Mobility

- Compact and lightweight industrial design
- Steering handle for portability and maneuvering
- Rear handle for repositioning the ultrasound system
- Central steering and locking break
- Four locking swivel wheels
- Transducer holders and cable management
- Tilt down monitor
- Locking arm for monitor
- Locking control panel

User-accessible connections

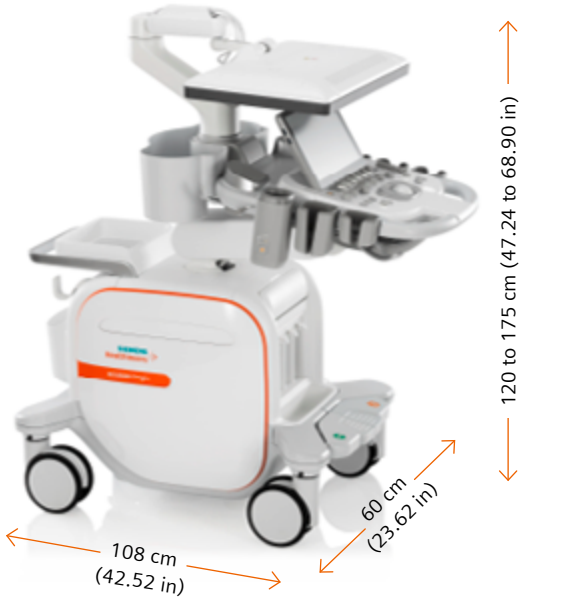
- USB ports on the right side of the monitor for importing and exporting protocols and exams, archiving, and serviceability (quantity 2)
- USB ports on the left side of touch screen for importing and exporting protocols and exams, archiving, and serviceability (quantity 2)
- USB ports on the input/output panel for peripheral devices (quantity 4)
- DC power sockets on the input/output panel for on-board peripherals (quantity 2)
- DC power sockets on each side. the control panel for the gel warmer (quantity 2)

Wireless data transfer

Enable wireless capabilities on the ultrasound system.

Operator control panel

- Backlit controls and keys
- Control panel adjustment for standing and sitting positions
  - Left/right swivel: ±90°
  - Range of height: 74 cm to 97 cm (29.13 in to 38.18 in)
- Control panel text available in: English, German, French, Spanish, Italian
- Control panel layout supports ambidextrous operation
- LCD Touch Screen
  - 33.782 cm (13.3 inch) diagonal widescreen
  - Full high-definition video
  - 1,920 × 1,080 pixels resolution
  - Variable tilt angle: 30° to 60°
  - Touch screen for use with gloved hands
- Gel warmer



Maximum physical dimensions

Width	60 cm (23.62 in)
Height	120 cm to 175 cm (47.24 in to 68.90 in)
Depth	94 cm to 108 cm (37.01 in to 42.52 in) Minimum depth for storage: 108 cm (42.52 in)
Weight	125 kg (276 lbs) Not to exceed 155 kg (342 lbs) The weight of the system is based on the system unpacked and ready for connecting transducers and using in a patient examination. The weight includes documentation devices, such as printers, installed on the system.

Clinical measurement range and accuracy

The system assumes a speed of sound of 1,540 m/sec for all measurements.

Direct measurement	Range	Accuracy
Distance	0 cm to 40 cm	3% of the distance or 1.5 mm; whichever is greater assuming 1,540 m/sec speed of sound. Does not apply to trace tool. Distance tolerance using trace tool is user-dependent.
Distance using extended field of view	0 cm to 27.5 cm	Linear transducer: 5% of the distance or 2.5 mm; whichever is greater assuming 1,540 m/sec speed of sound. Curved transducer: 8% of the distance or 2.5 mm; whichever is greater assuming 1,540 m/sec speed of sound.
Trace Area	0 cm^2 to 1170 cm^2	6% of the area or 1.5 cm^2; whichever is greater, assuming minimal operator error in tracing the desired object and assuming 1,540 m/sec speed of sound.
Trace Distance	0 cm to 139 cm	5% of the distance or 6 mm; whichever is greater, assuming minimal operator error in tracing the desired object and assuming 1,540 m/sec speed of sound.
Trace Circumference	0 cm to 139 cm	5% of the circumference or 6 mm; whichever is greater, assuming minimal operator error in tracing the desired object and assuming 1,540 m/sec speed of sound.
Time	0 sec to 9.0 sec	Better than ± 1% of the sweep speed or ± 10 msec, whichever is greater.
Velocity	1 cm/sec to 2000 cm/sec	10% of the velocity or 5 cm/sec; whichever is greater using a calibrated flow phantom.

System requirements

Power supply requirements	
Mains Voltage	100 V ~ to 240 V ~
Maximum Current	5.4 to 13.0 amps
Frequency	50 to 60 Hz
Noise Level	35 to 38 dB

Possible combinations with other equipment

Only the peripheral devices listed in this chapter are approved for use with the ultrasound system. Any use of other devices with the system will be at the user's risk and may void the system warranty.

On-board peripheral devices must be installed by an authorized Siemens Healthineers representative or approved third party. Check with your sales representative.

Energy Consumption – ON Mode

The ACUSON Origin achieved a significant reduction in power consumption, system weight and noise.[1]

- Origin uses 29.9% less electricity when scanning in B mode[1]; it uses 40.7% less electricity in freeze mode[1]. On a time-weighted basis – 70% of time in scanning and 30% of time in freeze – Origin uses 33.0% less electricity[1]
- Product weight was reduced by 10% for a reduction of over 15 kg.
- System noise was reduced by 30% for a reduction of over 12–15 dB.

Packaging

- Steel: 0.5 kg
- Wood: 24.98 kg
- Cardboard and paper: 12.68 kg
- Plastics: 4.31 kg
- Other: 1.01 kg
- Total: 43.48 kg

Input and output signals for audio, video, and data transmission connections

Port	Location	Example of connection	Signal
RJ-45	On rear panel	Ethernet RJ45, 10BaseT/100BaseT/1000BaseT	Bi-directional
USB-A (four ports)	Input/output panel	Printer, Fusion electronics unit, footswitch, Blu-ray/DVD/CD combination drive	Bi-directional
DisplayPort	Input/output panel	External monitor	Input
USB-A (two ports)	Left side of the touch screen	USB storage device, headset and camera for virtual communication with a Siemens service representative	Bi-directional
USB-A (two ports)	Right side of the monitor	USB storage device, headset and camera for virtual communication with a Siemens service representative	Bi-directional
ECG connector	Physio panel	ECG leads	Input
Aux connector	Physio panel	ECG external DC input	Bi-directional

[1] *Compared with ACUSON SC2000*

Wireless network connections

The ultrasound system supports the following options for connection to wireless networks.

Network standard	• 802.11a • 802.11b • 802.11ac • 802.11g • 802.11n	• Wired Network DHCP (RFC2131), as implemented by Windows 10 MAB • WIFI Network DHCP (RFC2131), as implemented by Windows 10 MAB
Frequency bandwidth	• 2.4 GHz • 5 GHz	
Authentication	• WPA • WPA2 • WPA PSK • WPA2 PSK • Open	
Encryption	• None • TKIP • AES	
Extensible Authentication Protocol (EAP)	• PEAPv0 (PEAP-MSHCAPv2) • TLS	

Environmental requirements

Electromagnetic Compatibility (EMC) Note: Operating the ultrasound imaging system in close proximity to sources of strong electromagnetic fields, such as radio transmitter stations or similar installations may lead to interference visible on the monitor screen. However, the device has been designed and tested to withstand such interference and will not be permanently damaged.

Ultrasound system	During Operation	During Storage or Transportation
Atmospheric pressure	700 hPa to 1060 hPa	500 hPa to 1060 hPa
Relative humidity	20% to 80%, non condensing	10% to 95%, non condensing
Temperature	–	–
System without a printer	+10°C to +40°C	-10°C to +60°C
System with a printer	+10°C to +35°C	-10°C to +60°C

Note: Print media, for example, printer paper, is excluded from the environmental requirements. Refer to the ranges included on the manufacturer's label.

Transducers	During Operation	During Storage or Transportation
Atmospheric pressure	–	–
All transducers	700 hPa to 1060 hPa	500 hPa to 1060 hPa
Relative humidity	–	–
All transducers	10% to 80%, non condensing	10% to 95%, non condensing
Temperature	–	–
All transducers	+10°C to +40°C	-10°C to +50°C

Note: Needle guides are excluded from the environmental requirements. Refer to the ranges included on the manufacturer's label.

Environmental management system and product design

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 benefits

- Uses 33% less electricity during scanning[1]
- Weighs 20% less[1]
- Fast boot-up reduces electricity usage

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.

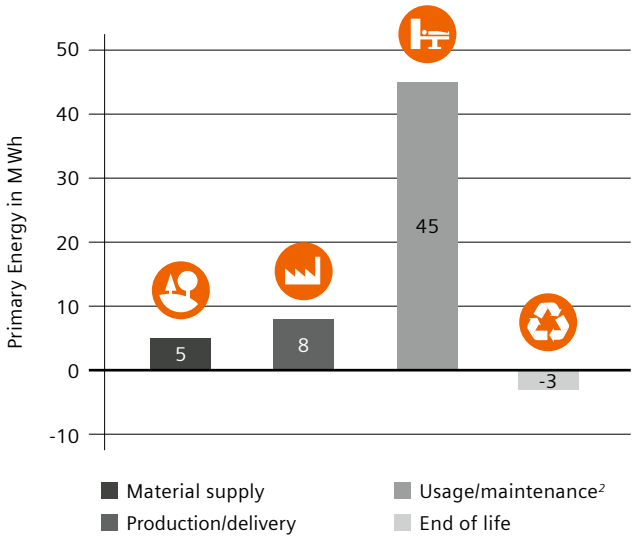
Our product design procedure fulfills the requirements of IEC 60601-1-9:2007 + A1 2013 Medical electrical equipment Part 1-9: General requirements for basic safety and essential performance – Collateral Standard: Requirements for environmentally conscious design.

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

[1] *Compared to ACUSON SC2000 ultrasound system*

Cumulative Energy Demand

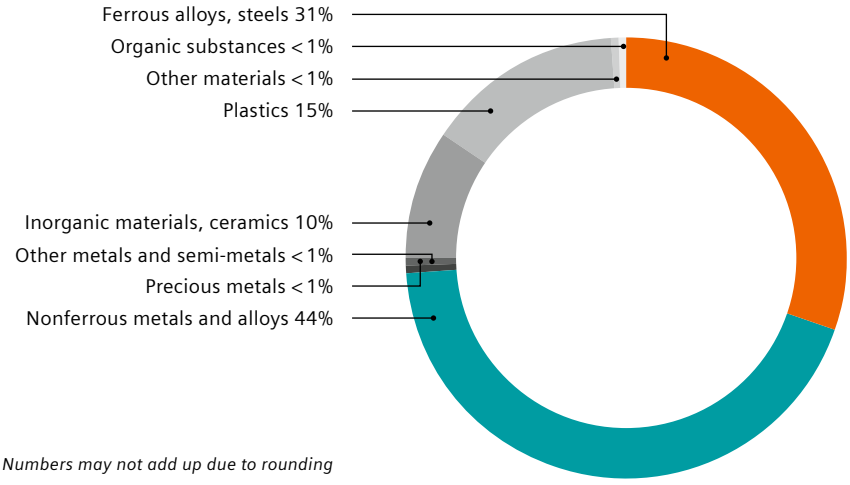
Energy consumption is the most important environmental characteristic of medical devices. This is why we use the Cumulative Energy Demand to assess environmental performance. Cumulative Energy Demand is the total primary energy[1] that is necessary to produce, use and dispose of a device – including 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.



Product Materials

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

Total weight: approx. 125 kg



Numbers may not add up due to rounding

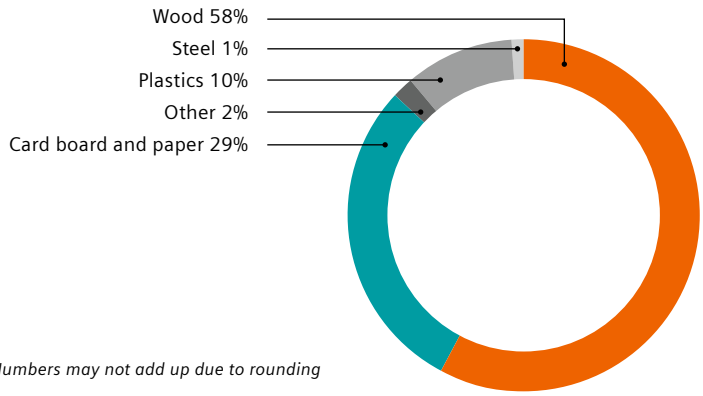
[1] *Primary energy is the energy contained in natural resources prior to undergoing any man made conversions (e.g., oil, solar).*
[2] *Based on 10 hours of use (5 hours scanning, 5 hours freeze) 5 days a week, 10 years usage.*

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



Numbers may not add up due to rounding

Product Take Back

Most of the materials used to produce the ACUSON Origin 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.

System classifications

- Type of protection against electrical shock:
  Class I, external powered
- Degree of protection against electrical shock:
  - Type BF applied part for linear, curved, and phased array transducers
  - Type BF defibrillation-proof applied part for ECG connections on the physio module
  - Type CF defibrillation-proof applied part for ECG connections on the physio module
- Degree of protection against harmful ingress of water:
  Ordinary equipment
- Degree of safety of application in the presence of a flammable anesthetic material with air or with oxygen or nitrous oxide:
  Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide
- Mode of operation:
  Continuous operation
- Ingress protection levels:
  - Transducers: IPX8
  - Footswitch: IPX8

Standards compliance

The diagnostic ultrasound system is in compliance with the following standards, including all applicable amendments at the time of product release.

Quality standards

- FDA QSR 21 CFR Part 820
- EN ISO 13485 and ISO 13485
- ISO 9001

Design standards

- ANSI/AAMI ES 60601-1
- CAN/CSA-C22.2 No. 60601-1
- EN 60601-1 and IEC 60601-1
- EN 60601-1-2 and IEC 60601-1-2 (Class A)
- EN 60601-1-6 and IEC 60601-1-6
- EN 60601-2-18 and IEC 60601-2-18
- EN 60601-2-37 and IEC 60601-2-37
- EN 62304 and IEC 62304
- EN 62366-1 and IEC 62366-1
- EN ISO 14971 and ISO 14971

Acoustic output standards

- IEC 62359, Test Methods for the Determination of Thermal and Mechanical Indices Related to Medical Diagnostic Ultrasonic Fields
- AIUM/NEMA UD-2, Acoustic Output Measurement Standard for Diagnostic Ultrasound Equipment
- AIUM/NEMA UD-3, Standard for Real Time Display of Thermal and Mechanical Acoustic Output Indices on Diagnostic Ultrasound Equipment

Radio and telecommunications standards

- CFR 47 FCC Part 15.247
- CFR 47 FCC Part 15.107
- CFR 47 FCC Part 15.109
- ETSI EN 300 328
- ETSI EN 301 489-1
- ETSI EN 301 489-17
- ETSI EN 301 893

CE declaration

This device bears a CE mark in accordance with the provisions of EU Regulation 2017/745 of April 5, 2017 concerning medical devices and the Council Directive 2011/65/EU of June 08, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

The CE marking applies only to Medical Devices which have been put on the market according to the above mentioned EU Regulation and EU Directive.

Unauthorized changes to this product are not covered by the CE mark and the related Declaration of Conformity.

EU authorized representative

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Siemens Healthineers reserves the right to modify the design and specifications contained herein without prior notice. Please contact your local Siemens Healthineers Sales Representative for the most current information.

The products/features mentioned in this document may not be commercially available in all countries. Due to regulatory reasons their future availability cannot be guaranteed. Please contact your local Siemens Healthineers organization for further details.

At the time of data sheet finalization, the ACUSON Origin version 1.0 is pending shipment. Available based on country registration approval. Please consult with your local Siemens Healthineers representative.

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