Manure scraper for slatted barn floors.

Manure collector for solid and combined barn floors.

Regular cleaning of the floor keeps feet, udders and tails cleaner.

Discovery 90 S and SW
Manure scraper for slatted barn floors.

Discovery 120 Collector
Manure collector for solid and combined barn floors.

Increase animal health

Improved cow health thanks to excellent barn hygiene

www.lely.com
You know that a clean barn floor results in cleaner feet, less manure in the cubicles and cleaner tails and udders. And you also know that this prevents hygiene-related foot and udder infections and promotes the healthy natural behaviour of your cows. This makes it easier to detect heat, allowing you to reduce the calving interval. Healthy feet and udders make a significant contribution to a financially healthy dairy farm.

Regular cleaning of the floor inhibits the growth of bacteria and keeps feet, udders and tails cleaner. This not only increases foot health, it contributes to the overall productivity of your herd.

By using the very latest technology, the barn floor can be kept clean automatically. The Lely Discovery manure robots clean the barn floor day and night. The fully automated manure robot reaches every single part of your barn, clearly improving the hygiene of the floor, cubicles and animals.

Bright farming is yours by choice

“Dirty feet really annoy me because they make the cubicles dirty.”

Etienne Simon
Saint-Germain-en-Cogles, France

“We decided to replace the scrapers with a Discovery because the cows tended to jump over the scraper and get their front and back legs dirty every time it passed by. That really annoyed us because dirty feet mean dirty cubicles. It is very easy to see the feet and legs are much cleaner now. Their back legs only get a bit dirty as they drop their manure but the front legs remain really clean and dry.”

Increasing the health of your animals starts at the bottom
Healthy dairy cattle offer optimum productivity, require less attention and are a pleasure to work with. It is a frustrating fact that mastitis, reduced fertility and foot health issues still count as the top three reasons for culling on dairy farms. A clean barn floor keeps feet, legs, udders and tails cleaner and helps inhibit the growth of bacteria. This reduces hygiene related feet and udder health issues.

**Udder health**
Mastitis is a common udder health issue caused by bacteria that penetrate the udder and subsequently cause an infection. Good hygiene is particularly important to inhibit the growth of bacteria. A clean floor keeps cows from bringing manure into the cubicles. Tails as well as udders remain cleaner. This in turn reduces the potential for infection.

**Fertility**
Cows are more comfortable to express their natural behaviour when their feet are healthy and the floor is not slippery. This makes it easier for you to detect cows that are in heat, allowing you to reduce the calving interval.

**Foot health**
Healthy feet are important for a cow to be able to move freely and do as she pleases: rest, eat, drink or go for milking. Many dairy farmers underestimate the prevalence of foot health issues in their cows. Research shows that dairy farmers spot only 25% of infectious foot disorders among their herd (Jessica Fabian, 2012). This is one of the reasons that inadequate measures are taken. It is estimated that 80% of dairy farms will suffer with foot disorders over the course of an average year. These disorders can result in lame cows and the associated economic losses.

**Healthy feet prevent costs and losses**
Research from Cornell University has shown that 20% of cows on an average dairy farm suffer reduced locomotion, with losses estimated between € 250 and € 380 per cow. As a result, foot health issues are among the top three costliest dairy cattle diseases along with mastitis and reduced fertility. While some of these costs come from the treatment of the foot, there are also indirect costs to consider. These include reduced conception rate, higher veterinary costs and increased pressure on herd replacement rates.
Peace of mind

Peace of mind is critical to your business operation. This means being able to rely on employees, machinery and a consistent partner in service and support. It’s good to know that behind your Lely Discovery, there is an organisation you can trust.

Certified technicians

You will have full access to Lely’s certified technicians through your local Lely Center. They ensure a perfect installation, set the desired routes and provide optimal service for a long and trouble-free life span.

Regional knowledge & experience

You can also rely on knowledge, help and support from the Farm Management Support advisors at your local Lely Center. They ensure that your Discovery plays its role in optimising productivity and profitability of your farm.

Dairy farming is in our blood

Many of Lely’s staff members come from a farming background themselves. They understand how farms work and are trained and tested on their knowledge. They offer reliability and expertise to assist both new and existing customers. Your local experts have knowledge and insight gained from similar projects in your region, so you can always rely on the most up-to-date advice.

Most experienced in dairy automation

Lely is the market leader in dairy automation. In regards to automatic barn cleaning, we have gained more than 10 years of experience. We used all this knowledge to develop the current generation of Discovery barn cleaners.

The dairy automation experts in your region

Your local Lely Center is a partner in dairy automation you can rely on. Over the years, Lely has built a comprehensive network of specialists, combining experience in dairy automation with local knowledge. Their main goal is to help you get all the benefits from your Lely equipment.

“They take time to explain it all.”
Severin Batzill
Schlier, Germany
**Discovery 90 S and SW**

Manual cleaning is an intensive and not too pleasant job, which keeps the floor dry and clean for just a short time. Conventional systems are an obstacle, require extensive maintenance and do not clean the cross alleys. That is why we developed Discovery 90 S and SW automatic barn cleaners for slatted floors.

**Spraying water for a better cleaning result**

The Discovery 90 SW model is equipped with a water nozzle to improve the results of barn floor cleaning. A thin layer of dry manure can form in certain circumstances like a dry environment, in low occupancy barns, or barns with wide walking alleys. This thin layer can make the floor slippery. By spraying water just in front of the scraper, the floor is cleaned more thoroughly and does not become slippery.

**Full control**

A robot might be working in your barn, but you remain in charge of the routes and cleaning frequency. Many farmers choose to set cleaning times around the feeding routine. This helps to ensure cows are not disturbed by the passage of the robot. In addition, you may choose to clean high traffic areas more regularly to be sure your floor is constantly clean and dry.

**Smart design**

The Lely Discovery 90 keeps your barn floor clean 24/7. This fully automated manure robot reaches every single part of your barn, improving hygiene as it does so. The curved ring at the front prevents the machine from becoming blocked while ensuring proper routing around walls. The compact design allows the Discovery 90 to drive under any separation gates to clean a larger part of the barn.

**How it works**

The Discovery 90 mobile barn cleaners are battery-driven vehicles. After installation, your Lely Center will programme the required routes for your barn. With an app on your phone you can schedule the routes according to your own preferences. After finishing a route, the Discovery returns to the charging station. This charging station also functions as the starting point of each cleaning round.

**How it navigates**

The manure robot operates without chains, cables or sensors below or inside your floor. The built-in ultrasound sensor ensures that the Discovery 90 follows walls and fences at a pre-determined distance. A built-in gyroscope enables the Discovery 90 to keep track of its position at all times.
Discovery 120 Collector

Manual scraping is very time consuming and rope or chain scrapers come with many disadvantages. The chains and corner pulleys are obstacles in the walkways, waiting areas aren’t being cleaned and each time the manure scraper goes by, the cows are up to their dew claws in manure. That is why Lely developed the Discovery 120 Collector; a revolutionary manure robot designed to clean solid barn floors.

Collecting manure instead of scraping

Rather than pushing the manure forward, the Collector uses a vacuum pump to collect the manure in its tank. This gives a better cleaning result in comparison with traditional scraper systems.

Water for a cleaner result and additional grip

The Discovery Collector can spray water from both the front and the back of the machine. Spraying from the front results in better manure intake, and spraying from the back leaves behind a wet floor for additional grip.

No obstacles and maximum flexibility

The Discovery Collector navigates independently using built-in sensors. Additionally, no cables, corner pulleys or raised passages are required, which is the case when using a manure scraper.
**Navigation technology**
The unique combination of two ultrasonic sensors, the gyroscope and advanced software technology ensures reliable navigation at all times. The machine is able to follow its programmed routes without any additional modifications to the barn.

**Operate by smartphone**
You can operate the Collector with a smartphone. The Lely Control app allows control through Bluetooth, meaning that every smartphone in the barn can be used to control the machine.

**Starting a route**
The Collector starts every route from the charging station. The routes and time schedule of the cleaning program can be easily adjusted to the daily rhythm of the farm and the cows.

**Spraying water**
A nozzle at the front sprays water to dissolve the slippery layer and clean the floor more thoroughly. A nozzle at the back sprays water to keep the floor wet and less slippery. This prevents rapid adhesion of manure. As the manure tank gets filled the volume of the water bladder decreases, freeing up more space for manure making for a compact machine.

**Filling water**
If the water-spray system is enabled, the Collector first drives to the water station to fill two water bladders in the manure tank. Once the water containers are filled, the Collector follows the route that is set for that specific time.

**Collecting manure**
A vacuum pump is connected to the tank and generates a vacuum, which sucks the manure from the floor. When the manure tank is full, a top-level sensor turns off the vacuum and water pump. The vacuum in the tank keeps the manure inside while the Collector drives to a dump station.

**Dumping manure**
After entering the dump station an aeration valve opens to release the vacuum. In two minutes all manure floats from the tank into the dump pit. The aeration valve also drains the condensed water from the vacuum system. After leaving the dump station, the aeration valve closes, the vacuum and water pump turn on and the Discovery continues its route.

**Optimal maneuverability**
The Collector has a straight front for more precise cleaning around corners. The back of the machine has a rounded shape to maximize the cleaning surface while turning. Since the machine can perform this action without driving backwards, the manure is collected at the front, keeping the floor behind clean.

**The working principle**
Instead of scraping or pushing, the Discovery 120 Collector collects the manure and brings it to a dump station.

**Finishing a route**
Every route ends at the charging station and the Collector starts to charge while waiting for the next route in its time schedule.
A cleaner floor results in healthier cows

You know that a clean barn floor results in cleaner feet, less manure in the cubicles and cleaner tails and udders. And you also know that this prevents hygiene-related foot and udder infections while promoting the natural behaviour of your cows. This allows you to detect cows in heat more efficiently.

Traditional manure scrapers come with many disadvantages. The chains and corner pulleys are obstacles in the walkways, waiting areas aren’t being cleaned and each time the manure scraper goes by the cows are up to their dew claws in manure. That is why Lely developed the Discovery and Discovery Collector range.

Bright Farming is yours by choice.

Improve the hygiene with your Lely Center

“The feet are much cleaner than before.”

Etienne Simon
Saint-Germain-en-Coglès, France
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