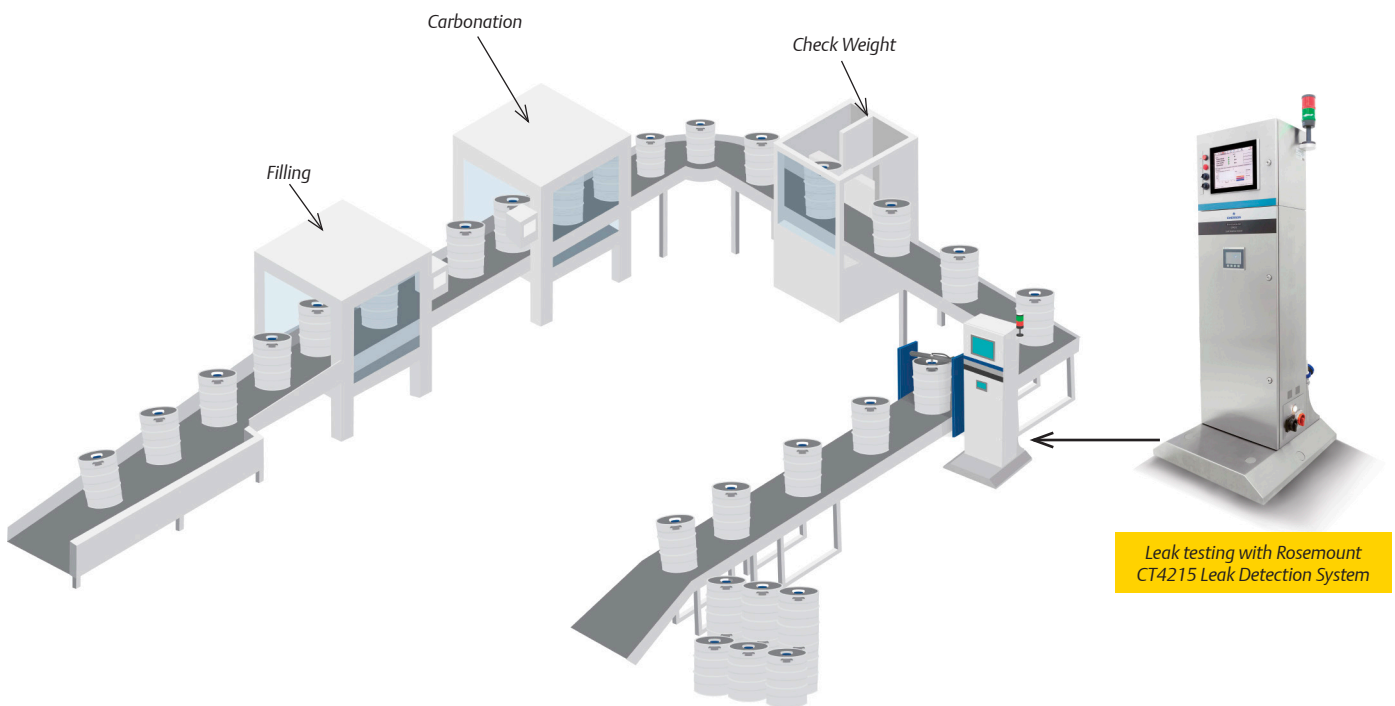Ensure safe, quality products from your lines and on the shelf

100% product leak testing

ROSEMOUNT™

EMERSON™

Easy Integration & Operation

The Rosemount CT4215 is designed for easy installation and configuration onto any production line without retrofitting and requires minimal downtime. User configurable alarms notify operators of required troubleshooting actions when leaking kegs are identified, and the system's modular and flexible design easily accommodates future gas requirements and additional container types.

Features	Benefits
Patented QCL Technology	Detect leaks with sensitive, fast, and repeatable measurements enabled by Quantum Cascade Laser.
Automated Detection	Identify and remove defective kegs from the line without disrupting production.
Full Data Logging	Monitor and record production data at-a-glance with user-friendly software.
Modular Design	Support easy servicing and system upgrades.
Alarming Capabilities	Reduce waste by quickly identifying leaking kegs and resolving the issue.
Low Lifetime Cost	Minimal consumables, solid state technology, and no required user calibration.

Figure 1- Beer Keg Filling Line

Leak testing with Rosemount CT4215 Leak Detection System

Emerson.com/RosemountCT4215

ROSEMOUNT™

EMERSON™