CleanCube

mobile cleanrooms

www.cleancube.co.uk

Guardtech group

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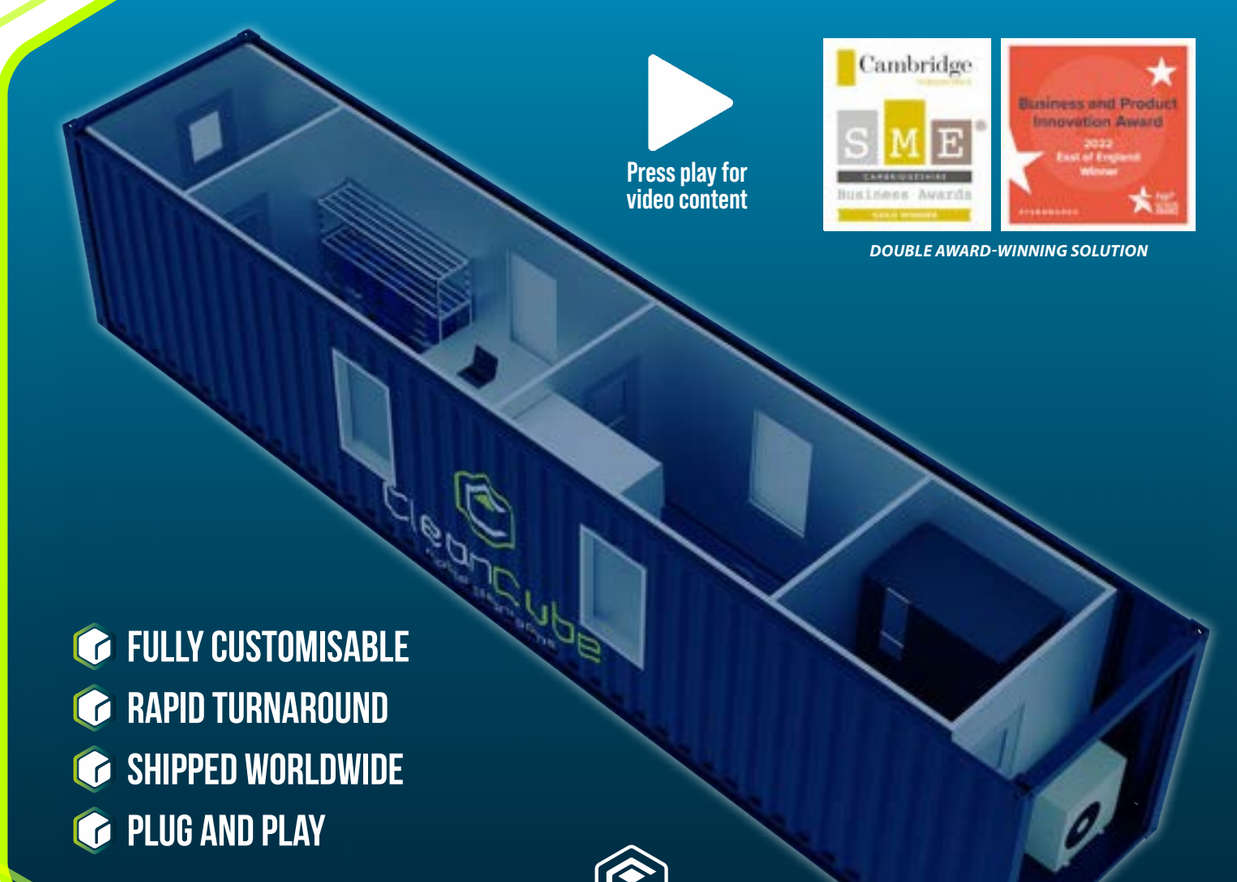
ENQUIRY FORM

Guardtech group

Name: **Company:** **Position:**
Location: **Telephone:** **Email address:**

Base model	**MINI** ☐	**MIDI** ☐	**MAXI** ☐	**MULTI** ☐	**MOBI** ☐	**MOBI+** ☐
Rooms	1: ☐ 2: ☐	1: ☐ 2: ☐ 3: ☐ 4: ☐	1: ☐ 2: ☐ 3: ☐ 4: ☐	How many rooms? ☐	1: ☐ 2: ☐	1: ☐ 2: ☐
Installation address						
How did you hear about us?	Google: ☐ Bing: ☐ Email: ☐ Word of mouth: ☐ Facebook: ☐ Twitter: ☐ LinkedIn: ☐ Magazine advert: ☐ Event or exhibition: ☐ Business directory: ☐ Other: ☐					
Function	Cleanroom: ☐ Laboratory: ☐ Biosafety Lab: ☐ Containment Suite: ☐					
Classification	ISO8: ☐ ISO7: ☐ ISO6: ☐ ISO5: ☐ Level One: ☐ Level Two: ☐ Level Three: ☐					
Internal Height	2.1m: ☐ 2.4m:* ☐ *For taller internal configuration horizontal airflow will be implemented					
Personnel airlock (PAL)	Length: Width: Height: Not Required: ☐					
Materials airlock (MAL)	Length: Width: Height: Not Required: ☐					
Panel system	Fully Flush: ☐ Semi Flush: ☐					
Doors (quantity)	Rapid Roll: ☐ Single Doors: ☐ Double Doors ☐ Quantity: ☐					
Windows (quantity)	900 x 900mm: windows 1500 x 900mm: windows					
Flooring	N/A: ☐ Vinyl: ☐ ESD Vinyl: ☐					
Temperature control	No: ☐ Yes: °C +/- °C					
Humidity control	No: ☐ Yes: °C +/- °C					
Heatload	Max Occupancy: operators Equipment: kW					
Lighting	500 Lux: ☐ 750 Lux: ☐ 1000 Lux: ☐ 1250 Lux: ☐					
13-amp double sockets	N/A: ☐ 2: ☐ 4: ☐ 6: ☐ 8: ☐ 10: ☐ 15: ☐ 20: ☐ 25: ☐ 30: ☐ 35: ☐ 40: ☐					
Network sockets	N/A: ☐ 2: ☐ 4: ☐ 6: ☐ 8: ☐ 10: ☐ 15: ☐ 20: ☐					
3-phase power	N/A: ☐ 16-Amp: outlets 32-Amp: outlets 63-Amp: outlets					
Other mechanical requirements	Compressed Air: ☐ Extraction: ☐ Process Gases: ☐ Central Vacuum: ☐ Drainage ☐ Purified Water: ☐ Town's Water Supply: ☐					
Environmental monitoring	Analogue – Pressure Only: ☐ Digital – Temperature, Humidity & Pressure: ☐ Full EMS – With Sensors & Software/21 CFR Part 11 Compliant: ☐					
Furniture (quantity)	Stepover Bench: Trespa Work Bench: Ergonomic Chairs: Storage Cabinet: Sink: Garment Rail: Coat Hooks: Bin:					
Equipment (quantity)	Laminar Flow Unit: Biological Safety Cabinet: Transfer Hatch: Trolley Hatch: Autoclave:					

CLICK HERE to submit your enquiry via our online form



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Cambridge SME Business Awards

Business and Product Innovation Award 2022 East of England Winner

DOUBLE AWARD-WINNING SOLUTION

- FULLY CUSTOMISABLE
- RAPID TURNAROUND
- SHIPPED WORLDWIDE
- PLUG AND PLAY

CleanCube
mobile cleanrooms

MOBILE CLEANROOMS

CLEANCUBE: a comprehensive portfolio of plug & play portable controlled environment solutions.

CleanCube Mobile Cleanrooms ship worldwide and are ideal for quick turnaround projects, space utilisation and temporary applications.

A full range of customisation allows users to configure these mobile formats to best suit process requirements.

With a wide range of internal finishes and structural, mechanical and electrical specification choices, CleanCube can be rapidly designed and manufactured to meet User Requirement Specification (URS) significantly quicker than conventional builds with the added benefit that offsite construction offers.

CleanCube Containers

Available in three standard sizes: Mini (20ft – 15m² area), Midi (40ft – 30m² area) and Maxi (40ft double – 60m² area). Shipped globally as stackable modules via highly economical standard shipping channels.

CleanCube Multi

Utilising 40ft shipping containers joined side by side, CleanCube Multi can create facilities with an unlimited footprint.

CleanCube Vehicle Conversions

3.5 and 7.5-ton vehicles internally fitted out to function as fully operational plug & play mobile cleanrooms and labs.

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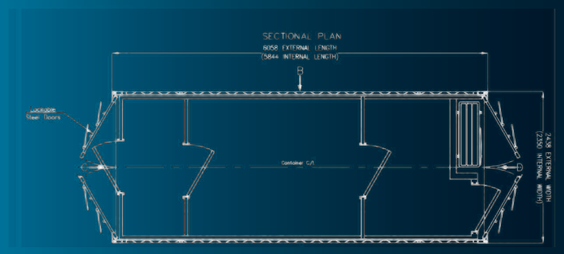
CONTAINERS

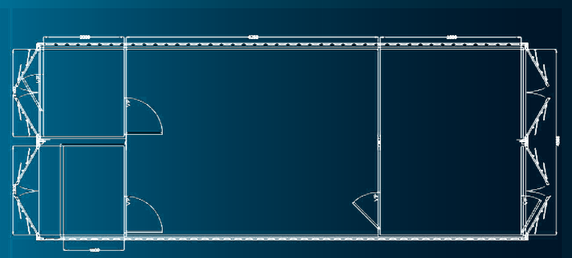
LAYOUT OPTIONS

CleanCube mobile cleanrooms MINI 15m²

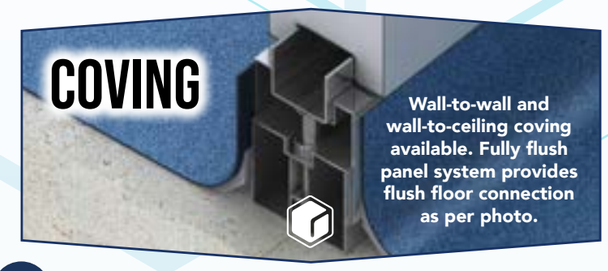


CleanCube mobile cleanrooms MIDI 30m²

CleanCube mobile cleanrooms MAXI 60m²



COVING



Wall-to-wall and wall-to-ceiling coving available. Fully flush panel system provides flush floor connection as per photo.

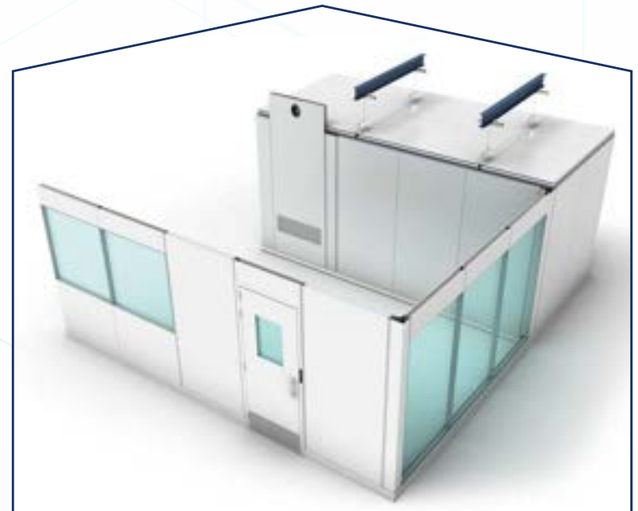
DOORS

Choice of doors available: rapid rise doors – PVC curtain with stainless frame and GRP or powder-coated steel personnel doors with stainless steel push plate, kick plate and handle with 400mm x 400mm vision panel. All Guardtech doors can be electromagnetically interlocked. Also available as a fully flush system with recessed base for flooring to cove into.

GLAZING

Fully-flush or semi-flush glazing between rooms. Doubled-glazed units can also be installed in the container shell but these are only for UK applications.

WALLS



Powder-coated CR4 mild steel panels with polyisocyanurate (PIR) insulated core and interlocking joints. The panels feature a 50mm thickness to form walls and ceiling. Highly durable, cleanable and chemically resistant, the walls are silicon sealed.

STRUCTURAL

Press play for video content

CEILING

Panelled ceiling with thermal insulation core provides a flush surface. Lighting and filtration modules are recessed into apertures or surface mounted for laboratory applications.

FLOORING

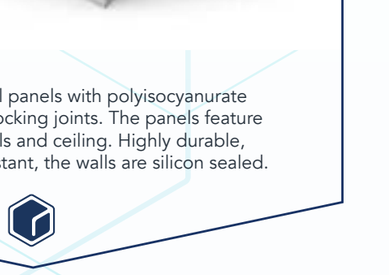
Homogenous vinyl floor reinforced with cross-linked polyurethane, UV-cured, hot-welded joints. Coved 100mm up the wall over underlay former and capped. Copper-grounded anti-static vinyl also available.

BASE MODEL SIZES

CleanCube mobile cleanrooms MINI

CleanCube mobile cleanrooms MIDI

CleanCube mobile cleanrooms MAXI



MULTI

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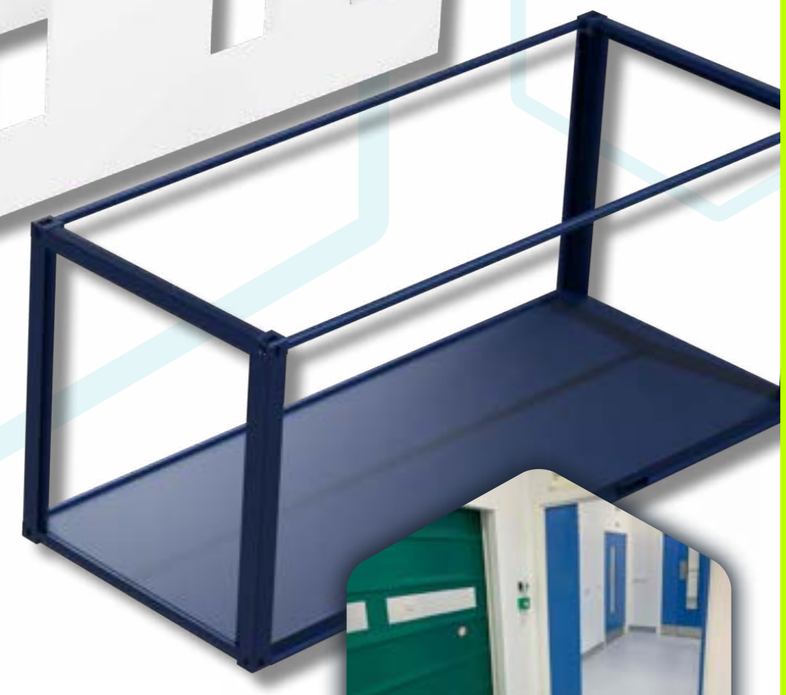
CONNECTION

CleanCube Multi utilises open-sided 40ft shipping containers joined along their longest edge. This enables unlimited connection of modules in 12 metre bays to provide an open plan or divided facility layout. Modules are manufactured as independent units that connect on site – this allows for quick installation, easy relocation and the potential for facility expansion by adding an infinite number of units. Connection is made with a proprietary system that ensures water tightness and building integrity whilst also allowing seamless connection of internal components, utilities and plant.

MULTI CONFIGURATION

12-metre (40ft) or 6-metre (20ft) bays of 2.5m width can be linked continuously to create the desired facility footprint.

Internally, these facilities can be configured as per any traditional modular cleanroom build. The flexibility that this provides enables clients to create unrestricted configurations for scale applications without the time and inconvenience of standard on-site construction. The CleanCube Design team will work with you to create cleanroom layouts that meet your process demands whilst also ensuring the principles of interconnectivity for each module are well considered and allow each bay to be independently constructed, facilitating rapid installation and future expansion.



CleanCube Multi

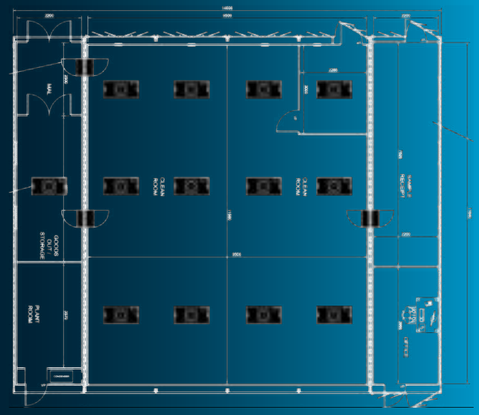
CleanCube Multi has been designed as an innovative way to create large-scale cleanroom facilities off site, shipped globally to serve the worldwide STEM industries.

Offering clients high-quality internal fit-outs built to the same specification as the rest of the Guardtech Group's range of cleanroom solutions, with all plant and utilities fully incorporated.

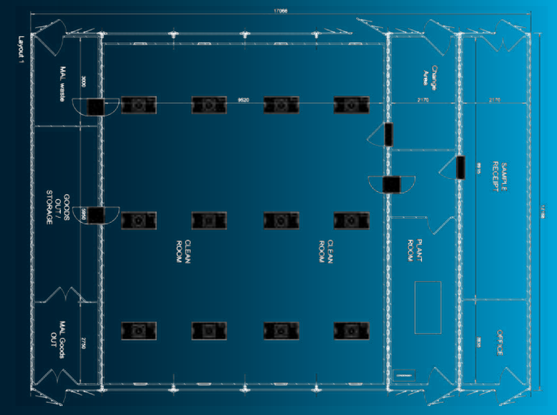
CleanCube clients benefit from the ability to conduct a full-scale FAT (Factory Acceptance Test) of their constructed, validated, operational facility, at the UK CleanCube manufacturing facility prior to shipping and rapid on-site installation.

LAYOUT EXAMPLES

CleanCube mobile cleanrooms 6-BAY 180m²



CleanCube mobile cleanrooms 7-BAY 210m²



MULTI CleanCube mobile cleanrooms

Standard Models

MULTI 3

KEY INFORMATION

External Shell 3 x 40ft high cube steel containers (conjoined)
External Dimensions 12,192mm (L) x 7,314mm (W) x 2,896mm (H)
Number Of Rooms 5
Total Weight Approximately 18,000kg
Power & Network 28 x 13-amp double sockets and 15 x CAT6 data outlets

MULTI 5

KEY INFORMATION

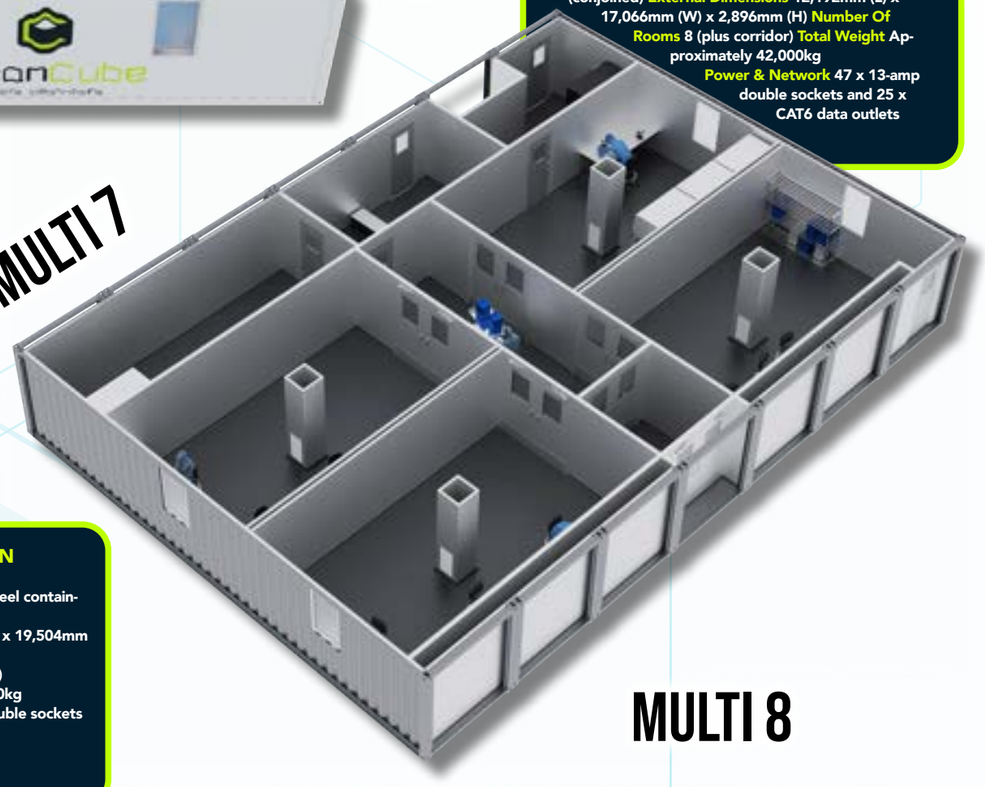
External Shell 5 x 40ft high cube steel containers (conjoined)
External Dimensions 12,192mm (L) x 12,190 (W) x 2,896mm (H)
Number Of Rooms 6
Total Weight Approximately 30,000kg
Power & Network 28 x 13-amp double sockets

MULTI 4

KEY INFORMATION

External Shell 4 x 40ft high cube steel containers (conjoined)
External Dimensions 12,192mm (L) x 9,752 (W) x 2,896mm (H)
Number Of Rooms 5
Total Weight Approximately 24,000kg
Power & Network 32 x 13-amp double sockets and 15 x CAT6 data outlets

MULTI 7



KEY INFORMATION

External Shell 7 x 40ft high cube steel containers (conjoined) External Dimensions 12,192mm (L) x 17,066mm (W) x 2,896mm (H) Number Of Rooms 8 (plus corridor) Total Weight Approximately 42,000kg
Power & Network 47 x 13-amp double sockets and 25 x CAT6 data outlets

MULTI 8

KEY INFORMATION

External Shell 8 x 40ft high cube steel containers (conjoined)
External Dimensions 12,192mm (L) x 19,504mm (W) x 2,896mm (H)
Number Of Rooms 9 (plus corridor)
Total Weight Approximately 48,000kg
Power & Network 29 x 13-amp double sockets and 14 x CAT6 data outlets

MULTI 6

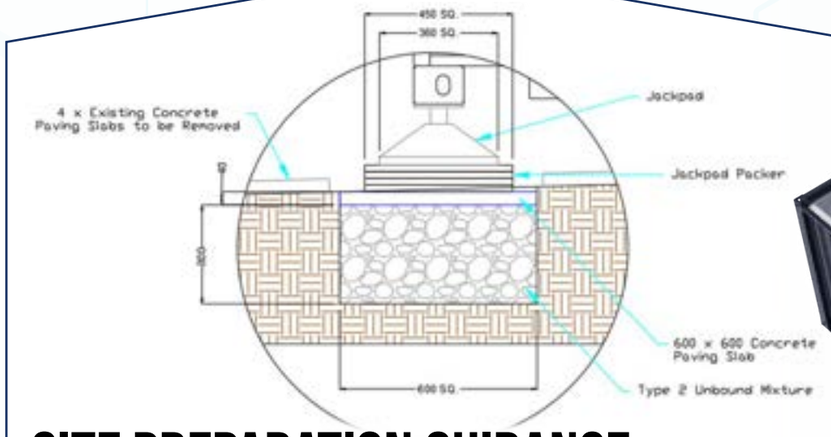
KEY INFORMATION

External Shell 6 x 40ft high cube steel containers (conjoined)
External Dimensions 12,192mm (L) x 14,628mm (W) x 2,896mm (H)
Number Of Rooms 7
Total Weight Approximately 36,000kg
Power & Network 39 x 13-amp double sockets and 20 x CAT6 data outlets

MULTI INSTALL GUIDLINES

STACKING

All Multi units are designed and factory assembled to meet the individual requirements of customers. The units can be stacked to create a two-floor system, with an adjoining staircase connecting the ground and first floors. The CleanCube team will be more than happy to discuss any particular configuration requirements you have.



SITE PREPARATION GUIDANCE

CleanCube utilises shipping containers as the outer shell so modules are ideally sited on flat, level solid substrate bases such as concrete, tarmac, gravel or hardcore, capable of supporting the spread and point load imposed by the total weight once installed.

Guardtech calculate the total weight of the constructed unit and provide the details – this will only be completed once the full drawing pack has been approved and signed off by the client and all equipment, furniture and maximum occupancy has been determined.

In areas where a flat, level concrete surface doesn't already exist, we typically see clients adopt one of three strategies: 1. Install a complete flat, level substrate of concrete, tarmac, gravel or hardcore. 2. Install a number of concrete foundation pads, dependent on the total module size. 3. Implement the Jackpad system. See Levelling below for more information.

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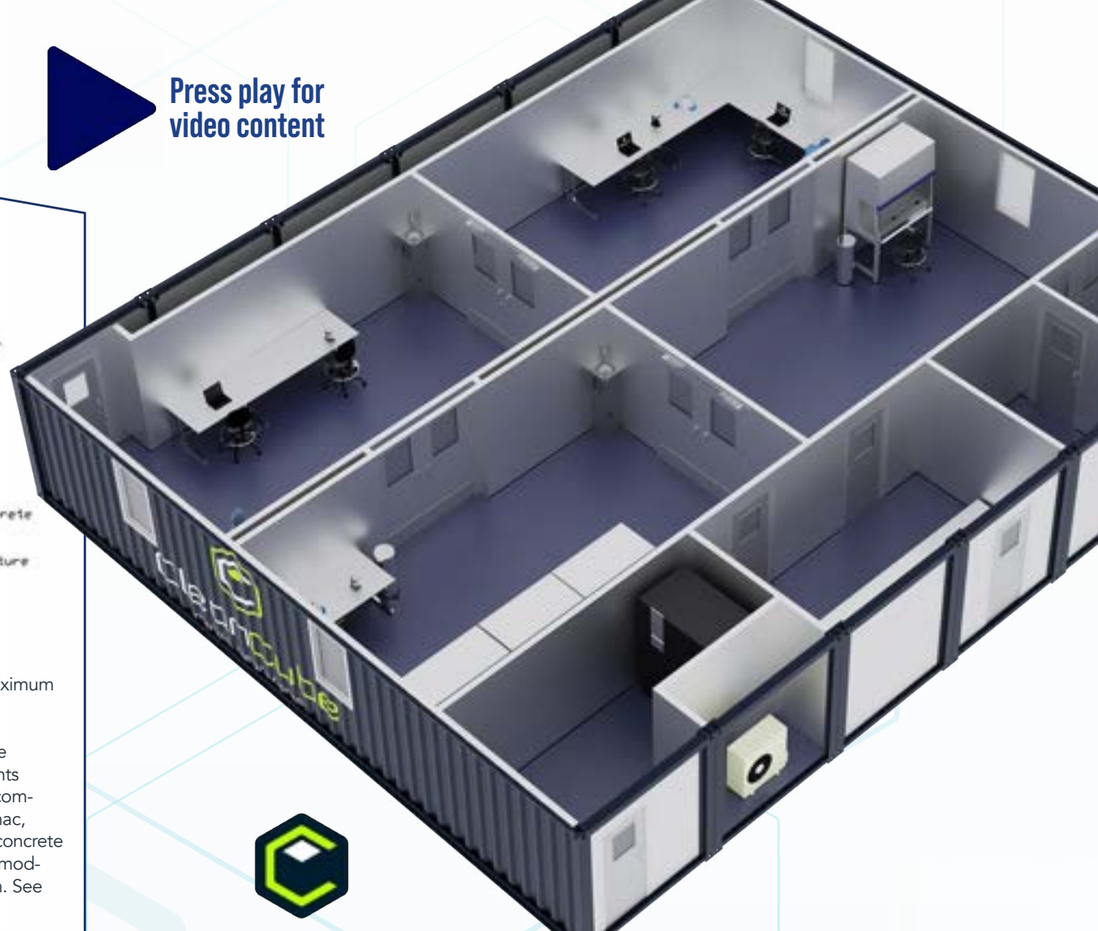

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UTILITY CONNECTION

Mains power is brought to the CleanCube via the client facility or from dedicated generators. Electrical load will be determined during the design phase and a full register will be assembled. This will dictate the size of the supply required – typically this is likely to be a 63-amp 3-phase supply. Multi features a wide array of utilities options for the end user, including compressed air, extraction, vacuum, nitrogen and purified water hook-ups and services, as well as full drainage and connection to the town's water supply.

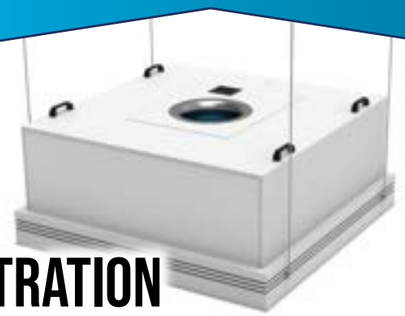
EXTERNAL CLADDING

CleanCube Multi units can be externally clad with decorative larch or oak slats or fully vinyl wrapped with client branding or decorative design. Ask a CleanCube rep for more details.

LEVELLING

Jackpad is a reusable foundation system with the ability to support modular buildings in various single, double and treble storey configurations. The Jackpad system can be used for fine level tuning as well as full CleanCube support. Jackpads must be installed on a solid substrate – however, for installations on less stables surfaces, these can be installed in targeted positions, supported by hardcore pits and slab coverings, minimising the extent of site preparation.

MECHANICAL & ELECTRICAL



FILTRATION

For ISO 14644 compliant environments Fan Filter Units (FFU) with H14 HEPA filters and G4 pre-filters, provide 1,000m³/hour of filtered air. HEPA filtration can also be placed on the exhaust to provide BSL-3 compliance. For ceiling heights of 2.1m slimline FFUs are installed in the ceiling to provide vertical laminar flow. For ceiling heights of between 2.1m and 2.5m cleanrooms are horizontal flow.

HVAC

Temperature control via FCU (fan coil unit) serving a plenum for cleanrooms or wall-mounted recirculating units for labs. Humidity control also provided via upflow units or separate desiccant wheels. External condensers can be contained in attached plant rooms or mounted on CleanCube exterior.

EMS

Guardtech provide a fully integrated Environmental Monitoring System that can also be 21CFR Part 11 compliant. With a range of high-performance multifunction sensors, temperature, humidity and pressure can all be monitored in real time and recorded for an audit trail. Fully flush or semi flush LED display gives in-room feedback.

POWER MANAGEMENT

All models require a power connection from an external source. The rating of this will depend on the power demand of each module. UPS (uninterruptible power supply) battery back-up can also be provided and a changeover switch can be installed to alternate between a mains and generator supply.

FIRE ALARM

In-room smoke detectors and audible and visual alarm beacons can be installed and linked back to a centralised fire alarm panel. This can be connected back to the main facility fire panel board if required.

GAS SERVICES

Compressed air and other specialist gasses such as N2 and CO2 can be installed, with pipework in stainless 316 or Transair and connection to dedicated compressors, generators or cylinders.

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CONTROL PANEL

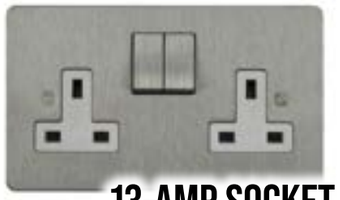
15.7" touchscreen HMI+PLC provides a full control and monitoring system for the CleanCube. Environmental Monitoring System feeds back to give real time data on temperature, humidity and pressure. Fan speeds and HVAC systems can be controlled as well as other compatible equipment.

GAS

Compressed air and nitrogen via compressors and generators housed directly within the cleanroom or lab – or in an enclosed plantroom. Pipework, point-of-use fittings, regulators and hook-up connections can also be put in place.

EXTRACTION

Chemicals, airborne particulate and heat can all be extracted to a localised filtration unit for scrubbing. Safe change modules can also be placed on the exhaust system to mitigate the risk of cross-contamination.



13-AMP SOCKET

All CleanCube models can include stainless steel or white plastic 13-amp sockets mounted flush. CAT6 network sockets and 16amp or 32amp three-phase options are also available in the range.

LIGHTING

Powder-coated steel light units, flush mounted into the ceiling panels with drop-down hinged diffuser. Also available as surface-mounted aluminium LED batten luminaires for laboratories. Activation by switch or PIR (passive infrared) sensor. Lights can be UV filtered for photo sensitive processes.

CONTAINMENT

For cleanrooms Guardtech install sockets and services flush to the panel system with containment embedded within the panel core. For laboratories, three-compartment PVC trunking is used for flexibility of socket positioning and cost effectiveness.

INTERNAL SPECIFICATION LEVELS

CleanCube mobile cleanrooms

GMP

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The GMP Specification is the highest grade of internal fit-out that can be selected for any CleanCube model. All internal components selected in this CleanCube Specification are suitable for high grade Pharmaceutical and clinical environments where attention to detail, quality of finish and reduction of ledges is critical.

The essential elements of this elite internal level of specification relate to a bespoke panel system with specific connection to flooring and ceiling materials with special consideration to environmental monitoring and CFR21R Part 11 compliance. Attention to utility integration is also a key part of the GMP Specification, with specially designed raceways and conduits that are embedded within the panel system to eliminate any surface mounted wiring or pipework and containment, also facilitating flush integrated sockets.

The CleanCube GMP Specification adopts best practice throughout and will aid your business' compliance to EU GMP Annex 1, ISO 14644-1 and US FS209E, with full qualification processes including Design (DQ), Installation (IQ) and Operational (OQ).

CleanCube mobile cleanrooms

GMP COMPONENTS

Classifications Available
Grade B, Grade C, Grade D

WALLS: GT SHELL MAX: Composite wall panels manufactured from CR4 mild steel with a 120 micron CLEANsafe powder coating, all connections and joints are fully flush and finished with a feathered bead of silicon sealant, wall-to-wall panel joints have integrated coved corner connection.

LIGHTING: GT LUX PLUS: Recessed LED, 4k colour temperature, 5,200 lumens per light fitting providing 1,000 lux at bench level. Roomside access diffuser for clean LED change. PIR motion sensor activated.

DOORS: GT ACCESS MAX: cGMP compliant doors featuring QuadCore technology, offering superior fire protection, thermal and environmental performance and CLEANSafe coating. This ultra-airtight system adopts an integrated envelope solution to ensure a fully flush finish.

HVAC & FILTRATION: GT AIR PRO: Full function upflow CRAC unit providing temperature and humidity control, utilising direct expansion (DX) to provide cooling and dehumidifying with internal steam boiler for humidifying. AHU ducted to plenum in the ceiling void to provide air distribution to Fan Filter Units (FFUs).

GLAZING: GT VISION MAX: Fully flush mounted glazed units consisting of aluminium frame and two panes of 6mm thick laminated glass, glued and silicone sealed on both sides to the frame. Frame features moisture-free silica gel. Glazing slots into integrated envelope solution via extruded aluminium interface profiles.

ENVIRONMENTAL MONITORING: GT SCAN MAX: In-room LED displays illustrating pressure, temperature and humidity, feeding back to centralised computer screen with GT Scan Max EMS software for alarms and data storage. Alarms are also provided via text, email or phone call as well as in-room beacons.

CEILING: GT LID PRO: A 45mm radius coving is applied to bridge the 90-degree join between wall and ceiling panel. Panels use the same airtight integrated envelope system, utilising extruded aluminium interface connection profiles to ensure fully flush detail. Pre-formed corner panels provide a flush finished corner detail.

CONTROLS & BMS: All plant is controlled with a centralised Graphical User Interface (GUI) via a touchscreen display housed in the change area. This receives a signal from the AHU, FFUs, lighting, door interlocks and provides control functionality as well as centralised data that can be fed back to the main building BMS.

FLOORING: GT DECK PLUS: ESD vinyl, hot-welded and coved 100mm from floor level with a fully flush connection to wall via intelligent recessed floor track detail which vinyl lays under with silicone sealed finish.

FURNITURE: Standard units include: workbenches, stepover benches, cabinets, racking and dispensers manufactured from grade 304 stainless steel frames and Trespa TopLab work surfaces. However, full fit-out is available upon request. For more information and to the full range, visit www.guardtech.com.

UTILITIES INTEGRATION: Extruded aluminium service conduit provides flush interface between GT Shell Max wall panels. A range of utilities can run through these specially engineered cavity sections, delivering an aesthetically pleasing cGMP solution that is easily cleaned and includes a removable face section for easy access.

EQUIPMENT: Standard units do not incorporate equipment. However, full fit-out is available upon request. For more information and to the full range, visit www.guardtech.com.

The CleanCube ISO Specification is the most appropriate combination of components to achieve an ISO 14644 classified environment.

Balancing a high-quality, clean finish with a cost competitive Specification enables CleanCube ISO to meet the full spectrum of ISO 5 to 8 classification whilst ensuring value for money and time to build remain the critical factors.

ISO utilises a composite panel system for the main structural elements, such as walls and ceilings, and ensures that interfacing components including doors, glazing, flooring, lighting, filtration, grilles and accessories are manufactured from high quality materials and intelligently incorporated into the installation.

The CleanCube ISO Specification also logically incorporates and conceals all utilities by taking advantage of the channel behind the wall panels – which also serves as a return air void.

This feature reduces ledges and crevices to aid cleaning, support compliance and improve overall facility aesthetic.

CleanCube mobile cleanrooms

ISO COMPONENTS

Classifications Available
ISO 5, 6, 7, 8
& BSL 3

WALLS: GT SHELL PRO: 60mm or 80mm thick Quad-core panels with a CLEANSafe coating that fit together via a unique de-ended solution, fitted into a base channel with integrated semi-flush doors and windows. An aluminium top hat profile is placed into the de-ended panel with the panel face folded around.

LIGHTING: GT LUX PLUS: Recessed LED, 4k colour temperature, 5,200 lumens per light fitting providing 1,000 lux at bench level. Roomside access diffuser for clean LED change. PIR motion sensor activated.

DOORS: GT ACCESS PRO: Semi flush hinged door leafs constructed from two facings 0.63mm thick hot-dip zinc coated metal to EN 10147, folded to form a 40mm thick door leaf. The edges of the two skins are pressed to create a monobloc cassette construction with smooth folded edges. 6mm laminated safety glass panels.

HVAC & FILTRATION: GT AIR PRO: Full function upflow CRAC unit providing temperature and humidity control, utilising direct expansion (DX) to provide cooling and dehumidifying with internal steam boiler for humidifying. AHU ducted to plenum in the ceiling void to provide air distribution to Fan Filter Units (FFUs).

GLAZING: GT VISION PRO: Designed as semi flush mounted glazed frame for the GT Shell Pro de-ended panel system. The glazing units consist of two aluminium frames (frame and counterframe) on which 6mm laminated glass is glued and siliconed on both sides. Aluminium frame available in RAL 9002 or RAL 9010 colours.

ENVIRONMENTAL MONITORING: GT SCAN MAX: In-room LED displays illustrating pressure, temperature and humidity, feeding back to centralised computer screen with GT Scan Max EMS software for alarms and data storage. Alarms are also provided via text, email or phone call as well as in-room beacons.

CEILING: GT LID PRO: A 45mm radius coving is applied to bridge the 90-degree join between wall and ceiling panel. Panels use the same airtight integrated envelope system, utilising extruded aluminium interface connection profiles to ensure fully flush detail. Pre-formed corner panels provide a flush finished corner detail.

CONTROLS & BMS: All plant is controlled with a centralised Graphical User Interface (GUI) via a touchscreen display housed in the change area. This receives a signal from the AHU, FFUs, lighting, door interlocks and provides control functionality as well as centralised data that can be fed back to the main building BMS.

FLOORING: GT DECK PLUS: ESD vinyl, hot-welded and coved 100mm from floor level with a fully flush connection to wall via intelligent recessed floor track detail which vinyl lays under with silicone sealed finish.

FURNITURE: Standard units include: workbenches, stepover benches, cabinets, racking and dispensers manufactured from grade 304 stainless steel frames and Trespa TopLab work surfaces. However, full fit-out is available upon request. For more information and to the full range, visit www.guardtech.com.

UTILITIES INTEGRATION: Most utilities will be terminated with wall mounted sockets/outlets with wiring, pipework and containment concealed behind the wall panel within the return air plenum. All penetrations will be silicone sealed, small power and data sockets will be flush mounted.

EQUIPMENT: Standard units do not incorporate equipment. However, full fit-out is available upon request. For more information and to the full range, visit www.guardtech.com.

INTERNAL SPECIFICATION LEVELS

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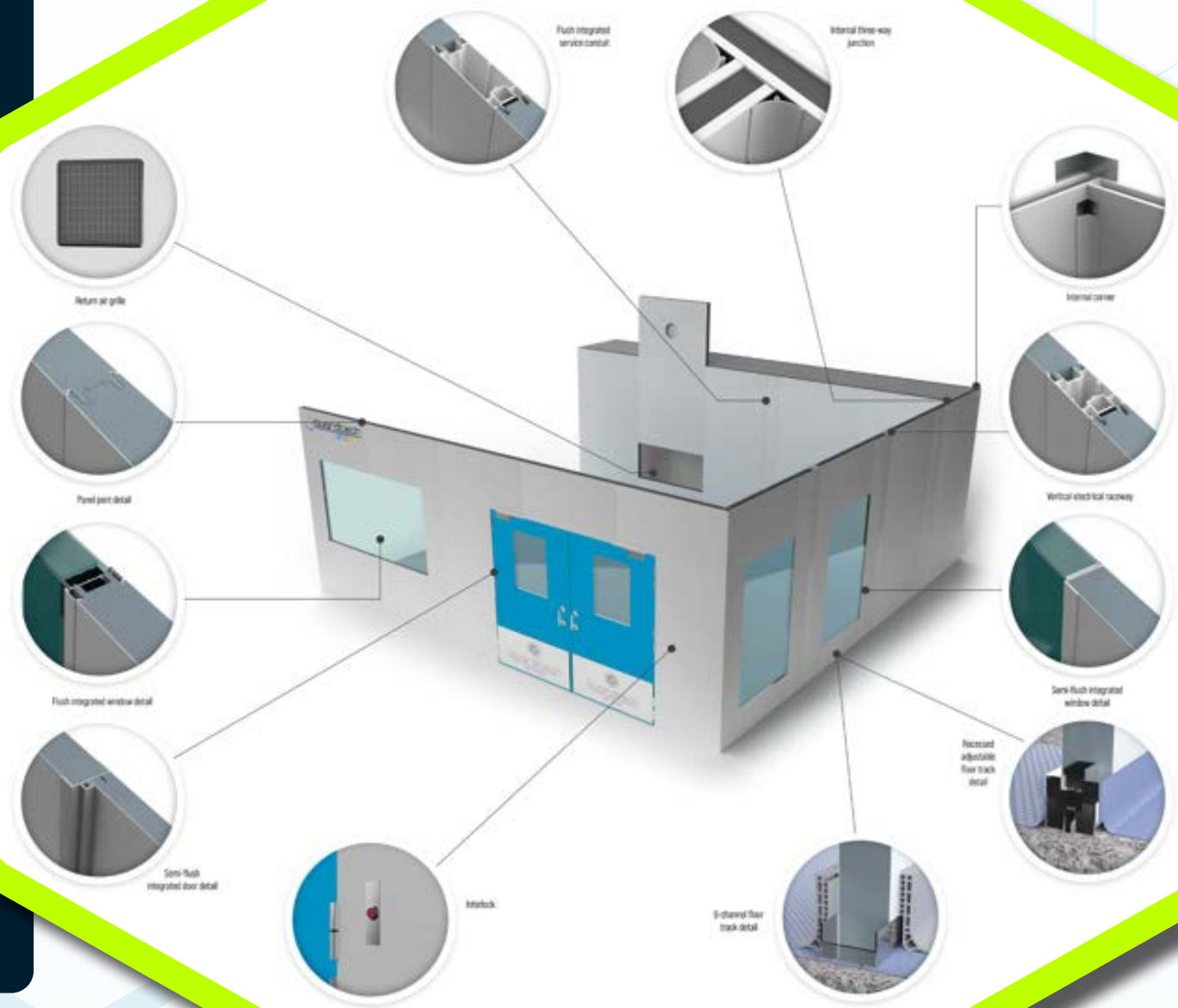
CleanCube mobile cleanrooms

ISO



INTERNAL SPECIFICATION LEVELS

CleanCube mobile cleanrooms

CNC

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The CleanCube CNC Specification is designed to provide a quality, cost-effective balance of componentry that will best suit an unclassified controlled environment.

CNC utilises materials that are specified for lower-grade cleanroom builds whilst downgrading some of the mechanical & electrical interfaces typically excluded from cleanrooms, thus providing a high-grade laboratory finish whilst utilising off-the-shelf components and plant.

Utilising a composite panel system for the main structural elements, such as walls and ceilings, and ensuring that supporting components including doors, glazing, flooring, lighting and accessories are manufactured from laboratory quality materials, whilst also considering furniture & equipment layouts to best utilise space.

The CleanCube CNC Specification also logically incorporates and conceals all utilities by utilising the channel behind the wall panels, eliminating surface-mounted pipework, cabling and service conduits.

CleanCube mobile cleanrooms

CNC COMPONENTS

Classifications Available
Controlled Not Classified

WALLS: GT SHELL PLUS: CLEANsafe insulated panels incorporating a panel joint that achieves excellent thermal performance and can accommodate vapour and hygiene safe seals. GT Shell Plus panels achieve low air leakage and resist moisture ingress and any risk of toxic mould and bacterial growth.

LIGHTING: GT LUX PLUS: Recessed LED, 4k colour temperature, 5,200 lumens per light fitting providing 1,000 lux at bench level. Roomside access diffuser for clean LED change. PIR motion sensor activated.

DOORS: GT ACCESS LITE: Powder-coated steel door with a standard anodised aluminium frame, featuring ECOSafe PIR insulation core and a clear opening width of 1100mm (single) or 2200mm (double). 40mm door leaf thickness – includes vision panels and aluminium kickplates as standard.

HVAC & FILTRATION: GT AIR LITE: Wall-mounted cassettes providing air conditioning via recirculated air matched with external condensers sized to overcome room heat gains and provide stable temperature control.

GLAZING: GT VISION PLUS: Fully flush mounted glazed units consisting of aluminium frame and two panes of 6mm thick laminated glass, glued and silicone sealed on both sides to the frame. Glazing panels slot into the holistic integrated envelope solution via extruded aluminium interface connection profiles.

ENVIRONMENTAL MONITORING: GT SCAN PLUS: In-room LED displays illustrating pressure, temperature and humidity, feeding back to centralised computer screen with GT Scan Plus EMS software for alarms and data storage.

CEILING: GT LID PRO: A 45mm radius coving is applied to bridge the 90-degree join between wall and ceiling panel. Panels use the same airtight integrated envelope system, utilising extruded aluminium interface connection profiles to ensure fully flush detail. Pre-formed corner panels provide a flush finished corner detail.

CONTROLS & BMS: Lights are controlled via PIR motion detection sensor, air conditioning controlled via wall-mounted digital display.

FLOORING: GT DECK LITE: Vinyl, hot-welded and coved 100mm from floor level, connection to wall via overlay onto the panel and finished with a rubber capping strip and silicone seal.

FURNITURE: Standard units include: workbenches, stepover benches, cabinets, racking and dispensers manufactured from grade 304 stainless steel frames and Trespa TopLab work surfaces. However, full fit-out is available upon request. For more information and to the full range, visit www.guardtech.com.

UTILITIES INTEGRATION: Most utilities will be terminated with wall mounted sockets/outlets with wiring, pipework and containment concealed behind the wall panel within the return air plenum. All penetrations will be silicone sealed, small power and data sockets will be flush mounted.

EQUIPMENT: Standard units do not incorporate equipment. However, full fit-out is available upon request. For more information and to the full range, visit www.guardtech.com.

VEHICULAR CONVERSIONS

CleanCube mobile cleanrooms

MOBI 3.5-TON

Press play for video content

DOORS

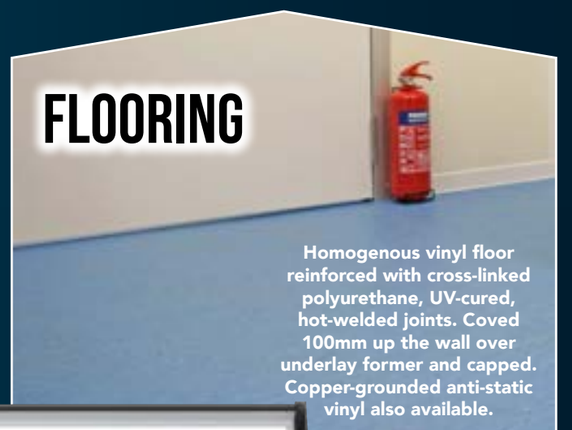
Choice of doors available: rapid rise doors – PVC curtain with stainless frame and GRP or powder-coated steel personall doors with stainless steel push plate, kick plate and handle with 400mm x 400mm vision panel. All Guardtech doors can be electromagnetically interlocked. Also available as a fully flush system with recessed base for flooring to cove into.

FILTRATION

For ISO 14644 compliant environments Fan Filter Units (FFU) with H14 HEPA filters and G4 pre-filters, provide 1,000m³/hour of filtered air. HEPA filtration can also be placed on the exhaust to provide BSL-3 compliance. For ceiling heights of 2.1m FFL slimline FFUs are installed in the ceiling to provide vertical laminar flow. For ceiling heights of between 2.1m and 2.5m cleanrooms are horizontal flow.

COVING

Wall-to-wall and wall-to-ceiling coving available. Fully flush panel system provides flush floor connection as per photo.



FLOORING

Homogenous vinyl floor reinforced with cross-linked polyurethane, UV-cured, hot-welded joints. Coved 100mm up the wall over underlay former and capped. Copper-grounded anti-static vinyl also available.

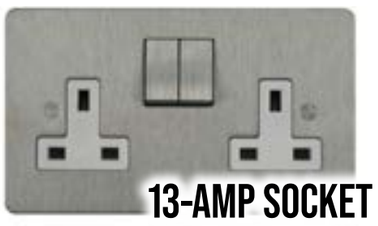
WALLS

Powder-coated CR4 mild steel panels with polyisocyanurate (PIR) insulated core and interlocking joints. The panels feature a 50mm thickness to form walls and ceiling. Highly durable, cleanable and chemically resistant – silicon sealed.

MOBI+ 7.5-TON

IMPORTANT INFORMATION TO NOTE:
Guardtech's 3.5-ton Mobi can be driven on a standard UK licence. The 7.5-ton Mobi+ version requires a specialist licence and a tachograph will also need to be installed and operated.

All CleanCube vehicles are fully RAC checked. Internal weight restrictions will apply. Leasing options available. Vehicle owner will be responsible for road tax, MOT and insurance.



13-AMP SOCKET

All CleanCube models can include stainless steel or white plastic 13-amp sockets mounted flush. CAT6 network sockets and 16amp or 32amp three-phase options are also available in the range.

SINK

Self-contained stainless steel sinks with container-fed hot & cold water supply and separate drainage vessel. Motion sensor-activated tap, soap & towel dispenser attached.

POWER SOURCE

Safety isolation transformers on all CleanCubes provide the mobile unit with independent grounding from the connected power source. 32amp male hardwired plug exterior-mounted.

LIGHTING

Powder-coated steel light units, flush mounted into the ceiling panels with drop-down hinged diffuser. Also available as surface-mounted aluminium LED batten luminaires for laboratories. Activation by switch or PIR (passive infrared) sensor. Lights can be UV filtered for photo sensitive processes.

AIR CONDITIONING

Temperature control via VRF split system serving a plenum for cleanrooms or wall-mounted recirculating units for labs. Humidity control also provided via upflow units or separate desiccant wheels. External condensers can be contained in attached plant rooms or mounted on CleanCube exterior.

FURNITURE & EQUIPMENT

CHAIRS

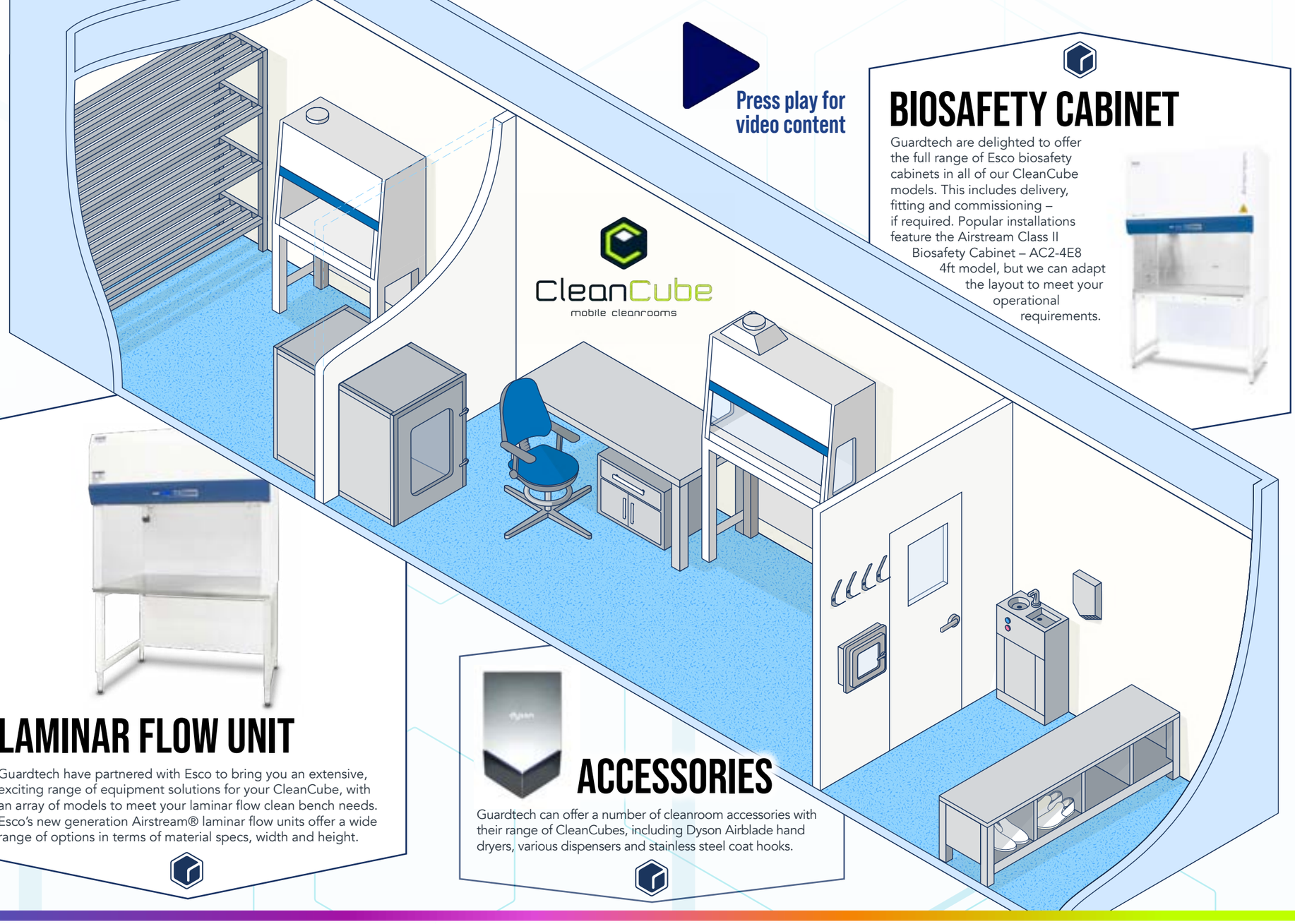
Our MVMT Pro chairs are designed for critical environments, including static-sensitive and particle/microbe-controlled areas. The MVMT Pro offers weight-activated control, meaning an individual user's weight sets the tension, which alleviates resetting controls in multi-user shift workplaces.

TRANSFER HATCHES

These hatches provide a controlled air-tight zone for the transfer of products on trolleys, eliminating unnecessary traffic from the cleanroom, reducing particle ingress and decreasing the risk of cross-contamination.

LAMINAR FLOW UNIT

Guardtech have partnered with Esco to bring you an extensive, exciting range of equipment solutions for your CleanCube, with an array of models to meet your laminar flow clean bench needs. Esco's new generation Airstream® laminar flow units offer a wide range of options in terms of material specs, width and height.



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BIOSAFETY CABINET

Guardtech are delighted to offer the full range of Esco biosafety cabinets in all of our CleanCube models. This includes delivery, fitting and commissioning – if required. Popular installations feature the Airstream Class II Biosafety Cabinet – AC2-4E8 4ft model, but we can adapt the layout to meet your operational requirements.

ACCESSORIES

Guardtech can offer a number of cleanroom accessories with their range of CleanCubes, including Dyson Airblade hand dryers, various dispensers and stainless steel coat hooks.

SHELVING UNIT

Stainless steel shelving units available in a range of sizes and shelf configurations. These units are resistant to harsher cleaning products and are specially designed to be easy to clean, durable and functional.

SINK

Self-contained stainless steel sinks with container-fed hot & cold water supply and separate drainage vessel. Motion sensor-activated tap, soap & towel dispenser attached.

WORK BENCH

Whether it's chemical-resistant Trespa TopLab or simply a stainless steel surface you require, we can fit out your CleanCube with high-spec workbenches to ensure the quality of what you do isn't compromised.

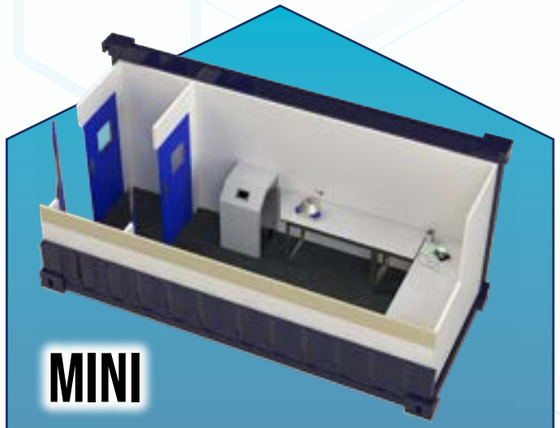
CABINET

Guardtech's CleanCube cabinets are manufactured from either Trespa or grade 304/316L stainless steel. The units are available with a range of door and drawer configurations, stainless fixtures and fittings and can be arranged as mobile units on casters or static cabinets on solid levelling legs.

STEPOVER BENCH

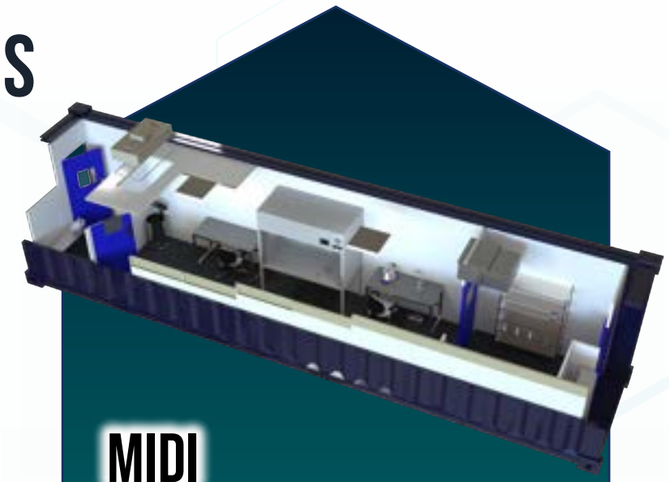
CleanCube stepover benches come as standard seating benches on levelling legs or with storage compartments underneath for shoes, garments, PPE and consumables. Manufactured from Trespa or grade 304/316L stainless steel, Guardtech's stepover benches are durable and easy to clean.

RENTAL OPTIONS



MINI

Total Area	15m²
Cleanroom Area	10m²
PAL/MAL Area	2.5m²/0m²
Plant Area	2.5m²
Internal Height	2.1m
Classification	ISO6
Temperature	21+/- 2°C
Humidity	30-60% typically
Lux Level	500
Wall & Ceiling Panels	GT Shell Pro
Flooring	GT Deck Plus
Doors	2 no. GT Access Plus
13amp Double Sockets	8 no. flush mounted PVC
CAT6A Data Points	4 no. flush mounted PVC
Furniture	1 no. stainless steel stepover 4 no. Trespa workbenches 1 no. stainless steel racking unit 1 no. mobile sink unit 1 no. Trespa under bench cabinet 1 no. 3-compartment dispenser 1 no. stainless steel coat hooks 1 no. stainless full-length mirror
EMS	GT Scan Pro temperature, humidity & pressure sensors, LED wall display
Weekly Rental Price	POA
Minimum Hire Period	3 months



MIDI

Total Area	30m²
Cleanroom Area	Room 1:12.5m² / Room 2: 10m²
PAL/MAL Area	5m²/0m²
Plant Area	2.5m²
Internal Height	2.1m
Classification	ISO6
Temperature	21+/- 2°C
Humidity	30-60% typically
Lux Level	500
Wall & Ceiling Panels	GT Shell Pro
Flooring	GT Deck Plus
Doors	3 no. GT Access Plus
13amp Double Sockets	16 no. flush mounted PVC
CAT6A Data Points	8 no. flush mounted PVC
Furniture	1 no. stainless steel stepover 6 no. Trespa workbenches 2 no. stainless steel racking unit 1 no. mobile sink unit 2 no. Trespa under bench cabinet 1 no. 3-compartment dispenser 1 no. stainless steel coat hooks 1 no. stainless full-length mirror
Equipment	2 no. transfer hatches 1 no. biosafety cabinet ***or*** 1 no. laminar flow units
EMS	GT Scan Pro temperature, humidity & pressure sensors, LED wall display
Weekly Rental Price	POA
Minimum Hire Period	3 months

MAXI

Total Area	60m²
Cleanroom Area	50m²
PAL/MAL Area	5m²/2.5m²
Plant Area	2.5m²
Internal Height	2.4m
Classification	ISO6
Temperature	21+/- 2°C
Humidity	40-60%
Lux Level	500
Wall & Ceiling Panels	GT Shell Pro
Flooring	GT Deck Plus
Single/Double Doors	2 no./2 no. GT Access Plus
13amp Double Sockets	20 no. flush mounted PVC
CAT6A Data Points	12 no. flush mounted PVC
Furniture	1 no. stainless steel stepover 10 no. Trespa workbenches 4 no. stainless steel racking unit 1 no. mobile sink unit 4 no. Trespa under bench cabinet 1 no. 3-compartment dispenser 1 no. stainless steel coat hooks 1 no. stainless full-length mirror
Equipment	2 no. transfer hatches 1 no. biosafety cabinet ***or*** 1 no. laminar flow units
EMS	GT Scan Pro temperature, humidity & pressure sensors, LED wall display
Weekly Rental Price	POA
Minimum Hire Period	3 months

MOBI

Total Area	12m²
Laboratory Area	10m²
PAL/MAL Area	N/A
Plant Area	2m²
Internal Height	2.3m
Classification	BSL2
Temperature	21+/- 2°C
Humidity	Uncontrolled
Lux Level	500
Wall & Ceiling Panels	GT Shell Pro
Flooring	GT Deck Plus
Single Doors	1 no. GT Access Lite
13amp Double Sockets	8 no. flush mounted PVC
CAT6A Data Points	4 no. flush mounted PVC
Furniture	3 no. Trespa workbenches 1 no. stainless steel racking unit 1 no. mobile sink unit 2 no. Trespa under bench cabinet 1 no. 3-compartment dispenser 1 no. stainless steel coat hooks 1 no. stainless full-length mirror
EMS	GT Scan Pro temperature, humidity & pressure sensors, LED wall display
Weekly Rental Price	POA
Minimum Hire Period	3 months

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