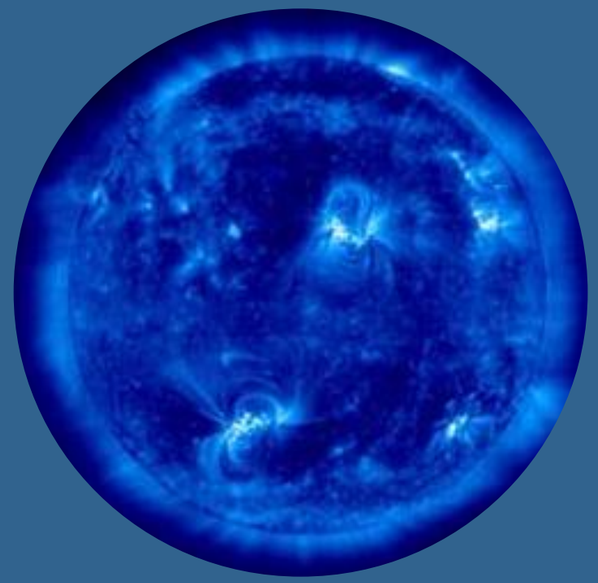
PHOTOCATALYTIC EQUIPMENT FOR R&D ACTIVITIES



Passion for innovation and service

APRIA Systems S.L
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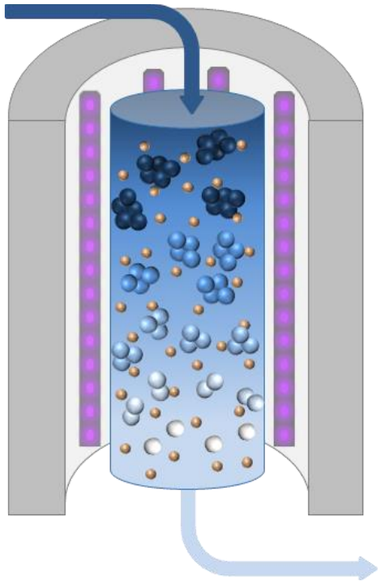
ADVANCED OXIDATION PROCESSES THROUGH HETEROGENEUS CATALYSIS

APRIA Systems has extensive experience in design, construction and commissioning of equipment based on advanced oxidation processes for research and process development purposes.

The equipment developed by APRIA Systems ranges from small laboratory scale to large pilot plant scale.

TECHNOLOGY



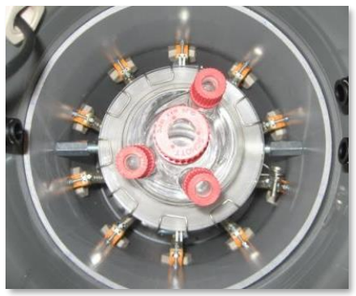
APRIA Systems applies cutting-edge LED UV technology in the equipment to promote the activation of photocatalysts such as TiO_2 with a minimum energy consumption.

The amount of emitted UV radiation can be regulated and adjusted to the oxidation process under study.

The temperature of the LEDs is monitored and controlled through a system of forced air convection, allowing to maximize the efficiency and lifetime of the LEDs.

The configuration of the photoreactors and material is adapted to the needs of the project. APRIA Systems designs diverse photoreactors, such as:

- Stirred photoreactor with external radiation.
- Annular photoreactor.
- Tubular photoreactor.



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OUR COMPANY

APRIA Systems S.L. is a SME innovative company specialized in consultancy and engineering. Our activity is strongly influenced by research and development activities, accounting with highly specialized human resources.

Our main objective is to offer innovative alternatives, providing to our customer's bespoke solutions to fulfil the environmental regulations.

CUSTOMIZABLE EQUIPMENT SIMPLY TELL US YOUR PROJECT NEEDS

In APRIA Systems we know that each R&D project has its particular needs. Therefore, we adapt to our customer requirements, offering a wide range of alternatives to adjust our equipment to your needs.

The alternatives include:

- UV wavelength and radiant flux necessary.
- Photoreactor volume and configuration.
- Online measurements: pH, O_2, Rx, etc.
- Process operation: continuous, discontinuous or alternating.
- MF system for the recovery of the photocatalyst for its reuse.

OUR EQUIPMENT

Some examples of equipment developed by APRIA Systems for R&D purposes at different scales can be found below.

More information: comercial@apriasystems.es

Low power equipment at laboratory scale

MAIN FEATURES

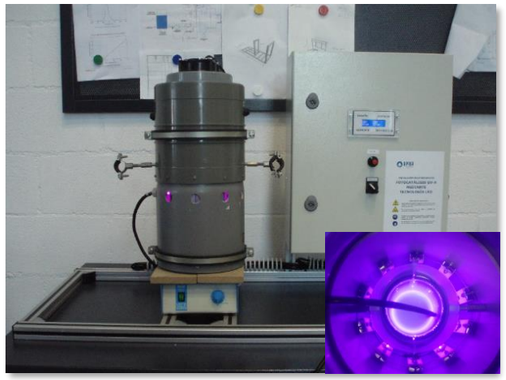
- ✓ Stirred photoreactor made of borosilicate with external radiation.
- ✓ UV LEDs in multistrip distribution and selectable power.
- ✓ Magnetic stirrer
- ✓ Continuous and online measures of pH and O_2.
- ✓ Distribution and manoeuvre panel.

Medium/high power equipment at laboratory scale

MAIN FEATURES

- ✓ Annular photoreactor made of borosilicate with a cooling jacket connected to a thermostatic bath.
- ✓ UV LEDs of adjustable intensity and refrigeration through forced air convection.
- ✓ Recirculation pump.
- ✓ Continuous and online measures of pH and O_2.
- ✓ Magnetic stirrer in the feed tank for the dark phase.
- ✓ Distribution and manoeuvre panel with a screen to track the performance of the LED system.

High power equipment at laboratory scale



MAIN FEATURES

- ✓ Stirred photoreactor made of borosilicate with external radiation.
- ✓ UV LEDs in multistrip distribution and selectable power.
- ✓ Magnetic stirrer
- ✓ Continuous and online measures of pH and O_2.
- ✓ Distribution and manoeuvre panel.

Medium/high power equipment at pilot plant

MAIN FEATURES

- ✓ Annular photoreactor made of borosilicate.
- ✓ UV LEDs of adjustable intensity and refrigeration through forced air convection.
- ✓ Recirculation pump.
- ✓ Continuous and online measures of pH and O_2.
- ✓ MF ceramic membrane for the recovery of photocatalysts such as TiO_2.
- ✓ Heat exchanger and thermostatic bath.
- ✓ Ability to operate in continuous/discontinuous mode.
- ✓ Distribution and manoeuvre panel.

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