DACS®

High-rate anaerobic wastewater treatment

bluegen water

aqana

for generations to come

DACS®: robust high-rate anaerobic system

Granular-sludge-based systems, developed over 40 years ago, have a narrow operational window, heavily affected by influent conditions.

For this reason AQANA developed the DACS® system, a carrier-based anaerobic reactor.

- *Density 0.96 - 0.97 gr/cm^3*
- *Highly open external design*
- *In HDPE*
- *Optimal effluent contact time*
- *Non-clogging / auto-cleaning*
- *>650 m^2/m^3 effective surface area (total of 900 m^2/m^3)*

**Characteristics of the DACS® system:**

➢ High-rate anaerobic process

➢ Simple & robust design

➢ Downflow carrier bed – granular sludge NOT required!

➢ Small footprint

➢ Reduced CO_2 stripping → High CH_4 concentrations in biogas

➢ Strongly reduced risk of scaling running at lower pH

DACS® operating principle

Downflow

Anaerobic

Carrier

System
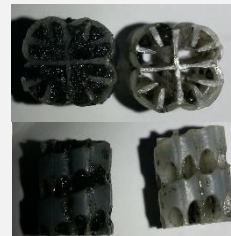
1. Influent spray nozzles
2. Carrier bed
3. Effluent screen boxes
4. Riser
5. De-cluster piping system
6. De-sludging piping system
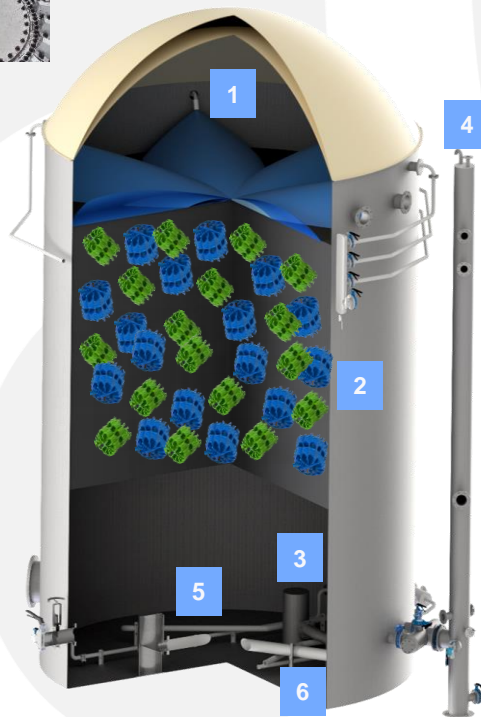
Wastewater is fed into the DACS® on the top via special non-clogging influent distribution nozzles and flows downwards, through the carrier layer, where organic components are converted into biogas.
The effluent is collected at bottom of the reactor via the effluent screen boxes and flows to the riser.

Part of the anaerobic effluent is recirculated back to the reactor.

During the treatment, process floating carriers with biomass attached move upwards in counter-current direction together with the produced biogas. Biogas is collected on the top of the reactor.

AQANA operates worldwide with more than 27 references and continues to innovate and evolve technologies and products to meet the ever-changing needs of the industry to preserve the environment.

for generations to come

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