



Case Study

Bespoke Fume Cupboard

Containment of solvent dispensing activities and solvent processing OSD equipment

Challenge

Our client required two bespoke walk in fume cupboards including concealed HEPA filtration and specialist services as part of a new non-GMP pilot plant.

The intention of the plant is to support other GMP manufacturing facilities by providing a space to replicate and troubleshoot supply issues those plants are having in a non-GMP environment.

The Fume Cupboard required:

- Stainless Steel for both internal and external components.
- A precise 2.7m internal and 3.0m external wide radius profile.
- The external environment needs to remain non-hazardous.
- Incorporation of integral safety features to the Fume Cupboard.

These requirements posed significant challenges in terms of design precision, material handling, and integration of multiple features within a safety-critical environment.

Solution

To address these challenges, the project team at Howorth Air Technology implemented the following solutions:

- Advanced fabrication techniques to achieve precise dimensions and a wide radius profile.
- Engaged safety engineers to ensure the design met Class 1, Div. 2 standards for the internal environment.
- Designed the external components to be non-hazardous, ensuring user safety.
- Integrated safety features like LED lighting and a sprinkler cut-out without compromising the structural integrity of the hood.
- Implemented modular design principles to incorporate the portable worktop and control system seamlessly.
- 304L stainless steel safechange filter housing including Pre Filter and H14 HEPA filter

Outcome

The fume cupboard passed the static Factory Acceptance Test (FAT) without issues. Established a benchmark for future fume cupboard designs in terms of safety, functionality, and documentation.

Strengthened Howorth Air Technology's reputation in bespoke high-quality equipment manufacturing.

Following completion of the first model the Fume Cupboard was shipped to the US and a successful SAT test was carried out at the client's factory.

The project successfully met all specified requirements and objectives and this facility will successfully provide a space for experimentation of new processes, products and technology.