

REXNORD® 3122 HYBRID SERIES MATTOP® CHAIN REDUCES DOWNTIME AND COST IN AUTOMOTIVE INDUSTRY



LOCATION

Two plants in the United States

PROBLEM

Steel slat chain is expensive and takes a long time to fix. Client was looking for a more cost-effective solution that could help improve uptime.

SOLUTION

The Rexnord 3122 Hybrid Chain replaced the customer's legacy chain.

RESULT

A cost-effective solution with notably improved performance, resulting in reduced downtime.

REPLACING AN AUTO PLANT'S STEEL ROLLER CHAIN WITH A PLASTIC CONVEYOR

An automotive manufacturer with a legacy steel plate top roller chain asked Regal Rexnord™ if a plastic hybrid automotive conveyor chain could reduce downtime and cost. After listening to the customer's needs and working with a local vendor, Regal Rexnord answered with a resounding yes.

MOVING A CAR THROUGH A SUPERCHARGED CAR WASH

Many automotive manufacturing plants have a water test line. The line, also called a car wash conveyor chain, is like a supercharged car wash. After the drive assembly, wheels, and tires are put in place, the vehicle runs through the water test. In a water test, a conveyor belt carries the vehicle as it is hit from many angles with high pressure water. This ensures there are no leaks caused by misalignment in the windows, doors, sunroof, or windshield. The test is part of the inspection process before the vehicle leaves the plant.

THE CUSTOMER'S LEGACY LINE

The customer has two plants in the United States that make standard gas-powered and electric vehicles. Each plant has four single-lane pull-through lanes for the water test line. A 24-inch wide belt under the driver's side wheel pulls the car through the lane for about 450 feet. For one of the lanes, the belt crosses over to the passenger side.

During a test, a vehicle will move about 10-20 feet per minute, with the weight of the car placing stress on the belt. The traditional conveying solution is a steel plate top roller chain. These types of chains are costly and time consuming to fix. A failure in one part of the chain could take down an entire line. When a chain reaches the end of its service life, downtime issues are more frequent.



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THE SOLUTION

The manufacturer reached out to Regal Rexnord™, where associates collaborated with factory personnel. A local Original Equipment Manufacturer (OEM) fabricated the solution. Switching from the legacy conveyor required both a belt and pusher application. Regal Rexnord retrofitted on-site using a Rexnord 3122 non-hybrid chain. The goal was to determine if a plastic chain would be a possible solution to replace the existing steel plate roller chain.

During the three years the first chain ran, Regal Rexnord developed a Rexnord 3122 Hybrid Chain to replace the initial chain. The second chain ran for 1.5 years before being replaced with one developed with a different OEM. The local OEM fabricated the second version in the field, which ran longer, reaching a final, optimal result.

The 3122 Hybrid MatTop Chain solution worked so well the manufacturer asked Regal Rexnord to apply it to the water test line at a second plant. Regal Rexnord associates implemented the solution (including the bearing sizes and setup). When plant maintenance personnel wanted to use a different type of drive from the original solution, Regal Rexnord and local OEMs were able to meet this request. The water test lines run cars and full-sized trucks with no issues and the chain is holding up fine.

VALUE ADDED

Replacing a legacy steel plate top roller chain with a hybrid plastic belt is a major procedural change. Yet, there has been no unplanned downtime or unexpected maintenance costs for the customer where the 3122 was used. That means no unexpected maintenance costs for the customer. The current conveyor design with the 3122 Hybrid, has been optimized to achieve maximum chain life with minimal elongation. The customer has seen the only area of wear on the chain directly under the tire, in the tension plates. The 3122 Hybrid has outperformed the standard chain ten to one based on the last visual inspection.

In this case, the customer had specific needs and wanted certain local OEMs to fabricate the product and use an exact drive assembly. The Regal Rexnord team determined the customer's needs and partnered with OEMs to install a reliable product.

Have you experienced unexpected downtime due to chain failure in your production facility?

Using the Rexnord 3122 Hybrid MatTop Chain has proven to reduce maintenance, cost, and time.

Schedule time with a specialist to learn more.



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