

DIGESTMIX®

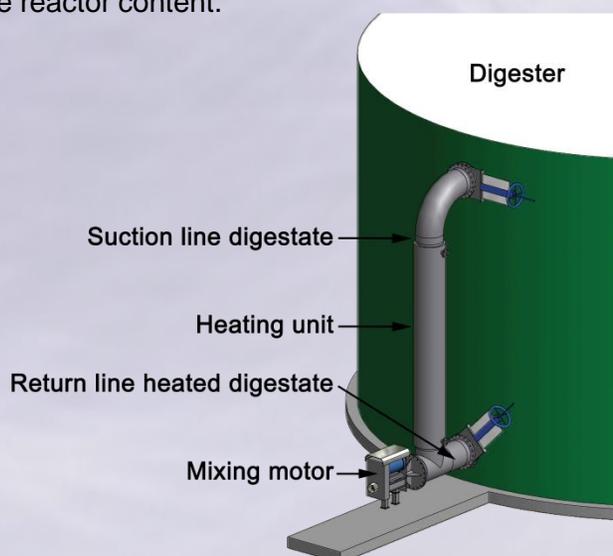
Efficient mixing and heating for digesters

Application

The unique DIGESTMIX® system is capable of mixing and heating the content of a digester at minimum operating (energy and maintenance) costs. This mixing & heating device facilitates a stable temperature, intensive mixing and abatement and prevention of floating layers and scum in the reactor. The DIGESTMIX® can also be delivered in mixing mode only.

This mixing and heating device is situated outside the reactor and allows you to operate a digester without any internal moving parts. Excellent mixing conditions are a prerequisite for a continuous stirred-tank reactor (CSTR) in order to maximize contact of anaerobic bacteria and substrate and to avoid shortcut streams that could result in lower process efficiencies.

In a conventional CSTR mixing is achieved through biogas injection and/or propellers. In case of the DIGESTMIX® an efficient mechanical mixing is obtained meanwhile precluding the formation of scum or foam layers at the surface of the reactor content.



Schematic representation of the DIGESTMIX®

Process

The DIGESTMIX® system mixes the CSTR content by extracting the digestate surface layer inside the reactor and feeding it back through a connection at the bottom. This setup prevents the build-up of floating layers.

The DIGESTMIX® system is placed outside the reactor, prevents the occurrence of shortcut streams and results in optimal mixing and heating inside the reactor.

As a result of the simultaneous heating and mixing the DIGESTMIX® facilitates an optimal transfer and distribution of heat inside the reactor, which leads to a very stable process operation.

Advantages

Fresh substrate for the reactor can be introduced with help of the DIGESTMIX®. In this way an optimal mixing is achieved instantaneously. The innovative hydraulic design of the system ensures a very moderate energy consumption.

The absence of mechanical parts inside the reactor greatly simplify the maintenance of the system. The pipe in pipe heat exchanger can not be blocked and system wear is very limited. For maintenance purposes the system can be blocked while the reactor remains in operation and biogas production continues. There is no need to open up and/or enter the reactor.

As a consequence of the optimal mixing very stable process conditions are established for the digester.

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