



The **Ydro Process**[®] creates the suitable and optimum conditions for the growth, the reproduction and the operation of the microbial product which contains:

1. Hydrolyzing Enzymes
2. Facultative cultures
3. Aerobic cultures
4. Micronutrients
5. Bio-enhancers

The combination of the **Ydro Process**[®] and the addition of the suitable microbial product results in:

1. Total degradation and elimination of the excess sludge
2. Improvement of the effluent of the plant (BOD,COD,SS,TN,TP etc)
3. Liquefaction and elimination of FOG (fats, oils and grease) in the treatment plants and in pumping stations
4. Elimination of odors
5. Possible reduction of the energy consumption in the aeration stage
6. Possible increase in the biogas production with a simultaneous increase of methane content in it
7. Significant reduction of micropollutants
8. Higher resistance to incoming organic shocks



- The **Ydro Process**[®] is the continuous adaptation of the microbial population to the conditions of each process according to the targets.
- The added bacteria become dominant and the existing ones are adapted and assimilated to coexist and collaborate.
- In suitable conditions the added microorganisms produce enzymes which enhance the biological process.
- The degradation of complex organic molecules, oils and greases into simple ones leads to the production of Volatile Fatty Acids (VFAs), i.e. Acetic, Butyric, Propionic Acid etc.
- The VFAs are then easily converted to Carbon Dioxide (CO₂) and water (H₂O) in aerobic conditions, methane (CH₄) and hydrogen (H₂) in anaerobic conditions and free available energy.
- The breakdown and molecule destruction occurs up to 80% of the total biomass through the metabolic pathway called Catabolism. Only 20% of the total biomass is utilized for the synthesis of new bacteria.
- The **Ydro Process**[®] requires less oxygen supply as the Ammonia (NH₄⁺) is converted to Nitrites (NO₂⁻) and then Nitrogen (N₂) without first being converted to Nitrates (NO₃⁻) where the largest consumption of Oxygen occurs depending on operational conditions.