



The **PUSH system**, patented by Aqualia is a new type of Upflow Anaerobic Sludge Blanket (UASB) with an innovative sequential pulse feeding system. This innovative way of feeding the reactor improves the contact between the wastewater and the sludge blanket, which results in better treatment performances compared to a conventional UASB.

UASB (Upflow Anaerobic Sludge Blanket) reactors are a type of tubular bioreactor that operate in a continuous upflow regime: the influent enters at the bottom of the reactor, crosses the entire longitudinal profile and exits at the top. UASB are designed with a three-phase bell-shaped device at the top of the reactor to separate the biomass, treated effluent and biogas internally. The UASB reactor could replace the primary clarifier, anaerobic sludge digester, aerobic treatment process and secondary settler of a conventional aerobic wastewater treatment plant.

### KEY POINTS:

- Treatment of screened raw wastewater
- UASB based system
- Pulse feeding
- Enhanced wastewater-sludge contact
- Biogas production
- Low COD and TSS effluent
- Low energy consumption
- Urban and industrial WW
- Low maintenance

### MAIN FEATURES

- ✓ Aqualia's patented pulsed system
- ✓ Operates with high winter-summer temperature changes.
- ✓ Operates with flow peaks without loss of biomass (Imhoff tank)
- ✓ High removal performance: COD >75%.
- ✓ Energy recovery: 0.35 m<sup>3</sup> CH<sub>4</sub>/kg COD eliminated
- ✓ PUSH system height, need for pumping or civil works buried deep (~5 m)
- ✓ Anaerobic sludge management