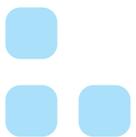




CONTAINMENT BOOTHS

ENGINEERED CONTAINMENT SOLUTIONS



Downflow Containment Booths



Offering optimum operator protection

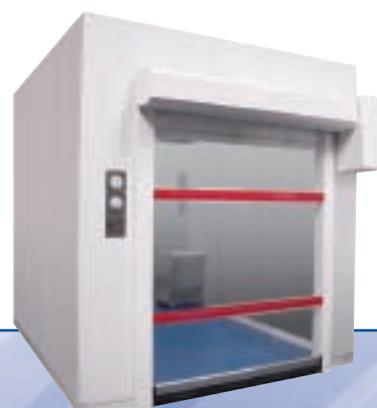
Extract Technology is a leading supplier of containment and aseptic systems for the pharmaceutical and biotech markets. We have been designing and manufacturing containment Booths for over twenty years, and have now installed more than three thousand systems worldwide.

The Extract Technology Booths are used extensively in the pharmaceutical industry to safeguard operators against harmful dusts generated during many manual powder handling operations. Clean air from the ceiling plenum is distributed evenly across the whole of the work area pushing any respirable dust generated downward and away from the operators breathing zone.

As the dust moves down to a low level, the high velocity exhaust grilles direct the dust into the filters. The on-board filtration system comprising of a minimum of fine dust filters and HEPA filters, removes the dust before returning the clean air into the ceiling plenum. A small amount of air is exhausted after the filters thereby creating a slight negative environment. Inward air movement into the Booth at low level ensures containment.

A new high efficiency fan/drive system reduces noise levels, whilst providing automatic fan volume control to overcome the pressure drop as the filter dust burden increases, without the need of a frequency inverter. Magnehelic pressure gauges provide an instant visual indication of the filter condition and the electrical control panel is located at the rear of the Booth to control the lights, motor, power sockets and stop/start station. The customer needs only supply three-phase, neutral and earth to the panel to enable start up.

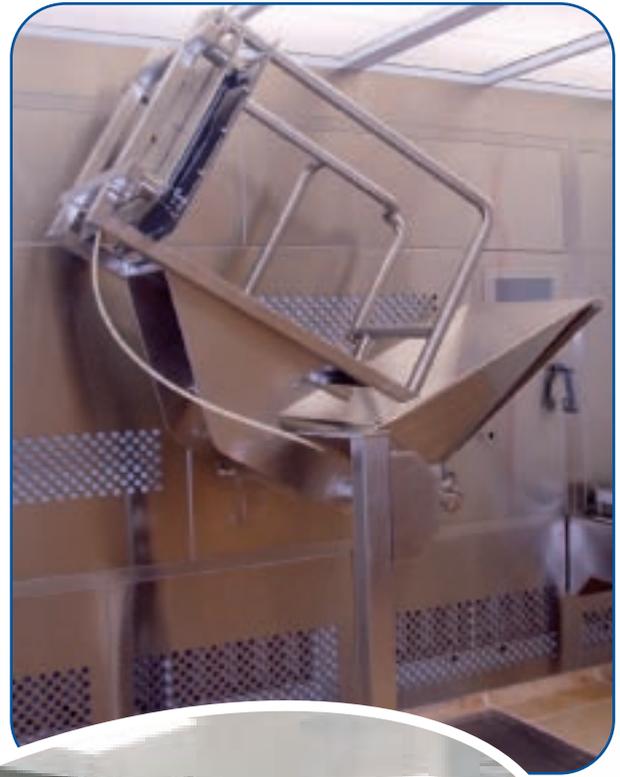
Sampling Booth with Rapid Roller Door



Design Advantages

- Guaranteed operator exposure levels of $100\mu\text{g}/\text{m}^3$ (task duration), which can be improved with the use of flexible or rigid screens to $10\mu\text{g}/\text{m}^3$ (task duration)
- Available in epoxy coated zintec steel, 304/316L stainless steel or a combination of both
- Various heights and widths (up to 6m) are available
- Safe working depths to 2.2m are available to suit all applications
- Custom filtration designs with a minimum of fine dust and then Hepa filters in either the technical stack or the ceiling plenum
- Low noise levels (<70 dBA) on the smaller PharmAir Booth range
- Single pass/once through airflow systems used in applications where solvent vapours are present

Booth with Integral Drum Tipper



Dispensing Suite with Vacuum Lifters and Hoists



6m wide Dispensing Booth

Optional Features

Charging and Pack-off Booth



If required, a comprehensive list of options is available to customise the Booth to your requirements.

- Cooling systems to offset heat gains inside the Booth
- Audible and visual alarm packages
- Dwindraught workbench in various widths
- Safe change (Bag-in, Bag-out) filter housings
- Cut-outs and drawers for the integration of a computerised dispensary management system
- Photo sensitive lighting
- High level exhaust grills
- Door and window systems
- Pallet crash rails
- Base plinth to enable coving by client
- Upgrade to suit explosive dust and gas environments
- Incorporation of lifting and tipping systems
- Materials and personnel airlocks
- Roller conveyors, rapid roller doors and turntables can be incorporated

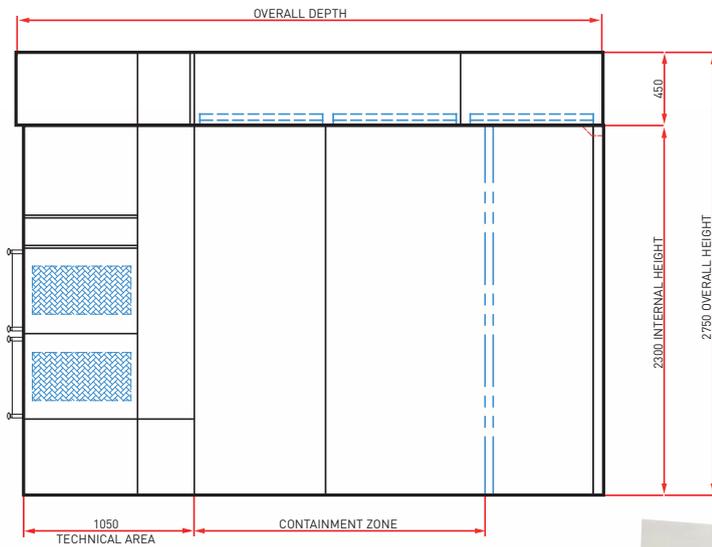


IBC Charging using a Post Hoist

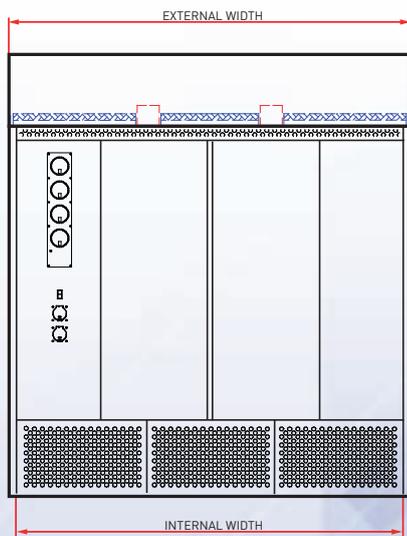
Technical details

Booth size	External width (mm)	Internal width (mm)	Overall depth (mm)			Chilled water flow rate (l/sec)	Fused supply (Amps)
			"L" model (containment depth 1200mm)	"LS" model (containment depth 1800mm)	"LX" model (containment depth 2300mm)		
1.5m	1500	1400	2750	3630	4425	0.13	25
2.0m	2100	2000	2750	3630	4425	0.13	25
2.5m	2500	2400	2750	3630	4425	0.13/0.26 (LX)	25
3.0m	3000	2900	2750	3630	4425	0.13/0.26 (LS & LX)	25
3.5m	3600	3500	2750	3630	4425	0.26	25
4.0m	4200	4100	2750	3630	4425	0.26	25
4.5m	4600	4500	2750	3630	4425	0.26	32
5.0m	5000	4900	2750	3630	4425	0.26/0.39 (LX)	32

Standard Internal Height on all Booths: 2300mm – Standard Overall Height on all Booths: 2750mm – Standard Technical Area Depth: 1050mm.



Dispensing Booth



High Containment Booths



Flexible Containment Screen (patented)

For those applications where more potent compounds are being handled, then Extract Technology have significant experience of designing Containment Booths that will keep the operator's breathing zone away from these more harmful dusts. These involve either a fixed or flexible containment screen, or a stainless steel workstation.

Operator exposure levels in standard Booths are normally guaranteed to be less than $100\mu\text{g}/\text{m}^3$ TWA, but these can be improved with the use of flexible or rigid screens to $<10\mu\text{g}/\text{m}^3$ (task duration). Critical to the achievement of these levels are the SOPs which need to be developed in conjunction with the operators and then strictly adhered to during the work operation.

In 1989, Extract initiated independent validation on three designs of Booth, and validated that levels as low as $1\mu\text{g}/\text{m}^3$ were achievable with Booth technology and the incorporation of a rigid screen with glove ports.

Design Advantages

- Independently validated to $<10\mu\text{g}/\text{m}^3$ (task duration)
- Existing Booths can be upgraded in-situ allowing new products to be handled safely
- Rigid and flexible screens together with stainless workstations are available depending upon the application and number of operations to be undertaken
- These Booth enhancements can be installed as a permanent or temporary fixture
- Whatever the application and containment level that you need, then Extract will have validated solutions to show you as a basis of any initial design input



Mobile Flexible Workstation

Glassware Containment Booths

The Extract Technology Glassware Containment Booth has been developed to protect personnel from hazardous dusts, vapours and aerosols during reactions, distillation and general experimental work, normally undertaken in Kilo Labs.

Modular construction offers the ultimate in design flexibility, with three operating widths available. Operator access to the glassware rig is provided by robust hinge open doors with safety glass vision panels. An air transfer grille mounted in the base of each door permits movement of the fresh air supply from the operator zone through to the equipment zone.

The airflow method ensures that the glassware equipment enclosure is maintained under negative pressure and that all vapours are effectively drawn into the exhaust plenum. Unlike traditional walk-in fume hoods, Glassware Containment Booths offer operator protection to levels as low as $10\mu\text{g}/\text{m}^3$ (task duration) with 100% fresh air supply.



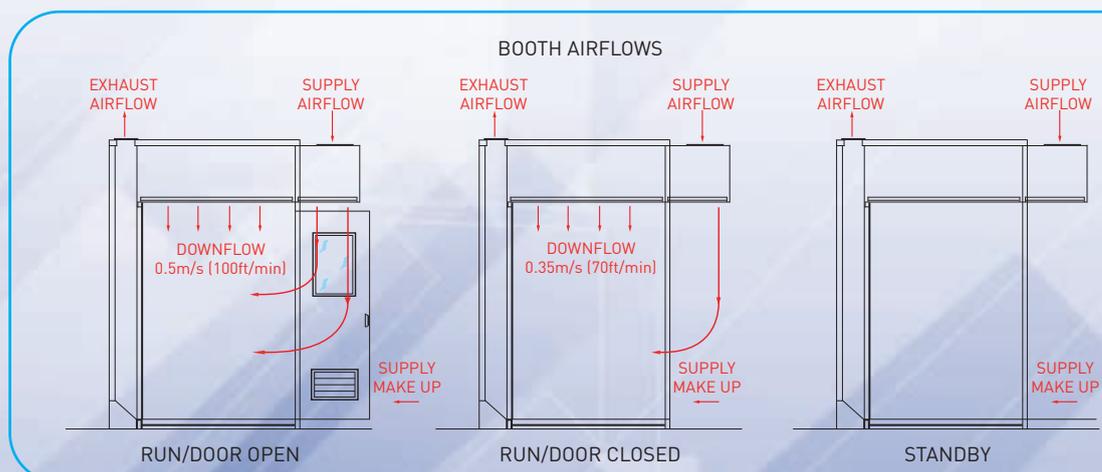
Glassware Booth

Design Advantages

- Modular construction offers the ultimate in design flexibility
- Operator exposure levels of $<10\mu\text{g}/\text{m}^3$ (task duration) are attainable
- Most operations are carried out from outside the Booth structure
- Integrated with customers own HVAC system, or supplied as part of the Booth package
- Hazardous area plenum mounted lighting
- Reduced airflow settings for stand-by or night operation
- "Stay open" hinged doors to assist equipment loading



Glassware Rig



Additional Containment Systems

To complement the range of Downflow Booths, Extract also have considerable experience in a wide range of airflow devices including Powder Handling Benches, Drum/Solvent Booths and Laminar Flow Booths.

We also offer installation, commissioning and IQ/OQ validation by our fully trained engineers to ensure the system fully conforms to your requirements. To complete the package, our dedicated Spares and Service Department will supply total aftermarket support.



Drum/Solvent Booth



Quadraflow Bench



Powder Handling Bench

Extract Technology are also able to offer other Engineered Solutions such as Rigid and Flexible Isolators, Contained Powder Discharge Systems, Sampling and Dispensing Facilities.

extract TECHNOLOGY LTD.

Bradley Junction Industrial Estate
Leeds Road
Huddersfield HD2 1UR
United Kingdom

Tel: +44 1484 432 727
Fax: +44 1484 432 659
US Toll-free: 1-800 891 7834
Web: www.extract-technology.com