

# Introducing the Ion Electrochemical Reactor

The Ion continuous flow electrochemical reactor has been developed through a collaboration between Vapourtec and Prof. Thomas Wirth of Cardiff University. The goal for this collaboration was to develop an easy to use, highly versatile continuous flow electrochemical for lab scale research.



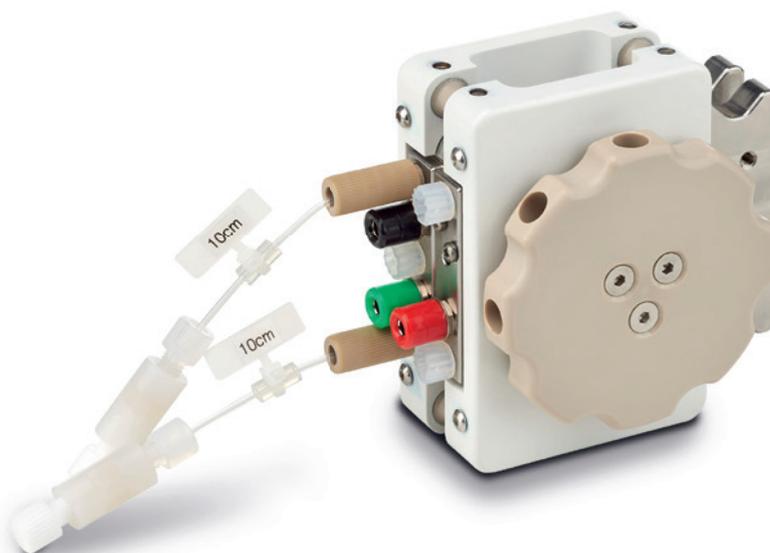
## Ion features

- Options for integrated or standalone operation
- Compatible with E-Series and R-Series systems
- Ability to heat and cool the reactor -10°C to 100°C
- Operation at pressure up to 5 bar
- Easy to assemble / disassemble, leak-free operation
- Broadest range of electrode materials possible
- Uses flat 5 cm x 5 cm electrodes. This size is readily available
- Flexibility in electrode spacing, electrode area and reactor volume
- Option to add a reagent part way through the reactor
- Capable of divided cell operation with proton exchange membrane

## Options for stand-alone or integrated reactor

The **Stand-alone** version of the Ion is designed for use in conjunction with your Vapourtec system or with 3rd party pumps and power supply. This version does not include the parts that allow temperature control of the reactor. In other respects, the stand-alone version is identical to the integrated version using identical electrodes and membranes.

The **Integrated** version is supplied together with temperature sensor, heat transfer accessories and housing for mounting the reactor onto the Vapourtec E-Series or R-Series flow chemistry systems.



## Compatible with E-Series & R-Series systems

The integrated version of the Ion electrochemical reactor has been designed to interface with both E-Series and R-Series Vapourtec flow chemistry systems. Connecting the Ion reactor takes less than 5 minutes. Once connected, automated electrochemical reactions can be set up and run using your Vapourtec software.



## Ion electrochemical reaction controller

This is a dedicated power supply designed by Vapourtec specifically for the control of laboratory scale electrochemical reactors. The Ion reaction controller can be used for running reactions in the Vapourtec Ion reactor or with other 3<sup>rd</sup> party electrochemical reactors.

- Logging of reaction data including voltages and current
- Either constant voltage or constant current whichever is lowest
- Current range 1 mA to 5 A, resolution 3 SF
- Voltage range 1.2 V to 36 V, resolution 3 SF
- Accuracy 0.5% of the set point
- Sparking minimised under short circuit conditions
- Size, 120 mm [w] x 165 mm [h] x 345 mm [d]
- Override switch to remove all power from the reactor

