

A perspective view of a long, sterile laboratory aisle. The aisle is flanked by rows of white shelving units, each equipped with multiple horizontal fluorescent light fixtures. The ceiling is white with recessed lighting and ventilation grilles. The floor is a dark, polished surface. The overall atmosphere is clean, bright, and professional.

CONTROLLED ENVIRONMENTS FOR
TISSUE CULTURE
RESEARCH

PRECISION CONTROLLED ENVIRONMENT for Consistent Results

Convion's tissue culture chambers deliver uniform temperature, humidity and light to ensure consistent results for a wide range of micropropagation programs.

- A1000, TC30, TC80: Compact and flexible reach-in chambers with a high growth area-to-footprint ratio
- TCR Series: Multi-tier modular walk-in rooms maximizes growth area for larger scale tissue culture programs

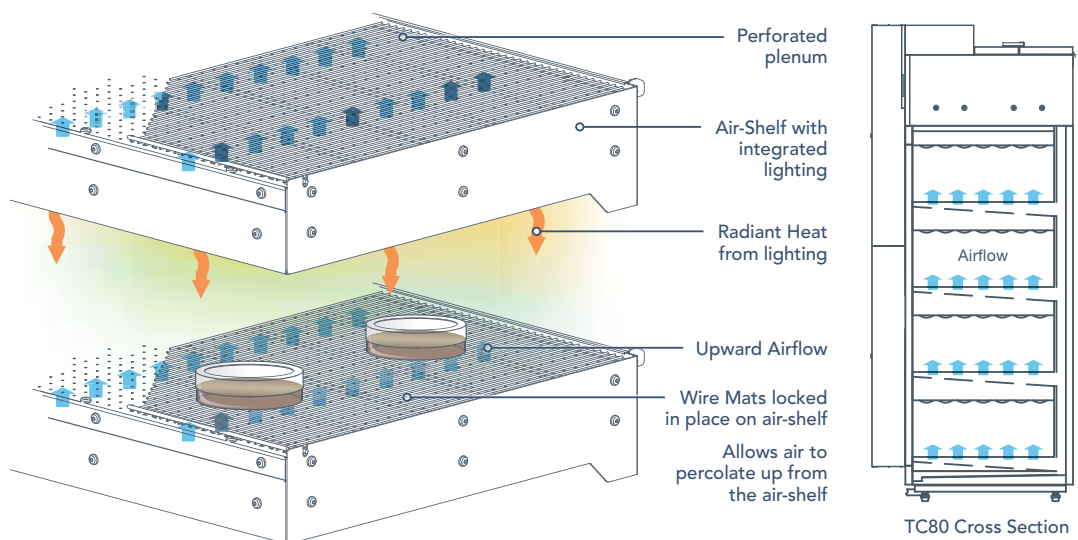
AIRFLOW

Convion chambers are designed specifically to minimize the formation of condensation inside the petri dishes and vessels used for tissue culture. For best results, petri dishes should be placed on wire mats on Convion's perforated air shelves inside the chamber. Airflow directed upward through these shelves at the underside of the dish ensures the lower zone of the vessel remains cooler than the upper zone. This internal temperature distribution minimizes condensation on the underside of the lid, thereby exposing the culture to a uniform amount of light.

Stacking of multiple petri dishes works against the benefit of upward airflow. Further, upper dishes block light from lower dishes, which can cause inconsistent results.

LIGHTING

Energy efficient fluorescent lamps are the standard lighting for the all Convion Tissue Culture chambers. TC30/TC80 lighting control provides three light levels and is monitored by a quantum light meter. Precise lighting levels, including dimming, variable and closed-loop lighting strategies are programmable within the TCR Series' control system. Higher light intensities are available as an option.



REFRIGERATION

Direct exchange cooling systems with hot gas bypass for continuous compressor operation are standard for Convion Tissue Culture chambers, and feature air- or water-cooled condensers depending on model. Electronic modulating valves provide tight temperature control while ensuring quiet operation. Pressure transducers (not available on A1000) are included for monitoring the status of the refrigeration system. Hydronic cooling systems using chilled water or glycol are available as an option.

EXPERIMENT PROTECTION

User programmable "set and forget" alarms track the chamber's operation versus user-defined set points. This allows for 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. For users who want even greater programming flexibility, more rigorous data monitoring and reporting capabilities and integration with other facility controls, chambers can be equipped with Argus controls.

TISSUE CULTURE CHAMBERS



SPECIFICATIONS		REACH-IN CHAMBERS			WALK-IN ROOMS		
		A1000	TC30	TC80	TCR60	TCR120	TCR180
Control System	Standard	CMP6010	CMP6050	CMP6050	CMP6050	CMP6050	CMP6050
	Option	Argus	Argus	Argus	Argus	Argus	Argus
Exterior Dimensions	Width (mm)	1040	2640	2540	3240	3240	3240
	Depth (mm)	825	890	900	1780	3240	4700
	Height (mm)	2005	1980	2565	2800	2800	2800
	Door swing radius (mm)	1000	890	876	1270	1270	1270
	Observation Window	Yes	N/A	Yes	Yes	Yes	Yes
Interior Dimensions	Width (mm)	940	1880	2465	2730	2730	2730
	Depth (mm)	635	755	775	1575	3035	4495
	Height (mm)	1385	1655	775	2180	2180	2180
Environmental Control	Temp (°C) Lights OFF	4°C to 40°C	4°C to 45°C	4°C to 45°C	5°C to 40°C	5°C to 40°C	5°C to 40°C
	Temp (°C) Lights ON	10°C to 45°C	10°C to 45°C	10°C to 45°C	15°C to 40°C	15°C to 40°C	15°C to 40°C
	Temp Tolerance	± 0.5°C	± 0.5°C	± 0.5°C	± 0.5°C	± 0.5°C	± 0.5°C
	Lighting Intensity at 25°C (µmoles)	225	200	200	200	200	200
	Lamp Length (ft)	3	3	4	4	4	4
	Lamps	T5	T5	T5	T8	T8	T8
Air Flow		↑	↑	↑	↑	↑	↑
	No. of Tiers	4	2	4	6	12	18
Growth Envelope	Growth Area (m ²)	2.1	2.79	7.06	5.6	11.2	16.7
	Growth Height (mm)	152	635	305	510	510	510
	Volume (L)	826	940*	566*	2803	5380	8211
Construction	Exterior Finish	Powder-Coated Steel	Blue-green enamel baked on patterned aluminum		White enamel baked on stucco 26ga. galvanized steel		
	Interior Finish	Reflective White Powder Coat	Reflective white enamel baked on smooth aluminum		White enamel baked on smooth 24ga. galvanized steel.		
Refrigeration		Air Cooled	Air Cooled	Water Cooled	Water Cooled		
Electrical Service		120/1Ø-60Hz-2 230/1Ø-50Hz-2	120/208-1Ø-60Hz-3 230/400-1Ø-50Hz-3	120/208-3Ø-60Hz-4 230/400-3Ø-50Hz-4	120/208-3Ø-60Hz-4 230/400-3Ø-50Hz-4	120/208-3Ø-60Hz-4 230/400-3Ø-50Hz-4	120/208-3Ø-60Hz-4 230/400-3Ø-50Hz-4

* Per air shelf

Contact your Conviron sales representative for complete product details and availability

TISSUE CULTURE CHAMBER OPTIONS

STD = Standard • = Option

		A1000	TC30	TC80	TCR Series
PROGRAMMING					
ADIAL	Automatic Telephone Dialing System		•	•	•
ARGUS	Argus Control System	•	•	•	•
AUTOW	Auto Watering		•	•	•
AUX	Auxiliary Circuits		•	•	•
SEN	Thermistor Temperature Sensors		•	•	•
UPS	Controller UPS		•	•	•
VAR	Variable Process Control Mode		•	•	•
CONSTRUCTION					
CAST	Heavy Duty Castors	STD	•		
EC	4" Exhaust Collar	•			
GH	Growth Height Increase (mm)			•	
HB	Interior Hose Connection for Watering				•
MAN	Additional Operation Manual	•	•	•	•
MSU	Tiered corrosion resistant mobile wire shelving units				•
PUMP	Condensate Pump	•			
RHC	Right-Hand Control Department		•		•
RECP	Electrical Receptacles		•	•	•
SMC	Split Machine Compartment		•		
SS	Powder Coated Stainless Steel Wire Shelf	•			
LIGHTING					
HL	High-Light (light intensity μmol)	•			•
LMMCL	Lamps w/Dimming Ballasts	STD		•	•
TEMPERATURE					
LT	Low Temperature	•			

		A1000	TC30	TC80	TCR Series
REFRIGERATION					
ACSC	Air Cooled Condensing Unit	STD	STD	•	
CPC	Phenolic Coated Refrigeration Coil	•			
FMU	Floor Mounted Condensing Unit			•	•
GLY	Glycol		•	•	•
OACU	Outdoor Air-Cooled Condenser Unit			•	•
PV	Electromagnetic 3-way Proportional Valve		•		
RAC	Remote Outdoor Air-Cooled Condensing Unit		•	•	•
WC	Water Cooled Condensing Unit		•	STD	STD
HUMIDITY					
ASNH	Assisted Spray Nozzle Humidification				•
CD	Chemical Dryer			•	•
BDH	Bypass Dehumidification		•		
CPSNH	Pressure Pump for Spray Nozzle Humidifier		•	•	
DHS	Dry Electronic Sensor		•	•	•
SCD	Separate Coil Dehumidification			•	
SNH	Spray Nozzle Dehumidification		•	•	
CARBON DIOXIDE					
CO2	CO ₂ Additive Control		•	•	•
CO2-BP	CO ₂ BP Control System	•			
SCRUB	CO ₂ Scrubber		•	•	•
ESSENTIAL SPARE PARTS					
ESP	Essential Spare Parts	•	•	•	•
SLS	Spare Lighting Set	•	•	•	•

More options and custom solutions available. Contact Conviron for complete details.

LEDs for Tissue Culture

There are many LED solutions for tissue culture depending on the plant and spectrum needed. Contact us for product details and availability.



Tissue culture using Valoya LED tubes