ThalesNano's Phoenix Reactor Targets New Chemical Space for Chemists

The Associated Press

ThalesNano today announced the launch of its new reactor, the Phoenix Flow Reactor. Combining flow methodology with high temperatures means Phoenix Flow Reactor can be used to perform synthesis up to 450 degrees C and 100 bar safely, without sacrificing yield. Utilizing these extraordinary system parameters, chemists can create new chemistries or compounds, screen catalysts, or utilize low boiling solvents at high temperatures, which previously have not been possible. This novel system can couple easily with ThalesNano's existing product reactor systems, such as the H-Cube® or H-Cube Pro? to offer multi-step synthesis. The system offers companies a breakthrough to expand their capabilities into a formerly unknown but always desired chemistry space, providing a tool for overcoming dead-end chemistry or creating new chemistry to get ahead of competition.

The system has proven its importance in chemistry laboratories at ComInnex Inc., a chemistry and medicinal chemistry service organization. "We have been fortunate to have the opportunity to explore challenging chemistry steps that did not work well or at all in batch using traditional laboratory techniques," said Dr. Gergely Makara, Director of ComInnex. Inc. "The intuitively easy-to-use Phoenix reactor has helped us solve a number of problems in our research and it has also enabled easy scale-up and production on gram scale. The system indeed fills a gap in the repertoire of tools in the laboratory, it is a must have!"

"It has been ThalesNano's mission, since the establishment of the company 10 years ago, to enable chemists to perform dangerous chemistry safely or make impossible chemistry possible and simple to perform," said Richard Jones, CEO of ThalesNano. "The Phoenix Flow Reactor carries on this concept and really takes chemistry to a new level, but still in a compact, easy to use system. I can't wait to see what chemists can do with it!"

Specifications of the Phoenix Flow Reactor

Maximum temperature: 450 degrees C Maximum pressure: 100 bar Flow rate range: 0.1 - 10 mL/min Solid-Liquid(-Gas) reaction zone volumes : 0.38, 0.76, 7.6 mL Liquid-Liquid reaction zone volumes : 4, 8, 16 mL, 32 mL Residence time: ms - hrs Wetted materials: Teflon and Stainless Steel, Hastelloy reactor is available Safety features, such as emergency stop, automatic start of cooling, leakage detection, are included.

Chemistry possibilities with the Phoenix Flow Reactor:
Unimolecular rearrangements. High temperature cyclization. Novel bicyclic heterocycle formation or saturation. Difficult SNAr type reactions. Transesterification without acid catalysis. High temperature catalyst screening.
About ThalesNano Inc.

ThalesNano is the world leader in bench-top flow chemistry reactors. The company has the widest portfolio of bench-top continuous process instruments for the pharmaceutical, biotech, fine chemical, petroleum/biofuel, and education markets. Its R&D 100 award winning H-Cube® and scale-up system H-Cube Midi? are used in hundreds of laboratories globally and have become the new industry standard for hydrogenation. Within three years from the original introduction of its flagship H-Cube® product, 20 out of the top 20 pharmaceutical companies have introduced and adopted the technology.

About ComInnex Inc.

The company, located in Budapest, Hungary, is a chemistry and medicinal chemistry service organization with strong interest and background in the development of chemical technologies. The company's scientific platform was formed via the fusion of powerful chemistry technology innovation at ComInnex with the outstanding chemistry and medicinal chemistry expertise of the former AMRI Hungary. ComInnex's mission is to enable our partners to access novel chemical space and intellectual property.

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