



# Safety Cabinets and Hazard Enclosure Systems

## **The NEW Bigneat Range of Ductless Filtration Cabinets, Enclosure Systems and Workstations**

**Bigneat Containment Technology,  
the effective way to  
eliminate airborne risks and  
to purify laboratory air**



# Bigneat Ductless Filtration Fume Cabinets



4002



6003



8004

## Uses

For the effective removal of chemical fumes, vapours and particulates. Typical uses in the laboratory include handling of acids and solvents, and any application or process involving toxic chemicals.

## Range

The new Bigneat cabinets are launched with the knowledge that their design features and level of safety provided for the user makes them not only one of the SAFEST cabinets on the market, but also the most cost effective to purchase and maintain.



1004



1204



1504

## Cabinet Features

- No ducting is required, therefore installation costs are kept to a minimum.
- Portability of Bigneat cabinets enables positioning in the optimum location, less walking around the laboratory thereby substantially reducing risk.
- Safer for the environment, no pollution to the atmosphere, filters are removed and bagged for documented and accredited disposal (see Equipment Care & Validation Service literature).
- Quiet operation, less than 50 d(B)A and low power consumption.
- Low air flow and hour counter alarms.

## Construction

Bigneat cabinets are manufactured from polyester coated steel. Aluminium uprights are anodised for added protection, offering exceptional structural strength to support the 8mm thick transparent panels which are highly corrosion resistant and easy to clean in the event of accidental spillage. Front door flaps are hinged to enable easy access for larger items of equipment. Advanced flatpack manufacturing techniques ensure easy transportation and assembly. The rear of the cabinet may be a clear panel or a polyester coated white panel. This is offered as a no cost option.



1004 with mobile trolley and cupboard



Chemcap™ filters are easily accessed for servicing

## Face Velocity

All Bigneat cabinets are set to run with an average face velocity of 0.5m/s. However, cabinets can be set up to run at alternative velocities to suit specific requirements, the local environment, and cabinet location.

*Alternative working access options and special apertures are available on request*

### Technical Information and Specifications for Bigneat Ductless Filtration Fume Cabinets

Part No.	Description	Dimensions (mm-external) width x depth x height	Dimensions (mm-Internal) width x depth x height	Air changes per minute at 0.5 m/s	Base tray
BC4002	<b>Ductless Filtration Fume Cabinet</b> , supplied with pre-filter, carbon filter of pre-determined type and HEPA filter on request	410 x 540 x 900	380 x 495 x 580	24.0	Option
BC6003		600 x 570 x 1145	570 x 520 x 810	16.0	Option
BC8004		800 x 570 x 1145	770 x 520 x 810	11.8	Option
BC1004		1000 x 570 x 1145	970 x 520 x 810	9.4	Standard
BC1204		1200 x 570 x 1145	1170 x 520 x 810	7.8	Standard
BC1504		1500 x 570 x 1145	1470 x 520 x 810	6.2	Standard
Optional Extras					
SO	<b>Service Option</b> , cabinet to be supplied with additional fittings including swan neck water tap with drip cup, gas tap and 13amp electrical socket	The gas and water supply hoses are fitted with quick release couplings, the supply and waste flexible hoses are 2m long			
L	<b>Lighting</b> options, 11 watt fluorescent	Lights can be positioned to effectively illuminate the working area			
MT	<b>Trolley</b> with 130mm locking wheels and shelf	These optional items are manufactured to fit the specific cabinet. When ordering separately please supply model number			
MTC	<b>Trolley</b> with 130mm locking wheels and cupboard				
B	<b>Base tray</b> manufactured from high density polypropylene				

## Bigneat Horizontal Flow Chemical Workstation



1000 Chemical Workstation

Bigneat Horizontal Flow Workstations are ideal for use when working with chemicals, where there is a need for a strong horizontal airflow across the working surface. Air is drawn through rear baffles, before passing through the Chemcap™ filtration system, ensuring an even and non-turbulent flow pattern.

This style of workstation offers exceptional working access and is ideal for applications such as dispensing from large containers.

### Technical Information and Specifications for Bigneat Horizontal Flow Chemical Workstation

Part No.	Description	Dimensions (mm-external) width x depth x height	Dimensions (mm-internal) width x depth x height
HWC 1000	<b>Horizontal Flow Chemical Workstation</b> , supplied with pre-filter, carbon filter of pre-determined type and HEPA filter on request. The base tray is integrated within this Bigneat work station	1000 x 710 x 1160	970 x 475 x 770
HWC 1500		1500 x 710 x 1160	1470 x 475 x 770
HWC 2000		2000 x 710 x 1160	1970 x 475 x 770

### Guidelines To COSHH



COSHH regulations state that it is important to ensure that your employees understand the hazardous substances to which they could be exposed. Your control measures will not be fully effective if the cabinets are not used properly, and in accordance with their specification.

Once your Bigneat cabinet or containment system has been installed, a safety briefing takes place and Good Working Practice procedures are implemented. These should be included in your COSHH Code of Practice to ensure the continued safe use of your Bigneat equipment.

# Bigneat Storage Systems



834 Chemical storage cabinet

Evaporation from drips and open containers contributes considerably to poor quality air within the laboratory. The Bigneat range of storage cabinets removes vapours, purifies air and enhances the long-term health of laboratory personnel.

Bigneat Chemical Storage Cabinets may be supplied as a ducted installation or portable with the Chemcap™ filtration system.



812 Shelf storage cabinet



822 Mini storage cabinet



844 Chemical storage cabinet (double)

## Technical Information and Specifications for Storage Systems

Part No.	Description	Dimensions (mm—external) width x depth x height	Capacity in litre bottles
CS 812	Shelf storage cabinet for use with chemicals in daily use, supplied with spill tray and absorbent mat	830 x 250 x 620	10
CS 822	Storage cabinet for commonly used chemicals with spill tray and absorbent mat	830 x 410 x 720	48
CS 834	Floor standing cabinet supplied with Carbon filter of pre-determined type	819 x 510 x 2000	100
CS 844		1618 x 510 x 2000	200
When supplied for ducted installation 834/844 cabinets are provided with a 125mm exhaust spigot			
Optional Extras for Storage Cabinets 812 and 822			
W	Brackets for wall mounting		
S	Stand for bench or floor mounting		

# Bigneat Special Enclosure & Containment Systems



Mobile enclosure for a robotic system



Environmentally controlled room for a mass spectrometer system



Robotic enclosure for the containment of a high throughput screening system

Bigneat have many years experience in providing solutions to meet the rapid changes and developments of pharmaceutical process technology. Shown here are a few examples of containment solutions; the enclosure of robotics and analytical instrumentation such as preparative HPLC and mass spectrometers. All Bigneat enclosures incorporate local or remote filtration using the Chemcap™ high performance filtration systems or directly duct to atmosphere. Certain models also feature climatic and temperature control.

**Bigneat Ductless Filtration Fume Cabinets coupled with Chemcap™ filtration systems meet the world's most stringent standards: The AFNOR NF X 15-2 Class II and BS 7989:2001**

**What is AFNOR NF X 15-211?**

AFNOR NF X 15-211 is a European standard for ductless filtration cabinets and specifically relates to FILTRATION PERFORMANCE.

AFNOR NF X 15-211 defines the criteria that a recirculatory filtration cabinet must meet in two phases of its use. These are in the normal operation phase of the filter's life and in the saturated phase.

Meeting these precisely defined standards and assured low levels of chemical release through the filters, protects users at all times.

**What is BS 7989:2001?**

BS 7989 is the British Standard that defines the specification and operation of ductless fume cabinets, their manufacture, supply, installation and use. It is a very comprehensive HAZARD CONTAINMENT specification.

BS 7989 covers aspects of safety including electrical, mechanical, chemical, sound levels, ergonomics and access monitoring devices, assessment of potential hazard before use, materials of construction, the filtration system and the testing of filters and commissioning.



Independent containment validation tests have been carried out on Bigneat cabinets by Invent UK.



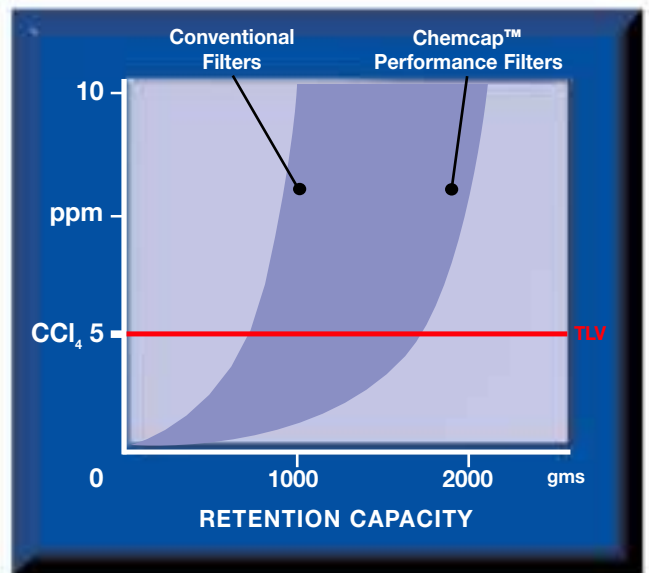
**Filtration**

Chemcap™ filtration systems are used in all Bigneat cabinets and provide a filtration efficiency of 99.9% throughout the life of the filter, with no deterioration in performance.

This capability is the result of many years of research and development, and the use of rigorous quality control procedures to maximise physical adsorption of organic species and chemical absorption of acids and alkalis. Pore size distributions of activated carbons used to pack Chemcap™ filters are carefully tailored to suit specified absorptions, and carbons are sourced only from reputable manufacturers capable of providing the required level of ongoing quality assurance.

Tests carried out by the University of Portsmouth have demonstrated the outstanding adsorption capacity of Chemcap™ Filters in comparison with other products. Chemcap™ filter casings are designed to give high density packing of carbon and careful control of cabinet air flow, ensuring even adsorption across the filter bed.

Levels of toxic species in recirculated air are well within the recommended occupational exposure limit for pollutant gases having molecular weight equal to or greater than 30.



**Choice of Chemcap™ Filters**

Filters type OS and H<sup>+</sup> are suitable for most organic vapours and acid handlings. However we recommend:

- Filter type OS where organic vapours predominate
- Filter type H<sup>+</sup> for handlings where acid vapours predominate
- Filter type F is used when formaldehyde predominates
- Filter type AM is used when ammonia predominates
- Filter RI HEPA is used with radioactive iodine

Choice of Chemcap™ Filters					
Type of vapours handled ↓	→	Chemical without particulates		Combination for chemical with particulates	
		ORGANIC VAPOURS secondly acids	→	Filter	OS
ACID VAPOURS secondly organic vapours	→	Filter	H <sup>+</sup>	Filter	H <sup>+</sup> HEPA
FORMALDEHYDE	→	Filter	F	Filter	F HEPA
AMMONIA	→	Filter	AM	Filter	AM HEPA
RADIOACTIVE IODINE	→			Filter	RI HEPA

**Bigneat is well known as a leading manufacturer of hazard containment systems, for the effective removal of fumes, vapours and particulates.**



## Why Bigneat?

Because Bigneat possesses the engineering expertise and manufacturing experience to produce products of the highest quality and the highest specification. This capability enables the company to meet the exacting demands and standards of world contamination and containment technologies.

Within this brochure we comment that Bigneat Ductless Filtration Fume Cabinets have advantages over fixed fume cupboards, principally because of the low installation and running costs. Filtration systems are particularly ideal for low volume chemical applications and they free up expensive fume cupboard space. To maximise safety in the laboratory we believe that both types of safety enclosure should be used in partnership to provide the safest possible working environment.

Talk to the Bigneat technical team for application advice and assessment of the suitability of recirculatory filtration cabinets for your applications.

## A Comprehensive Service & Product Range

Bigneat has been supplying containment and enclosure systems for more than 25 years. In that time the company has developed distinct areas of expertise.

- Ductless Fume Cabinets – carbon filtration
- Powder Handling Cabinets – HEPA filtration
- Storage Systems – filtered or ducted
- Microbiological Safety Cabinets – operator and product protection

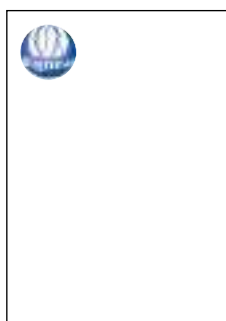
Special cabinets and enclosure systems are a major part of the Bigneat product range, being manufactured individually to the customer's own specifications.

Bigneat have supplied over 4000 cabinets currently in use. These are supported by a team of service engineers who ensure their continued performance is in accordance with their operating specifications and in compliance to COSHH regulations.



**Robert Monks**  
Managing Director

"In recent years Bigneat has developed a sound and enviable reputation for providing the highest standard of products and service in the most demanding industries. We are delighted to introduce this new Bigneat range, incorporating Chemcap™ filtration systems, the latest carbon filtration technology to result from the companies extensive research and development programme."



Note: Crown copyright material is reproduced courtesy of Her Majesty's Stationery Office.



**BIGNEAT**  
Containment Technology

### Bigneat Limited

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

[www.bigneat.com](http://www.bigneat.com)