SOMATOM go.Now

Environmental Product Declaration

siemens-healthineers.com/somatom-go-now
Progress that is Impressive – Ecological Advantages of SOMATOM go.Now

- Average energy savings of 73% for standard examinations\(^1\)
- 46% less detector power consumption with Stellar detectors\(^2\)
- No more lead used for counterweights and significantly reduced amount of lead for shielding of radiation
- 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
- Complete CT systems and their components are taken back and refurbished
- Product take-back according to strict EU directives
- Up to 99% of the materials used in the CT system are recyclables
- Environmental product declaration is available for download via internet
- Tin Filter allows to lower the dose whilst maintaining image quality for non-contrast scans

\(^1\) Energy savings compared to SOMATOM Emotion 16 according to the COCIR calculation model for power consumption over a 24h day
\(^2\) Compared to SOMATOM Emotion 16
Make success your daily business

The expenses that come with a CT scanner always pose a certain amount of risk, particularly to smaller institutions. In routine CT imaging, it is not just about providing answers to patients, but also about running a business.

We developed the SOMATOM® go. platform to help you achieve daily success. As a member of this family, SOMATOM® go.Now comes with workflow and usability innovations that improve efficiency independent of the individual user’s level of experience. It delivers great results for routine scanning. And a completely redesigned service model combined with an innovative workplace design helps reduce costs.

Whether you are looking to replace your previous system or just starting out in CT imaging, SOMATOM go.Now addresses your needs when it comes to routine operations. It makes high-quality care accessible and helps you run a successful CT business – allowing you to keep an eye on profitability and stay competitive.

SOMATOM go.Now: Reduction of Lead Content

Rotating components of CT-systems have to be balanced for a quiet running. The easiest way is the use of lead as counter balance. But lead is a toxic element. Therefore we abandoned the usage of lead as counter balance at the SOMATOM go.Now completely.

It was a challenge to further reduce energy consumption and dose compared to our successful predecessor models.

Detectors of modern CT-systems consist of many rows. So X-rays can be utilized better and absorbed radiation doses can be reduced. Increasing the number of detector rows generates average energy savings of 73% in comparison to SOMATOM Emotion 6-slice configuration.¹

¹ Energy savings according to the COCIR calculation model for power consumption over a 24h day
Environmental Management System

Siemens Healthineers gives high priority to achieving excellence in Environmental Protection, Health Management and Safety (EHS).

Across the globe, Siemens Healthineers has implemented a consistent EHS management system. It lays the foundation for the continuous improvement of our performance in these areas, and regular auditing assures our conformance.

As a result of this consistent approach, Siemens Healthineers is considered one organization and is certified in accordance with ISO 14001 and OHSAS 18001.

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

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

End-of-life: From disassembly at the customer site, through material and energy recycling

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


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

Product Materials

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

Total weight: ≤ 1700 kg

<table>
<thead>
<tr>
<th>Material Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic substances</td>
<td>0.3%</td>
</tr>
<tr>
<td>Plastics</td>
<td>12.4%</td>
</tr>
<tr>
<td>Inorganic materials, ceramics</td>
<td>1.0%</td>
</tr>
<tr>
<td>Other metals and semi-metals</td>
<td>1.1%</td>
</tr>
<tr>
<td>Precious metals</td>
<td>0.018%</td>
</tr>
<tr>
<td>Nonferrous metals and alloys</td>
<td>28%</td>
</tr>
<tr>
<td>Ferrous alloys, steels</td>
<td>57.2%</td>
</tr>
</tbody>
</table>

Numbers may not add up due to rounding
Reduction of Critical Substances

We made strides to reduce materials in our SOMATOM go.Now which are environmentally harmful and are not easily recyclable. As a first step we eliminated the usage of lead counter-weights and even for radiation shielding, where lead is still commonly used in medical engineering industry, we were able to reduce further by substitution with alternative shielding materials. By all these measures we progressed to achieve a rate of recyclable substances in the SOMATOM go.Now of 99%, while the remaining 1% can be completely used for thermal energy recovery.

Sustainable use of Rare Earth Metals

The consumption of rare earth material per unit area for CT detectors was reduced significantly. In fiscal year (FY) 18/19 we were able to reduce the supplied gadolinium oxide for production of a defined surface area of CT detector ceramics (UFC) by 82% in comparison to FY 00/01.

This is due to continuous improvements in our manufacturing technologies and processes.

Especially our measures in rare earth recovery which started in FY15 allowed for a further reduction. This could be even enhanced by introducing a closed recycling loop for the gadolinium oxide processing, which is unique in CT detector manufacturing worldwide.

Today, about 25% of the annually processed gadolinium oxide is utilized out of this closed and sustainable recycling loop.
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 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 41 MWh in form of secondary raw materials or thermal energy to the economic cycle.

Packaging Materials

It is our goal to minimize our packaging material and reduce the packaging waste by reusing and recycling it.

The SOMATOM go.Now system is transported within Europe in open packaging, the CT Gantry is only protected by a light dust protective cover.

A closed packaging is required for e.g. oversea transports. The values shown on the chart are average values from the different kinds of packaging types of the SOMATOM go.Now. The packaging materials consist of almost entirely wood and cardboard all of which can be recycled.

Total weight: open packaging: approx. 367 kg
closed packaging: approx. 446 kg

Product Take Back

The high-performance X-ray tube assemblies are designed the way that as much parts as possible may be reused. At the end of life the tube assemblies are taken back and are refurbished. Quality is guaranteed by compliance to standard IEC 62309. Under optimal conditions up to 40% of a tube assembly may consist of reused parts. 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.

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1 Primary energy is the energy contained in natural resources prior to undergoing any man made conversions (e.g. oil, solar).
2 Based on 70 patients per day, 10 sec scan time, 10 years usage.
Siemens Environmental Portfolio

The Siemens Environmental Portfolio comprises of selected sustainable products characterized by i.a. outstanding energy efficiency – so does the SOMATOM go.Now. With our Environmental Portfolio, we make an important contribution to resource and climate protection and strengthen the competitiveness of our customers. As part of Siemens, we are proud to be top ranked within our peer group of the Dow Jones Sustainability Index for our sustainability strategy and performance, especially in the environmental area.

Material Compliance

Within the materials compliance program at Siemens Healthineers and through use of BOMcheck, an industrywide tool pioneered by Siemens, regulated and declarable substances are monitored. Chemicals of concern as listed on the materials declaration standards IEC 62474 and IPC 1752A (including RoHS and REACH substances) are systematically identified to ensure they are not present above permitted threshold limits in our products. SOMATOM go.Now conforms with Directive 2011/65/EU of the European Parliament on the restriction of the user of certain hazardous substances in electrical and electronic equipment.

Ecodesign Improvements

Siemens Healthineers is committed to contribute to the challenges for a greener and more sustainable world economy by developing new environmentally conscious technologies and concepts, while at the same time improving the clinical value of medical imaging and invitro diagnostic devices.

As a member of COCIR1, Siemens Healthineers has proactively committed to the targets and objectives of the COCIR self-regulatory initiative (SRI) with the European Commission to reduce the environmental impact of medical imaging equipment, following the framework set by the Ecodesign Directive (2009/125/EC).

A strong focus in the last years was on reducing the energy demand of our products. The results of the eco-design initiative are published by COCIR and regularly reviewed by the EU commission.

Green Public Procurement (GPP)

The Green Public Procurement (GPP) initiative within the EU established environmental criteria for certain product categories, including for imaging devices. Although GPP is a voluntary instrument, Siemens Healthineers has evaluated the energy efficiency and performance criteria relevant for its e.g. imaging products, and has included requirements of GPP in its product development processes. The relevant GPP criteria addressed with SOMATOM go.Now include:

- Chemicals management system
- User instruction for green performance management
- Product longevity
- Training for energy efficiency and optimization
- Energy performance

Sustainability in the Supply Chain

Purchased products and services account for almost half the value of our total revenue. As our suppliers play a critical role in our sustainability-oriented value chain, Siemens expects them also to demonstrate their commitment towards these standards and principles which are summarized in the Code of Conduct.

Code of Conduct is based to a great extent on the principles of the UN Global Compact relating to human rights, labor standards, environmental protection and anticorruption initiatives. These principles are derived from the Universal Declaration of Human Rights, the Declaration on Fundamental Principles and Rights at Work of the International Labor Organization (ILO) and the principles of the Rio Declaration on Environment and Development. We ensure sustainability in the supply chain with various programs, such as:

External Sustainability Audits
External Sustainability Audits are extensive on-site inspections to check generally accepted sustainability standards. They are conducted on a risk-based approach by external specialists. The audits refer solely to the supplier’s conformance and performance in relation to the six categories of the Code of Conduct for Siemens Suppliers. The assessments will be further tailored to the type of facility under assessment and only relevant sections are covered.

Responsible Minerals Sourcing Initiative
We have rolled out a uniform and enterprise-wide process to determine the use, source and origin of the relevant minerals in our supply chain (“Supply Chain Due Diligence”) including “Responsible Minerals Assurance Process” (RMAP) as part of the “Responsible Minerals Initiative” (former “Conflict Free Sourcing Initiative”). We work closely with our direct suppliers to support us in carrying out these steps.

1 European Coordination Committee or the Radiological, Electromedical and Healthcare IT Industry
## Operating Data

### Heat emissions of the device
- **Basic load**: \( \leq 1.4 \text{ kW} \)
- **Full load**: \( \leq 5.3 \text{ kW} \)

### Allowed ambient temperature
- 18–30 °C / 64.4–86 °F

### Allowed relative humidity
- 20–75%

### Noise level
- **Standby**: 50 dB(A)
- **Peak**: 63 dB(A)

### Energy consumption
- **Basic load**: \( \leq 2 \text{ kVA} \)
- **Full load**: \( \leq 7.6 \text{ kVA} \)
- **Maximum load**: \( \leq 50 \text{ kVA} \)

### Power-on time
- \( \leq 3 \text{ min} \)

### Power-off time
- \( \leq 2 \text{ min} \)

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The SOMATOM go. platform features a new intuitive user interface with a new usability concept. With a clear emphasis on visual logic using specific features such as e.g. a timeline the user is guided easily through the entire procedure – from acquisition all the way to reconstruction.

This accelerates your examinations and focuses on standardization independent of the level of expertise.

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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
Radiation

Measures/techniques to minimize Ionizing radiation exposure

- Stellar detectors and iterative reconstruction create excellent image quality with reduced noise.
- Tin Filter allows to lower the dose whilst maintaining image quality for non-contrast examinations
- Chronon™ tubes enable low dose scanning thanks to High Power 80 (optional)
- FAST kV allows a precise user independent kV selection

Electromagnetic fields

Measures/techniques to minimize the exposure to electromagnetic radiation

Not applicable

Reduction compared to the limit value for users

Not applicable

Technical Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interface for heat recovery</td>
<td>Yes</td>
</tr>
<tr>
<td>Possible type of cooling</td>
<td>Standard: air/air</td>
</tr>
<tr>
<td>Complete switch-off is possible</td>
<td>Yes</td>
</tr>
<tr>
<td>Device is adjustable for the user in terms of height</td>
<td>Yes</td>
</tr>
<tr>
<td>Uniform operating symbols for device families</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Power consumption according to COCIR and GPP

Use scenario 24-hour power consumption

<table>
<thead>
<tr>
<th>Status</th>
<th>Consumption (kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off²</td>
<td>7.4 kWh</td>
</tr>
<tr>
<td>Low power³</td>
<td>8.1 kWh</td>
</tr>
<tr>
<td>Idle</td>
<td>12.9 kWh</td>
</tr>
</tbody>
</table>

Values may vary approx. ±1–3% due to specific system conditions, for example of UPS, etc.

¹ With wall switch
² System off
³ System off

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### Replacement Parts and Consumables

<table>
<thead>
<tr>
<th>Item</th>
<th>Life cycle¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-ray tube</td>
<td>1 year warranty</td>
</tr>
<tr>
<td>UPS-battery</td>
<td>24 months</td>
</tr>
</tbody>
</table>

### Disposal/Substance Information

<table>
<thead>
<tr>
<th>End-of-life concept</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycling information</td>
<td>Yes</td>
</tr>
<tr>
<td>List of hazardous substances</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Cleaning

Incompatible cleaning processes:

**Total device**

- Sprays
- Abrasive cleaning liquids
- Organic solvents, such as aldehyde, acetone, stain remover, cleaner's naphtha, benzine or alcohol
- Agents that release ammonia when they are dissolved or decomposed (Ammonia has a corrosive effect.)
- Agents containing silicone (Silicone decays over time and can form sticky deposits that interfere with electrical contacts.)
- Disinfectants based on substituted phenols or disinfectants that release chlorine

<table>
<thead>
<tr>
<th>Suitability of device for sterile areas</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of the surface to be cleaned²</td>
<td>Approx. 3 m²</td>
</tr>
</tbody>
</table>

Please refer to the dedicated operator manuals for system and components for a detailed list of approved and not approved cleaning substances and further instructions.

### Further Ecologically Relevant Information

Elements of instructions are:

- Recommendations for saving energy: Yes
- Recommendations for efficient cleaning: Not applicable
- Recommendations for appropriate use of consumables: Yes

¹Recommended exchange interval
²Gantry-tunnel (inside), patient table overlay, control elements, console, keypad, intercom, mouse
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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.

Siemens Healthineers reserves the right to modify the design, packaging, specifications and options described herein without prior notice. Please contact your local Siemens Healthineers sales representative for the most current information.

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The statements by Siemens Healthineers’ customers described herein are based on results that were achieved in the customer’s unique setting. Since there is no “typical” hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption) there can be no guarantee that other customers will achieve the same results.

Not for distribution or use in countries that issue country-specific environmental product declarations. Please check with your local Siemens Healthineers representative if there is a country-specific version of this environmental product declaration.

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