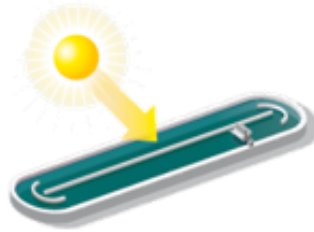


High Rate Algae Ponds (HRAPs)



High Rate Algal Ponds (HRAP) are shallow raceway ponds that circulate wastewater via a low-power paddle wheel. In this process, a microalgae-bacteria consortium is established, where the microalgae use sunlight to carry out photosynthesis, transforming CO₂ into O₂, which is used by the bacteria that consume the organic matter. In addition, microalgae use nutrients (N, P) present in wastewater to grow.

KEY POINTS:

- Treatment of screened raw wastewater
- Nature Based Solution (NbS)
- Low energy consumption
- Low maintenance needed
- Very simple operation
- Requires subsequent settling/clarifying treatment

MAIN FEATURES

- ✓ References Aqualia wastewater treatment plants up to 10.000 PE (20.000 m²)
- ✓ Energy consumption = 0.1-0.15 kWh/m³ (paddle Wheel)
- ✓ Gravity operation in case of unevenness
- ✓ Blades system to favour activity in winter
- ✓ High treatment efficiency
- ✓ Footprint: 2 m²/PE

Deflectors to enhance photosynthetic activity and mixing, favouring oxygen production in cold climates.

