



CONTAINMENT  
TECHNOLOGY

LA PRODUCT RANGE

## Laboratory Automation & Robotic System Enclosures

A WORLD CLASS MANUFACTURER OF ENCLOSURES





**CONTAINMENT  
TECHNOLOGY**

## Innovative Solutions for Advancing your Research

### **BIGNEAT MANUFACTURING A SMARTER RANGE OF ENCLOSURES**

This brochure will enable you to make a quick and easy selection of the model and size of safety enclosure for containing your laboratory automation equipment.

#### **STEP 1**

Knowing the protection you and/or your process requires, choose your model

#### **STEP 2**

Knowing the footprint of your chosen equipment, specify the size you will need

#### **STEP 3**

Choose your options

#### **STEP 4**

To request a comprehensive Speed Quote send us an email or call us detailing your needs



to find out more call

**+44 (0)2392 266400**

or email

**Info@bigneat.com**

or visit

**www.bigneat.com**

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



## Safety Enclosure

This non-filtration enclosure is constructed to protect operators from potentially hazardous moving mechanical laboratory equipment.

Large optically clear acrylic windows and doors allow maximum penetration of ambient external lighting to minimise shadows. The enclosure is fitted with a laboratory grade 16mm high-pressure laminate work surface.

An epoxy-coated steel stand with self-levelling/lockable castors can be provided for full mobility and a storage cupboard can be fitted as an option to this stand.

Normal (white) lighting is incorporated as standard.

**Enclosure general construction:** Textured finish epoxy-coated, steel frame modules, colour - white. Clear acrylic (8mm) panels installed in UHMW tracking. Lab grade HPL 16mm composite laminate work surface.

### ENCLOSURES & SIZES

PART NUMBER	EXTERNAL mm			INTERNAL mm		
	WIDTH	DEPTH	HEIGHT	WIDTH	DEPTH	HEIGHT
RE1235/01	1235	1015	1333	1115	873	1190
RE1520/01	1520	735	978	1400	593	835
RE1850/01	1850	1015	1463	1730	873	1320

### STANDS & SIZES

PART NUMBER	WIDTH	mm	
		DEPTH	HEIGHT
RE1235/03 or /04	1235	1015	850
RE1520/03 or /04	1520	735	850
RE1850/03 or /04	1850	1015	850

**Stand materials of construction:** White epoxy coated mild steel with levelling/lockable castors.

/03 Open Stand /04 Cupboard Stand

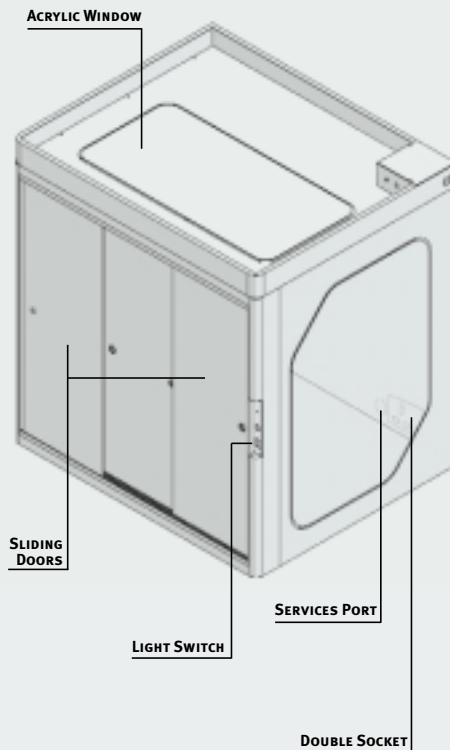
**Included enclosure features & options** (refer to back page)

CF	CS	ES	FC	HP	LT	SP	TC	TS	UV
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

**Stand choice**

SO	SC
<input type="radio"/>	<input type="radio"/>

- included
- option/upgrade
- not required
- stand required



Note: Acrylic triple sliding doors and rear panel can be removed for full access.



# Enclosure for Operator Protection

This enclosure is designed and constructed to provide operator protection from both contact with moving automated mechanical equipment and potentially hazardous fumes released from the enclosed processes.

The gas-spring assisted steel and clear-acrylic upper access door is fitted with a neoprene gasket to ensure airtight sealing when closed and interlocked with the lower steel door. The lower door incorporates triple clear-acrylic sliding windows and enables excellent access to the interior during robot set-up and maintenance. Room air is drawn through the intake slots incorporated in the lower sliding windows. Both access doors are locked down using two 'T' handles during normal operation.

The carbon and HEPA filters installed in the multiple roof-mounted fan and filter modules absorb any hazardous compounds or particulates, such as DMSO and return safe air back into the laboratory.

An LCD membrane-type control panel provides audible and visual alarm indication of low airflow and door open warning.

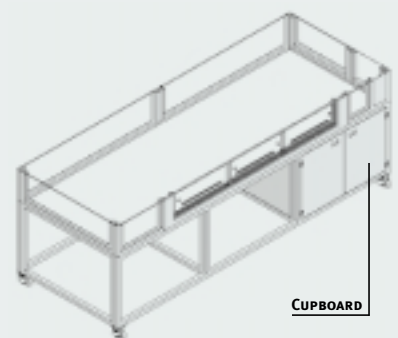
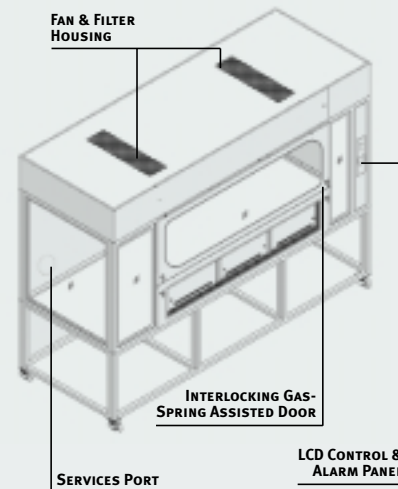
An epoxy-coated steel stand fully supports the enclosure and self-levelling/lockable castors provide full mobility. A storage cupboard can be fitted as an option to this stand.

**Enclosure general construction:** Gloss finish epoxy-coated, steel frame modules, colour - white. Epoxy-coated steel doors, fitted with neoprene seals.

Clear acrylic, 8mm panels fitted to UHMW triple tracking.

Lab grade HPL, 16mm composite laminate work surface.

**Filtration:** Chemcap™ carbon filters are highly efficient, absorbing a wide range of commonly used chemicals (more details available on request). Pre-filters remove particles down to 5 micron, whilst the Class H14 HEPA filters remove particulates down to 0.3 micron.



## ENCLOSURES & SIZES

PART NUMBER	EXTERNAL mm			INTERNAL mm		
	WIDTH	DEPTH	HEIGHT	WIDTH	DEPTH	HEIGHT
RO1500/01	1500	1180	2400	1420	1100	1180
RO1800/01	1800	1180	2400	1720	1100	1180
RO2200/01	2200	1180	2400	2120	1100	1180
RO2600/01	2600	1180	2400	2520	1100	1180
RO3200/01	3200	1180	2400	3120	1100	1180

**Included features & options** (refer to back page)

CF	CS	ES	FC	HP	LT	SP	TC	TS	UV
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Stand choice**

SO	SC
<input checked="" type="radio"/>	<input type="radio"/>

- included
- option/upgrade
- not required

Note: Acrylic side & rear panels are removable for full access.



# Enclosure for Product Protection

This downflow enclosure is designed and constructed to provide product protection.

The downflow air is fully filtered by HEPA filters installed in the multiple roof-mounted fan and filter modules to provide sterile air to ISO Class 5 and Class 100 US FED Std. 209D conditions within the enclosure. The high performance airflow system ensures a minimum of 66 air changes per hour is maintained.

The gas-spring assisted steel and clear-acrylic upper access door is fitted with a neoprene gasket to ensure airtight sealing when closed and interlocked with the lower steel door. The lower door incorporates triple clear-acrylic sliding windows and enables excellent access to the interior during robot set-up and maintenance. Both access doors are locked down using two 'T' handles during normal operation.

An LCD membrane-type control panel provides audible and visual alarm indication of low airflow and door open warning.

An epoxy-coated steel stand fully supports the enclosure and self-levelling/lockable castors provide full mobility. A storage cupboard can be fitted as an option to this stand.

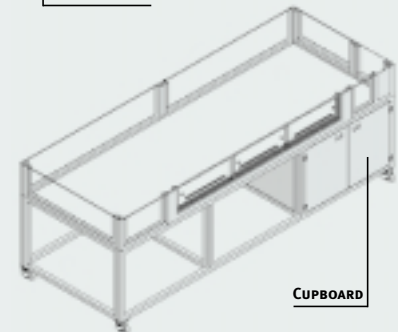
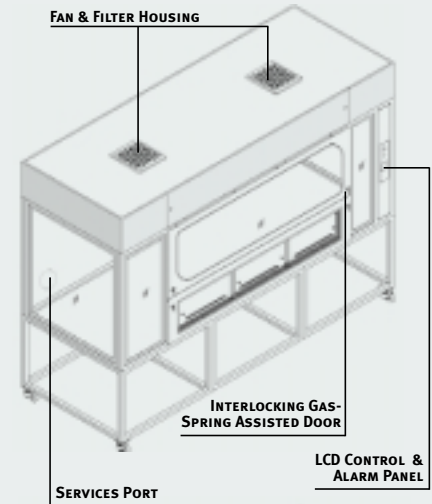
**Filteration:** Pre-filters remove particles down to 5 micron, whilst the Class H14 HEPA filters remove particles down to 0.3 micron.

**Enclosure general construction:** Gloss finish epoxy-coated, steel frame modules for the enclosure and lower stand, colour - white.

Epoxy coated, steel doors, fitted with neoprene seals.

Clear acrylic, 8mm panels fitted to UHMW triple tracking.

Lab grade, HPL 16mm composite laminate work surface.



## ENCLOSURES & SIZES

PART NUMBER	EXTERNAL mm			INTERNAL mm		
	WIDTH	DEPTH	HEIGHT	WIDTH	DEPTH	HEIGHT
RP1500/01	1500	1180	2400	1420	1100	1180
RP1800/01	1800	1180	2400	1720	1100	1180
RP2200/01	2200	1180	2400	2120	1100	1180
RP2600/01	2600	1180	2400	2520	1100	1180
RP3200/01	3200	1180	2400	3120	1100	1180

### Included features & options (refer to back page)

CF	CS	ES	FC	HP	LT	SP	TC	TS	UV
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Stand choice

SO	SC
<input checked="" type="radio"/>	<input type="radio"/>

- included
- option/upgrade
- not required

Note: Acrylic side & rear panels are removable for full access.



# Enclosure to Provide Operator & Product Protection

This bio-safety type enclosure is designed and constructed to provide operator and product protection.

The gas-spring assisted steel and clear-acrylic upper access door is fitted with a neoprene gasket to ensure airtight sealing when closed and interlocked with the lower steel door. The lower door incorporates triple clear-acrylic sliding windows and enables excellent access to the interior during robot set-up and maintenance. Both access doors are locked down using two 'T' handles during normal operation.

The downflow air is fully filtered by HEPA filters installed in the roof-mounted fan and filter modules to provide sterile air to ISO Class 5 and Class 100 US FED Std. 209D conditions. The high performance airflow system ensures a minimum of 66 air changes per hour is maintained to give effective product protection.

Operator protection is achieved by drawing inflow air (which enters through slots in the lower acrylic doors and when a sliding door is open) down through a full width grill along the front edge of the cabinet interior. All cabinet air is HEPA filtered and vented back into the room environment via the fan and filter module in the lower steel stand assembly.

An LCD membrane-type control panel provides audible and visual alarm indication of low airflow and door open warning.

An epoxy-coated steel stand fully supports the enclosure and self-levelling/lockable castors provide full mobility. A storage cupboard can be fitted as an option to the stand.

**Filtration:** 1st stage Pre-filters remove particles down to 5 micron, whilst the Class H14 HEPA filters remove particles down to 0.3 micron.

**Enclosure general construction:** Gloss finish epoxy-coated, steel frame modules for the enclosure and lower stand colour - white. Epoxy coated, steel doors, fitted with neoprene seals.

Clear acrylic, 8mm panels fitted to UHMW triple tracking. Lab grade, HPL 16mm composite laminate work surface.

## ENCLOSURES & SIZES

PART NUMBER	EXTERNAL mm			INTERNAL mm		
	WIDTH	DEPTH	HEIGHT	WIDTH	DEPTH	HEIGHT
RB1500/01	1500	1180	2400	1220	1000	1180
RB1800/01	1800	1180	2400	1520	1000	1180
RB2200/01	2200	1180	2400	2120	1000	1180
RB2600/01	2600	1180	2400	2320	1000	1180
RB3200/01	3200	1180	2400	2920	1000	1180

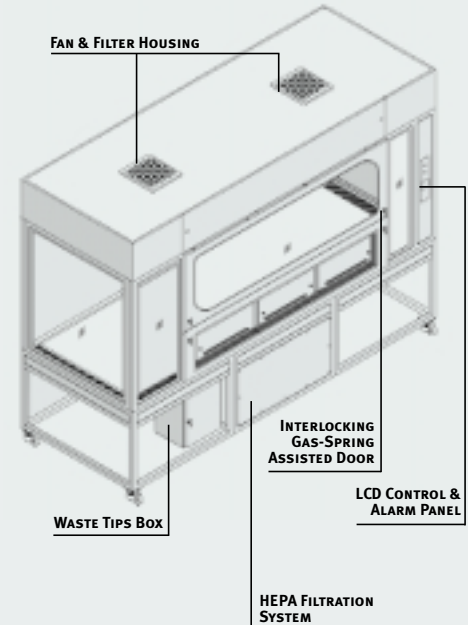
**Included features & options** (refer to back page)

CF	CS	ES	FC	HP	LT	SP	TC	TS	UV
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Stand choice**

SO	SC
<input checked="" type="radio"/>	<input type="radio"/>

- included
- option
- not required



Notes: This enclosure is tested and validated by application of DOP testing for filter integrity and airflow measurement for containment efficiency. Acrylic side and rear panels are removable for full access.



# Enclosure to Provide Operator & Product Protection

This Class II type bio-safety enclosure is designed and constructed to provide operator and product protection to meet the essential requirements of BS EN12469:2000.

The downflow and exhaust airflow is filtered by the Class H14 HEPA filters incorporated in a common plenum to provide bio-safety Class II type levels of safety. The high performance airflow system is continuously monitored and automatically compensated by a 'closed-loop' control system to ensure a minimum level of operator and product protection at all times. An LCD membrane-type control panel provides audible and visual alarm indication of low airflow and door open warning.

Operator protection is achieved by HEPA filtering the high velocity inflow air, which enters the lower door and is drawn into a profiled grille extending the full width of the frontal area of the enclosure.

Product protection is achieved by HEPA filtering downflow air, which provides a downflow velocity of between 0.25m/s and 0.5m/s.

Two interlocking, gas-spring assisted fabricated-steel upper and lower access doors are fitted with neoprene seals to ensure an airtight sealing when closed. Both are locked down with 'T' handles during operation.

The enclosure includes an epoxy-coated steel stand with self-levelling/lockable castors for full mobility.

**Enclosure general construction:** Gloss finish epoxy-coated, steel frame modules for the enclosure and lower stand, colour white. Epoxy coated, steel doors, fitted with neoprene seals. Clear acrylic, 8mm panels fitted to UHMW triple tracking. Lab grade, HPL 16mm composite laminate work surface.

## ENCLOSURE SIZES – RECIRCULATION

Appropriate for biological processes but should exclude applications where radioactivity may be released.

PART NUMBER	EXTERNAL mm			INTERNAL mm		
	WIDTH	DEPTH	HEIGHT	WIDTH	DEPTH	HEIGHT
RC1500/01	1500	1400	2550	1420	1060	1180
RC1800/01	1800	1400	2550	1720	1060	1180
RC2200/01	2200	1400	2550	2120	1060	1180
RC2600/01	2600	1400	2550	2520	1060	1180
RC3200/01	3200	1400	2550	3120	1060	1180

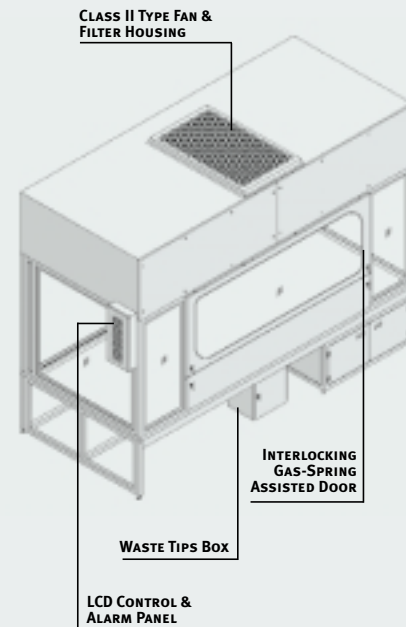
## ENCLOSURE SIZES – DUCTED

Appropriate for all biological applications, a proportion of the circulated air is exhausted to building ductwork via HEPA filtration system. Please replace RC with RD in part number. Dimensions are the same except the height increases to 2730mm.

**Included features & options** (refer to back page)

CF	CS	ES	FC	HP	LT	SP	TC	TS	UV
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- included
- option
- not required



Note: This enclosure is tested and validated to the essential requirements of Class II BSC, which includes DOP testing for filter integrity and KI Discus testing for containment. The airflow system provides balanced velocities, however, some turbulence will be experienced due to the presence and repeated movement of the robotics equipment.



**ANYTHING LESS THAN SAFE,  
JUST ISN'T ACCEPTABLE.**

to find out more call  
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Print 6/07

**SPEED QUOTE REQUEST**  
Email or call us for your speed quote

- ✓ Choose your enclosure
- ✓ Choose your options
- ✓ Please supply all part numbers

**FEATURE & OPTION DETAILS**

OPTION CODE	DESCRIPTION
CF	Chemcap™ carbon filtration
CS	Arm with shelf for computer monitor and keyboard
ES	Electrical socket (double banked) supplied with fly lead for external connection. Provided with IP56 rated sockets in model LAC2
FC	Fumigation connection. A removable coupling for connecting ventilation tubing to building ductwork for use during fumigation.
HP	Class H14 HEPA filtration (removes particles >0.3 micron) supplied with pre-filter (removes particles >5 micron)
LT	Lighting providing 480 lux
SP	Services ports
TC	Waste tips chute & box (position to be determined by customer)
TS	Tube services option for water and waste
UV	UV lighting with key switch and timer
SO	Steel stand, open
SC	Steel stand, storage cupboard

**Product Development:** Bigneat reserves the right to make modification to designs shown.

**Quality Assurance:** Bigneat is accredited to ISO 9001: 2000

