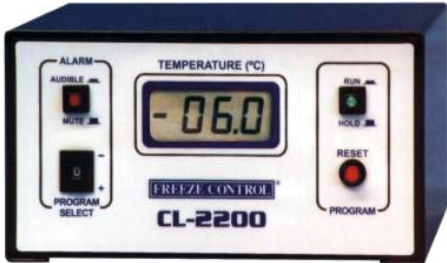




# Cryo-Logic 2200



The CL-2200 is a PREPROGRAMMED Temperature Controller with an internal Program Chip that contains up to 8 different temperature programs (protocols).

It is ideal for routine cryopreservation applications.

Control Range: +20°C to -43°C  
 Preinstalled Programs: 8  
 Dimensions: 90 x 155 x 175mm  
 Weight: 1.5kg  
 Product Code: 2200 TC

## Information About Internal (Preprogrammed) Temperature Programs

Programs for Pre-installation are normally supplied by the customer. These Programs should include a STARTING temperature (°C), and a FINAL STATE for the program (Hold or FreeFall). Note: the temperature continues to be monitored / displayed past the end of the program. Each ramp should contain a RATE of temperature change (°C/min), a TARGET temperature (°C) for that ramp, and a HOLD period (min) for maintaining the target temperature before continuing to the next ramp. The programs may also show some text to indicate the application of the particular program, and in the case of CL8800 programs a BELL (X) for sounding at the end of particular ramps (after the Hold time) may be added.

Below is a listing of a set of 4 Sample Programs. Chip Name: DEMO\_WWW (For Model CL8800)

Rate (°C/min)	Target Temp (°C)	Hold Time (min)	Bell
<b>Program 0:</b>	<b>Human Embryo – PrOH</b>	<b>Start Temp:</b>	<b>24.0°C</b>
		<b>Final State:</b>	<b>FreeFall</b>
2.00	- 7.0	1.0	X
0.00	- 7.0	9.0	
0.30	- 60.0	0.0	X
<b>Program 1:</b>	<b>Epididymal Sperm</b>	<b>Start Temp:</b>	<b>36.0°C</b>
		<b>Final State:</b>	<b>FreeFall</b>
5.00	18.0	1.0	
0.50	6.0	5.0	
10.00	- 8.0	3.0	
5.00	- 40.0	0.0	
<b>Program 2:</b>	<b>Bovine Embryos – Ethylene Glycol</b>	<b>Start Temp:</b>	<b>- 6.5°C</b>
		<b>Final State:</b>	<b>Hold</b>
0.00	- 6.5	8.0	
0.50	- 35.0	0.0	
<b>Program 3:</b>	<b>Placental Blood – Glycerol</b>	<b>Start Temp:</b>	<b>33.0°C</b>
		<b>Final State:</b>	<b>FreeFall</b>
4.00	4.0	5.0	
2.00	- 8.0	4.0	
0.65	- 120.0	0.0	X

When the final state is Hold the temperature controller will maintain the last specified target temperature until the program is interrupted or LN2 is exhausted. When a final state of FreeFall is selected the controller will allow the temperature to drop from the last specified target temperature towards the temperature of Liquid Nitrogen (-196°C), at a decreasing rate governed by the specimen temperature, the nature of the chamber, and the load. If you need more information on how to design temperature programs, contact CryoLogic.

Programs can be replaced. CryoLogic provides a programming service for a modest fee. Submit your new program requirements in the format described above, 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 despatched with listings and graphs, and instructions for removing the old chip and installing the new one.