

# Cell

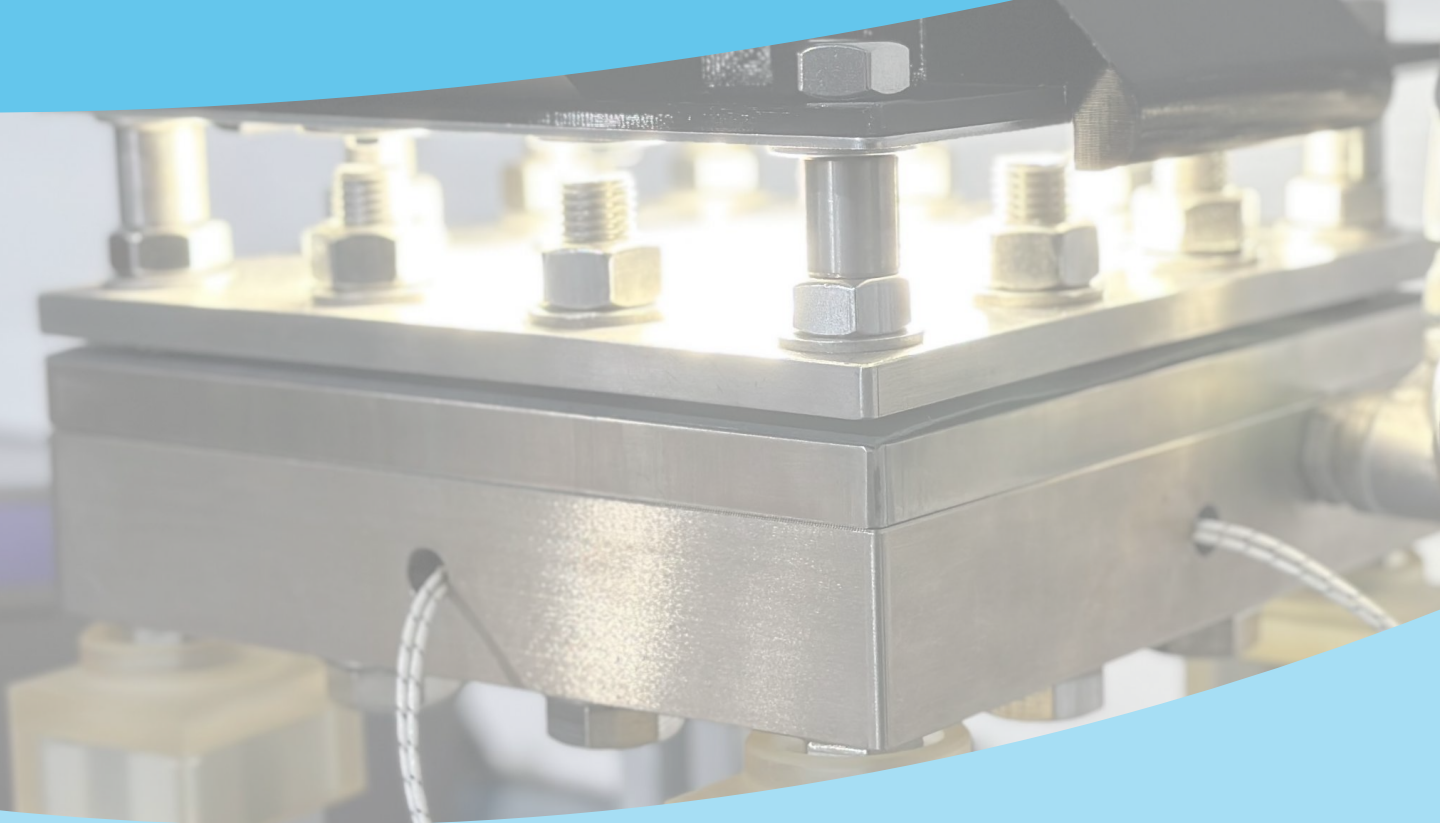


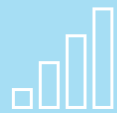
Plate and frame configuration



High operation temperatures



LED technology



Adjustable radiation intensity

## The equipment

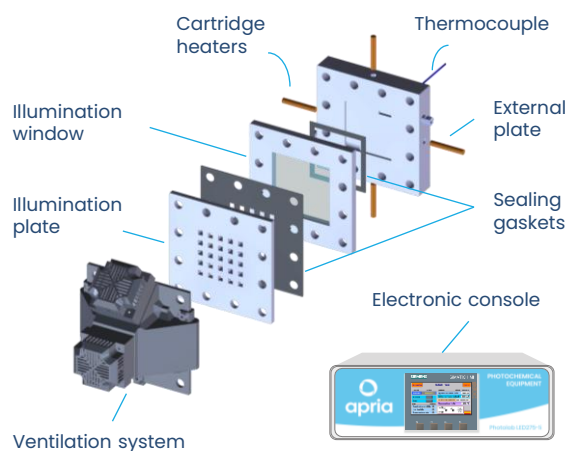
Apria Systems has developed a series of flexible photothermoreactors that allow **high-temperature** photochemical treatment under **elevated pressure** conditions, if required.

We offer a wide range of **tailor-made** models to adapt the equipment to the needs of our clients.

We always use **cutting-edge LED technology** as source of light. Remarkably, the emitted radiation intensity can be regulated, and the temperature of the LEDs is controlled through forced air convection. Exchangeable illumination lamps –plates– are available in case different kind of lights need to be used.



## Elements of the system



## Operation

1. Pump the fluid to the photoreactor
2. Turn-on the electronic console
3. Set the temperature of the cartridge heaters
4. Select the working type of light, adjust its radiation intensity, and switch-on the lamp
5. Perform the photothermochemical tests

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

## Reactor characteristics

<b>Operation mode</b>	Continuous
<b>Light configuration</b>	One plate / exchangeable plates – up to two wavelengths per plate -
<b>Flowrate (SLM)</b>	Up to 20
<b>Irradiated area (cm<sup>2</sup>)</b>	1 – 100
<b>Number of LEDs</b>	1 – 25
<b>Adjustable radiation intensity</b>	Yes, through an electronic console with PLC
<b>Refrigeration system for the LEDs</b>	Forced air convection
<b>Maximum temperature (°C)</b>	350
<b>Maximum pressure (bar)</b>	15

## Source of light

Type of light	$\lambda$ (nm)	$\lambda_{\text{peak}}$ (nm)	$\Phi$ / 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
Yellow	587 – 598	590	470 lm
Red	618 – 630	623	935 mW
NIR	835 – 875	850	930 mW
FIR	920 – 960	940	1,350 mW

