

Welcome to the Winter 2023/24 issue of FullFlow, the flow chemistry newsletter from Vapourtec, a must-read for all scientists interested in continuous processing applications and technology.

Read on to find out the latest product news, new publications using the Vapourtec flow chemistry systems, recent application notes, and upcoming events.

[Product news](#) | [Latest news](#) | [Application notes](#) | [Events](#) | [Publications](#)

Product News

Control the temperature of your pumped reagents with the new SF-10+



Building on the success of the SF-10, this advanced model features upgraded temperature control heating between ambient and 80 °C, with the inlet and outlet tubes matching temperatures for uniformity. The intuitive touchscreen interface and compatibility with serial data commands simplify temperature adjustments. Ideal for diverse applications, the SF-10+ handles reagents prior to flow crystallizations, accommodates higher concentrations and viscosities and efficiently pumps solid reagents at room temperature transitioning to liquids at higher temperatures.

Dr. Manuel Nuño highlights its key advantages here:

[Learn More](#)

Introducing the Peptide-Pilot™



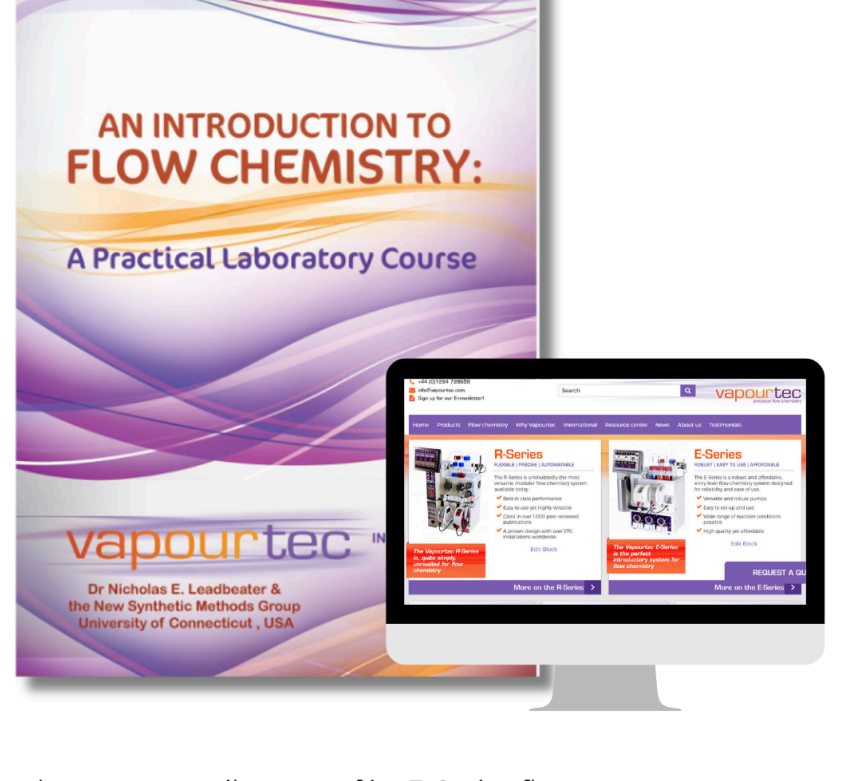
Introducing Vapourtec's Peptide-Pilot™, a game-changing solid-phase peptide synthesizer. Developed in collaboration with a global pharmaceutical leader, it accelerates peptide drug development cycles from weeks to less than a day. With a synthesis scale from 2.0 mmol to 30.0 mmol, it delivers high-quality crude peptides swiftly. Featuring state-of-the-art software with automated side chain addition, its typical reaction time for a 30-mer peptide at 20 mmol scale is under 16 hours. Boasting continuous in-line analytics and minimised solvent usage, the Peptide-Pilot™ is hailed as a marvel of engineering, offering predictability in scalability. Revolutionise your peptide synthesis with unparalleled efficiency.



[Learn More](#)

Latest News

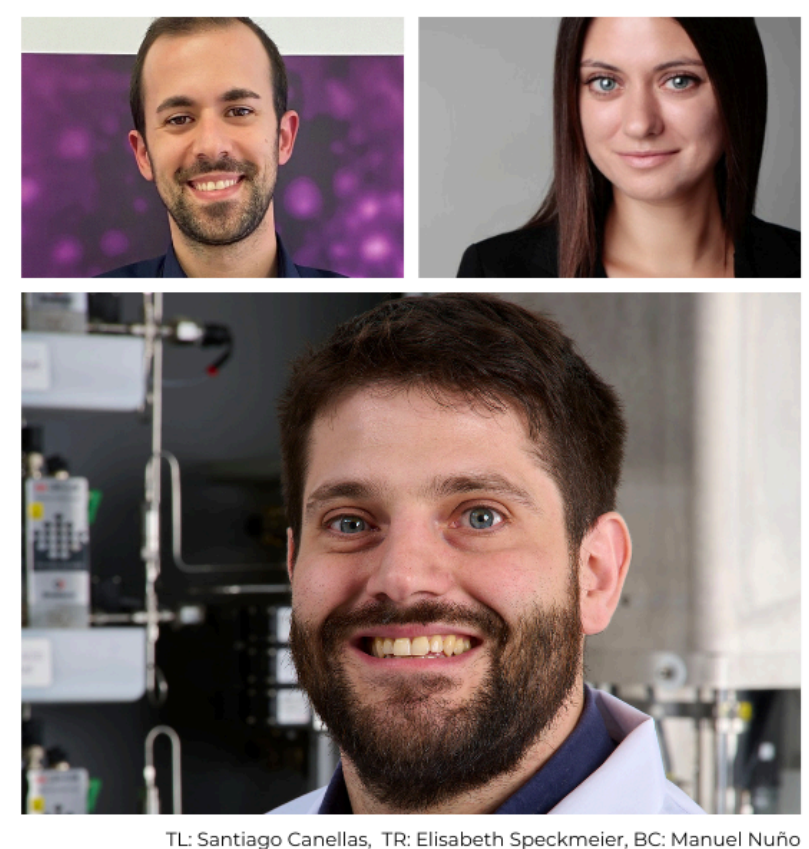
Flow chemistry teaching resource goes online



Vapourtec is marking the ten-year milestone of its E-Series flow chemistry system by making a 100-page chemistry teaching resource available online, for FREE. Titled 'An Introduction to Flow Chemistry – A Practical Laboratory Course', the PDF, curated by Professor Nicholas Leadbeater, encompasses nine experiments tailored for three-hour lab sessions, featuring detailed instructions and workup notes. Duncan Guthrie, Vapourtec MD, highlighted its significance, having accompanied every E-Series system since 2014. Accessible online through Vapourtec's Knowledge Base, this invaluable teaching tool can be found at www.vapourtec.com, emphasizing a decade of E-Series success in global scientific research, with 255 peer-reviewed publications citing its contributions.

[Learn More](#)

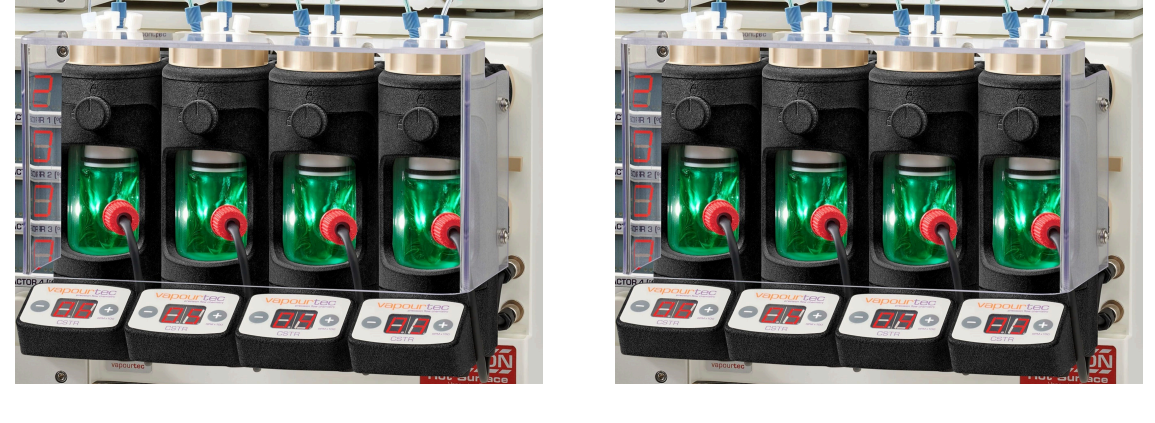
Comment article in Nature Communications: Improving reproducibility of photocatalytic reactions—how to facilitate broad application of new methods



Enabling technologies such as continuous flow can offer more intense and uniform irradiation of the reaction mixture compared to batch reactors. By reducing the distance between the reactor and the light source, as well as shortening the irradiation path length in the reactor itself, a more consistent distribution of photons is achieved. Furthermore, the characterization of photochemical kinetics can be done more precisely, as flow chemistry allows for a linear scale. Read the full publication here:

[Learn More](#)

Application Notes



Application Note 74: Scale up of a SNAr reaction to > 10 kg a day with CSTRs

Application Note 75: Controlled Stevens oxidation - CSTR

In this application note from Vapourtec, the first instalment in a series focused on continuous stirred-tank reactors (CSTR), the application scope of CSTR for reaction scale-up is showcased. The note illustrates the challenges posed by the aromatic substitution of 3,4-difluorobenzene with morpholine, resulting in a poorly soluble product accompanied by equimolar amounts of fluoride salt.

In our ongoing application notes on continuous stirred-tank reactors (CSTR), we showcase their suitability for biphasic reactions, emphasizing critical mixing. The biphasic esterification of an aldehyde via Stevens oxidation scaled up utilizing a cascade of CSTRs, maintaining fast reaction times (<1 minute) and achieving a throughput of the desired building block, surpassing 5 kg/day.

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[Read More](#)

Events

- Flow Chemistry Europe 2024**
07th - 8th March 2024
Malaga – Spain
Attending: CSO Manuel Nuño
[Find out more >>>](#)
- ACS Spring**
17th - 21st March 2024
New Orleans – Louisiana USA
Attending: Distributor Manager: Ali Deuchars
[Find out more >>>](#)
- British Peptide Society**
22nd March 2024
Runcorn – UK
Attending: CSO Manuel Nuño and Research scientist Victoire Laude
[Find out more >>>](#)
- Flow Chemistry European Summit 2024**
25th - 26th March 2024
Rotterdam – The Netherlands
Attending: CSO Manuel Nuño
[Find out more >>>](#)

Publications

Below are 6 compelling publications selected from the 50+ publications citing Vapourtec in recent months. To view all publications citing Vapourtec, [click here](#).

- Covalent organic framework crystallization using a continuous flow packed-bed reactor
[Click to view](#)

Automated multistep synthesis of 2-pyrazolines in continuous flow
[Click to view](#)

Electric field-assisted anion-π catalysis on carbon nanotubes in electrochemical microfluidic devices
[Click to view](#)

Continuous Flow Synthesis of Nitrosoarenes via Photochemical Rearrangement of Aryl Imines
[Click to view](#)

Automated multistep synthesis of 2-pyrazolines in continuous flow
[Click to view](#)

Continuous Synthesis of Carbamates from CO₂ and Amines
[Click to view](#)

