

Specification for Positive & Negative Pressure Pharmaceutical Isolators

The Atlas Clean Air range of isolators, are “purpose designed” to meet the containment and aseptic needs of the pharmacist or commercial pharmaceutical producer. They are stand-alone units which meet the requirements of the European Standard BS EN ISO 14644-7: 2004, and are available as two or four glove versions.

The Isolator Range:

The *ICT-120* is a two glove Isolator negative pressure isolator.

The *ICT-180* is a four glove Isolator negative pressure isolator.

The *IPP120* is a two glove Isolator positive pressure isolator.

The *IPP-180* is a four glove Isolator negative pressure isolator



4 Glove Positive Pressure Isolator

The Isolators are manufactured using a combination of polished 316L stainless steel, white smooth gloss polyester coated zintec steel and polished clear cast acrylic. The user friendly ergonomic design is complemented with a PIC CHIP microprocessor control system.

The Isolators give a unidirectional down-flow of HEPA quality air over the whole of the working area. The supply HEPA filter is positioned in the top plenum directly above the work chamber, with the exhaust filters in the rear of the main chamber.

This range of Isolators have been designed specifically for easy access through a single doorway into its final location. Once in position and connected to a standard 230VAC single phase power supply, Atlas can fully commission the Isolator and supply the required documentation and O&M manuals.

These Isolators include many standard features, and can incorporate a large number of additional “Factory fitted options”. All of which are detailed below.

Standard Features of Mach-Aire Isolators:

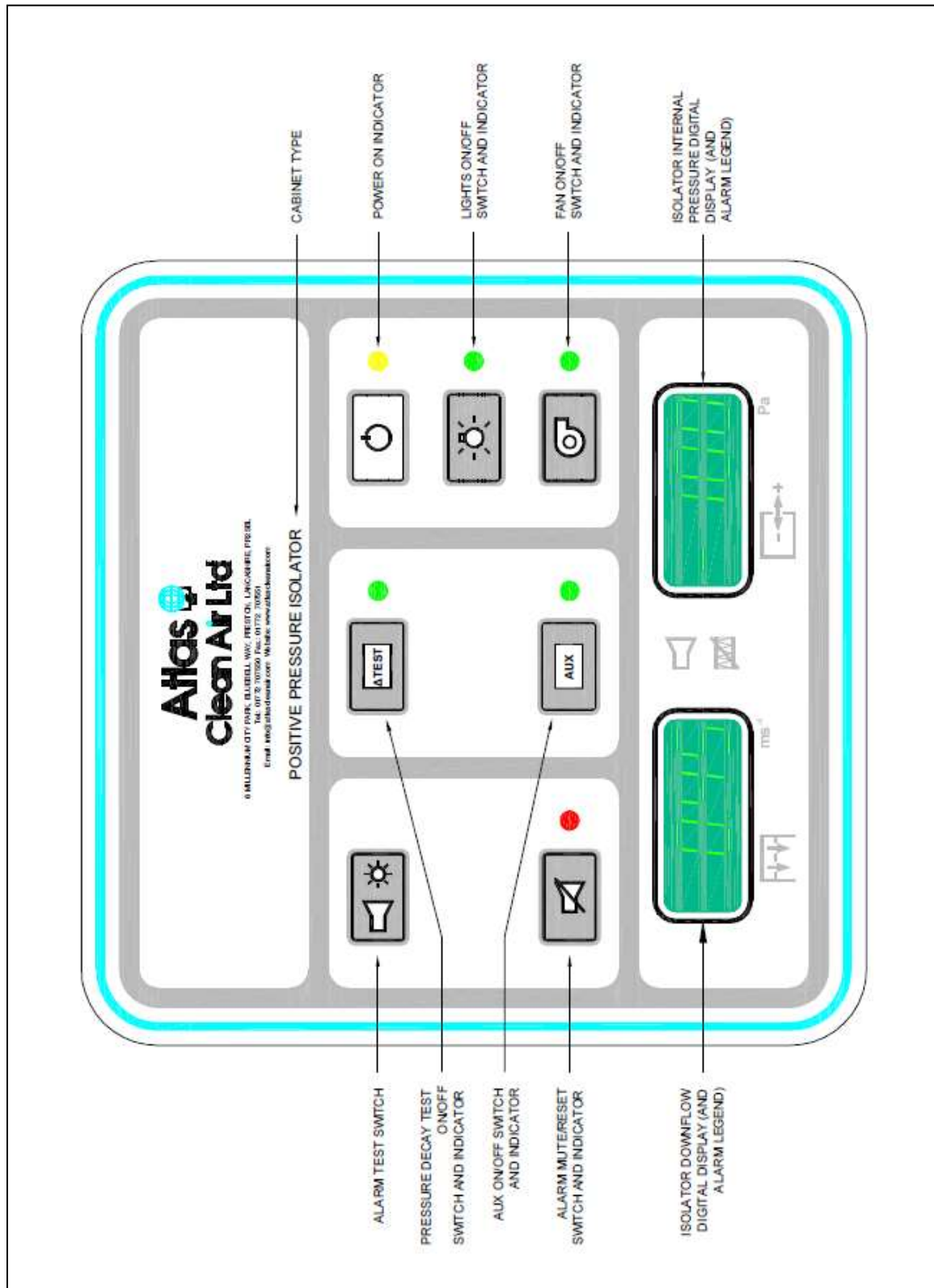
- Stainless steel (316L grade) main working chamber and transfer hatches, polished internally and finished in white smooth gloss polyester powder coat on the exterior surfaces.
- White smooth gloss polyester coated zintec steel plenums, control panel and support stand.
- Polished clear cast acrylic vision panels for the main work chamber visor and transfer hatches doors.
- Type ‘D’ transfer hatches complete with factory set interlocks and timers.
- Transfer hatches operate at a higher pressure compared to the working chamber ensuring air flows into the critical zone when inner doors are being opened.
- Polished 316 stainless steel sliding trays fitted to pass through hatches.
- Fully automated fan speed control system.
- PIC CHIP programmed microprocessor control system.
- Foot switch operation for inner transfer hatch door release.
- Fully automated Pressure Decay Leak Test system with automatic closure of the transfer hatch lids.
- Plenum mounted HEPA filter allows unidirectional downflow of HEPA quality air over entire working area.
- Downwards hinged front vision panel for ease access into main work chamber.
- Large oval glove ports (250mm x 300mm) for user comfort.
- DOP test ports suitably positioned to test all HEPA filters.
- Fitted with energy efficient LED lighting.
- Lighting mounted external to main working chamber.
- Fixed height support stand on lockable castors for mobility.
- Two off single 13A IP rated splash proof sockets fitted to the rear of the chamber.

Optional Equipment:

- Vari-Height Support Stand: electrically operated, it allows the user to adjust the working level of the Isolator to the most comfortable position.
- Hanging Rail complete with hooks: manufactured from polished 316 grade stainless steel, and fitted to the top of the working chamber below the HEPA filter. 4 hooks supplied with 2 glove unit and 6 hooks supplied with 4 glove unit. Various hook types are available.
- Anti-Blowback Damper: for connecting negative pressure isolators to ducted extract systems.
- Glove Leak Test Kit: designed to carry out testing of the glove/cuff/sleeve assembly on a routine (daily) basis, complete with digital manometer.
- Vacuum Tap Connection.
- Laboratory Gas Connections.
- Additional Splashproof Sockets: up to 2 extra IP rated splashproof sockets can be installed within the main work chamber.
- Isokinetic Head: allows constant particle monitoring (CPM) within the work zone via connection to a CPM system (supplied by others).
- Spare Cuff Rings: a range of different sized cuff rings to allow optimum comfort for the user.
- Easy Change Glove System: permits exchange of gloves without compromising isolator integrity.
- VHP Fumigation Connectors: allows connection to an external VHP de-contamination system (by others).
- Wireless Data Transfer System: allows remote connection to a Windows enabled computer for monitoring live data from up to 100 isolators.
- Touchscreen PC Monitor: touchscreen PC installed within the rear wall of the main working chamber.
- Battery Backup: battery backup system which captures control panel data at power outages.
- CCTV System: a range of CCTV options are available to suit the users requirements.
- Secondary Exhaust Filters: additional HEPA and carbon filters can be fitted to meet clients specific requirements or regional regulations.



2 Glove Negative Pressure Isolator fitted with Secondary exhaust Filter Option



Isolator Main Control Panel

Isolator Type	ICT-120 Negative	ICT-180 Negative	IPP-120 Positive	IPP-180 Positive
Isolator external dimension ¹⁾	2214 x 780 x 1950 W x D x H (mm)	2814 x 780 x 1950 W x D x H (mm)	2214 x 780 x 1950 W x D x H (mm)	2814 x 780 x 1950 W x D x H (mm)
Transfer Hatch aperture (outer door)	300 x 333 W x H (mm)	300 x 333 W x H (mm)	300 x 333 W x H (mm)	300 x 333 W x H (mm)
Transfer Hatch aperture (inner door)	300 x 400 W x H (mm)	300 x 333 W x H (mm)	300 x 333 W x H (mm)	300 x 333 W x H (mm)
Internal dimensions of Transfer Hatch	394 x 400 W x H (mm)	394 x 400 W x H (mm)	394 x 400 W x H (mm)	394 x 400 W x H (mm)
Nominal down-flow velocity through chamber	0.3 – 0.45 m/s	0.3 – 0.45 m/s	0.3 – 0.45 m/s	0.3 – 0.45 m/s
Airflow through chamber (nominal)	530m ³ /hr	860m ³ /hr	530m ³ /hr	860m ³ /hr
Airflow through Transfer Hatch (nominal)	45m ³ /hr	150m ³ /hr	45m ³ /hr	150m ³ /hr
Air change rate – chamber (nominal)- subject to air volume	1400/hr@ 0.35m/s 1600/hr @ 0.40m/s 1800/hr @ 0.45m/s	1500/hr@ 0.35m/s 1700/hr @ 0.40m/s 1900/hr @ 0.45m/s	1400/hr@ 0.35m/s 1600/hr @ 0.40m/s 1800/hr @ 0.45m/s	1500/hr@ 0.35m/s 1700/hr @ 0.40m/s 1900/hr @ 0.45m/s
Air change rate – Transfer Hatch (nominal)- subject to air volume	850/hr	950/hr	850/hr	950/hr
Δp Chamber (pressure)	-100 Pa ±15 Pa	-100 Pa ±15 Pa	+100 Pa ±15 Pa	+100 Pa ±15 Pa
Δp Transfer Hatch pressure Differential to Chamber	-150 Pa ±15 Pa	-150 Pa ±15 Pa	+50 Pa ±15 Pa	+50 Pa ±15 Pa
Chamber lighting level (at working height)	>750 Lux	>750 Lux	>750 Lux	>750 Lux
Noise level	<65 dB(A)	<65 dB(A)	<65 dB(A)	<65 dB(A)
Breach velocity (cuff)	>0.7 m/s	>0.7 m/s	>0.7 m/s	>0.7 m/s
HEPA filtration (EN 1822)	>99.995% (H 14)	>99.995% (H 14)	>99.995% (H 14)	>99.995% (H 14)
Critical zone of working chamber Environment (EC GMP)	Grade 'A'	Grade 'A'	Grade 'A'	Grade 'A'
Transfer Hatch Environment (EC GMP)	Grade 'B'	Grade 'B'	Grade 'B'	Grade 'B'

Note: 1). Height on fixed height stand.

Note: In accordance with its policy of continuous improvement, Atlas Clean Air Ltd. reserve the right to change the specification, design & performance of its products at any time without prior notice. All diagrams, illustrations, dimensions, data & descriptions are for general guidance purposes only.

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