Total Body Cooling for infants suffering from Hypoxic Ischaemic Encephalopathy (HIE)
**Tecotherm Neo**

**Thermoregulation and Monitoring**

Total Body Cooling is a therapy for infants suffering from Hypoxic Ischaemic Encephalopathy (HIE) after Birth Asphyxia. The original Tecotherm was used in the biggest Randomised Control Trial for cooling infants with HIE, which showed improved neurologic outcomes for the cooled group\(^1\). Now building on from that success, the Tecotherm Neo takes Total Body Cooling to the next level.

The innovative servo controlled design has instant feedback monitoring the infant’s temperature every 2 seconds and making minute changes to the fluid to ensure that the infant’s temperature remains stable. Simple alarms are on hand should the temperature deviate more than 0.5°C from the set temperature. The large colour display shows the temperature clearly and colour changes alert nursing staff to any problem.

The Tecotherm Neo can be programmed for a complete treatment cycle, the user can set the target temperatures, duration and even the rate of re-warming / cooling making it easy and simple to set up and use. Changes can be made at any time and all changes, set and measured parameters are recorded on to a memory card every minute for later analysis.

**Modes of Operation**

The Tecotherm Neo has 3 modes of operation:

- **Servo-Control Complete Treatment Mode**
  Clinician can set the duration of treatment, the rate of cooling / warming as well as the target temperature. The Tecotherm Neo will complete the whole cycle without interruption and then maintain the final temperature.

- **Servo-Control Mode** (Constant Rectal Temperature)
  Clinician can set the target temperature, the time to get to target temperature and the length of time to maintain the target temperature. The Tecotherm Neo will complete the whole cycle without interruption.

- **Constant Mattress Temperature Mode**
  No Servo Control, useful for research work and where control of the mattress needs to be stable, or where experienced staff are available to monitor the patient.
The Tecotherm Neo takes Total Body Cooling to the next level

Flexible
- Clinician can set and adjust parameters at the start and throughout the treatment
- Customise and store treatment profiles (up to nine can be stored)
- Compatible with reusable and disposable accessories
- Optional use of skin probes

Easy to Use
- Large colour screen is easy to see across the room
- Small lightweight portable device
- The device restarts from the same settings in the event of power failure
- Maintains normothermia after rewarming

Compatible
- Data storage for allowing simple analysis of temperature profiles
- Export individual patient records to USB

Example of patient data collected from Tecotherm Neo

- Infant transfer temperature 35.3°C
- Target temperature range 33.5°C (+/- 0.5°C)
- Target temperature 33.5°C (72 hours)
- Target rewarming temperature 37°C (12 hours/0.29°C per hour)
# Technical Description and Specifications

## Options

<table>
<thead>
<tr>
<th>Category</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options</td>
<td>Cooling &amp; Warming</td>
</tr>
<tr>
<td>Patient weight max.</td>
<td>&lt;50kg</td>
</tr>
</tbody>
</table>

## Dimensions

- 375mm (width) x 190mm / 215mm (height) x 310mm (depth)

## Weight without accessories

- approx. 7.2kg

## Central cooling module

- Thermoelectrically based module

## Treatment temperature control ranges

- Mattress: +12°C to +39°C
- Rectal BCT: +30°C to +38°C

## Hydraulic circulation system

- System pressure max.: 0.5 bar
- Flow rate without / with mattress: 500 ml / min (shorted) / up to 300 in use
- Internal fluid reservoir capacity: approx. 250 ml
- Circulating fluid: Sterile Water
- Connectors / Couplings: Quick Disconnect Couplings
- Fill up / Refill: Fill up set

## Electrical parameters

- Supply voltage / Mains: 100-130V and 200-240V, 50-60 Hz
- Power consumption: max. 350 W

## Patient safety / alarms

- Lower temperature alarm limit: +10°C
- Upper temperature alarm limit: +41°C
- Set temperatures, lower limit: +12°C
- Set temperatures, upper limit: +39°C

## Ambient conditions

- Temperature: +5°C to +27°C
- Relative Humidity: 10% to 75%, not condensing

## System safety

- Protection class: Class 1, Risk Class II b, Type BF
- Standards: DIN EN 60601-1, DIN EN 60601-1-2, DI 60601-1-6, DIN EN 60601-1-8, DIN EN 60601-1-10, DIN EN 60601-2-35 E/F

## References


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The details given in this brochure are correct at time of going to press. The company reserves the right to improve the products shown.

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500-126(2) 2019-05

Distributed by

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