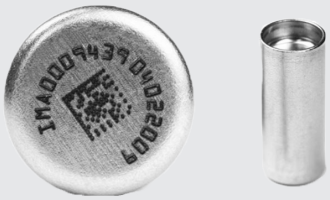
imagene

Fully automated platform for nucleic acids encapsulation

Bioshielder
Progress by imagene

BREN_BIOSHIELDER-PROGRESS_20240920

Fully automated Station for DNA/RNA encapsulation and leak testing



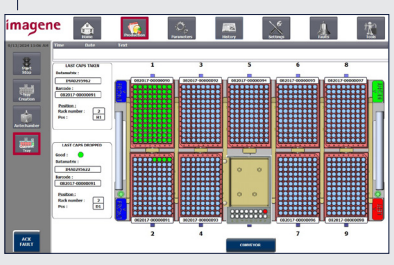
Description

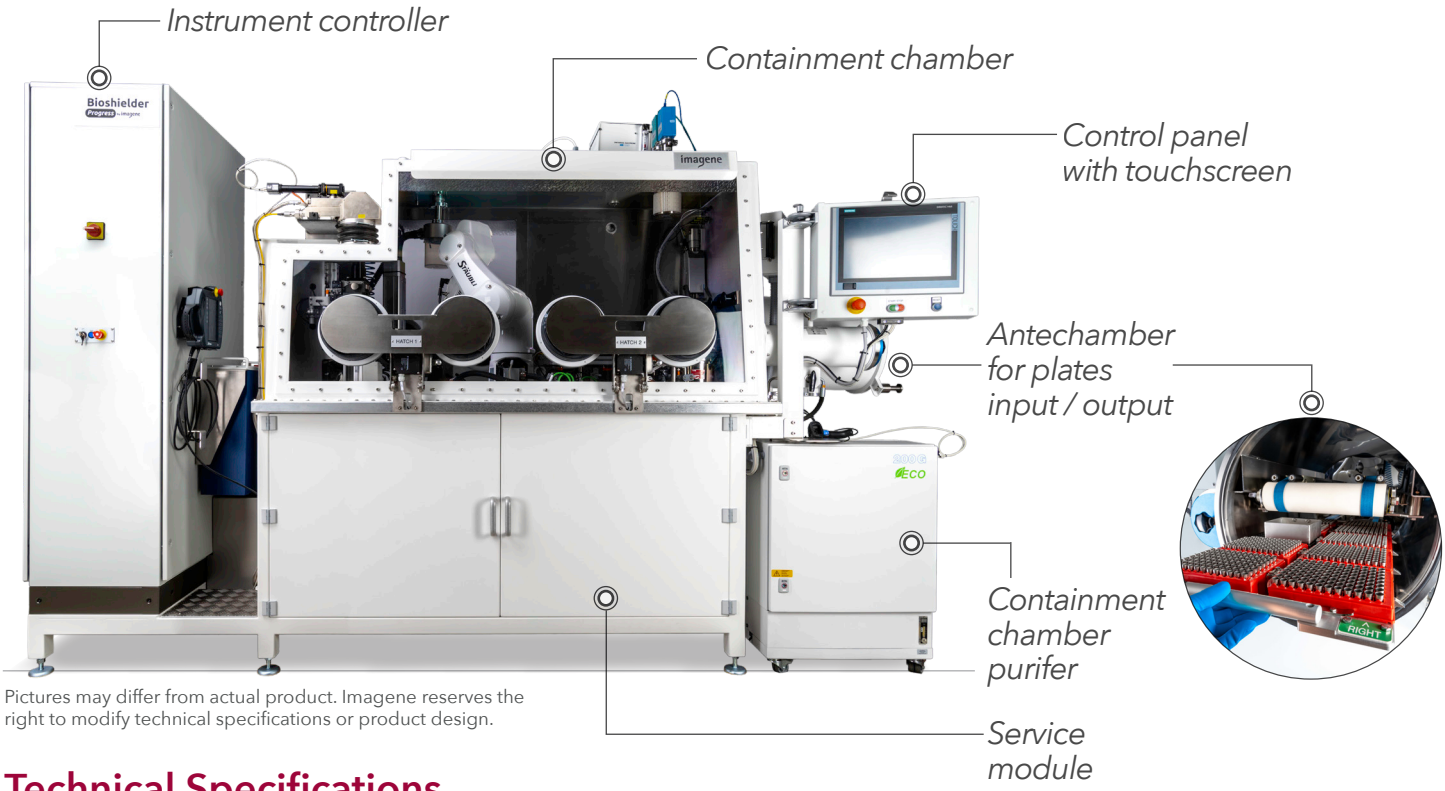
The **Bioshielder Progress©** High-Throughput Automated Station enables the encapsulation and leak testing of DNA and RNA samples in DNAshell® and RNAshell® minicapsules, following the process developed and patented by Imagene.
After encapsulation under anoxic and anhydrous atmosphere, encapsulated samples are protected from alteration factors and can be stored at ambient temperature for the very long term.

Process

The high throughput Station is fully automated and allows nucleic acids encapsulation according to the following process:

- Extensive drying of the samples into minicapsules arranged on barcoded plates.
- Scanning of 2D Datamatrix code engraved at the bottom of each minicapsule.
- Minicapsule closing: a stainless steel cap is individually placed on the top of each minicapsule.
- Pressing of the cap onto the minicapsule and position check.
- Pulsed YAG laser welding, ensuring perfect sealing of minicapsules with negligible temperature rise.
- Leak testing of each minicapsule *via* mass spectrometry detecting any potential leaks through helium presence.
- Data Export (welding date, helium test results, O_2 and H_2O levels) in CSV format.





Pictures may differ from actual product. Imagene reserves the right to modify technical specifications or product design.

Technical Specifications

- Throughput: up to 9 plates of 96 minicapsules / day (8 hours).
- Containment chamber environment: atmosphere composed of 90% argon and 10% helium, anhydrous and anoxic (< 1 ppm H_2O and O_2).
- Interface: integrated software with a touchscreen allowing to monitor each step of the process.
- Full traceability of minicapsules and plates with data export..
- Dimensions: 347cm (L) x 128cm (W) x 227cm (H).
- Total weight: 1,650kg

Consumables & Accessories

Minicapsules

Imagene is the exclusive supplier of consumables for the Bioshielder Progress©. The consumables kit includes:

- SBS-format plates, each containing 96 stainless steel minicapsules with a unique 2D Datamatrix code and a glass insert.
- 16x96 stainless steel caps for minicapsules.

Benchtop shellOpener©

shellOpener©

The shellOpener© is a manual device allowing the easy opening of DNAshell® and RNAshell® by punching through the metallic cap with a punch. This accessory is available in portable or benchtop format.

Portable shellOpener©

Optional equipment: AutoStacker© storage station

Imagene's AutoStacker© storage station is designed to store minicapsules at room temperature without energy consumption. Its capacity to hold over 250,000 minicapsules in a compact 3m² area makes it an ideal choice for saving both space and energy in storage facilities. Its user-friendly database, software, and integrated 2D and 1D barcode scanners enable efficient, error-free entry, retrieval, and tracking of minicapsules.

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