SIEMENS Healthineers

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Symbia Intevo and Symbia T Series SPECT/CT systems

Environmental product declaration

Ecological advantages of Symbia Intevo and Symbia T Series

Many imaging systems do not provide the full picture of a patient's condition, which could lead to taxing follow-up exams and unnecessary delays in patient care. With, Symbia Intevo™1 and Symbia™ T Series SPECT/CT, sensitivity can be increased by up to 26%[2] to provide a more complete picture of a patient's condition—resulting in a sound decision and more efficient care. Symbia Intevo and Symbia T can also be utilized as standalone CT with full capabilities for oncology, cardiology and neurology studies.[3]

Our suite of xSPECT™1 technologies for Symbia Intevo and Symbia T[4] delivers definitive and timely answers to clinical questions in the most effective and efficient way possible by completely integrating SPECT and CT data during image reconstruction. While conventional SPECT/CT image quality is limited by the minimal amount of CT data used during reconstruction, xSPECT uses CT as the frame of reference for image reconstruction, elevating the SPECT resolution for data sets during reconstruction. This supports your ability to more confidently distinguish between diseases, reducing the need for costly and time-consuming follow-up exams.

In addition, our Symbia SPECT/CT systems provide an array of environmental advantages, such as

- 96% of materials used can be returned to the flow of recyclable materials[5]
- Plastic parts are labeled for recycling
- Disassembly instructions for high-quality recycling are available
- Complete CT systems and their components are taken back and refurbished
- Product take-back according to strict EU directives

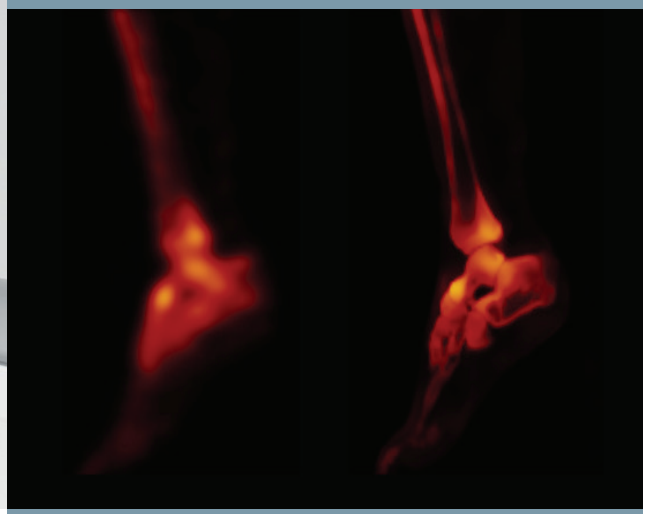
80% reduction in SPECT injected dose[2]

Our Symbia Intevo and Symbia T Series scanners can be equipped with technologies that improve system performance and enable the examination of patients with reduced dose. As such, you can achieve lower dose levels while maintaining high image quality and fast scan times. By offering unique dose reduction features, Symbia Intevo and Symbia T Series enable 74%[2] lower radiation dose and up to 80%[2] reduction in injected dose to minimize long-term patient radiation exposure.

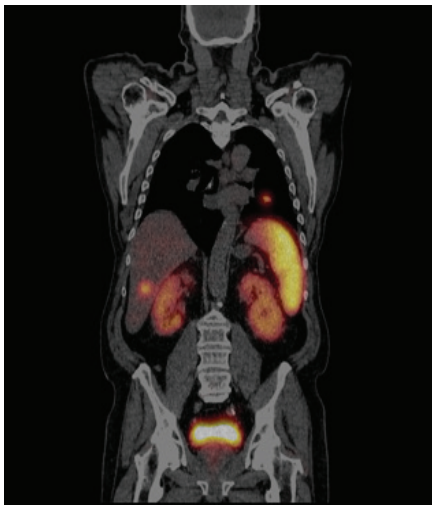
The benefits of dose reduction

Besides lowering the exposure of patients and staff to radiation, reducing the injected dose also limits the environmental impact, while providing efficiency gains achieved by fast scan times.

Data courtesy of CHUS, University of Sherbrooke, Quebec, Canada



Data courtesy of Holy Cross Hospital, Fort Lauderdale, Florida, USA



Environmental product design

Material supply
From natural resources to delivery of semi-finished products

Production/delivery
From production of components to operation startup by the customer

User/maintenance
Includes daily use by our customers as well as maintenance

End of life
From disassembly at the customer through material and energy recycling

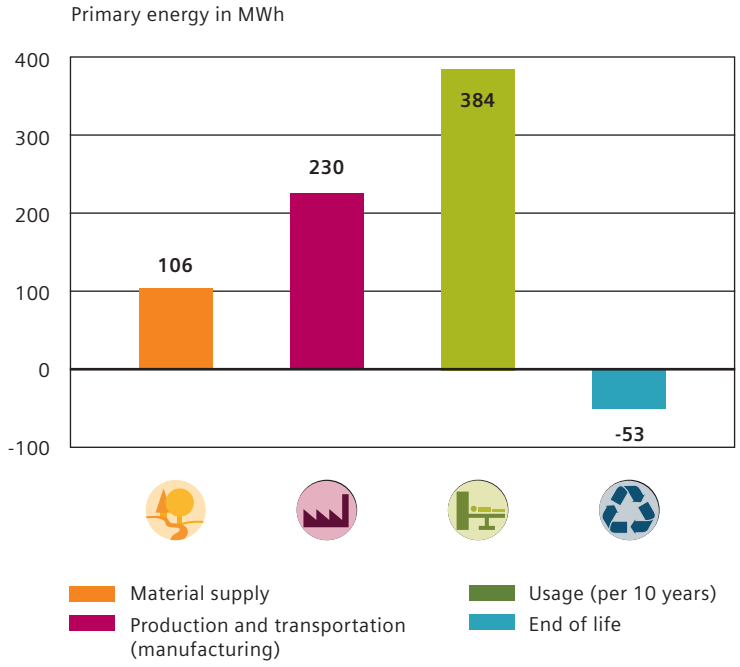
Siemens considers environmental aspects in all phases of the product life cycle, including material supply, production/delivery, use/maintenance and end of life.

This supports the effort to improve the environmental performance of our products.

Cumulative energy demand

Energy consumption is the most important environmental characteristic of medical devices. This is why we use Cumulative Energy Demand to assess environmental performance. Cumulative Energy Demand is the total primary energy[6] that is necessary to produce, use and dispose of a device—including all transportation.

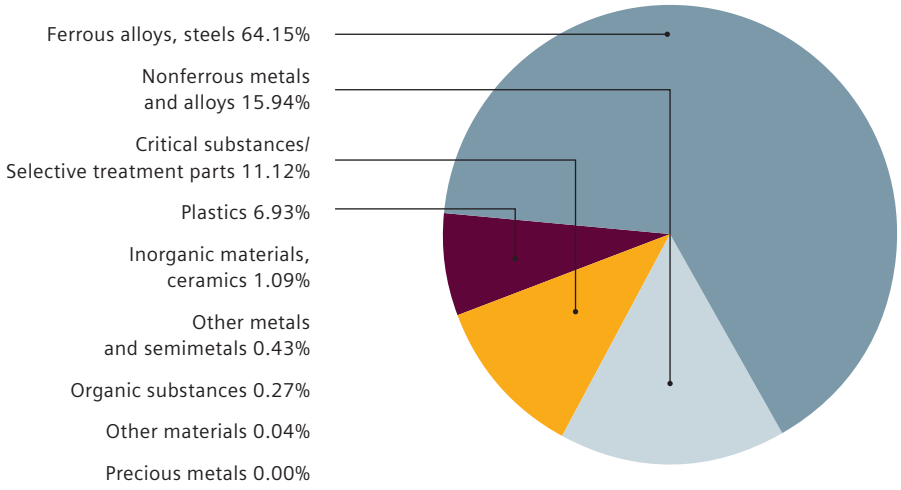
Our medical devices can be recycled almost completely for materials or energy. With an appropriate end-of-life treatment it is possible to return up to 53 MWh in form of secondary raw materials or thermal energy to the economic cycle.



Identification of product ingredients (% composition by weight)

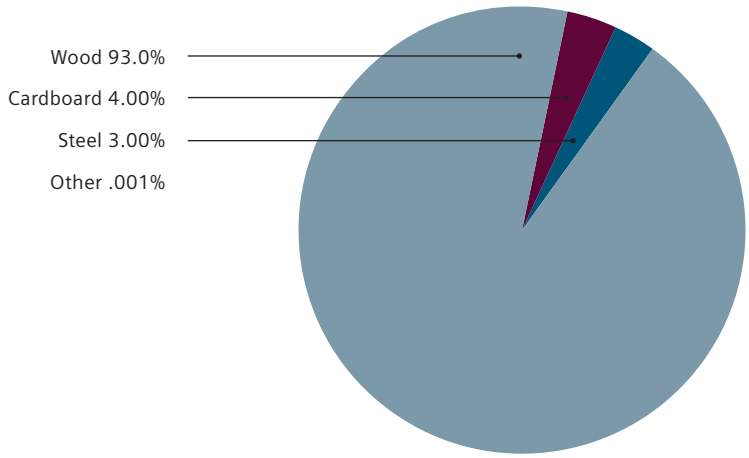
Symbia Intevo and Symbia T Series scanners are mainly built out of metals. This ensures a high degree of recyclability.

Total weight: approx. 5,779 kg/12,740 lb



Packaging

The Symbia Intevo and Symbia T Series system packaging primarily consists of wood, steel and cardboard, all of which are recyclable.



Product take-back

Most of the materials used to produce Symbia Intevo and Symbia T Series scanners are recyclable. 96%[5] (by weight) can be recycled for material content and 3.4% for energy.

The high-performance X-ray tube assemblies are designed so that as many parts as possible may be reused. At the end of life, the tube assemblies are taken back and refurbished. Quality is guaranteed by compliance to standard IEC 62390. Under optimal conditions, up to 40%of a tube assembly may consist of reused parts.[5]

Our product take-back program helps us further address the environmental aspects of our products—even at the end of life. As part of this program, we refurbish systems and reuse components and replacement parts whenever possible through our refurbished systems business. We reuse components and subsystems for non-medical products. We also recycle for material or energy value. Disassembly instructions for disposal and recycling are available for our products.

Operating data

Allowed room temperature	64.4°-86° F (18°-30° C)
Allowed relative humidity	20-80% with dewpoint
Noise level	
Basic load	68 dB
Full load	74 dB
Energy consumption	
During ramp up	2.9 kW
Basic load	2.9 kW
Full load	40 kW
Power-on time (including detector warm-up)	60 minutes
Power-off time	<5 minutes

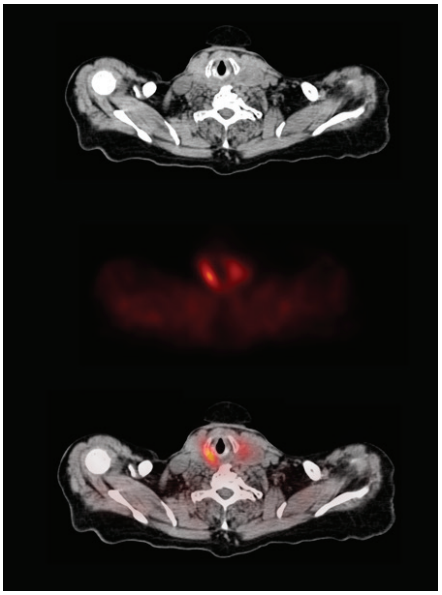
Technical specifications

Interface for heat recovery	✓
Type of heat recovery (cooling)	Air
Complete switch-off is possible	✓
Device is adjustable for the user in terms of height	Yes, the height of the computer systems can be set by the end user. PPM can be tilted.
Uniform symbols for device family	✓

Radiation

Measures/techniques to reduce ionizing radiation exposure	Ultra Fast Ceramic™ (UFC) detectors CARE Dose4D™ Shaped Filter and Adaptive Dose Shield
Measures/techniques to reduce the exposure to eletromagnetic radiation	Not applicable
Reduction compared to the limit value for users	Not applicable

Data courtesy on file.



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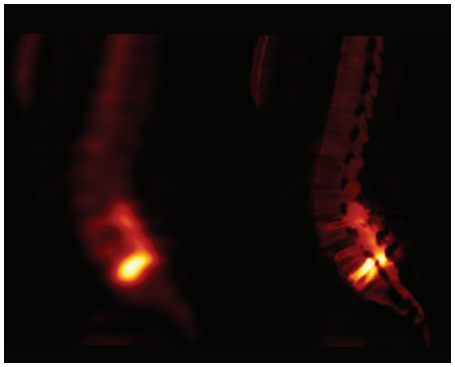

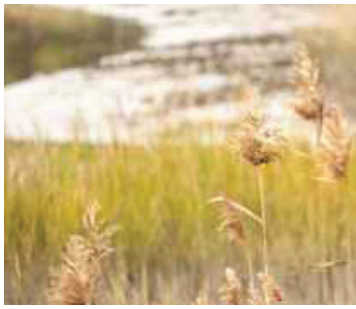

Replacement parts and consumables

Replacement and consumable parts	Flood Source - 1 year AutoQC source - 1 year xSPECT Quant™1 calibration/ peaking sources - 1 year Sources are the only replacement parts you can replace on your own. All other serviceable parts are replaced through Siemens Service.
X-ray tube	1-year warranty
Recycling information	✓
List of hazardous substances	✓

Further ecologically relevant information

Recommendations for saving energy	No
Recommendations for efficient cleaning	✓
Recommendations for appropriate use of consumables	✓

Cleaning

Incompatible cleaning processes and substances	
For product	Do not spray or pour liquids directly onto the system. Spray permissible cleaning solution or disinfectant (e.g. bleach) onto a cloth and wipe the system before completely drying with a soft cloth.
For particular components of the product	Avoid scrubbing, rubbing, or applying excessive pressure to detector and touchpad surfaces. Do not clean any area inside the system. Service should be contacted for assistance with these areas. Do not use organic solvents such as aldehyde, acetone, naptha, benzine, and alcohol. Do not use agents that release ammonia when they are dissolved or decomposed. Do not use agents containing silicone. Do not use disinfectants based on substituted phenols or disinfectants that release chlorine. Do not use Ethyl or Isopropyl alcohol to clean the system's foam pads or restraint straps. Do not use alcohol-based cleaners on acrylic surfaces like phantoms and the sheet source holder.
Suitability of the device for sterile areas	No
Size of the surface area to be cleaned	Approx 3.5 m^2

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[1] Symbia Intevo, xSPECT and xSPECT Quant are not commercially available in all countries. Due to regulatory reasons, their future availability cannot be guaranteed. Please contact your local Siemens organization for further details.

[2] Based on competitive literature available at the time of publication. Data on file.

[3] The SPECT and CT portions of Symbia Intevo 2, 6, 16 and Symbia T2, T6 and T16 systems may be used independently. The Symbia Intevo Excel and the Symbia T systems consist of a variable angle dual detector SPECT with two-slice CT that cannot be used independently.

[4] Prerequisites may apply.

[5] All claims based on internal measurements at time of publication. Data on file.

[6] Primary energy is the energy contained in natural resources prior to undergoing any man made conversions (e.g. oil, solar). Based on 10 years usage.

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