

## Greater flexibility and cleanability

PMA corrugated conduits meet crucial standards in sectors subject to stringent hygiene and cleanliness requirements.

## PMA

PMA® multilayer conduit offers cable protection in the food and beverage industry.

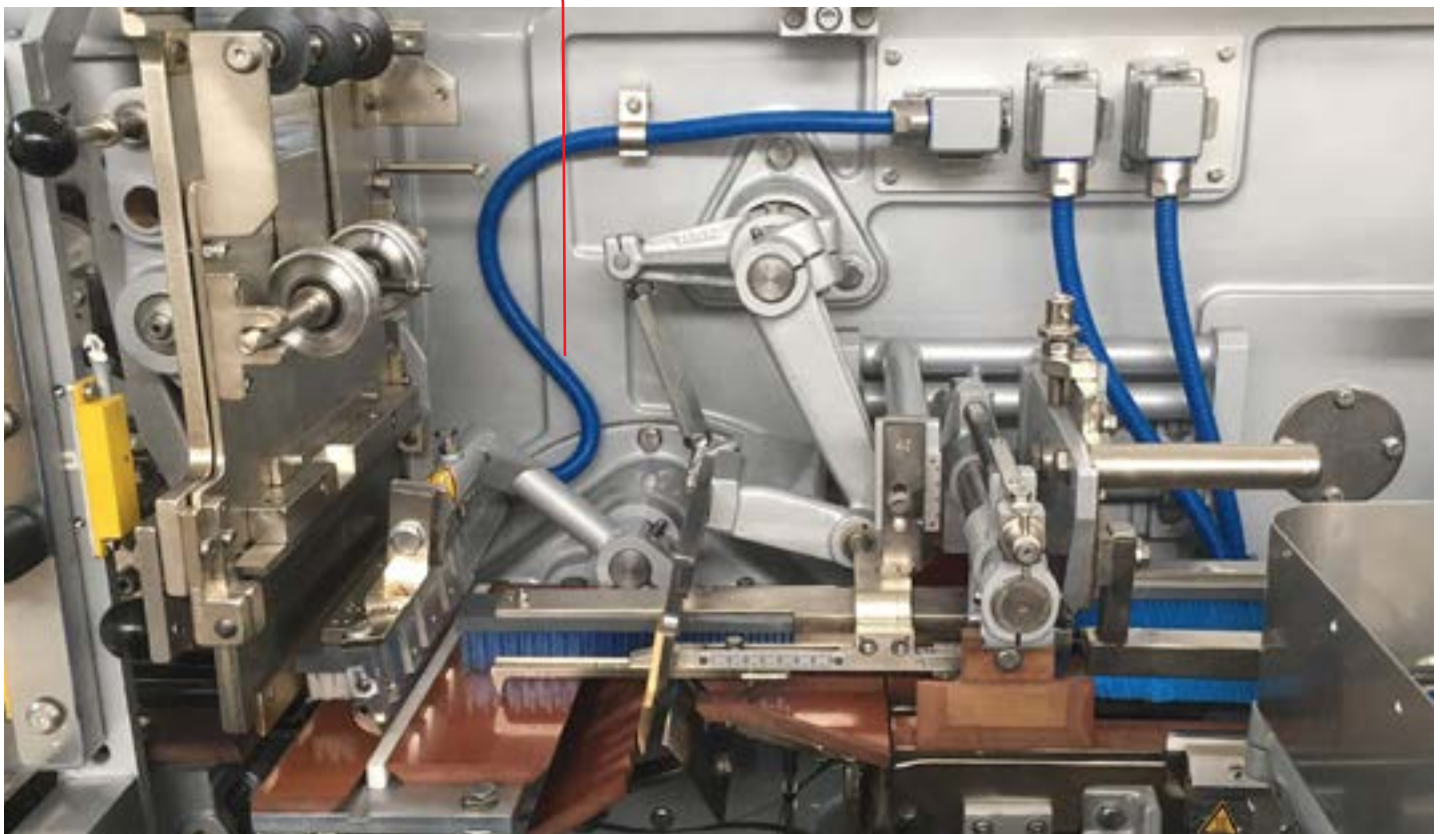
GR ServiTech utilizes PMA corrugated conduits to protect heating devices that seal the aluminium wrapping around bars of chocolate. It's no secret that heat and chocolate are not the best of friends, so care must be taken during production processes since the products can easily melt.

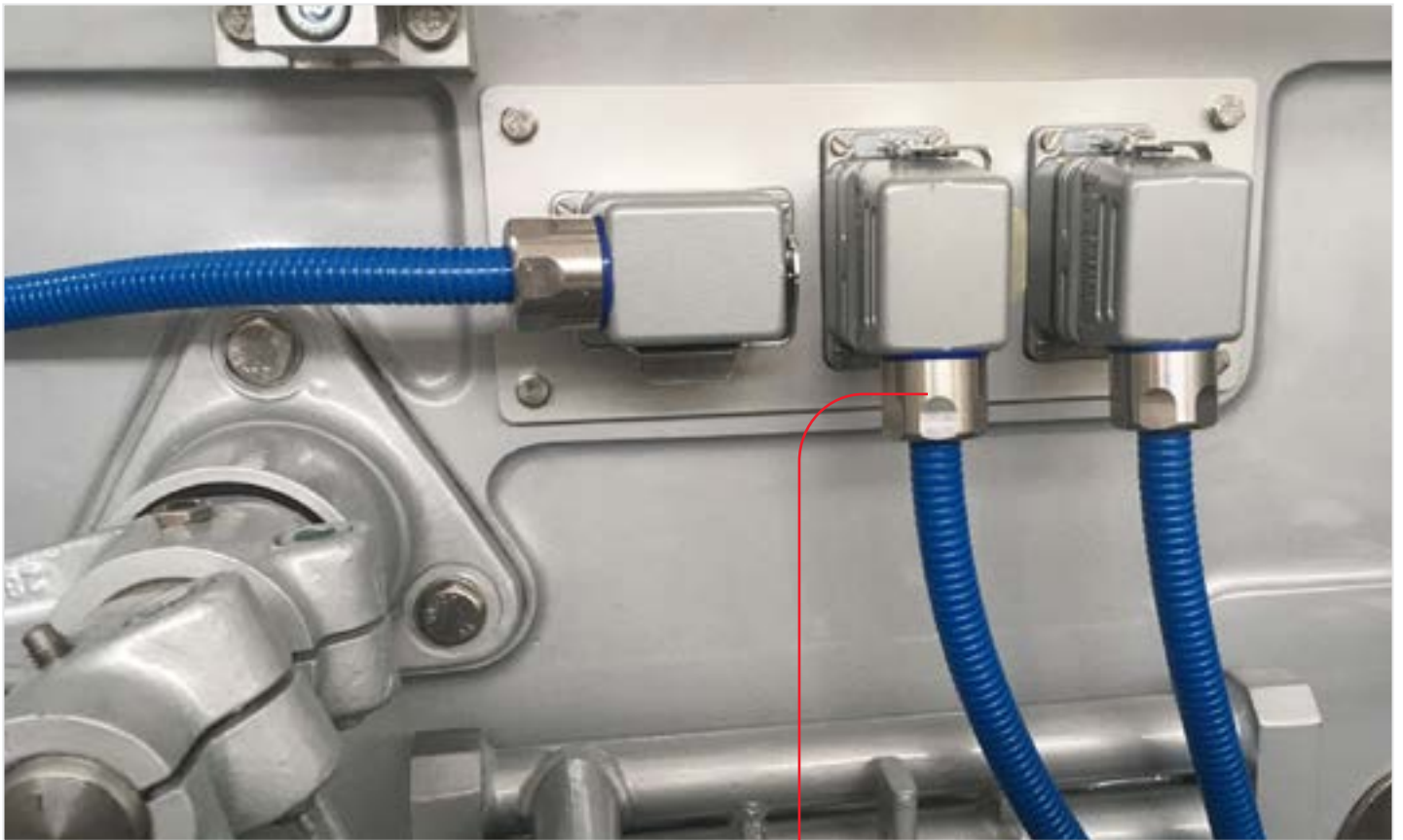


This machine packages up to

**140 products**  
per minute.

In this applications, the priority is to offer a hygienic, easy-to-clean cable protection solution for the sealing equipment mounted to the machinery.





There's no better winning team than

## PMA hygienic fittings and PMA hygienic conduits

This PMA® solution not only meets these requirements, but can also be installed up to three times as quickly compared to the previous application. The challenges that machinery must face day in and day out can vary, depending on the given industry. Another important aspect is the growing demand for certification and the

Folding is performed in two steps, with a first welding for the aluminium wrapping, and a second one for the outer packaging. Automated feed-in enables the machine to be integrated directly into the production line. The output pin stamps the date at the desired location on the bottom of the bar.



requirements governing quality control departments. To fully satisfy their customers, GR ServiTech is now able to present and submit a document verifying that the installed elements conform with food production requirements.

### Cable protection solutions for the food industry

Every single component used in any food processing area must be absolutely clean prior to starting production. Customers can depend on the ABB PMA team's technological know-how and materials expertise. JFBD conduits used together with JKNH threaded conduit fittings provide excellent solutions for the food industry. They are quick to install since no special tools are required. These cable glands are ideally suited for static as well as dynamic applications, such as those found in packaging systems.

### Proven cleanability

Hygiene and cleanliness are of the utmost importance in the food and beverage industry, so machinery is subject to regular stringent cleaning processes. The international ingress protection (IP) standards offer a globally recognized methodology for qualifying a broad range of components in terms of their performance in protecting against ingress of dust and water. A wide range of methods are applied to achieve the required standard of hygiene: some use high-pressure water jets while others function with flushing or at lower pressure. PMA food and beverage cable protection systems fulfill the applicable IP protection standards IP65, IP68



PMA cable protection from ABB based on  
**over 45 years of experience**  
and the know-how of seasoned experts

and IP69 (high-pressure cleaning) for the various cleaning methods used. The combination of PMA JFDB conduits with stainless steel or plastic fittings and stainless steel clamps and hangers offer a complete, end-to-end cable protection solution for food production settings.

To quote Eric Salquin, Sales Engineer with ABB's PMA team in Switzerland: "Effective cable protection in the food and beverage sector entails mastering a range of difficult operating conditions, including mechanical properties and mitigating the impacts of continuous high-pressure cleaning and chemical disinfection operations. It's important for the machinery to meet all the relevant statutory requirements and that we're able to present our FDA 21 CFR and EU 10/2011 certificates at quality audits."

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PMA food and beverage protective hose systems meet all required IP protection ratings for the various cleaning processes used.

**"PMA cable protection solutions ensure the required level of ingress protection, including the IP69 rating."**

Corrugated conduits made of polyamides have long been a preferred cable protection solution for industrial manufacturers, as they're flexible and robust, can withstand frequent and rapid movements, and function effectively in static as well as dynamic operating modes.

#### **Cleaning method**

The food industry sometimes employs aggressive cleaning agents, so conduits must be highly resistant to such substances. The ECOLAB certificate serves to verify the high level of resistance of JFBD conduits to cleaning agents. This allows equipment to be cleaned using standard cleaning agents.

**Additional**, detailed information on resistance to chemicals and cleaning agents can be found at [www.pma.ch](http://www.pma.ch) and in the technical data sheets of the specific products.





With its PMA cable protection range, ABB offers a comprehensive portfolio of conduits, threaded fittings and accessories for a vast range of markets and applications.

#### **ABB PMA and GR ServiTech**

GR Servitech and ABB's PMA team work together to jointly offer the best possible solutions in the food industry. In this sector, the priority is given to product hygiene and cleanability, along with reliability and safety. Similarly crucial are the certification and quality aspects as well as the ease of handling, all of which are highly important to both companies.

#### **GR Servitech**

GR ServiTech is a young and dynamic company headquartered in Vuiteboeuf, Switzerland. It is active on all continents around the globe. The core business of GR ServiTech is backfitting packaging machinery for chocolate. This partial or complete overhauling of individual machines or entire production lines increases their productivity and service life.

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