LED PHOTOREACTORS

Cell

Plate and frame configuration

LED technology

Adjustable radiation intensity

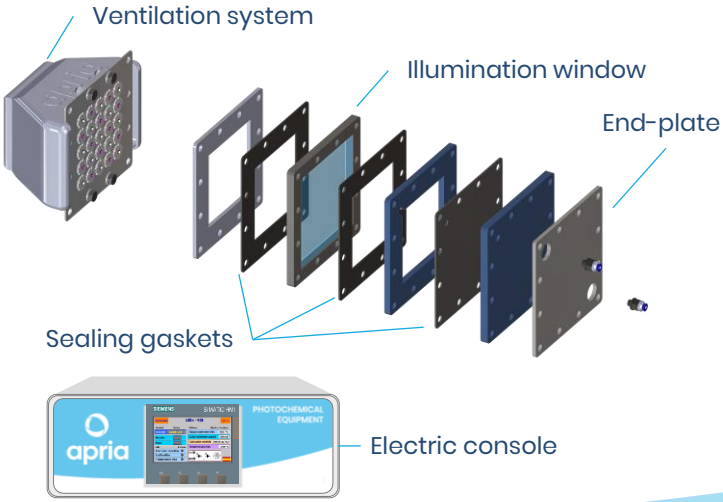
The equipment

Apria Systems has designed a series of flexible cell photoreactors with **LED technology.** We offer a wide range of **tailor-made** models to adapt the equipment to the needs of our clients.

Each photoreactor has an external plate with LEDs. **Exchangeable illumination plates** are available, allowing to use different lights. The **radiation intensity can be regulated**, offering an adjustment to the needs of the treatment.

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

Elements of the system



Operation

1. Pump the fluid to be treated to the photoreactor
2. Turn-on the electric console
3. Select the working type of light, adjust its radiation intensity, and switch-on the lamp
4. Perform the photochemical treatment

Extremely simple

We offer a wide range of alternatives to adjust our equipment to your needs

Reactor characteristics

Operation mode	Continuous / recirculation
Configuration	One plate / exchangeable plates – up to two wavelengths per plate -
Treatment volume (mL)	250 – 10,000
Flowrate (m^3/h)	Up to 1
Irradiated area (cm^2)	1 – 100
Number of LEDs	1 - 25
Adjustable radiation intensity	Yes, through an electric console with PLC
Refrigeration system for the LEDs	Forced air convection
Optional items	Automatization / Feeding tank / Online measurements (pH, O_2, etc.) / Pumping / System to recover the photocatalyst / Temperature control

Source of light

Type of light	Wavelength (nm)	Peak (nm)	Radiant flux / LED
UV-C	263 – 268	265	100 mW
	268 – 280	275	
UV-B	295 – 305	300	32 mW
UV-A	365 – 370	365	1,200 mW
Violet	400 – 410	405	1,260 mW
White	400 – 700	450	315 lm
Blue	453 – 460	457	1,350 mW
Green	520 – 530	523	450 mW
Red	618 – 630	623	935 mW
IR	835 – 875	850	930 mW

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