

LISTEN.  
THINK.  
SOLVE.®

**Rockwell  
Automation**  
SAFETY SOLUTIONS



# Food & Beverage Industry *Safety Guide*

# Table of Contents

## Food and Beverage Industry Safety Guide

Safety Perspectives

Safety Maturity

Safety Life Cycle

Applicable Safety Standards

Machines in Food & Beverage Industry:

[Baking](#)

[Beverage Material Handling](#)

[Bottle Blowing](#)

[Bottle Cleaning](#)

[Bottle Feeding](#)

[Bottle Filling](#)

[Bottle Capping](#)

[Bottle Labeling](#)

[Case Packing](#)

[Chopping / Auger](#)

[Cooling](#)

[De-palletizing](#)

[Extruding](#)

[Flow Wrapping](#)

[Food Case Packing](#)

[Food Material Handling](#)

[Mixing](#)

[Palletizing](#)

[Shrink Wrapping](#)

[Taping and Labeling](#)

[Vertical Form, Fill, and Seal](#)

[Weigh Checking](#)

**Rockwell  
Automation**

SAFETY SOLUTIONS



Rockwell Automation is a member of the Association for Packaging & Processing Technologies (PMMI) - a trade association made up of more than 700 member companies that manufacture packaging, processing and packaging-related converting machinery, commercially-available packaging machinery components, containers and materials in the United States, Canada and Mexico.

PMMI members are the industry-leading solutions providers on your processing and packaging supply chain, and PMMI resources help you connect with them.



To learn more about packaging and processing, visit PMMI at:  
<http://www.pmmi.org/>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

# Safety Perspectives

## How does your company measure up when it comes to safety?

Every day, 6,300 people die as a result of occupational accidents or work-related diseases – more than 2.3 million deaths per year. The economic burden of poor occupational safety and health practices is estimated at 4 percent of global Gross Domestic Product each year.

The benefits of optimizing safety extend far beyond fewer injuries or fines. Companies that [approach safety holistically](#) can improve productivity, gain efficiencies and experience improved employee morale – while also protecting their brand reputation.

Safety affects a wide range of topics including [supply chain disruptions](#), [sustainability and resilience](#), and [compliance](#). Numerous [studies](#) show that best-in-class manufacturers – the top 20% – achieve 5%-7% higher OEE, 2%-4% less unscheduled downtime, and have less than half the injury rate of average performers. They achieve this level of performance by taking a comprehensive approach that includes developing a great safety culture, providing safety and engineering processes and procedures, and investing in technology that helps protect workers on the plant floor.

A holistic approach to safety, beginning with a comprehensive [assessment](#) of your current condition, is an important first step in determining improvement opportunities. Rockwell Automation developed a 10 Step Holistic Safety Program to help drive consistent implementation of safety programs. Utilizing standardized approaches and tools to evaluate, assess and mitigate risk are key to driving consistent implementation. We use the [Safety Maturity Index™](#) (SMI) to benchmark individual plant performance to identify improvement opportunities and use standardized audit and assessment methods to evaluate compliance.

We also provide a range of tools to help you justify the return on investment, and design your safety system. These tools include:

- [Safety Automation Builder](#) – Free software tool to help simplify machinery safety design and validation. Streamlines safety system design, implementation and validation, helping you improve compliance and reduce costs by guiding you through the development of your safety system, including safety system layout, product selection, and safety analysis to help you meet machinery safety Performance Level (PL) requirements as outlined by global standard (EN) ISO 13849-1.
- [Pre-engineered Safety Function Documents](#) – Provide detailed information outlining the functionality, performance, and products required for each safety function.
- [Safety Accelerator Toolkit](#) – Provides a range of capabilities to accelerate your design process.
- [Safety ROI calculator](#) – Quantify the savings and productivity gains from safety investments for improved safety, reduced claims, improved productivity, and other issues unique to safety applications.

This guide focuses primarily on the technical issues on common machinery used in the food & beverage industries to help improve safety and productivity. It provides a general overview of machinery used, where safety is typically applied, how productivity can be improved, and links to specific safety functions found on each machine.



# Safety Maturity

Best-in-class manufacturers practice the 3 “C”s to improve safety and productivity.

To support this holistic, comprehensive view of safety, Rockwell Automation has introduced the [Safety Maturity Index™](#) (SMI). The SMI is a comprehensive measurement of performance in safety culture, compliance processes and procedures, and capital investments in safety technologies. It helps companies understand their current level of performance and steps they can take to improve safety and profitability.

## Culture

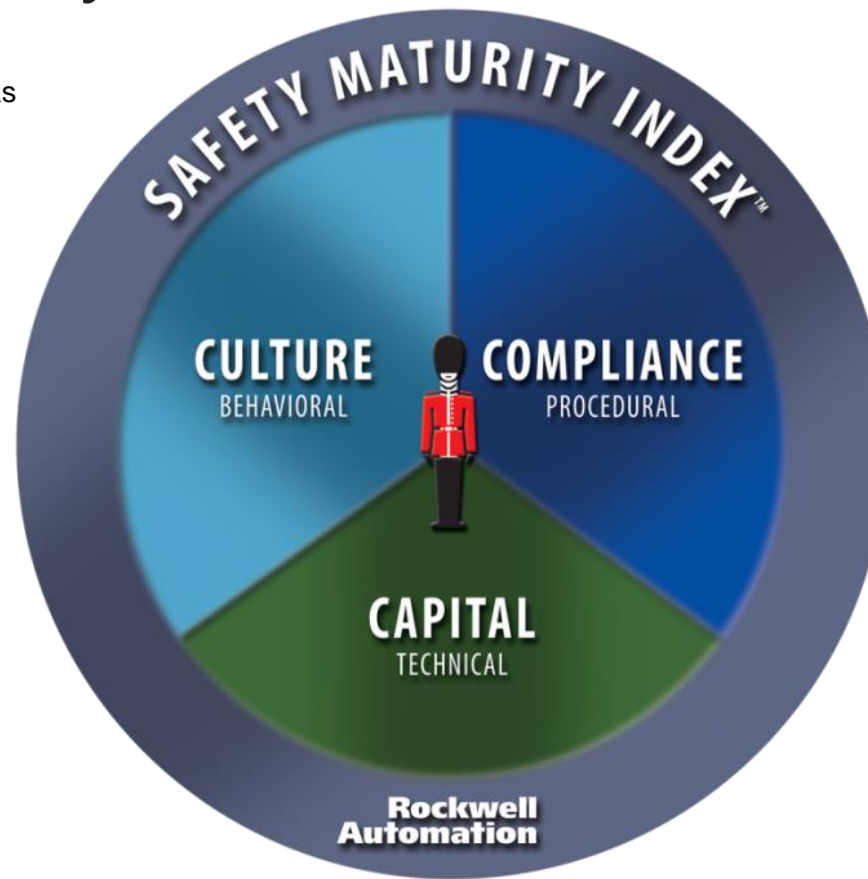
Safety culture represents company and worker *behavior* and is generally indicative of the broader company culture.

## Compliance

Safety compliance represents company *procedures*. Environmental, Health & Safety (EH&S) and Engineering Departments must collaborate on (EH&S), Compliance (both EH&S and Engineering) and Capital (Engineering).

## Capital

Safety capital represents company *technology*, vital to both safety and productivity. Studies show that 74% of best-in-class manufacturers use integrated safety technologies to improve diagnostics and reduce unscheduled downtime. Integrated solutions can be connected to plant-wide information systems, giving plant operators visibility into metrics such as downtime reports, and machinery and line efficiency.



Did you know?  
74% of best-in-class companies use integrated safety technologies to improve diagnostics and reduce unscheduled downtime.

## Best-in-class companies...

- Have a safety culture that is embedded into their DNA based on trust, shared leadership, and engagement on all levels of the business.
- Bridge the gap between engineering and EH&S professionals, with agreed upon functional safety standards and enforced safe practices from suppliers.
- Utilize technology to improve both safety and productivity.



Find out what it takes to be best in class – download our Safety Maturity Index whitepaper:  
[http://literature.rockwellautomation.com/idc/groups/literature/documents/wp/safety-wp018\\_-en-p.pdf](http://literature.rockwellautomation.com/idc/groups/literature/documents/wp/safety-wp018_-en-p.pdf)



Download the Safety Maturity Index Evaluator Tool:  
<http://www.mpisecure.com/portals/toolkits/rockwell/login.aspx>

# Safety Life Cycle

Follow the Safety Life Cycle to reduce time to design, develop, and deliver your safety solutions.

[Back to Table of Contents](#)

## What is the Safety Life Cycle?

The Safety Life Cycle helps maximize productivity and improve safety by identifying the steps required to assess and mitigate machinery risks.

The steps of the Safety Life Cycle include:

### 1. Perform a hazard or risk assessment

Identify hazards and estimate the associated risk.

### 2. Determine the functional safety system requirements

Evaluate safeguarding options based on industry acceptable solutions and select mitigation techniques.

### 3. Design and Verify the system

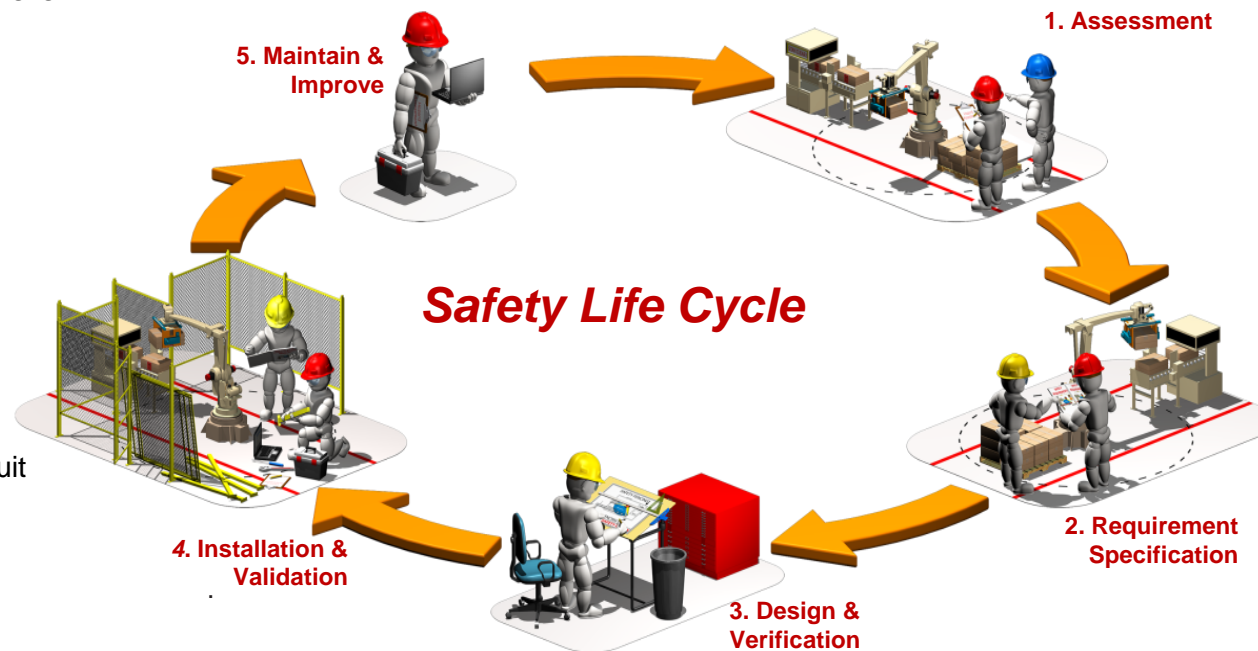
Design system architecture, document safety circuit design and procure materials.

### 4. Install and Validate the system

Verify systems are operating within defined parameters and applicable standards have been satisfied.

### 5. Maintain and Improve the system

Verify that system requirements operate within specified parameter for production and safety preventative maintenance and system upgrades.



Did you know ?  
78% of food & beverage industry respondents view investments in capabilities, innovation, and efficiency as fundamental to growth.

## Best-in-class companies...

- Solve safety problems encountered in manufacturing settings by designing solutions that integrate safety and machine functionality.
- Follow the concepts outlined in the Safety Life Cycle throughout the life of their machines and safety systems.



To see how we can help you with your machine safety requirements, visit us at:  
<http://marketing.rockwellautomation.com/safety>



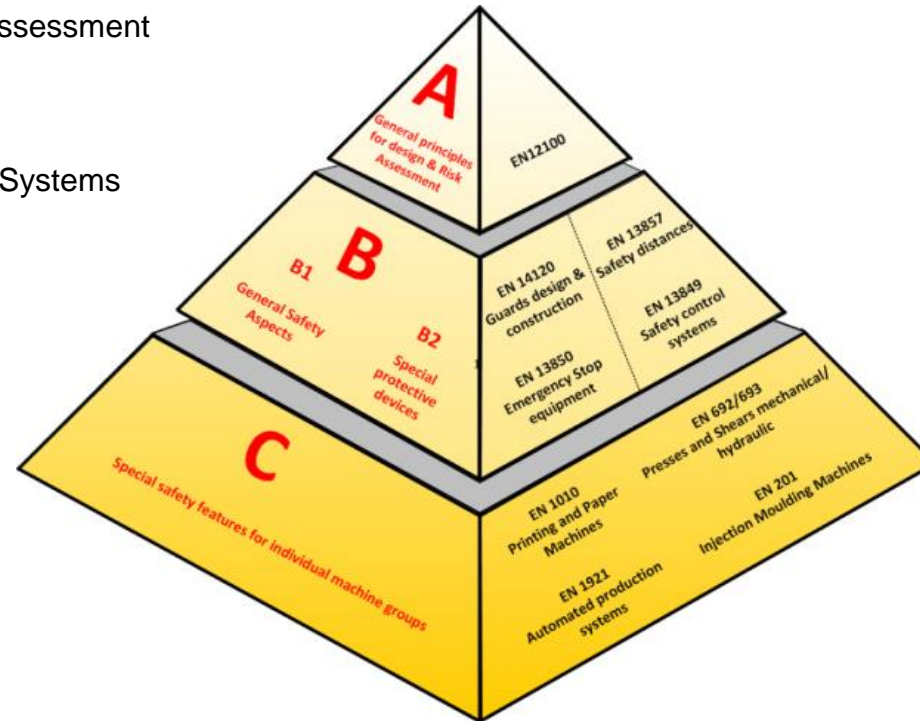
To access more information on the Safety Life Cycle as well as other safety tools, review the profile below:  
[http://literature.rockwellautomation.com/idc/groups/literature/documents/pp/safety-pp002\\_-en-e.pdf](http://literature.rockwellautomation.com/idc/groups/literature/documents/pp/safety-pp002_-en-e.pdf)

# Applicable Safety Standards

Type C standards are industry-specific standards.

[Back to Table of Contents](#)

- EN/ISO12100 – Basic concepts, general principles for the design of safety systems
- ISO13849 Parts 1 & 2 – Safety related parts of control systems
- ISO13850 – Emergency stop devices, functional aspects
- IEC62061 – Functional safety of safety related electrical, electronic and programmable electronic control systems
- ANSIB11.0 - Safety of Machinery – General Requirements and Risk Assessment
- ANSIB11.19 - Performance Criteria for Safeguarding
- ANSI/RIA 15.06 – Safety Requirements for Industrial Robots & Robot Systems
- ANSI/Z224.1 – Control of Hazardous Energy
- ANSI/NFPA 70 – US National Electrical Code
- ANSI/NFPA70E – Electrical Safety Requirements
- ANSI/NFPA79 – Electrical Standard for Industrial Machinery
- ANSI/PPMI B155.1 – Safety Requirements for Packaging Machinery
- EN415 Parts 1-10 – Safety Requirements for Packaging Machinery



*Did you know?  
Injuries in food and beverage manufacturing represent around 25% of all manufacturing injuries reported.*

## Best-in-class companies...

- Use a safety life-cycle approach that includes machinery safety assessments.
- Develop functional specifications to determine the best safety solutions for their machines.



To access more information on the Safety Life Cycle as well as other safety tools, visit us at:  
<http://marketing.rockwellautomation.com/safety>



Browse our free design tools helping you to reduce application development time and cost at:  
[www.plantwideoptimisaton.com/free-design-tools](http://www.plantwideoptimisaton.com/free-design-tools)

# Beverage Material Handling

## Machine Safety Guide

[Back to Table of Contents](#)

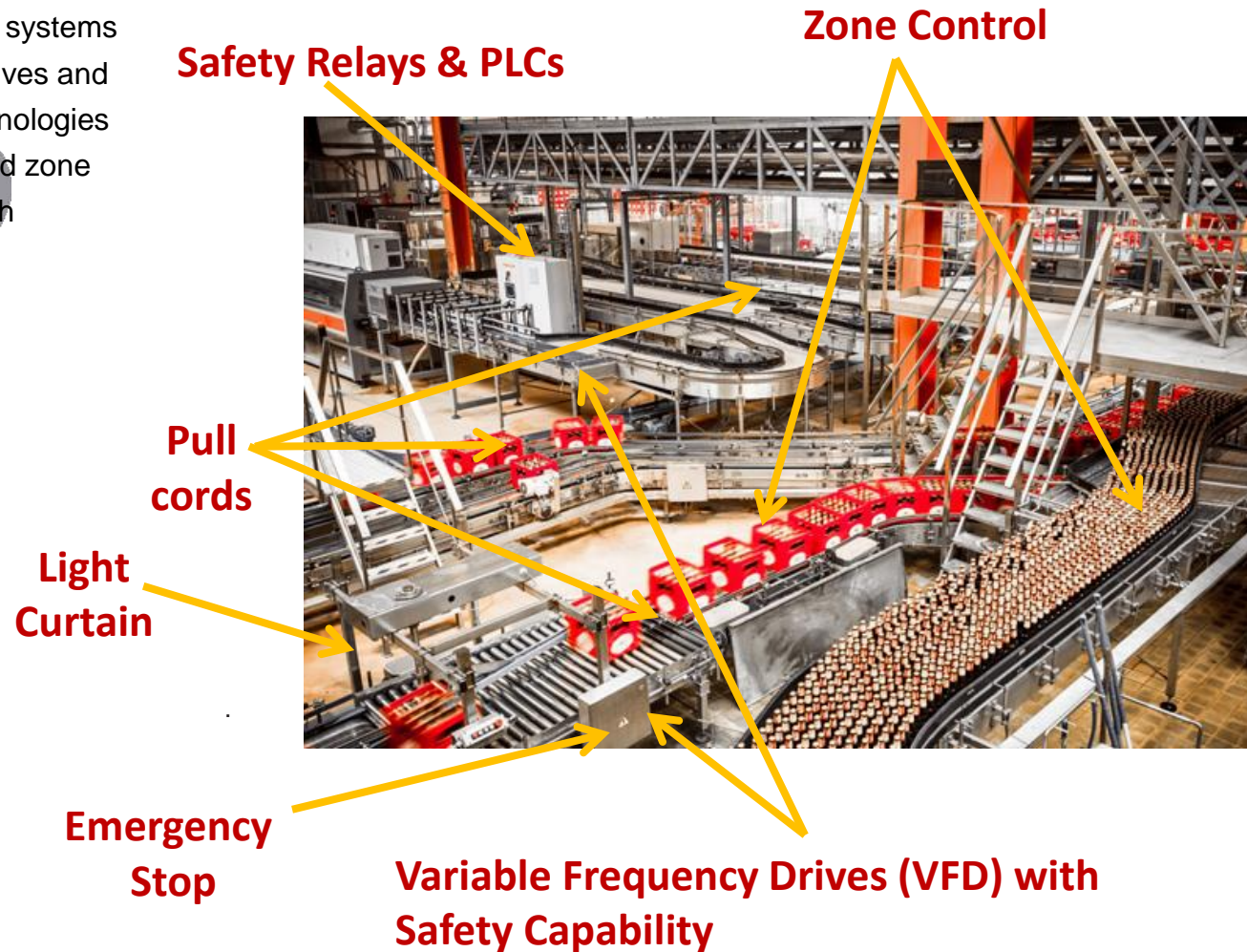
Productivity improvements in material handling systems can be achieved by using safety contactors, drives and motion control systems utilizing advanced technologies like safe speed, safe direction, safe position and zone control to allow for safe operator interaction with machinery.

### Machine Hazards

- Pinch
- Cut
- Entanglement
- Rotating
- Entrapment
- Electrical

### Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation
- Presence Sensing
- Protected Entry



*Did you know?  
62% of manufacturers see productivity increases as vital to growth targets.*

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

### **Safety Design & Development Tools**

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

### **Safety Offering**

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Bottle Blowing

## Machine Safety Guide

[Back to Table of Contents](#)

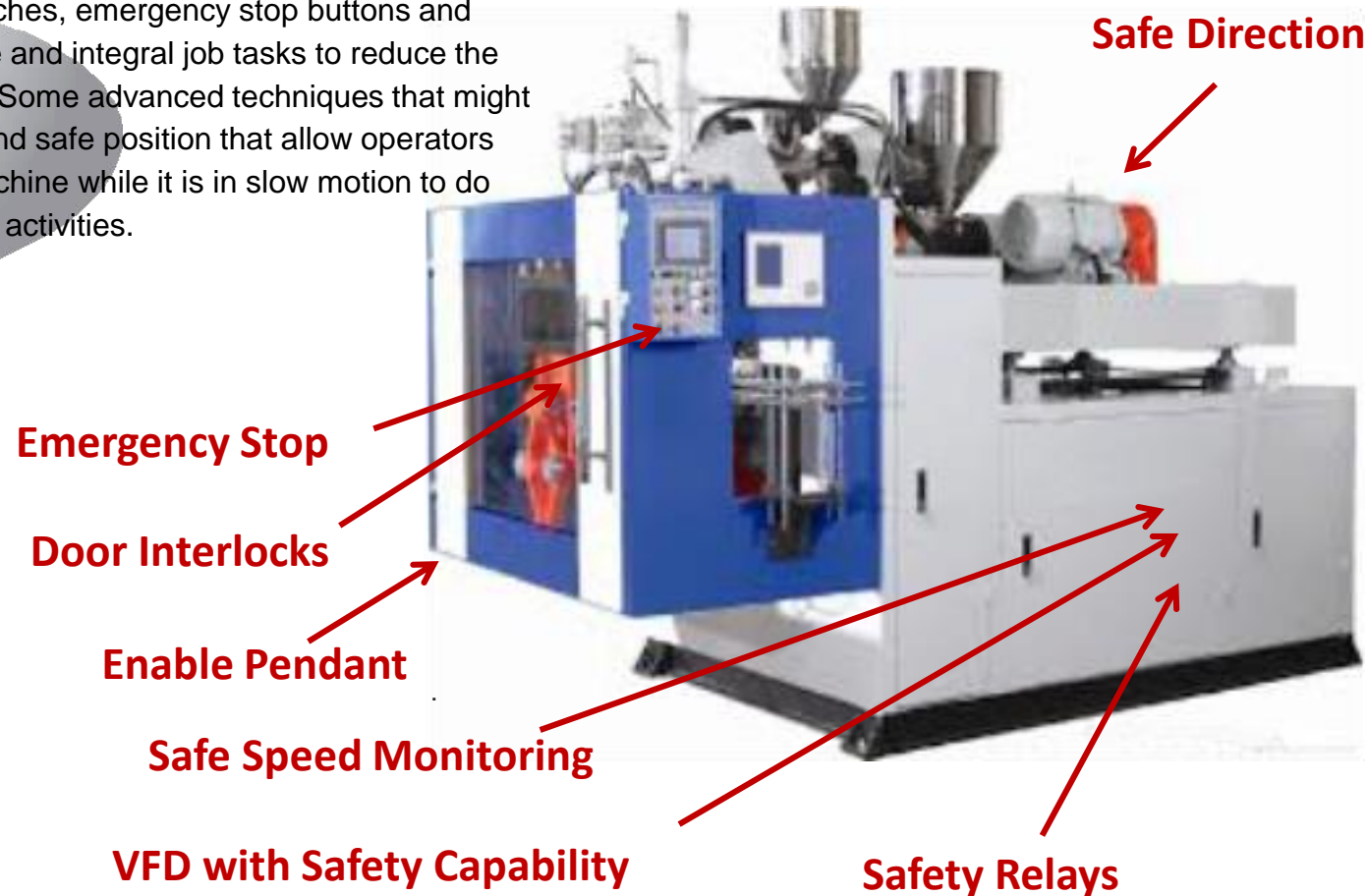
Productivity improvements on bottle blowing machines can be achieved using safety solutions like door interlock switches, emergency stop buttons and enabling switches for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. Some advanced techniques that might enhance productivity are safe-speed and safe position that allow operators and technicians to interact with the machine while it is in slow motion to do minor adjustments and minor servicing activities.

### Machine Hazards

- Pinch
- Cut
- Entanglement
- Rotating
- Entrapment
- Electrical
- Thermal
- Liquid

### Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation
- Presence Sensing
- Protected Entry



Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Rockwell Automation



## SAFETY SOLUTIONS

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

### Safety Design & Development Tools

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

### Safety Offering

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>



# Bottle Cleaning

## Machine Safety Guide

[Back to Table of Contents](#)

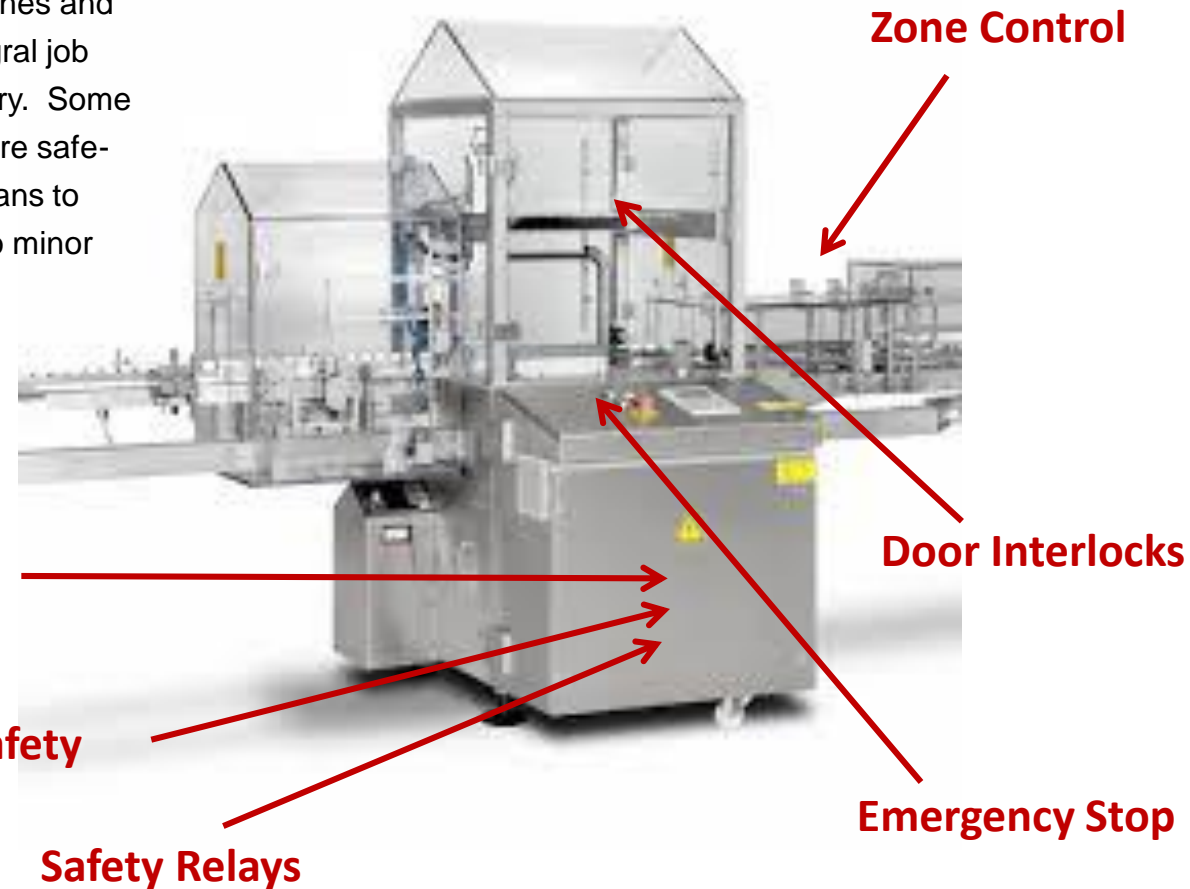
Productivity improvements on bottle cleaning machines can be achieved using safety solutions like door interlock switches and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. Some advanced techniques that might enhance productivity are safe-speed and zone control to allow operators and technicians to interact with the machine while it is in slow motion to do minor adjustments and minor servicing activities.

### Machine Hazards

- Pinch
- Cut
- Entanglement
- Rotating
- Entrapment
- Electrical
- Liquid

### Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation
- Presence Sensing



Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

### **Safety Design & Development Tools**

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

### **Safety Offering**

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

# Bottle Feeding Machine Safety Guide

[Back to Table of Contents](#)

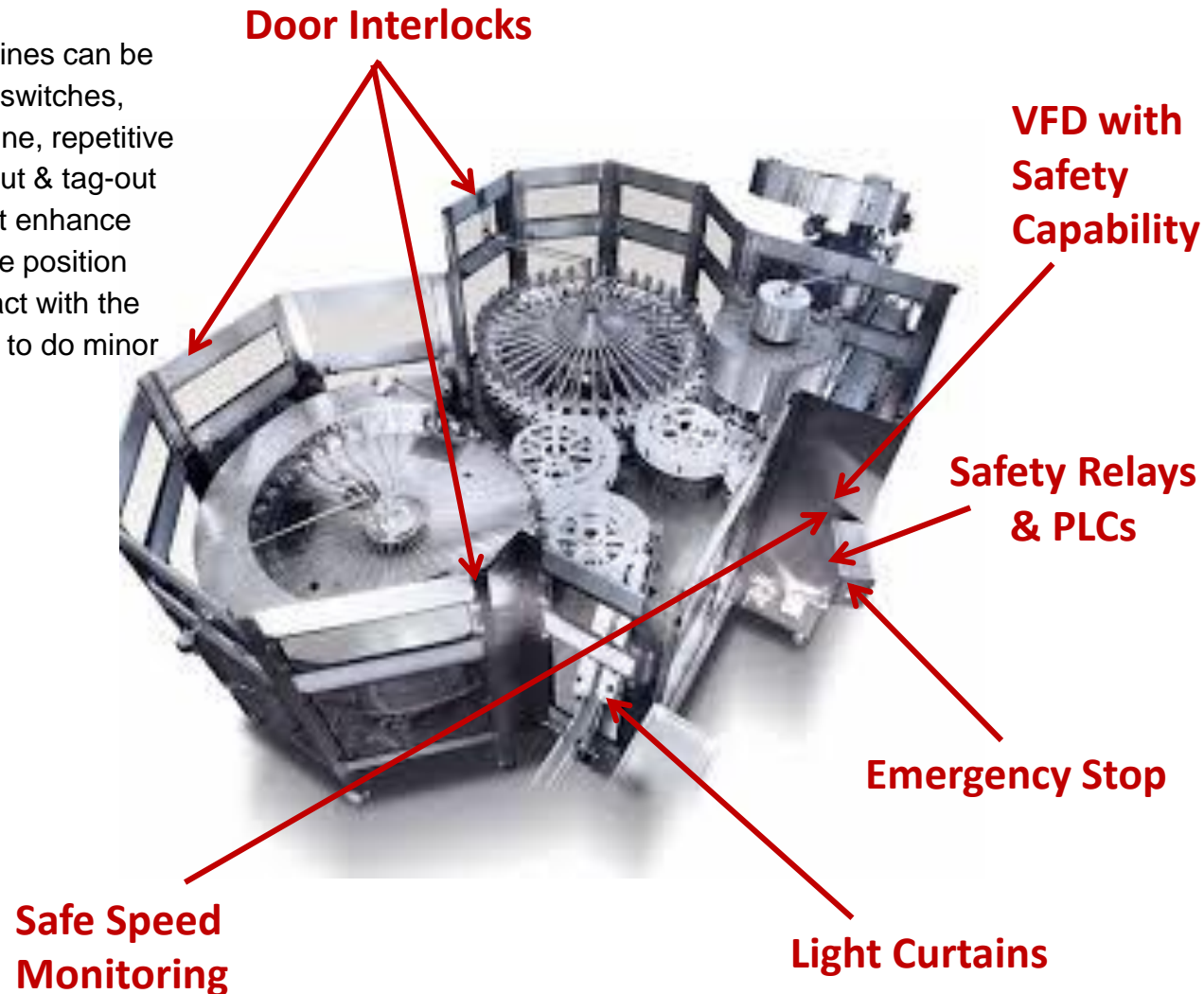
Productivity improvements on bottle feeding machines can be achieved using safety solutions like door interlock switches, light curtains and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. Some advanced techniques that might enhance productivity are safe-speed, safe direction and safe position control to allow operators and technicians to interact with the machine while it is in slow motion or safe direction to do minor adjustments and minor servicing activities.

## **Machine Hazards**

- Pinch
- Cut
- Entanglement
- Rotating
- Entrapment
- Electrical
- Liquid

## **Methods for reducing risk**

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation
- Presence Sensing



Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

## **Safety Design & Development Tools**

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

## **Safety Offering**

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

# Bottle Filling

## Machine Safety Guide

[Back to Table of Contents](#)

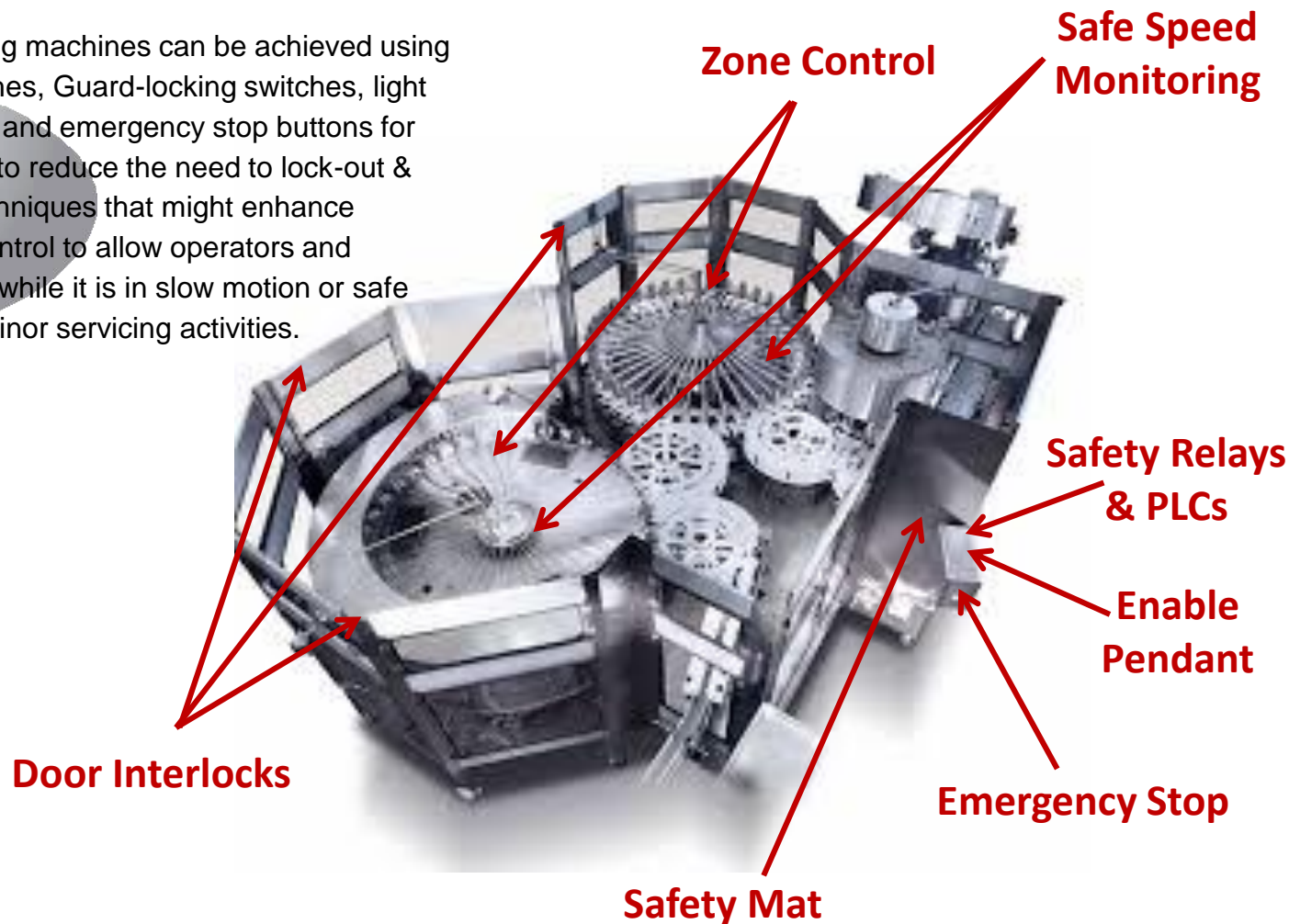
Productivity improvements on bottle filling machines can be achieved using safety solutions like door interlock switches, Guard-locking switches, light curtains, safety mats, enabling switches and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. Some advanced techniques that might enhance productivity are safe-speed and zone control to allow operators and technicians to interact with the machine while it is in slow motion or safe direction to do minor adjustments and minor servicing activities.

### Machine Hazards

- Pinch
- Cut
- Entanglement
- Rotating
- Entrapment
- Electrical
- Liquid

### Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation
- Presence Sensing



Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Rockwell Automation



## SAFETY SOLUTIONS

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

### **Safety Design & Development Tools**

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

### **Safety Offering**

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

# Bottle Capping

## Machine Safety Guide

[Back to Table of Contents](#)

Productivity improvements on bottle capping machines can be achieved using safety solutions like door interlock switches, guard-locking switches, enabling switches and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. Some advanced techniques that might enhance productivity are safe-speed and zone control to allow operators and technicians to interact with the machine while it is in slow motion or safe direction to do minor adjustments and minor servicing activities.

### Machine Hazards

- Pinch
- Cut
- Entanglement
- Rotating
- Entrapment
- Electrical
- Liquid

### Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation
- Presence Sensing
- Enabling

**Safe Speed Monitoring**

**VFD with Safety Capability**

**Door Interlocks**

**Emergency Stop**

**Enable Switch**



**Rockwell Automation**

SAFETY SOLUTIONS



**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

### **Safety Design & Development Tools**

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

### **Safety Offering**

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Bottle Labeling

## Machine Safety Guide

[Back to Table of Contents](#)

Productivity improvements on bottle labeling machines can be achieved using safety solutions like door interlock switches, guard-locking switches, enabling switches and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. Some advanced techniques that might enhance productivity are safe-speed and zone control to allow operators and technicians to interact with the machine while it is in slow motion to do minor adjustments and minor servicing activities.

### Machine Hazards

- Pinch
- Cut
- Puncture
- Entanglement
- Rotating
- Entrapment
- Electrical

### Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation
- Presence Sensing
- Enabling

Enable Switch

Safe Speed Monitoring

VFD with Safety Capability

Door Interlocks

Emergency Stop



# Rockwell Automation



## SAFETY SOLUTIONS

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

### Safety Design & Development Tools

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

### Safety Offering

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Beverage Case Packing

## Machine Safety Guide

[Back to Table of Contents](#)

Productivity improvements on case packing machines can be achieved using safety solutions like door interlock switches, light curtains and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. Some advanced techniques that might enhance productivity are safe-speed and zone control which allows operators and technicians to interact with the machine while it is in slow motion to do minor adjustments and minor servicing activities.

### Machine Hazards

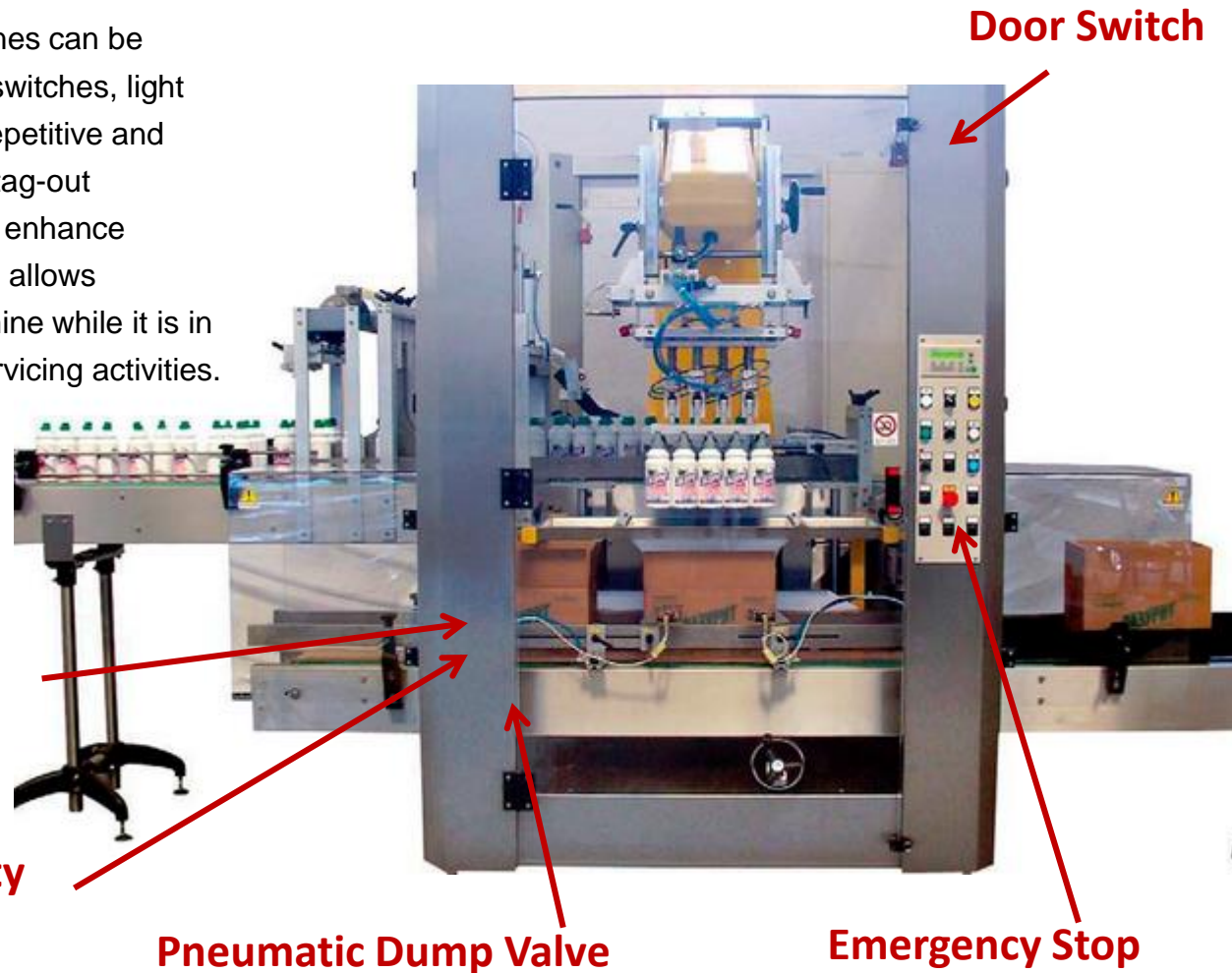
- Pinch
- Cut
- Puncture
- Entanglement
- Crush
- Entrapment
- Electrical

### Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation

**Safe Speed Monitoring**

**VFD with Safety Capability**



**Pneumatic Dump Valve**

**Emergency Stop**

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

### **Safety Design & Development Tools**

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

### **Safety Offering**

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Box Taping and Labeling Machine Safety Guide

[Back to Table of Contents](#)

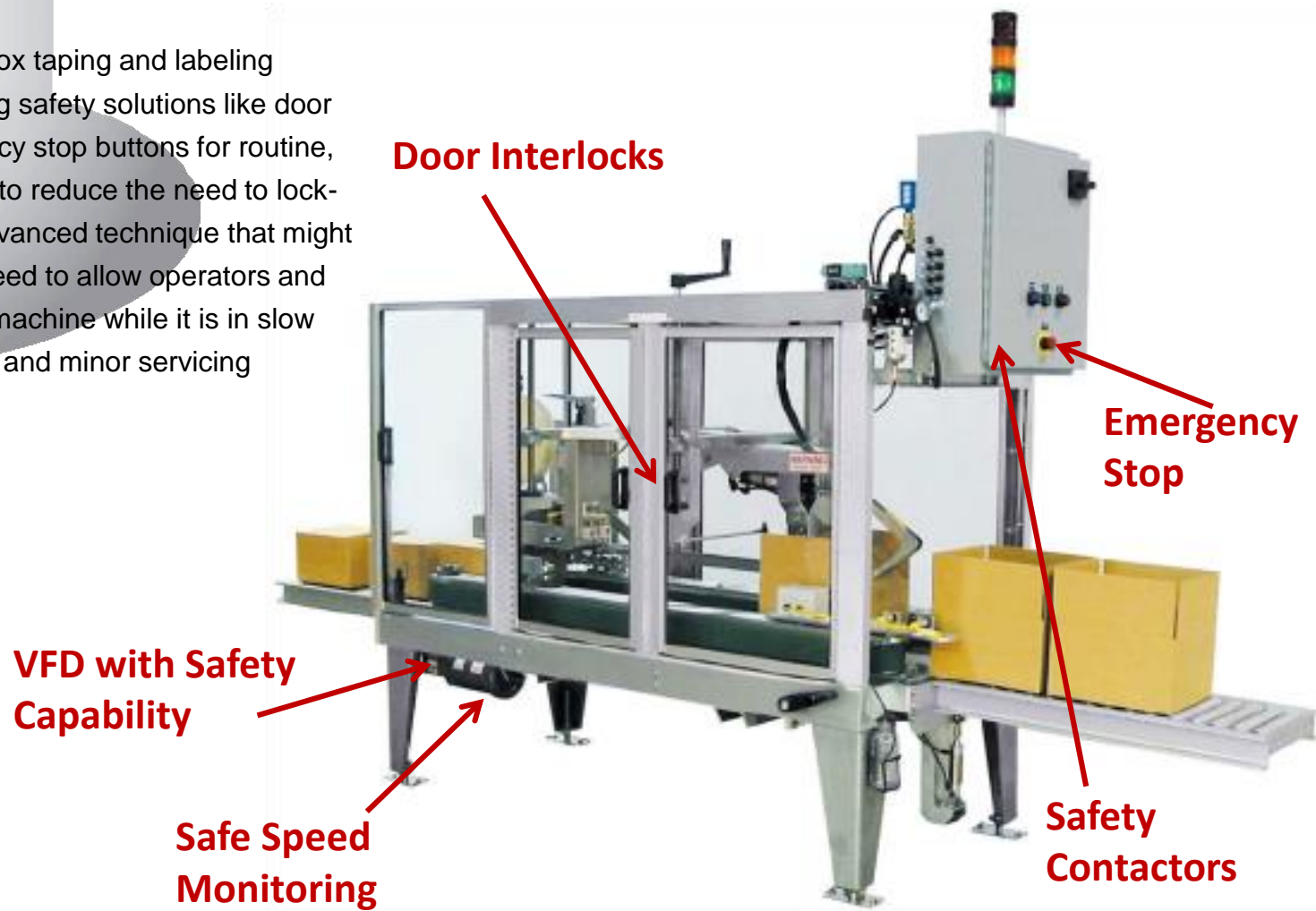
Productivity improvements on box taping and labeling machines can be achieved using safety solutions like door interlock switches and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. An advanced technique that might enhance productivity is safe-speed to allow operators and technicians to interact with the machine while it is in slow motion to do minor adjustments and minor servicing activities.

## Machine Hazards

- Pinch
- Cut
- Entanglement
- Rotating
- Electrical

## Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation
- Presence Sensing



Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Rockwell Automation



## SAFETY SOLUTIONS

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

## Safety Design & Development Tools

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

## Safety Offering

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at: <http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at: <http://www.rockwellautomation.com/global/industries/food/overview.page>

# Palletizing

## Machine Safety Guide

[Back to Table of Contents](#)

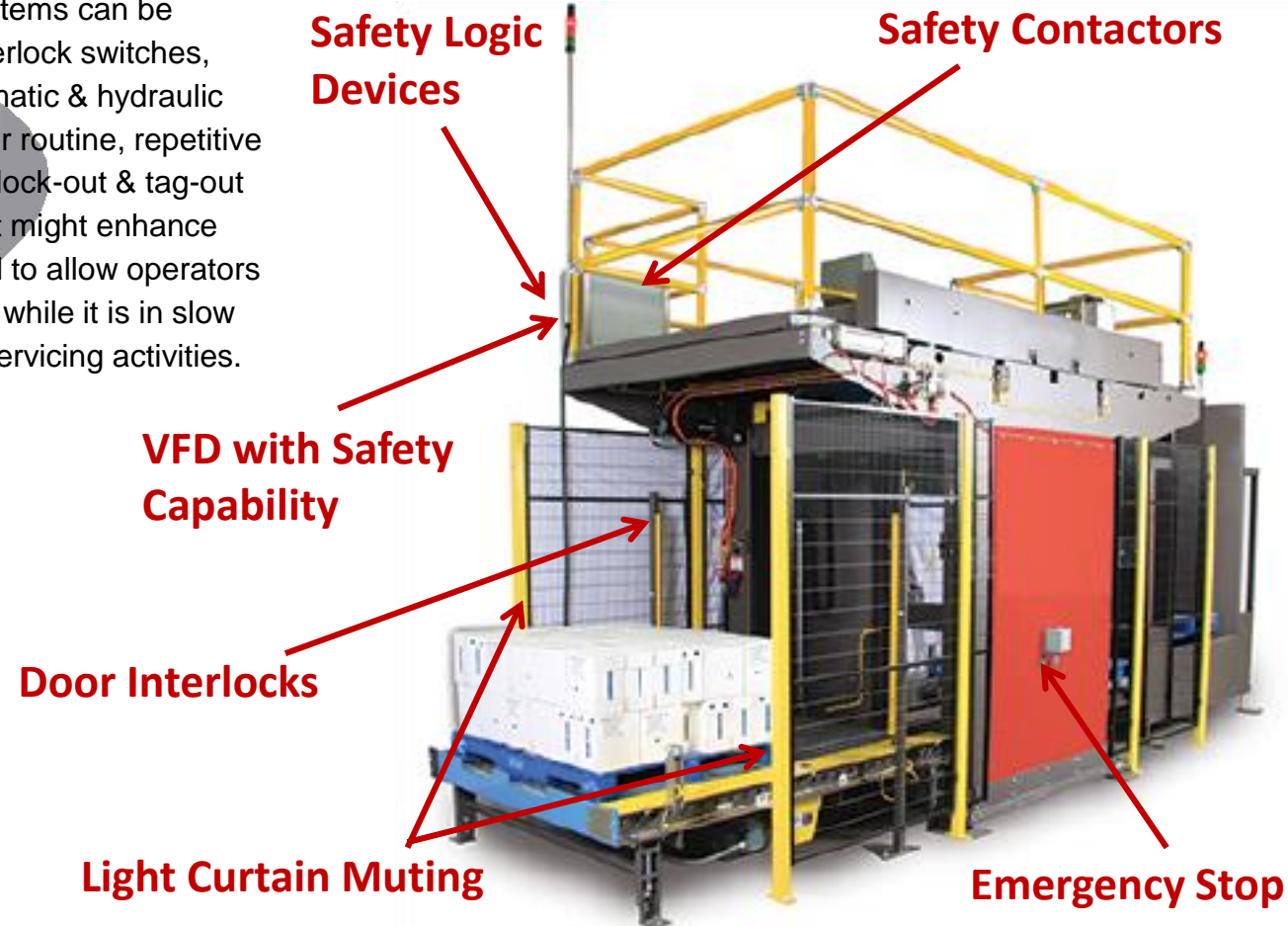
Productivity improvements on palletizing systems can be achieved using safety solutions like door interlock switches, guard-locking switches, light curtains, pneumatic & hydraulic dump valves and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. Some advanced techniques that might enhance productivity are safe-speed and zone control to allow operators and technicians to interact with the machine while it is in slow motion to do minor adjustments and minor servicing activities.

### Machine Hazards

- Pinch
- Cut
- Crush
- Entanglement
- Entrapment
- Electrical
- Fall

### Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation
- Presence Sensing



Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

### **Safety Design & Development Tools**

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

### **Safety Offering**

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>



# Shrink Wrapping Machine Safety Guide

[Back to Table of Contents](#)

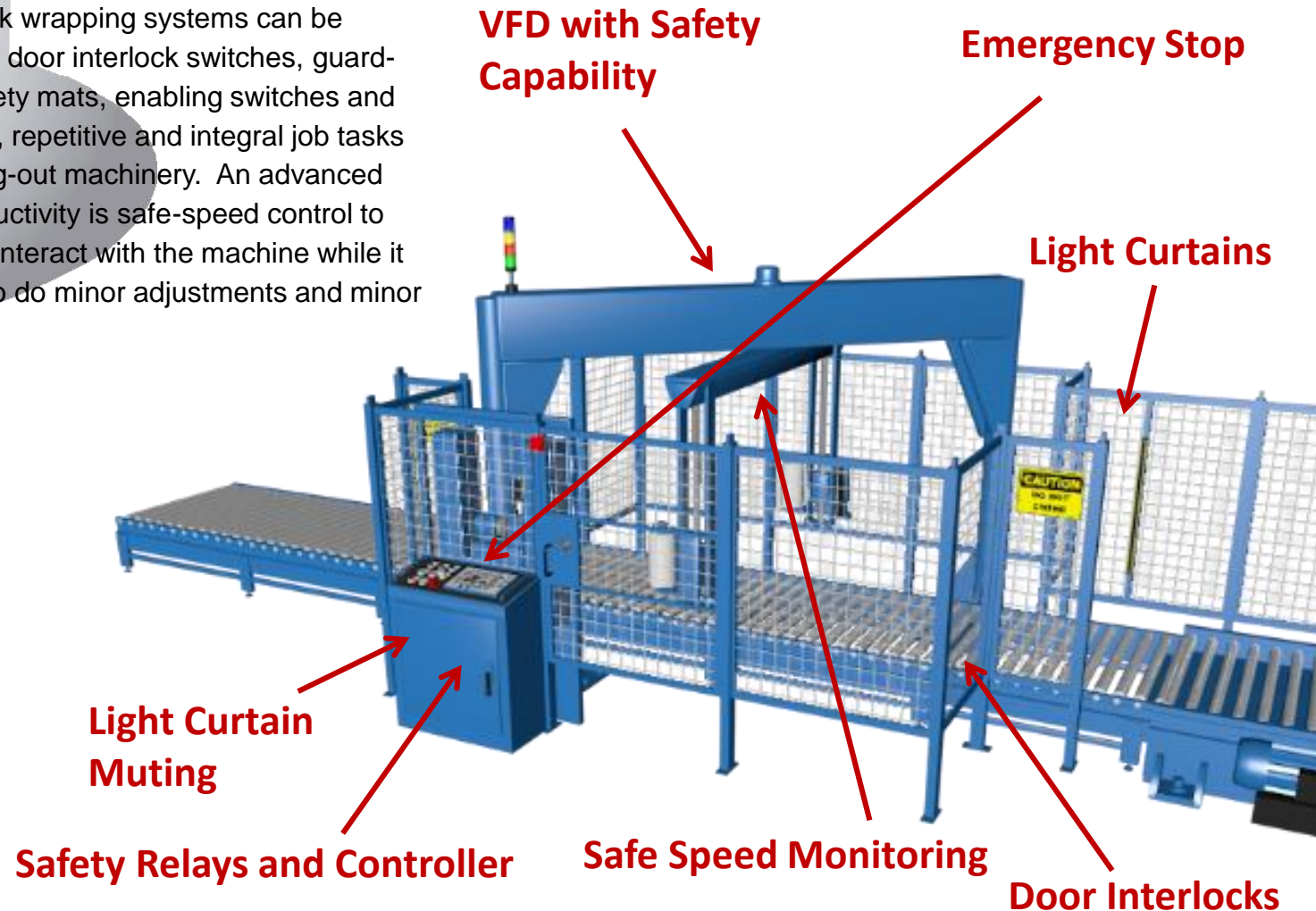
Productivity improvements on shrink wrapping systems can be achieved using safety solutions like door interlock switches, guard-locking switches, light curtains, safety mats, enabling switches and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. An advanced technique that might enhance productivity is safe-speed control to allow operators and technicians to interact with the machine while it is in slow motion or safe direction to do minor adjustments and minor servicing activities.

## Machine Hazards

- Pinch
- Cut
- Entanglement
- Entrapment
- Rotating
- Electrical
- Suffocation

## Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation
- Presence Sensing



Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Rockwell Automation



## SAFETY SOLUTIONS

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

## Safety Design & Development Tools

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

## Safety Offering

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

# Food Material Handling

## Machine Safety Guide

[Back to Table of Contents](#)

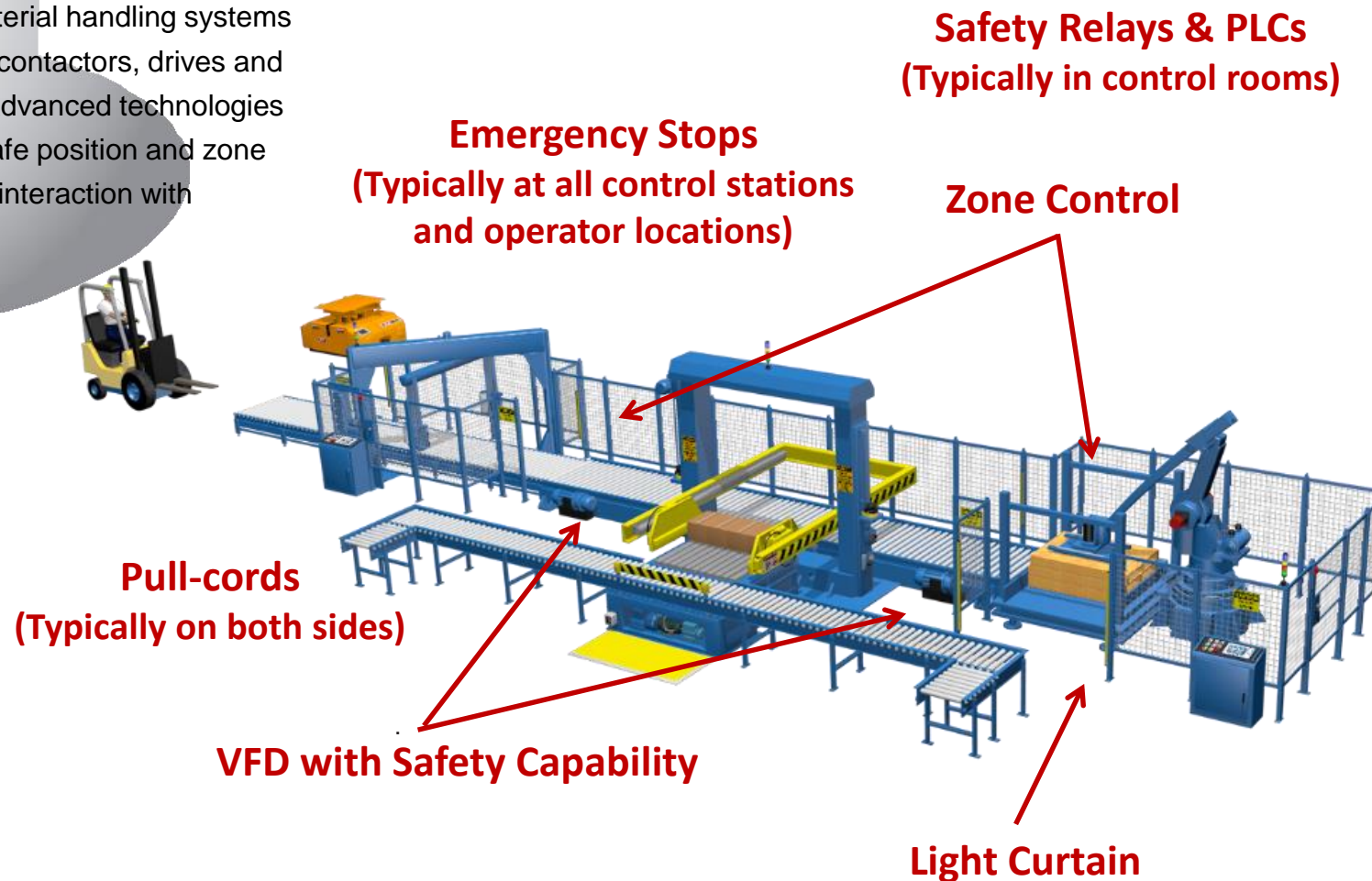
Productivity improvements in material handling systems can be achieved by using safety contactors, drives and motion control systems utilizing advanced technologies like safe speed, safe direction, safe position and zone control to allow for safe operator interaction with machinery.

### Machine Hazards

- Pinch
- Cut
- Entanglement
- Rotating
- Entrapment
- Electrical

### Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation
- Presence Sensing
- Protected Entry



**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

### Safety Design & Development Tools

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

### Safety Offering

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Mixing

## Machine Safety Guide

[Back to Table of Contents](#)

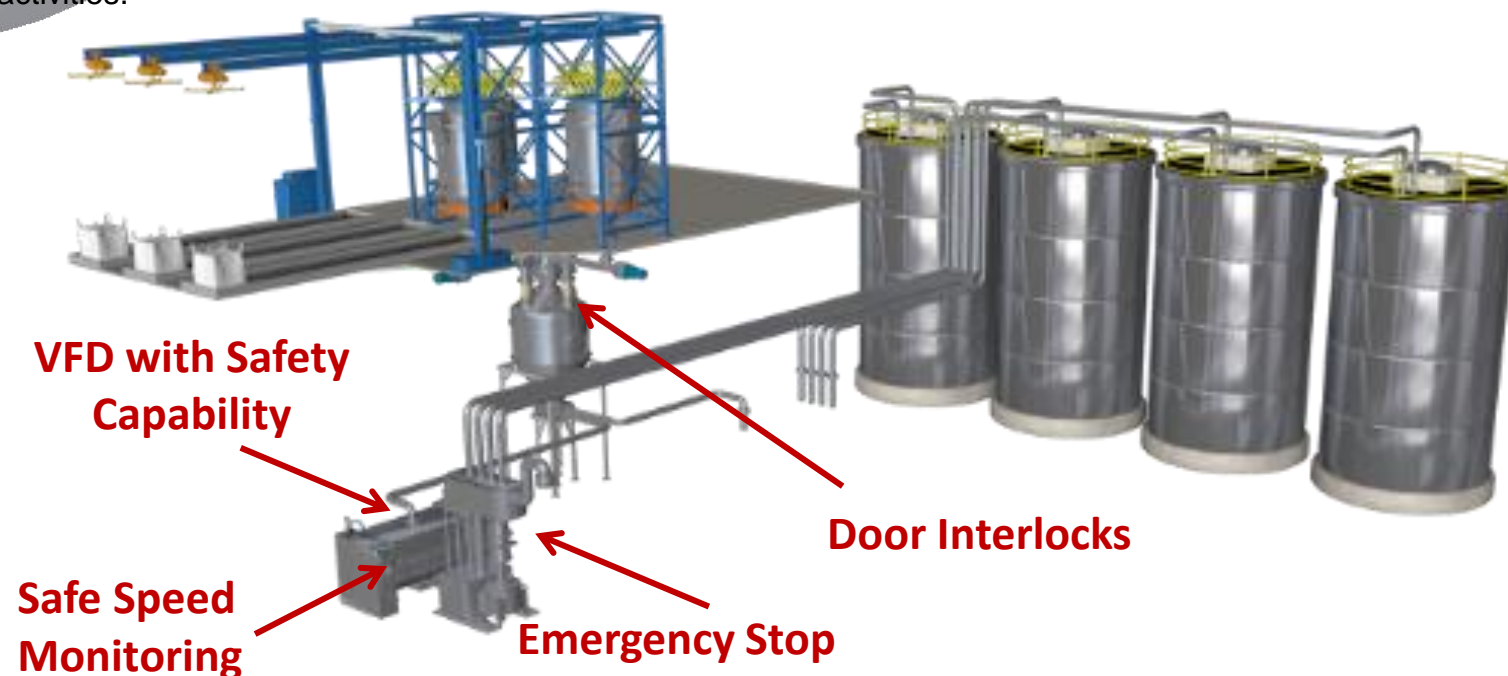
Productivity improvements on mixing machines can be achieved using safety solutions like door interlock switches and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. An advanced technique that might enhance productivity is safe-speed control to allow operators and technicians to interact with the machine while it is in slow motion to do minor adjustments and minor servicing activities.

### Machine Hazards

- Pinch
- Cut
- Entanglement
- Rotating
- Entrapment
- Electrical

### Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation



### Safety Relays & PLCs (Typically in control rooms)

# Rockwell Automation



## SAFETY SOLUTIONS

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

### Safety Design & Development Tools

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

### Safety Offering

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Chopping/Auger Machine Safety Guide

[Back to Table of Contents](#)

Productivity improvements on chopping and auger machines can be achieved using safety solutions like door interlock switches and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. An advanced technique that might enhance productivity is safe-speed control to allow operators and technicians to clean while the machine is in slow motion.

## Machine Hazards

- Pinch
- Cut
- Entanglement
- Rotating
- Entrapment
- Electrical

## Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation

**Safety Relays & PLCs**  
(Typically in control rooms)

**Emergency Stops**  
(Typically at all control stations and operator locations)



**VFD with Safety Capability**

**Door Interlocks**

**Rockwell  
Automation**

SAFETY SOLUTIONS



**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

## **Safety Design & Development Tools**

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

## **Safety Offering**

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Extruding Machine Safety Guide

[Back to Table of Contents](#)

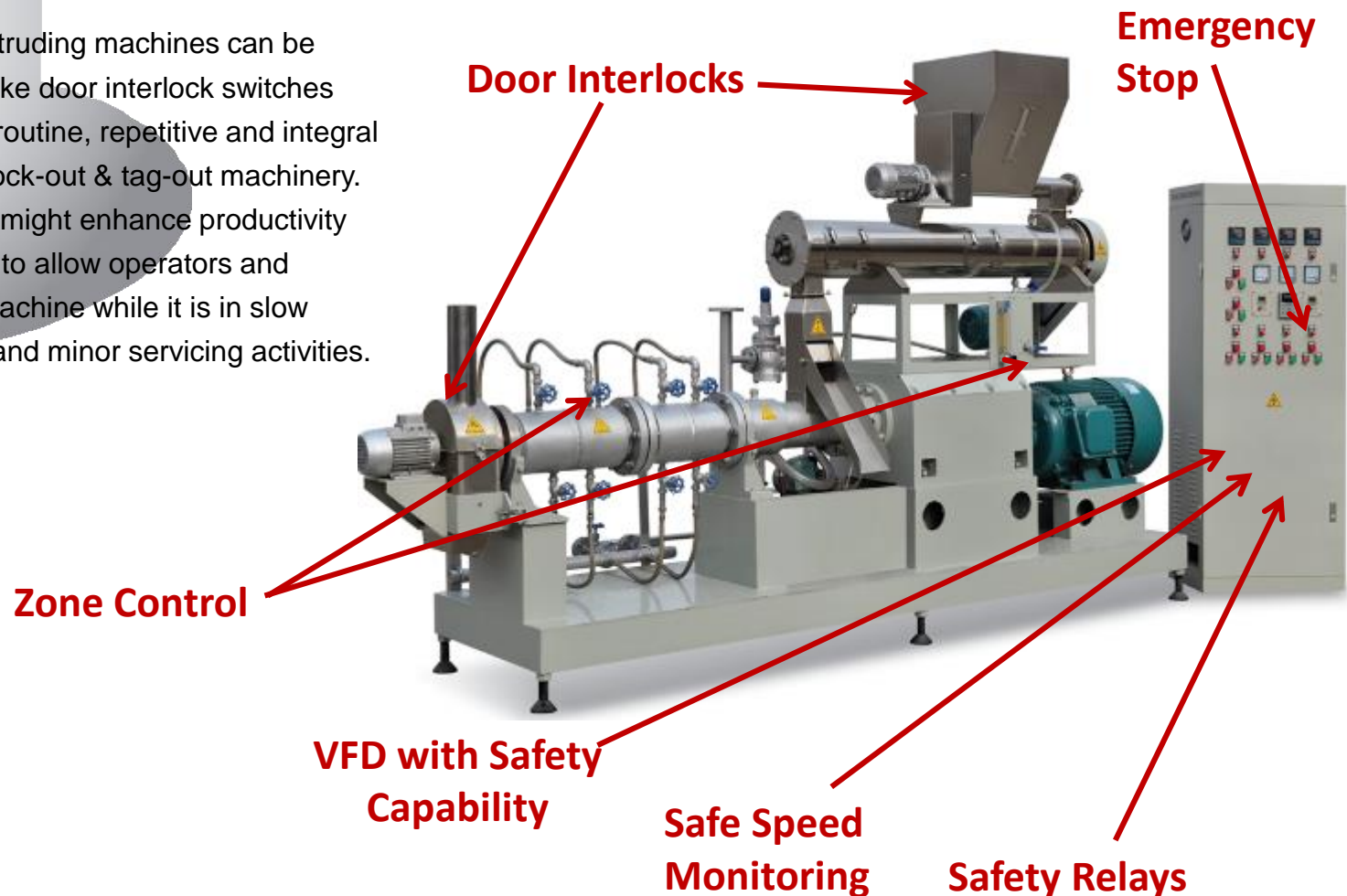
Productivity improvements on extruding machines can be achieved using safety solutions like door interlock switches and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. Some advanced techniques that might enhance productivity are safe-speed and zone control to allow operators and technicians to interact with the machine while it is in slow motion to do minor adjustments and minor servicing activities.

## Machine Hazards

- Pinch
- Cut
- Entanglement
- Rotating
- Entrapment
- Electrical

## Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation



Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Rockwell Automation



## SAFETY SOLUTIONS

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

## Safety Design & Development Tools

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

## Safety Offering

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

# Baking

## Machine Safety Guide

[Back to Table of Contents](#)

Productivity improvements on ovens can be achieved using safety solutions like door interlock switches, emergency stop buttons and pull-cords for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. An advanced technique that might enhance productivity and reduce scrap is safe-speed that allows the machine to operate at a safe speed for minor adjustments and minor servicing activities.

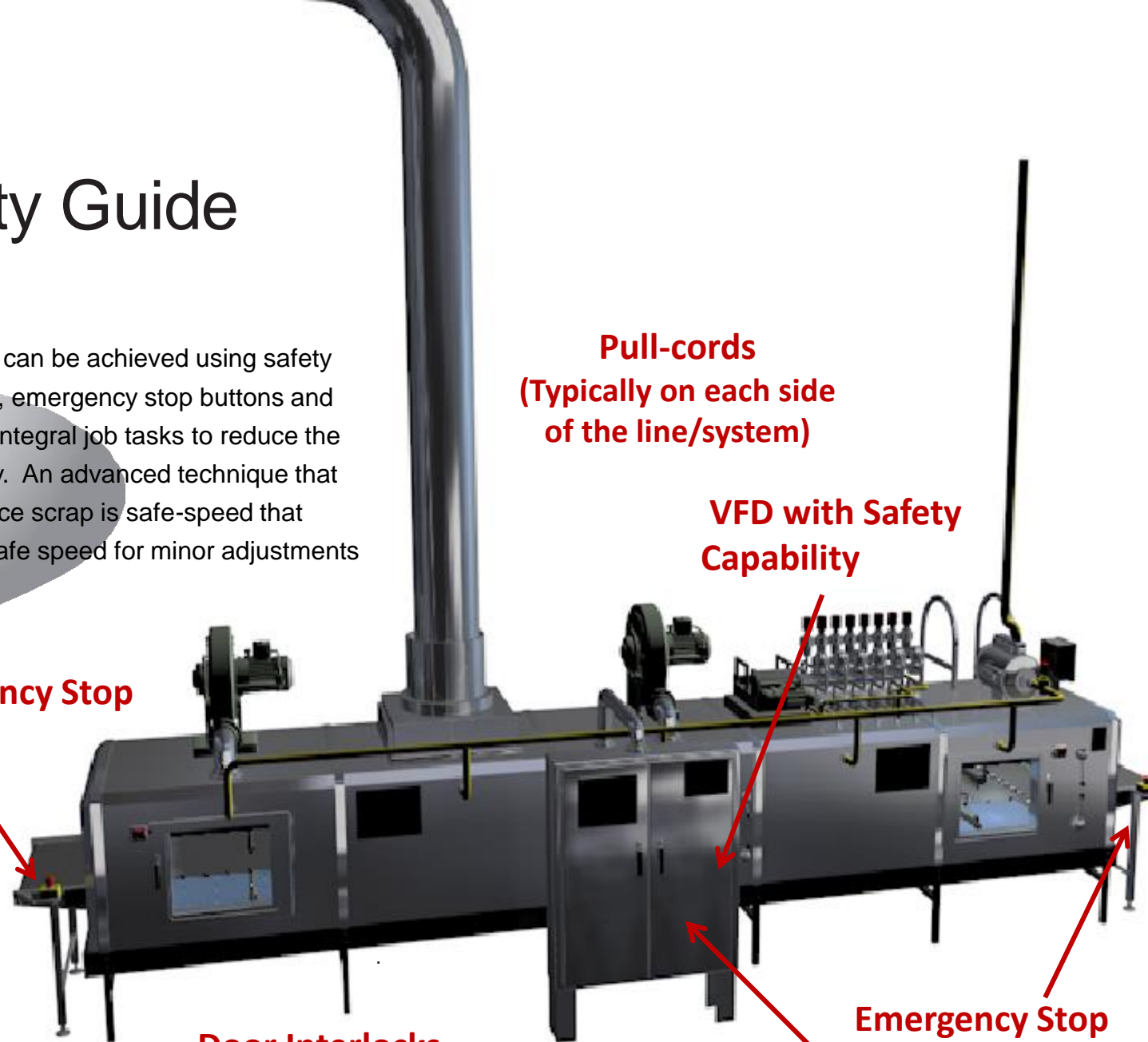
### Machine Hazards

- Pinch
- Cut
- Entanglement
- Rotating
- Entrapment
- Electrical
- Thermal

### Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation
- Protected Entry

**Emergency Stop**



**Pull-cords**  
(Typically on each side  
of the line/system)

**VFD with Safety  
Capability**

**Door Interlocks**  
(Typically on the oven doors to  
prevent access to the heat source)

**Safety Relays**

**Emergency Stop**

# Rockwell Automation



## SAFETY SOLUTIONS

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

### Safety Design & Development Tools

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

### Safety Offering

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Cooling

## Machine Safety Guide

[Back to Table of Contents](#)

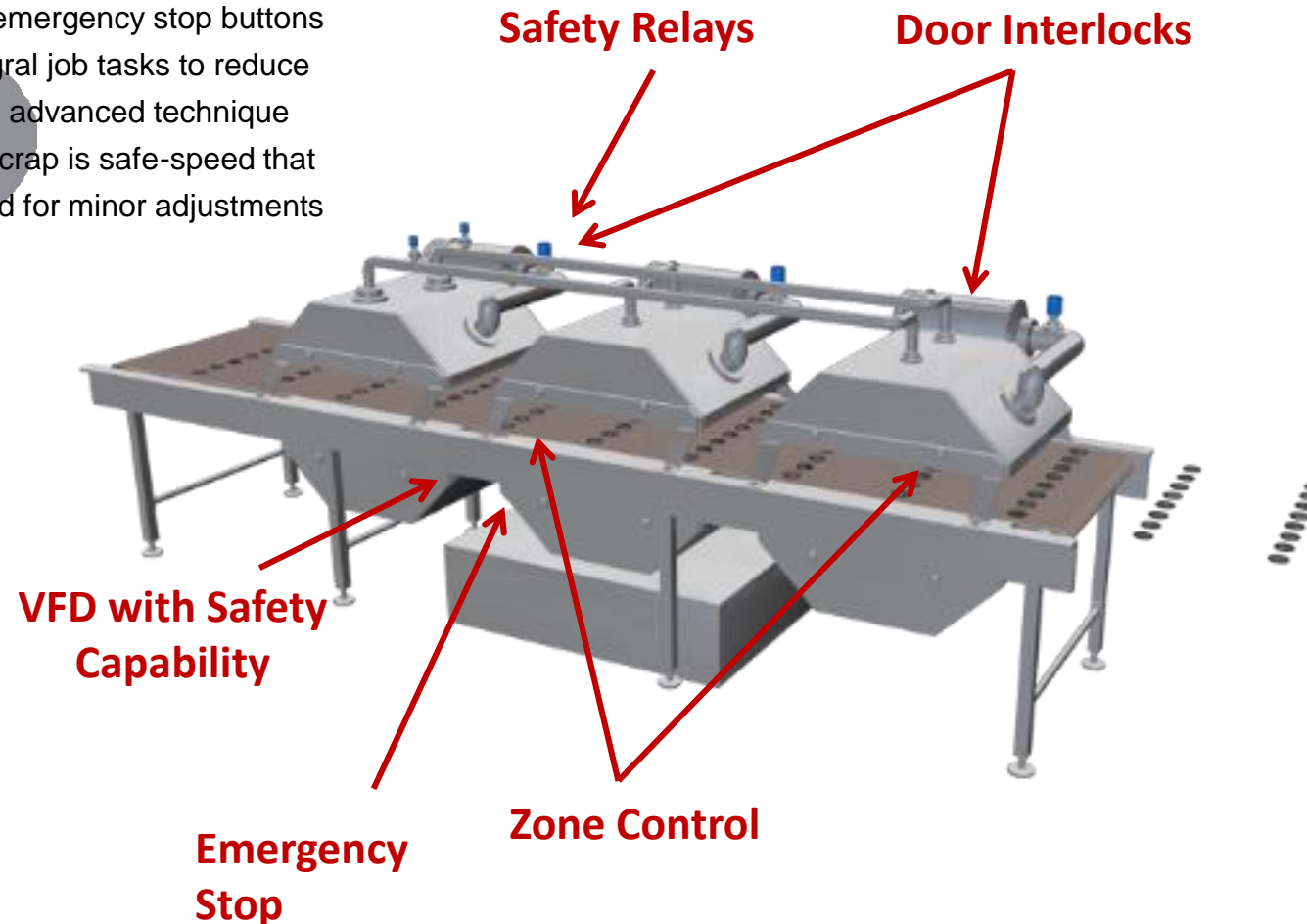
Productivity improvements on cooling tunnels can be achieved using safety solutions like door interlock switches, emergency stop buttons and pull-cords for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. An advanced technique that might enhance productivity and reduce scrap is safe-speed that allows the machine to operate at a safe speed for minor adjustments and minor servicing activities.

### Machine Hazards

- Pinch
- Cut
- Entanglement
- Rotating
- Entrapment
- Electrical
- Thermal

### Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation



# Rockwell Automation



## SAFETY SOLUTIONS

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

### Safety Design & Development Tools

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

### Safety Offering

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Vertical Form, Fill & Seal Machine Safety Guide

[Back to Table of Contents](#)

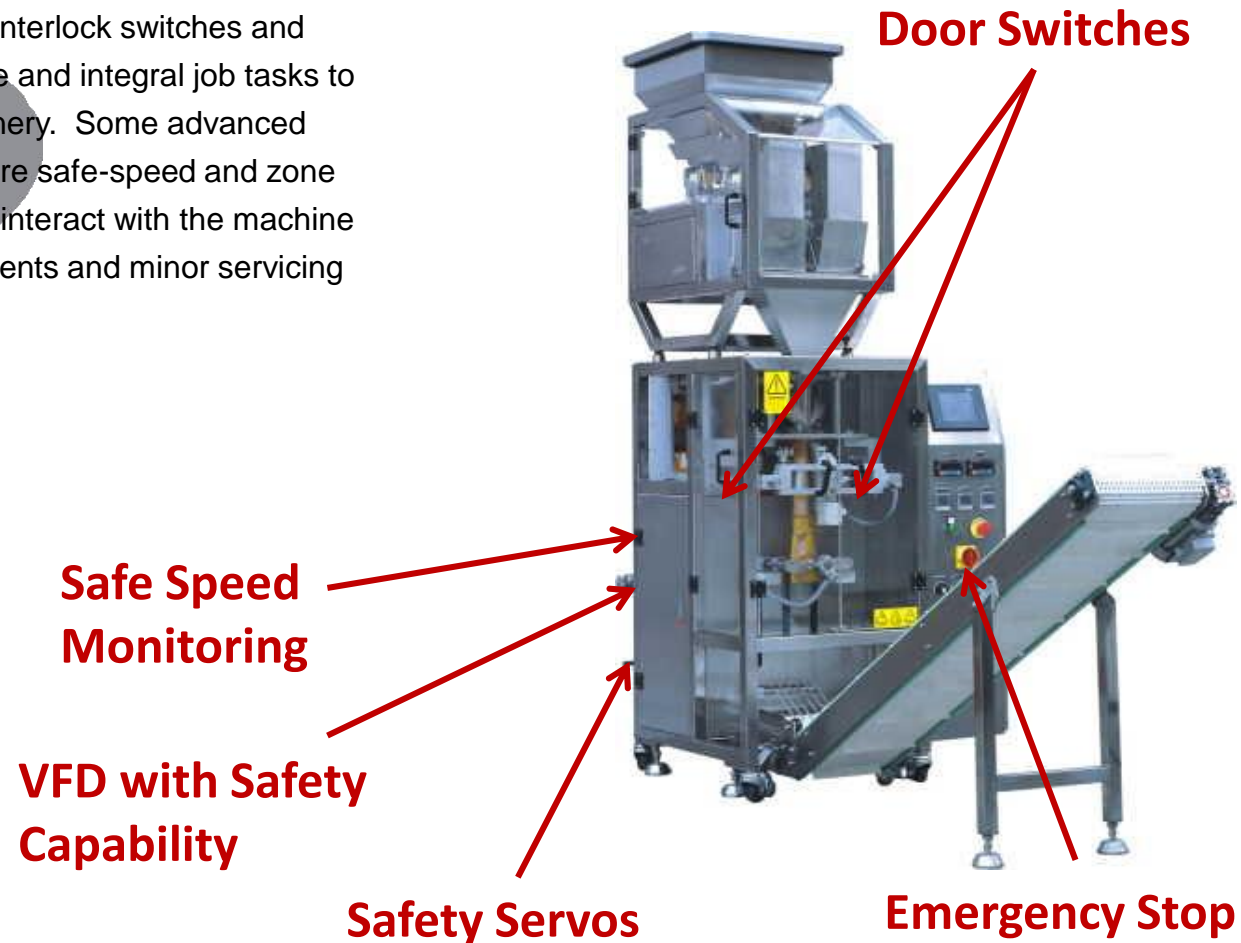
Productivity improvements on vertical form, fill & seal machines can be achieved using safety solutions like door interlock switches and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. Some advanced techniques that might enhance productivity are safe-speed and zone control to allow operators and technicians to interact with the machine while it is in slow motion to do minor adjustments and minor servicing activities.

## Machine Hazards

- Pinch
- Cut
- Entanglement
- Rotating
- Entrapment
- Electrical
- Liquid

## Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation



**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

## **Safety Design & Development Tools**

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

## **Safety Offering**

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.



# Flow Wrapping Machine Safety Guide

[Back to Table of Contents](#)

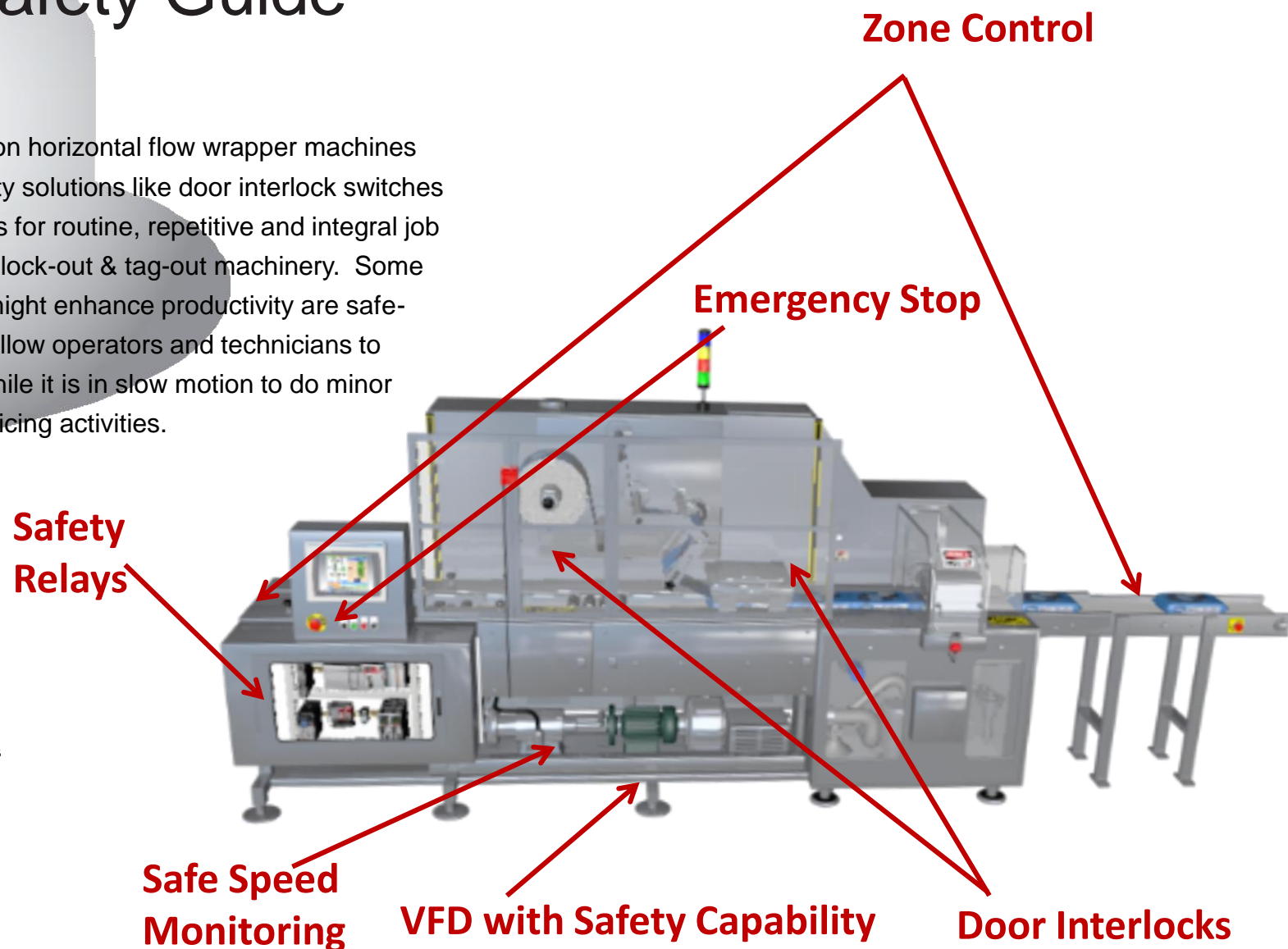
Productivity improvements on horizontal flow wrapper machines can be achieved using safety solutions like door interlock switches and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. Some advanced techniques that might enhance productivity are safe-speed and zone control to allow operators and technicians to interact with the machine while it is in slow motion to do minor adjustments and minor servicing activities.

## Machine Hazards

- Pinch
- Cut
- Entanglement
- Rotating
- Entrapment
- Electrical

## Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation



# Rockwell Automation



## SAFETY SOLUTIONS

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

## Safety Design & Development Tools

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

## Safety Offering

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Weigh Checking Machine Safety Guide

[Back to Table of Contents](#)

Productivity improvements on weigh checking machines can be achieved using safety solutions like door interlock switches and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. An advanced technique that might enhance productivity is safe-speed control to allow operators and technicians to interact with the machine while it is in slow motion to do minor adjustments and minor servicing activities.

## Machine Hazards

- Pinch
- Cut
- Entanglement
- Entrapment
- Electrical

## Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation



**VFD with Safety Capability**

**Door Interlocks**

**Emergency Stop**

**Safety Relays**

**Rockwell  
Automation**



SAFETY SOLUTIONS

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

## **Safety Design & Development Tools**

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

## **Safety Offering**

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://marketing.rockwellautomation.com/foodbev/en/food-and-beverage-industry-solutions>

Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Food Case Packing Machine Safety Guide

[Back to Table of Contents](#)

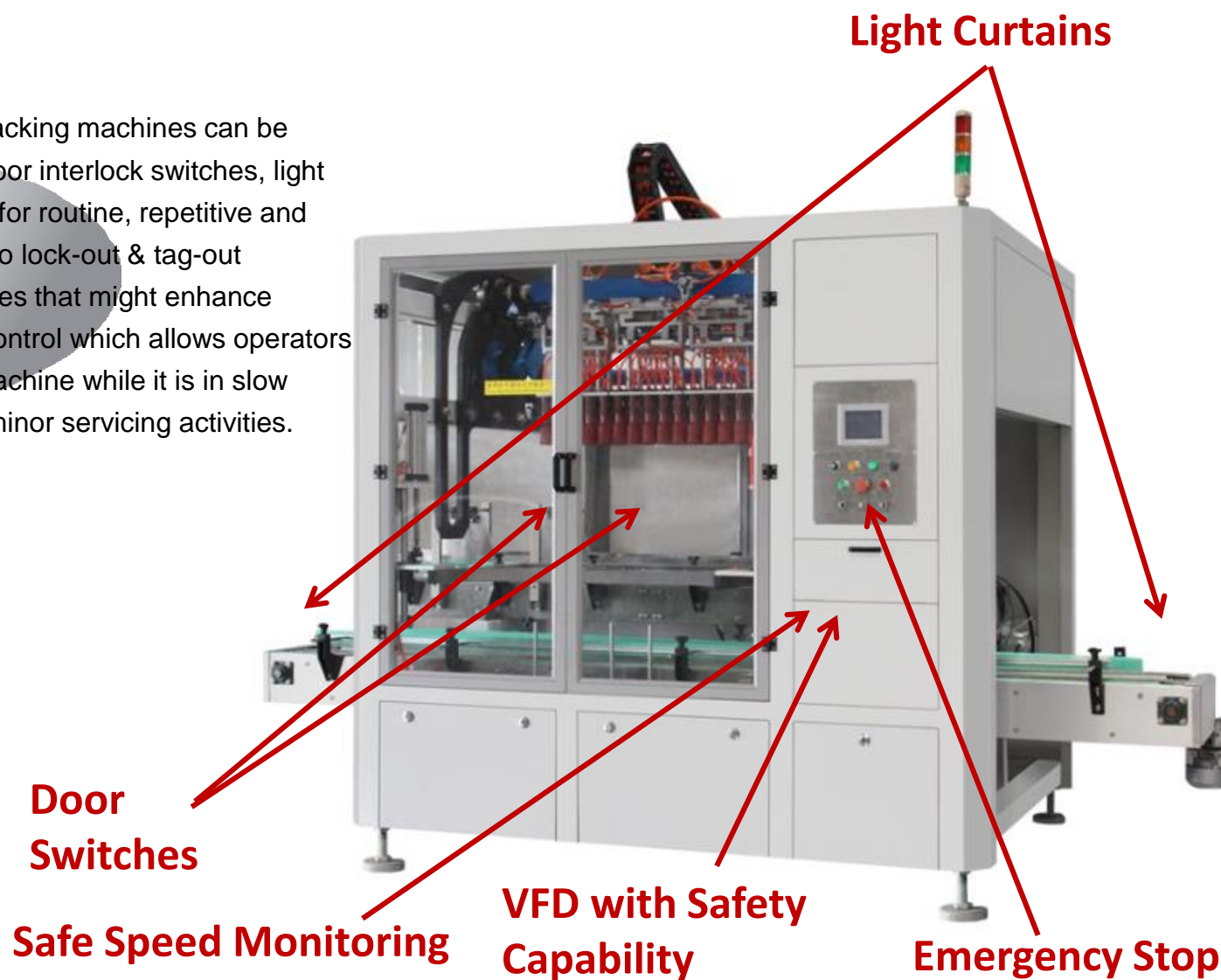
Productivity improvements on case packing machines can be achieved using safety solutions like door interlock switches, light curtains and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. Some advanced techniques that might enhance productivity is safe-speed and zone control which allows operators and technicians to interact with the machine while it is in slow motion to do minor adjustments and minor servicing activities.

## Machine Hazards

- Pinch
- Cut
- Puncture
- Entanglement
- Crush
- Entrapment
- Electrical

## Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation



# Rockwell Automation



## SAFETY SOLUTIONS

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

## Safety Design & Development Tools

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

## Safety Offering

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>

Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# De-palletizing Machine Safety Guide

[Back to Table of Contents](#)

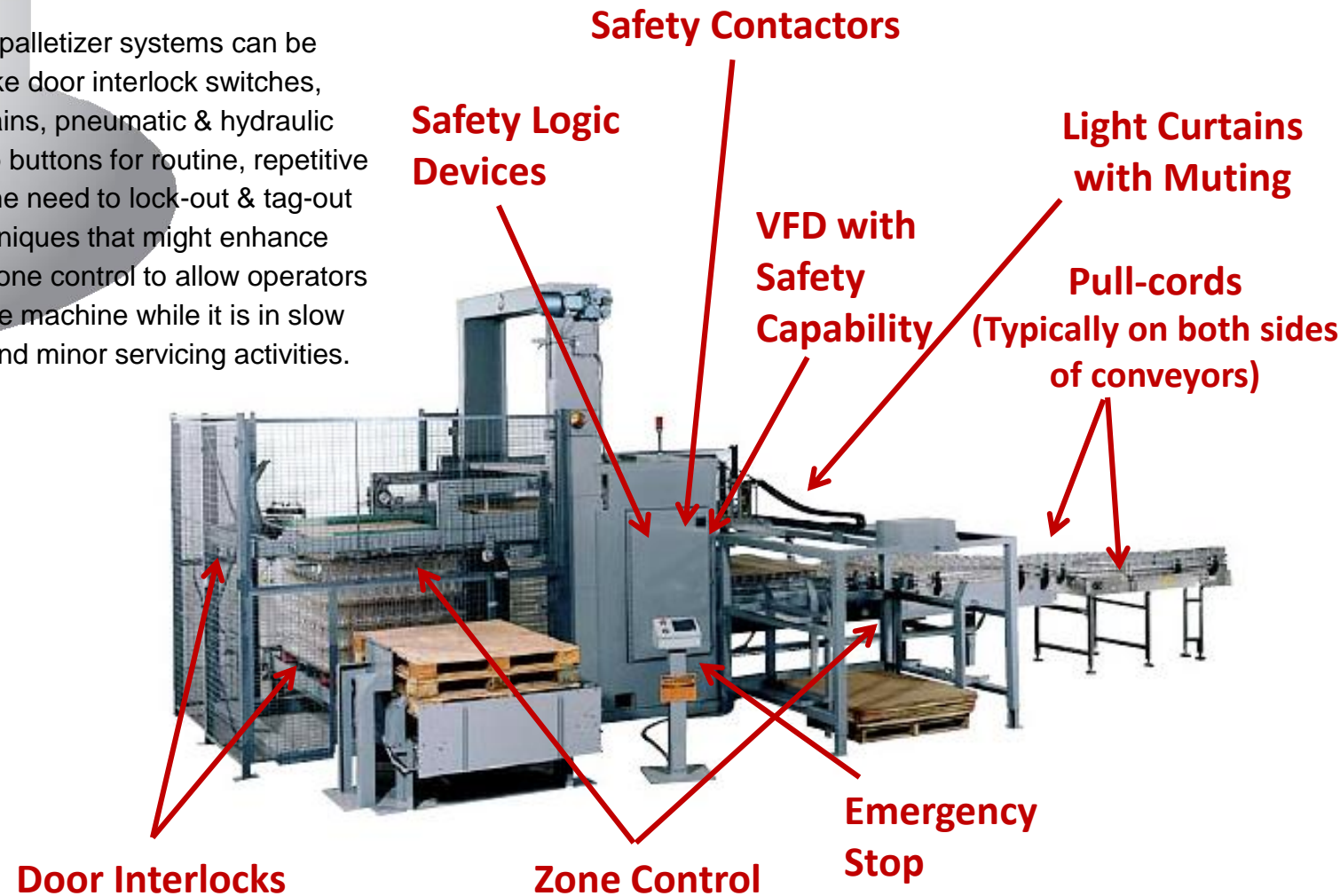
Productivity improvements on de-palletizer systems can be achieved using safety solutions like door interlock switches, guard-locking switches, light curtains, pneumatic & hydraulic dump valves and emergency stop buttons for routine, repetitive and integral job tasks to reduce the need to lock-out & tag-out machinery. Some advanced techniques that might enhance productivity are safe-speed and zone control to allow operators and technicians to interact with the machine while it is in slow motion to do minor adjustments and minor servicing activities.

## Palletizer Machine Hazards

- Pinch
- Cut
- Crush
- Entanglement
- Entrapment
- Electrical
- Fall

## Methods for reducing risk

- Emergency Stop
- Access Control
- Speed Control
- Energy Isolation
- Presence Sensing



Note: This is a generic machine overview. Each machine must be assessed to determine the actual hazards that exist.

# Rockwell Automation



## SAFETY SOLUTIONS

**Safety Functions:** Pre-engineered machine safety application solutions that allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes operational description, electrical drawings, bill of material, PLC code & relay configuration instructions, and SISTEMA verification calculation.

## Safety Design & Development Tools

- [Safety Automation Builder](#)
- [Safety Accelerator Toolkit](#)

## Safety Offering

- [Scalable Assessment Services](#)
- [Lock out / Tag Out Services](#)
- [Safety Training](#)
- [Safety Products](#)



To learn more about safety products and solutions from Rockwell Automation, visit us at:  
<http://marketing.rockwellautomation.com/safety>



To access more information on the Rockwell Automation solutions in the Food and Beverage industry, visit us at:  
<http://www.rockwellautomation.com/global/industries/food/overview.page>



For more information, visit us at:

<http://www.rockwellautomation.com/global/industries/food/overview.page>



**PUBLIC INFORMATION**



Connect with us.