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CC-65/CC-100
CFC-Free
Immersion Coolers

Thermo NESLAB Manual P/N 002782
Rev. 04/05/99

Instruction and Operation Manual

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CryoCool Series Immersion Coolers
Instruction and Operation Manual

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Preface

Compliance

Products tested and found to be in compliance with the requirements defined in the EMC standards defined by 89/336/EEC as well as Low Voltage Directive (LVD) 73/23/EEC can be identified by the CE label on the rear of the unit. The testing has demonstrated compliance with the following directives:

LVD, 73/23/EEC	Complies with UL 3101-1:93
EMC, 89/336/EEC	EN 55011, Class A Verification EN 50082-1:1992 IEC 1000-4-2:1995 IEC 1000-4-3:1994 IEC 1000-4-4:1995

For any additional information refer to the Letter of Compliance that shipped with the unit (Declaration of Conformity).

Unpacking

Retain all cartons and packing material until the unit is operated and found to be in good condition. If the unit shows external or internal damage, or does not operate properly, contact the transportation company and file a damage claim. Under ICC regulations, this is your responsibility.

Warranty

Units have a warranty against defective parts and workmanship for one full year from date of shipment. See back page for more details.

NES-care Extended Warranty Contract

- Extend parts and labor coverage for an additional year.
- Worry-free operation.
- Control service costs.
- Eliminate the need to generate repair orders.
- No unexpected repair costs.

Other contract options are available. Please contact Thermo NESLAB for more information.

After-sale Support

Thermo NESLAB is committed to customer service both during and after the sale. If you have questions concerning the operation of your unit or the information in this manual, contact our Sales Department. If your unit fails to operate properly or if you have questions concerning spare parts or Service Contracts, contact our Service Department.

Before calling, *please* refer to the serial number label on the rear of the case top to obtain the following information:

- BOM number _____

- Serial number _____

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Section I Safety

Warnings

Make sure you read and understand all instructions and safety precautions listed in this manual before installing or operating your unit. If you have any questions concerning the operation of your unit or the information in this manual, contact our Sales Department (see After-sale Support).

Performance of installation, operation, or maintenance procedures other than those described in this manual may result in a hazardous situation and may void the manufacturer's warranty.

Transport the unit with care. Sudden jolts or drops can damage the refrigeration lines.

Observe all warning labels.

Never remove warning labels.

Never operate damaged equipment.

Always turn off the unit and disconnect the line cord from the power source before performing any service or maintenance procedures, or before moving the unit.

Never operate equipment with damaged line cords.

Refer service and repairs to a qualified technician.

In addition to the safety warnings listed above, warnings are posted throughout the manual. These warnings are designated by an exclamation mark inside an equilateral triangle with text highlighted in bold print. Read and follow these important instructions. Failure to observe these instructions can result in permanent damage to the unit, significant property damage, or personal injury or death.

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Section II General Information

Description

The CryoCool Series of immersion coolers is designed as a refrigeration source for sub-ambient work in liquid baths.

CryoCools employ mechanical refrigeration systems constructed with full-hermetic refrigeration compressors. The CC-65 employs a single stage refrigeration system with one compressor. The CC-100 has a dual stage refrigeration system using two compressors in cascade configuration. An insulated coaxial hose assembly carries refrigerant to the cooling probe.

Specifications

	CC-65	CC-100
Temperature Range[1]	-20°C to -55°C	-25°C to -90°C
Temperature Stability	±0.5°C	±0.5°C
Evaporator Head Dimensions[2] (Length x Diameter)		
F-head		
Inches	N/A	18 x 5/8
Centimeters	N/A	45.7 x 1.6
FV-head		
Inches	25 x 1/2	25 x 1/2
Centimeters	63.5 x 1.3	63.5 x 1.3
R-head		
Inches	7 1/4 x 1 1/4	7 1/4 x 1 1/4
Centimeters	18.4 x 3.2	18.4 x 3.2
Minimum Bend Radius[3]		
F-head		
Inches	N/A	1 1/2
Centimeters	N/A	3.8
FV-head		
Inches	1	1
Centimeters	2.5	2.5
R-head		
Inches	N/A	N/A
Centimeters	N/A	N/A

1. Low end specifications listed for "no load" conditions.
2. See Section III, Cooling Probes for a description of the evaporator heads.
3. The minimum bend radius is the smallest radius that the cooling probe can be bent without suffering damage at room temperature. Never bend the probe when it is cold.

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