



**Industrial waste water,
process water treatment,
water reuse**

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Industrial waste water treatment

TASK Environmental engineering

Task Environmental Engineering is specialized in the realization of industrial wastewater treatment plants.

Task has been active in the field of wastewater treatment since many years. Our decades of experience in this area is therefore reflected in numerous successful references. We design, build, deliver, install and maintain wastewater treatment plants for a wide range of applications and for various industries.

Task aims at durable, qualitative, low maintenance, energy efficient and performant installations. The economical aspect is never lost sight of, the combination of a correct price/quality ratio and a long term vision (with durable, expandable and adaptable installations) offers the most economical and ecological solution.

Integrated solutions

Task disposes of a large experience in the field of design and installation of environmental equipment in industrial environments. The systems meet all the requirements and are fully adapted to the process and the installations of the customers. This integral approach to the problem results in sound solutions. Our technology and know-how offer the customer a well-considered solution for the specific environmental requirements of his company.

Tailor-made installations

Each wastewater stream is different; each company has specific requirements. Task is eager to meet the demands of the customer and offers tailor-made installations, which are nevertheless flexible, adaptable and expandable. Years of experience in numerous sectors and a thorough knowledge of the available techniques are indispensable to deliver optimally functioning and permanently profitable systems. For us, customization is the standard, the delivered installation is perfectly tailored to the customer.

Renovation - optimization

Task is also strong in renovation and optimization of existing wastewater treatment plants. Not properly functioning, not expandable or not up to standard installations are completely adapted by us to a correctly functioning unit, with sufficient flexibility for future production expansion, fully adapted to the current environmental standard.



Physicochemical waste water treatment units

Several techniques can be used : e.g. neutralisation, heavy metals separation, coagulation-flocculation reactors, chromium detoxification reactors, sludge treatment, etc.

Design, advice and equipment selection

Defining the requirements must be well thought out and integrated within the company. Indoor or outdoor installation, quality of the wastewater to be treated, standards for the purified wastewater, dosage of chemicals, safety and maintenance, establishment of the operating principle; all this is a combination of factors and conditions within which a choice must be made. Expert and experienced guidance is indispensable in this context. All this needs to be framed within the Vlare/EU regulations and permit requirements. Task guides the customer throughout the entire process, from feasibility study up to and including the finished installation.

Test-unit

Some wastewater streams or process water streams are complex and difficult to treat, sometimes not entirely predictable due to the combination of numerous factors. It is a challenge for us to offer a feasible and above all affordable solution.

In such cases it is often desirable to carry out tests on site.

Performing such pilot tests has several important advantages, both for the customer, for us, and for a potential contractor.

Many predefined questions are answered, the tests give the customer and ourselves the guarantee as to whether or not the desired results will be achieved.

Warranty, service and maintenance

Task guarantees quality and this is recognizable in the warranty conditions.

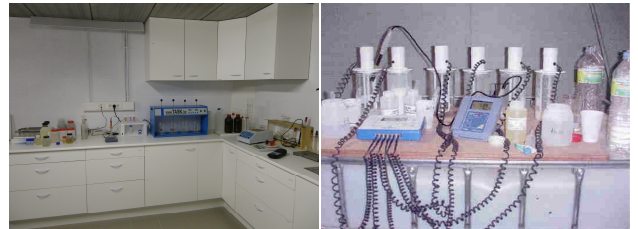
We aim at durable, maintenance friendly, correctly dimensioned and flawlessly functioning installations. A thorough training of the operating and maintenance staff on site should guarantee a long term trouble free operation of the installation. If despite this there are problems, a quick intervention is always guaranteed.

Industrial waste water treatment – Our strengths :

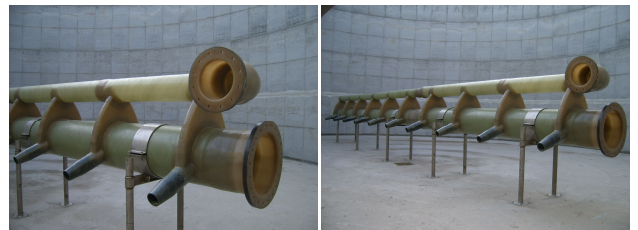
- physicochemical treatment plants
- jet aeration
- NH₃ stripping towers-absorbers
- oil separators – oil removal from process baths
- agitators
- polymer production units
- membrane techniques(UF-NF, RO)
- water reuse
- neutralization units
- deferrization
- sludge treatment
- maintenance-renovation-optimization



Membrane techniques (UF-NF, RO) – water reuse



Testunits - measurement



Jet aeration

More than 35 years of experience in water treatment !

Membrane technology – membrane filtration – water reuse – treatment and reuse of process water – membrane degasification

Membrane filtration is used for specific applications in wastewater treatment. Membrane filtration is mostly used as a post-treatment technique on effluent, usually in the context of water recovery or reuse. However, in many cases this technique is used to treat specific wastewater and process water flows, such as oil emulsions and/or other specific emulsions.

Based on the separation capacity of the membranes, four different steps or techniques are distinguished within membrane technology, ranging from microfiltration (removal of particles from +/- 0.1 to 1 μm), through ultrafiltration (removal of particles from 0.01 to 0.1 μm) and nanofiltration (removal of particles from 0.001 to 0.01 μm) to reverse osmosis (removal of particles from 0.0001 to 0.001 μm).

Most filtration techniques can only filter undissolved particles from water. Microfiltration and ultrafiltration can only remove suspended particles from the pretreated wastewater.

This means that, for example, dissolved salts, dyes, metal ions (which affect the conductivity of the water) and sugars remain present in the wastewater. Consequently, the COD/BOD values of the wastewater treated with microfiltration and ultrafiltration will remain too high for it to be reused in the production process.

Only the last step, reverse osmosis, allows for the satisfactory removal of salts, metal ions, etc. In reverse osmosis, however, the membranes are subjected to high pressure. Only high-tech and pressure-resistant membranes are considered for this purpose.

Advantages of using membrane technology in the treatment of waste or process water

- reliability of the materials
- Less chemicals required
- relatively simple follow-up, once the installation is up and running
- efficient use of energy
- No phase transition or change of aggregate state needed

Disadvantages of using membrane filtration in the treatment of waste or process water

- Cost of the membranes
- Residual product (very concentrated filtrate) must be collected or further treated

Possible fields of application of membrane techniques in the treatment of waste water or process water

- Oil/water separation, treatment of lyophilic substances
- Recycling of car wash water
- Slurry treatment
- Treatment of cosmetic industry wastewater
- Treatment of wastewater from the food and beverage industry
- Filtration of suspended matter from wastewater
- Removal of biomass
- Separation of coolants
- Separation of inks for flexo printing techniques
- Reuse of process water
- Rainwater recovery
- Reuse of various effluents
- Fluid degassing
- Water upgrading to drinking water

