

Food & Beverage Industry Chain Plate Lubrication Solutions



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COOMCOOL[®]
科美克[®]

Coomcool , Enabling More Efficient Filling Processes

Coomcool focuses on the maintenance and servicing of chain and steel cable equipment, providing comprehensive lubrication protection solutions, especially for conveyor chain plate lubrication in the food and beverage industry. With the rapid development of the food and beverage sector, the number of ultra-high-speed packaging lines, capable of producing tens of thousands to hundreds of thousands of bottles per hour, is rapidly increasing. In these high-efficiency filling processes, chain plate lubrication is a critical factor.

Our lubricants cover eight major product series: oil-based lubricants, solid lubricants, dry film lubricants, chain sprays, chain cleaners, chain plate lubricants, and steel cable lubricants. These products effectively address the issues of chain and steel cable equipment under high temperatures, ultra-high temperatures, and corrosive environments with acids, alkalis, and salts, meeting stringent food safety requirements.

In the filling processes of the food and beverage industry, conveyor chain plate lubrication needs to cover three key friction points: between the bottom of the packaging and the upper surface of the chain plate, between the chain plate links, and between the underside of the chain plate and the wear-resistant slide rails of the chain channel. The quality of the lubricants is decisive for production efficiency. Our products provide efficient wear protection and lubrication for these friction points, reducing chain plate wear, lowering bottle turnover rates, controlling foam generation, inhibiting microbial growth, and ensuring environmentally friendly production emissions.

Coomcool aims to help customers reduce production costs and provide scientific lubrication solutions through high-quality products and a comprehensive service system. We believe that service is an essential part of our products, ensuring high performance through extensive professional knowledge and timely on-site services. Ultimately, we enhance value in terms of safety, environmental protection, production increase, cost reduction, and sustainable development.



Conveyor Chain Plate Lubrication Solutions

With the rapid development of the food and beverage industry, the number of ultra-high-speed packaging lines capable of producing tens of thousands to hundreds of thousands of bottles per hour is rapidly increasing. Among these, chain plates pose significant lubrication challenges in high-efficiency filling processes.

Lubrication of conveyor chain plates in the filling processes of the food and beverage industry has always been one of the key factors affecting filling and production efficiency. Additionally, addressing sustainable development indicators such as water conservation, environmental protection, and compliance with food production standards presents stringent challenges for current conveyor chain plate lubrication solutions in the food and beverage filling processes.

In the actual filling processes of food and beverages, lubrication of the conveyor chain plates needs to effectively cover three key friction points: the friction between the bottom of the packaging and the upper surface of the chain plate, the friction between the links of the chain plate, and the friction between the underside of the chain plate and the wear-resistant slide rails of the chain channel. The conveyor chain plate lubricants need to provide efficient wear protection and lubrication for all three of these friction points simultaneously.

01

Rapid Wear of Chain Plates and Chains

There is sliding friction and rolling friction between the bottom of the packaging and the upper surface of the chain plate, between the chain plate links, and between the underside of the chain plate and the wear-resistant slide rails of the chain channel.

Insufficient lubrication will significantly reduce the lifespan of the chain plates.

02

High Bottle Turnover Rate and Excessive Foam

The conveyor chain plates operate at high speeds, with fast, low-pressure zones (such as empty bottle inspection, filling, and labeling areas) reaching speeds of 3 to 5 meters per second. In variable speed zones with significant speed gradients, bottle turnover is likely to occur when the chain plate speed changes or when products switch between chain plates operating at different speeds.

The quality of the lubricant plays a decisive role in production efficiency.

03

Microbial Growth Unfriendly Emissions

Cap leakage or bottle turnover causing spillage can lead to beverage leakage. Due to the high temperature and humidity in the production environment, which is conducive to microbial growth, if the lubricant's antibacterial effect is inadequate, it can result in rapid microbial proliferation, contaminating both the production environment and the product.

Lubricants that are not easily biodegradable contribute to environmentally unfriendly wastewater discharge.

04

Equipment Rust Nozzle Blockage

Lubricants with inadequate hard water resistance and scale inhibition properties dissolve slowly when in contact with water, leading to sediment formation. Over time, scale can block spray nozzles.

If the diluted lubricant solution is not neutral, it may corrode metal equipment, cause plastic to crack, and damage skin, posing safety risks to users.

Typical Characteristics



Product Model

- Coomcool Chain CPL 102 Wet Chain Plate Lubricant

Application

- Suitable for conveyor chain spray systems on high-speed filling equipment in breweries, beverage plants, dairy processing, and other food industries.

Advantages

- Excellent Lubrication Performance: Reduces wear rates and prevents bottle turnover issues.
- Outstanding Antibacterial Properties: Effectively inhibits the growth of bacteria and mold on conveyor belt surfaces, ensuring product microbiological safety.
- Good Cleaning Performance: Effectively removes residues from chain plates, maintaining a hygienic production environment.
- Effective Hard Water and Scale Inhibition: Prevents scale formation and blockage of spray nozzles.
- Eco-friendly: Biodegradable and meets wastewater discharge standards.
- User Safety: Safe for the workshop environment; does not damage skin, ensuring user safety.

Typical Characteristics

Property	Unit	Test Method	Value
Total Active Content	%	-	≥15.0
PH Value @1% Aqueous Solution, 25 °C	-	ASTM D1287	2.0 - 4.0

Typical Characteristics



Product Model

- Coomcool Chain CPL 203 Dry Chain Plate Lubricant

Application

- Suitable for conveyor chain spray systems in paper packaging production lines

Advantages

- Dry Lubrication Solution: Extremely low consumption with no water required.
- Achieves an Extremely Low Coefficient of Friction between the packaging and the chain plate.
- Outstanding Wear Resistance for chain plate components.
- Resists Scaling: Better hygiene and cleanliness of the chain plates.
- Versatile: Suitable for various conventional chain plate lubrication systems.

Typical Characteristics

Property	Unit	Test Method	Value
Base Oil	-	-	Mineral Oil
Viscosity@40°C	mm ² /s	ASTM D455	68

Background

Product Type: Glass Bottle Beer
 Filling Speed: Approximately 36,000 bottles per hour

- Slightly High Bottle Turnover Rate: Affects production efficiency.
- Excessive Foam: Potentially contaminates the beverage.
- Spray Nozzle Blockage: Occurs after extended use.

Solution

Based on the customer's usage habits, it is recommended to use Coomcool Chain CPL 102 Wet Chain Plate Lubricant.

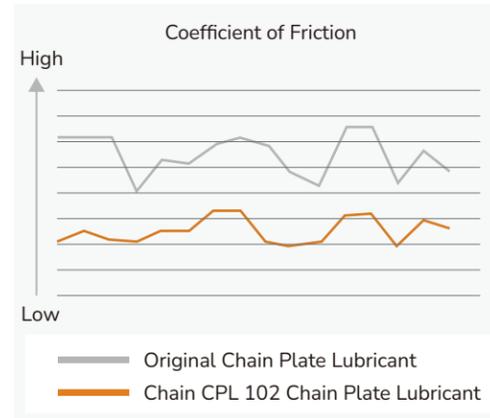
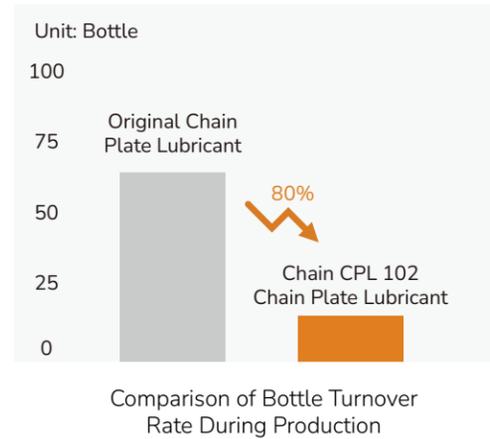
Results

Coomcool Chain CPL 102 Chain Plate Lubricant offers excellent lubrication properties, reducing the coefficient of friction and minimizing the bottle turnover rate. It also has strong cleaning capabilities, effectively removing beer and beverage residues from chain plates, thus maintaining a hygienic production environment.

After long-term use, customer feedback indicates that the product performs well and fully meets the lubrication needs of chain plates in high-temperature and high-humidity environments.

Products recommended

- Chain CPL 102链板润滑剂



Coomcool Conveyor Chain Plate Lubrication Series Products are suitable for the following packaging materials and filling processes in the food and beverage industry:

- Paper Cartons: Such as dairy products
- Plastic Bottles: Such as mineral water
- Metal Cans: Such as carbonated beverages
- Glass Bottles: Such as condiments, sauces, and alcoholic beverages

Significantly Increases Filling Efficiency for Food and Beverages

- Lower Bottle Turnover Rate: Higher filling efficiency.
- More Uniform and Long-Lasting Lubrication Protection: Effectively reduces maintenance downtime.
- Improved Chain Plate Hygiene: Extends cleaning intervals for chain plates.

Effectively Reduces Overall Production and Filling Costs

- Higher Filling Efficiency: Lower cost per unit of filling.
- Reduced Lubricant Consumption: Lower lubricant material costs.
- No Water Usage for Lubrication: Lower water consumption and wastewater treatment costs.
- Extended Chain Plate Lifespan: Reduced maintenance and spare parts costs.
- Longer Chain Plate Cleaning Intervals: Reduced cleaning costs.

Significantly Improves Sustainability Metrics in Production and Filling Processes

- Significant Water Savings: Effectively reduces wastewater treatment and discharge.
- Lower Coefficient of Friction: Enhances energy efficiency.
- Dry Chain Plate Lubrication: Safer and better working conditions.
- Reduced Waste Emissions: Lower disposal of waste lubricants and chain plates.
- Improved Operator Labor Intensity and Workload: Reduced physical strain and workload for onsite personnel.

