demEAUmed Technologies

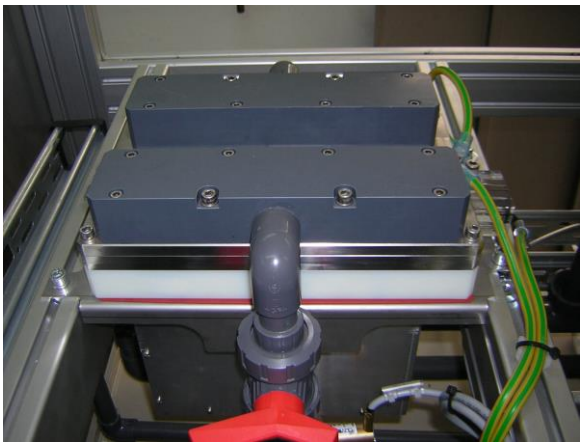
172 NM UV Treatment

Eight categories of innovative technologies together with a monitoring, control and decision support system are integrated and demonstrated in real life situation within the European project demEAUmed "demonstrating integrated innovative technologies for an optimal and safe closed water cycle in Mediterranean tourist facilities." This factsheet presents one of these eight technologies; the **172 NM UV** treatment.

Description

In this Advanced Oxidation Process (AOP) hydroxyl-radicals are used to degrade complex and persistent organic molecules which present in the water as contamination.

172nm UV directly attacks different pollutants and it's able to break down resilient and harmful molecules.



Applicability

The 172nm UV technology can treat every type of waste water as long as the water is free from suspended solids and/or sludge.
In demEAUmed, targets for 172nmUV are trace organic pollutants:

- Cleaning agent residuals and pesticides,
- Different pharmacological substances,
- Persistent, non-biodegradable organic pollutants

The performance depends on the degree of the pollution in the water.

For demEAUmed, the water in the operational tank is treated and continuously analysed by a TOC analyser until the desired quality is reached.

Design Criteria

Size

In general:
5,3 x 1,8 x 1,2 m
For demEAUmed:
3,3 x 1,7 x 0,8 m

Location

172nm UV Equipment should be located in a dry, ventilated area. Temperature range between 5-45°C. The System needs a separate electrical ground connection.

Flows

Flow depends on the degree of pollution and the reduction target(see applicability). The demEAUmed installation is built for ca 20l/h.

The system is scalable by the number of treatment chambers to meet the requirements of different installation sites.

Operation and Maintenance

Automatic operation. Regular simple maintenance is required.

Advantages of 172nm UV technology:

- Automatic operation,
- Chemical free process – no need to add hydrogen peroxide, ozone or catalysts,

The research leading to these results has received funding from the European Union's Seventh Framework Programme (FP7/2007-20) under grant agreement nº 619116

- Adjustable treatment capacity,
- No gas exhaust, no noticeable smell,
- Disinfection of the treated water as a side-effect,
- Independent from the salinity or hardness of the stream
- Independent from UV-absorbance of the feed water

Costs issues (or additional value)

The process runs until the desired output quality is reached.

Contact:

172 NM UV-treatment Supplier: **Sico Technology GmbH**
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Please find further information and updates on demEAUmed project, its technologies and DSS at: www.demeaumed.eu

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