

EIP-AGRI practice abstract

Short title:

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

Summary

Since decades, farmers worldwide have successfully and reliably applied decanter centrifuges for the separation of nutrients from manure or digestate. 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.

The decanter typically removes between 70% and 90% of phosphate compounds and between 30% and 40% of nitrogen compounds. After separation, these substances 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.

Amongst other benefits, decanter centrifuges should be definitely considered when the best separation performance is required or when limited space is available.

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 m³/h. When higher capacities and/or higher g-forces are required, we can offer the GEA manure Decanter prime line, with machines up to 140m³/h manure per hour.

Basic prices range from €50.000 up to €250.000.

For more information: https://nutriman.net/farmer-platform/technology/id_1343