

The **CritiCool**, one of **MTRE's** Temperature Regulating systems, induces, maintains, and reverses hypothermia in an effective and precise manner. The desired temperature is preset by the physician with a possible range of target temperature from Hypothermia to Normothermia. The **CritiCool** device functions as a control unit constantly monitoring the Patients' core temperature and as a cooling/heating device which brings the circulating water to the required temperature by using its on-board body temperature control algorithm. The **CureWrap** is an accessory, through which the water circulates. It is designed to be in close contact with a large area of the body, thus allowing optimization of energy transfer.

HARDWARE

Heat Exchangers

- Peltier Technology (TECs)

Water tank

- Sterile/ 0.22 micron filtered tap water usage
- Tank Capacity: 6 liters (1.6 gal.)

Water Temperature

- Water Temperature Accuracy $\pm 0.3^{\circ}\text{C}$ (0.4°F)
- Water Temperature (outflow) $13\text{-}40.8^{\circ}\text{C}$ ($55\text{-}105.4^{\circ}\text{F}$)

Pump

- Water Circulating Pump
- Pump Rate: 1.2 L/min
- Protected by 263 micron filter

Patient Temperature Channels

- 2 Channels: Core, Surface
- Sensor Temperature Range: 15°C to 44°C (59°F to 111.2°F)
- Sensor Temperature Accuracy $\pm 0.3^{\circ}\text{C}$ (0.4°F)

Temperature and Pressure Sensors

- System Sensors:
 - ◊ 3 Internal Temperature Sensors: Water in, Water out, Thermostat
 - ◊ 2 Pressure sensors
- Safety measures:
 - ◊ Over pressure protection and alarm
 - ◊ High water temperature protection and alarm

Physical Dimensions

- Mobile Unit with 4 wheels and 2 brakes
- 260 mm W x 625 mm D x 940 mm H / (10.23"W x 24.6"D x 37"H)

Net Weight

- 34 kg / 75 lb

Electricity Input Power

- 230/115 VAC (Switchable) with isolation transformer 50/60Hz
- 100VAC with isolation transformer 50/60Hz

Maximum Current

- 230 VAC 2.5A-3A
- 115 VAC 4.8A-5A
- 100 VAC 6A-6.6A

Environmental Operating Conditions

- Temperature: $+5^{\circ}\text{C}$ to $+40^{\circ}\text{C}$ (41°F to 104°F)
- Humidity: 10 to 93 percent, non-condensing
- Should not be used in an atmosphere with flammable anesthetic mixtures.

Environmental Storage Conditions

- Ambient temperature range of -15°C to $+68^{\circ}\text{C}$ (-40°F to 158°F)
- Humidity: 10 to 93 percent, non-condensing
- Maximum storage time without calibration is 52 weeks

External Ports

- 1 X Isolated Serial Port

LCD Display

- Size: 5.7"
- Resolution: 320x240

Touch Screen

- Multi Capacitive Touch screen

SOFTWARE

Displayed Information

- Mode of operation
- Set point temperature (Range: 32°C - 38°C)
- Core Temperature
- Surface temperature
- System status and alarms
- Technician mode display
- Trend Graph

Operating Modes (continuous)

- Target Temperature Management (TTM):
 - ◊ Adult/Neonatal Mode
- Auto Re-Warming
- Normothermia
- Stand-By
- Emptying

Languages

- | | | |
|-----------|--------------|-----------|
| • German | • Dutch | • Russian |
| • English | • Spanish | • Polish |
| • French | • Portuguese | |
| • Finish | • Swedish | |
| • Turkish | • Norwegian | |
| • Italian | • Danish | |

User Interface (GUI)

- 4 soft push buttons

ACCESSORIES

Temperature Sensors

- YSI 400 Series Probes
- Reusable core (Adult, Infant)
- Reusable surface
- Disposable core (one size)
- Disposable adapter core
- Disposable surface (one size)
- Disposable adapter surface

CureWraps

- Sizes range from 40 cm–196 cm (1'4"–6'5")
- Duration of use: 5 days
- Each garment contains a 33mg AQUATAB purification tablet
- Wrap Storage Span: 5 years
- Storage Conditions:
 - ◊ Humidity: 10%-90%
 - ◊ Temperature: 10°C to 27°C
- Transport Conditions
 - ◊ Humidity: 10%-90%
 - ◊ Temperature: -5°C to $+50^{\circ}\text{C}$

External Water Tubes

- Adult—Dual/Triple connector to garment
- Pediatric/Infant—Dual connector to garment

CliniLogger (Optional)

Detailed information on next page

REGULATORY

- CE 0473—Class IIb
- Health Canada-64184
- FDA Approval - K083662—Class II
- EN 60601-1
- EN 60601-1-2
- EMC per IEC80601-2-35 : 2009"
- Type BF - Degree of protection against electrical shock
- IP X0

CritiCool Specification

CliniLogger

CliniLogger is an accessory to CritiCool™\Allon2001 Thermoregulation systems, that is used to collect the system parameters during the thermoregulation procedure.

Connector

- DB9 connector for serial interfacing to CritiCool™\Allon2001 systems or general PC

Size

- 35x65 mm

Controller

- MSP4301611 Micro controller with the following features:
 - ◊ Built in Flash & RAM
 - ◊ Built in UART & SPI
 - ◊ Built in DMA controller

Memory

- Flash memory capacity :2MB (17days—FIFO)

Power requirement

- 5Volt DC supplied from the CritiCool™\Allon2001 systems or PC
 - ◊ < 20 mA
 - ◊ < 100 mW

LED

- BiColor (Green / Red)

Data Storage rate

- Every 1 minute into flash memory

Serial communication

- RS232:
 - ◊ 19200 bps to CritiCool™\Allon2001 systems
 - ◊ 115200 bps to PC

Data Collected

- Temperatures: Setpoint, Core, Surface
- Water Circulation On/Off
- Water Heat/Cool

CliniViewer Softwar

- PC App

