Robotics Systems and Laboratory Automation Enclosures

INNOVATIVE SOLUTIONS FOR ADVANCING YOUR RESEARCH:

Improve Reliability · Improve Productivity · Improve Safety

Installation at Columbia University, USA. Picture courtesy of Tecan Schweiz AG

Process Safety and Hazard Containment

Bigneat manufactures cabinets and enclosures for effective containment of your laboratory automation robotics. We provide protection both for your staff and for your process, preventing contamination and providing a safe working environment.

Air Purification Expertise

Bigneat enclosures may utilise on-site air extraction ducting, recirculatory carbon filtration technology or HEPA filtration. A combination of filters and airflow patterns (Class II 'Type') are employed to give both product and operator protection when required.

Typical Applications

The containment of laboratory apparatus, cell culture equipment, drug discovery robotics, high throughput laboratory automation, liquid handling workstations, instrumentation for genomics, proteomics and diagnostics.

Bench Top Enclosures

Operator Protection

Bench mounted system including chute for used tips

Laboratory apparatus may be enclosed within a standard recirculatory filtration fume cabinet or an enclosure may be built to fit.

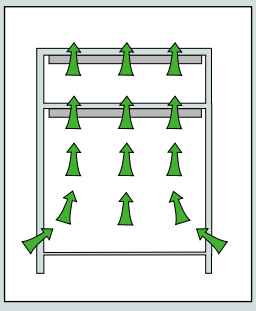
Cabinets may be assembled over existing equipment, directly onto the bench.

Modular Extraction System

Operator Protection

An extraction enclosure incorporating carbon and/or HEPA filtration to remove hazardous vapours and particulates, returning air back to the laboratory in a clean and safe condition.

Options include a choice of door types and removable panels for operator access for services and loading/ maintenance of robotics system as required for your process.



Key Features

- Ducted or recirculatory filtration
- Designed to suit individual robotics systems
- Excellent access for maintenance and servicing
- Emergency stop control
- Mechanical and electronic interlocks
- Lighting and UV lamps included

Options

- Variety of door arrangements
- Climatic control (temperature & humidity)
- Electrical sockets
- Tip chutes
- Carbon filters – remove chemical vapours
- Leaded acrylic windows – for when radioactive compounds are used

Terminology

Recirculatory Carbon Filtration Technology

Often referred to as 'Ductless', these systems are ideal for enclosing robotics and analytical equipment that may give off small amounts of hazardous vapours and/or particulates.

Enclosures for Operator Protection

Air is drawn away from the operator and upwards, it is then cleaned in the filter system situated in the roof of the cabinet.

Enclosures for Product Protection

HEPA filtered air is blown downwards onto enclosed apparatus.

Free-standing robotics workstation

The top front cover picture is of an installation at the Max Planck Institute in Germany where a Class II 'type' bio-protection cabinet is installed within a Class 100 clean air enclosure. The best possible level of sterility is achieved for the robotics system, with extremely high levels of operator protection provided in critical areas.

Bio-Containment for Robotics

Operator & Product Protection

BIGNEAT offers a wide range of enclosures to meet the ever increasing demand within the Pharmaceutical industry for rapid throughput and reliability of biologically sensitive processes and associated bio-hazards.

Biological robotics enclosures are available in a variety of styles and levels of protection, operating to Class II biological safety cabinet containment performance or Class 100 air conditions.

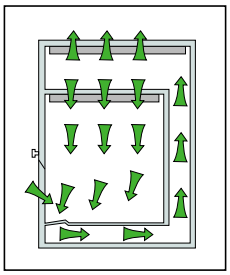
Every robotics enclosure is built to precise specifications to suit the particular requirements of your individual process

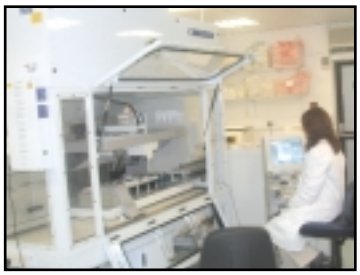
Modular Enclosure System

Class II Bio-Protection Levels

A modular design cabinet of any required size, assembly, installation and set-up is made easy by design.

Air flow patterns are similar to Class II biological safety cabinets, bio-protection is at a level to rival cabinets built to the European Class II Standard.





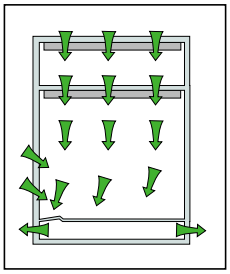
Enclosure for tissue culture

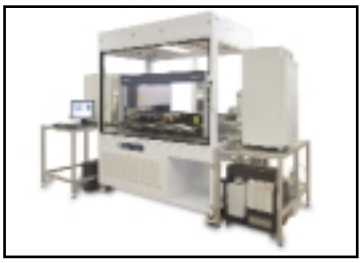
Modular Safety System

Operator & Product Protection

Modular cabinets offering all round vision of the enclosed robotics system. Options include a choice of door types and removable panels - these cabinets are ideal for robotics systems that require excellent access for maintenance and loading.

Two HEPA filtration units are incorporated into this cabinet design; one (within the roof of the enclosure) blows Class 100 sterile air downwards; the other (situated under the unit) draws air from the room past the operator and down at the front of the enclosure.



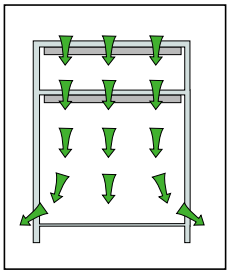


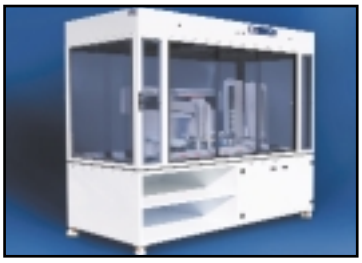
Stem cell culture system

Clean Air Cabinets

Providing Product Protection

A cabinet providing clean air Class 100 conditions – a filtration unit in the roof of the enclosure blows sterile air down over the enclosed robotics systems – this design is ideal for processes that are not hazardous to the operator.



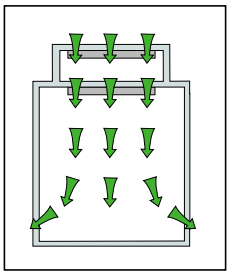


Enclosure for assay development

Walk-in Sterile Air Solutions

BIGNEAT has developed a range of walk-in enclosures that are necessary for the ever increasing size of robotics systems and where a free standing clean atmosphere enclosure is required within an existing larger room.

Options include humidity and temperature control and controlled atmospheres.



Room enclosing analytical equipment

Large Environmentally Controlled Enclosures

To satisfy the growing need for upgrade of existing laboratory areas to enclose pharmaceutical research processes, Bigneat offers rooms incorporating recirculatory carbon filtration and/or HEPA filtration.

For Class 100 clean air areas for larger laboratory equipment Bigneat offers a range of competitively priced clean environments up to 30 sqm.

Enclosure for mass spectrometer

Robotics enclosure

Why Bigneat?

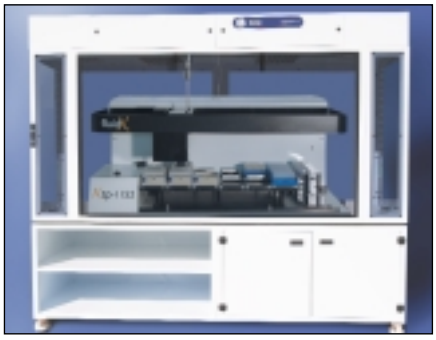
Since 1972 we have been designing, constructing, installing and maintaining just about every conceivable style of containment system. Then a small business, now a company of international standing - we enjoy an unrivalled reputation as the world's most innovative supplier in this specialist market.

Creating the perfect working environment, where safety and accessibility of working machines is maximised, has never been more important than it is today. Creating the ideal containment solution demands vision, design expertise, and excellence in engineering. These are the qualities of Bigneat.

High throughput screening area

Controlled atmosphere cabinets

Linear track system



Liquid handling and processing

Your Effective Partner

Bigneat will design your enclosure to be an effective 'marriage' with your robotics system. It will be built for your particular manufacturer's robot and your procedures will be taken into consideration. The design will include your specific access, utilities and interlock requirements.

Bigneat will then work with your robotics system supplier to ensure a coordinated installation. Bigneat will ensure that commissioning and validation is carried out smoothly, thus reducing the need for engineer re-visits and avoiding the need for call outs for unexpected installation work.

Bigneat is often approached for literature following recommendation by existing customers. Attention to detail, product quality and the understanding of the importance of safety issues are the reasons given.

Users Around the World Include

- Amgen
- Astra Zeneca
- Bristol-Myers Squibb
- Cambridge Antibody Technology
- Lilly Research
- Evotec
- Galapagos
- Genentech
- GlaxoSmithKline
- Max Planck Institute
- Maxygen
- Merck
- Novartis
- Organon
- Pfizer
- Pierre Fabre
- Sanofi
- UCB Celltech
- Specs
- Vertex Pharmaceuticals

Manufacturers Systems Enclosed Include

Beckman Coulter, CyBio, Biosero, Velocity 11, PerkinElmer, Qiagen, RTS, Tecan, fluidX, Hamilton, Matrix, Genetix

Quality Assured

Bigneat is accredited to ISO 9001:2000.

Bigneat Limited

4 & 5 Piper's Wood Industrial Park, Waterberry Drive, Waterlooville, Hampshire PO7 7XU U.K.
Tel: +44 (0)23 92 266400 • Fax: +44 (0)23 92 263373 • E-mail: sales@bigneat.com

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Work Safely with Bigneat