



TOTAL CONTROL AT YOUR FINGER-TIPS!



bronson

CLIMATE BV

INCREMENTUM 3000

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This extreme performance multi-tier dual compartment reach-in is designed to push beyond the performance envelope limits where others stop performing.

The Incrementum 3000 can be used for a broad range of research & test applications Plant Growth, Tissue Culture, Environmental testing, Stress testing, Seed Germination, Insect-breeding, Product testing & various applications for life sciences.



ENVIRONMENTAL RESEARCH

The Bronson Incrementum 3000 Extreme Performance Multi tier dual compartment reach-in is developed because of the growing demands for Extreme Environmental Testing with maximum growth surface.

To see how plants behave and grow in extreme conditions we need to be able to simulate extreme conditions without limits.

With the Bronson Incrementum 3000 this is now possible, you can create a wide range of extreme climate conditions from tropical heat stress experiments to arctic nightfrost simulations all in one reach-in.

Temperature and humidity alone are not sufficient to create your controlled environment. We need to combine it with high light intensities.

This cabinet is designed to cope with a huge heat load and is capable of delivering up to $2000 \mu\text{mol}/\text{m}^2/\text{s}$ (PPFD) at 150mm from light source.

Cooling 3 layers with $600 \mu\text{mol}/\text{m}^2/\text{s}$ (PPFD) at 150mm from light source is also no problem for the Bronson



ENVIRONMENTAL RESEARCH



The Bronson Incrementum 3000 is a multi-tier dual compartment cabinet with a flexible shelving system to maximise the required growth height from 150mm up to 1450mm.

Max grow height:

- 1 layer \pm 1450mm.
- 2 layers \pm 700mm.
- 3 layers \pm 450mm.
- 4 layers \pm 300mm.

Cabinet Benefits:

- White coating for good reflection
- Shelves are made of stainless steel
- Shelves are adjustable in height
- Shelves are removeable (plug and play)
- Surface is easy to clean
- Removable backwall for cleaning
- No column 1600mm wide clearance
- Double door design
- Doorlock and door switch

Options for cabinet:

- Viewport with magnetic door
- Entry port for probes



TECHNICAL SPECIFICATIONS 3000

GENERAL:					
Volume	2x 1372 Litre				
External dimensions (W x D x H mm)	3576 x 925 x 2000				
Internal dimensions (W x D x H mm)	2x 1310 x 680 x 1540				
Exterior	White coated steel				
Interior	White coated stainless steel				
Number of doors	4				
Keylock	Yes				
Shelf and shelf size (mm)	Stainless steel 1300x610				
Number of growth layers	1 up to 4				
Growth surface per layer	2 layer =1.60m ²	4 layers =3.20m ²	6 layers =4.80m ² 8 layers =6.40m ²		
Capacity 600x400mm trays	up to 24 (3 per shelf)				
Growth height	Adjustable from 150mm up to 1450mm				
Chassis	On 10 swivel wheels				
TEMPERATURE		LIGHTS ON		LIGHTS OFF	
Temperature range (permanent) ⁽³⁾	+5°C to +40°C		+5°C to +45°C		
Night frost simulation up to 6 hours ⁽²⁾	-4°C		-10°C		
Temperature precision controller	0,1°C		0,1°C		
Temperature variation setpoint chamber	< ± 0,2°C		< ± 0,2°C		
Temperature uniformity per shelf	< ± 1,0°C		< ± 0,3°C		
HUMIDITY⁽¹⁾		LIGHTS ON		LIGHTS OFF	
Humidity range at +5°C to +40°C	40 to 90% RH		30 to 95% RH		
Humidity precision controller	1% RH		1% RH		
Humidity variation setpoint chamber	± 5% RH		± 2% RH		
Humidity uniformity per shelf	± 5% RH		± 2% RH		
LIGHT INTENSITY LED⁽⁴⁾		NUMBER OF SHELVES			
up to 400 µmol/m ² /s (PPFD) at 150mm	4				
up to 800 µmol/m ² /s (PPFD) at 150mm	3				
up to 1000 µmol/m ² /s (PPFD) at 150mm	2				
up to 2000 µmol/m ² /s (PPFD) at 150mm	1				
TECHNICAL DATA					
PLC Controller	Siemens S7-1200 controller				
Touchscreen	Siemens SIMATIC Unified 7 inch comfort panel				
Temperature sensor	PT1000				
Humidity sensor	Hygrometric				
Airflow	Horizontal; 0,1 to 0,5 m/s (adjustable at touchscreen 50% up to 100%)				
Humidifier ⁽¹⁾	Ultrasonic				
Dryer ⁽¹⁾	Desiccant dehumidifier				
CO ₂ ⁽¹⁾	50-5000 ppm				
INSTALLATION REQUIREMENTS					
Location	Air conditioned room controlled between 10°C and 25°C				
Water (for optional humidifier ⁽¹⁾)	Demineralized or RO water 1-5 bar				
Drain	Drain at floor level near the cabinet				
Weight	± 750 Kg. (depending on configuration)				
Electrical connection	3 Phase 16A type C 230V 50Hz (0,6 - 7,0 kW depending on configuration)				
Connection	Potential alarm contact / internet UTP				

(1) Optional

(2) Nightfrost simulation depends on the heatload and moisture levels, no humidity control below +5°C

(3) Depending on heatload, moisture levels and evaporation.

(4) There are different light intensities available, the maximum light intensity depends on the number of shelves and heatload.



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