



CosyTherm
Neonatal Warming Systems

Innovative technology for simpler neonatal care



INDITHERM
Medical

CosyTherm

Inditherm have established themselves as experts in heating and warming solutions for a wide range of industries and applications. Their innovative, patented technology is now leading warming practice for patient care in surgery, neonatal and other critical care situations.

Clinical considerations

Management of body temperature in neonates is often challenging. The tendency for hypothermia is well documented, and can have serious implications^{1,2}. Active warming of pre-term and low birth-weight babies can therefore reduce complications and improve outcomes^{3,4}.

The use of an incubator in cases where most of the complex facilities are not required can unnecessarily tie up valuable resources. This increases costs, and in some cases hinders nursing access to the patient and creates anxiety for parents.

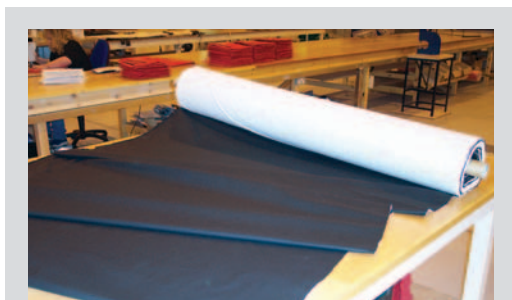
Neonates are often prone to hypothermia outside the intensive care or special care units. Active warming therapy can avoid the need for more intensive intervention, and improve the baby's early development.



Warming technology

Traditionally, active warming has been achieved using an incubator, and therefore in many situations only passive heat retention methods have been practical. More recently, heated mattresses and blankets have been introduced, but these have a number of shortcomings. Inditherm have now revolutionised the technology for warming and produced an affordable system that offers major advantages over traditional methods.

Inditherm's patented flexible carbon polymer technology has been used as an innovative solution for preventing or treating hypothermia in a range of clinical applications. CosyTherm systems combine effective thermal transfer with simplicity of use, providing a warming system that is superior to other methods currently available.



◀ Inditherm's unique carbon polymer heating material

Features and Benefits

Inditherm Medical have used their carbon polymer technology to produce a neonatal warming system that is practical, convenient and highly effective. Key features & benefits include:

Exceptional performance

- High thermal transfer characteristics.
- Very short warm-up time.
- Latest patented technology.
- Pressure relief built in.
- Choice of temperature ranges.

Practical & convenient

- Unhindered access to the baby.
- Fits all standard cribs or cots.
- Simple to use.
- Unobtrusive and silent.
- Easy to clean.

Significant cost savings

- Reduces need for incubator nursing.
- No requirement to buy new cribs or cots.
- Eliminates maintenance costs.
- Reduces demand for intensive care.

Safe & robust

- Durable, latex-free cover.
- No circulating air.
- No water.
- Low voltage operation.
- Fully sealed with welded seams.
- Fully approved to medical device standards.

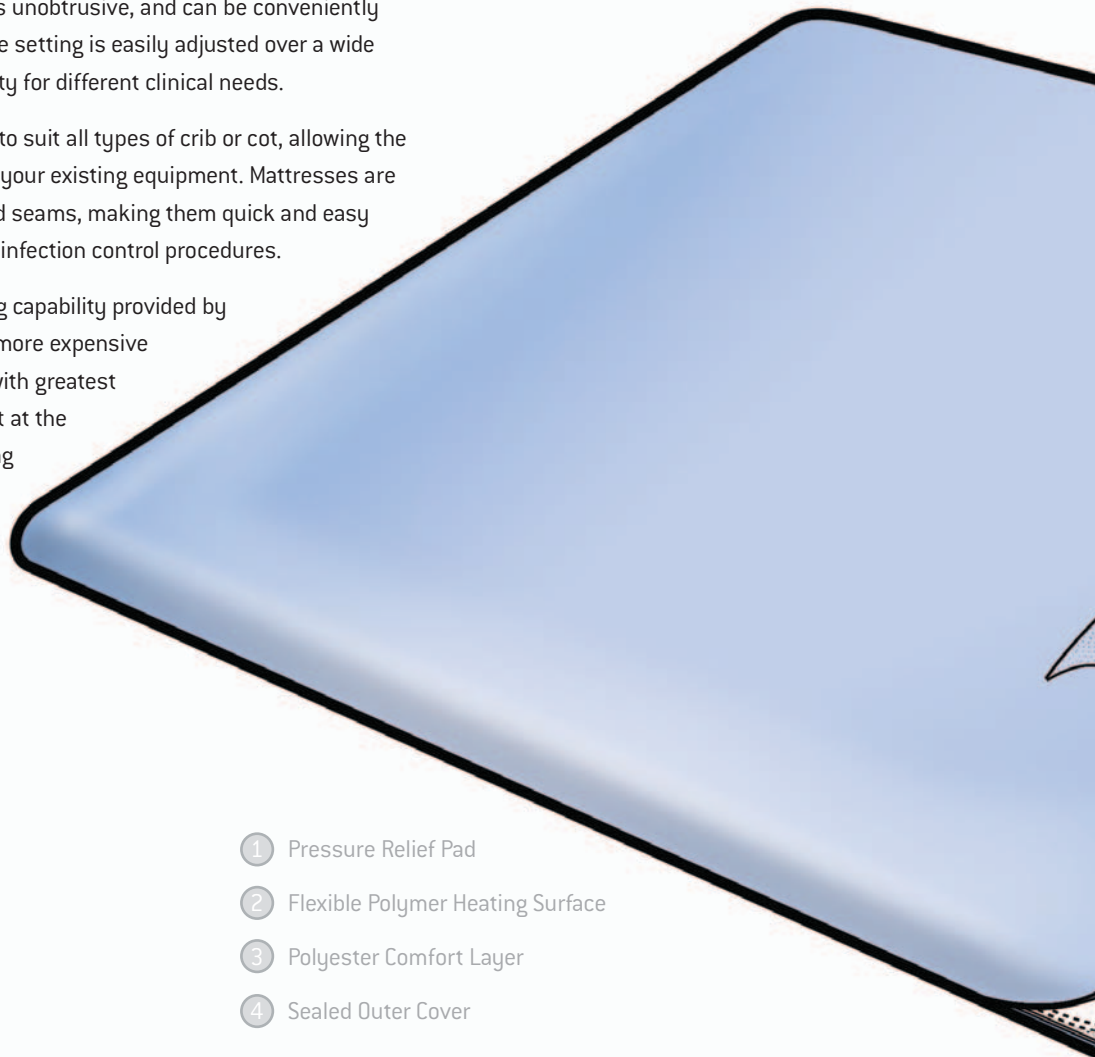


Convenience and Simplicity

The high warming performance, using conductive heating under the patient, ensures that nursing access is unhindered. The compact control panel is unobtrusive, and can be conveniently located. The temperature setting is easily adjusted over a wide range, providing flexibility for different clinical needs.

CosyTherm is designed to suit all types of crib or cot, allowing the system to be used with your existing equipment. Mattresses are fully sealed, with welded seams, making them quick and easy to clean using standard infection control procedures.

Introducing the warming capability provided by CosyTherm will free up more expensive resources for patients with greatest need. This can save cost at the same time as simplifying care. The design is robust, giving long life and reducing maintenance costs.

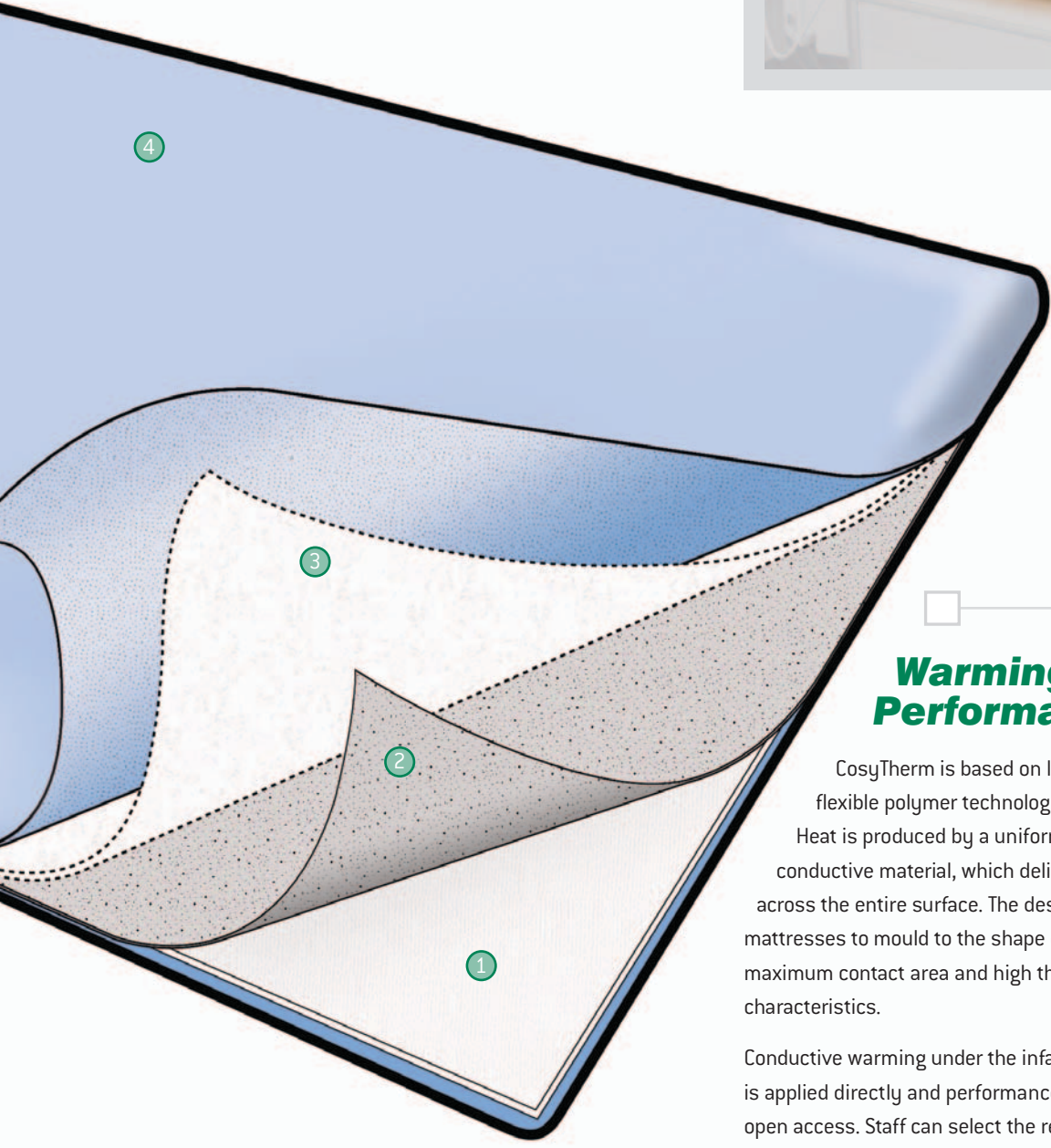


- 1 Pressure Relief Pad
- 2 Flexible Polymer Heating Surface
- 3 Polyester Comfort Layer
- 4 Sealed Outer Cover

Safety and Security

The use of electrical heating technology avoids the infection risks that can be associated with water systems and circulating air. The low voltage operation and uniform warming surface, with no heating elements or the risks associated with them, guarantee safety for patients and staff. An independent thermal cut-out prevents overheating under any circumstances. The system is fully approved to medical device standards for safety and compatibility with other equipment, and has been widely proven in clinical practice.

CosyTherm mattresses have a soft, durable, latex-free cover, for comfort and long life. The in-built viscoelastic pressure relief foam has been shown to be more effective than gel pads, and thus helps ensure tissue viability is not compromised.



Warming Performance

CosyTherm is based on Inditherm's patented flexible polymer technology.

Heat is produced by a uniform sheet of soft conductive material, which delivers even warming across the entire surface. The design allows the mattresses to mould to the shape of each patient, giving maximum contact area and high thermal transfer characteristics.

Conductive warming under the infant ensures that heat is applied directly and performance is not affected by open access. Staff can select the required temperature and the system warms up in only a few minutes.

The CosyTherm design gives performance that is significantly higher than traditional neonatal warming mattresses. This ensures effective prevention of hypothermia even in an open nursing environment.

Product Range

CosyTherm mattresses are available in a range of sizes to fit all standard cribs or cots. Warming blankets are also available for situations where it is more practical to warm over the baby. Products can be customised to suit any special applications or needs.

The fully integrated control unit is compact and convenient. A remote display and control panel is also available, which is better suited for use with some crib designs.



A range of mattresses and blankets are available with the CosyTherm system, as are options on the control unit.

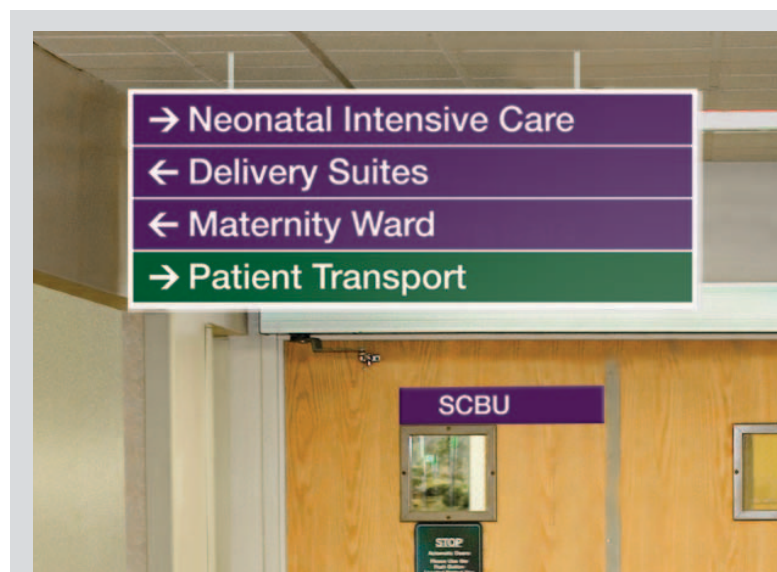
Applications

The CosyTherm system is ideally suited for use in neonatal intensive care departments or special care baby units. In some cases it can be used instead of an incubator, where only the warming function is needed. Equally it can be used as a “step-down” facility following incubator nursing.

Active warming can also be of significant benefit for babies in a normal maternity setting. This can be used to prevent the onset of hypothermia in vulnerable neonates, improving early development and avoiding the need for more intensive treatment later.

The risk of hypothermia in the delivery suite has been well documented^{4,5}. CosyTherm provides a simple, effective and affordable solution for this clinical environment.

CosyTherm can also be adapted for use in transport and other patient transfer situations. The compact, lightweight design, combined with low voltage operation, are well suited for this application.



Technical Specifications

Mattress Construction:									
	Inditherm® flexible polymer heating sheet, with 18mm viscoelastic foam pressure relief pad under and 205 g.m ² expanded polyester comfort lining over.								
	Encapsulated in latex-free nylon fabric cover, with non-microporous polyurethane coating.								
	In-built temperature sensor and over-temperature thermal cut-out.								
Temperature Output Range:									
	User-selected ranges within the band: 32°C to 39°C (90°F to 102°F) in steps of 0.5°C (1°F)								
	Over-temperature safety cut-out at 44°C (111°F)								
Power:									
Control Unit:	230 Vac or 110 Vac or 100 Vac (±6%), 50Hz/60Hz 75W								
Mattresses & Blankets:	24 Vac (nom.) 20 W to 35 W, depending on size.								
Dimensions:									
Control Unit:	160 x 240 x 230 mm.								
Remote Panel:	145 x 85 x 56 mm.								
Mattresses & Blankets:	<table border="1"> <thead> <tr> <th>Type:</th> <th>Size:</th> </tr> </thead> <tbody> <tr> <td>NCM1</td> <td>610 x 340 mm</td> </tr> <tr> <td>NCM2</td> <td>730 x 580 mm</td> </tr> <tr> <td>NCB1</td> <td>450 x 500 mm</td> </tr> </tbody> </table> <p>Other dimensions available on request.</p>	Type:	Size:	NCM1	610 x 340 mm	NCM2	730 x 580 mm	NCB1	450 x 500 mm
Type:	Size:								
NCM1	610 x 340 mm								
NCM2	730 x 580 mm								
NCB1	450 x 500 mm								
Compliance:									
	EN60601-1, Class IIa, Type BF								
	EN60601-2								
	93/42/EEC, EEC Medical Devices Directive								
	73/23/EEC, EEC Low Voltage Devices Directive								
Environmental :									
Ambient (Operating):	15°C to 40°C (59°F to 104°F)								
Ambient (Storage):	-10°C to 55°C (14°F to 131°F)								
Relative Humidity:	30% to 70%								

Due to continuous product development the company reserves the right to change these details without notice.

References

1. Thermal protection of the newborn: a practical guide.

World Health Organisation. 1997

2. Newborn Guideline 2: Neonatal Thermoregulation.

British Columbia Reproductive Care Program. July 2003.

3. The influence of the thermal environment upon the survival of newly born infants.

Silverman, W.A., Fertig, J.W., Berger, A.P. Pediatrics, 1958; Vol 22, No. 5; 876-886

4. Neonatal Thermoregulation.

Weber, R.
continuingeducation.com

5. Interventions to prevent hypothermia at birth in preterm and/or low birthweight babies.

McCall, E.M., Alderdice, F.A., et al.
Cochrane Database Syst. Rev. Feb 2005.



INDITHERM
Medical

Houndhill Park
Bolton Road
Rotherham
South Yorkshire
S63 7LG
United Kingdom

Telephone: +44 (0)1709 761000

Fax: +44 (0)1709 761066

Email: sales@indithermplc.com

Website: www.inditherm.com/medical

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