



Howorth
Air Tech

Case Study

Contained Solvent Sampling from IBCs and Drums

Overcoming Containment and Ergonomic Challenges During the Sampling of Hazardous Solvent Materials from Drums and IBCs

Challenge

Capturing contained product samples from IBCs and drums of varying sizes presents significant ergonomic challenges for operators, while also requiring strict adherence to safety and regulatory standards. This project was on a critical path to meet manufacturing commitments, adding further complexity.

Solution

Howorth leveraged its proven expertise in solvent handling to design a bespoke, ATEX-rated ventilated enclosure complete with a dedicated exhaust system delivering a Single-Pass, once-through airflow. In addition, the client requested HEPA-filtered supply air directed over the opened drums and IBCs during sampling to further enhance containment and operator protection.

Following the initial design phase, a full-scale mock-up was fabricated and reviewed at Howorth. This evaluation highlighted the need for a double-sided sloping visor arrangement, as well as an operator platform, to ensure full ergonomic access during sampling.

For occasional batches requiring <5% oxygen levels, nitrogen purging was incorporated into the design. To support this requirement, Howorth provided a fully welded 316L stainless-steel construction and integrated an oxygen analyser interlocked with the product loading/unloading door, delivering enhanced safety and process control.

Outcome

Howorth successfully delivered, installed, and commissioned a high-quality, bespoke sampling solution tailored to the client's specific requirements. The system meets GMP and occupational exposure standards, ensuring regulatory compliance while providing the precise level of operator protection required.

Our solution effectively overcomes the ergonomic challenges associated with handling drums and IBCs of varying sizes, giving the customer confidence in both safety and operational performance.