A1000

REACH-IN

MULTI-APPLICATION

CONVIRON®

A1000
REACH-IN
MULTI-APPLICATION CHAMBER

Product Overview/Applications

With its unique ability to adapt to four different research applications, the A1000 offers an economical and flexible equipment platform. The base chamber itself can be fitted with one of four specially configured kits:

PG Kit

The PG Kit is designed for Plant Growth research applications. Included with the PG Kit is a barriered canopy that removes lamp heat and exhausts it to ambient, allowing for high light intensity and uniformity. Uniform upward airflow helps provide ideal plant growth conditions.

AR Kit

Designed for smaller plants such as Arabidopsis, the AR Kit maximizes efficiency by providing two fully-usable growth areas with separate lamp canopies. And with horizontal airflow, shelves can be loaded to capacity without obstructing airflow.

TC Kit

For Tissue Culture applications. To help reduce condensation on research specimens, this configuration delivers precisely controlled vertical airflow to each independently lit and thermally broken tier.

IN Kit

Created for the Incubation of plantlets and insects, the IN Kit provides maximum flexibility with removable and adjustable lamp fixtures and shelves. Additional shelves and lighting are available to maximize utilization of the cabinet's 1000 litre capacity.

By varying the configuration of the airflow, light, and shelving, each kit defines one of the four applications. The A1000 is also available with several options such as phenolic coated coils and network communication. The phenolic coated coils enable the A1000 to be used for entomology research while the communications option facilitates connection to a facility's local area network.

Lighting

The lighting systems for the A1000 incorporate high efficiency T5 fluorescent lamps. Lighting system configuration is determined by the application kit where each kit stipulates a particular light intensity and lamp canopy configuration. Lamp and ballast combinations have been designed to ensure a balanced light spectrum while light intensity levels are adjusted (AR & PG Kits only) through a stepped selection process. Other lighting solutions are available including high-light (light intensity µmol) and energy-saving LEDs.

Airflow

Precisely designed and manufactured air plenums are used for each of the four application kits. The Plant Growth kit utilizes a solid rear plenum which discharges air from the floor for a uniform upward airflow. The Arabidopsis and Incubation kits both use a perforated rear plenum which discharges the air horizontally for maximum condition uniformity in view of the use of flats or similar research vessels. The Tissue Culture configuration incorporates individual air-shelves that discharge air vertically to reduce or eliminate condensation within media dishes.

Refrigeration

The standard air-cooled refrigeration system is optimized to ensure adequate capacity for delivery of uniform conditions regardless of the particular kit installed. Kits do not alter the configuration of the refrigeration system and as such, kits can be exchanged with minimal effort.

Experiment Protection

User programmable alarms for key parameters such as temperature and humidity monitor the actual conditions within the chamber and notify the User with both audible and visual alarms. Additional factory pre-set alarms monitor system integrity while an alarm history recorder tabulates alarm events for historical reference and service.

Key Product Attributes

- Single chamber uniquely adaptable to four different research applications
- Precisely designed airflow and lighting configurations for each application
- Observation window
- Castors for ease of mobility
- Product certifications/markings; $_{C}CSA_{US}$ (NRTL), CE

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Specifications

	PG KIT	AR KIT	TC KIT	IN KIT
Control System	CMP6010			
Exterior Dimensions				
Height (in. / mm)	79 / 2005			
Width (in. / mm)	41 / 1040			
Depth (in. / mm)	32.5 / 825			
Door swing radius (in. / mm)	39.25 / 1000			
Interior Dimensions				
Height (in. / mm)	54.5 / 1385			
Width (in. / mm)	37 / 940			
Depth (in. / mm)	25 / 635			
Environmental Control				
Temp (lights off)	4°C – 40°C			
Temp (lights on)	10°C – 45°C			
Temp Tolerance	± 0.5°C			
Additive Humidity (lights off)	Resultant to 90% RH - limited by +25°C dew point			
Additive Humidity (lights on)	75%			
Additive Humidity Tolerance	± 6%			
Light Intensity (µmol; @25°C)	700	500	225	125
Lighting				
# of Light Canopies / Fixtures	1 canopy	2 canopies	4 canopies	4 fixtures (1 per shelf)
Lamps per Canopy / Fixture	14	6	4	2 per fixture
Airflow Direction	Uniform Upward	Uniform Horizontal	Uniform Vertical	Uniform Horizontal
Growth Envelope				
Shelves	1 adjustable	2 adjustable	4 adjustable	4 adjustable
Total Growth Area (ft^2 / m^2)	6.13 / 0.57	11.3 / 1.05	22.6 / 2.1	22.6 / 2.1
Growth Height (in. / mm)	42 / 1065	18 / 460	6 / 152	10 / 250
Growth Volume (ft^3 / Litres)	29.2 / 826			
Construction				
Back Wall Plenum	solid with Conviron Unifloor™	perforated	solid with pressurized air shelves	perforated
Exterior Finish	powder-coated steel			
Interior Finish	reflective white powder coat			
Observation Window Height (in. / mm)	35.25 / 895			
Observation Window Width (in. / mm)	6 / 150			
Instrument Port (in. / mm)	2 / 50			
Refrigeration System	CFC-free refrigerant Air-cooled condensing unit with hot-gas bypass – continuous operation Water-cooled condensing unit available - consult factory			
Electrical Service	60Hz – 120-1Ø-60Hz-2 50Hz – 230-1Ø-50Hz-2			
Accessories				
LED Lighting	Yes	Yes	N/A	N/A
High-Light (light intensity µmol)	1100*	N/A	400	200
Additional Tier	N/A	Yes	N/A	N/A
Low Temperature	Yes			
Water Cooled Condensing Unit	Yes			
CO_2 BP Control System	Yes			
Phenolic Coated Refrigeration Coil	Yes			
4" Exhaust Collar	Yes			

*Requires modification to power supply. Please consult factory. Specifications may vary depending on region.

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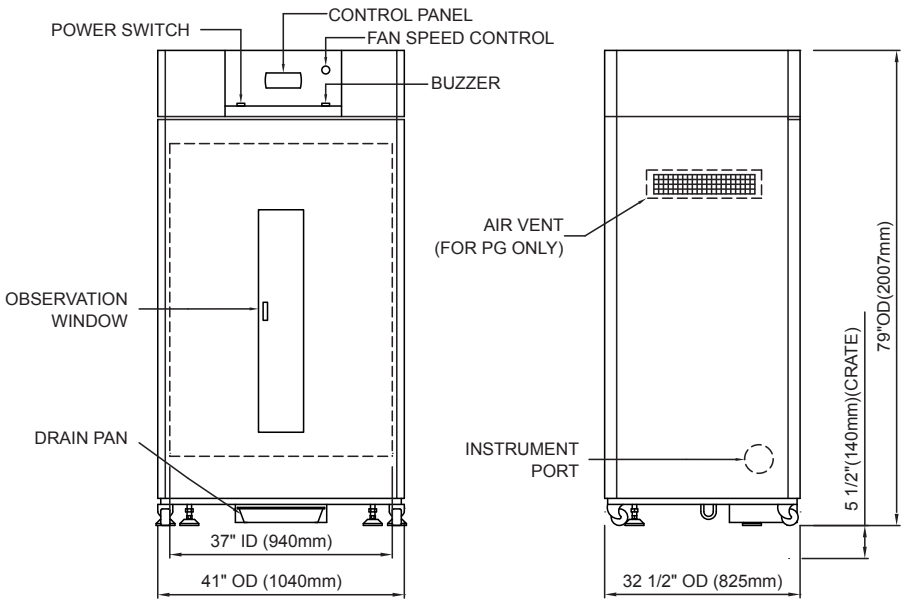
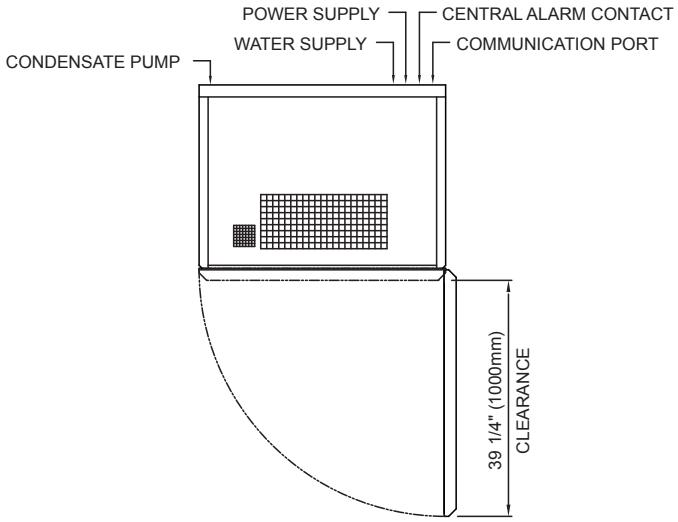


FRONT VIEW **SIDE VIEW**



PLAN VIEW

NOTES:

1. REQUIRES MINIMUM OF 2" (51mm) FROM REAR OF CHAMBER TO BACK WALL. *(REQUIRES 5"(127mm) WITH EXHAUST COLLAR)
2. LENGTH AND WIDTH DIMENSIONS ã1/4 (6mm). HEIGHT DIMENSION ã1" (25mm). DO NOT SCALE THE DRAWING.
3. PG KIT; REQUIRES MINIMUM OF 4" (102mm) SPACE BETWEEN CABINETS.

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