Bespoke bakeout tent improves workflow down under

We worked alongside Josh Lipton-Duffin a 'traditional' surface scientist by training, with many years of experience building instruments for ultra high vacuum. Josh focuses on the self-assembly and covalent bonding of organic materials on surfaces.

The organisation

Queensland University of Technology (QUT), **Australia**, is a technical university, with specific research areas targeting materials science and surface chemistry.

The Central Analytic Research Facility provide specialist equipment and expert scientists to help carry out analytical research.

Their state-of-the-art equipment and expert technologists offer transdisciplinary analytical support, including sample preparation, data collection and interpretation of results.

On site, they have a number of vacuum systems, including KJL thermal and sputter deposition systems, Kratos XPS, Omicron VTSPM/XPS system, and a Createc low-temperature SPM system.

Josh and his team were introduced to Dylan James Scientific via scientists at Kratos Analytical. Kratos uses a simplified blanket from the same ultimate manufacturer and recommended that QUT talk with Dylan James Scientific, about a customised solution for their Omicron system.

The challenge: **Josh says 'Customer support is the major factor in choosing our supplier.** The location of Oceania is so isolated from the large manufacturing centers for this type of equipment, timeliness in responses to messages and attention to detail is highly valued. Challenges with different time zones can have an impact on effective communication. We found Dylan James Scientific understood our requirements and delivered clear drawings and specs, all with ease. **We purchased a set of bespoke blankets with dimensions to fit our UHV system**'.

The solution: Josh continues 'Dylan James Scientific was very flexible and accommodating with our proposed design, as well as making valuable suggestions for improvement. **They worked more as a partner than a contracted manufacturer**, and ultimately gave us a functional design that was fit for purpose.

The outcome

The new **bakeout system is substantially easier to mount** and dismount than the OEM-delivered one (it can be done by a single worker). **This has improved workflows and reduced manual handling risks considerably'.**

'Dylan James also made good on a manufacturing defect in record time, for which we were extremely grateful'.

Josh Lipton-Duffin, QUT

*The photograph shown has been taken from the Central Analytic Research Facility (QUT) website page.

Wherever you are in the world, we can tailor your bakeout tent to fit your system

Bakeout tents are individually designed to achieve maximum temperature requirements to fit small and large UHV research systems. We would be happy to send you a sample of the advanced materials used to construct the bakeout tent.

Key features

- Bespoke design and manufactured in the UK
- Bakeout routinely at >200°C
- Used by ESCA and MBE OEMs
- Low heat loss
- Dust free and low friction
- Easy to assemble/easy to store
- Developed in 2022 to meet the standards of modern cleanroom compatibility

Applications

- HV and UHV bakeout
- Analysis of gases and liquids
- Degassing of material components
- Cleanroom applications

For further details please get in touch.

We can help with water desorption

The **VB Series of vacuum bakeout packages** are designed to desorb water vapor from vacuum chambers that can take the high heat of short wave IR. High-power infrared radiation heats the vacuum chamber from the inside out which simplifies the bakeout process.

The VB Series comprises the IRB-600IR Emitter and BC-3 Controller. The IRB-600IR Infrared Emitter Assembly provides 600 watts of short wave infrared heating to the inside of vacuum chambers to effectively remove water vapor from the chamber walls. BC-3 Vacuum Chamber Bakeout Controller provides total control of your vacuum chamber bakeout process.

Key features

- Simplifies the bakeout process
- Adjustable power regulation
- Temperature feedback
- Vacuum interlock
- Scalable

For further information please get in touch.

The VB series is developed by RBD Instruments.
Dylan James Scientific are the sole European distributor.

Applications

- Surface analysis systems such as X-ray photelectron and Auger spectrometers

VB emitter and controller.