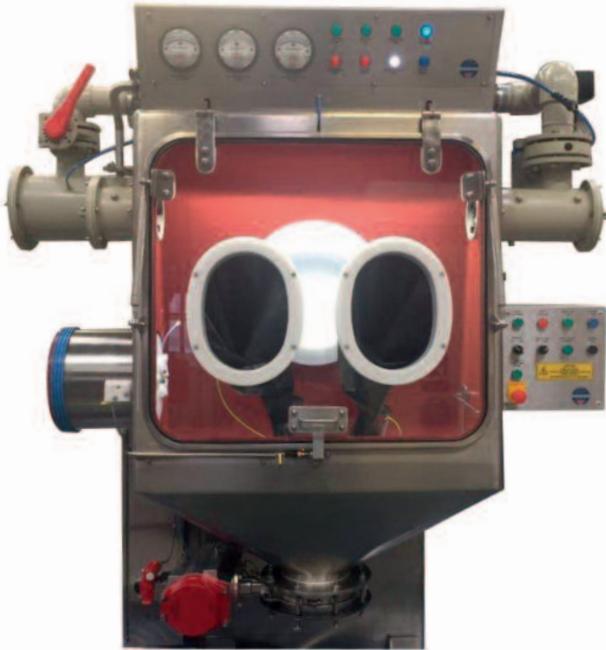


Safe Drum Handling in a Material World

When speciality fabric manufacturer Vlisco approached Hosokawa Micron Ltd seeking a contained drum handling solution to provide a physical barrier between the operator and product to protect their workforce from contact with airborne, fabric dye particles, they were explicit in the challenges that needed to be met.



These including the safe handling of drums of various sizes and the de-lidding, opening and emptying of drums into a reactor vessel within a contained environment.

Hosokawa Micron engineers responded with a bespoke designed drum tipping glovebox, built around the dye reactor vessel, that met all the customer's requirements including an Operator Exposure Level of $<5 \mu\text{g}/\text{m}^3$ to protect operators potentially harmful dusts.

Drums and kegs of different sizes and weights are presented to the glovebox on a roller track and manually moved into the glovebox before being connected to the drum tipper. Drums are de-lidded and bags opened before special container clamps suitable for handling a range of weights/sizes attach the drums to the lifting/tipping device. The drums are then automatically lifted, rotated and dropped onto the reactor where they are located into position to secure and reduce dust creation on discharge.

The system is operated under a nitrogen blanket to minimise dust explosion risk and is engineered for ATEX compliance with drum lifting and rotation operated by intrinsically safe air motors.

As the reactor vessel contains hydrochloric acid, special coatings are applied to the glovebox chamber and plastic parts were used to make up the filter and extraction systems utilising plastic fans, pipework and plastic coated valves and filters.

As an original and heritage textile design company, Vlisco welcomed Hosokawa's bespoke approach to providing a purpose designed containment solution that reduced both manual handling of drums and operator risk.

Michiel Soolsma, Process & Quality Engineer, Vlisco says, 'From the first contact, Hosokawa made a great impression by understanding our problems and coming up with possible solutions. Although we needed more time before starting the project, Hosokawa showed patience and assisted us when asked.'

From the start to the end of the project Hosokawa showed their experience and engineered a glovebox that is operator friendly and could be integrated in our new installation.

I personally enjoyed working together with their engineers on this project with Hosokawa.'

For over 170 years, Vlisco has created more than 350,000 original textile designs. Many of these designs have become cultural treasures, bestowed with special names and meanings by the merchants of Central and West Africa.

