

PRESS RELEASE

Promoting efficient gas dependent flow reactions

Uniqsis Ltd has announced a new **Gas Addition Module** for its FlowSyn continuous flow reactor range. The new module enables fast, controllable pre-saturation of liquid reagents with a wide range of gases thereby promoting efficient gas-dependent reactions in flow, such as carbonylation, hydrogenation, ozonolysis and direct synthesis of carboxylic acids.

Mixing gas and liquids in a controllable and reliable manner has always posed a particular challenge for flow chemists, in particular the prevention of undissolved gas bubbles which have an adverse effect on the control of pressure and residence time in flow chemistry. The novel pressurised tube-in-tube design of the Gas Addition Module overcomes this problem by ensuring continuous interaction between the gas and liquid at every point along its length.

The tube-in-tube design is based on semi-permeable membrane technology, whereby the semi-permeable inner tube containing the liquid (typically a solvent) is bathed by a stream of pressurised gas which is enclosed within a thick-walled impermeable outer tube. The pressurised gas is able to cross the semi-permeable membrane of the inner tube and dissolve into the liquid carried within. However, because of the semi-permeable nature of the inner tube material, the liquid is unable to cross in the opposite direction.

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The Gas Addition Module is compatible with a wide range of reactive gases (e.g. CO, CO₂, H₂, ethene, ethyne, SO₂) and organic solvents (e.g. THF, Acetonitrile, Methanol, Propanol). Capable of generating a continuous gas-saturated solvent stream in typically less than 10 seconds, it enables flow chemists to carry out a wide variety of applications with minimum effort, including heterogeneous and homogeneous gas-liquid reactions such as hydrogenation, ozonolysis, carbonylation, and direct synthesis of carboxylic acids.

A particularly convenient feature of the Uniqsis Gas Addition Module is the availability of an optional Portable Gas Reservoir. This handy space-saving device is easy and safe to charge with gas from a larger reservoir and obviates the need to bring bulky pressurised gas cylinders into the immediate experimental area. The Gas Addition Module can be added in-line to any FlowSyn system and other continuous flow reactors to provide a solvent feed stream pre-saturated with gas, although it can also be used as a reactor in its own right.

For further information about the Gas Addition Module please contact Uniqsis now on +44-845-864-7747 or info@uniqsis.com.

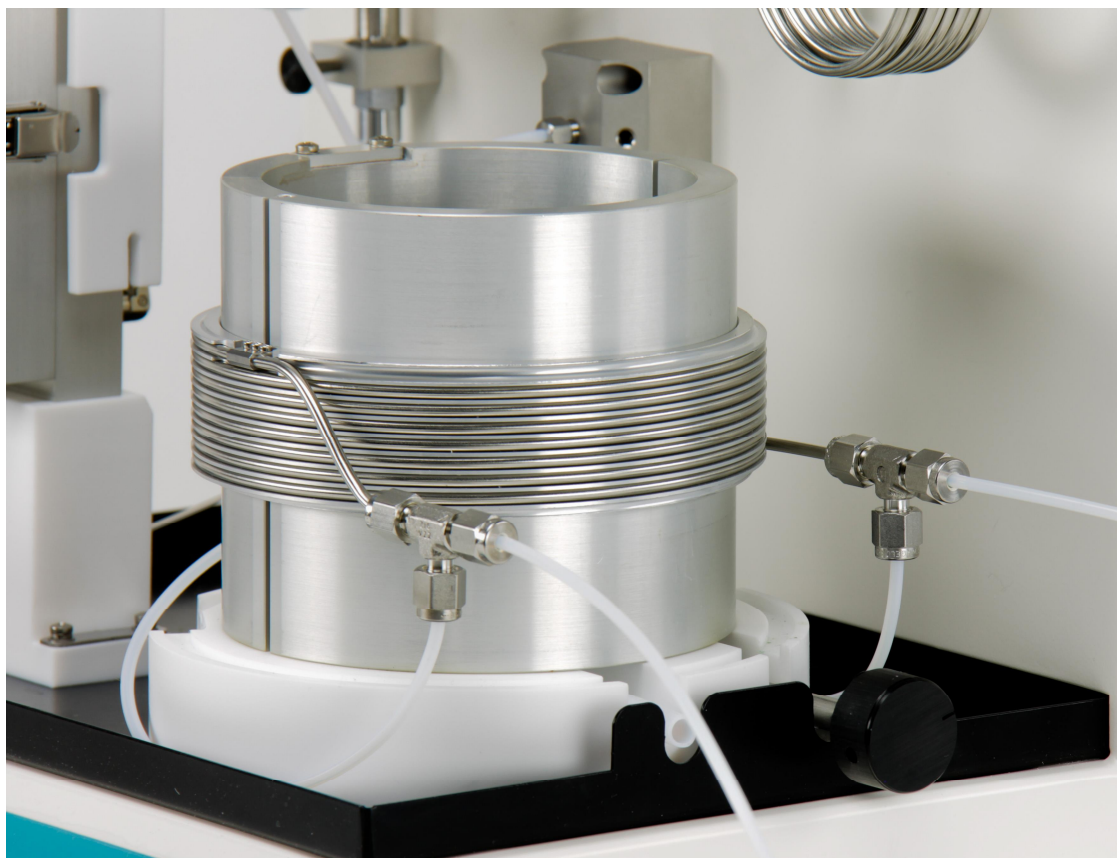
Uniqsis specialises in the design of meso-scale continuous flow chemistry systems for a wide range of applications in chemical and pharmaceutical research. The company's aim is to make flow chemistry easily accessible to both novices and experienced users.

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Illustrative image: (image available on request)



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