

COOPERATION  
WITH **value**



ECONOMY



ENVIRONMENT



CSR

- Reduce sand bedding costs
- Optimize resource recovery
- Optimal cow comfort
- Less wear and tear on downstream equipment
- No use of chemicals

# SAND-MANURE

**SEPARATOR**

**STJERNHOLM**

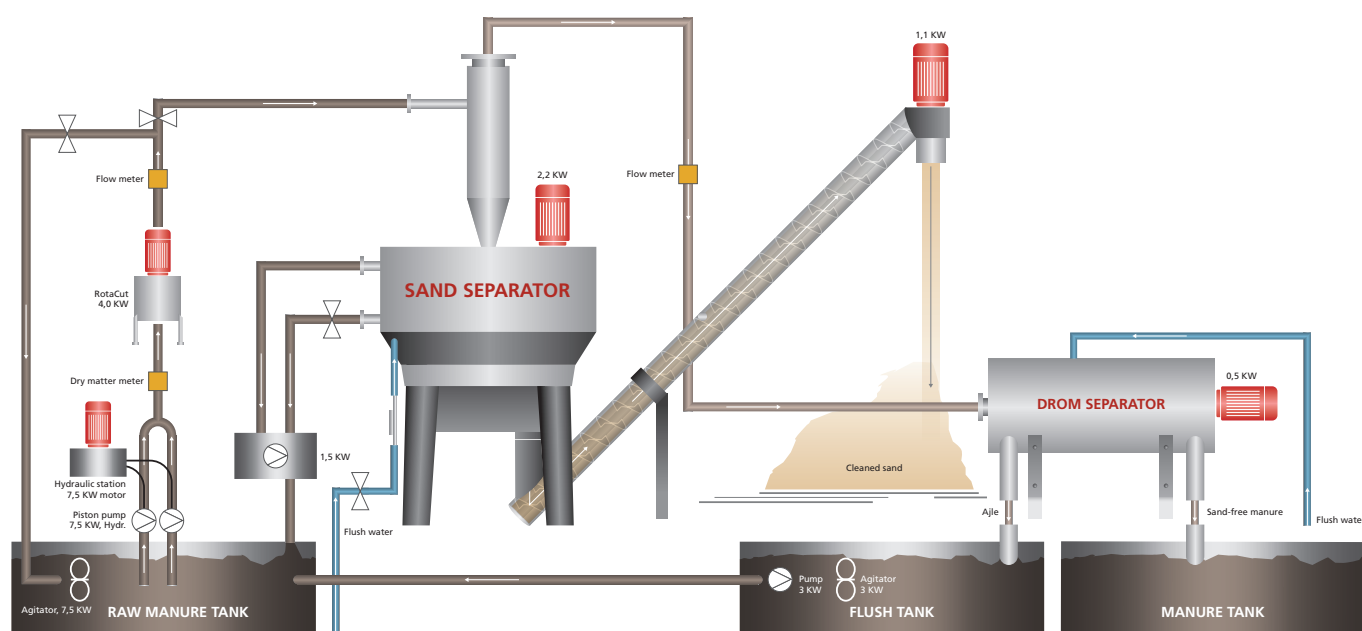
# SAND-MANURE SEPARATOR SYSTEM

From sand-laden manure to nutrient-dense and easy-to-apply manure and clean sand for reuse

Every dairy farmer using sand for bedding is well acquainted with the challenges in handling manure containing large quantities of sand.

Stjernholm's customized solutions help dairy farmers meet these challenges, offering simple, reliable and smart systems to handle sand-laden manure.

## General system configuration



### RAW MANURE TANK

The manure reaches the raw manure tank from the barn via either flush or scrape systems. A powerful agitator ensures thorough mixing of manure and sand before the manure is pumped to the sand-manure separator with the raw manure pump.

In the pipeline going into the sand-manure separator is a macerator, which ensures comminution of coarse dry matter parts and separates larger objects such as stones, teeth or larger pieces of wood. This avoids clogging of pipes and the cyclone in the sand-manure separator.

### FLUSH TANK

The flush water consists of a thin liquid coming from the drum separator. Surface water or water collected from silage sites, etc. can also be used.

An agitator ensures mixing of the liquid before it is pumped into the raw manure line with the flush water pump.

### TANK FOR DE-SANDED MANURE

The thick fraction coming from the drum separator consists of de-sanded manure, still containing the fiber parts and other organic material. The manure can then be pumped on to a storage tank or biogas plant. After

a few days of storage, the washed sand can be recycled in the bed stalls.

A fully automatic process ensures correct mixing of the manure before it is separated.

Proper control of the system results in optimal retention of sand. A watt measurement on the agitator ensures a correct excretion of clean and dry sand.

See how our sand separator works on [www.stjernholm.dk/sandvasker-animation/](http://www.stjernholm.dk/sandvasker-animation/)

## Compare with other solutions here

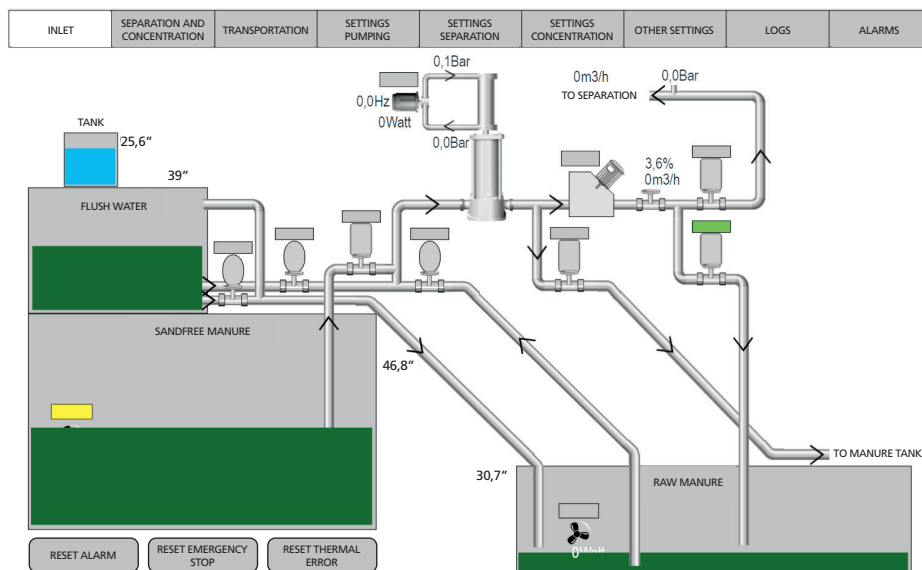
- 92% retention of sand guaranteed and a reuse percentage between 92% and 99.6%
- Retention of sand > 125 µ
- Bacteria and odor free sand after maximum 3 weeks

- Energy consumption of 9-13 kw/h
- SCADA system for monitoring and control
- Product lifespan of 15-20 years

Calculate your savings potential on our website:  
[www.stjernholm.dk/en/separator](http://www.stjernholm.dk/en/separator)

The Stjernholm sand separation process reduces expenses for buying new sand with up to 90%, eliminates the wear and tear of sand in your manure handling equipment and prevents build-up of sediments in storage tanks and pipes. The sand free manure can be stored, applied or used for biogas production without the problems that sand-laden manure normally would cause.

*The system's flow is controlled by a flow and dry matter meter, which helps ensure the right balance between capacity and degree of separation.*



The system typically uses piston pumps, which have a very high operational reliability and low power consumption.



The separation of sand and organic matter takes place in the cyclone.



The mixed manure is pumped through a macerator, which ensures that larger particles such as teeth, pieces of wood and the like are grinded so that they do not log the system and cause unnecessary downtime.



The system provides you; recycling of sand, reducing your purchase of sand by 92% - sand-free manure for easy application or use for biogas - separation of manure in a closed system which reduces emissions - a good investment.

#### THE PROCESS MOVES IN THREE STEPS:

- Separation of sand and manure.
- Cleaning of the separated sand for reuse in the stalls.
- After-treatment of sand free slurry, e.g. by separation into a thin and thick fraction.



Stjernholm A/S aims to help optimize the manure handling practice for your sand-bedded dairy operation and we promise our customers sustainable solutions that offer measurable value within three key areas:



## ECONOMY



## ENVIRONMENT



## CSR

### FOR OUR SAND-MANURE SEPARATOR THAT MEANS:

#### ECONOMY

- **Significant reduction of costs for new sand bedding:**  
Efficient separation of sand-laden manure can recover up to 99% of sand for reuse in stalls within a few weeks.
- **Optimal cow comfort:**  
Sand bedding free from organic material provides your herd with the most comfortable resting surface translating into healthier utters and hooves – and ultimately improved cow happiness and higher production yields.
- **Less wear and tear on downstream equipment:**  
Timely removal of sand from manure means less sand build-up in storage, digesters and during field application.
- **Product lifespan of 15-20 years**

#### ENVIRONMENT

- **Resource recovery:**  
Efficient separation of sand and manure equals the highest level of nutrient-dense material to land apply and for utilization for biogas production
- **Reduction of emissions:**  
A closed-system separation system reduces emissions of greenhouse gasses

#### CSR

- **Less odor:**  
Closed system and minimal organics in output equals happier neighbours, a better work environment and reduced risks for the operators.
- **No chemicals:**  
Mechanical separation of sand and manure.

### DIALOGUE

Stjernholm A/S develops, produces and markets better technical solutions with a high level of sustainability. Under the headline "Cooperation with Value" we focus on areas where we can make a difference within the areas of **economy, environment and CSR**.

We base our cooperation with our customers and suppliers on **MUTUAL RESPECT, AND OPEN AND STRAIGHTFORWARD DIALOGUES**.

That is why we want to invest time in a direct dialogue about your task before drawing up an enquiry or a tender, and before placing the order:

DIALOGUE

PROPOSAL

DIALOGUE

EVALUATION

ORDER

In this way, we ensure that the final solution is selected based on sustainable and long-term operational optimisation – to the delight of the consumers.

Stjernholm A/S was founded in 1997 and employs about 30 dedicated and competent employees. We have a healthy economy and we are a recognized and established player in both the agriculture and wastewater treatment markets, where we are known for our innovative, future-oriented approach in collaboration with our customers.



Our products go with the flow towards the UN Sustainable Development Goals.

See details at [www.stjernholm.dk](http://www.stjernholm.dk)