

# INCREMENTUM 1400



**TOTAL CONTROL AT YOUR FINGER-TIPS!**

# BRONSON CLIMATE

Bronson is an organisation that prides itself on the development and production, sales, service, and maintenance of high quality laboratory equipment such as climatic chambers and plant growth facilities.

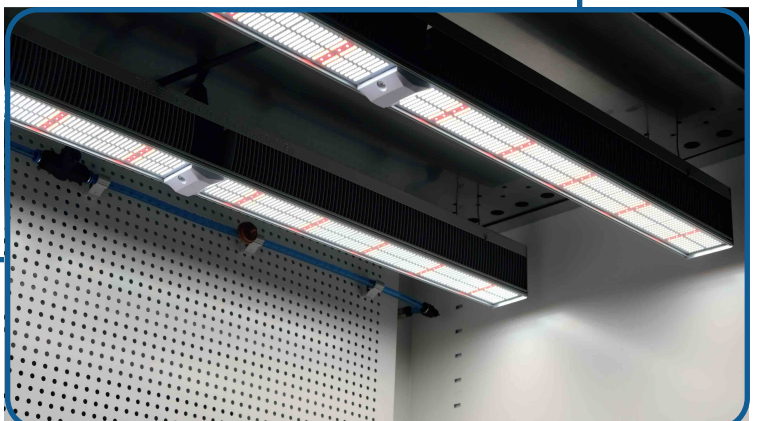
Bronson equipment is recognised for its robust construction and multi-functionality making it an ideal solution for a broad range of applications within the laboratory or production environment.

Dutch writer Simon Carmiggelt (1913-1987) once said:

“The fascinating part of our climate is, I believe, that it is capable to deliver four seasons within one week.”

Bronson products go one step further. The Bronson product range is able to deliver the desired climatic conditions including temperature, relative humidity, light and CO<sub>2</sub>, at any moment and at any Institution. It's all in your hands!

Ultimate Climate control thanks to the expertise of Bronson!



## INCREMENTUM 1400

The Incrementum 1400 cabinet is designed to meet a wide range of research requirements for temperature, humidity, and light control. This versatile multi-tier reach-in unit delivers reliable, accurate, and reproducible environmental conditions, making it an ideal solution for both routine and advanced research applications.



Suitable for applications such as plant growth, tissue culture, seed germination, insect rearing, environmental simulation, stress testing, product testing, and long-term storage, the Incrementum 1400 combines dependable climate performance with a configurable interior to support both routine and advanced research programs.

# FLEXIBLE PLANT GROWTH CABINET

The Bronson Incrementum 1400 offers a highly flexible interior with modular, removable, and height-adjustable shelves. This allows the available growth height to be optimised from  $\pm 200$  mm up to  $\pm 1200$  mm, making the cabinet suitable for a wide range of plant types, sample sizes, and research applications.

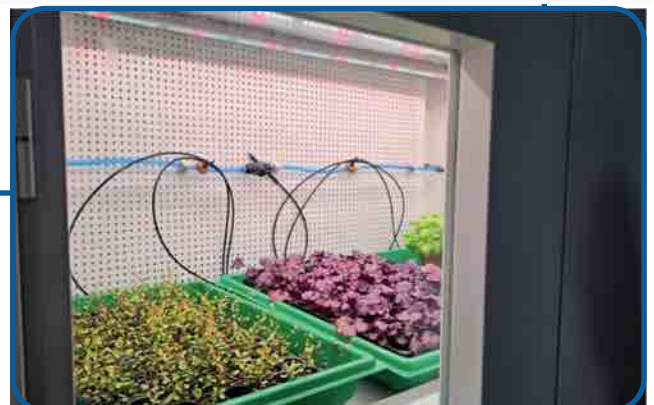
## Max grow height:

- 1 layer  $\pm 1200$ mm up to  $1500 \mu\text{mol}/\text{m}^2/\text{s}$  (PPFD) at 150mm
- 2 layers  $\pm 600$ mm up to  $1000 \mu\text{mol}/\text{m}^2/\text{s}$  (PPFD) at 150mm
- 3 layers  $\pm 350$ mm up to  $750 \mu\text{mol}/\text{m}^2/\text{s}$  (PPFD) at 150mm
- 4 layers  $\pm 200$ mm up to  $500 \mu\text{mol}/\text{m}^2/\text{s}$  (PPFD) at 150mm



## Benefits of the cabinet:

- White coating for good reflection
- Shelves are made of stainless steel
- Shelves are adjustable in height
- Shelves are removable (plug and play)
- Optional window
- Removable backwall for cleaning
- No center column 1300mm wide clearance
- Stainless steel interior
- Doorlock and door switch



# ARABIDOPSIS & SMALL PLANTS

The Incrementum1400 is an ideal solution for Arabidopsis cultivation and research, offering reliable and reproducible control of temperature, humidity, light, and optional CO<sub>2</sub> in a flexible cabinet platform. Its interior can be configured with removable, height-adjustable stainless steel shelves, allowing researchers to optimise the cabinet for compact crops, different sample formats, and a wide range of experimental protocols.



Especially in a 3-layer configuration, the BCI-1400 provides an efficient set-up for Arabidopsis thaliana, combining practical growth height with a large usable cultivation area and good accessibility for routine handling, screening, and observation.



# ADVANCED PROGRAMMING

Advanced Programming for Plant Growth Research  
The Bronson control software is designed to make programming plant growth experiments simple, flexible, and reproducible. Users can easily create and store custom climate recipes for temperature, humidity, light, and optional CO<sub>2</sub>, allowing growth conditions to be tailored precisely to each experiment. From basic day/night settings to step-based programs, the system gives researchers the freedom to simulate natural cycles and complex cultivation protocols with ease.



## Features:

- 7 inch touch screen
- User friendly
- Password protected
- Touch based
- Remote control

## Programming:

- 24 step day cycle
- 168 step week cycle
- TSV import
- Realtime OPC Control



# TECHNICAL SPECIFICATIONS 1400

## GENERAL:

Volume	1247 Litre		
External dimensions (W x D x H mm)	1470 x 825 x 2000		
Internal dimensions (W x D x H mm)	1320 x 680 x 1390		
Exterior & interior	White coated steel		
Shelves	Removable stainless steel shelves to provide maximum flexibility		
Number of doors	2 (optional window in left door)		
Keylock	Yes		
Shelf size (mm)	± 1300x610		
Number of growth layers	1 up to 4		
Growth surface per layer	1 layer =0.80m <sup>2</sup>	2 layers =1.60m <sup>2</sup>	3 layers =2.40m <sup>2</sup> 4 layers =3.20m <sup>2</sup>
Capacity 600x400mm plant trays	Up to 12 (3 per shelf)		
Growth height	Adjustable from 150mm up to ± 1200mm		
Chassis	On four wheels		

TEMPERATURE	LIGHTS ON	LIGHTS OFF
Temperature range	+10°C to +40°C	+5°C to +40°C
Night frost simulation up to 6 hours <sup>(1)</sup>	-	-
Temperature precision controller	0,1°C	0,1°C
Temperature variation	< ± 0,3°C	< ± 0,2°C
Temperature uniformity per shelf	< ± 2,0°C	< ± 0,5°C

HUMIDITY <sup>(1) (2)</sup>	LIGHTS ON	LIGHTS OFF
Humidity range at +5°C to +40°C	50 to 80% RH	50 to 80% RH
Humidity precision controller	1% RH	1% RH
Humidity variation	± 5% RH	± 2% RH
Humidity uniformity per shelf	± 7% RH	± 5% RH

LIGHT INTENSITY LED <sup>(3)</sup>	NUMBER OF SHELVES
Up to 500 µmol/m <sup>2</sup> /s (PPFD) at 150mm	4
Up to 750 µmol/m <sup>2</sup> /s (PPFD) at 150mm	3
Up to 1000 µmol/m <sup>2</sup> /s (PPFD) at 150mm	2
Up to 1500 µmol/m <sup>2</sup> /s (PPFD) at 150mm	1

TECHNICAL DATA	
PLC Controller	Siemens S7-1500 controller
Touchscreen	Siemens SIMATIC Unified 7 inch comfort panel
Temperature sensor	PT1000
Humidity sensor <sup>(1)</sup>	Hygrometric
Airflow	Horizontal; ± 0,3 m/s
Humidifier <sup>(1)</sup>	Ultrasonic
Dryer <sup>(1)</sup>	Dehumidification by cooling coil
CO <sub>2</sub> <sup>(1)</sup>	150-5000 ppm

INSTALLATION REQUIREMENTS	
Location	Clean airconditioned room controlled between the 10°C and 25°C
Water (for optional humidifier)	Demineralized or RO water 1-5 bar
Drain	Drain at floor level near the cabinet
Weight	± 350 Kg. (depending on configuration)
Electrical connection	1 Phase 16A type C 230V 50Hz (0,6 - 3,0 kW depending on configuration)
Connection	Potential alarm contact / internet UTP
Compressed air (for optional air dryer or CO <sub>2</sub> scrubber)	6-12 bar

(1) Optional

(2) Depending on heat load and moisture content inside and outside the cabinet

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



[WWW.BRONSONCLIMATE.NL](http://WWW.BRONSONCLIMATE.NL)



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**BRONSON CLIMATE GROWS**