



# ATC40

## MULTI-TIER REACH-IN

PLANT GROWTH

DATA SHEET



# ATC40 REACH-IN



## ARABIDOPSIS

### Product Overview/ Applications

The ATC40 employs a top-mounted refrigeration system. This design minimizes the product footprint, accommodates servicing from the front of the chamber, and simplifies on-site installation. Using two shelves, each with 31.5 inches of growth height, the ATC40 offers nearly 40 ft<sup>2</sup> of growth area and accommodates medium to large size plants. This combination of features provides an excellent product for growing Arabidopsis from seed to full maturity, as well as other taller, medium-light plant species. Standard on the ATC40 is a flood tray at each tier to simplify plant irrigation. Please consult Conviron regarding specific requirements.

### Lighting

The standard lighting package for the ATC40 combines T5 fluorescent and halogen incandescent lamps which produces a very broad based light spectrum of low-to-medium light intensity. Heat from the two lamp canopies is removed by the refrigeration system while ballasts are fan cooled to prolong life. The lamps are separated from the growth area by a translucent barrier which minimizes heat transfer to the plants. Lighting is switched in three levels for each lamp type and is monitored by a quantum light meter and displayed in micromoles/m<sup>2</sup>/s on the controllers status screen. Standard light intensity is 500 micromoles/m<sup>2</sup>/s which is measured by a quantum light meter and transmitted to the controller for User readout. A high light option is available which doubles the standard light intensity.

### Airflow

Airflow is distributed horizontally, via a perforated back wall plenum, across each shelf. This helps to establish uniform air distribution and a consistent temperature gradient around the growth area that is independent of plant loading. The unit includes fresh air intake and exhaust which are adjustable to allow up to 20 ft<sup>3</sup>/min (0.57m<sup>3</sup>/min.) of air exchange.

### Refrigeration System

Cooling for the ATC40 is provided by a top-mounted, water-cooled condensing unit with a hot-gas bypass system for continuous compressor operation. A proportional valve replaces traditional

solenoid valves and provides quieter operation and greater longevity as compared to solenoid valves. Pressure transducers are included for monitoring the status of the refrigeration system. Consult the factory for heat rejection information and other options for cooling.

### Experiment Protection

User programmable “set and forget” alarms track the chamber’s operation versus user-defined set points. This allows for exceptionally accurate monitoring without the need for adjustment every time the set point is redefined. Backup “high/low” alarms provide a further level of protection while visual and audible notification is provided when any alarm is activated. Contacts for connection to a building management system are also included.

### Key Product Attributes

- Large growth area over two shelves with minimal product footprint
- Two shelves each with 31.5 inch growth height
- Top-mounted machine compartment minimizes footprint, accommodates service ability, and simplifies installation
- Growth area drain pans double as irrigation trays for convenient mass watering of plants
- Product certifications/markings; cCSA<sub>US</sub> (NRTL), CE



### Performance Data

Temperature Range	Interior Capacity	Growth Area	Growth Height	Exterior Dimensions (WxDxH)	Light Intensities (6in. from lamp)	Electrical Service	Weight
+10°C to +40°C lights ON	103ft <sup>3</sup>	38ft <sup>2</sup>	32"	100" x 35.5" x 101"	500 micromoles/m <sup>2</sup> /s	120/208-3Ø-60Hz	1900lb.
+4°C to +40°C lights OFF	(2195l)	(3.6m <sup>2</sup> )	(810mm)	(2540mm x 900mm x 2565mm)	@ 25°C	220/380-3Ø-50Hz	(860kg)

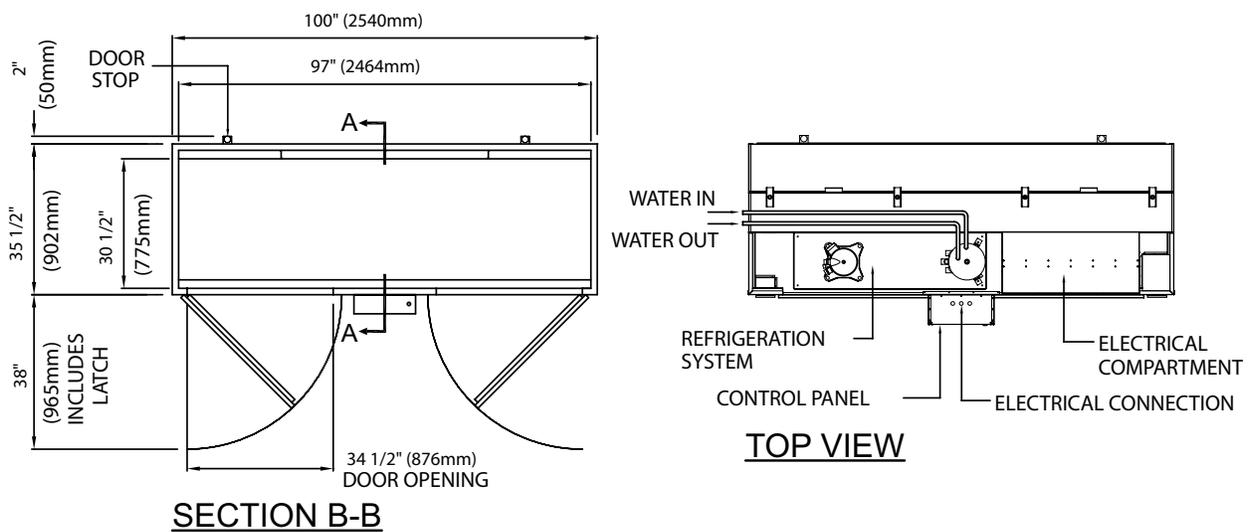
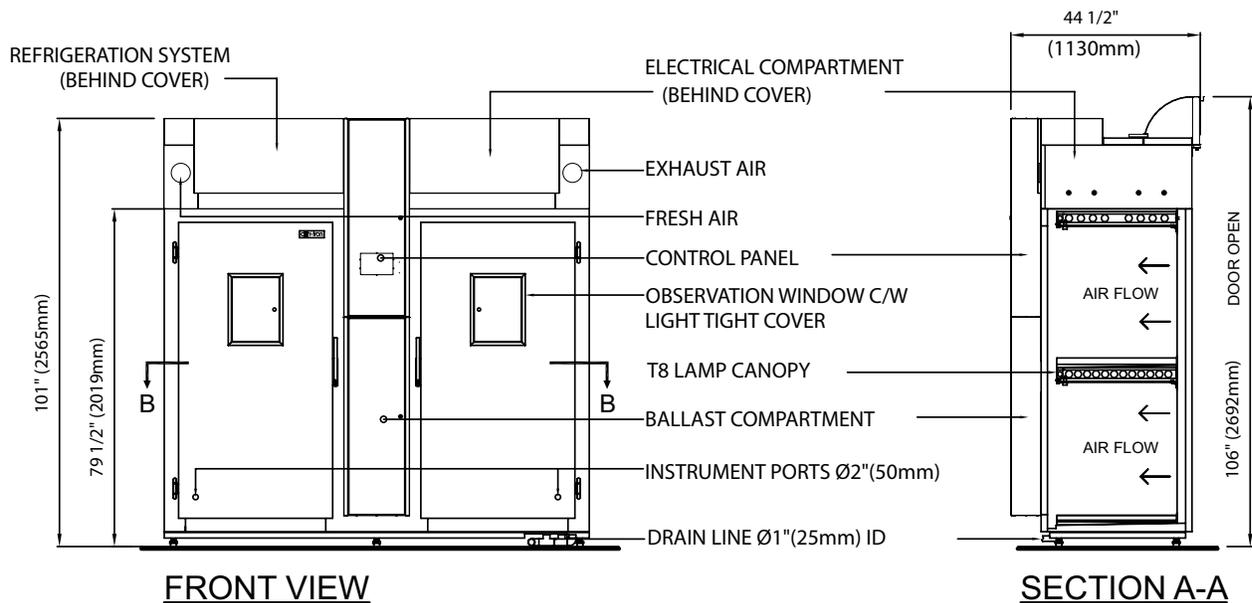
# CONVIRON MODEL ATC40

## ARABIDOPSIS CHAMBER



### NOTES:

1. STANDARD REFRIGERATION SYSTEM IS WATER COOLED, (1/2"Ø (13mmØ) CONNECTION).
2. CHAMBER MUST BE SECURELY FASTENED TO FLOOR.
3. DEPTH DIMENSION IS CHAMBER SIZE ONLY. DIMENSION DOES NOT INCLUDE DOOR LATCH OR HINGES.
4. FOR BACK TO BACK INSTALLATION, ALLOW 2" (50mm) SPACE BETWEEN CHAMBERS.
5. LENGTH AND WIDTH DIMENSIONS ±1/4" (6mm), HEIGHT DIMENSION ±1" (25mm). DO NOT SCALE DRAWING.



### ATC40 ARABIDOPSIS CHAMBER

DATE ISSUED: 07/14/09

DRAWING NO. 231148

