



# TC80

MULTI-TIER REACH-IN  
PLANT GROWTH

CONVIRON®

# TC80

## MULTI-TIER REACH-IN

### TISSUE CULTURE

#### Product Overview/Applications

The TC80 is specifically designed for the growth of tissue culture. With four shelves and a top-mounted refrigeration system, the TC80 provides an unprecedented growth area-to-footprint ratio. The four shelves channel the airflow upward which acts to minimize the formation of condensation inside the lids of Petri dishes and other tissue culture vessels. Please consult Conviron regarding specific requirements.

#### Lighting

Standard lighting for the TC80 is energy efficient fluorescent lamps. The lamps are separated from the growth area by a transparent barrier which minimizes heat transfer to the growing cultures. Lamp and ballast heat are controlled and managed by the refrigeration system. Lighting control provides three light levels and is monitored by a quantum light meter and displayed in micromoles/m<sup>2</sup>/s on the controller's status screen for user readout.

#### Airflow

Airflow is distributed uniformly upward from each air shelf which helps to ensure a consistent temperature zone over each shelf. Filtered and adjustable fresh air intake and exhaust openings enable researchers to exchange air to the chamber in a controlled manner up to 20ft<sup>3</sup>/min (0.57m<sup>3</sup>/min.).

#### Refrigeration

Cooling for the TC80 is provided by a top mounted water-cooled condensing unit with hot gas bypass for continuous compressor operation. An electronic modulating valve provides tight temperature control while ensuring quiet operation. Pressure transducers are included for monitoring the status of the refrigeration system. Alternative refrigeration methods are available depending on site-specific and/or user-defined requirements. 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

- Four conditioned shelves providing 76 ft<sup>2</sup> of culture area in a small footprint
- Small footprint relative to growth area
- Top-mounted machine compartment minimizes footprint, accommodates serviceability, and simplifies installation
- Upward airflow through each shelf to minimize the formation of condensation on vessels
- Product certifications/markings; cCSA<sub>US</sub> (NRTL), CE



#### Performance Data

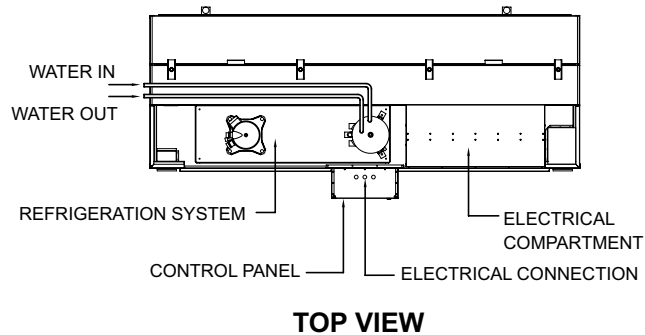
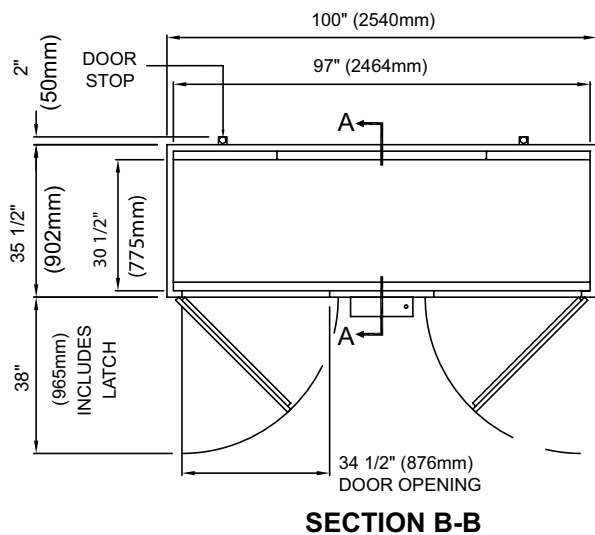
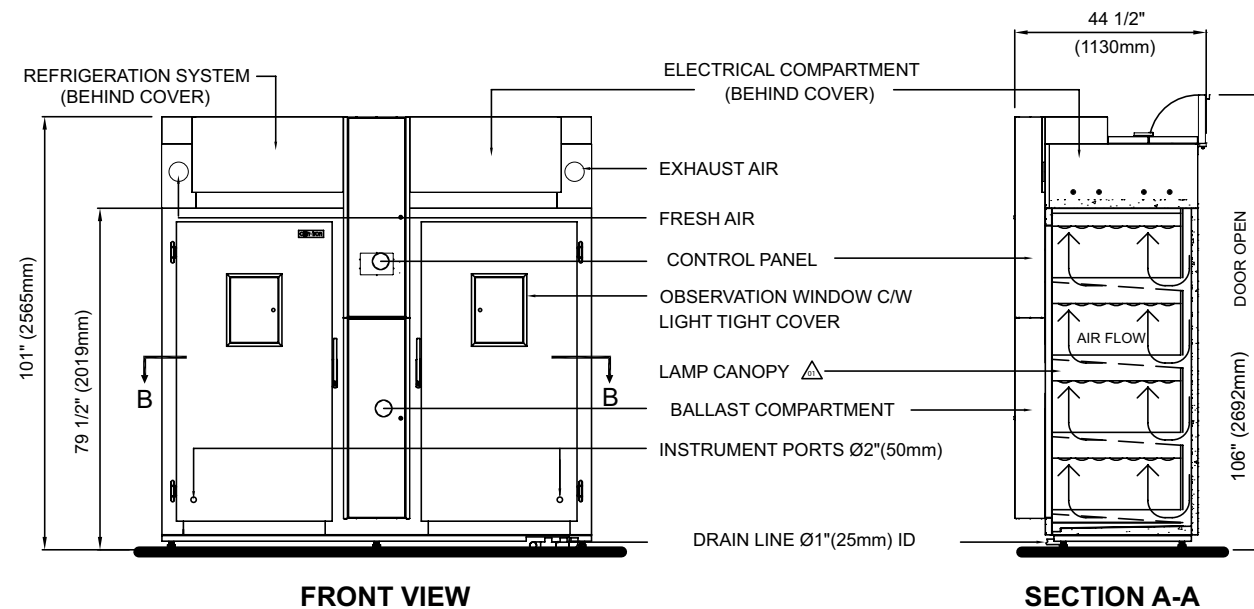
| Temperature Range (°C) | Interior Capacity | Growth Area           | Growth Height | Exterior Dimensions (WxDxH) | Light Intensities (6in. from lamp) | Electrical Service | Weight  |
|------------------------|-------------------|-----------------------|---------------|-----------------------------|------------------------------------|--------------------|---------|
| 10 – 40 lights ON      | 20ft <sup>3</sup> | 76ft <sup>2</sup>     | 12"           | 100" x 35.5" x 101"         | 200 μmoles/m <sup>2</sup> /s       | 120/208-3Ø-60Hz    | 2115lb. |
| 4 – 40 lights OFF      | (566l)            | (7.06m <sup>2</sup> ) | (305mm)       | 2540 x 900 x 2565 (mm)      | @ 25°C                             | 230/400-3Ø-50Hz    | (960kg) |

# CONVIRON MODEL TC80

## TISSUE CULTURE

### 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  $\pm 1/4"$  (6mm), HEIGHT DIMENSION  $\pm 1"$  (25mm). DO NOT SCALE DRAWING.



### TC80 PLANT GROWTH CHAMBER

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