



HISTORY

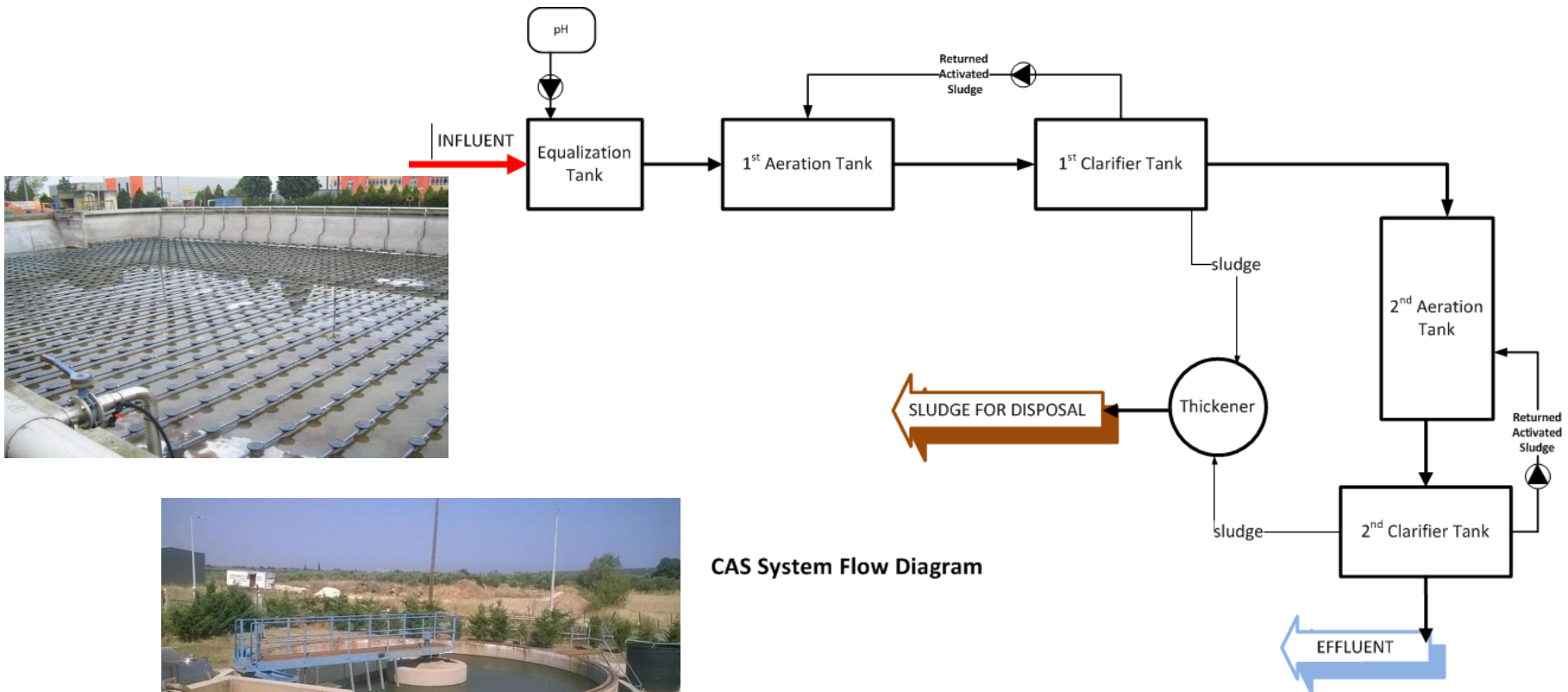
- **Sirmet** was established in 1989 in order to provide high quality products and services to the business field.
- **Sirmet** combines professional experience and expertise in environmental consulting and industrial engineering services.
- **Sirmet** shows a steady growth in a highly competitive and changing business environment.
- **Sirmet** established in Patras and with office in Athens, has developed a wide customer base that extends throughout Greece in the European Community countries but also in some eastern countries.
- **For more than 27 years Sirmet** provides to its customers accurate and effective advice and services in the following fields:
 1. Environmental Engineering
 2. Industrial Food Processing
 3. Remote operation and maintenance

1. ENVIRONMENTAL ENGINEERING

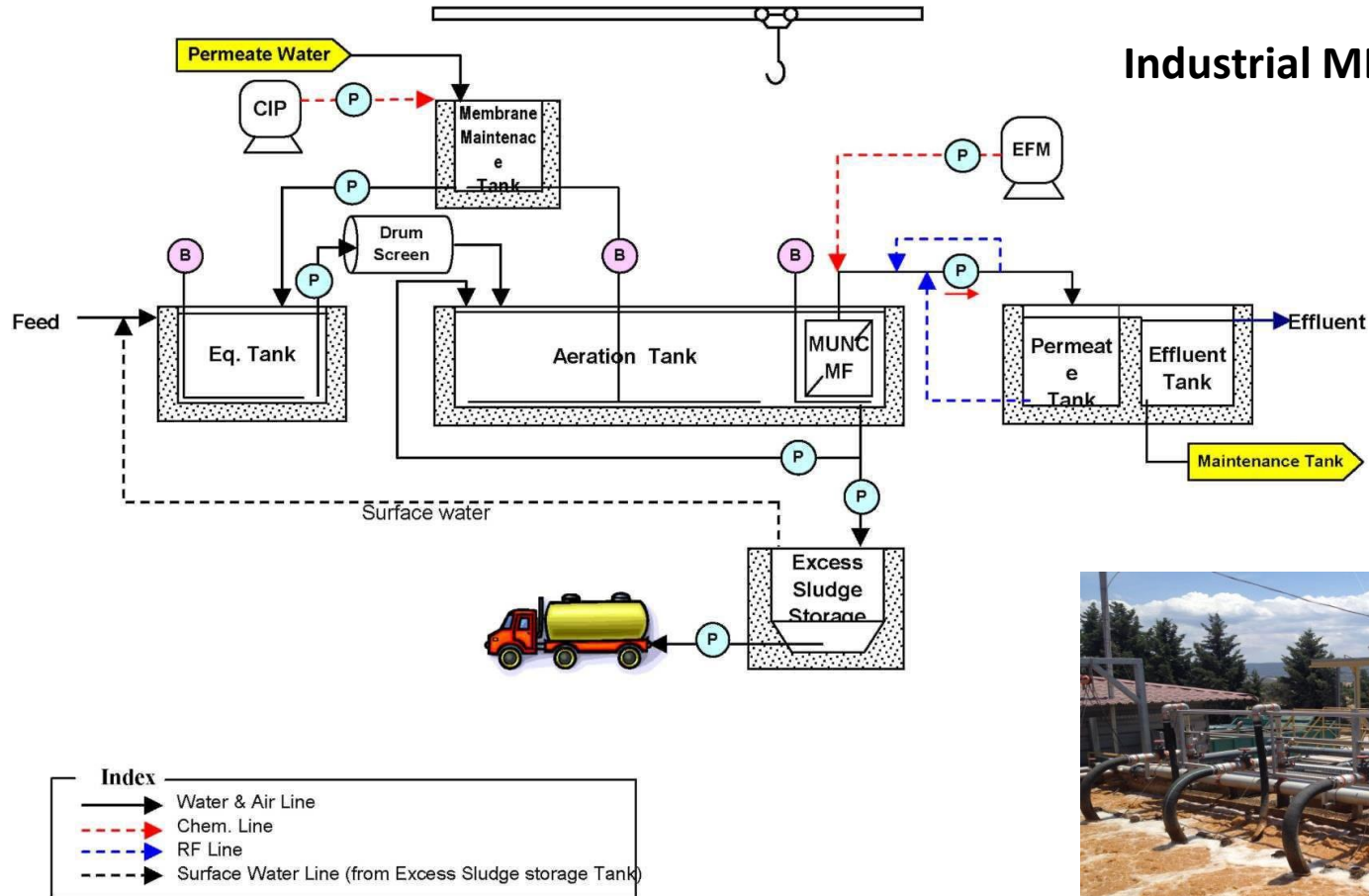
- 💧 Industrial Waste Water Treatment
- 💧 Municipal Waste Water Treatment
- 💧 Compact WWTP (using MBR or MBBR Technology)
- 💧 Water Treatment (potable / industrial)
- 💧 Solid Waste Treatment (Industrial / Municipal)
- 💧 Anaerobic Treatment

Industrial Waste Water Treatment

SIRMET S.A. has completed a lot of turn-key projects (study, construction, installation, start-up, maintenance) on Waste Water Treatment plants in some of the largest industries in recent years using either CAS system (Conventional Activated Sludge) or MBR system (Membrane Bio Reactor).



MBR technology is now widely used for municipal, commercial and industrial wastewater treatment and water re-use applications



Municipal Waste Water Treatment

SIRMET has constructed large sewage treatment plants in Greece and abroad using either conventional or MBR technologies, comprising pre-processing (screening, equalization, sand/grit/FOG removal, compact sewerage treatment), secondary (biological) and tertiary treatment (UV disinfection, chlorination, filtration).

An indicative list of relevant projects is the following:

- Design – Supply – Installation – Start up
for Technical and Electrical Works of
Wastewater Treatment (WWTP)
(As subcontractor of Gener2/ Orikum, Albania)
- Renovation and Upgrade of WWTP
Erymanthos Municipality (Achaia, Greece)
- Construction and Installation of WWTP of Skalas (Island Patmos, Greece)



COMPACT WWTP (using MBR or MBBR Technology)

The plants are delivered ready for installation, connection and start-up with all equipment pre-installed into a compact container.

It is the ideal solution for the following facilities:

- Condos
- Small and medium sized hotel
- Tourist lodgments
- Camping and Camps
- Small or Medium-sized housing settlements
- Remote military camps

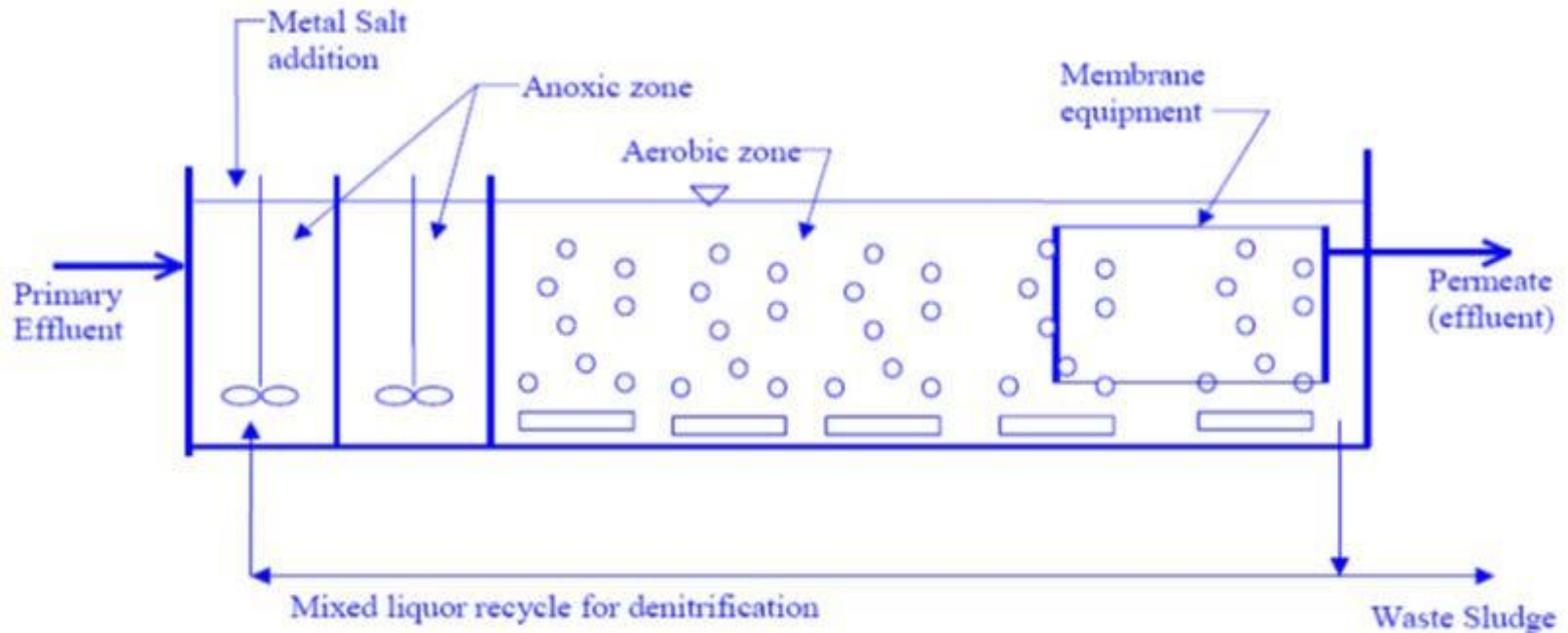


The systems offered can also be modified to treat sewage in the case of remote residences

Integrated, efficient and reliable compact biological treatment units for small hotels and lodgments with capacities ranging from 25 m³/d up to 1000 m³/d .

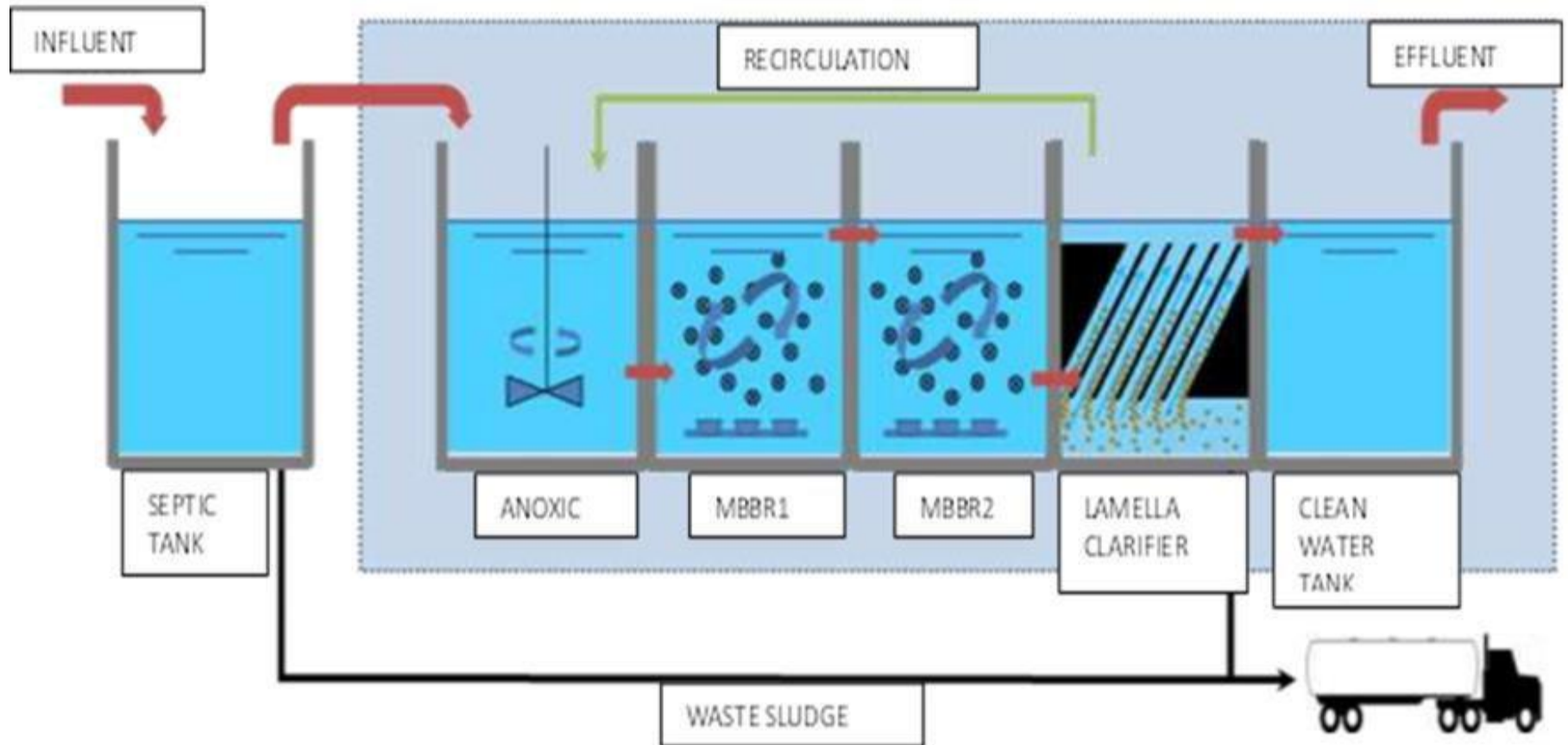


MBR Flow Diagram



MBR systems is the evolution of conventional treatment and combine clarification, aeration and filtration (microfiltration or ultrafiltration – MF or UF), in one tank, making the need of conventional gravity clarifiers obsolete.

MBBR Flow Diagram



WATER TREATMENT (Potable / Industrial)

SIRMET S.A. specializes in the design, construction, installation and start-up of industrial and potable (surface) water treatment/reuse installations.

Processing methods:

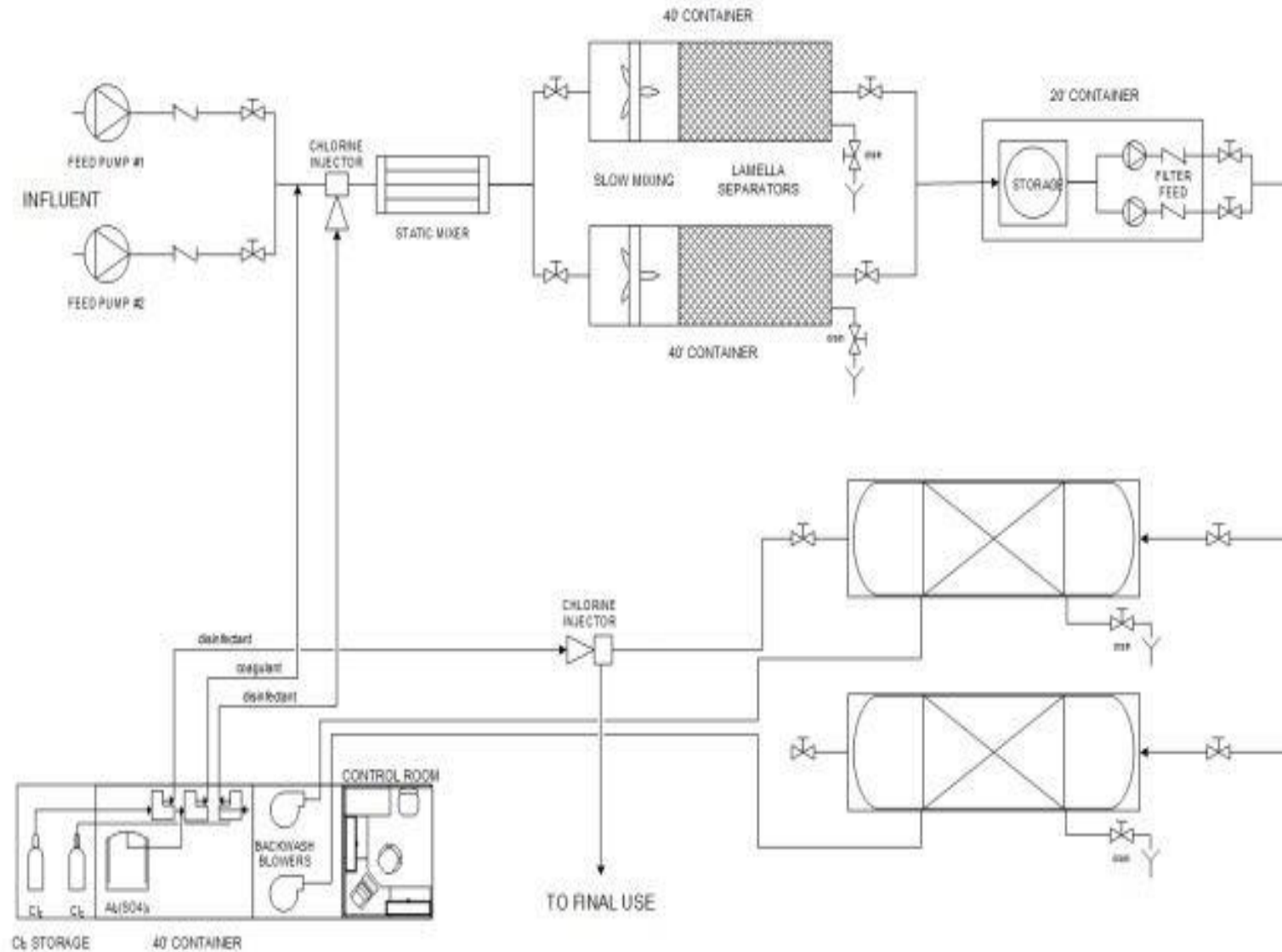
- Sand filters
- Fluidized bed filters
- Ventilated bio filters
- Chlorination / Dechlorination
- Ozonation
- Activated carbon filters
- Reverse Osmosis Systems



They stand out because they offer the following advantages:

- Low operating costs.
- Fast, easy and instant operation without odor.
- No monitoring needed and has minimal maintenance cost.
- Treated water is suitable for drinking
- They require minimal civil engineering – have little space requirement

Water Treatment Flow Diagram



SOLID WASTE TREATMENT(Industrial / Municipal)



The types of Solid Waste concerns:

MUNICIPAL : produced directly by households and workplaces

INDUSTRIAL: produced indirectly by mines, factories, refineries, food growers and business that supply good and services (scrap metal, plastics, paper, sludge, glass, ceramics, leather, wood etc.)

Every project includes design, construction and start-up. Briefly, a Plant consists of the following:

- Reception, weighing and control of incoming waste
- Unloading and temporary storage of waste
- Waste shredding so as a homogenized material to be produced
- Screening the shredded waste in order to separate the fine fraction and recover the biodegradable compounds
- Bio-oxidation of the refined material so stabilization and hygienization of the waste to be achieved

The result of the process is:

- Reduction of the produced odors and dust during the process
- Reduction of the waste mass during the bio-oxidation phase and waste diversion from landfilling
- Production of a stabilized, odorless and utilizable product

ANAEROBIC TREATMENT

In anaerobic treatment, bacteria convert organic matter into biogas (a mixture of methane and carbon dioxide) in oxygen absence conditions. In this way, anaerobic bacteria remove the pollution load of waste, reducing disposal costs, while at the same time producing “Green Energy”.

Organic compounds (COD) are converted into Volatile Fatty Acids (VFAs), Acetic acid (acidification) and finally methane (CH_4) + carbon dioxide (CO_2) + new biomass

Ideal for:

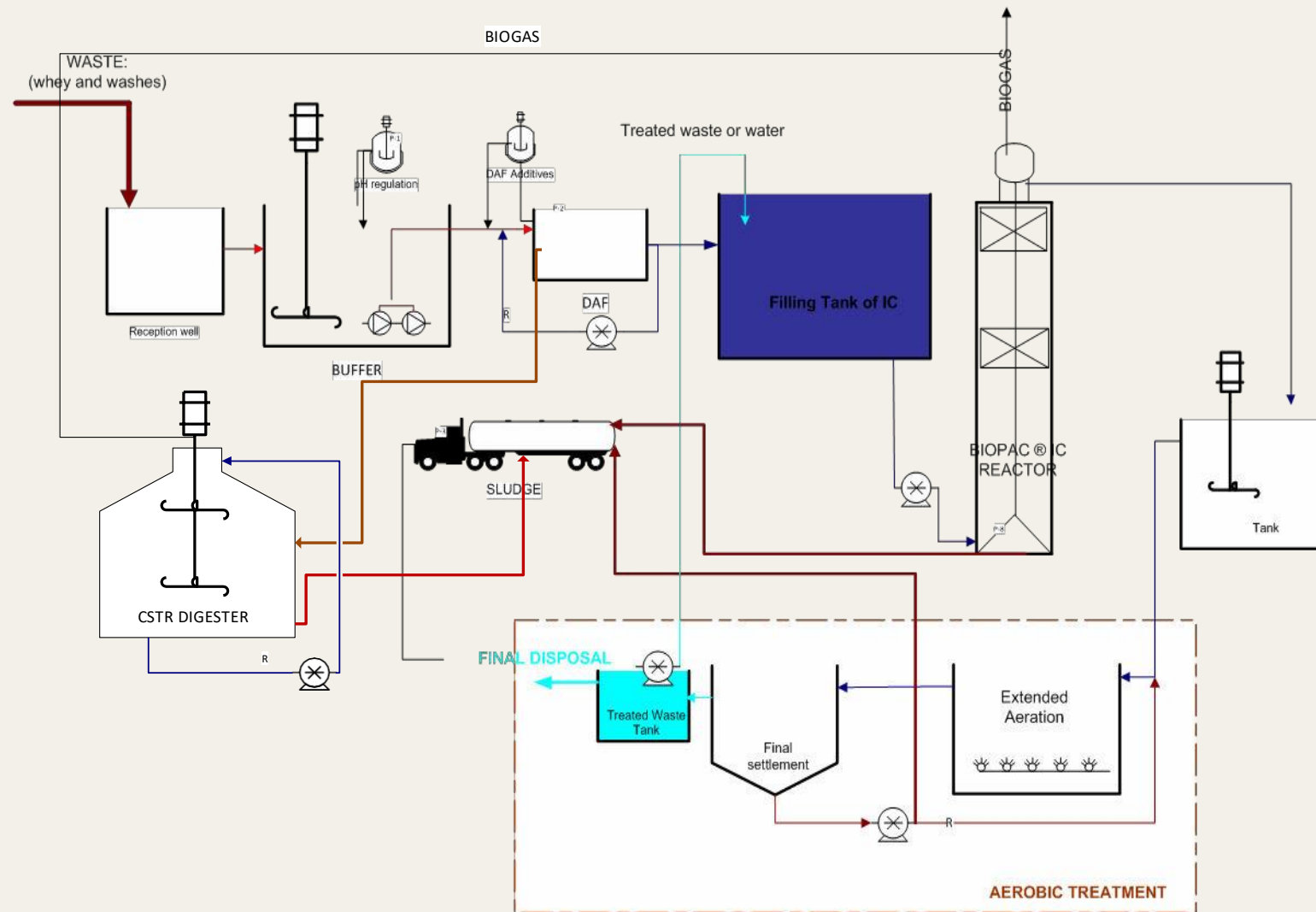
- Industries with liquid wastewater with high concentration of organic load.

Application examples:

- Dairies
- Brewing
- Paper Mills
- Fruit & Juice Processing
- Potato Processing Plant



Anaerobic Digestion Flow Diagram



2. INDUSTRIAL FOOD PROCESSING

Turn-key projects (design, installation and start-up) on the following food applications:

CHEESE

Design, Installation and Operation of
Industrial Facilities (Plateon S.A./Thiva Viotias, Greece)



MEAT



Design, Installation and Operation of
Industrial Facilities (Nikas A.V.E.E./Attika, Greece)

EDIBLE OILS



Design, Supply, Installation, Start-up of Oil processing plant
(Olix Oil Ltd/Industrial Zone of Patras, Greece)

Design of Olive and Oil processing and packaging Unit
(Alea S.A./ Sparti Lakonias, Greece)





WINE

Design, Installation and Operation of
Industrial Facilities (Antonopoulos Vineyards S.A./Achaia, Greece)



Design, Installation and Operation of
Industrial Facilities (Achaia Clauss S.A./Achaia, Greece)



RAISINS

Design, Installation and Operation of processing and packaging unit
(currants, cultanas as well as a variety of dried fruit)
(Couninotis S.A./Achaia, Greece)



SIRMET
ENGINEERING & MANAGEMENT

3. REMOTE OPERATION AND MAINTENANCE

SIRMET S.A. offers integrated environmental protection solutions on Operation and maintenance of Sewerage Networks, Water and Waste Water Treatment Plants

The specialized scientific personnel of SIRMET has significant experience in water, waste water and solid waste treatment. By using its experience, SIRMET accommodates the needs of the following service sectors:

- ❖ Automation and Control via PLC and Scada
- ❖ Management
- ❖ Technical support
- ❖ Operation and maintenance

COLLABORATIONS-KNOW HOW

SIRMET S.A. continuously collaborating, exchanging Know How-Products-Services and improving results for its customers.

An indicative list of collaborations realized in our projects.



OUR EXPERIENCE-OUR CLIENTS

We are a highly respected company with so many satisfied well-known and respected clients. Our clients' satisfaction is our **only** advertisement!



ATHENIAN BREWERY S.A.



...and many more

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