

MODULAR HOT CELL

The modular hot cell (MHC) is very versatile. Over 50 years of shielding design experience have led to a customizable design that can meet many research and manufacturing requirements while maintaining compliance with local standards. The MHC is engineered and constructed for continuous protection and reliability in a Grade C environment.

The MHC features a vertical, motor-driven lead-shielded front door and an airtight, hinged acrylic inner door. The main compartment is shielded with 75 mm or 100 mm of lead on all sides. The internal stainless-steel box has rounded corners for ease of cleaning and decontamination. The MHC is prepared to integrate various brands of telemanipulators.

The design of this hot cell allows for several additional features such as a product retrieval cabinet (PRC), an Unshielded Process Cabinet (UPC), or shielded storage for liquid or solid waste collection. This hot cell can be configured with various hot cell connections and can be seamlessly integrated into a clean room.

Many options are available such as a charcoal filter on exhaust and basic or extended gas connections.

Variants	MHC	MHC-XL
Outside dimensions [mm] (W*D*H)	1.600*1.214*2.650	1.600*1.214*2.650
Inside dimensions [mm] (W*D*H)	1.200*820*970	1.200*820*1.170
Weight @75 mm shielding [Kg]	9.750	10.550
Weight @100 mm shielding [Kg]	12.190	13.190
Lead glass[mm] (W*H)	350*300	350*300
Effective door opening mm (W*H)	686*576	686*576
Exhaust [m ³ / hr]	20	30



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.
- Vertical, motor-driven lead-shielded outer door.
- Lead glass window in front door (lead wall equivalent).
- Shielded ion chamber (lead wall equivalent) suitable for our commonly used Dose calibrators.

Sample & product handling

- Internal stainless steel 316L box with special micro-surface treatment.
- ionization chamber lift system.
- Acrylic inner door with static seal to maintain airtight integrity.
- Preparation for two tele-manipulators.

Air handling/ distribution

- Air classification Grade C environment
- 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

- Compliant interior surface finish for cleaning 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

- Electrical outlets inside compartment, 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.

OPTIONAL FEATURES

- 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.
- Shielded sliding side door Left/Right (lead wall equivalent) clear opening 200*250 mm (W*H).
- Glove ports in shielded front door with hinged plugs
- [Shielded] pass through to adjacent compartment 200*250 mm (W*H).
- foot pedal control for ionization chamber lift system.
- 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 an additional panel.
- Internal HEPA/Charcoal exhaust filter (max exhaust limited to 15 m3/hr).
- External shielded HEPA/Charcoal filter.
- Extended gas regulation.
- Acid-resistant box material (Hastelloy / Kydex / stainless steel coated inner box) available upon request.
- Monitor and/or laptop mount.
- Isolation system.
- Temperature and humidity sensors.
- Standard particle counter, incl. isokinetic probe.
- Unshielded storage area (open front).
- Unshielded Process Cabinet (UPC).
- Product Retrieval Cabinet (PRD).
- Dose calibrator.
- Tele-manipulator.