
Food & Beverage

Control and automation boards for operating machines

Solutions for OEMs
in the Food & Beverage industry.



- Powering your plant
- Optimizing safety and efficiency
- Supporting digitalization

—
The food & beverage industry is under constant pressure to adapt and evolve to meet consumer demand. This means increased production, lower prices, and improved quality and variety, all while maintaining a commitment to sustainability.

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A reliable partner for the Food & Beverage industry



ABB is a trusted brand for innovative products and solutions that help improve productivity in Food & Beverage plants, ensuring safety, hygiene, traceability and reliability, as well as energy efficiency for the entire production process.

The Food & Beverage industry faces dramatic challenges, such as repetitive production cycles at extreme temperatures, corrosive environments and a demand for shorter, but increasingly varied and flexible production cycles.

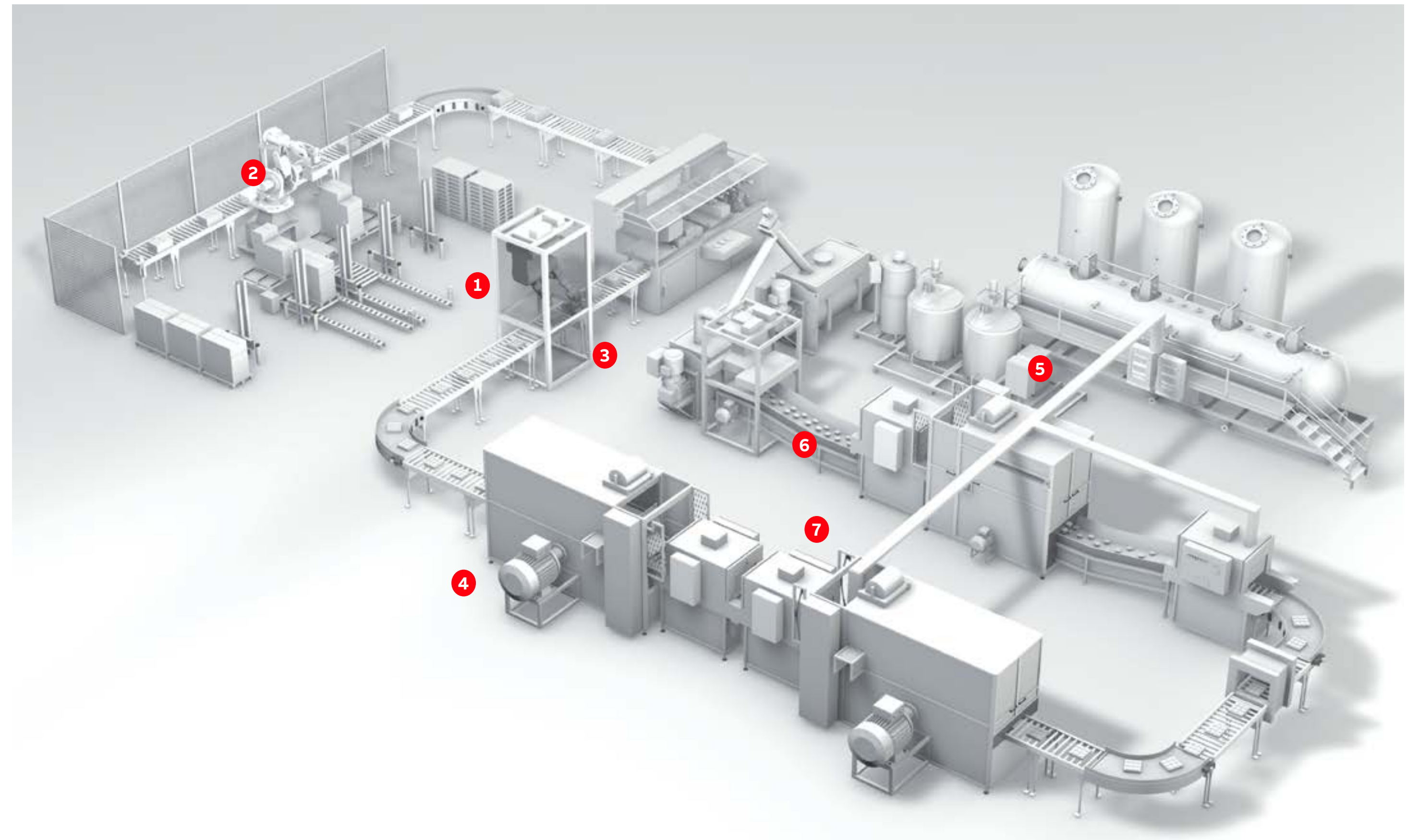
ABB is a reliable global partner that can provide you with high technology products and solutions, which meet even the most stringent manufacturing requirements both for individual machines and/or complete production lines. ABB solutions cover everything from raw material processing to packaging lines – all of which need to be flexible, reliable and efficient.

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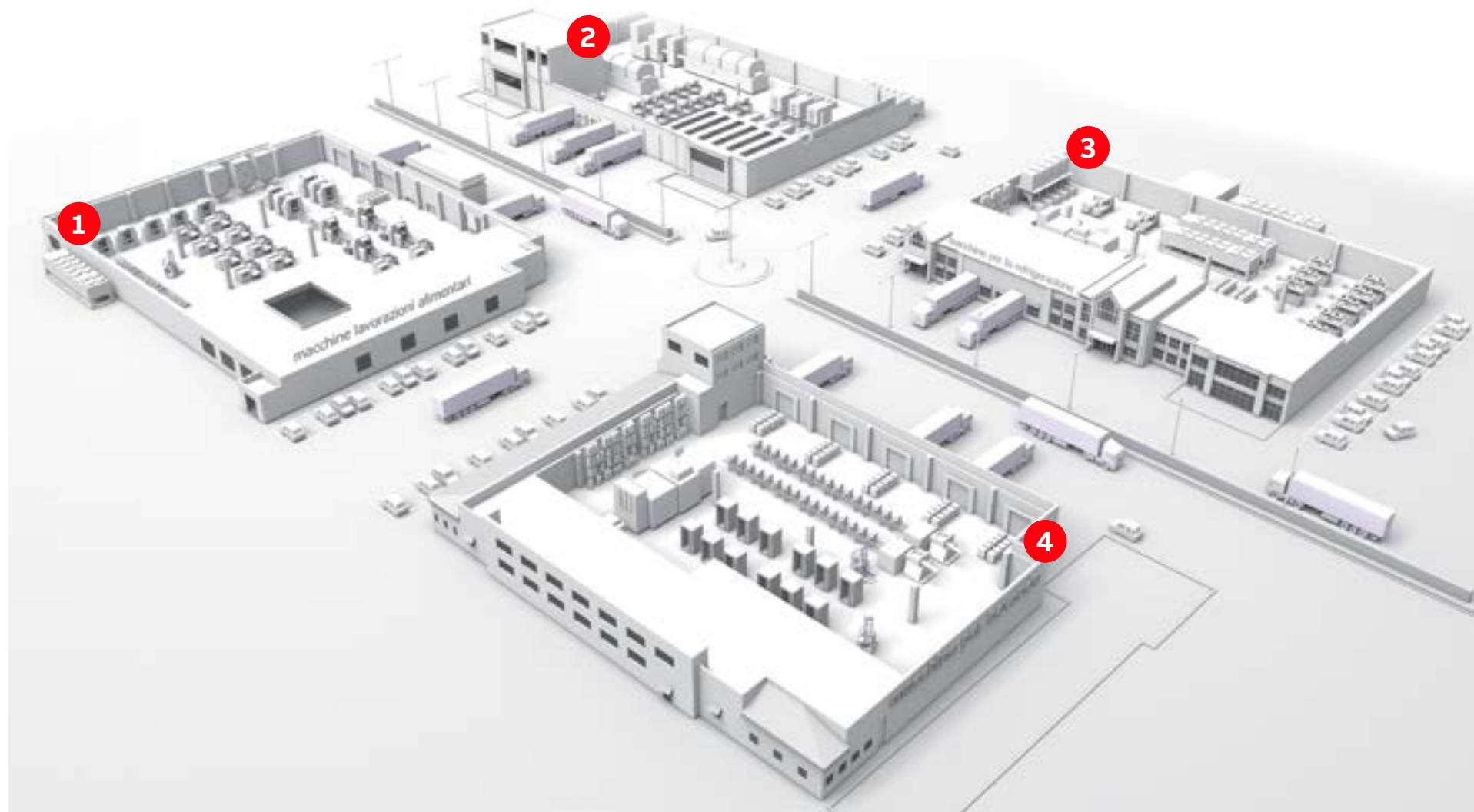
Industry overview

The Food & Beverage industry is one of the largest in the world with the most stringent health and safety regulations. For this purpose, ABB offers several solutions to meet the specific needs of machinery and production line manufacturers in the Food & Beverage industry. We support our customers' businesses by providing high-quality and high-safety products, which ensure full compliance with all international certifications (i.e. CSA, UL).



Application overview

Food & Beverage industrial plants performing different treatments and processes - such as food packaging and beverage bottling, food and beverage processing and preservation, etc. - require high uptime to avoid unpredictable cost hikes which derive from system downtime and spoiled production batches. ABB also attaches particular importance to the reduction of installation and maintenance costs.



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Product overview



Cable protection and fixing

Conduits, metallic ducts, cable glands, Ty-Rap® detectable cable ties and Ty-Fast® bacteria-resistant cable ties are specifically designed to protect complex processing machines equipped with electrical wiring systems, control panels and automation systems that are highly sensitive to changes in the electricity flow. These products help Food & Beverage businesses improve their food safety, environmental sustainability and brand value.



Motor control

For the manufacture of switchboards for on-board electrical wiring systems, ABB offers a wide range of products: (cam or enclosed) switch-disconnectors, fuse holders, control and signaling devices, as well as motor starters. Starting motors is one of the most common industrial applications at the international level. ABB offers DOL (Direct Online) starters, reversing starters, and start-delta starters in different configurations thanks to its wide range of products, such as contactors, manual motor starters, variable-speed drives, soft starters that minimize the mechanical and electrical issues in motor starting.



Protection and insulation

A comprehensive range of high-quality products for the protection and insulation of plants and machinery: from Tmax molded-case circuit breakers to the complete range of System pro-M compact DIN-rail devices including miniature circuit-breakers, residual current devices, SPDs (surge protective devices), as well as signaling and measurement devices.



Machine safety

With safety sensors and actuators for harsh environment, together with safety controllers and safety contactors, we can deliver complete safety solutions for the food and beverage industry.

Product overview



Switchboards for onboard electrical wiring systems

Our range of enclosures for automation is designed for specific applications in the Food & Beverage, chemical and pharmaceutical industries. Our AISI 304 stainless steel enclosures ensure the highest standards in terms of hygiene and resistance to corrosion, as well as high-degrees of protection (IP66) and robustness (IK10 for enclosures with blind door). Switchboards and enclosures comply with ATEX 99/92/CE and 94/9/CE directives (suitable for use in zone 2, 22).



Low-voltage motors

Wide choice of IEC aluminum, cast-iron and stainless steel motors ensuring high-levels of quality, energy efficiency and food safety.



Robots

A series of robots designed and built to cover all aspects of production processes in the Food & Beverage industry and to help customers increase their productivity and end-product quality.



Integrated automation

The B+R solutions encompass a complete range of seamlessly matched products for automating machines and facilities. The Engineering Tool Automation Studio intended for configuring and programming all these products is at the core of this system. Perfect coordination of components lead to significant gains in performance and quality.

Cable protection and fixing

Conduits, metallic ducts, cable glands, Ty-Rap® detectable cable ties and Ty-Fast® bacteria-resistant cable ties are specifically designed to protect complex processing machines equipped with electrical wiring systems, control panels and automation systems that are highly sensitive to changes in electricity flow. These products help Food & Beverage businesses to improve their food safety, environmental sustainability and brand value.



Ty-Fast® bacteria-resistant cable ties

Main benefits

- Fixing system made of a special material based on ionized silver, which prevents the reproduction and spread of micro-organisms
- Can be used in areas that are particularly sensitive to bacterial infection
- Auto-protection against bacteria and fungi proliferation
- Inhibits bacterial growth

Main features

- Operating temperatures range from -40°C to + 85°C
- Tensile strength up to 540N
- Flammability degree UL94V-2
- Made of FDA-compliant fungal-inert polyamide 6.6 and custom-blended EPA-registered resin with antimicrobial silver ion additive
- Compliant with UL62275 (Type 1), UL/ EN/ CSA62275, ISO22196 and JISZ2802, MIL-T-152B



Ty-Rap® detectable cable ties

Main benefits

- Detectable by metal detectors, X-Ray equipment, and visual inspection equipment
- High-tensile strength ensured by the non-magnetic stainless steel 316 locking device
- The locking is resistant to vibration and external shocks thanks to the dotted surface resting against the cables, which prevents any movement around the fastening position
- Available in polypropylene for liquid-processing applications
- They are easy to handle due to their rounded profiles
- Optimized seal to space ratio

Main features

- Operating temperatures range from -40°C to + 85°C
- Made of polyamide 6.6 and polypropylene
- Halogen-free, silicone-free
- Tensile strength up to 540N

Cable protection and fixing



Stainless steel connectors

Main benefits

- Highly resistant to corrosion and chemical agents
- Protection rating up to IP69
- FDA-compliant materials
- From -50°C to +130°C in static applications, From -50°C to +150°C in dynamic applications

Main features

- Monobloc structure
- Stainless steel 316
- Front seals compliant with FDA (Food and Drug Administration) and European Food Contact
- Protection rating: IP67, IP68 and IP69
- Certifications: CE, BS EN 61386-1,-23, NSF14159-1-2014, NSF169-2009, UL514b
- Available thread: Metric/NPT



PMA Nylon conduits and connectors

Main benefits

- Resistant to corrosion
- Saves time thanks to easy cleaning
- Highly resistant to alternating bending stress
- Outstanding flexibility plus tight bend radii
- Efficient assembly, low footprint

Main features

- Outer layer made of FDA-compliant materials
- Food-grade smooth outer layer
- IP69 protection rating according to EN60529
- UL Certification according to UL1696
- NSF169 and NSF14159-1 Certifications
- Halogen- and cadmium-free



Adaptaflex bacteria-persistent conduits

Main benefits

- Highly resistant to corrosion and chemical agents
- High resistance to fatigue
- High flexibility

Main features

- Galvanized or stainless-steel core string conduits packed with anti-microbial protection incorporated into an FDA, EC and FSA compliant DuPont Hytrel® thermoplastic jacket
- Protection rating: IP40 - IP69
- Operating temperature: from -50°C to +130°C
- Certifications: CE, BS EN 61386-1,-23, NSF 14159-1-2014 & NSF 169-2009



Stainless steel cable glands (FSCG and FSEM series)

Main benefits

- Highly resistant to corrosion and chemical agents
- Allows safe cable termination
- Provides grounding continuity of cable armor (FSEM)
- Protection rating up to IP69

Main features

- Monobloc structure
- Suitable for splash zone areas
- Stainless steel 316L
- Protection rating up to IP69
- Certifications: CE, NSF, UL514B
- FDA-compliant EPDM seals
- Available thread: Metric/NPT

Motor control

For the manufacture of switchboards for on-board electrical wiring systems, ABB offers a wide range of products: (can or enclosed) switch-disconnectors, fuse holders, control and signaling devices as well as motor starters. Starting motors is one of the most common industrial applications at the international level. ABB offers DOL (Direct Online) starters, reversing starters, and start-delta starters in different configurations thanks to its wide range of products, such as contactors, manual motor starters, variable speed drives, soft starters that minimize the mechanical and electrical issues in motor starting.



Push-in motor starting

Main benefits

- 50% decrease in cabling time
- Cables can be passed at a 90° angle
- Vibration-proof, no maintenance
- Maximum reliability
- Accessories for cable-free startup configuration

Main features

- Innovative technology for fast and intuitive cabling
- Motor starting solutions in kits containing DOL (Direct Online) starters, reversing starters, and start-delta starters
- Plug-and-connect mechanical parts and electrical interlock
- Mirror contacts and mechanically linked contacts



OT switch disconnectors

Main benefits

- High performance in a compact form
- Easy installation and maintenance
- High protection and reliability
- Energy efficient
- Comprehensive range of switches
- They can be used as main switches, for starting/stopping motors as well as and for load insulation during maintenance

Main features

- Available from 16A up to 4000A
- Available for floor mounting with controls rotated to 90°
- Suitable for the most critical applications

Motor control



Cam switch-disconnectors

Main benefits

- High performance even in the most critical applications
- Easy configuration
- Safety and reliability
- Reduced installation time and cost

Main features

- Wide range available in 2 versions: OC series from 10 to 25 A, and OL series from 40 to 315 A according to IEC and up to 200 A according to UL
- Simplified configuration with ABB CamWeb
- Made of high-quality components suitable for many mechanical operations
- Availability of tunnel terminals with IP20 protection rating against accidental contact to go up to 160 A and handles with protection rating up to IP69K



Variable-speed drives

Main benefits

- IP21, IP55 and IP69K solutions
- Compact size
- Suitable for all Food & Beverage applications: handling, processing, transport, packaging, and storage
- Compliant with all international standards and directives
- Flexible motor control for asynchronous, synchronous, variable reluctance and permanent magnet motors

Main features

- Power ratings from 0.25 to 500 kW
- Wide range for: Micro-drives, machinery drives, regenerative multidrives
- Outstanding motor control capabilities: scalar, vectorial, and DTC
- Integrated machine safety, low harmonics, full digital connectivity

Protection and insulation

A comprehensive range of high-quality products for the protection and insulation of plants and machinery: From Tmax molded-case circuit breakers to the complete range of system pro M compact DIN-rail devices, including miniature circuit-breakers, residual current devices, SPDs (surge protective devices), as well as signaling and measurement devices.



Tmax molded-case circuit breakers

Main benefits

- High-breaking capacity in a compact form
- Easy installation and operation
- Dedicated accessory range to adapt Tmax XT circuit breakers to many different applications
- Maximum operator's safety

Main features

- Power rating up to 3200 A
- Double insulation with control group fully isolated from live circuits
- Positive switching: The control lever always indicates the exact position of the mobile contacts of the circuit-breaker
- Tropicalization
- NFPA handles for main machine switch
- Vibration and shock resistance according to IEC 60068-2-6
- Installation versatility without derating



S200 series DIN-rail devices

Main benefits

- A comprehensive range of miniature circuit-breakers
- Maximum operative safety and reliability
- Selection of different characteristic curves, configurations, breaking capacity ratings, and current ratings

Main features

- Overload and short circuit protection
- Different characteristic curves, configurations (1P, 1P +N, 2P, 3P, 4P), breaking capacity ratings (up to 25 kA), and current ratings (up to 63 A)
- Compliant with all international regulations
- Contact position indicator directly connected to the mobile contact for increased comfort and safety



Machine safety

With safety sensors and emergency stops suitable for harsh environments, together with control devices and contactors, ABB can offer ideal solutions to ensure the safety of Food & Beverage machine manufacturers.



Eden safety sensor

Main benefits

- Highest safety level
- Suitable for harsh environments
- Wide temperature range
- Non-contact eliminates wear and mechanical breakage
- Large mounting tolerances

Main features

- PL e/SIL3
- IP69
- Operating range of -40°C to +70°C
- LED indication
- Integrated reset function
- M12 connector
- 360° sensing range



EStrong emergency stop

Main benefits

- Suitable for harsh environments
- Withstands high pressure washing
- Robust construction

Main features

- IP69
- Operating range of -25°C to +80°C
- Stainless steel housing



Pluto programmable safety controller

Main benefits

- Simple programming
- Powerful features in a compact module
- All-master concept simplifies scaling, splitting and modification
- Extensive communication possibilities with gateways and HMI
- Programming software free of charge

Main features

- PL e/SIL3
- Safe bus for connecting up to 32 Plutos in a system without configuration
- Easy and quick replacement of units without configuration
- Remote monitoring and control with an Ethernet gateway
- Ladder programming and TÜV approved function blocks
- Advanced programming possibilities (e.g. real programming and speed monitoring)



AFS contactors

Main benefits

- Compact solutions
- Time-saving solutions
- Increased safety
- Compliant with EN ISO 13849 and EN62061 safety standards

Main features

- Ultra-fast opening time, which can go down to 35 ms when a dangerous error is detected
- Mechanically bonded contacts and certified mirror contacts
- Low-energy auxiliary contacts with minimum switching capacity of 12 V, 3 mA
- Built-in surge suppressor
- Up to 45 kW - 400 V AC-3, 60 hp - 480 V and 130 A - 690 V AC-1, 115 A

Switchboards for on board electrical wiring systems

Our range of enclosures for automation is designed for specific applications in the Food & Beverage, chemical and pharmaceutical industries. Our metal and AISI 304 stainless steel enclosures ensure the highest standards in terms of hygiene and resistance to corrosion, protection rating (IP66) and robustness rating (IK10 for enclosures with blind door). Switchboards and enclosures are compliant with the ATEX 99/92/CE and 94/9/CE directives (suitable for use in Zone 2, 22).



Metal and stainless-steel cabinets and enclosures (SRX enclosures, AMX and ISX cabinets)

Main benefits

- High hygienic standards
- Designed to be easily cleaned
- Resistant to corrosion
- High protection and robustness ratings for all applications
- Heat-resistant

Main features

- Material: metal and AISI304 stainless steel
- Protection rating up to IP66
- Robustness rating up to IK10
- Floor or wall mounting
- UL and ATEX certifications

Low voltage motors

A wide selection of IEC low-voltage motors in aluminum, cast iron and stainless steel that guarantee high levels of quality, energy efficiency and safety for the Food & Beverage industry.



IEC motors

Main benefits

- Ideal for the following applications: pumping, ventilation, compression, transport, and lifting
- Compliant with international standards and ATEX regulations
- Available in several variants
- Insulation classes F and H

Main features

- Made of aluminum and cast-iron
- Asynchronous and synchronous motors with variable reluctance
- IEC 80 – 450, 0.55 – 950 kW
- High efficiency according to EU MEPS IE3 IE4



IEC stainless steel motors

Main benefits

- AISI 304 stainless steel
- Low-rugosity surfaces and rounded design to facilitate washing
- Protective plastic pads detectable by metal detectors
- IP69K protection rating
- Encapsulated windings
- Special H1 grease for the Food & Beverage Industry
- TENV (totally enclosed non-ventilated) cooling

Main features

- Stainless-steel motors 0.25 to 1.5 kW IEC IE3, size 80, 90 and 100
- Aluminum paint-free washdown motors
- Ultra clean supports and bearings
- Dodge Quantis Ultra Kleen 2 reducer
- Sizes up to 450 Nm output torque

Robots

ABB robots are specifically designed and manufactured to meet all the needs of the Food & Beverage Industry and to help customers to increase productivity and optimize the quality of the final product.



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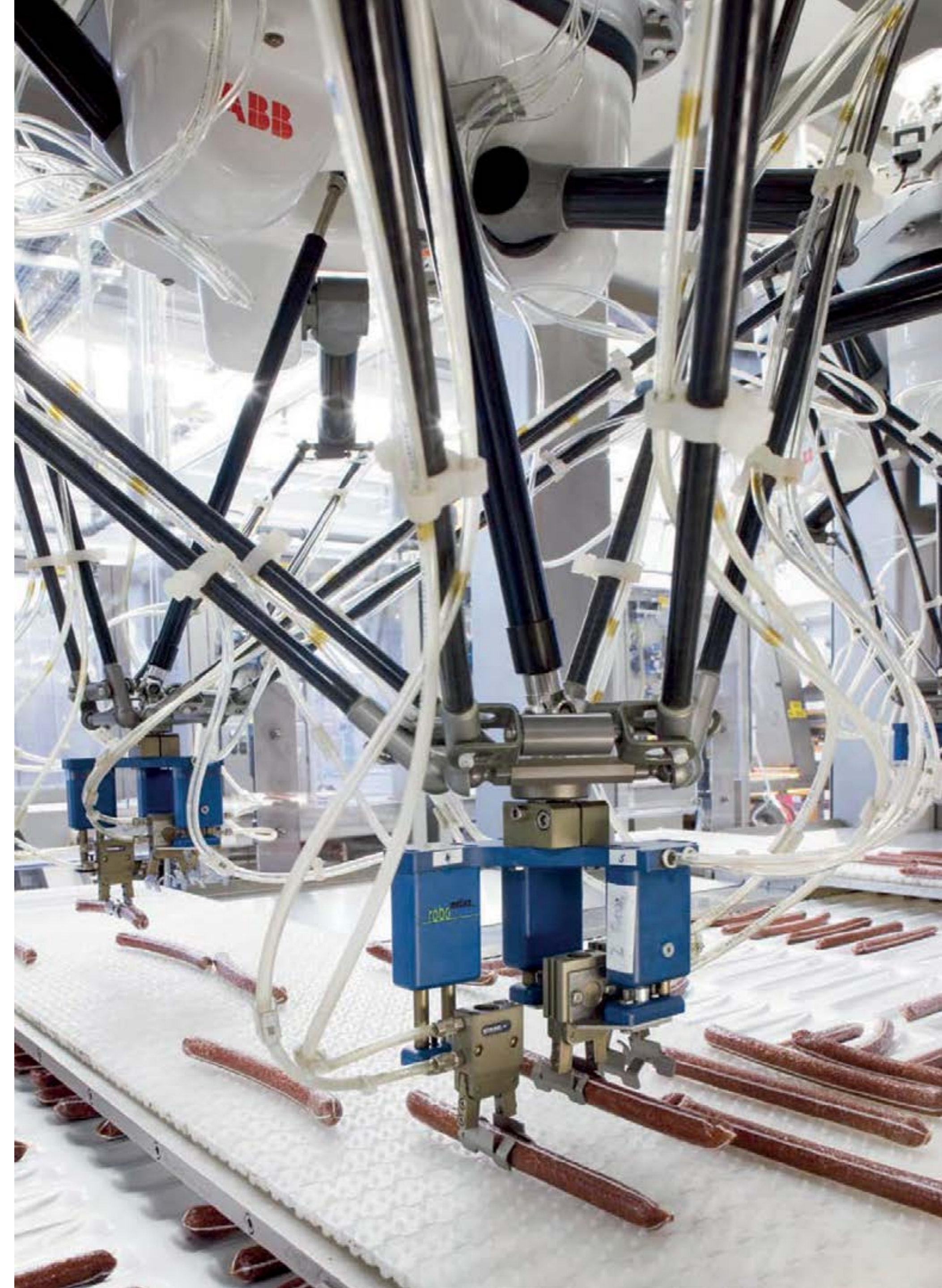
IRB series robots for assembly, handling and packaging

Main benefits

- Specific design for Food & Beverage applications
- Built-in visualization software
- Safe Move application for personal safety
- Robot Studio offline simulation software
- Collaborative man-machine applications

Main features

- Delta robot, IRB360 series from 1 to 9 kg pay load
- Robot Scara, IRB910SC series
- 4- and 6-axis robot
- Yumi IRB14000 collaborative robots



Integrated automation

B&R Industrial Automation GmbH has been living its motto “Perfection in Automation” for 37 years, aspiring to develop top solutions for industrial automation and to establish solid long-term relationships with customers, partners, employees and suppliers. Thanks to foresight and entrepreneurial spirit, B&R quickly became an international company. B&R is a part of the ABB Group, belonging to the ABB Business Robotic & Discrete Automation.

The company’s grasp of market trends has made its brand an innovation and technology leader in the industry. As a global center for machinery and factory automation within the ABB Group, B&R will continue to strengthen its leading position on international markets, and pursue its growth strategy.

The B&R product portfolio encompasses a complete range of seamlessly matched products for automating machines and facilities, with solutions for individual production.

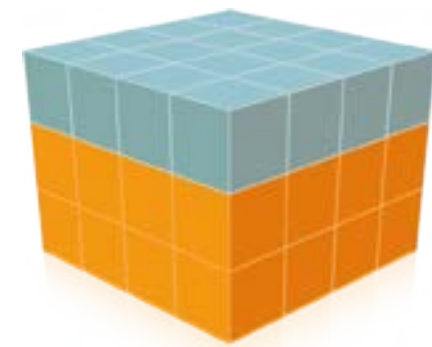
Drive systems



Integrated safety technology



Scalability + Integrated automation



Vision technology



Operating and monitoring



Control and I/O systems



Industrial transport technology



Industrial PCs





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