

A photograph of a male scientist wearing a blue lab coat and glasses, looking down at a small plant in a black tray. He is in a controlled environment, likely a growth chamber or greenhouse, with rows of similar trays containing young plants. The ceiling is equipped with long, fluorescent light fixtures. The overall scene is brightly lit and organized.

CONTROLLED ENVIRONMENTS

For Plant Science Research

AUSTRALASIA



REACH-IN CHAMBERS

For research applications requiring precise control of environmental parameters provided within flexible and space-efficient chamber designs.



PGC Flex Reach-In

A1000 Reach-in

Single chamber uniquely adaptable to four different applications:

- Plant Growth
- Arabidopsis
- Tissue Culture
- Incubation

Precisely designed airflow and lighting configurations for each application

PROVIDING SOLUTIONS

For Your Research

Convion's controlled environments provide precise, uniform, and repeatable control of critical environmental parameters including temperature, light, humidity, CO₂ and other gases. All environmental conditions can be remotely programmed, monitored and analyzed with both accuracy and convenience. Numerous other options are available to meet research requirements, such as:

- Extended temperature range
- Increased growth height
- Air and water cooled refrigeration
- Fluorescent, HID and LED lighting
- Dehumidification
- HEPA filtration



BDW40 Walk-in

WALK-IN ROOMS

For larger scale, higher throughput applications that demand uniformity of environmental conditions throughout a larger growth space.



Convion Growth House™

CONVIRON GROWTH HOUSE™

For applications that require the capacity of a greenhouse with the precision of a growth chamber.



Custom High Light Xenon Chamber

CUSTOM SOLUTIONS

With a team of over 50 designers and engineers, we specialize in custom designing controlled environments to meet unique research requirements.

Established in 1964, Convion is the world's largest supplier of controlled environment systems for plant science and agricultural biotechnology research.

- Tall and short plants
- Incubation, germination
- Arabidopsis
- Seed storage
- Tissue culture
- Entomology

INTEGRATING TECHNOLOGIES For High Performance Facilities

ADVANCED CONTROL SYSTEMS BY ARGUS

An advanced control system is critical to translate the researchers' expertise into action accurately and reliably. Acquired by Conviron in 2013, Argus (Canada) has over thirty years' experience specializing in the design and manufacture of integrated control systems for greenhouses and plant growth chambers and rooms.

Argus offers proven solutions for comprehensive central management of entire research and production facilities, including growth rooms and building systems. In addition to precision temperature and humidity control, Argus offers:

- Sophisticated programs for managing light intensity, photoperiods and CO₂
- Precision hydroponic feed recipes tailored for each plant using advanced irrigation scheduling and the Argus Multi-Feed nutrient injection system
- 24/7 monitoring of all equipment and facility conditions with local, remote alarm annunciation and custom email alerts to allow rapid response to alarms
- Monitoring of crop conditions and development with integrated camera imagery
- Tracking of all production parameters over time with extensive data acquisition and graphing capabilities
- Secure remote system access via LAN/Internet
- Comprehensive remote service and support



Argus Control System



LED Lighting Solutions



Argus Multi-feed Injectors



Automated Plant Imaging System

LIGHTING SOLUTIONS

Optimizing Spectrum and Energy-Savings

The selection of lighting depends on your requirements for light spectrum and energy-usage. Most Conviron plant growth rooms and chambers have primary and secondary lighting or a mix of types – fluorescent, halogen incandescent, high pressure sodium, metal halide and ceramic metal halide, and LED – to deliver a range of intensity from 100 to 1,400 μmol .

As an exclusive distributor for Valoya (Finland), Conviron offers continuous wide spectrum LEDs that have been developed specifically for high volume plant growth applications and can reduce energy consumption by nearly 40% compared to fluorescent T5. Conviron also integrates LEDs from other manufacturers to provide researchers with LEDs most suited to their application.

STREAMLINING WORKFLOW AND IMPROVING CONTROL

Controlled Irrigation

Conviron's automated irrigation systems eliminate the inaccuracies of manual watering of plants. "Flood and drain" systems for trays or drip systems for individual plants are available depending on the plant requirements and size of growth room.

Automated Nutrient Supply

Argus Multi-Feed injectors offer advanced fertigation capabilities including full single-element dosing options and on-the-fly delivery of multiple stock concentrates regardless of the system flow rate. The same dosing equipment is capable of delivering numerous recipes, which can be modified to suit changing environmental conditions. Fully integrated with the Argus control system, Multi-Feed injection systems enable researchers to simply dial in a precision feeding program for every crop.

Space-Efficient Benching

Conviron provides various shelving and benching solutions, including rolling benches with integrated irrigation trays, expanded metal tops, or solid tops mounted on the bench.

Plant Imaging

The Conviron Growth House™ is easily configured to work seamlessly with commercially available imaging and automated plant handling systems.

With installations in more than 90 countries, Conviron's projects range from small single-chamber installations to large scale, multi-chamber facilities in some of the most prestigious corporate, university and research institutions around the world. In the Australasia region alone, Conviron has successfully installed over 500 controlled environments since 1974.

AUSTRALASIA REGION

MAJOR INSTALLATIONS

AUSTRALIA

- Australian National University
32 Reach-In
- Charles Sturt University
15 Reach-In, 9 Walk-In
- CSIRO Black Mountain
111 Reach-In, 7 Walk-In
- CSIRO Perth
7 Reach-In
- Curtin University
2 Reach-In, 2 Walk-In

- Department of Fisheries and Forestry
8 Reach-In, 2 Walk-In
- Flinders University
2 Walk-In
- Queensland University of Technology
10 Reach-In, 3 Walk-In
- University of Adelaide
7 Reach-In, 6 Walk-In
- University of Newcastle
11 Reach-In
- University of Western Australia
19 Reach-In, 12 Walk-In

MALAYSIA

- Crops for the Future Research Centre
12 Reach-In, 11 Walk-In
- University of Nottingham
9 Reach-In, 13 Walk-In

NEW ZEALAND

- Lincoln University
9 Walk-in

PHILIPPINES

- International Rice Research Institute (IRRI)
25 Reach-In, 5 Walk-In

OTHER INSTALLATIONS

AUSTRALIA

- BSES
- CSIRO-Adelaide
- CSIRO-Brisbane
- CSIRO-Narrabri
- CSIRO-Perth
- DAFF
- Deakin University
- DEEDI
- DPI-Bundoorra
- Ecocatalysts
- Enza Zaden
- Intergrain
- Jurlique
- La Trobe University
- Murdoch University
- Nuseed
- RMIT
- Royal Botanic Gardens
- Seasol
- Southern Cross University
- University of Melbourne-City Campus
- University of Melbourne-Dookie
- University of New South Wales
- University of Queensland
- University of Sydney
- University of Tasmania

INDONESIA

- Denpasar Centre of Plant Quarantine
- Hasanuddin University
- Research Centre for Biogenetics
- SMART
- Wilmar Seed

MALAYSIA

- Applied Agricultural Resources
- Forest Research Institute Malaysia
- Kustem University
- Malaysian Palm Oil Board
- Malaysian Rubber Board
- MARDI
- National University of Malaysia
- Putra University, Malaysia
- Sime Darby Technology Center
- Sultan Zainal Abidin University
- University of Malaya
- University of Malaysia, Terengganu

NEW ZEALAND

- AgResearch
- Auckland University of Technology
- Massey University-Auckland
- Massey University - Palmerston North

- NIWA-Hamilton
- Plant & Food Research

PHILIPPINES

- BASF
- Philippine Atomic Energy Commission
- Philippine Tobacco Administration
- San Miguel Corporation
- U.P. Los Banos Institute of Plant Breeding

SINGAPORE

- Institute of Molecular and Cell Biology
- Sembang Field Research Centre
- National University of Singapore

THAILAND

- Monsanto
- Botanical Gardens
- Ubon Ratchathani University

VIETNAM

- Hanoi Agricultural University
- Hanoi National University
- Hanoi Department of Standardization
- Metrology & Quality Control
- Ho Chi Minh City Vegetable Project
- Institute of Biotechnology
- Institute of Agricultural Genetics

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Advancing Research Through Partnership



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