

# SCANPOD

## Neonate Imaging Environment



## Introducing the Neonate Imaging Environment

MR imaging today is an increasingly important diagnosis tool for neonatal infants. Its non-invasive nature is especially important considering the size and nature of the patients requiring treatment, and early diagnosis critical to direct treatment efficiently and at the earliest opportunity.

Typically, transporting an infant patient from the NICU to the MR unit for imaging provides several logistical challenges to the team caring for and imaging the patient. There may not always be an MR unit close to the NICU. A full MRI compatible transport incubator is expensive, cumbersome and may not be available. A non-MRI compatible incubator is also cumbersome and could pose a safety risk to the patient. Never mind the challenges facing the patient requiring diagnosis.

The **Scan Pod** is designed to be set-up in the NICU, where the patient can be moved from their cot, stabilised in the Pod and transported through the hospital to the MR unit in a safe, warm and quiet environment. Then to maintain that same comfortable environment during imaging, and on the trip back to the NICU.

The **Scan Pod** borrows several features from the **Baby Pod II**, where we originally applied technologies researched for patient safety and comfort during ambulance and aircraft transport, to reduce vibration and noise within the **Scan Pod** environment during transport through the hospital, and inside the MR scanner itself.

Reducing the effect of these uncomfortable features for the patient, reduces stress, which is critical in babies so small that could be facing several challenges already.

The **Pod** environment contains an inner layer of covered foam sections, designed to absorb shocks and vibrations on one side, and on the patient side, a soft “memory” foam, to create a comfortable internal environment. The foam sections have a soft, removeable and washable cover, impervious to bacteria. In tandem with the patient positioning vacuum mattress, and if required, the **TransWarmer Infant Transport Mattress**, the system works to reduce the associated noise, vibration and therefore stress that the patient feels.

The **Scan Pod** environment is designed to incorporate inside it an MRI focusing coil, allowing the clearest possible imaging to be achieved while maintaining warmth and ventilation all the while. It is compatible with coils from all major manufacturers, which are mounted within the **Pod** environment on a secure slide runner.

The lightweight outer shell of the **Scan Pod** consists of a high-tech composite material, designed for complete MR, CT and X-Ray translucency, with no artefacting, helping to achieve the highest possible quality imaging of the patient within.

Its high visibility, fully removeable cover, gives high visibility of the patient, comforting for the parents, and critical to the team managing the imaging and caring for the wellbeing of the infant. Dual access ports on the cover allow access to the baby while inside the **Scan Pod** to comfort or adjust positioning without removing the cover itself.

The lightweight nature of every component used in the **Scan Pod** design achieves an easily manageable unit, manoeuvrable by only one or two operators depending on the mounted accessories. The lightweight carrying board, featuring the **Scan Pod** ventilator mounting point, will fit securely to any MR compatible patient stretchers requiring no specific fixing or securing equipment due to the **Scan Pod**'s built-in stretcher strapping system.

The **Scan Pod** provides a complete solution for transporting and imaging neonates with MRI, CT and X-Ray away from the NICU, and returning the patient comfortably, securely and safely.

## Patient comfort within the

### The Scan Pod is designed with the comfort of the infant in mind

The hi-tech composite construction of the **Scan Pod** has been designed to be both lightweight and shock absorbing, yet contributing no interference or artefacting to MR, CT or X-Ray imaging. Using similar technologies implemented in our ground-breaking **Baby Pod II Infant Transport Device**, patient safety and comfort are treated with paramount importance.

The “head” end of the unit incorporates a section of acoustic damping foam inside the construction of the shell itself to reduce noise and vibration from the MRI environment, to maintain patient comfort.

Inside the **Scan Pod**, the infant is comfortably secured in position by a vacuum mattress and soft infant positioning straps.

The vacuum mattress is moulded around the patient then the air is removed with the aid of a vacuum pump to hold the mattress in shape. This provides a soft, yet rigid support for the infant during transport through the hospital.

The mattress can also be used for any pre-positioning required for imaging, securely and softly holding the patient in the required position.



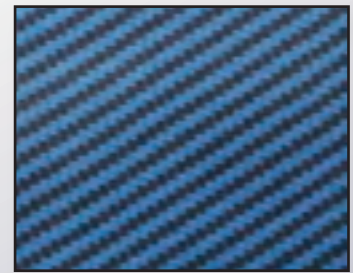
### Acoustic/Vibration Dampening Foam Interior

The interior of the **Scan Pod** is a fully removable set of Shock and Acoustic Absorbent foam sections.

Each section is a sandwich of two types of foam. A soft ‘Memory’ foam, facing towards the patient, for patient comfort. And a vibration and acoustic dampening foam, to reduce the resonance of noise and vibration within the imaging environment.

Each foam section has a cover that is impervious to bacteria, impermeable to blood, secretions, IV solution, urine and also water vapour.

The covers are fully removable and can be wiped clean, and even machine washed and dried!



The **Composite** construction of the **Scan Pod** results in a device lighter and stronger than one made from typical materials.

The **Scan Pod** weighs less than **15kg (33lbs)** and can be lifted by a single operator.

More crucially, the **Composite** construction results in a safe environment that contributes no interference or artefacting to MR imaging.

## Ventilation and warmth within the



### TransWarmer® Infant Transport Mattress

Thanks to the **TransWarmer® Infant Transport Mattress**, no electrically powered source of warmth is required to use the **Scan Pod** for transport through the hospital, nor in the MRI. The ceramic coating on the snap-disc used to activate the mattress makes the **TransWarmer Mattress** safe for use during imaging.

Heated by a single-use exothermic reaction within a non-toxic gel, the **TransWarmer Infant Transport Mattress** will keep an infant warm during transport in the pod. 60 seconds after activation, the **TransWarmer Mattress** will reach a consistent temperature across its surface of 38°C (100°F), and maintain temperature for up to 2 hours.

Even outside of the **Scan Pod**, the **TransWarmer Mattress** can be a valuable source of warmth elsewhere in the NICU/PICU, or anywhere that newborns can experience cold stress.

### Ventilator and Additional Equipment Fixings

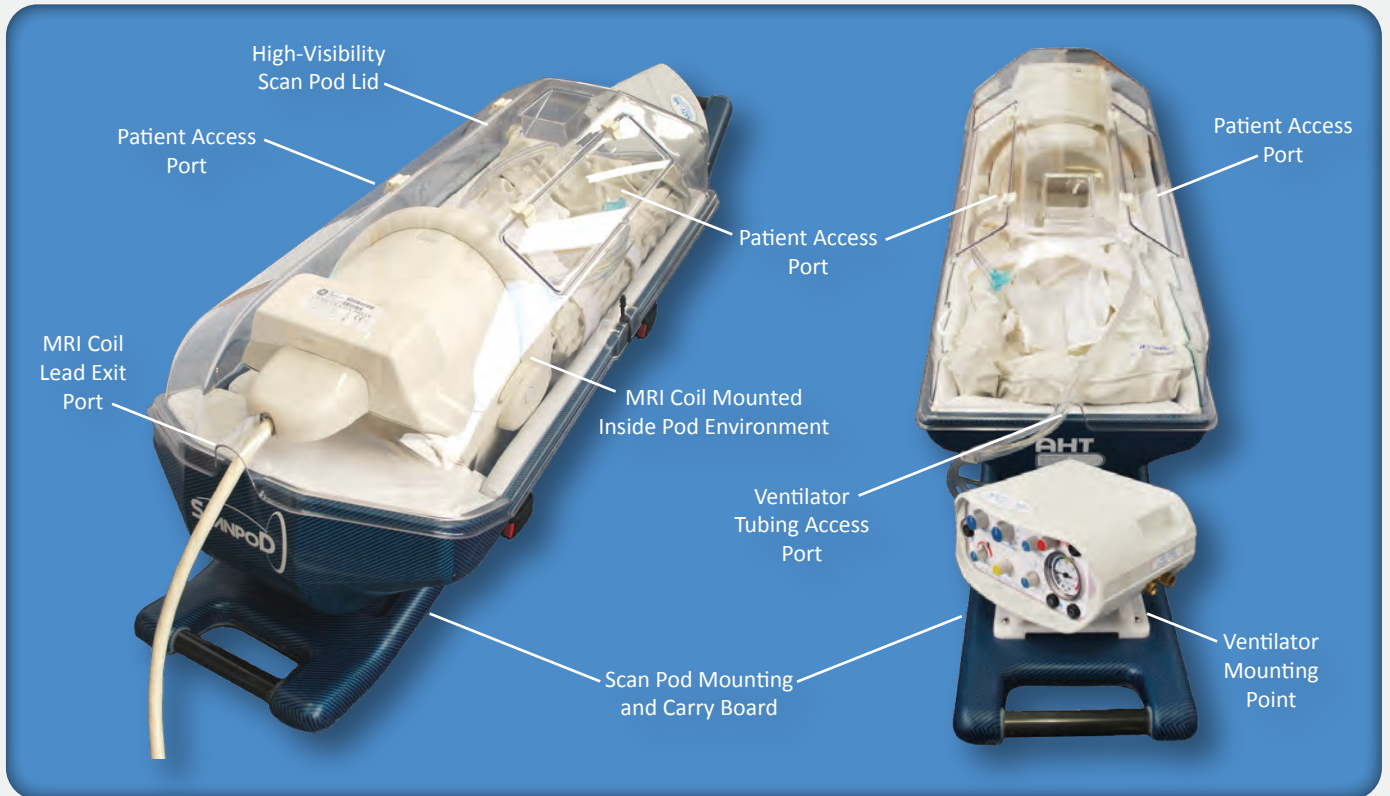
The **Scan Pod** is designed to be a flexible solution for imaging neonates in every environment, accommodating for the requirements of each patient and for each hospital.

Our own MR-Neonatal Automatic Transport Ventilator (**NeoVent**) can be supplied with the **Scan Pod** to provide MR-conditional oxygen support.

The ventilator mounting point is located at the 'foot' end of the **Scan Pod** unit on the carry board, and allows for the rotation of the ventilator to the best position for easy access.

Mounting plates are available for all major current MR ventilators, giving the hospital flexibility to use equipment they already own if required.





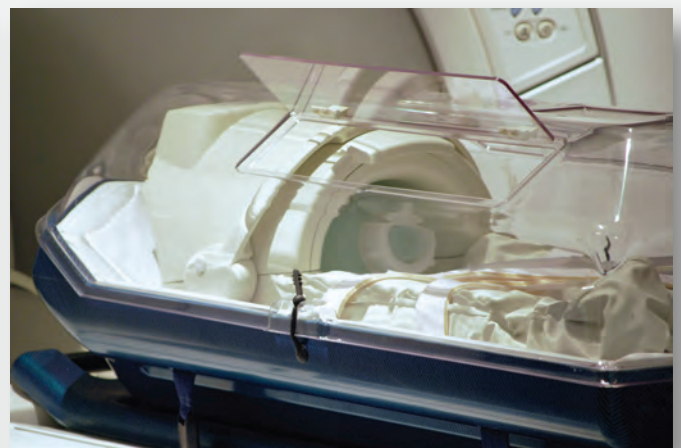
### Patient Visibility and Access

The **Scan Pod's** large transparent lid section gives excellent visibility of the infant. The lid is mounted and held in place by easy-secure, easy-release toggles on either side of the unit.

The entire lid section is removed for initial positioning of the patient in the **Scan Pod** and lightweight and easy to remove for further access to the patient if necessary.

Direct access to the infant when the lid is secured in place is allowed by either of two large access ports - one on either side of the lid enclosure - to avoid removing the entire lid section for small adjustments.

Access ports for ventilator tubing and additional accessory leads are located at the foot end of the **Scan Pod** near to the ventilator mounting point. The exit port in the unit for MRI coil leads is located at the head end of the unit.



## Additional Accessories

Transwarmer Mattress (Box of 6)	TRANS06
Infant Positioning Strap Set	SCPOD-003
Vacuum Mattress Pump	SCPOD-020
Alternative Ventilator Mounting Plate	SCPOD-010



**TransWarmer®  
Infant Transport Mattress**



**MR-Neonatal Automatic  
Transport Ventilator**

## Technical Information

### Infant Weight Limit

Up to 8kg (17.6lbs)

### Dimensions

1400mm x 430mm x 380mm (L x W x H)

### Weight

15 Kg (33lbs)

### Materials

Composite

### Standard Compliance

CEN 1789

BS EN ISO 9001/2000

BS EN ISO 9001/1994

For more information on our products,  
visit our website at:

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