

## W Series

### Cryogenic Freezer, Wide Open



W series liquid nitrogen storage system provides ideal storage conditions for biological samples. Supported by LN<sub>2</sub> automatic filling system and temperature & LN<sub>2</sub> level monitoring system, W series cryogenic freezers provide all-round protection to precious sample, assisting life science research and cell therapy applications.

Based on the actual needs of users, Antech has innovatively optimized the performance, structure and control system of cryogenic freezer to meet the user's highest standard of large-capacity storage requirements.

### Features

- Multiple capacity freezers, from 175L to 600L, 2.0ml vials storage capacity from 10,000 to 40,500.
- Excellent temperature uniformity and stability, enabling samples to be stored at controlled cryogenic environment.
- Excellent vacuum performance and structural design ensure minimum liquid nitrogen consumption and lower storage costs.
- Advanced temperature, liquid level monitoring and alarm system, and can realize remote monitoring.
- Automatic supply of liquid nitrogen, safe and labor-saving.
- The liquid nitrogen supply system is controlled by multiple solenoid valves, which can effectively prevent the overflow of liquid nitrogen and sample contamination caused by high LN<sub>2</sub> level.
- Manual filling available under special circumstances.
- The optimized mechanism design realizes high-density storage to save space.

### Humanized Design

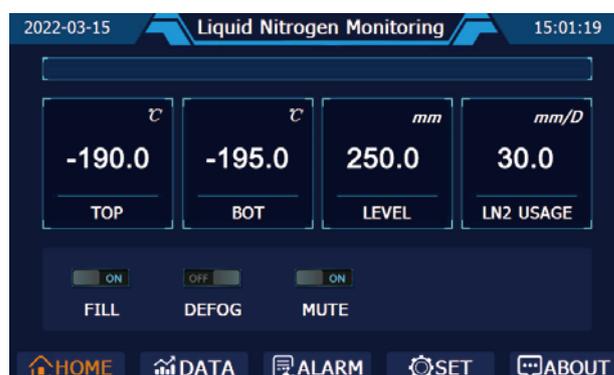
- Defog function, easier to find samples and shorten lid opening time.
- The remote alarm interface can be connected to the central alarm system.
- Standard backup battery in case of power failure.
- Optional vacuum jacketed hose for lower liquid nitrogen consumption.



Vacuum jacketed hose

## Advanced Control System

- HMI human-machine interactive touch screen, display temperature, liquid level, temperature curve and alarm information.
- Important events such as temperature, alarm, liquid nitrogen fill, can be checked, and can also download through USB disk.
- Various alarms, and the alarm information can be stored and downloaded through the USB disk.
- Operating data, such as temperature and liquid level, can be stored for up to 10 years.
- Optimized structure design to achieve the best sample storage density and save space.



## Why W Series

- High density storage  
Compared with similar products, W series freezers have a small footprint and can store a large number of samples. It truly realizes high-density storage, which not only saves space, but also reduces the storage cost per sample. Both horizontal and vertical rack systems available.
- Advanced temperature monitoring system  
The monitoring system based on microprocessor and platinum temperature probe can display the maximum and minimum temperature inside the tank in real time with an accuracy of  $\pm 1^{\circ}\text{C}$ . The user can set the alarm point by himself, with the option of alarm mute.
- Automatic LN<sub>2</sub> filling & level monitoring system  
The liquid level monitoring system based on high-precision differential pressure sensor displays the liquid level in real time to ensure the safety and reliability of the automatic filling of liquid nitrogen. The color touch screen can display: top temperature, bottom temperature, liquid level height, daily liquid nitrogen consumption and other parameters.
- Warm gas bypass  
The warm gas bypass design can remove the high temperature nitrogen (gas) in the pipeline before the liquid nitrogen is injected, so as to ensure that only ultra-low temperature liquid nitrogen is injected into freezer, which avoids the temperature fluctuation in the freezer & thermo shock to samples during filling process, protecting the safety of samples.

## Racks



Slim rack/ Vertical rack



Square rack/ Horizontal rack

Slim rack/ Vertical rack	Description	Vial	Dimension, WxDxH(mm)
CFH-5-2	5 layer, for 100/81-well boxes	1.2/2ml	138*58*710
Square rack/ Horizontal rack	Description	Vial	Dimension, WxDxH(mm)
CFC-13-2	13 layer, for 100/81-well boxes	1.2/2ml	139*139*751
CFC-13-2S	13 layer, for 25-well boxes	1.2/2ml	81*81*751

# Specification

Model		W100		W240		W380	
	Maximum storage capacity	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor
Straw	PETG 1/4cc straw	180400	144320	397700	318160	639600	511680
	PETG 1/2cc straw	80300	64240	177025	141620	284700	227760
	HSV CBS high security straws	80300	64240	177025	141620	284700	227760
	High security CBS straws	49500	39600	109125	87300	175500	140400
	Number of canisters (φ70mm)	44	44	97	97	156	156
	Goblet (φ65mm) per canister	5	4	5	4	5	4
2ml vial	1.2 & 2ml vial	10725	9075	26325	22275	41275	34925
	Number of large rack (81/100-place box)	7	7	19	19	30	30
	Number of small rack (25-place box)	5	5	5	5	7	7
	2" Boxes per rack	13	11	13	11	13	11
5ml vial	5ml vial (81-place)	3969	3402	10773	9234	17010	14580
	Number of racks	7	7	19	19	30	30
	3.75" Boxes per rack	7	6	7	6	7	6
Cassette BBC-A	Numbers of blood bag	763	654	1694	1452	2681	2298
	Number of frames	109	109	242	242	383	383
	Bags per frame	7	6	7	6	7	6
Cassette BBC-B	Numbers of blood bag	476	408	1085	930	1715	1470
	Number of frames	68	68	155	155	245	245
	Bags per frame	7	6	7	6	7	6
Cassette BBC-C	Numbers of blood bag	270	216	595	476	970	776
	Number of frames	54	54	119	119	194	194
	Bags per frame	5	4	5	4	5	4
Cassette BBC-D	Numbers of blood bag	210	168	475	380	760	608
	Number of frames	42	42	95	95	152	152
	Bags per frame	5	4	5	4	5	4
Cassette BBC-E	Numbers of blood bag	144	108	332	249	528	396
	Number of frames	36	36	83	83	132	132
	Bags per frame	4	3	4	3	4	3
Cassette BBC-F	Numbers of blood bag	84	63	196	147	312	234
	Number of frames	21	21	49	49	78	78
	Bags per frame	4	3	4	3	4	3
<b>LN2 Capacity</b>							
LN2 capacity (L)		197	36	417	77	653	121
<b>Dimensions</b>							
Inner diameter (mm)		550		800		1000	
Usable height (mm)		800/690		800/690		800/690	
Overall height (mm)		1300		1300		1300	
Weight empty (kg)		160		270		395	
Weight full, liquid phase (kg)		318		606		918	
<b>Functions</b>							
Controller		Touch screen		Touch screen		Touch screen	
Full auto fill		Standard		Standard		Standard	
Data storage/ USB port/ RS485 port		Standard		Standard		Standard	
Defog		Standard		Standard		Standard	
Step		Standard		Standard		Standard	
<b>Accessories</b>							
Backup battery		Standard		Standard		Standard	
Vacuum jacketed hose		Optional		Optional		Optional	
Vapor platform		Optional		Optional		Optional	
Inventory rack		Optional		Optional		Optional	
Wi-Fi connection & cloud access		Optional		Optional		Optional	

\* **Cassette BBC-A:** Pall MEDSEPTIM 25 mL, OriGen CS 25; **Cassette BBC-B:** Fenwal 4R9951, OriGen CS 50;

**Cassette BBC-C:** Fenwal 4R9953 & 4R5461, OriGen CS 25, CryoMACS 50 & 250, CryoPAC 025B & 050B; **Cassette BBC-D:** Fenwal 4R9955 & 4R5462, OriGen CS 500, CryoPAC 250B & 500B;

**Cassette BBC-E:** Gambro DF-200 or CryoMACS 50 & 250; **Cassette BBC-F:** Gambro DF-700, OriGen CS 1000, CryoMACS 500 & 750 & 1000, CryoPAC 750B.