

# HUBER Sludge Turner SOLSTICE®

## Solar sewage sludge drying



- Use of solar energy – sustainable and eco-friendly
- Rapid mixing and aeration of the bed for fast and complete drying of the sludge
- Hardly any odour and dust development due to unique sludge backmixing
- Easy operation, low energy costs and low-maintenance, durable technology

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## ➤➤ Solar drying of sewage sludge

Dewatered sludge to be dried is spread out on the floor inside a greenhouse structure.

What are the reasons to dry sludge with the HUBER SRT solar sewage sludge drying system?

- Reduction of disposal costs due to energy provided for free by the sun
- Stable, homogenous dry sludge granulate for versatile use, easy to handle and store
- Low operating costs due to robust system design, well-proven control and use of efficient motors
- Suitable to handle even problematic sludge – due to a unique sludge bed management

Operating costs are low and plant operators profit from a sustained reduction of disposal costs.



*A double shovel is ploughing through the sludge bed and turning the sludge as the machine is moving through the greenhouse*

## ➤➤ HUBER SRT system for solar sewage sludge drying

What makes the HUBER SRT system special is the HUBER Sludge Turner SOLSTICE®, which performs spreading and granulation of the sludge in the greenhouse and aeration, turning and mixing of the sludge bed.

With its rotating double shovel the HUBER Sludge Turner SOLSTICE® throws the sludge over its axis back into the sludge bed, thus ensuring intensive aeration and mixing of the sludge. Odour-producing processes inside the sludge are minimized and the process of sludge drying is intensified. Round and mechanically stable granules are formed due to the rotary motion. As the machine travels forward, from one end to the other, the sludge is completely restacked.

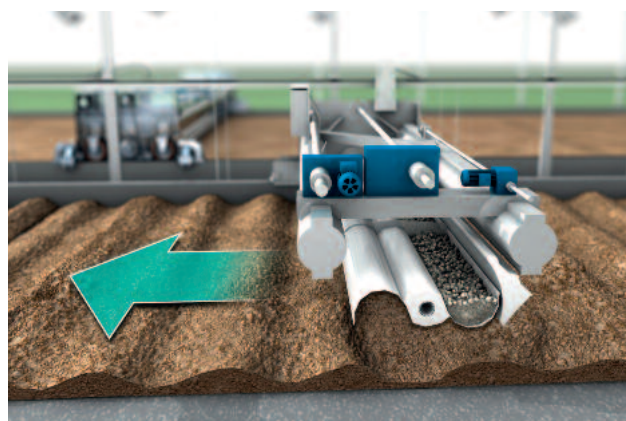
The HUBER Sludge Turner SOLSTICE® can optionally use its double shovel to transport dried sludge: When filled with sludge the double shovel moves into horizontal position and can then transport the dry sludge back to the sludge feeding area and mix it into the freshly dewatered sludge. Backmixing of dry sludge reduces odour-generating biological processes within the sludge. Furthermore, pasty sludge becomes easier to handle due to the open-porous structure and dries quicker.

Optionally, the machine can be equipped with a blade that adjusts to the level of the sludge bed during sludge turning. A motor raises or lowers the blade depending on the measured sludge bed level. The blade cuts larger sludge lumps into small pieces, and the height and dry residue of the sludge bed can also be precisely controlled.

The HUBER Sludge Turner SOLSTICE® travels on floor-protecting rollers on the driveway walls, the constructional requirements are therefore low. Synchronous travel along the sludge bed is ensured by the omega-type chain guiding system.



*The HUBER Sludge Turner SOLSTICE® ensures an optimal drying bed - the sludge is spread, granulated, aerated, turned and backmixed.*



*With its shovel positioned horizontally, the machine can transport the sludge back.*

## ➤➤ Sludge feeding and removal

The HUBER SRT System offers all options for sludge feeding, processing and removal:

- Peak loads are prevented through continuous feeding of wet sludge and removal of dry granulate. Batch operation is optionally possible nevertheless, i.e. the drying area can completely be filled with sludge or emptied completely at once.
- The dry granulate can be removed either on the same gable side where the wet sludge is fed or on the opposite gable side as the sludge turner can transport dry sludge back.
- Sludge feeding and removal can be automated (with screw conveyors) or performed manually (with a wheel loader). If automated, sludge feeding can directly be coupled with the sludge dewatering system.



*Automated sludge feeding with screw conveyors*

## ➤➤ Machine safety

The HUBER Sludge Turner SOLSTICE® is equipped with a safety system that reliably protects operators without restricting machine operation or maintenance. All accesses to the operating area of the machine are reliably monitored, thus preventing any crushing hazards that might be caused by the self-acting, automatically starting HUBER Sludge Turner SOLSTICE®.

- The maintenance doors and seldom used gates on the dry sludge removal side are equipped with non-contact safety switches. A special light grid can be installed at frequently used access doors on the sludge feeding side.

- The machine can be controlled via a touch panel. The HUBER Sludge Turner SOLSTICE® can directly be monitored and controlled from the touch panel location outside the operating area of the machine.
- An enabling button is available for maintenance diagnosis if close inspection is necessary.



*Safety sensors monitor access*



*Enabling button for safe maintenance*

## ►► HUBER climate control system

The HUBER climate control system simulates the evaporation efficiency with different settings of the ventilation system. Depending on the result of the simulation, different control and activation schemes are used for the ventilators. This simulation ensures that a specific electric power consumption can be maintained. The basis for the simulation are the values measured by the climate sensors, such as:

- Global radiation, temperature and air moisture outside the greenhouse
- Air moisture and temperature inside the greenhouse

Ventilators installed in the roof of the greenhouse generate turbulences on the sludge bed. As the ventilators blow the air diagonally onto the surface, they also cause air movement through the greenhouse. The air streams in at the weather protection gratings in the dry sludge area. Even if moisture is still absorbed at that point, the drying potential of the air increases due to the greenhouse effect. On its way through the dryer, the air absorbs more and more moisture as it approaches the wet sludge bed. Finally, the air saturated with water vapour is sucked off by ventilators installed in the gable front.

## ►► Plant concept

Depending on the individual situation, we work out a plant concept for the customer and can provide the following services if requested:

- Calculation of the required drying surface and process-engineering options
- Reasonable arrangement of the dryer on the given available space
- Forecast values for the potential odour through analysis of specific sludge samples in our own laboratory
- Budget prices and operating costs for all plant components

Our almost 20 years of experience and more than 250 dryer lines sold on all continents are proof of the high quality of the HUBER system and its suitability for application worldwide.



*Fresh air enters the drying hall via weather louvres.*



*The weather station delivers measurements for an automatically regulated climate control system.*



*Exhaust fans remove saturated air from the drying halls.*

## HUBER SE

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