Advanced cleanroom and containment facilities for the life sciences sector

Supporting pharmaceutical manufacturing, biotechnology, research and advanced therapies.

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Vanguard Life Sciences

Delivering high-performance aseptic environments

Vanguard Life Sciences delivers advanced cleanroom and containment facilities for the life sciences sector, supporting pharmaceutical manufacturing, biotechnology, research and advanced therapies.

Based on more than two decades of experience in delivering complex, regulated environments, our solutions combine precision engineering with modern methods of construction to provide faster, more flexible alternatives to traditional builds.

Through our collaboration with Enbloc, a specialist contractor with over 25 years' experience in cleanroom and laboratory design and build, we bring together complementary expertise in modular infrastructure and controlled, pharmaceutical lifescience environments.

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Aseptic cleanrooms designed for compliance and performance

Our cGMP aseptic cleanroom suites are designed to support sterile manufacturing processes in fully compliant environments.

They provide Grade B aseptic processing areas with supporting Grade C and D environments, enabling safe, controlled production compliant with EU GMP including the latest Annex 1 updates and ISO 14644 standards.

These facilities are engineered to maintain strict environmental control, including temperature, humidity and pressure cascades, ensuring product integrity and regulatory compliance.

Why Vanguard Life Sciences?

- Flexible solutions for expansion, refurbishment or new capacity
- Designed for GMP compliance and inspection readiness
- Integrated design, build and validation expertise
- Rapid deployment through modular construction
- Reduced disruption compared to traditional construction

> "We bring together complementary expertise in modular infrastructure and controlled, pharmaceutical lifescience environments."

A complete aseptic cleanroom solution

The Solution and Support Services

Our modular aseptic cleanroom, and containment suites are delivered as fully integrated facilities, designed around your process, workflow and regulatory requirements

Key features include:

- Controlled Grade B and C Aseptic cleanrooms house isolators containing the highest level of sterility, Grade A environments
- Supporting Grade C and D cleanroom areas
- Dedicated HVAC systems with HEPA filtration
- Controlled pressure cascades to prevent contamination
- Temperature and humidity control
- Seamless, cleanroom-compliant finishes
- Designed to accommodate isolators, autoclaves and process equipment

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Each facility is manufactured offsite using modern construction methods, improving quality control while significantly reducing programme timelines and on-site disruption.

Supporting services across the lifecycle

Vanguard Life Sciences provides a complete, end-to-end service to support your facility throughout its lifecycle:

Design and build

Facilities are developed from user requirements through to detailed design and construction, ensuring alignment with your operational and regulatory needs.

Testing and validation

Full commissioning and validation services ensure compliance with GMP and ISO standards, including environmental testing, airflow verification and documentation.

Service and maintenance

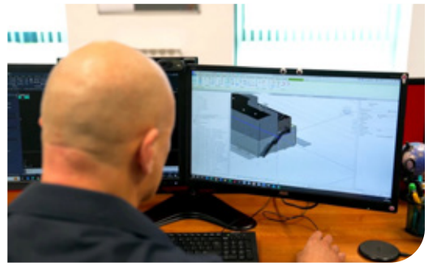
Ongoing planned and preventative maintenance supports long-term performance, compliance and reliability.

Regulatory compliance and documentation

Comprehensive documentation and validation protocols support audit readiness and regulatory inspection.

This integrated approach reduces complexity, minimises risk and ensures consistency across your facility.

We would be pleased to work with you to design the perfect facility (of any size). On the following pages are examples of solutions we could provide.



Aseptic Cleanroom Suite (Double Module) cGMP

Vanguard Life Sciences, in collaboration with Enbloc, delivers modular cGMP aseptic cleanroom suites designed to support sterile manufacturing and high-risk aseptic processing in regulated life sciences environments.

Compliant with EU GMP including the latest Annex 1 updates and ISO 14644, these facilities provide fully compliant Grade B processing environments with supporting Grade C and D areas, enabling safe, controlled and inspection-ready operations.

Designed for sterile manufacturing

Our aseptic cleanroom suites are built to maintain strict environmental control, including temperature, humidity and pressure cascades that prevent contamination and ensure product integrity.

A controlled positive pressure regime is maintained throughout the facility, with defined pressure differentials between cleanroom grades to support GMP compliance and minimise contamination risk.

Key features

- Controlled Grade B and C Aseptic cleanrooms house isolators containing the highest level of sterility, Grade A environments
- Supporting Grade C and D cleanroom areas
- Temperature control typically maintained at 20–22°C
- Relative humidity limited to 60% RH to prevent condensation forming on surfaces
- Positive pressure cascade aligned with cGMP requirements
- Dedicated air handling systems with HEPA H14 filtration

Built for compliance

These cleanroom suites are designed to meet the requirements of:

- EU GMP Compliant including Annex 1 updates
- ISO 14644 cleanroom standards
- MHRA and FDA aseptic manufacturing guidance
- BS EN cleanroom construction standards
- COSHH regulations.

- A Plant
- B Cleanroom (Grade C)
- C Isolator-4 Glove
- D Changing Area (Grade C)
- E Stepover Bench
- F Hatches: Product Out (Top), Waste Out (Bottom)
- G Lobby (Unclassified)
- G Main Entrance
- I Personnel Air Lock (Grade D)
- J Preparation Cleanroom (Grade D)
- K Hatch: Materials In
- L Break-Out Panel

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Integrated equipment and workflow

The facility is designed to accommodate critical aseptic processing equipment, including isolators, cleanroom furniture and process support systems.

Supporting areas such as preparation zones, QA spaces, storage and sterilisation facilities can be integrated within the host building to ensure efficient workflow and compliance.

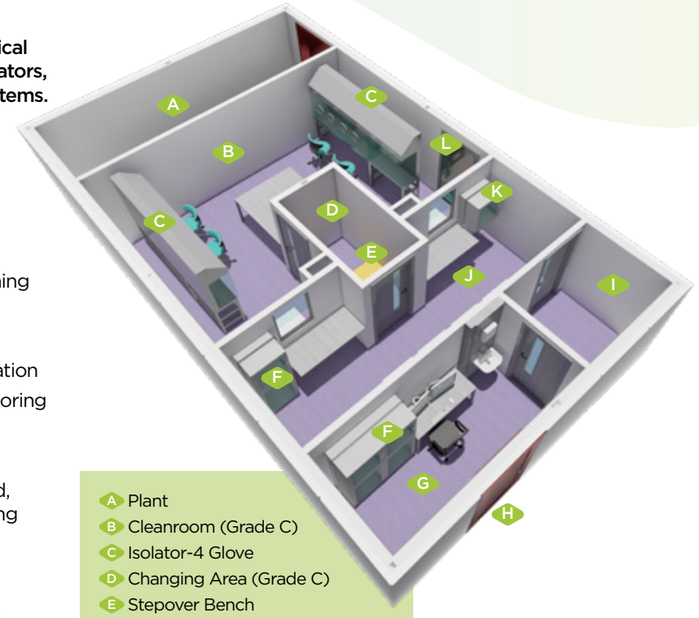
Validation-ready by design

Every facility is delivered with full commissioning and validation, including:

- HEPA filter integrity testing
- Airflow visualisation and air change verification
- Particle counting and environmental monitoring
- Temperature and humidity testing
- Cleanroom recovery testing
- Comprehensive documentation is provided, including DQ, IQ and OQ protocols, ensuring full audit readiness from day one.

Flexible, modular delivery

The modular format allows rapid deployment and scalability, supporting organisations that need to expand capacity, introduce new processes or maintain operations during refurbishment.



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- F Stepover Bench

Clean Containment Suite (Double Module), for Advanced Therapies cGMP

(Gene Therapy, ATMP, Viral Vectors)

Vanguard Life Sciences, in collaboration with Enbloc, delivers modular clean containment suites designed for gene therapy, ATMPs and viral vector production.

These facilities combine cleanroom performance with containment capability, supporting high-value and sensitive processes within a controlled, compliant environment.

Designed for containment and control

Our containment suites are engineered to maintain both cleanroom conditions and containment integrity.

They support Grade A processing environments (within isolators) with surrounding Grade B and Grade C areas, while maintaining controlled pressure regimes to prevent contamination ingress and ensure containment of critical processes.

Key features

- Designed for gene therapy and ATMP manufacturing
- Grade C processing with controlled containment
- Positive pressure cascades supporting clean-to-less-clean flow
- Dedicated HVAC systems with HEPA H14 filtration
- Environmental monitoring with BMS integration
- Temperature control
- Relative humidity limited to 60% RH to prevent condensation forming on surfaces

Built to regulatory standards

These cleanroom suites are designed to meet the requirements of:

- EU GMP Compliant including Annex 1 updates
- ISO 14644 cleanroom standards
- MHRA and FDA guidance
- COSHH and BS EN construction standards
- COSHH regulations.

- A Plant Room
- B Changing Area (Grade C)
- C Cleanroom (Grade C)
- D Isolator-4 Glove
- E Hatches: Product Out (Top), Waste Out (Bottom)
- F Lobby (Unclassified)
- G Main Entrance
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Integrated process environments

The clean containment suite supports key process equipment including isolators, incubators and cleanroom-compatible furniture, enabling efficient and compliant workflows.

Additional supporting areas such as staging, QA, storage and waste handling can be incorporated within the wider facility.

Validation and performance assurance

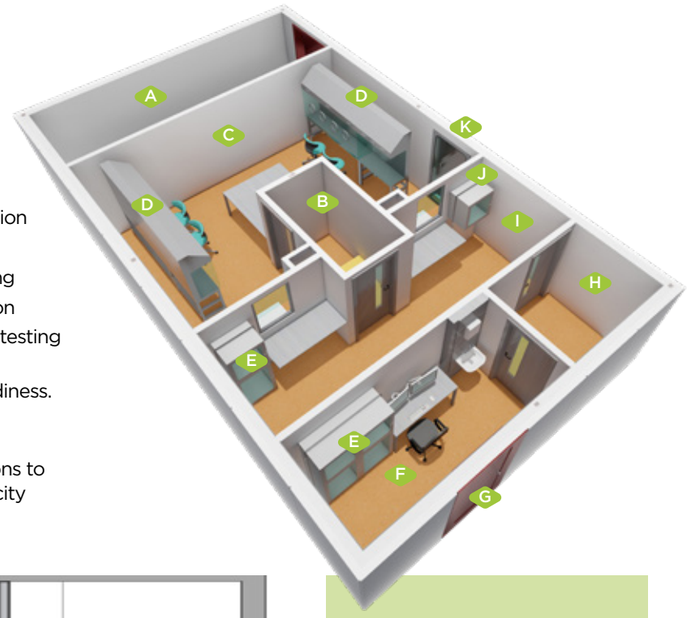
Each facility undergoes full commissioning and validation, including:

- HEPA integrity testing and airflow verification
- Air change rate testing
- Pressure cascade and room integrity testing
- Environmental monitoring system validation
- Particle counting and cleanroom recovery testing
- All documentation is provided to support regulatory compliance and inspection readiness.

Scalable and future-ready

Modular containment suites allow organisations to scale advanced therapy manufacturing capacity quickly, without the delays associated with traditional construction.

- A Cleanroom (Grade C)
- B Changing Area (Grade C)
- C Cleanroom (Grade C)
- D Stepover Bench



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Laboratory (Double Module), Containment Level 3

Vanguard Life Sciences, in collaboration with Enbloc, delivers modular Containment Level 3 laboratories designed for high-containment research and handling of hazardous biological agents.

These facilities provide secure, compliant environments aligned to UK regulatory frameworks and biosafety requirements.

Designed for high-containment environments

The CL3 laboratory is engineered to maintain strict containment through a negative pressure cascade, typically reaching -50Pa within the laboratory space, preventing the escape of airborne pathogens.

The facility is designed to meet both containment and security requirements, including SR3 security standards.

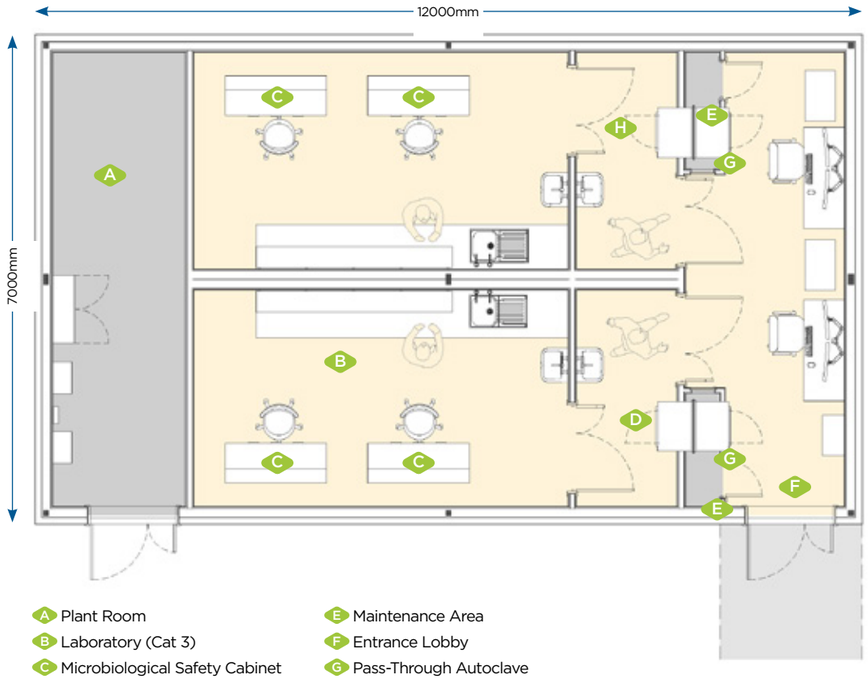
Key features

- CL3 containment laboratory design
- Negative pressure cascade for containment
- HEPA filtration on extract air
- Pressure monitoring with alarm systems
- Semi-automated fumigation capability
- Dedicated air handling systems with redundancy

Regulatory compliance

Facilities are designed in accordance with:

- Advisory Committee on Dangerous Pathogens (ACDP) for CL3
- HSE guidance for microbiological containment laboratories
- SAPO and CPNI security frameworks
- COSHH regulations



- A Plant Room
- B Laboratory (Cat 3)
- C Microbiological Safety Cabinet
- D Lobby (Cat 3)
- E Maintenance Area
- F Entrance Lobby
- G Pass-Through Autoclave
- H Lobby (Cat 3)

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Laboratory environment and equipment

The laboratory is designed to support essential equipment including microbiological safety cabinets, laboratory benching, sinks and containment systems.

Supporting spaces such as write-up areas, welfare facilities and storage are incorporated within the wider facility design.

Safety and operational assurance

Key safety features include:

- Fully sealed construction for containment integrity
- Controlled fumigation and decontamination capability
- Airtightness testing and validation
- Chemical-resistant finishes for durability and hygiene

Facilities are validated through commissioning processes including pressure verification, HEPA testing and air change rate testing.

Modular deployment

The modular format enables rapid deployment of CL3 laboratories, supporting urgent research requirements, outbreak response or expansion of containment capacity.

- A Plant Room
- B Laboratory (Cat 3)
- C Microbiological Safety Cabinet
- D Lobby (Cat 3)
- E Maintenance Area
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- H Lobby (Cat 3)

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Laboratory (Single Module), Containment Level 3

Vanguard Life Sciences, in collaboration with Enbloc, offers compact Containment Level 3 laboratories in a single module format, designed for organisations requiring high-containment capability within a smaller footprint.

This solution provides the same regulatory compliance and containment performance as larger facilities, with greater flexibility and faster deployment.

Compact, high-performance containment

The single-module CL3 laboratory maintains a negative pressure cascade to ensure containment, typically reaching - 50Pa within the laboratory environment.

It is designed to meet both biosafety and security requirements, including SR3 standards.

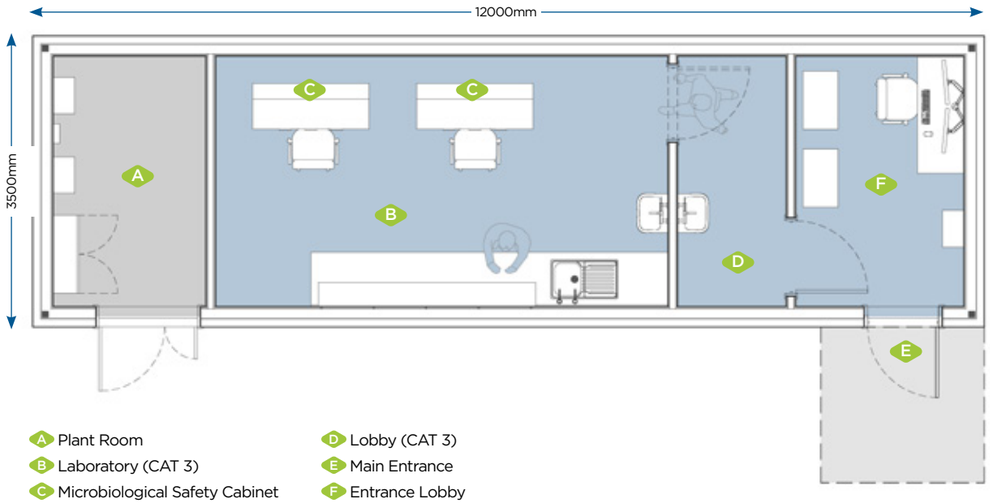
Key features

- CL3 containment in a compact modular format
- Negative pressure cascade for safe containment
- HEPA-filtered extract systems
- Integrated safety and monitoring systems
- Chemical-resistant, hygienic finishes
- Designed for rapid deployment

Regulatory alignment

The facility complies with:

- ACDP CL3 guidance
- HSE microbiological containment standards
- SAPO and CPNI security frameworks
- COSHH regulations



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Designed for flexibility

The single-module configuration supports essential laboratory functions, including microbiological safety cabinets, benching and wash facilities, while allowing integration with supporting infrastructure such as autoclaves and storage.

Validation and compliance

Each laboratory is delivered with commissioning and validation, including:

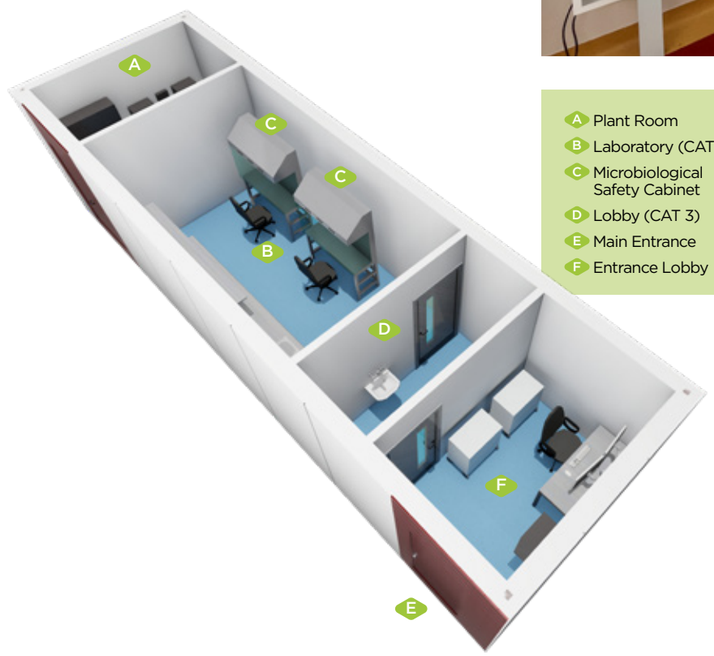
- Pressure cascade verification
- HEPA integrity testing
- Air change rate testing
- Airtightness testing

Documentation and O&M manuals are provided to support compliance and ongoing operation.

Ideal for targeted capacity

This solution is well suited to organisations needing:

- Additional containment capacity
- Rapid deployment laboratories
- Flexible or temporary high-containment environments



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Clinical trial spaces designed around your study

Vanguard and Enbloc collaborate to build purpose-built clinical trial facilities providing safe, efficient, and adaptable environments for conducting studies involving human participants. Designed with both patient experience and clinical precision in mind, these spaces support every stage of the trial process, from initial consultation through to examination and follow-up.

Each facility incorporates high-quality consultation rooms for confidential discussions, informed consent, and patient assessments, alongside fully equipped examination rooms that enable accurate data collection and monitoring. Layouts are carefully planned to optimise workflow, ensure compliance with regulatory standards, and maintain the highest levels of patient safety and comfort.

Flexibility is at the core of the design. Facilities can be tailored to meet specific study protocols, therapeutic areas, and sponsor requirements, whether for short-term trials or longer-term research programmes. Modular configurations allow for rapid deployment and easy reconfiguration, supporting changing clinical needs and evolving trial demands.

By combining clinical functionality with patient-centred design, these facilities help streamline operations, enhance participant engagement, and deliver reliable outcomes. The result is a professional, scalable environment that enables researchers and healthcare providers to conduct trials with confidence, efficiency, and precision.

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- A Consultation Room
- B Lobby/Waiting Area
- C Toilet
- D Examination/Dosing Room
- E Plant Room
- F Link Corridor To Main Building

- A Consultation Room
- B Lobby/Waiting Area
- C Toilet
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- F Link Corridor To Main Building

If you are planning new aseptic capacity, expanding an existing facility or require flexible cleanroom infrastructure, our team is ready to support you.

Let's discuss your requirements and explore how modular cleanroom solutions can support your organisation.

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