



**VICHEMAQUA®**  
**CERAMIC**  
**MEMBRANE**  
**FILTRATION**



**Your environment, Our mission**

# APPLIED MEMBRANE REACTOR TECHNOLOGY

Vichem has developed and patented a system, Vichemaqua®, based on a membrane filtration combined with ozonation, after several years of scientific study and extensive research work.

The aim is to eliminate microbiological, organic and inorganic pollutants, even in high concentrations, from the water to be treated in order to produce drinking water.



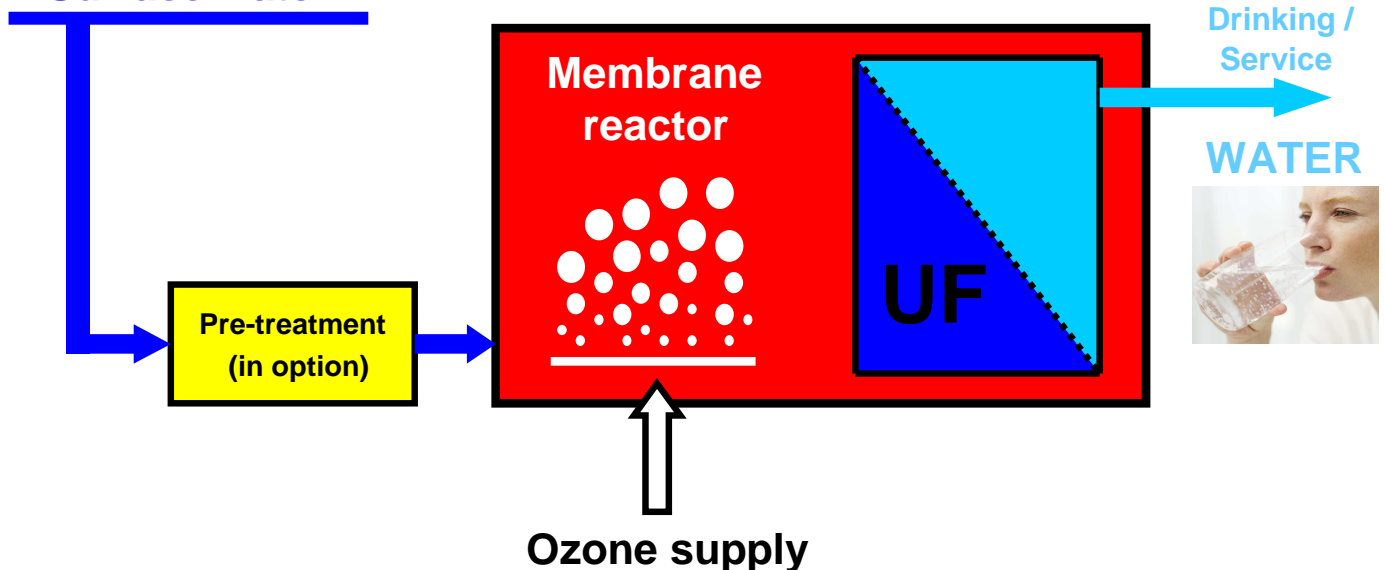
## PROCESS:

The process is based on a multi-stage process, essentially consisting of an oxidation stage using ozone and a physical separation stage based on submerged ceramic membranes. Depending on the feed water properties, the type of membrane used can be either for UF (ultrafiltration) or for MF (microfiltration).

The ceramic membranes are used to retain suspended solids, colloids, bacteria, viruses, algae, fungi and also to a certain extent dissolved organics (e.g. odour and taste), which were oxidised and partly mineralised during the ozonation process, prior to membrane filtration.



Surface water



## PRE-TREATMENT:

Pre-treatment is essential if impurities such as sand, leaves, branches etc. have to be removed. Special chemical compounds may be removed during this stage.

# ADVANTAGES OF VICHEMAQUA® TECHNOLOGY

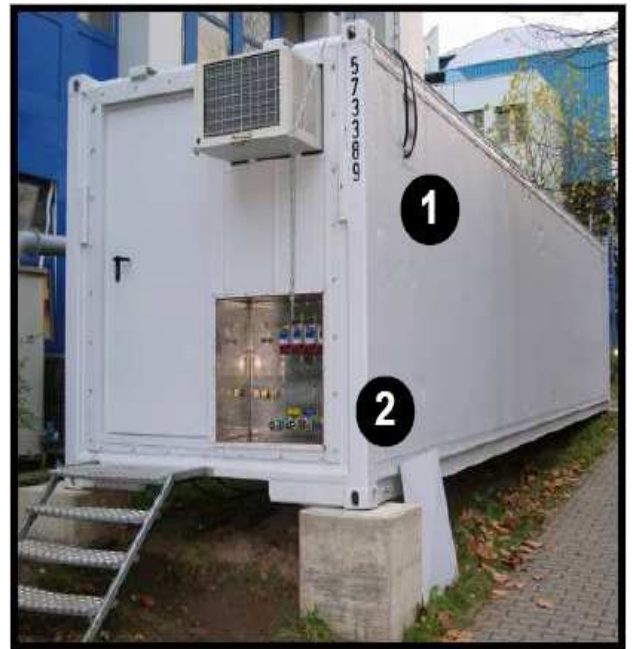
- no biofouling on the membranes
- higher and more stable permeate fluxes
- no frequent backflushing of the membranes required
- higher yields of up to 99.9 % will be achieved
- only small amounts of concentrates will be produced, unproblematic for discharge
- this multiple-stage process provides a more reliable barrier for viruses and pathogens
- due to low space requirements, more compact treatment units can be designed
- the complete system is simple to control
- no further chemicals are required, just oxygen from ambient air
- no chlorinated by-products will be produced

## APPLICATIONS

- surface water: lake or river water,
- rain or stormwater,
- contaminated ground or well water
- low-contaminated or process water.

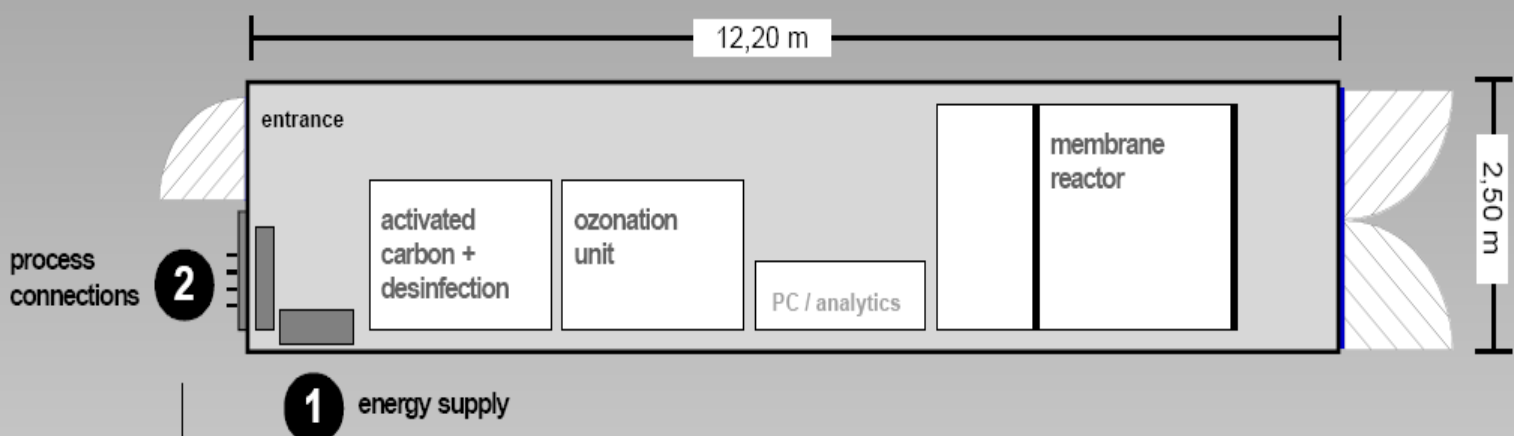
## OUR PILOT PLANT

A pilot plant has been implemented in order to test any type of water in the world, and to ensure with our potential clients that our technology can be applied to their specific water.



*Container Pilot Plant*

## CONTAINER PILOT PLANT LAY-OUT







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**Represented by:**

