

Lely Vector



The ultimate
feeding solution



Discover the seamless interaction between **cow, farmer and robot**

Automated feeding comes with many benefits. Farmer Torben H. Jorgensen in Denmark made the transition from conventional feeding with his tractor and mixing wagon to the Lely Vector automatic feeding system. In addition to time and labor savings, he notices the barn is more peaceful. The subordinate cows now have better opportunities to get good, consistent fresh feed, instead of waiting in line behind more dominant cows. Each group of cows has its own nutritional needs, which Lely Vector tackles with ease.

Precision feeding on demand

Apart from mixing and feeding the exact ration needed for each group of animals, the automated feeding system ensures fresh feed is available on demand. The Lely Vector feeds based on need. It adapts to the cow's needs rather than the cow adapting to the robot and farmer routines. That means it enters the barn and scans how much or how little feed is at the feed fence. Its laser scan technology provides valuable information on feed height. In this way, it only feeds when the cows need it, which can result in less rest feed at the feed fence. Next to that, Lely Vector prioritizes the distribution of rations based on the feed height and pushes the feed. And so fresh feed is always within reach for your cows.

Jorgensen explains: *"We have the cows on a grazing system, since we're organic. So, it's a bit difficult to know how much feed to mix in the morning. The Lely Vector handles that itself by scanning the feed height. Then it goes back to the kitchen, prepares a load of feed, and delivers it. Lely Vector has become an integral part of the workforce at my farm. And when I see there is fresh feed available at the feed fence, I have peace of mind."*

Torben H. Jorgensen Vandel, Denmark

"My team and I used to spend about two and a half hours each day preparing three mixes. Since the Lely Vector, we now prepare eight mixes and save both a lot of time and energy. We have flexibility with our work hours. For instance, we load the feed kitchen on Monday, Wednesday and Friday. This ensures we have enough feed especially over the weekend until Monday morning. This provides significant relief on weekends, which I appreciate, and so do my employees. It's great that you can fill the kitchen in the morning or late at night, allowing you to do a lot of work in the field and free up some time."*

"We were a bit nervous about how stable the operation of such a system would be, but it turned out we don't need the old feeding wagon anymore. It's now for sale!"

* Results have not been verified by Lely and may vary. No rights can be derived from this data.



This is how it works

The Lely Vector automatic feeding system is there for you to automate the feeding process. It all starts in the feed kitchen, where all feed ingredients from the farm come together to prepare your calculated rations. This is the area where the feed is stored, selected, picked up, and loaded into the mixing and feeding robot. A crane assembly with feed grabber installed in the feed kitchen moves back and forth above the feed and picks it up as required. In the feed kitchen, the various types of feed can be easily separated and supplemented. There is also space for mineral dispensers or additives, if these have to be added to the ration.

Automatic feeding

Once you have filled up the feed kitchen, the rest of the process is automated. From selecting, mixing and delivering the feed at the feed fence, to pushing the feed so it's always within reach for your cows. Setting the right minimum feed height for each group is easily done in the Lely Horizon farm management system. And the Lely Control + app provides valuable insights in the daily status.

Perfectly mixed

Because the feed grabber grabs a different type of feed with every grab, the ingredients are already substantially mixed in the mixing and feeding robot. This reduces the time and energy needed to mix thoroughly. The mixing time and the counter knife can be set per ration to ensure

homogeneous mixing of the feed.

Storage up to three days

Depending on weather conditions and the size of the feed kitchen, you can store up to three days of feed. This can save you a valid amount of time to spend on other tasks at your farm. The feed kitchen has enough space for any desired feed strategy and can be extended as a farm grows. Lely project managers can advise on a fitting solution on your farm to optimize your feeding logistics, on how to convert existing areas in livestock farms into feed kitchens or whether to build a fully new feed kitchen at your farm.

how it works



1. Installing the Lely Vector



2. Filling the feed kitchen



3. Feed grabber filling the robot



4. Mixing the feed



5. Feeding the cows



6. Pushing the feed and scan feed heights



7. Back to the filling & charging station to load a new batch of feed

Improve overall farm efficiency

Running your farm is much more than a daily business. It's a way of life that comes with many tasks. Knowing you want the best for you and your cows, we keep innovating. And with the Lely Vector in our solutions portfolio, your farm efficiency can reach a whole new level when it comes to feeding your cows. This automatic mixing and feeding robot can not only save you valuable time, but it's also there to enhance your entire feeding strategy.

The ultimate feeding solution

Introducing the feeding system that saves time and accompanies the natural rhythm of your herd in every possible way. The Lely Vector delivers your precisely formulated rations that provide your cows with the correct amount of the right feed day and night. As a result, every cow has access to fresh feed tailored to her unique needs, at her own schedule.

In addition to providing your herd with optimal feed, the system also gives you valuable insights into feed intake. This data is updated digitally and enables you to adjust and optimize your feeding strategy as necessary. Frequent fresh feeding in combination with better insight into your herd can improve both milk yields and the health of your cows, such as a more stable rumen pH.

Detailed insights are ready for you

Once it is up and running, the Lely Vector will take care of feeding your cows. You fill up the feed kitchen. The rest will be taken care of.

To organize the feeding efficiently, you can rely on Lely Horizon. This management system helps you in optimizing your feeding strategy with valuable reporting insights. Once the Lely Vector is making its rounds, it's the Lely Control+ app on your smartphone that provides valuable information on routing, operational status and loading data when at the charging station. In this way, you are in control. Improving your overall farm efficiency has never been this easy.

Lely Vector feeds your cows at multiple barns

As a farmer you need a feeding system that has sufficient capacity, fits in your barn(s) and is able to reach your mixing quality demands. And so, Lely Vector can load up to 800 kg of feed in the compact mixing bin. Thanks to route planning, Lely Vector can feed at multiple barns and to different groups. By introducing Lely Vector at your barn, you free up time for other tasks.

“The Lely Vector system provides a constant availability of a balanced, ration on demand.”

Healthy cows, happy farmer

At Lely we realize that cow health is the top priority for every farmer. And with many years of experience in creating automation solutions, we always have this in mind. With the Lely Vector, we strive to contribute to the health of your cows in an easy, labor-friendly and cost-efficient way. By introducing this automatic mixing and feed robot at your farm, you profit from automatic feeding and feed pushing immediately.

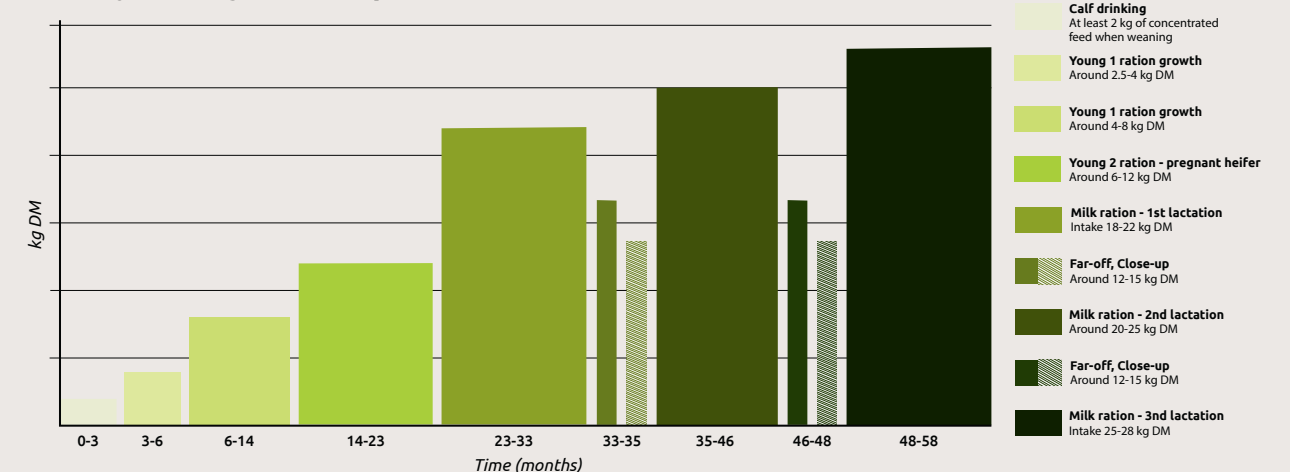
Best of both worlds

It's the unique combination of mixing the feed, feeding the cows based on their needs and always pushing the feed along the feed fence that saves you valuable time. Thanks to the pushing technology at two sides of the robot, your cows have feed always within reach. And more pushing in the barn can increase the feed intake. The result? A contribution to the rumen health of your cows and less rest feed. Lely Vector pushes the feed once every scanning or feeding round. A single feed fence gets pushed twice every round with the Lely Vector.

Adapting to the cow's needs

The Lely Vector mixes rations exactly adapted to each group, so that every group of cows receives the nutrients she needs for better health and milk production. Think of groups with different production levels and the ability to feed the right ration for your dry cows. Lely Vector accurately measures the feed height for each specific group of cows. It makes use of a feed height sensor and uses this information to calculate when it's time for a new feeding round. This ensures all groups can have constant access to the right amount and type of feed, which can improve feed efficiency and utilization of nutrients, and lower the amount of rest feed.

Dairy farming ration requirements



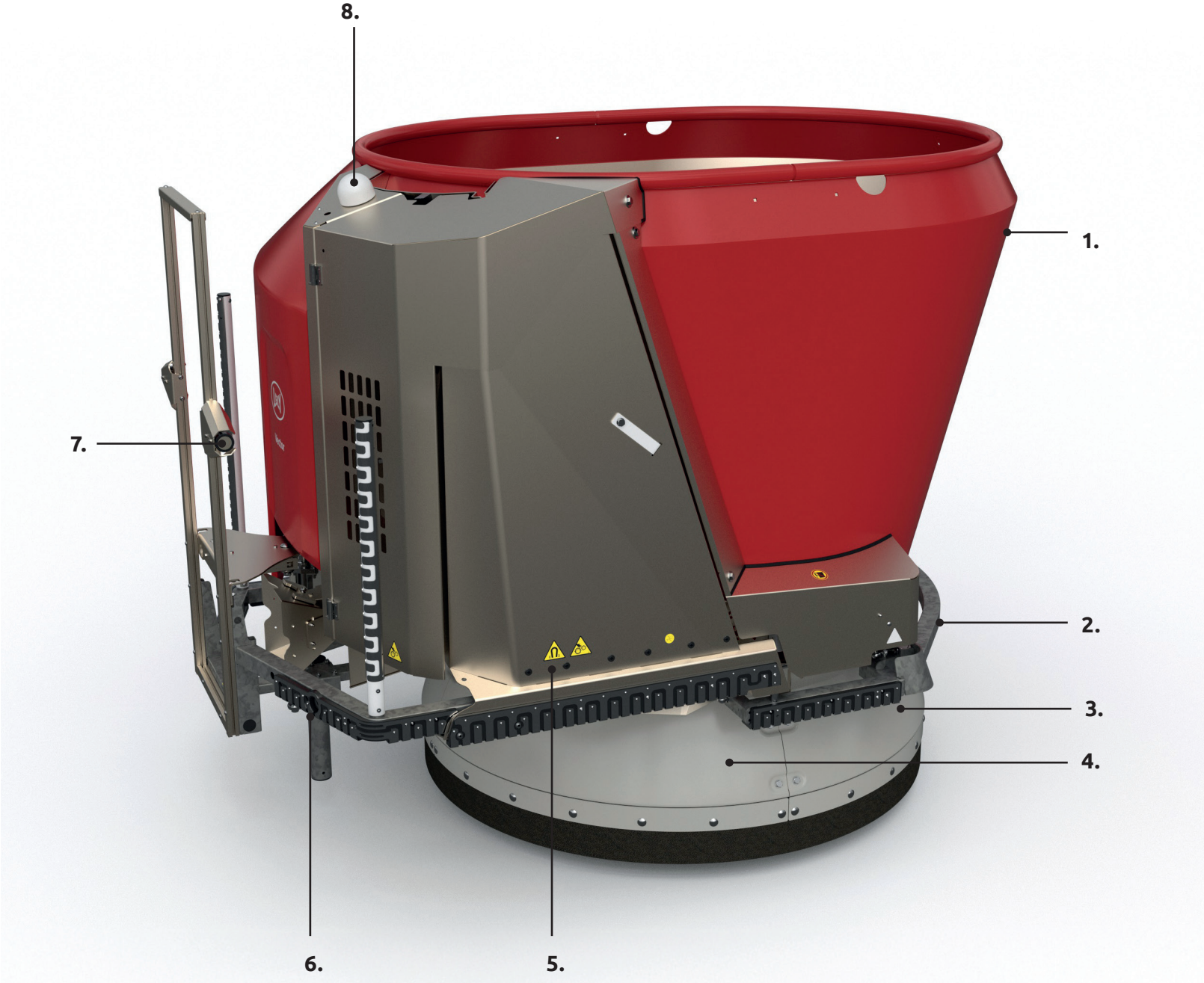
Source: Internal data Lely FMS. No rights can be derived from this data.

Embrace automation, **experience peace of mind**

Automation at your farm is much more than feeding your cows with a robot. It's a new way of managing your farm. And with automation comes the need for safety. Enhanced safety systems and sensor technology are integrated and work according to the latest standards.

Thanks to the integrated obstacle detection sensor and active breaks, Lely Vector stops automatically when there is an obstacle. If an obstacle is in its way, you will receive a notification. As soon as the obstacle is removed, Lely Vector automatically restarts and proceeds its route. Additionally, Lely Vector is equipped with contour lights and a flashing light. It drives a fixed route that is clearly visible, day and night.

100% electric
The Lely Vector is 100% electric. That means you can reuse your own generated energy.



“With Lely Vector, you can trust automation and experience a safe farm and work environment”

- 1. Mixing bin
- 2. Safety Bumper
- 3. Feed height sensor
- 4. Rotating skirt
- 5. Magnet
- 6. Obstacle detection sensors
- 7. Ultrasound sensors
- 8. Flashing light

Fits many farms

Every farm is unique. This requires a flexible automated solution for feeding. Lely Vector is designed to adapt to a variety of farms, so that automated feeding works on every farm. Think of feeding at multiple barns and along small feed alleys. The Lely Vector is suitable for almost any farm type.

Feed according to your feeding strategy

Feeding strategies differ per farm and are based on the farm goals, area and the feed ingredients available. As a farmer you want a feeding solution that works according to your farm specific goals and available resources. The Lely Vector is designed to feed according to your feeding strategy. The system offers the flexibility to feed almost all your feed stuffs in an efficient way.

Feed different groups at multiple locations

Every farm has its own history and layout. This means that different groups of animals can be housed in different parts of the farm. You want all your animals to benefit from automatic feeding and therefore a flexible solution is required. The Lely Vector can easily feed different animal groups in different barns. With the compact size, the Lely Vector can easily enter smaller, mostly older barns. The mixing bin is designed to feed smaller groups of animals to their needs as well and keep the right mixing quality. Reaching those barns is easily managed by the Lely Vector via reliable navigation and strip following, and slopes up to 8% are no problem. So even with barns on different levels the Lely Vector can offer a solution.

A seamless farm fit

Feeding round bales? No problem! Do you prefer to only work with commodity boxes? No problem! Also, when you want to increase the loading capacity, and you make use of a high speed dosing system to feed more cows with the same system, this goes perfectly together with the Lely Vector. Since we can connect the Lely Vector to different loading methods, we can strive for a smooth farm fit.

Design your feed kitchen

The automated feeding system with Lely Vector requires a feed kitchen. This is a dedicated space where the feed is being stored, and a grabber brings it into the feed and mixing robot. To create this feed kitchen, you might have the possibility to free up space in your existing barn where we can add a modular feed kitchen frame. Together with third party companies, we can also offer a new feed kitchen building.

Robustness

Feeding conditions are different at every farm. Whether you feed a ration with only hay or you feed a heavy compact ration, you need a strong and reliable solution to keep the feed in front of your cows day and night. Every feeding system requires maintenance. The Lely Vector is constructed according to the latest technology and comes with reliable parts. Thanks to its highly durable materials it ensures and robustness, maintenance costs are reduced as much as possible.

Greater farm fit

Lely Vector comes with a strong drive line. A powerful feeding and mixing robot that can handle slopes up to 8%. Handy when you live in a hilly area, or the entrance of your barn has a slope.

Contact your Lely center for tailored advice

The feed grabber is the most flexible system. Do you combine this with a high-speed dosing system, you profit from a high-capacity feed kitchen with the flexibility of different feed types. Wondering what would work best at your farm? Contact your nearest Lely Center for more information and tailored advice.



The way to dairy.™

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