

# Introducing the UV-150 Photochemical Reactor

COMPACT, VERSATILE, SAFE, SCALABLE, EASY TO USE.

The Vapourtec UV-150 Photochemical Reactor offers a breakthrough in simplicity leading to more efficient, precise, consistent, safe, scalable photochemical synthesis.



## Key Features of the UV-150

- Access wavelengths from 220 nm to 730 nm
- Three interchangeable light sources
- High power LEDs for scale-up
- User selectable UV Power
- Light source wavelength filtering for mercury lamps
- Temperature control -5°C to 80°C
- Easily changeable reactors
- Space saving compact design
- Interlocks ensure safe operation
- Optional spectrometer for real time monitoring
- Fits Vapourtec E-Series and R-Series systems

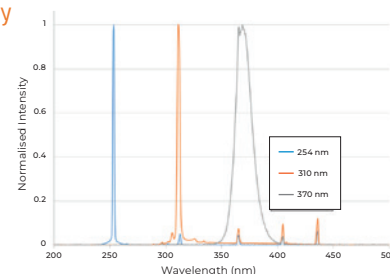
## Access to wavelengths from 220 nm to 730 nm

The UV-150 has been designed to cover the full range of photochemical reactions from UV-C through to visible light photocatalysed reactions. To achieve this the UV-150 has three interchangeable light sources.

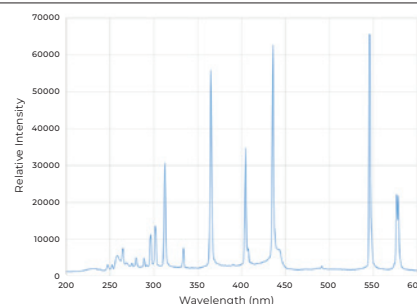
### Three interchangeable light sources

- The low-pressure mercury lamp provides highly specific wavelengths of 254 nm, 320 nm and 365 nm.
- The medium pressure mercury lamp gives a broad range of discrete wavelengths between 220 nm and 600 nm. A range of long-pass and band-pass filters are available to attenuate unwanted wavelengths.
- The LED light source offers 15 precise wavelengths covering the range 365 nm to 730 nm. LED wavelengths can be changed in < 1 minute.

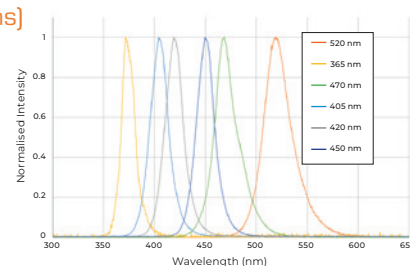
### Low pressure mercury lamp (3 options)



### Medium pressure mercury lamp



### LED lamps (15 options)



## High power LEDs give 10s of gram scale-up

To enable, scale-up the standard UV-150 LED light source can be exchanged for a high-power version. Standard LED radiant power is 20 watts while the high-power version has radiant powers up to 60 watts. Providing up to three times the throughput from the same reactor body.

## Dimmable light sources

To provide rapid reaction optimisation both the medium pressure mercury lamp and all the LEDs can be dimmed. The mercury lamp is controllable between 50% and 100% power. The LEDs can be set between 10% and 100% power.

## Wavelength Filtering

For the mercury lamp a range of band-pass filters is available to ensure your reactants are only exposed to the desired wavelengths. Filters are quickly and easily changed.

## Temperature Control

The reactor temperature can be set between -5°C and 80°C with a 1°C resolution. Cooling is provided by the Vapourtec cooling module. Customers with a cooled reactor can use their standard cooling module with the UV-150.

## Compact Design

The compact size means that the UV-150 uses only one reactor position (E-Series) and two (R-Series) leaving scope for multi-step (telescoped) reactions.

## Interlocked for Safe Operation

The light source within the UV-150 is totally enclosed, allowing for safe operation in a standard laboratory fume cupboard. The power supply is interlocked to ensure power is safely disconnected when the lamp is exposed.



## Finally - Continuous Photochemistry Without the Fuss

The Vapourtec's UV-150 eliminates the problems that many modern synthetic chemists associate with photochemistry, for example the availability and complexity of equipment, safety, control of reaction conditions and difficulty in scale up.

With the compact, easy to use and safe design the UV-150 allows chemists to take full advantage of the powerful reactions and synthetic routes offered by photochemical reactions.