



**ACUSON Sequoia Ultrasound System**

# **Environmental Product Declaration**

[siemens-healthineers.com/sequoia](https://siemens-healthineers.com/sequoia)





## Taking ultrasound to new heights

Going back to the future with the new ACUSON Sequoia. Variability has hampered ultrasound's potential to expand precision medicine. Today health systems struggle with rising costs and varying quality. Ultrasound is one of the most widely-used and readily available imaging modality.<sup>1</sup> From screening and diagnosis, to therapy planning and monitoring, ultrasound has the potential to expand precision medicine throughout the patient care continuum. To achieve this goal, ultrasound needs to address biological, technological and user variabilities.

## Key product features

- OLED monitor with high dynamic range display for superior detail resolution
- 15.6" touch display featuring context sensitive lighting for easy work-flow solutions
- Floating control panel design with 180 degree left/right swivel
- Small footprint, lightweight design for easy portable use

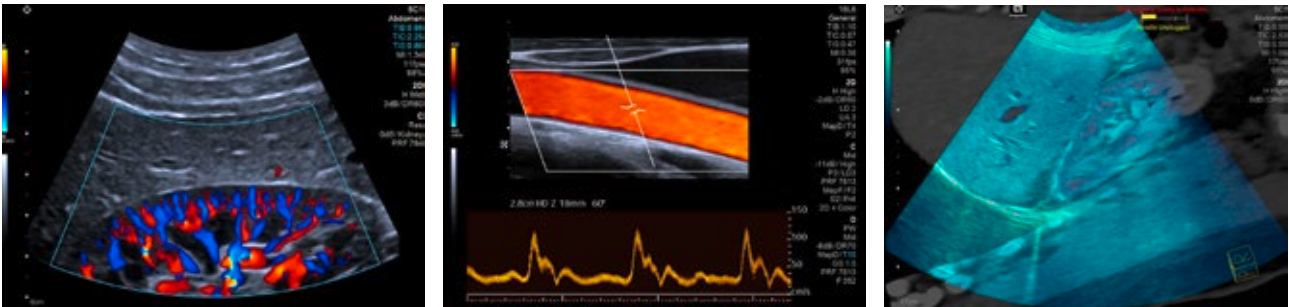
<sup>1</sup>Regional Diagnostic Radiology: <http://www.rdradiology.com/radiology-services-modalities.html>

# ACUSON Sequoia Ultrasound System

## BioAcoustic imaging Technology

It all starts with the way we generate, track, transmit and receive the ultrasound signals. With the new ACUSON Sequoia powered by BioAcoustic technology, each individual component is assembled to accurately track the ultrasound signal throughout the signal path. From the power supplies to our receivers and graphics processing unit; to the compact-pinless connectors, to the transducer lens, we aimed to preserve the signal acoustic fidelity.

BioAcoustic imaging technology adapts the ultrasound signal in real time, to compensate for loss of energy to each patients biological characteristics. The new ACUSON Sequoia has 10x higher acoustic fidelity than conventional ultrasound systems.<sup>1</sup>



### Environmental benefits

- Uses 33% less electricity during scanning<sup>2</sup>
- Weighs 20% less<sup>2</sup>
- Fast boot-up reduces electricity usage

### Customer benefits

- InFocus Coherent Image Formation – fully focused imaging from near field to far field in all applications and modes.
- DAX (Deep Abdominal Transducer) designed to go deep, with up to 40 cm of diagnostic imaging, whilst reducing the necessary force required to scan large patients.
- Gesture detecting transducer technology allows the user to activate the transducer by touch rather than repetitive key strokes and reaches.
- AI-enabled and automation technologies to reduce user key strokes and improve exam quality.

<sup>1</sup>Compared to ACUSON S3000 ultrasound system

<sup>2</sup>Compared to ACUSON SC2000 ultrasound system

## 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

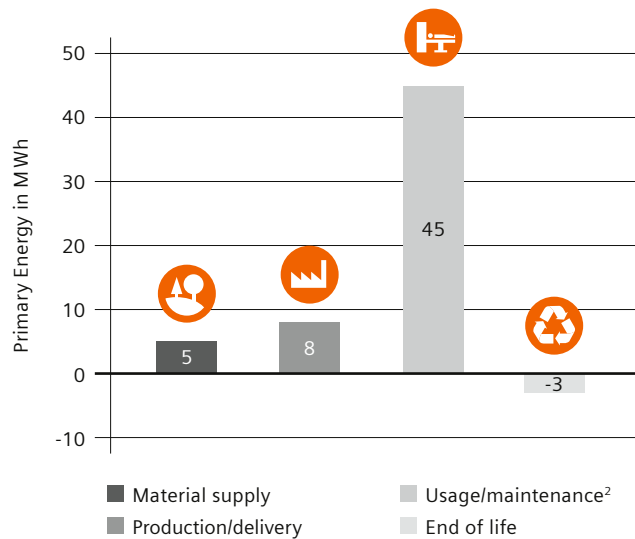
Siemens Healthineers considers environmental aspects in all phases of the product life cycle, including material supply, production/delivery, use/maintenance and end of life.

Our product design procedure fulfills the requirements of IEC 60601-1-9:2007 + A1 2013 Medical electrical equipment Part 1-9: General requirements for basic safety and essential performance – Collateral Standard: Requirements for environmentally conscious design.

This standard 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 the Cumulative Energy Demand to assess environmental performance. Cumulative Energy Demand is the total primary energy<sup>1</sup> 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 -3 MWh in the form of secondary raw materials or thermal energy to the economic cycle.



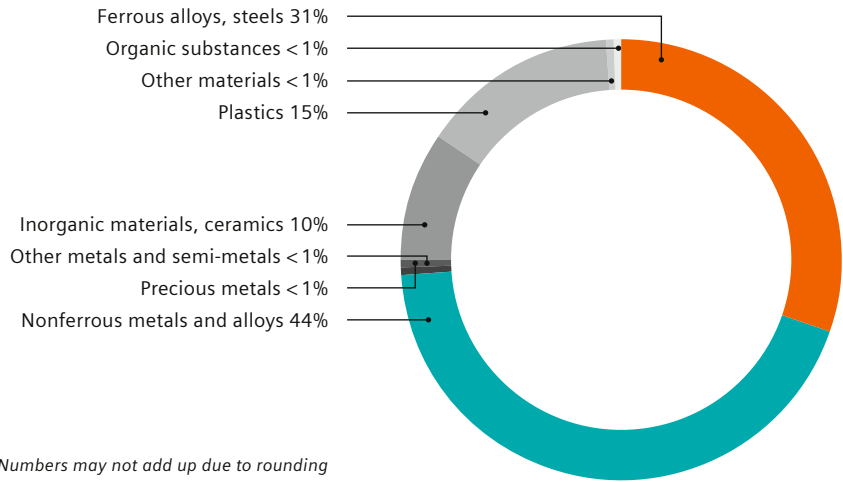
<sup>1</sup>Primary energy is the energy contained in natural resources prior to undergoing any man made conversions (e.g. oil, solar).

<sup>2</sup>Based on 10 hours of use (5 hours scanning, 5 hours freeze) 5 days a week, 10 years usage.

## Product Materials

ACUSON Sequoia Ultrasound System is mainly built out of metals. This ensures a high degree of recyclability.

Total weight: approx. 125 kg

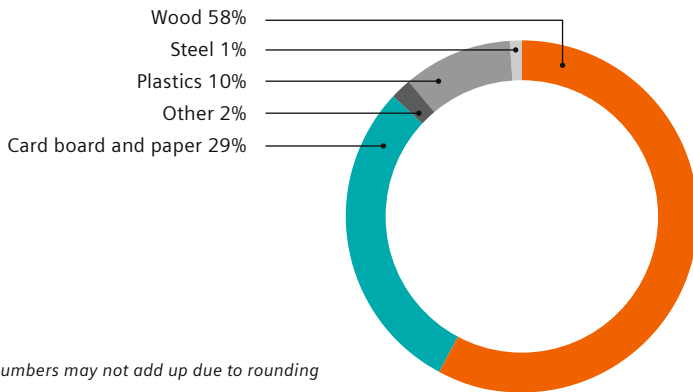


## Packaging Materials

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

Nearly all the packaging is recyclable either for reuse of the materials or for energy recovery. Only an insignificant amount (~ 1%) has to be sent to landfill.

Total weight: 43.5 kg



## Product Take Back

Most of the materials used to produce the ACUSON Sequoia system are recyclable. Over 96% (by weight) can be recycled for material content and 4% for energy. Disassembly instructions for disposal and recycling are available for our products.



## Operating Data

### Heat emissions of the device

• Off	12.7 W (100 V / 60 Hz), 12.6 W (115 V / 60 Hz), 13.4 W (230 V / 50 Hz) (approx.)
• Freeze	358 W (100 V / 60 Hz), 357 W (115 V / 60 Hz), 355 W (230 V / 50 Hz) (approx.)
• Scanning	386 W (100 V / 60 Hz), 386 W (115 V / 60 Hz), 383 W (230 V / 50 Hz) (approx.)
• Hibernate/standby	12.3 W (100 V / 60 Hz), 12.3 W (115 V / 60 Hz), 13.4 W (230 V / 50 Hz) (approx.)

### Allowed ambient temperature

• During operation	+10 °C to +40 °C (system without a printer) +10 °C to +35 °C (system with a printer)
• During storage or transportation	-10 °C to +60 °C (system without a printer) -10 °C to +60 °C (system with a printer)

### Allowed relative humidity

• During operation	20–80% non-condensing
• During storage or transportation	10–95% non-condensing

### Typical power consumption

• Off	12.7 W (100 V / 60 Hz), 12.6 W (115 V / 60 Hz), 13.4 W (230 V / 50 Hz)
• Freeze	358 W (100 V / 60 Hz), 357 W (115 V / 60 Hz), 355 W (230 V / 50 Hz)
• Scanning	386 W (100 V / 60 Hz), 386 W (115 V / 60 Hz), 383 W (230 V / 50 Hz)
• Hibernate/standby	12.3 W (100 V / 60 Hz), 12.3 W (115 V / 60 Hz), 13.4 W (230 V / 50 Hz)

Power-on time 2 minutes 30 seconds

Power-off time 19.8 seconds

## Technical Specifications

Interface for heat recovery None

Possible type of cooling Air

Complete switch-off is possible Yes

Device is adjustable for the user in terms of height Yes

Uniform operating symbols for device families Yes

## Radiation

This product produces no ionizing radiation

## Electromagnetic Fields

Measures/techniques to minimize the exposure to electromagnetic fields	<ul style="list-style-type: none"> <li>• complies to EN 55011/CSPR11</li> <li>• power filtering</li> <li>• electromagnetic shielding</li> <li>• cable shielding</li> <li>• grounded metallic components</li> </ul>
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## Replacement Parts and Consumables

- Needle guides
- Brackets for needle guides

## Disposal/Substance Information

End of Life concept	Yes
Recycling information	Yes
List of hazardous substance (not contained in device)	Yes

## Cleaning

Incompatible cleaning processes: Total device	<ul style="list-style-type: none"> <li>• Do not clean the system with chlorinated or aromatic solvents, acidic or basic solutions, isopropyl alcohol or strong cleaners such as ammoniated products.</li> <li>• Do not use spray cleaners on the ultrasound system.</li> <li>• Do not pour any fluid onto the ultrasound system surfaces.</li> <li>• Iodine and betadine may discolor the control panel.</li> <li>• Use only approved disinfectant wipes on the surfaces of the ultrasound system and accessories.</li> </ul>
Restrictions for particular device components	<ul style="list-style-type: none"> <li>• See Instructions for Use for cleaning and disinfecting transducers.</li> <li>• Use only approved disinfectants on the holders for transducers and coupling gel holder.</li> <li>• Never use gauze pads, lint-free cloths, or solutions to clean the transducer ports.</li> <li>• Do not use disinfectant wipes on the glass surfaces of the touch screen or monitor. Carefully follow the instruction to clean the glass surfaces of the touch screen and monitor.</li> <li>• Do not immerse the gel warmer in water or any solution.</li> <li>• Use an approved disinfectant wipe to disinfect the ring, trackball, and trackball assembly.</li> </ul>
Suitability of device for sterile areas	No
Size of the surface to be cleaned	0.22 m <sup>2</sup>
<i>Please refer to the dedicated user and reference manuals for system and components for a detailed list of approved and not approved cleaning substances and further instructions.</i>	



## Further Ecologically Relevant Information

Elements of instructions are:

- |  |     |
|--|-----|
| • Recommendations for saving energy                  | Yes |
| • Recommendations for efficient cleaning             | Yes |
| • Recommendations for appropriate use of consumables | Yes |

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**Siemens Healthineers Headquarters**

Siemens Healthcare GmbH  
Henkestr. 127  
91052 Erlangen, Germany  
Phone: +49 9131 84-0  
siemens-healthineers.com

**Legal Manufacturer**

Siemens Medical Solutions USA, Inc.  
Ultrasound  
22010 S.E. 51st Street  
Issaquah, WA 98029, USA  
Phone: 1-888-826-9702  
siemens-healthineers.com/ultrasound