# PHARMACEUTICAL MANUFACTURING EQUIPMENT SOLUTIONS FOR OEMS

ENGINEERED TO OUTRUN

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# Pharmaceutical manufacturing industry

Current and future overview

## Current positioning

- **Batch manufacturing**: Production is primarily batch-based, with discrete, step-by-step processes, resulting in longer lead-times and limited flexibility
- **Aging infrastructure**: Many manufacturers operate aging facilities with outdated equipment and infrastructure. This, combined with reliance on overseas production, limits domestic capacity, flexibility, and sustainability
- **Digital adoption:** Adoption of smart technologies is underway  as AI, IoT, machine learning are enabling real-time monitoring, quality control, and operational efficiency. However, adoption remains fragmented and regulatory compliance challenges persist

## Future trends

- **Continuous manufacturing:** Industry 4.0 and continuous manufacturing are revolutionizing pharmaceutical production through automation, robotics, and digital systems, shifting from batch to continuous processes to enhance efficiency and quality
- **Infrastructure modernization:** Facility expansions and sustainability initiatives are boosting capacity and flexibility while promoting energy efficiency and low-waste technologies to meet regulatory and environmental goals
- **Digital maturity:** Widespread adoption of AI, machine learning, and IoT will create fully connected, automated operations with real time optimization, predictive maintenance, and built in compliance capabilities

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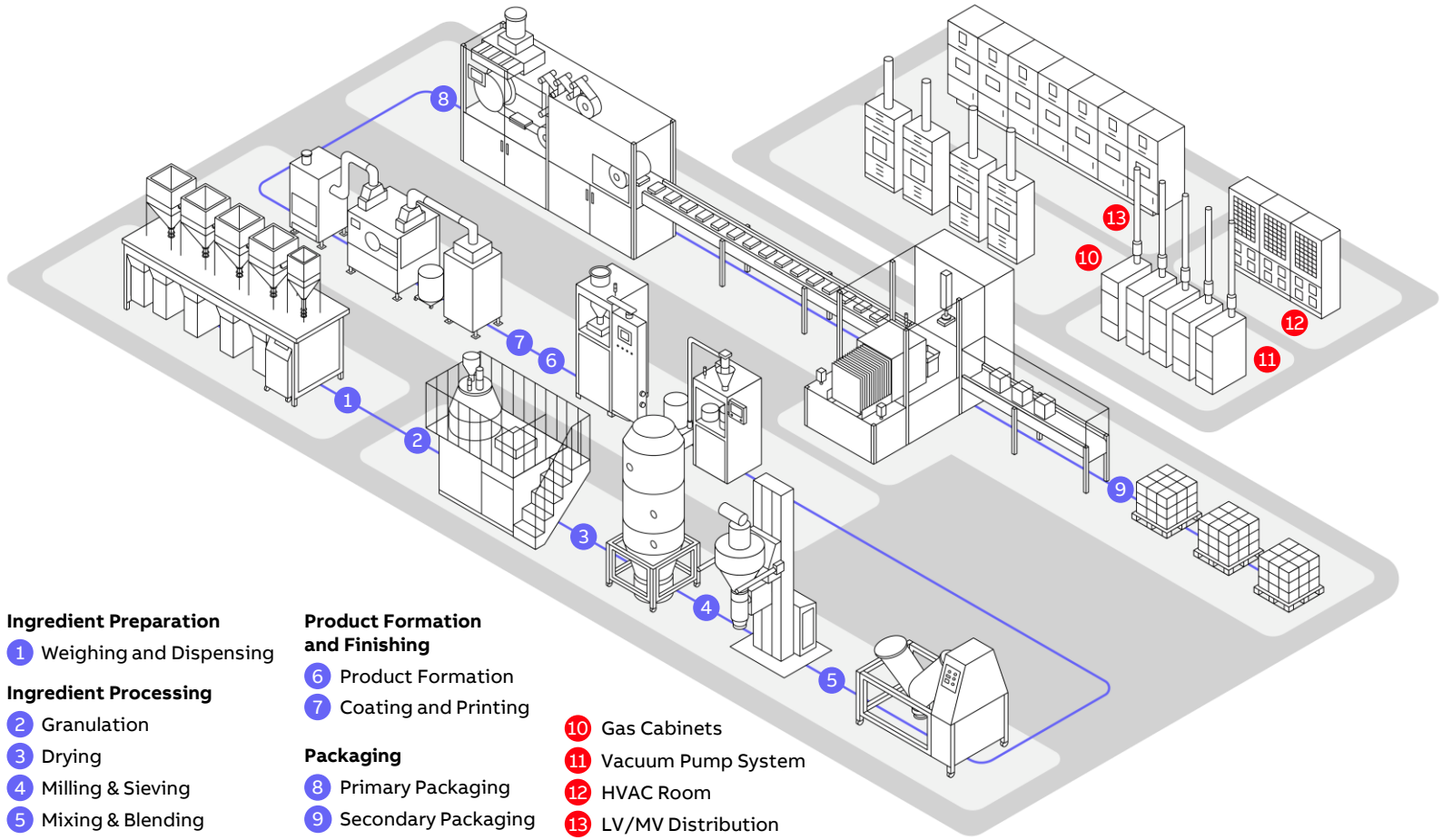
# Technology topology

## Pharmaceutical manufacturing process

This illustrations provides an overview of the core stages typically found in solid dosage manufacturing operations, from raw material preparation to final product packaging. While it highlights key equipment and processes specific to solid dosage operations, it is not intended to encompass all pharmaceutical manufacturing processes.

ABB's power and protection components can be applied across multiple stages of the manufacturing process, supporting operational reliability, safety, and efficiency.

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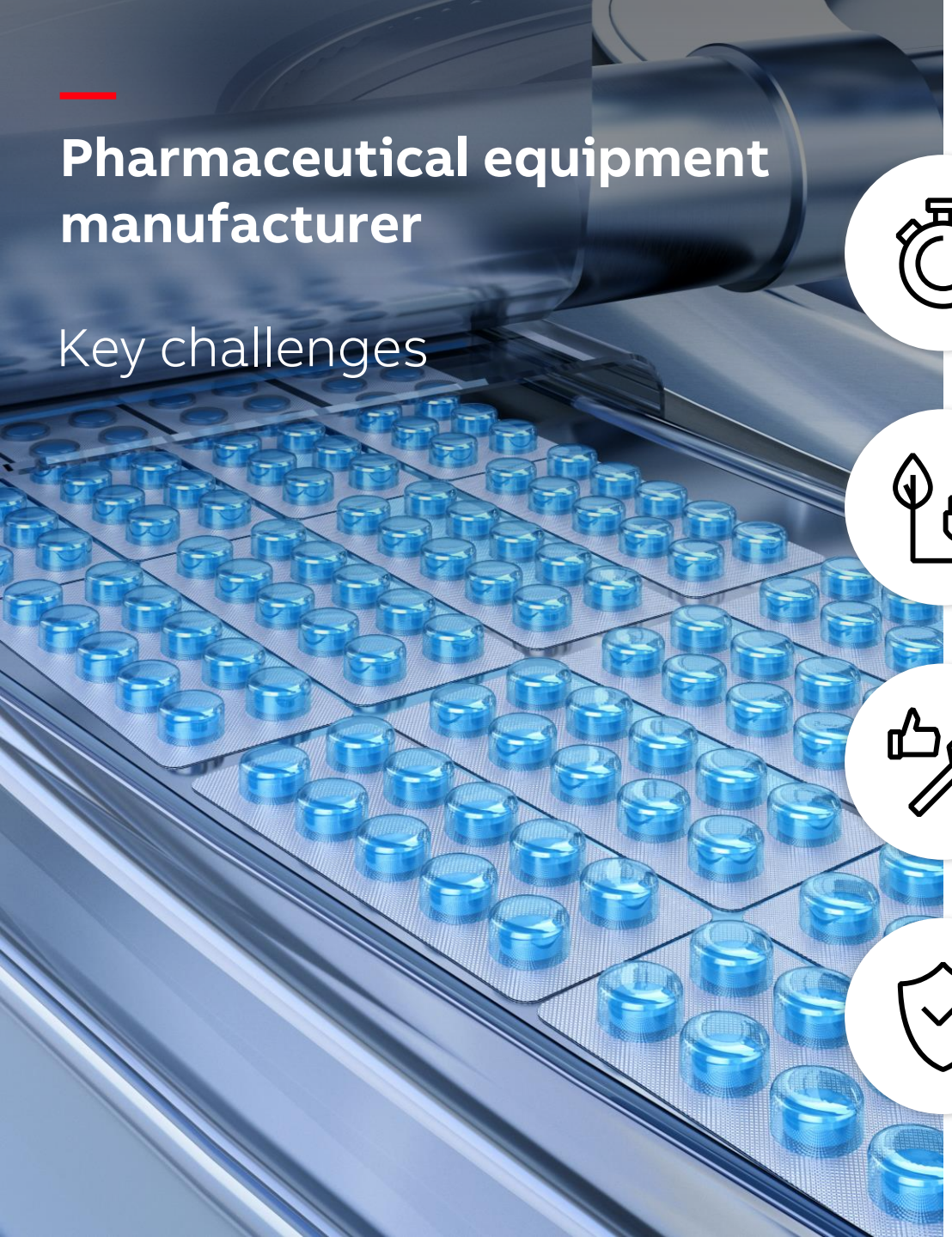


# Pharmaceutical equipment manufacturer

## Key challenges

Downtime due to electrical failures such as voltage fluctuations, unstable switching, or circuit overloads.

Increased operational cost due to high energy consumption and excessive heat generation.

High labor costs due to long assembly times and control panel space constraints.

Ensuring operator safety and equipment protection during use to prevent electrical hazards and avoid unexpected downtime.

# Pharmaceutical equipment manufacturer

## Key values

### Continuous operation

Avoid operational disruptions and downtime with ABB circuit breakers. Equipped with advanced trip units, our breakers identify voltage irregularities and protect your production system.

### Energy-efficient system

Our AF coil technology boosts control panel energy efficiency, which means less dissipating heat, reduced operating costs, and better equipment performance for your pharmaceutical processes.

### Compact and easy to install

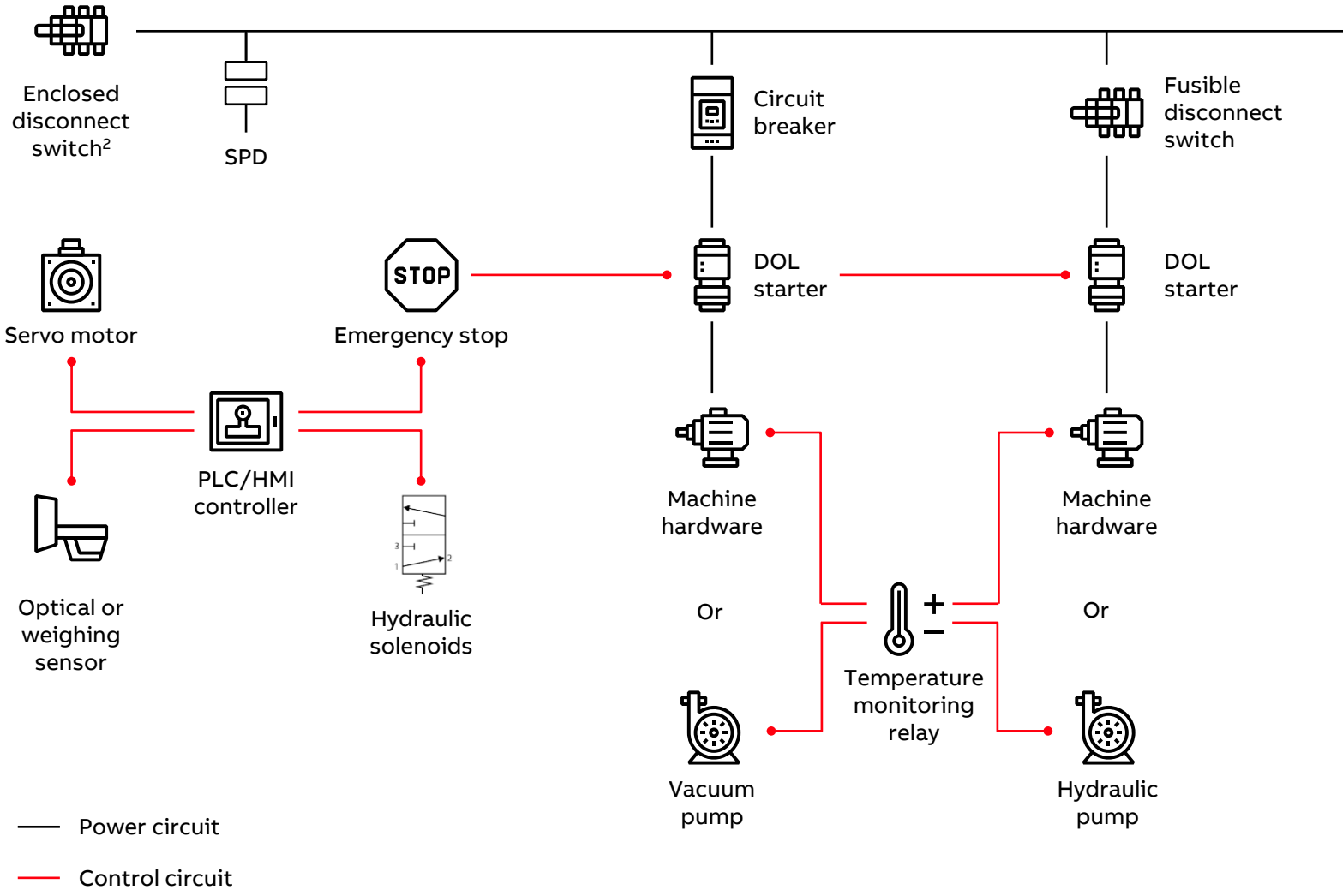
Save space, reduce assembly time, and experience greater design flexibility with our narrow designs in circuit breakers, contactors, and overload relays.

### Safety and protection

Our product specifications help to enhance safety and reduce hazards by using surge protective devices and  monitoring relays to help provide added equipment protection.

# Pharmaceutical manufacturing equipment

## Key components




Note: 1. See Pharmaceutical Manufacturing Equipment Product Portfolio for detailed component solutions. 2. Use the fusible version to meet NEC code requirements

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# Pharmaceutical manufacturing equipment solutions

Collaborative innovation



**National and global connectivity**

**Continuous product improvement**

**Quality and innovation**

**Local distribution support**

**ABB and customer collaboration and support**

**Strategically focused on segment trends and solutions**

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# Pharmaceutical manufacturing equipment

## Resources and tools

**Product Portfolio:** Pharmaceutical manufacturing equipment solutions for mixers & blenders, fillers, and tablet compression presses

LINK

**Application Note:** Power and control solutions for mixers and blenders

LINK

**Application Note:** Power and control solutions for fillers

LINK

**Application Note:** Power and control solutions for tablet compression presses

LINK

**ABB Application Configurator**

LINK

**Mt. Juliet distribution center stocking guide**

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**ABB OEM pharmaceutical equipment manufacturer page**

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**ABB Sustainability & EcoSolutions™**

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