

SHIELDED SYNTHESIS BOX

The synthesis hot cell is designed to house the most commercially available synthesis/chemistry units meeting cGMP guidelines. It provides one shielded compartment with 75- or 100 mm lead shielding in all directions. An internal stainless-steel box with large radius corners for easy cleaning and a sliding tray for easy and ergonomic access to the module makes it a user-friendly design. The air inlet is HEPA filtered; the air is taken from the front side (clean room).

Front access is through a door system: the primary hinged lead-shielded door and a secondary hinged acrylic door to maintain airtight integrity. The Synthesis box is equipped with a shielded target line (from floor level to compartment bottom).

Several options are available such as a lead glass window, a charcoal filter on the exhaust, pharmaceutical gas connections, a product retrieval cabinet (PRC), and an Unshielded Process Cabinet (UPC).

Variants	SB2	PRC	UPC
Outside dimensions [mm] [W*D*H]	1.200*1.200*2.650	N.A.	N.A.
Inside dimensions [mm] [W*D*H]	742*715*548	160*222*240	350*447*564
Weight @75 mm shielding [Kg]	6.500	N.A.	N.A.
Weight @100 mm shielding [Kg]	8.110	N.A.	N.A.
Effective space in compartment mm [W*H*D]	670*470*500	160*222*240	350*447*564
Exhaust [m ³ / hr]	6	5	5



The images shown are for illustrative purposes only. The actual product may vary in design, color, and specifications.

STANDARD FEATURES

Radiation protection

- 75 mm or 100 mm lead shielding in all walls, roof and floor.
- Fully shielded target lines from floor level to hot cell for two gas target lines, one corrugated guiding tube for multiple liquid target lines, and one waste line.

Sample & product handling

- Internal stainless steel 316L box with special micro-surface treatment.
- Acrylic inner door to maintain airtight integrity.

Air handling / distribution

- Leak tightness according to ISO10648-2 Class 3 (<1% hourly leak rate).
- Air inlet: with HEPA filter (H13), including valve.
- Air exhaust: including valve.

Cleaning

- ISO14644-1/ GMP annex 1 compliant interior surface finish for cleaning, validation and decontamination.
- Exterior finish traffic white (RAL 9016), easy to clean.

System operation / control

- Control via human-machine interface (HMI) with touch screen.
- Light intensity min 500 Lux.
- Visible and audible alarms.

Sensors

- Digital pressure measurement on all compartments.

Utilities

- Three electrical outlets inside compartment, lower outlet switchable from HMI [in accordance with local requirements].
- Airtight pass-through for custom entry of tubes and cables
- Basic gas connections: three technical gasses and one compressed air.
- Sliding stainless steel tray: 700*510 mm [W*D] Max payload 120 Kg.

OPTIONAL FEATURES

- Lead glass window in front door 150x150 mm [lead wall equivalent].
- Radiation detection system including safety interlock on shielded front door(s).
- Universal support (outlet, cable pass-through, arm for laptop or ion chamber control unit) requires additional panel.
- Internal HEPA / Charcoal exhaust filter.
- External shielded HEPA / Charcoal filter.
- Extended gas regulation.
- Universal large diameter product transfer line system to other hot cells, 75 mm lead shielding.
- Acid-resistant box material [Hastelloy / Kydex / stainless steel coated inner box] available upon request.
- Monitor and / or laptop mount.
- Turnable sliding tray.
- Isolation system.
- Temperature and humidity sensors.
- Standard particle counter, incl. isokinetic probe.
- Unshielded Process Cabinet (UPC).
 - Sealed acrylic door.
 - Transfer lines to the above compartment.
 - Electrical outlets.
- Product Retrieval Cabinet (PRD).
 - Transfer lines to the above compartment.
 - Shielded cabinet to retrieve product in vial.
 - Slide tray for type A container incl. lid.
 - Sealed acrylic door.

