



***EnviDrain and EnviClear –
the all-in-one solution
for clean surface water***



← A clogged drain: the resulting mix of silage effluent and rain water is an environmental hazard.

→ The drainage fleece ensures effluent can drain away properly.



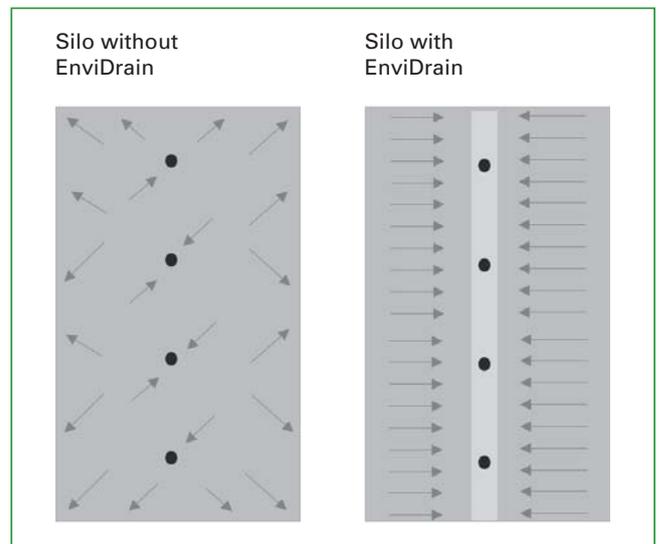
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At biogas plants, highly contaminated surface water is found near roadways and silos. Channelling this into ditches and waterways is increasingly frowned upon by surveillance authorities and the general public.

As an alternative to the expensive construction of new storage containers, our subsidiary A3 Water Solutions GmbH has developed EnviDrain and EnviClear: a low-cost, all-in-one technical solution for the handling of contaminated surface water. The solution works by preventing soiling in the first place while also reducing its environmental impact.

Your benefits:

- + Preventing rainwater mixing with seepage water
- + Use of high-energy water in the biogas plant
- + Compliance with COD values for effluent
- + Short setup times, easy operation and high flexibility
- + Highly compact and low-maintenance design



Prevention

EnviDrain

The compression of maize silage means that the silage effluent cannot drain away through the installed gullies as intended. In addition, the gullies on the silage slab often become clogged with maize, resulting in effluent becoming backed-up. It then spills over the sides, where it mixes with rain water.

This is where EnviDrain comes in: it offers a clog-free drainage system for the effluent. The special fleece material increases the effective drainage surface area 500-fold, keeping rain water clean and allowing contaminated water to be properly routed to the biogas plant.

The EnviDrain material is easily installed before silage storage and can be driven over safely even if covered by only a shallow layer (30 cm) of maize.

→ EnviClear is a biological treatment method that uses membrane filtration to separate water, bacteria and particulates.

→ → The system is modular, and is adapted to match local requirements on-site.



Routing

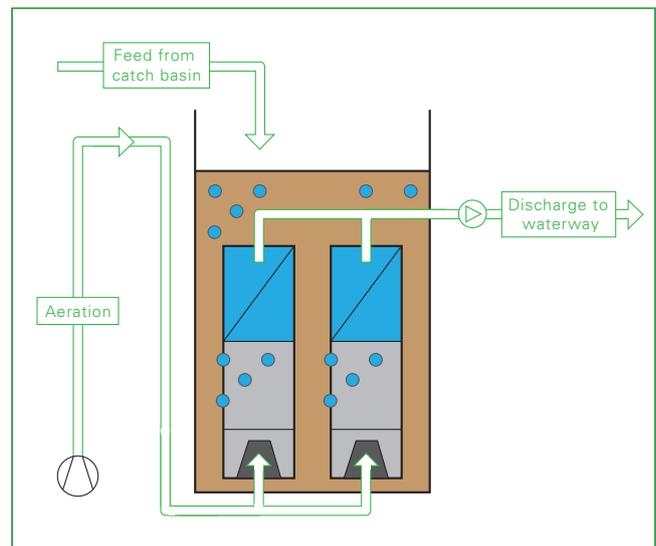
The intelligent separator

Often, rain water and highly contaminated surface water end up in the same tank – whether due to a failure to separate silage effluent and rain water or as a result of rain water runoff being collected from soiled roadways.

To lessen the burden on the downstream EnviClear plant while making effective use of organic materials, an intelligent separator is used at this point in the system: it measures the contamination level and decides how the water should be routed automatically.

Upstream of the catch basin, the separator sends

- highly contaminated water to the biogas plant; and
- moderately or slightly contaminated water to the EnviClear plant.



Treatment

EnviClear

To ensure compliance with threshold values for discharges, even moderately or slightly contaminated water must also be treated:

it is therefore collected in a tank and pumped to the EnviClear plant as a continuous process. The low-maintenance EnviClear process is based on the proven membrane revival method, a combination of biological degradation and membrane filtration. The pores in the MaxFlow membranes used are so small that only water molecules may pass through them – but bacteria and particulates are trapped. As a result, only clean water is discharged.

If necessary, we can provide you with a packaged solution, consisting of planning, construction, service and operation monitoring.



Contaminated surface water



Separator



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