

News and updates  
from HEL Group

HEL FACT FILE

**Selling to major pharmaceutical, fine chemical & petrochemical companies, HEL has an impressive client list including :**

Bayer  
BI  
Dr Reddy's Laboratories  
Fujifilm  
Johnson Matthey  
Shell  
Syngenta  
AstraZeneca  
BMS  
GlaxoSmithKline  
Johnson & Johnson  
Merck  
Novartis  
Pfizer  
Roche  
Sanofi Aventis  
CIPLA  
Cambridge University  
Imperial College  
MIT  
Max Planck Institut  
University College London  
U Delft  
Tianjin University

# Process Chemistry News

**PRODUCT IN BRIEF:**

**Dedicated battery safety testing calorimeter – the Phi-TEC BTC**

The viability of a future Electric Car industry is reliant on the development of batteries that are orders of magnitude more advanced than those presently available. Quite naturally, a huge amount of research into fundamentally new battery technology is underway.

HEL's "**Battery Testing Calorimeter (BTC)**" is now a key tool in safety testing of new batteries. Clients in China and Europe have already adopted this targeted, dedicated system in preference to older calorimeters previously available.

Typical applications of the BTC include:

- Safety of Li-ion and other chemistries involved in battery development
- Limits on battery charging and discharging rates
- Battery safety in collisions

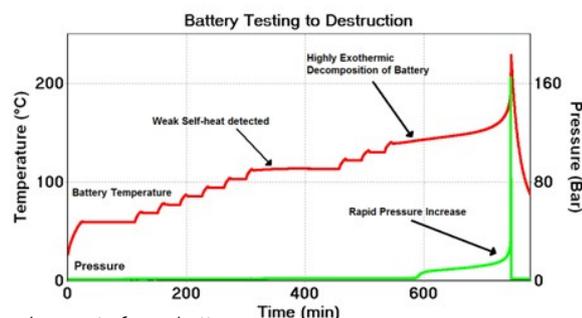
The BTC stands apart in the market with critical features such as;

**Mechanical design;** a strong containment vessel with a burst pressure of 300bar, but with in-built features to prevent pressure rises above even 5bar, in the event of explosive decomposition of large batteries and packs.

**Sensitivity;** accurate detection of the smallest thermal events & especially the ability to test small battery components, as well as complete batteries of any size - without any compromise.



Custom BTC chamber internal free space 35cm diameter x 35cm high



The BTC provides you with data critical for the safe development of your battery

**REVIEWS IN BRIEF: 'Excellent' feedback on content**

**Successful Process Safety Conference in Bangalore for HEL marks the company's continued investment and commitment in India**

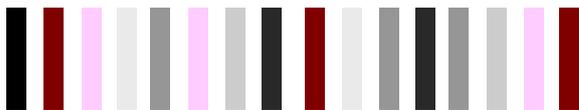


Delegates from 19 Indian companies, including Dr. Reddy's, Pfizer, US Vitamins, Bayer Crop Science, Dupont and Jubilant, to name but a few, participated in this year's HEL conference held at Bangalore, India on 29<sup>th</sup> July.

Presentations included case studies by HEL equipment users from companies such as Pfizer, Dr Reddy's and Intertek, alongside the Safe Scale Up Workshop, run by HEL's Dr Jasbir Singh, a recognized authority on this subject.

"HEL's conference at Bangalore proved to be a good forum for understanding reaction hazards and how the safer scale up activities can be carried out" commented Mr Vishnoi, VP at Dishman Pharmaceuticals & Chemicals Ltd. Mr. Vijay Bhujle, Head of Safety Expert services at Intertek described it as a "very nice conference with relevant topics, detailing Process Safety aspects with case studies", and Dr. Sudhakar, Director at Sai Advantium commented that the "content of the various presentations was good and overall a nice learning experience. I look forward to such events in future".

"The conference provided a platform for chemists and chemical engineers from many pharmaceutical and specialty chemicals companies for understanding how to address the inherent safety issues of process hazards. This was an excellent opportunity for them and for us at HEL to share information and work together to achieve the final objective of safe scale up", commented Mr Dinesh Malviya, Country Manager for HEL in India.



HEL Group

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**TECHNOLOGY IN BRIEF: HEL's hydrogenation reactor systems for catalyst screening and bio-fuel research**

Efforts to produce "green" fuels (bio-diesel, bio-ethanol, etc) as well as sustainable hydrogen production have led to the adoption of many high-pressure products for catalyst screening and development of hydrogenation processes. There

is particular focus on "2<sup>nd</sup> & 3<sup>rd</sup> generation biofuels" –those produced from non-food sources such as waste and co-product biomass (food-waste, stalks from grain crops, animal waste, etc) or directly from biological systems like algae.

The **HP ChemSCAN** is the favoured instrument for screening such applications; it enables 8 different samples to be studied at entirely different conditions of pressure and temperature. 16mL vessels are standard with the option for larger reactors,

without the need for modification to the system, giving scope for scale up work. Immediate feedback is available through measurement and displays of gas uptake in each reactor.



The **HP AutoLAB** is the ideal system for larger scale work studies including kilo-scale production units, typically from 250mL to 20 litres. Full automation with flexibility to address changing needs is a key characteristic.

The use of bio-reactors (or fermenters) also offers potential for producing a similar range of fuels directly from biological (algae)

systems. This has attracted interest in the **BioXplore** systems which are available as both small scale parallel reactors as well as more traditional, bench top fermenters.

**BUSINESS IN BRIEF:**

**Fresh look & functionality to HEL website**



**HEL announces the launch of our brand new and customer focused website.**

Regular visitors to [www.helgroup.com](http://www.helgroup.com) will have noted the new clean and bright layout and application-based product ranges.

Also new is the "Live Chat" feature; visitors are invited to make direct contact with HEL's staff in real-time, in order to answer questions, discuss technical requirements and give feedback.

**COMING EVENTS:**

2-4 October 2010, Paris, France

**2nd Symposium on Continuous Flow Reactor Technology for Industrial Applications**

Dr Jasbir Singh, HEL's Managing Director, will talk at the conference about "FlowCAT, a continuous flow reactor system for hydrogenation screening and small scale production".



*HEL's new FlowCAT is a flexible and cost-effective choice in lab-scale Fixed-Bed Hydrogenation*



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