



A mooving story

Engineering a smarter milking solution

During a routine visit to a well-known manufacturer of robotic milking systems, ERIKS engineers were asked to supply a DC motor as a like-for-like replacement for an existing air motor used in a rotary cleaning system. However, rather than simply fulfilling the order, our team did what we do best — we asked questions.

Challenge

It quickly became clear that the customer's needs ran deeper than just a motor swap. The air-driven system was part of a critical cleaning mechanism mounted on the arm of an automated milking robot. The brushes, fixed to two contra-rotating shafts, were responsible for washing and disinfecting the teats of each cow prior to milking. This was essential not just for hygiene, but also to prevent cross-contamination and ensure the highest quality milk.

As with many automated systems, this wasn't a simple plug-and-play fix. The application demanded precision, consistency, and most importantly, the safety and comfort of the animals. The machine had to recognise each cow, handle it gently, feed it during the process, and test the milk before storage — all while running reliably, multiple times a day.

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Solution

Working closely with the customer's design team, ERIKS engineers helped develop a more advanced, electrically driven system. The newly optimised solution began with animal identification — using an electronic ear tag, the machine determines whether the cow is ready to be milked. If the system gives the green light, the cow is allowed to enter the unit where feed is dispensed in precisely measured amounts.

Industry sector:
Food and Beverage



Application:
Automated milking system

Actual Savings:
N/A

Payback period:
N/A

Product/Service:

- Power transmissions
- Bespoke OEM design
- Automated milking robot

Customer Benefits:

- Increased yield
- Higher milk quality
- Reduced downtime
- Improved animal welfare
- Better farm management data
- Energy efficient using modern controls and actuators



Once in position, gates automatically close behind the cow to secure it gently in place. From here, the automation takes over with impressive precision. A laser scanner or integrated camera identifies the position of the udders and teats, guiding the rotating brush mechanism for targeted cleaning and disinfection.

With the cleaning phase complete, the milking couplers are automatically aligned and attached. The robot then extracts the milk, monitoring and analysing it in real time to ensure it is free from contaminants. Clean milk is pumped to a central tank, while any that fails quality checks is discarded before entering the supply chain.

When feeding and milking are complete, the gates release, and the cow walks free. The system's intelligence doesn't end there; it also uses the ear tag data to ensure cows aren't milked too soon, which not only protects animal health but also helps optimise milk yield across the herd.

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Result

While the project began with a request for a motor, it ended with a transformational upgrade to the customer's entire milking process. The automated system is now delivering consistent, high-quality results — improving hygiene standards, enhancing animal welfare, and substantially increasing throughput.

This case is a great example of what happens when ERIKS gets involved early and asks the right questions. By looking beyond the component and focusing on the bigger picture, we helped deliver not just a part, but a partnership, one that's continuing to yield results, day after day.

