



# Controlled Rate Freezer

28 L

The 2101 Controlled Rate Freezer from Custom Biogenic Systems ensures samples are frozen at a precise, optimal rate to prevent lethal intracellular freezing for increased viability with reproducible, traceable results. Ideal for freezing of cell culture and biobank samples prior to long-term storage in LN<sub>2</sub> freezers or PHCbi -150°C freezers.

## Unlimited Programming Capability

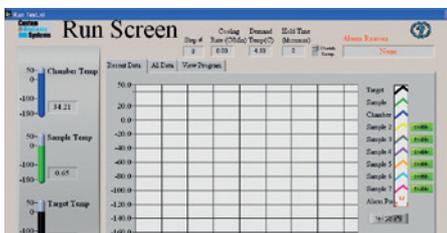
Limitless programmes can be set to advance sample or chamber temperature with up to 30 data fields available for each run. 6 pre-set common programmes are provided as standard.

## Flexible Freezing

Temperatures can be set between 50°C to -180°C with rates from 0.01°C/min to 99.9°C/min. Final temperatures can be held after completion of the freezing programme.

## Diverse Sample Types

Every 2101 Controlled Rate Freezer comes with a choice of either a cane, vial or bag canister rack as standard, and the possibility to order further racks as required.



## Optimized Freezing

Unlimited programming capability for freezing of samples of different sizes with various levels of permeability. Ideal for blood and tissue banks.

## Custom Biogenic Systems Controlled Rate Freezing System



## Increased Viability

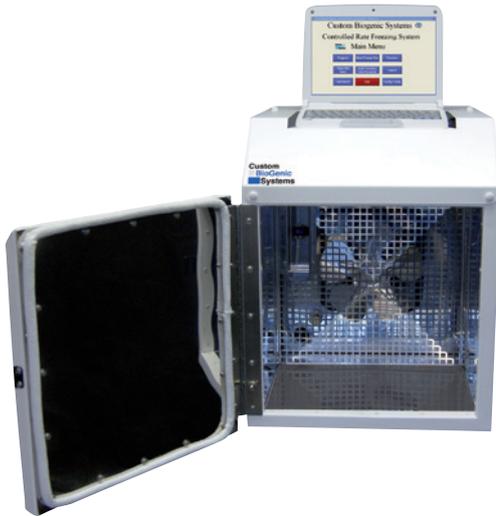
Ensure the highest levels of viability for stem cell and IVF applications through the consistent release of latent heat for reproducible results.



## Flexible Storage

Multiple rack types and unlimited programming provide an ideal freezing solution for a wide variety of research samples.

## Controlled Rate Freezer



### Controller

The 2101 Controlled Rate Freezer comes equipped with a dedicated laptop controller and 2100 programming software for user convenience.

A windows based operating system allows for a clear display of multi-colour freeze run graphs and simple programming.

Programmes and freeze data can be saved to hard drive or disc and printed via a standard USB printer.

A multi-probe option can be linked to the laptop with provision for 6 additional temperature probe connections.

### Sample Security

Individual user accounts and passwords can be set up with differing levels of access to ensure maximum security.

When security is enabled it is possible to view a full audit trail of freeze runs, new users added, users deleted, users edited and profile changes. It also keeps track of invalid log-ins and locks the system out after repeated failed attempts.

Alarm notifications can alert to sample probe or actual chamber probes issues as well as deviation between target and chamber for a programmed amount of time.

Model Number		2101 Controlled Rate Freezer
External Dimensions (W x D x H)	mm	484 x 648 x 770
Internal Dimensions (W x D x H)	mm	356 x 243 x 349
Volume	litres	28
Net Weight	kg	34,7
Capacity	1.2-2ml vials	650
	4-5ml vials	390
	bag canisters	10 - 20
	canes	130
Performance		
Programmable Temperature Range	°C	+50 to -180
Programmable Cooling Rate Range	°C / min	0.01 to 99.9
Control		
Controller		Laptop controller (included)
Operating System		Windows based
Temperature sensor		type T thermocouple (2 as standard, up to 8 with multi-probe)
Construction		
Exterior Material		Powder coated stainless steel
Interior Material		Stainless steel
Max. load - total	kg	20
Electrical and Noise Level		
Power Supply	V	230
Frequency	Hz	50
Noise Level	dB [A]	<66
Optional Rack (1 included)		
1.2-2ml Vial Rack		42812
4-5ml Vial Rack		42814
15ml Conical Tube Rack		42822
0.25-0.5ml Straw Rack		42817
Cane Rack		42811
20ml Bag Canister Rack		42821
50ml / 250ml / 500ml Bag Canister Rack		42818
Optional Sample Probe (1 included)		
2ml Vial Sample Probe		42001
4-5ml Vial Sample Probe		42002
0.25-0.5ml Straw Sample Probe		42003
Ribbon Probe for Blood Bags		42010
Accessories		
Freezing Press for 50ml Bags		42819-060
Freezing Press for 250ml Bags		42819-021
Freezing Press for 500ml Bags		42819-022
Roller Cart		3120-F601

**Custom  
BioGenic  
Systems**

A Custom Biogenic Systems product

**PHCbi**

PHC Europe B.V.  
Nijverheidsweg 120 | 4879 AZ Etten-Leur | Netherlands  
T: +31 (0) 76 543 3833 | F: +31 (0) 76 541 3732  
[www.phchd.com/eu/biomedical](http://www.phchd.com/eu/biomedical)