C NVIRON°



Established in 1964, Conviron is the world leading supplier of controlled environments for plant science and biotechnology research. Our chambers for seed testing and storage provide precise, uniform, and repeatable control of critical environmental parameters including temperature, light and humidity - all of which can be remotely programmed, monitored for accuracy, convenience and long-term stability.

SEED STORAGE ROOMS

For seed companies who require environmental stability for their seed collections, Conviron Seed Storage Rooms offer a high volume solution that provides precisely controlled temperature and humidity using reliable, robust refrigeration systems for long-term performance.

Our Seed Storage Rooms are based on a modular platform that can be custom-sized for specific applications. Long term seed storage conditions are typically set to -18°C while medium term collections are stored at 4°C and 30 - 50% RH.

Due to the low temperature operation, a chemical dryer is used for dehumidification. Several different cooling methods are available and complete mechanical system redundancy can be provided for assurance of long term-stablilty.





SEED GERMINATION CHAMBER

For seed labs requiring a high throughput chamber for germination testing, the G1000 chamber provides consistent, uniform conditions for a wide range of seed testing protocols.

With a temperature range from 4°C to 40°C, seeds can be pre-chilled to overcome dormancy. The G1000 provides up to 98% relative humidity to ensure adequate moisture is available for germination, while horizontal airflow ensures uniformity throughout the growing area.

Externally-mounted fluorescent lights provide balanced intensities at all temperatures for consistent germination. Shelving is vertically adjustable to accommodate all germination methods including paper, soil, and containers. It's compact footprint – less than 1m2 (9.2ft2) - is ideal for labs where space is limited.

INCUBATION CHAMBER

For plant scientists who require low light and adjustable growth height for growing plantlets, the A1000 offers an economical and flexible solution as an incubation chamber that can be reconfigured for other applications, including entomology research, tall and short plant growth, Arabidopsis, and tissue culture.

With a temperature range from 4°C to 45°C and humidity up to 90%, plantlets can be incubated under energy efficient fluorescent lighting on four adjustable shelves that provide up to 10" (250 mm) of growth height. Air is delivered horizontally from the rear wall plenum to provide uniform environmental conditions to ensure consistent growth.







tissue culture option



KEY PRODUCT SPECIFICATIONS

model	exterior dimensions W x D x H (mm)	volume (L)	growth area (m²)	growth height (mm)	no. of tiers	temp (°C) lights ON lights OFF	light intensity at 25°C (µmol)	refrigeration	airflow
SSR Seed Storage Room	Consult factory				n/a	custom	utility only	water cooled	\rightarrow
G1000 Germination	41" x 32.5" x 79" 1,040 x 825 x 2,005 (mm)	29.2 ft ³ (826 L)	5.38 ft ² (0.5 m ²)	2.0" (4 cm)	up to 20	4 - 40 ON/OFF	200	air cooled	\rightarrow
A1000-IN Incubation	41" x 32.5" x 79" 1,040 x 825 x 2,005 (mm)	29.2 ft ³ (826 L)	22.6 ft ² (2.1 m ²)	10" (250 mm)	4	10 - 45 ON 4 - 40 OFF	125	air cooled	\rightarrow
A1000-PG Plant Growth	41" x 32.5" x 79" 1,040 x 825 x 2,005 (mm)	29.2 ft ³ (826 L)	6.1 ft ² (0.57 m ²)	42" (1,065 mm)	1	10 - 45 ON 4 - 40 OFF	700	air cooled	↑
A1000-AR Arabidopsis	41" x 32.5" x 79" 1,040 x 825 x 2,005 (mm)	29.2 ft ³ (826 L)	11.3 ft ² (1.05 m ²)	18" (460 mm)	2	10 - 45 ON 4 - 40 OFF	500	air cooled	\rightarrow
A1000-TC Tissue Culture	41" x 32.5" x 79" 1,040 x 825 x 2,005 (mm)	29.2 ft ³ (826 L)	22.6 ft ² (2.1 m ²)	42" (1,065 mm)	4	10 - 45 ON 4 - 40 OFF	225	air cooled	↑

LOW TEMPERATURE SEED STORAGE

The type of seed, its value and the anticipated time period for storage are all important factors in designing refrigeration systems for seed storage rooms:

Low Temperature:

- Refrigeration system enables the chamber to be operated with lights ON to +2°C (No fresh air below 4°C)
- A defrost cycle will occur resulting in a temperature increase (spike) for temperatures set below +8°C lights ON/OFF

Ultra-Low Temperature:

- Regrigeration systems enables the chamber to be operated with lights ON to -10°C (No fresh air below 4°C)
- A defrost cycle will occur resulting in a temperature increase (spike) for temperatures set below +8°C lights ON/OFF

Sequential Defrost Solution:

• A multi-stage evaporator defrost system eliminates the temperature spike associated with a single evaporator system and ensures constant low temperature operation

Dual Refrigeration:

Independent refrigeration systems with multiple evaporators alternate between defrosting and cooling modes, or work together (if necessary) to reach the desired set-point temperature

Conviron - Head Office Winnipeg, Manitoba, Canada Toll Free: 1-800-363-6451

Conviron - US

Pembina, North Dakota, USA Toll Free: 1 800 363 6451

Conviron Europe Ltd. Cambridgeshire, UK Tel: +44 (0)1638 74 1112

Conviron - China Shanghai, China Tel: +86 21 62147582 Conviron - Australia Melbourne, Australia Toll Free: +1 300 438 912







