



ABB JOKAB SAFETY Products

# Food and beverage industries Machine safeguarding solutions

# Machine safeguarding solutions for the food and beverage industries

## Challenge and solution

The need for machine safety has become one of the most important concerns for manufacturers throughout North America today. The necessity to protect employees from injury and the fact that there are standards that must be met are realities that can no longer be ignored.

In an industry where the demands on cleanliness, traceability, operational reliability and productivity are high, it is especially important that machine safety is integrated in a natural way. Whether at the planning stage or retrofit to an existing process, we can offer turnkey solutions for the food and beverage industries. We can show you that safety measures do not affect productivity in a negative way, but contribute to improving it.

## Overcoming industry issues

Food and beverage processing plants require a high sustainability level from their electrical systems to avoid costly production shutdown and batch loss. ABB JOKAB SAFETY offers products and systems designed to operate in the harshest processing environments. Our systems will stand up to extreme hot or cold temperatures and high-pressure hose down cleaning with high-temperature caustic chemical solutions that often shorten the life of expensive equipment.

## Decades of machine safety systems expertise

Our goal for nearly three decades has been the protection of the manufacturing workforce – and it has made ABB JOKAB SAFETY a leader in the machine safety industry. We offer complete machine safety solutions that will help protect valuable staff and meet standards and regulations relevant to your business. We can be instrumental in helping you meet the unique challenges encountered in food and beverage processing with electrical solutions, services and systems that deliver value.





### **Understanding complete machine safety systems**

Many of today's manufacturers often struggle to see beyond the current misunderstandings of the true meaning of machine safety. Their approach could be limited in vision and focused on the individual components to be purchased — instead of focusing on the overall picture, the design of the complete machine safety system as a whole.

The idea that all safety devices are the same and can be purchased as commodity products for the lowest price is a myth. Thousands of companies are spending good money on the wrong components. This misplaced belief ultimately leads to higher overall costs, incorrect applications that may not comply with specified safety standards, and can result in unsafe conditions.

### **Machine Safety - Productivity - Profitability**

Productivity and machine safety are not contradictory terms. ABB JOKAB SAFETY knows that machine safety solutions that are properly designed and executed will increase productivity and profitability. By engineering safety systems in a smart way, the mode of production will not need to be changed to meet the requirements that safety sets. Instead, this creates a system that is manufacturing-friendly and takes into account the business and its productivity objectives.

### **Our Value Commitment**

ABB JOKAB SAFETY is working to help Food and Beverage plants to meet demanding production and delivery schedules by offering machine safety systems that improve manufacturing processes with added sustainability, food quality and personnel safety. We are committed to helping you to meet the unique challenges of your industry with electrical machine safety solutions, services and systems that deliver value.

# Safety compliance, consultation and training

Understanding National and International Safety Standards pertaining to the food and beverage industry can be very difficult, and keeping up with the constant changes can be nearly impossible. Fortunately, when it comes to understanding Production Integrated Safety – including updates of all pertinent standards or regulations ABB JOKAB SAFETY offers all the assistance you will ever need.

Machine Safety is becoming more important than ever before, and safety standards are increasingly more complicated. Along with one-on-one consultation with one of our Product Safety Specialists, ABB JOKAB SAFETY offers up-to-date Safety Standards Training Seminars to help your organization understand how these ever-changing standards affect your company today and in the future.

ABB JOKAB SAFETY offers you the following solutions:

- Training on industry specific safety standards (ANSI, OSHA, NFPA, CE, ISO, EN, IEC and CSA)
- Risk Assessment training and onsite evaluations
- Stop Time Calculations on machines for correct placement of safety devices
- Assistance in CE machine certification
- Engineered services for safety design to turnkey installations



Quick Guard fencing



Safety relays



Panel emergency stops



Stop time analyzers



# Continuous operation and sustainability

The costs associated with downtime in a food and beverage plant can be very high. If power is lost during production, the current production batch may have to be scrapped. Production batch cycles can range from only a few minutes to as long as several days, resulting in expensive loss of man hours, raw materials and finished goods.

Due to the high cost of downtime, most food and beverage facilities prefer to use higher performing materials and products to extend equipment life, and preventive maintenance is performed at specific intervals instead of waiting for equipment failure. To minimize plant downtime,

ABB JOKAB SAFETY offers you the following solutions:

- Safety PLC's, Relays and Controllers reduce the number of needed components in the panel thus reducing possible points of failure
- Gateways allow for all safety information to be quickly communicated to the operator station HMI
- Safety Locks keep doors securely locked until the process is over and the machine has come to a controlled stop
- E-Stops with visual indicators for quick diagnostics and recovery



Safety PLC



Gateways



Safety locks



Field emergency stops

# Corrosion / harsh environment and liquid ingress protection

Corrosion — the enemy of electrical systems — costs an estimated \$2.1 billion annually in lost equipment, plus labor and down-time. Problems caused by corrosion include:

- Equipment failure and shortened life
- Poor electrical system reliability caused by high-resistance connections
- Long maintenance repair time due to corroded parts
- Safety hazards and product contamination

Corrosive agents such as acidic food products, moisture and harsh cleaning chemicals are everyday realities in food and beverage processing. This makes the use of corrosion-resistant materials the key to extending the life and reliability of your electrical system. ABB JOKAB SAFETY offers products in aluminum, stainless steel, non-metallic, PVC or PVC-coated materials as a solution to your corrosion issues.

ABB JOKAB SAFETY offers you the following solutions:

- IP69K safety door sensors for extreme wash-down requirements on hazardous machinery
- IP69K stainless steel solenoid locking switches to prevent doors from being opened on process sensitive equipment
- Wash-down tubes with fittings for air purge offers protection for Safety Light Curtains when operators must be in close proximity to the hazard
- Safety Mats allow for entire areas of the work area to be protected during the machine process. If an operator steps on the Safety Mat a stop signal is generated



Safety sensors



Solenoid switches



Light curtains



Safety mats

# Extreme temperature and Ex hazardous location protection

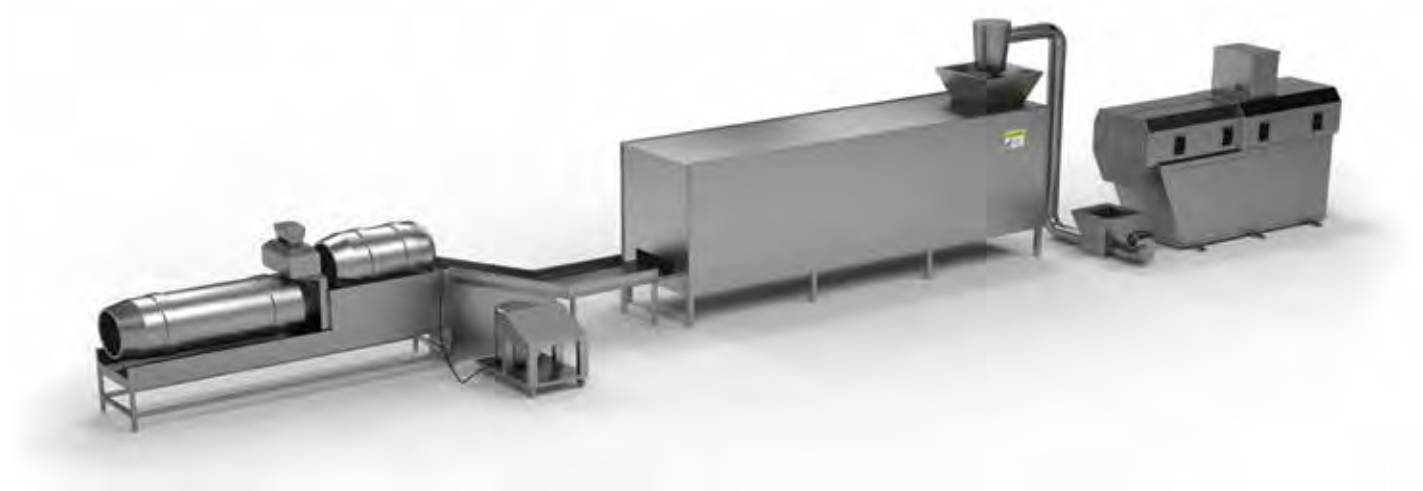
Food and beverage processing areas can have dryers and coolers or ovens and flash freezers directly in line with one another, causing rapid temperature swings that stress electrical systems. Issues that can result from extreme temperatures include:

- Components near ovens can soften and fail due to high temperatures
- Components melt and destroy other nearby equipment or contaminate food product
- Components can become brittle and fail at low temperatures, particularly with frozen food processing

The National Electrical Code® (NEC®) defines hazardous locations as areas where the possibility of explosion and fire is created by the presence of flammable gases, vapors, dust or fibers. In food and beverage facilities, hazardous locations may be present due to gases, chemicals or due to the presence of combustible dust.

ABB JOKAB SAFETY offers you the following solutions:

- Non-contact Stainless Steel Safety Switches are rated for 105C and have been tested to 125C
- Electro Magnet door locks prevent access until heat has dissipated or reduced
- Ex rated Emergency Stop buttons in stainless steel enclosures
- Ex rated mechanical keyed safety interlock switches or non-contact magnet switches for door monitoring



Ex emergency rope pulls



Electromagnetic locks



Ex emergency stops



Ex safety switches

# Contact us

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