SIEMENS

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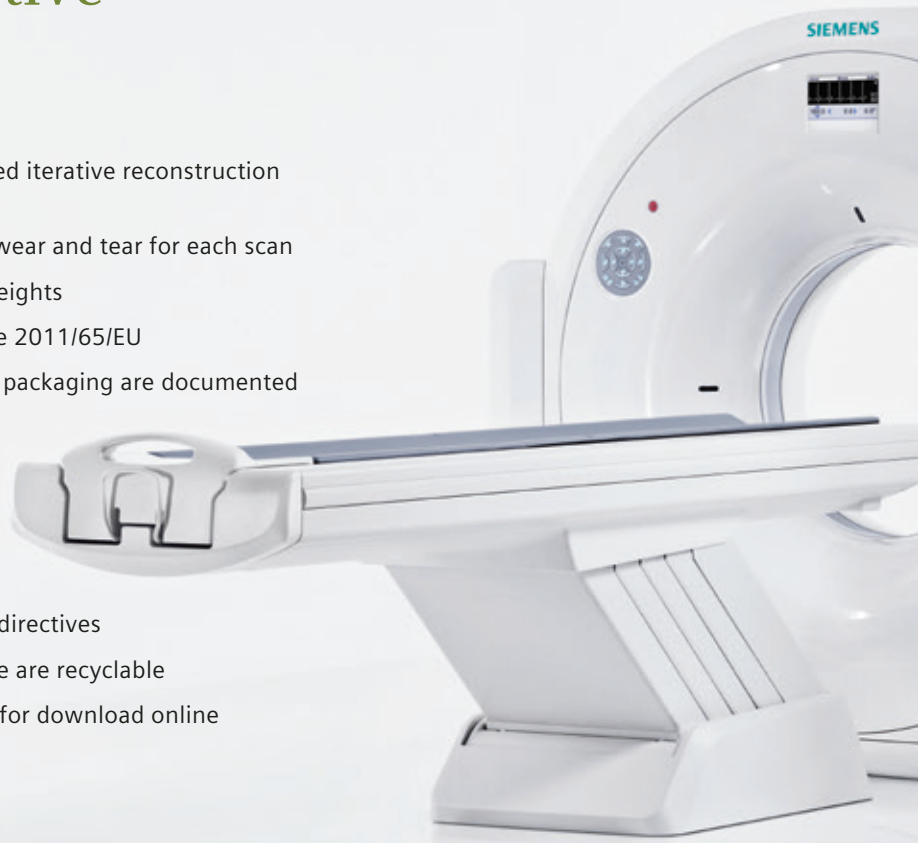
SOMATOM Perspective

Environmental Product Declaration

International version. Not for distribution in the US.

Answers for life.

Ecological advantages of SOMATOM Perspective



- Average energy savings of around 50%*
- Dose reduction up to 60% due to raw-data-based iterative reconstruction method SAFIRE**
- Exclusive eMode functionality reduces system wear and tear for each scan
- No lead used for tube collimator and counterweights
- RoHS compliant in accordance with EU directive 2011/65/EU
- All substances contained in the product and its packaging are documented
- Plastic parts are labeled for recycling
- Disassembly instructions for high-quality recycling are available
- CT systems and their components are taken back and are refurbished
- Product take-back in accordance with strict EU directives
- Up to 90% of the materials used in manufacture are recyclable
- Environmental product declaration is available for download online

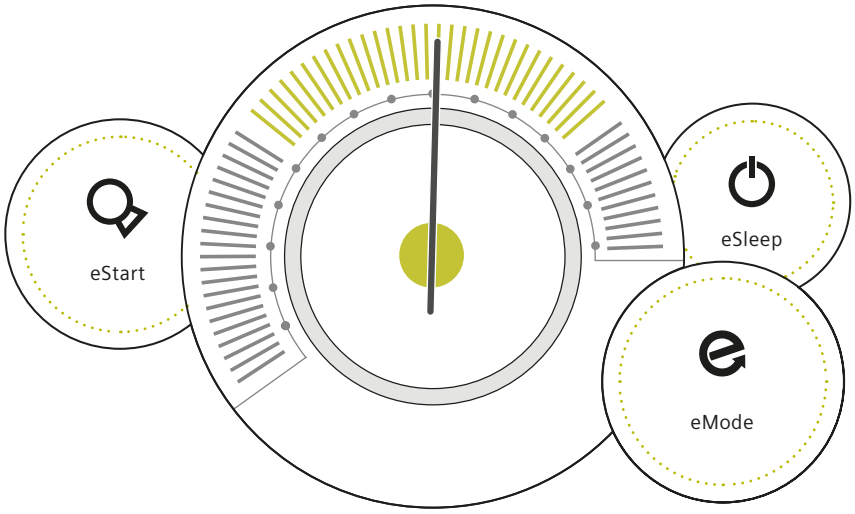
*Compared with conventional CT scanners

**In clinical practice, the use of SAFIRE may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task. The following test method was used to determine a 54 to 60% dose reduction when using the SAFIRE reconstruction software. Noise, CT numbers, homogeneity, low contrast resolution, and high contrast resolution were assessed in a Gammex 438 phantom. Low-dose data reconstructed with SAFIRE showed the same image quality compared with full-dose data based on this test. Data on file.

eCockpit

The eCockpit suite extends the scanner's lifespan, keeps operating costs in check, and seamlessly integrates into your daily routine.

The unique eCockpit suite, standard on all SOMATOM Perspective scanners, enables more cost-efficient operation. The entire working day of a CT system was taken into consideration, from start-up to scanning to scan breaks. The features eStart, eMode and eSleep extend the scanner's lifespan by preventing unnecessary wear and tear, and reduce overhead costs by minimizing energy consumption. And thanks to a high degree of automation, the features can be easily integrated into everyday workflows.



SOMATOM Perspective

"Open new opportunities" vs. "Close doors to growth"
Second best is not an option.

Healthcare service providers are increasingly facing rising costs and shrinking budgets. At the same time, demand for exceptional healthcare has intensified. These two factors make the efficient use of medical devices crucial to success in clinical practice. Siemens has the ideal answer to these challenges: SOMATOM Perspective – a CT scanner applicable in all clinical fields that delivers economic benefits without compromising on patient care.

Equipped with innovative Siemens technology, such as the data-based iterative reconstruction SAFIRE, SOMATOM Perspective enables better diagnosis while reducing dose – without sacrificing image quality.

SOMATOM Perspective also improves cost efficiency. The unique eCockpit extends the scanner's lifespan by preventing unnecessary wear and tear and reduces overheads by minimizing energy consumption. Plus, SOMATOM Perspective is available in four upgradable configurations, giving healthcare facilities the possibility to tailor the investment to their needs and to grow accordingly.

In short, SOMATOM Perspective helps to enhance patient care and improve financial performance – opening up new opportunities for hospitals and clinics.

eStart

The pioneering eStart feature gently warms up the tube after extended periods of non-use. This could be every morning for high-throughput facilities or prior to each scan in smaller hospitals. This reduces deterioration associated with cold starts, extending the tube's lifespan. For urgent cases, for example in traumatology, it is of course possible to start the scan without eStart – saving time where it counts.

eMode

The easy-to-use eMode enables effective and patient-friendly operation by striking the right balance between dose, image quality, and efficiency. Once the user has prepared a scan protocol and entered all required information, eMode analyzes the parameters in real time and instantly fine-tunes the scan. This ensures that the system is not operated at peak or system limit values, reducing wear and tear of all moveable parts while maximizing image quality.

eSleep

eSleep minimizes electricity consumption while the scanner is not in use, keeping operating costs in check. SOMATOM Perspective automatically enters eSleep mode following extended periods of non-use, such as at night or during staff lunch breaks. What's more, the system rapidly returns to scan-ready mode when needed, allowing users to resume their normal routines in no time.

Environmental Product Design

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

Production/delivery: From production of components to operation start-up by the customer

Use/maintenance: Includes daily use by our customers as well as maintenance

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

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

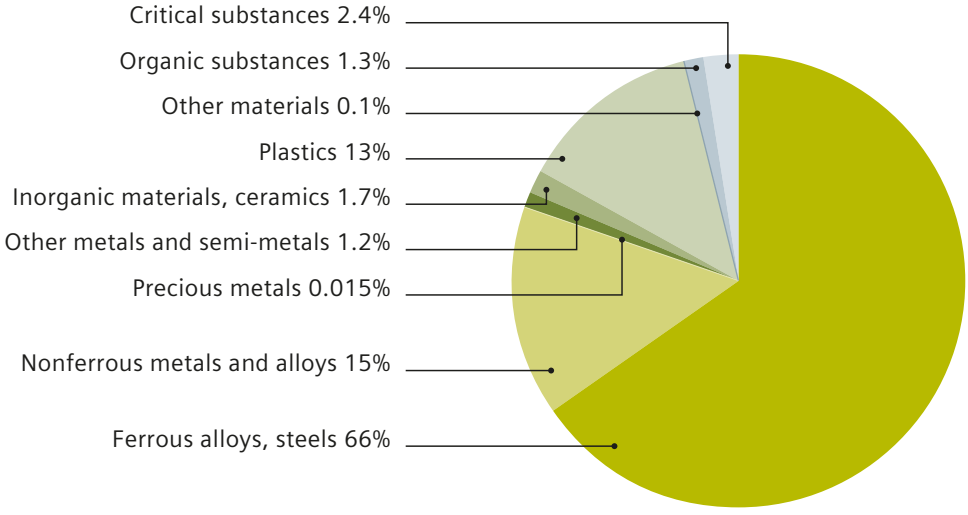
Our product design procedure fulfills the requirements of IEC60601-1-9:2007 “Environmental product design for medical electrical equipment”.

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

Identification of Product Materials

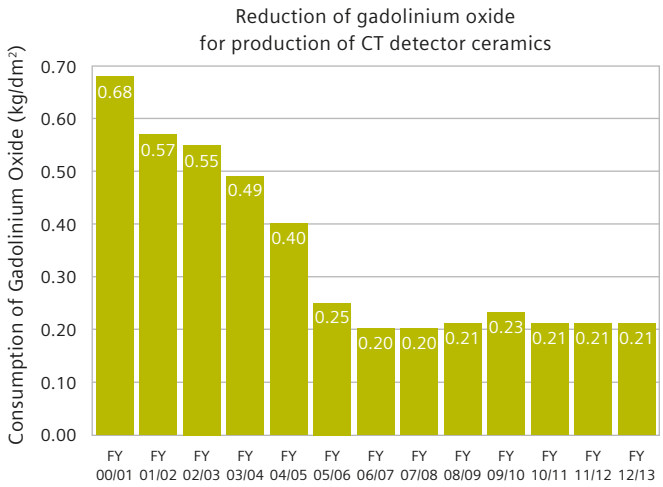
SOMATOM Perspective is mainly built out of metals. This ensures a high degree of recyclability.

Total weight: approx. 1,990 kg
(including gantry, patient table, operators console, UPS, line connection box, image reconstruction system)



Reduction of Critical Substances

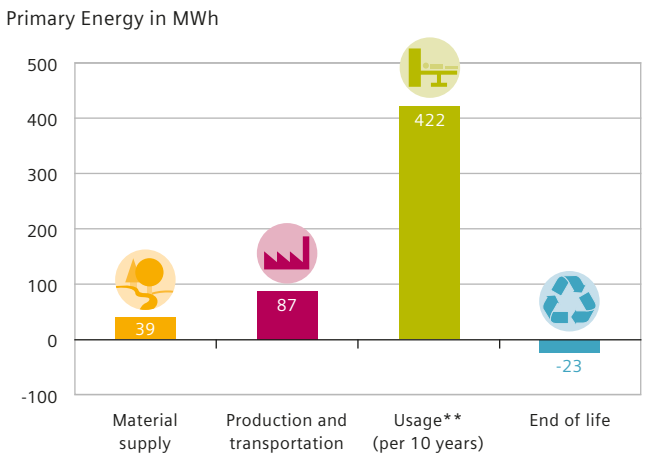
The consumption of material per unit area for CT detectors was reduced significantly. In fiscal year (FY) 12/13 we were able to reduce gadolinium oxide consumption for production of a defined surface area of CT detector ceramics by 69% in comparison to FY 00/01.



Cumulative Energy Demand

Energy consumption is the most important environmental characteristic of medical devices. This is why we use the "cumulative energy demand" to assess environmental performance. Cumulative energy demand is the total primary energy* 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 81 MWh in form of secondary raw materials or thermal energy to the economic cycle.

*Primary energy is the energy contained in natural resources prior to undergoing any man-made conversions (e.g. oil, solar)
**Based on 70 patients per day, 10 s scan time, 10 years usage



Product Take-Back

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 are refurbished. Quality is guaranteed through compliance with standard IEC 62309. Under optimal conditions, up to 40% of a tube assembly may consist of reused parts depending on local regulations.

Our product take-back program ensures that we 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

Heat emissions of the device	
- basic load[1]	< 2.5 kW
- scanning	< 6.8 kW
Ambient temperature allowed[3]	18°C–30°C
Relative humidity allowed	20–85%
Noise level	≤ 68 dB(A)
Energy consumption	
- basic load[1]	< 3.7 kW
- full load[2]	~ 7.0 kW
- maximum load	70 kVA
Power-on time[4]	< 4 min
Power-off time[5]	< 2 min

[1] Device is in operation but no patient examination takes place
[2] Average value at examination of patients (abdomen routine mode)
[3] Within examination room
[4] From off-mode to operating state
[5] From operating state to off-mode

Replacement Parts and Consumables

Item	Life cycle[1]
X-ray tube	1 year warranty
UPS (battery inside)	36 months

[1] Recommended exchange interval

Disposal / Substance Information

End-of-life concept	✓
Recycling information	✓
List of hazardous substances (not contained in the device)	✓

Technical Specifications

Interface for heat recovery	✓
Possible type of cooling	air cooling
Complete switch-off is possible	✓
Device is adjustable for the user in terms of height	✓
Uniform operating symbols for device families	✓

Radiation

Measures/techniques to minimize Ionizing radiation exposure	Ultra Fast Ceramic (UFC) detectors CARE Dose4D™
Measures/techniques to minimize the exposure to electromagnetic radiation	not applicable
Minimization compared with the limit value for users	not applicable

Cleaning

Incompatible cleaning processes	
- total device	not applicable
- restrictions for particular device components	not applicable
List of incompatible substance classes	
- total device	sprays chlorine-releasing agents substituted phenols based agents scouring cleaning agents organic solvents ammonia-releasing agents
- restrictions for particular device components	not applicable

Suitability of Device for Sterile Areas

Size of the surface to be cleaned[1]	approx. 2.5 m²
user in terms of height	

[1] Gantry-tunnel (inside), patient table overlay, control elements, console, keypad, intercom, mouse

Further Ecologically Relevant Information

Elements of instruction are:	
- recommendations for saving energy	✓
- recommendations for efficient cleaning	not applicable
- recommendations for appropriate use of consumables	✓

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The information in this document contains general technical descriptions of specifications and options as well as standard and optional features which do not always have to be present in individual cases.

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