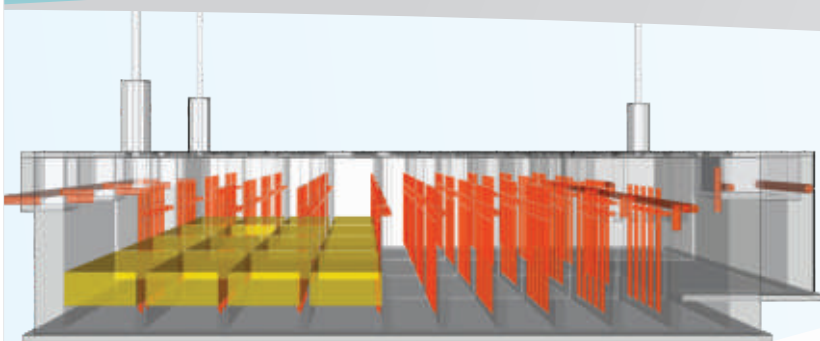


Green STP AD+





Green STP AD+



Chemtronics *Green STP AD+* :

Green STP AD+ combines state of the art High Rate Anaerobic Reactor (HRAR) technology with a selection of adequate tertiary treatment methods to full-blown decentralized wastewater treatment and reuse systems aligned with the project specific conditions and requirements. Like that we can provide our clients custom tailored wastewater solutions with outstanding economic and ecologic performances while making maximal benefit out of on-site reuse of domestic waste water. Our STPs are engineered to comply with the respective regulations and norms.

High Rate Anaerobic Reactor Technology :

High Rate Anaerobic Reactors (HRAR) refers to bioreactors which can retain active biomass in the reactor independently of the incoming wastewater (Hydraulic Residence Time HRT). Slow growing anaerobes can be maintained in the reactors at high concentrations, enabling high reaction rate per unit reactor volume and high resistance of organic or hydraulic shock loads. HRAR can be used to treat wastewater from various sources and strengths like waste water from domestic sources, hospitals and industries like distilleries or food-processing. The HRAR we use are cascaded in series to multi-step anaerobic systems, enabling separation of the anaerobic treatment steps (Hydrolysis/Acidogenesis/Acetogenesis/Methanogenesis) without difficult process controlling. With respect to sustainability and cost- effectiveness, anaerobic treatment has the core advantage of avoiding the loss of energy for destruction of organic matter, while energy is reclaimed from the organic waste constituents in the form of methane in biogas.

Advantages of *HRAR (AD)* :

- No process control
- No process energy
- No chemicals
- Low sludge production
- No mechanical or electrical parts
- Underground structure
- High shock load resistance (organic and hydraulic)
- High treatment performances in terms of COD, BOD and TSS

► **Minimal O&M, energy autark, robust and reliable!**





Under Ground STP AD+

Integration into Architecture :

Since the Anaerobic Reactors are established as a fully covered tank embedded underground, it can be integrated into the architecture without losing any extra space and not visible as STP for the customer, the cover slab of the plant can be even utilized as parking lot, pathway or a playground or simply get covered with lawn and serve as landscape, etc. Additional polishing treatment equipments require only small space and can be integrated at any places flexibly.

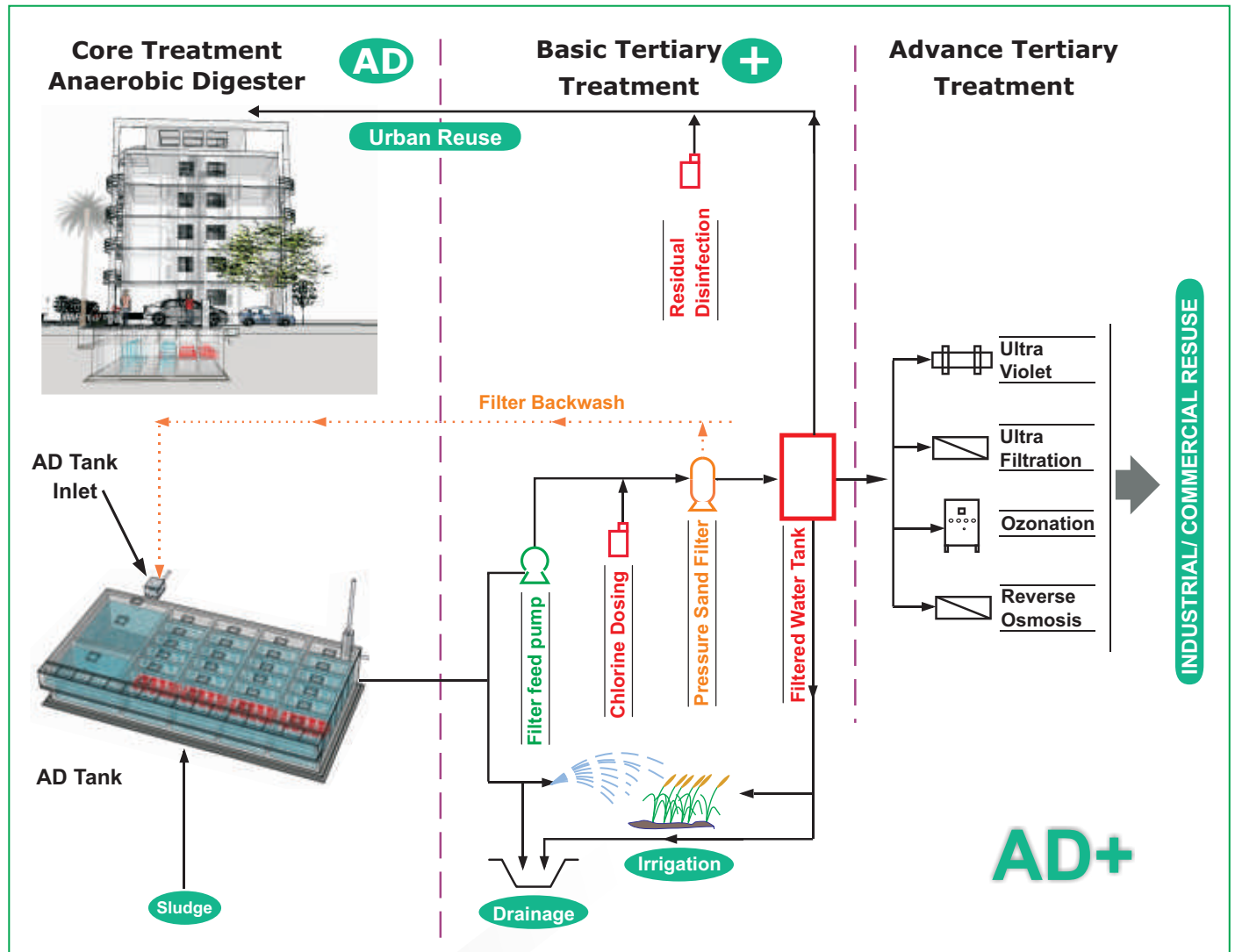
Applications of **STP AD+**

- Residential
- Offices / Commercial Buildings
- Weekend houses, farmhouse, villas
- Hotels, motels, resorts & hospitals
- Labour camps & transit accommodations
- Educational, religious & recreational Institutions
- Industrial sewage treatment for reuse & zero discharge

► **Ideal for Decentralized applications**

Concept of AD+:

The core treatment concerning organic pollution (COD,BOD,TSS) is done by anaerobic digestion in High Rate Anaerobic Reactors. Different options of additional tertiary treatment technologies can be added for further polishing of the water in accordance with the targeted effluent quality.



Concept of AD+, Process Flow Diagram. Copyright – Autark Engineering AG & Chemtronics

Because of the effectiveness of the anaerobic treatment process, achieving high effluent qualities in terms of organic pollution and suspended solids, requirement of tertiary treatment is minimized. The technologies used for the basic & advance polishing are filtration, disinfection, ozonation or ultra-filtration.

Capacities of Green STP – AD+:

Basic system designs are from 5 m³/day to 250 m³/day.

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