

## TRAINING MATERIAL

### Title:

Technology for N & P recovery as liquid and solid organic fertilizer from manure and digestate with decanter centrifuge

### Training:

#### **What is this technology?**

Decanter centrifuge is a mechanical separation technology using G-force to recover nutrients from manure or digestate.

#### **Who is the vendor of the technology?**

The vendor GEA is one of the largest suppliers for food processing technology and of related industries. The global group specializes in machinery, plants, as well as process technology and components. GEA provides sustainable solutions for sophisticated production processes in diverse end-user markets and offers a comprehensive service portfolio.

#### **Which other product/technologies are provided by the vendor?**

Find out more about GEA technology <https://www.gea.com/en/environment/index.jsp>.

#### **Which are the advantages of the technology and the problems addressed?**

Where other common mechanical separation technologies are based on filtration, decanter centrifuges use g-force and are therefore able to separate also the finer particles, thereby increasing the nutrients content of the cake fraction. Decanter centrifuges are able to operate with and without chemical flocking aids, depending on the desired result. Due to the high cost of additives, usually the separation is performed without them.

#### **How does the technology work?**

The decanter centrifuge uses G-force to separate solid and liquid fractions of waste streams. Typically between 70% and 90% of phosphate compounds and between 30% and 40% of nitrogen compounds are to be found in the crumbly solid phase, which can easily be transported with conveyer belts and stored. The liquid phase is then spread on the fields as previously.

#### **How/where to use the technology?**

Due to the specific needs of manure and digestate separation, GEA had designed a specific decanter line to meet our customers' requirements: the GEA manure Decanter pro line is a collection of 6 decanter sizes with a capacity from 2 until 80 m<sup>3</sup>/h. When higher capacities and/or higher g-forces are required, we can offer the GEA manure Decanter prime line, with machines up to 140m<sup>3</sup>/h manure per hour.

**Which are the authority permits and in which EU countries?**

Decanter centrifuges have been used successfully and profitably for manure and digestate separation since decades.

**How much does it cost?**

Basic prices range from €50.000 up to €250.000.

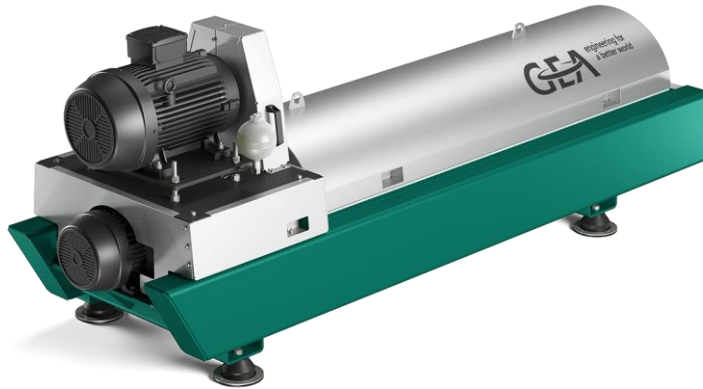


Fig. 1 Picture of the dekanter centrifuge used in GEA

For more information: [https://nutriman.net/farmer-platform/technology/id\\_1343](https://nutriman.net/farmer-platform/technology/id_1343)