EXTREMELY RELIABLE

Continuous collection and removal of sinking contaminants from anaerobic digesters

SELF CLEANING DIGESTER – SEDIMENT REMOVAL
The sediment removal system allows for the continuous collection and discharge of sinking contaminants from the digester floor. This system consists of a patented mechanical floor scraper, a grit pump and a sediment (solid/liquid) separator.

A COMMON PROBLEM IN ANAEROBIC DIGESTION PLANTS

Sediment enters from contaminated organic wastes and accumulates on the digester floor. This leads to sediment build up and the following problems:

» A decrease in the effective digester volume (retention time) → biological problems
» Damage to mechanical equipment like pumps, agitators, etc.
» Downtime and expensive cleaning of digesters

The SOLUTION: FINSTERWALDER SEDIMENT REMOVAL SYSTEM

» Sediment buildup is avoided by the regular and fully automated action of the double arm floor scraper.
» Maintains a consistent digester volume → stable biological system
» Protection of mechanical equipment
» Interruption free operation during the cleaning cycles of digester floors

PROCESS DIAGRAM OF THE SEDIMENT REMOVAL SYSTEM

F1: Digester
R1: FINSTERWALDER floor scraper - with the patented geometry of the cleaning arms the sinking contaminants are removed via a discharge outlet in the digester bottom. From there the grit pump transfers the sinking contaminants to the sediment separator.
A1: Grit pump sucks and transfers the sinking contaminants up to the sediment separator.
P1: FINSTERWALDER sediment separator – the grit or heavy fraction in the discharged slurry sinks and the sediment-free supernatant flows over a weir back to the digester. A discharge screw conveys the gritty material to a discharge outlet.
B1: A chute directs the separated grit / contaminants into a bin
S1: FINSTERWALDER sediment separator
CC: A Control system for smooth operation and user efficiency, including visualization with data interface in the control room.

TECHNICAL DATA

of the FINSTERWALDER floor scraper
» Suitable for digesters without a center column up to 18 m in diameter and 20 m in height
» Suitable for operation in explosion zones.
» Floor scraper shaft is sealed gas tight up to 20 mbar
» Driven by a slow-moving planetary gear box
» Very low power consumption: 0.55 kW, 60 Hz

of the FINSTERWALDER sediment separator
» Maximum sediment/grit content: 4.0 m³
» Container dimensions (L x W x H): 5.7 m x 1.5 m x 3.6 m
» Critical parts are made of stainless steel
» Total weight: approx. 3,200 kg
» Simple control and easily accessible

SINGLE COMPONENTS

Floor scraper, Grit pump, Sediment separator
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