Bedding handling
Vacuum system

Safe and efficient bedding management.
Reliable and cost effective bedding handling for animal care facilities.

Regular cage cleaning, sterilization, and animal bedding replacement is vital for animal welfare and contamination control in biomedical research facilities. Removal of soiled bedding and replacement with clean requires either manual or automated labor. Manual operation repeatedly exposes operators to dust and allergens. It also poses significant risk of clean bedding becoming cross contaminated by soiled bedding. Automated solutions for bedding handling can help increase operator safety, reduce the risk of cross contamination of clean bedding by soiled bedding and cut laboratory overhead.

Advancing through automation.

Increased safety and productivity. The Getinge Bedding Handling Vacuum System is an automated bedding transportation solution that facilitates bedding handling for laboratory animal caging systems. The Bedding Handling Vacuum System enhances safety while delivering reliability and efficiency across all steps of the bedding exchange process.

The Getinge Bedding Handling Vacuum System meets a variety of needs for automated bedding handling solutions in laboratory animal research.

- Reduced cross contamination – decreases the amount of manual handling and the associated potential for cross contamination within the facility.
- Reliability – engineered for dependable performance that provides maximum uptime to eliminate interruptions in the cage reprocessing flow.
- Efficient design – designed for efficient utility consumption to help manage laboratory operating costs.
- Enhanced ergonomics – the automated system reduces the repetitive manual actions of dumping soiled bedding, dispensing clean bedding, and transporting cages within the facility.
- Safety – eliminates operator exposure to potential contaminants and allergens in dust created through manual bedding handling.
- Effectiveness – automated solutions ensure consistent bedding handling, guaranteeing the desired amount of bedding is dispensed into each cage.
Intelligent function and design.

A complete system, the Getinge Bedding Handling Vacuum System incorporates a range of bedding management equipment designed for automated handling of soiled and clean bedding used in the care of laboratory animals. A complete bedding system consists of a soiled side set and a clean side set, each with a separate vacuum unit to guard against cross contamination during bedding changes. Clean bedding will never come into contact with soiled bedding as the clean and soiled sides of the systems work autonomously and independently.

Soiled side

1. Dump stations
Soiled bedding is emptied into dump stations for transportation to the waste separator or negative pressure dumpster. The dump station gradually introduces soiled bedding into the transportation line to maintain a consistent material flow and avoid clogs. It is designed with a standard suction lance, optional metering auger screw or an optional mill to manage a mix of soiled bedding types.

- The standard dump station includes a suction lance that is ideal for wet to dry bedding with smaller pieces of enrichment that is easy to move.
- The dump station with optional auger can be used for any type of bedding, wet or dry, with smaller pieces of enrichment. An interlocked safety grid protects operators from contact with the auger.
- For use with any type of bedding, the dump station with optional mill, and interlocked safety grid, will mix dry and wet bedding prior to sending into transportation line while assuring operator safety.
- Each configuration can be fitted with the optional protective hood to direct airflow away from operators and control dust and allergens.

2. Waste separation
During the separation process, soiled bedding is divided from the transportation line and stored until disposal. The system provides three alternative solutions to suit the storage needs of your facility.

- Negative pressure dumpster is the standard collection container for soiled bedding. Installation of this configuration does not require power and includes two level indicators.
- The optional waste bin separator configuration is designed to be used in facilities with less waste output. The waste bin has an extraction system to protect operators from dust and allergens, as well as protective fencing to protect operators from machinery.
- The optional waste compactor configuration uses the separator to drop bedding into the compactor. An electrical bin monitor switch indicates when a bin is present and triggers loading by the separator.

3. Vacuum piping
Vacuum piping creates separate pathways to transport soiled and clean bedding throughout each system.

- Made entirely of AISI 304 stainless steel.
- Connected by clamp couplings for easy installation and inspection.
- Four-inch diameter (soiled side) with a smooth profile and efficient routing to provide high performance and reduced clogging.

Clean side

4. Dust collector and vacuum unit
Vacuum units create the airflow used for transportation of bedding on both the soiled and clean sides of the system. Dust created during operation is separated into a dust collector and collected in an integral bin.

- Two sizes of vacuum units are available.
- Separate units on soiled and clean side help prevent risk of cross contamination.

5. Bedding loading and storage
Clean bedding can be introduced to the system using two separate methods. Intermediate storage is also possible if required.

- The standard bulk bag loading station uses a stainless-steel snorkel tube to extract the bedding from the bulk bags, eliminating the need to hoist the bags.
- The optional loading funnel configuration is to be used when bedding is supplied in regular sized 35 L (1.25 cu.ft.) bags. An open bag is placed on the grating where bedding is collected in the funnel. With the addition of hoisting equipment, bulk bags can also be used.
- The intermediate bedding storage consists of a bedding storage silo that automatically transports bedding to the dispenser when the machine calls for bedding.

6. Bedding dispenser
The bedding dispenser quickly and efficiently delivers clean bedding into animal cages with a time controlled system. Clean bedding is delivered in repeatable volumes based on five preset levels that are easily adjusted.

- The standard bedding dispenser accurately fills animal cages and is available with two or four dispensing chutes to adapt to manual or robotic operations.
- A loading separator can be ordered as an option to load an inline dispenser. Bedding is pulled by vacuum from the loading point and into the separator prior to entering the hopper of the dispenser.
Optimized operation and continuous throughput.

Inherent reliability and efficiency

The Getinge Bedding Handling Vacuum System, improves operator health, optimizes facility productivity and ensures maximum operational uptime.

No Clogs. Efficient piping design with low radius bends and high internal airspeed of 35 m/s (115 fps) work in conjunction with the bedding metering system to ensure the system remains free of clogs.

Minimal system interruption. The dump station is designed to evenly distribute bedding and meter the amount of bedding going into the transportation line. This prevents blockages at the entrance of the transportation line.

Energy Efficiency. The vacuum system is designed for optimum sustainability and the lowest energy consumption possible. A fan speed controller alters the speed of the vacuum unit depending on the operational duty to conserve energy.

Dust reduction. Integrated dust collection on the loading funnel, bedding dispenser and dump station reduces the exposure of dust and potential allergens. Optional HEPA and charcoal filters protect operators and environment from allergens and potentially hazardous dust particulates from the discharge chute.

Easy cleaning. All system components are designed for simple disassembly and easy cleaning with water and detergents.

Safety and ergonomics. Interlocked guards and integrated alarms protect and alert operators of high risk components. System components are ergonomically designed to ensure operator safety.

Efficient waste storage. Customizable waste containers with level indicators help manage the flow of waste throughout the facility.

Robotic automation. Robotically automated solutions can be integrated into the bedding handling system. One or more industrial robots empty the cages into the dump station and place them in a washer. After cleaning and decontamination, the robots refill the cages with bedding and place them in the designated location for collection. Robotic automation combined with the bedding handling system provides safe, ergonomic and efficient systems for your animal care facility.

For detailed specifications illustrating the relationship among and between components on both clean side and soiled side partitions, refer to Specification, Clean Side and Specification, Soiled Side.
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