HUBER Solutions for Biowaste Treatment

- Substrate treatment
  - Coarse material separation
  - Coarse material treatment
- Fermentation residue treatment
- Process/wastewater treatment in the field of biowaste treatment
The situation

Recovery of energy from the organic fraction contained in domestic waste and from organic waste (biowaste, food gone bad, organic waste from trade and industry, etc.) have become standard in waste water treatment processes. The treatment technology in wet fermentation processes has greatly changed and improved in recent years. Due to the new treatment and comminution methods that are applied also the requirements have changed which have to be met by downstream systems for the separation of coarse material (floating and settling material). Each treatment method generates a characteristic suspension which, in combination with the right separation system, ensures optimal yield in the biogas plant.

The requirements

The HUBER product range for the field of biowaste treatment offers customers both well-proven systems and the suitable solutions for the new technologies. Depending on which treatment method is applied, either a well-proven HUBER system or a modified solution can be used to separate light materials (packing materials, coarse fibres, etc.) and settling material (glass, grit). As treatment and comminution methods are further developing, also the required separation solutions are modified accordingly, making use of the experience gathered in the past years.
Light material from fermentation residues separated by
the HUBER Sludgecleaner STRAINPRESS®

Fermentation residue dewatered by the
HUBER Screw Press S-PRESS
Treatment steps

Substrate treatment
The organic waste delivered to the (bio)waste fermentation plants is pre-sorted and comminuted to obtain a suspension. The materials contained in the suspension which contribute only little or nothing at all to biogas production, or even disturb the process, are virtually completely removed in the following process steps.

Separation of floating and settling material with ROTAMAT® plants
The proven HUBER Complete Plant ROTAMAT® Ro5 Bio provides combined separation of floating and settling material. The amount of coarse, settling and floating material is effectively reduced in one plant. Most of the organics in the separated screenings (6 mm – 30 mm) are removed already in the screening system. As options, single components of the Complete Plant can be used as solutions, such as the specially developed HUBER Fine Screen ROTAMAT® Ro1 Bio with integrated screenings washing or the HUBER Grit Trap Ro6 Bio.

Treatment of floating and light material, settling material washing
The well-proven HUBER Wash Press WAP effectively ensures that the organics still contained in the light material are returned to the suspension. The further developed and modified HUBER Grit Washer RoSF G4E systems achieve a considerable weight reduction of the separated settling material through washout and recovery of the organics. Additional washing of the separated materials significantly reduces of disposal costs and returns valuable organic material to the process.
Separation of floating and light material with the HUBER Sludgecleaner STRAINPRESS® 290

In some treatment processes light material is insufficiently removed, or intentionally kept in the suspension to avoid loss of organics during separation, with the result of scum layers, problems in fermentation residue treatment and reduced compost quality. Due to the low pressure loss the STRAINPRESS® can be integrated directly into the outlet of the fermenter or secondary fermenter to separate the light material (1 mm – 12 mm). The HUBER Sludgecleaner STRAINPRESS® is easy to integrate into pipelines, which often makes even a pump unnecessary and provides the benefit of a closed system.

Fermentation residue and process water treatment

Fermentation residue treatment with the HUBER Screw Press S-PRESS

The fermented biowaste sludge is treated in the energy-saving HUBER Screw Press S-PRESS/Q-PRESS® under the addition of coagulant agents. Depending on the input material and type of preceding treatment techniques the sludge is dewatered to up to 35%.

Fermentation residue treatment with the HUBER Belt Dryer BT / HUBER Sludge Turner SOLSTICE®

To save transport costs, for easier storage, or if the dewatered material are fermentation residues from waste plants, the dewatered material can be dried. The use of the exhaust heat ensures cost-effective sewage sludge drying.

Process water treatment with the HUBER Dissolved Air Flotation Plant HDF

The press liquor discharged from the sludge dewatering unit is often reused for mashing of the (bio)waste suspension. If further treatment of the process water is required, e. g. if heat exchangers are used, the HUBER Dissolved Air Flotation Plant HDF significantly reduces the solids load of the generated process water.
**Constructional and safety engineering with stainless steel equipment**

High safety standards and easy accessibility are prerequisites for a problem-free and safe process flow in the field of plant construction and manufacture. HUBER supplies a wide range of security relevant products and maintenance aids made of stainless steel, such as:

- Manhole covers, manhole equipment
- Operating platforms
- Access ladders, railings, crossings
- Pressure and access doors
- Ventilation grids
- Wall ducts

**Reference installations**

Please do not hesitate to contact us and we will be delighted to show you one of our 50 reference installations for (bio)waste treatment worldwide.

- Fermentation plant in Spain with HUBER Complete Plant ROTAMAT® Ro5 Bio
- Screenings discharge from HUBER Sludgecleaner STRAINPRESS®