# HELISOL™

## Natural sludge drying

**HELISOL**™ is an ecological and economical answer to the difficulties of sludge storage and disposal that relies on natural evaporation thanks to the use of the properties of air and sunlight.

**HELISOL**™ solar drying is based on the contact, under a greenhouse, of regularly renewed air and a sludge spread over a slab, stirred and aerated mechanically.

Between the entrance and exit of the greenhouse, the air is enriched with water vapor, at the expense of the mud, which dries out. A ventilation system renews the air to evacuate water vapour from the mud. The greenhouse effect encourages the temperature of the sludge and air to rise, accelerating the drying process.

**HELISOL**™ is available in two versions:

- Storage and drying in an annual cycle: the storage function is predominant in winter, then the drying function becomes predominant in spring and summer.
- Continuous drying and storage of dried sludge at the outlet for very sunny climatic zones, or via additional underfloor heating and air reheating.

### FIELDS OF APPLICATION

- Digested dewatered biological sludge or prolonged aeration type

# HELISOL™

## AN ECOLOGICAL AND ECONOMICAL SOLUTION

**Energy-efficient supply that preserves the sludge's rheological characteristics:**
Whatever the dewatering system, the sludge has a granular texture that helps it dry naturally. For this reason, the dewatered sludge is mechanically conveyed by conveyor belt or screw and distributed in several piles across the width of the greenhouse, without the use of pumps or lubricants, for simple, economical operation.

**Amobile turner specially designed to :**

- Advance, distribute and store slurry over the entire greenhouse surface to a thickness of 0 to 45 cm
- Distribute the sludge in a very thin layer at the start of a filling cycle to accelerate drying and granulation, taking advantage of the length of the greenhouse.
- Thoroughly stir and aerate the sludge over its entire storage height
- Operate autonomously and automatically, with no staff intervention required

*The effectiveness of **HELISOL**™ comes from the combination of the corridor turner, the sludge bed management program and the air renewal system, which is regulated according to local weather conditions.*

**Safe and easy operation**

- Traffic corridors on both sides of the greenhouse maintenance without contact with the sludge and sampling at any point.
- Parking position for the turner accessible opposite the feeder, on the dried sludge discharge side.

*Thanks to a patented rotor with double helical inverted turns, the forward movement of the turner and the rotation of the coils move the sludge bed in "thin slices". This action also enables aeration and granulation.*

### FEATURES

- **Aisle turner**
  Hydraulically driven equipment designed and manufactured in France
  Patented rotor geometry SAUR - STEREAU
- **Choice of greenhouse materials**
  Glass, polycarbonate or double-envelope polyethylene
- **Process performance**
  Final dryness: 70% +/- 10, granulated dried sludge
  Sludge volume divided by a factor of 3 to 4 Annual or continuous cycle drying
- **Fully natural or assisted drying,**
  depending on version and climatic conditions
- **Integrated storage either:**
  - in the greenhouse in the annual cycle version
  - at the end of the greenhouse for continuous drying
- **Deodorized process**
  As the sludge dewatering/drying process generates odor emissions, HELISOL™ is equipped with air deodorization by biological means or physico-chemical washing.

### REFERENCES

Belleville sur Vie, Vivonne, Coutras, St Leu les Avirons , St André ...

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