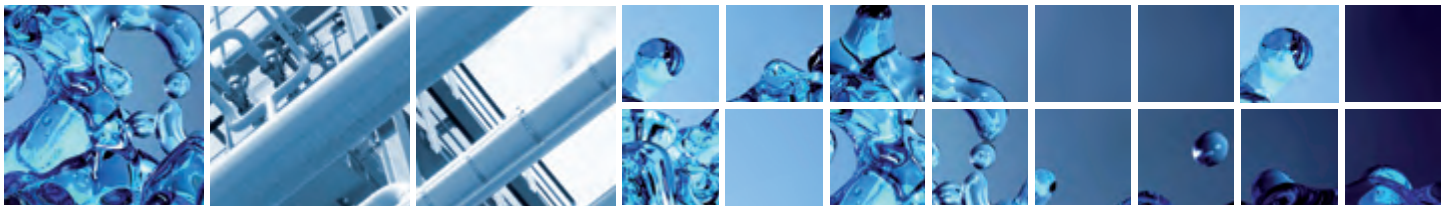
AQUASOURCE
OZONIA

APPLICATION BROCHURE:
PROCESS WATER TREATMENT
INDUSTRIAL



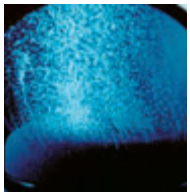
WHY DO WE NEED TO TREAT PROCESS WATER?

Water is without doubt the most used fluid in industrial processes. For almost every application this water must be treated to remove impurities and/or adapted to the needs and demands of each production process. In order to meet the targeted production figures the water treatment costs must be optimised.

OUR SOLUTION TO YOUR PROBLEM

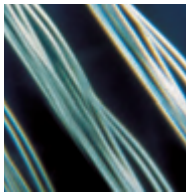
Because of its comprehensive portfolio, Ozonia and Aquasource can offer a wide range of solutions to industrial clients. The products have been designed so that they can be integrated into all types of treatment steps with the minimum amount of work and time. Equipment technologies include a large spectrum of Ultrafiltration membranes, UV reactors and ozone generators. Depending on the application in question, Ozonia and Aquasource can supply either a single technology or adopt a multi-process approach to achieve the desired result.

OZONE



The high oxidation potential of ozone, which is considerably higher than chlorine, has prompted many industrial clients to use Ozonia ozone equipment in their manufacturing facilities. In partnership with clients, Ozonia applies its knowledge in the field of ozone generation to achieve the best overall conditions with respect to quality, price, delivery and safety aspects for all types of industrial plants. Either in its extensive laboratory facilities or on the client's premises, Ozonia is in a position to demonstrate the advantages of a clean oxidation technology.

MEMBRANES



Aquasource Ultrafiltration ensures the best solutions for the removal of particles, micro-organisms and SDI reduction. Our systems are designed for pretreatment applications prior to demineralization or reverse osmosis and for the treatment of reclaimed water. Aquasource offers industrial clients a large range of packaged units with process water flow rates from 1 to 200 m^3/hour.

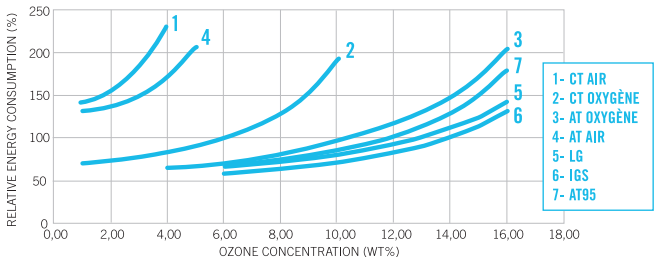
UV

UV irradiation systems disinfect by inactivating pathogenic micro-organisms, such as viruses, bacteria and parasites. In the UV-C light spectrum (200-280 nm), the wavelength 254 nm has been proven to be the most efficient wavelength to inactivate micro-organisms by damaging the nucleic acids (DNA and RNA), which disrupts the organism's ability to replicate.
In normal applications, UV has the advantage that no chemicals are added to the process and that no disinfection by-products are formed. Owing to the small foot print, the UV equipment can be easily integrated into most existing installations. Ozonia has developed an extensive range of UV products that are suited for all types of industrial applications.

suez environnement
Degrémont

OZONE

Ozonia offers clients state of the art equipment reflecting the very latest dielectric and power electronic technologies. In addition, clients can profit from a unique professional expertise and over thirty years of experience in ozone generation and application know-how. A widely proven and reliable medium frequency technology results in very high ozone yields from both oxygen and air. With thousands of installations around the world, several of them over 250 kg/h, Ozonia offers unrivalled international experience.
The table shown illustrates the ozone generator technology over the years and compares conventional technology (CT) with Ozonia advanced technology (AT) with both oxygen and air feed gas.



UV

Microorganisms	UV-C Inactivation @ 40mJ/cm² dose
Giarda Lamblia	> 4 Log (>99,99%)
Cryptosporidium Parvum	> 4 Log (>99,99%)
Escherichia Coli	> 4 Log (>99,99%)
Staphylococcus Aureus	> 4 Log (>99,99%)
Streptococcus Faecalis	> 4 Log (>99,99%)
Poliovirus Type 1	> 4 Log (>99,99%)
MS-2	< 3 Log (<99,9%)
Bacilius Subtilis	< 2 Log (<99%)
Adenovirus Type 40	< 2 Log (<99%)

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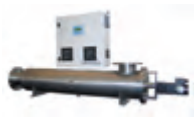
MEMBRANES

This filtration technique involves passing water through porous and hollow fiber membranes. The membrane wall acts as a filter for all particles larger than 0.01 micron: pollen, algae, parasites, bacteria, viruses, and large organic molecules. The fibers are bonded at the ends by a resin, which ensures perfect and permanent tightness of the module. In this way, the module prevents any contact between the raw and the ultrafiltered water. The result is perfectly pure water with a turbidity of lower than 0.1 NFU. Aquasource membranes are available in a large range of modules, from 1 to 140 m² of filtration surface area per module.

Materials	Cellulose triacetate or Hydrophilic polysulphone
Technology	Hollow fiber Inside-Out
Membrane cut-off	0.01 µm
Guaranteed turbidity	< 0.1 NFU
Bacteria & Cyst removal	> 7 Log (>99,99999%)
Virus removal	> 6 Log (>99,9999%)
SDI	< 3


Aquaray® SLP-PW


OZFIL™


UF SKID


MEMBREL® MkIII

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