



## CryoVita Controlled-Rate Freezer

Innovative technology for reproducible result and highest sample viability.

In order to maintain cellular viability during the freezing process, certain cells – such as protist, mammalian, and plant cells – require precise control of the freezing rate in order to minimize the detrimental effects of undercooling and the heat liberated during the phase change process from water to ice.

Controlled rate freezing is an established procedure for the cryopreservation of biologic material in research and clinical applications. In-line with GMP protocols, cell material can be frozen then stored at cryogenic temperatures.

CryoVita controlled-rate freezer (CRF) achieve reliable, reproducible results with maximum operational safety. They are used for clinical, veterinary and research tasks for controlled rate freezing of samples.

## Dependable sample protection

For customers in research, cell and gene therapy, vaccine production, and biobanking, the CryoVita CRF provides precise, repeatable freezing results that protect the sample from intracellular freezing.

Liquid nitrogen flows via a metal hose connection, as a gas, into the freezing chamber. Predetermined cooling profiles are used to freeze samples prior to removal and storage at cryogenic temperatures. Data logging ensures continual monitoring of the entire process, including multiple temperature sensor set-points, actual values and the supply pressure of liquid nitrogen.

## Reliable temperature performance for high-throughput usage

- Dual solenoid valves design, one for working, the other for backup. When one valve fails, switch to the other valve through touch screen controller
- Consistent temperature control and uniformity achieved via an air-handling system and liquid nitrogen injection device
- Environmentally friendly insulating foam
- Type 304 stainless steel with exterior powder-coat finish

## User-friendly operation with enhanced data traceability

- Intuitive touchscreen display allows for easy set-up, operation, and review of a freezing run
- Six pre-set freezing profiles and space for up to 120 user-defined, “custom” freeze profiles
- Convenient to create and edit a custom program on touch screen
- Record temperature curve of each cycle automatically
- External influences are avoided during freezing



**PROG Edit**

PROG 001 Name 2ml vials

No	MODE	Chamber	Sample	Rate	Holdover(M)	Alarm
01	Wait		4.0	10.00		NO
02	Sample		-4.0	1.00	0	NO
03	Chamber	-40.0		25.00	0	NO
04	Chamber	-12.0		10.00	0	NO

## Real-time run monitoring for sample protection

- Chamber and sample temperatures are monitored by Type T thermocouples, eliminating lag time and providing “real time” responsiveness
- Standard alarms to alert users of thermocouple failures, heater malfunction, high/low temperature limits, temperature tracking, power failure, and completion of run
- RS232 Port
- USB port to download running data

## Specifications







Model	CryoVita 18	CryoVita 34	CryoVita 49
Temperature range	-180°C~+50°C		
Exterior Dimensions	810*540*790	960*540*790	1110*540*790
W*D*H (mm/in.)	(31.9*21.3*31.1)	(37.8*21.3*31.1)	(43.7*21.3*31.1)
Interior Dimensions	180*305*330	330*305*330	485*305*330
W*D*H (mm/in.)	(7.1*12.0*13.0)	(13.0*12.0*13.0)	(19.1*12.0*13.0)
Capacity	18 L(0.6 cu. ft.)	34 L(1.2 cu. ft.)	49 L(1.7 cu. ft.)
Net Weight	64 kg(141 lbs.)	75 kg(165 lbs.)	83 kg(183 lbs.)
Freezing Rate	0.1 ~ 60/min		
Heating Rate	0.1 ~ 12/min		
Temperature Deviation	<2°C		
Control	PLC + Touch Screen		
Control Parameter	Sample temperature or Chamber Temperature		
Display	7" Touch Screen		
Program	6 preset programs, customized program up to 120		

## Installation

CryoCenter series low pressure LN2 container is recommended to provide LN2 to CryoVita Controlled rate freezers.



# CryoVita Freezing Racks and Rack Holders

Image	Model	Dimensions	CryoVita18	CryoVita34	CryoVita49
	CRF-V1	Small size rack system for 2ml vials: 5 layers, 76 vials per layer, 380 vials per rack	1 small	N/A	1 small & 1 large
	CRF-V2	Small size rack system for 5ml vials: 3 layers, 76 vials per layer, 228 vials per rack			
	CRF-V3	Large size rack system for 2ml vials: 5 layers, 161 vials per layer, 805 vials per rack	N/A	1 large	1 small & 1 large
	CRF-V4	Large size rack system for 5ml vials: 3 layers, 161 vials per layer, 483 vials per rack			
	CRF-C1	Small size rack for cane: 76 canes per rack	1 small	N/A	1 small & 1 large
	CRF-C2	Large size rack for cane: 161 canes per rack	N/A	1 large	
	CRF-B1	10 layer rack for 25ml blood bag	3	6	9
	CRF-B2	10 layer rack for 50ml blood bag	3	6	9
	CRF-B3	10 layer rack for 250ml blood bag	1	2	3
	CRF-B4	8 layer rack for 500ml blood bag	1	2	3
	CRF-B5	8 layer rack for 750ml blood bag	1	2	3
	CRF-S1	Freezing rack system for straw, 5 layers, 66 straws per layer, 330 straws per rack, 1 straw plate for each set	1	2	3

## Freezing Capacity

Model	CryoVita 18	CryoVita 34	CryoVita 49
2ml Vials	380	805	1185
5ml Vials	228	483	711
25/50ml Blood Bag	30	60	90
250ml Blood Bag	10	20	30
500/750ml Blood Bag	8	16	24
Straw	330	660	990

## Global Users



**UK Office:** 34-35 Hatton Garden,  
Holborn, London, EC1N 8DX, United Kingdom.  
**Iraq Office:** 9th Floor, Justice Tower, Court st., Erbil, Iraq.



**Telephone:** +44 20 3432 5767  
**Email:** marketing@hospita.co  
**Website:** www.hospita.co