

Controlled Environment Enclosures and Cabinets

■ Humidity <1%-85% RH ■ Temperature 4°C-40°C ■ Clean Air ISO Class 5 to EN14644

Bigneat designs, manufactures and installs enclosures providing precision stable conditions – temperature and humidity with clean air

WORKING IN PARTNERSHIP



METTLER TOLEDO

Precision results assured with our turnkey solution

When enclosed and integrated within a Bigneat high-purity clean air enclosure with controlled humidity and temperature conditions the Mettler Toledo's Automated Comparator Robotic Balance System will provide the user with the highest quality precision results at all times irrespective of fluctuations in the surrounding laboratory environment.

A BCEE enclosure provides continuous passive controlled clean air via a re-circulation system.

Bigneat working in partnership with Mettler Toledo offers a totally co-ordinated enclosure solution with integrated control systems.



Bigneat's BCEE Controlled Environment Enclosure

Features

- No need for a clean room - space saving and compact system with small foot print
- Integral electrical circuit offering indication of the environment and the balance status from the universal control panel
- Access pods for easy access for maintenance, servicing and loading
- Excellent all round visibility

Optional extras

- Operator protection to protect users from hazardous particulates
- Safe waste management - ventilated waste compartment



Mettler Toledo's F-A770 Robot

Description of BCEE MT Enclosure

Operating environment

The steel and acrylic modular enclosure comprises two main function-specific zones:

- Robot compartment
- Optional preparation and storage compartment

The air supply for the enclosure is provided by the filtration and conditioning plant housed below the preparation area work bench; it consists of a high capacity HEPA Class H-14 filter capable of handling efficiency of >99.995%.

Robot compartment - clean air classification ISO Class 5

HEPA filtration provides 'downflow air' to ISO Class 5 classification, with temperature and humidity controlled with positive pressure within the enclosure. Temperature is maintained at 23°C ± 0.5°C and humidity controlled to 45% ± 1.5% RH

Preparation and storage compartment – clean air classification >ISO Class 5

Filtered and conditioned downflow air is utilised within the preparation area providing a particle free environment at positive pressure.

Operator protection (option)

Room air is drawn into the preparation compartment frontal intake grille via the open aperture and frontal intake grille as 'inflow air' to provide operator protection throughout the process of loading the system.

Recirculation fan system

The roof-mounted recirculation main fan blower generates all of the enclosure's internal airstreams. Airflow velocity is controlled by a menu-driven microprocessor automated system.

Conditioning unit

Air distributed within the enclosure is passed through a chilled water-cooling coil conditioning plant to reduce its initial temperature and to dehumidify. A heating element raises the air temperature when it falls below 23°C ± 0.5°C. Steam is injected into the airflow from a humidifier unit to maintain the required specification.

Airflow monitoring and control

The enclosure is monitored and controlled by an electronic control system which manages the recirculating air flow and indicates velocities on an LCD panel. All operator and service engineer functions, settings and calibration during operation are applied via the menus selected by the 'soft-key' control panel. An audible alarm will warn of low airflow conditions.

Status indication of the installed Mettler comparator robot is provided by a tri-colour beacon. A repeater beacon may be installed elsewhere.

Technical Information & Specifications

Description	BCEE MT - Enclosure with integrated Mettler Toledo robotic comparator system
Control System	Programmable control system – precision fan speed adjustment, compensation for variation in flow conditions, audible and visual alarms, digital airflow speed indicator, hour counter
Airflow Velocities	Downflow: approximately 100 volumetric air-changes per hour Inflow: >0.4m/s average inflow through lower door intake slots with all doors closed
Filtration	HEPA Class-H14 filters, efficiency 99.995% for particle sizes down to 0.3µm, tested to EN1822
Humidity Control	Air conditioning & temperature control system: Temp: 23°C ± 0.5°C, Humidity: 45% ± 1.5%RH
Power	230V ± 10% single phase, 50Hz, 15KVA
Lighting	x2 90cm 35W fluorescent tubes
Sound Level	dBA @1m < 65
External Dimensions (mm)	3420(w) x 1210(d) x 2335(h)
Colour / Finish	Oven-baked epoxy paint-texture finish. Colour White PGLX3932

Bigneat - a world class manufacturer of clean air and hazard containment enclosures

Since 1972 Bigneat has been designing, constructing, installing and maintaining just about every conceivable type of containment system. Then a small business, now a company of international standing - Bigneat enjoys an unrivalled reputation as the world's most innovative supplier of Robotics & Laboratory Automation Enclosures.

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.

BIGNEAT CONTAINMENT TECHNOLOGY

Value. Service. Experience.

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