

FREEZE CONTROL® SYSTEMS

Freeze Control® Systems controlled-rate Liquid Nitrogen freezers precision engineered for cryopreservation of biological specimens. Systems are modular and parts are interchangeable. Each system consists of a Temperature Controller, Cryochamber, Cryobath, and Carry Case. No special installation is required. Systems can be quickly set up and packed away. You select from the range of Temperature Controllers and Cryochambers to configure a system which best suits your need.



Standard Systems

8800i System

- The standard 8800 system includes:
- CL8800 programmable temperature controller
 - CC23 Standard Cryochamber
 - LNS Standard Bath
 - ML Medium Lid
 - CB Carry case
 - CG5 CryoGenesis software

8800SYS

5500 System

- The standard 5500 system includes:
- CL5500 temperature controller with built in P10 Power Pak
 - CC23 Standard Cryochamber
 - LNS Standard Bath
 - ML Medium Lid
 - CB Carry case
 - UPB Battery for P10

5500SYS

3300 System

- The standard 3300 system includes:
- CL3300 temperature controller
 - One CC23 Std Cryochamber
 - LNS Standard Bath
 - ML Medium Lid
 - CB Carry case
 - CG5 CryoGenesis software

3300SYS

2200 System

- The standard 2200 system includes:
- CL2200 temperature controller
 - CC23 Standard Cryochamber
 - LNS Standard Bath
 - ML Medium Lid
 - CB Carry case

2200SYS

All controllers can be run from a dedicated power pack.

CL8800i

- Control Range: +40°C to -120°C
- Preinstalled Programs: 16
- User programmable
- The CL8800i Temperature Controller can be preprogrammed with up to 16 temperature programs. It is also programmable when operated with a computer (IBM compatible) using CryoGenesis™ V4 and V5 software. It includes a temperature logging module and allows actual temperature progress to be monitored and recorded in the computer (when used). It is ideal for critical clinical applications where precise control over a wide temperature range is desired, and quality control recording is mandatory.

CL5500

- Internal Battery Power Pack
- Control Range: +20°C to -43°C
- Preinstalled Programs: 8
- The CL5500 is a preprogrammed Temperature Controller with an internal Program Chip that contains up to 8 different temperature programs (protocols). The CL5500 has a built in Power Pack and battery charger, and can be run from mains, from internal battery, or from an external 12V source. It is ideal for "in the field" use, or for use in regions where mains power is not reliable.

CL3300

- Control range: +40°C to -120°C
- User programmable
- The CL-3300 is a programmable Temperature Controller which can be operated only with a computer (IBM compatible) and the CryoGenesis™ V4 or V5 software for Windows.

CL2200

- Control Range: +20°C to -43°C
- Preinstalled Programs: 4 standard programs with space for an additional 4 programs (8 total). The additional 4 programs of your choice may be added with purchase of the CEP4 chip
- The CL2200 is a preprogrammed Temperature Controller with an internal program chip (CEP) that contains up to 8 different temperature programs (protocols). It is ideal for routine cryopreservation applications.

- Cryopreservation systems and accessories are not stocked. Please allow 7-9 days for delivery. CryoLogic provides a 2 year repair or replace warranty on Freeze Control® equipment, against defects in materials and workmanship. Warranty documentation is included in the equipment's operating manual.



FREEZE CONTROL® CRYOCHAMBERS

A range of Freeze Control Cryochambers is available to suit different applications with cooling rates appropriate for most protocols. Cryochambers are interchangeable.

The design ensures symmetrical heat transfer from all specimens to liquid nitrogen. The chamber stands directly in liquid nitrogen in the cryobath and is connected to the controller which regulates the temperature of the specimens. The highly conductive material used for the chamber ensures a very high degree of temperature uniformity of each specimen whether liquid nitrogen levels are high or low. Specimen temperature is monitored continuously and is measured by a precision Platinum temperature sensor permanently mounted in the core.

Straw Standard Cryochamber

- Maximum Capacity: 23 x 0.5ml or 46 x 0.25ml straws
- Dimensions: 55mm diameter x 150mm tall
- Maximum Cooling Rates: Rate at 20°C is 8°C/min. Rate at -40°C is 5°C/min
- The blue foam lifter is designed to secure .25cc straws in the slots, and minimize convection within the chamber core. Each slot may contain: One .5cc straw or two 0.25cc straws. If 0.25cc straws are used, 2 straws per slot are recommended to ensure good thermal contact with the wall of the core.

CC23S

Straw Fast Cryochamber

- Maximum Capacity: 23 x 0.5cc or 46 x 0.25cc straws
- Dimensions: 55mm diameter x 150mm tall
- Maximum Cooling Rates: Rate at 20°C is 16°C/min. Rate at -40°C is 10°C/min
- Recommended for Semen

CC23F

5 Slot Ampoule or Straw, Fast Rate Cryochamber

- Maximum Capacity: 15 x 1.0ml, 10 x 2.0ml or 5 x 5.0ml cryovials
- Maximum Capacity: 55 x 0.5cc, 85 x 0.25cc straws or 45 x CBS straws™
- Dimensions: 55mm diameter x 150mm tall
- Maximum Cooling Rates: Rate at 20°C is 6°C/min. Rate at -40°C is 3°C/min.
- Each slot (5 slots total) may contain: 3 x 1.0ml cryovials, 2 x 2.0ml cryovials, 1 x 5.0ml cryovial, 11 x 0.50cc straws, 17 x 0.25cc straws, or up to 9 CBS straws™

The versatility of this chamber is achieved based on which lifter is placed into the chamber. Price includes 1 lifter. Please specify which lifter you require from the selection below:

1. L45 for CBS straws
2. L85 for 0.25cc straws
3. L55 for 0.50cc straws
4. L5A for ampoules

CC5F

5 Slot Ampoule or Straw, Standard Rate Cryochamber

- Maximum Capacity: 15 x 1.0ml, 10 x 2.0ml or 5 x 5.0ml cryovials
- Maximum Capacity: 55 x 0.5cc, 85 x 0.25cc straws or 45 x CBS straws™
- Dimensions: 55mm diameter x 150mm tall
- Maximum Cooling Rates: Rate at 20°C is 6°C/min. Rate at -40°C is 3°C/min.
- Each slot (5 slots total) may contain: 3 x 1.0ml cryovials, 2 x 2.0ml cryovials, 1 x 5.0ml cryovial, 11 x 0.50cc straws, 17 x 0.25cc straws, or up to 9 CBS straws™

The versatility of this chamber is achieved based on which lifter is placed into the chamber. Price includes 1 lifter. Please specify which lifter you require from the selection below:

1. L45 for CBS straws
2. L85 for .25cc straws
3. L55 for .55 straws
4. L5A for ampoules

CC5S

Security Straw Standard Cryochamber

- Maximum Capacity: 20 x CBS Straws™ or 40 x 0.5cc or 60 x 0.25cc standard straws
- Dimensions: 55mm diameter x 150mm tall
- Maximum Cooling Rates: Rate at 20°C is 7°C/min. Rate at -40°C is 4°C/min
- Each slot (5 slots total) may contain: 1 x CBS Straw™, 2 x 0.5cc straws, 3 x 0.25cc straws.
- If 0.5cc/0.25cc straws are used, 2/3 straws per slot are recommended to ensure good thermal contact with the wall of the core.

CC20S

Security Straw Fast Cryochamber

- Maximum Capacity: 20 x CBS Straws™ or 40 x 0.5cc or 60 x 0.25cc standard straws
- Dimensions: 55mm diameter x 150mm tall
- Maximum Cooling Rates: Rate at 20°C is 14°C/min. Rate at -40°C is 8°C/min

CC20F

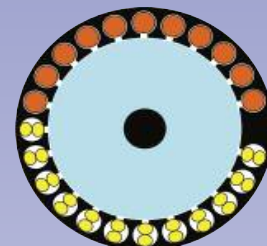
60 Ampoule Fast Cryochamber

- Maximum Capacity: 60 x 1.0ml or 60 x 2.0ml cryovials
- Dimensions: 190 x 170 x 230mm
- Maximum Cooling Rates: Rate at 20°C is 5°C/min. Rate at -40°C is 3°C/min

CC60AF



Cryochamber



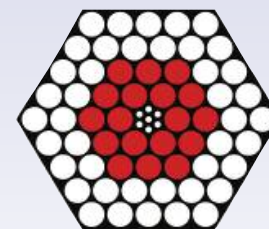
CC23 Core



CC5 Core



CC20 Core



CC60 Core

OPTIONS AND ACCESSORIES

The Freeze Control product range includes a variety of options and accessories, allowing you to customize your system.

Large CryoBath

Capacity of 3.8 litres, allowing approximately 4 hours of continuous operation before refilling is required.

LNL	Large CryoBath
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Small CryoBath

Capacity of 1.5 litres, giving approximately 2 hours of run time before a refill is needed.

LNS	Small CryoBath
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CryoChamber Lids

SL	Standard Cryochamber Lid 20mm
ML	Medium CryoChamber lid 60mm
VTL	Tall CryoChamber lid 120mm

Power Pak

The P10 is a dedicated Power Pack. It is designed to provide an alternative source of power to the freezers when there is a power failure, or when a mains source is not available. It also has a built in charger, which will recharge the battery from mains. May be used in three ways: From mains as an uninterruptible power supply, from an internal battery—away from mains, or from an external 12 Volt Source.

P10	Power Pak includes UPB Battery
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PCAB	Car Cable Specifically designed for connecting the P10 or CL5500 Temperature Controller, to an external 12V source, commonly a motor vehicle 12V electrical system.
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Custom EPROM

Internal program chip. Submit your new program requirements and clearly identify the machine for which the programs are required, including Type and Serial Number. The new program information is installed on a chip and is dispatched with listings and graphs, and instructions for removing the old chip and installing the new one. Program Chips cannot be exchanged between different model controllers.

CEP4	Custom Chip, 1-4 programs
CEP8	Custom Chip, 1-8 programs
CEP16	Custom Chip, 1-16 programs

CryoChamber Specimen Lifters

• Cryochambers can be supplied with Lifters to suit a variety of applications.

Lifters for 5 Slot Cores

L45	For CBS straws, .5cc
L85	For .25cc straws
L55	For .55 straws
L5A	For ampoules

Lifters for 23 Slot Cores

L23	Standard .25cc & .5cc Straw Lifter
LC	Short Straw Lifters .25cc & .5cc

Carry Cases

The Horizontal Carry Case accommodates all standard Freeze Control' systems with a 1.5 litre Cryobath where the Upright Carry Case has been designed to accommodate all standard systems with the larger 3.8 litre Cryobath. Their rugged construction and internal foam cushioning provide protection during shipping or storage, with a total weight of 9-15 kilograms (depending upon system specifications).

CBS	Horizontal Carry Case
CBL	Upright Carry Case

Why Agtech recommends CryoLogic Freeze Control® Systems

- **Reliability**
Proven reliability, proven performance, numerous publications, manufactured by CryoLogic for over **20 years**
- **Cost**
Range of low cost to medium cost systems to suit a variety of budgets
- **CryoChambers**
Wide variety of Cryochambers types for 0.25ml, 0.5ml, CBS straws and Cryovials. Cryochambers with different maximum cooling rates for different specimen Types
- **CryoChamber Lids**
Different heights for different straw / plug lengths
- **Cryobaths**
Standard capacity and large capacity for different length freezing protocols
- **Batteries**
Standard, off-the-shelf, Sealed Lead Acid Batteries, user installable, for backup/operation in CL5500 and CLP10. No issues with battery transportation

