



SIEMENS



MEDLIGA
медицинское оборудование

Environmental Product Declaration

Artis one

Designed around you.

Impressive progress Ecological advantages of Artis one



Artis one was designed for positive impact, saving time, space, energy, and resources. Artis one has a small footprint but offers large returns. Its floor stand fits into rooms as small as 25 square meters, about the size of some patient rooms. Yet it can still perform ceiling-like system movements – without requiring the 45 square meters a ceiling system needs.

Thanks to dedicated tools in 2D and 3D and easy-to-understand system controls, rotating teams can handle the system quickly and the room can be used to cover a broad procedural range – the smartest way to hit the sweet spot of your business.

Artis one

Artis one provides:

- 20 % less energy consumption in comparison to former floor systems.
- Full documentation of all substances.
- Plastics are labeled for recycling. Disassembly instructions for high-quality recycling are available.
- Stand-by mode for the Artis one display option to save energy by up to 80 % when not in use
- More than 97 % of the material used can be returned to the flow of recyclable materials
- Artis one fulfills the EU-directive RoHS 2011/65/EU.

Artis one delivers proven state-of-the-art technology – like the MEGALIX Cat Plus X-ray tube featuring the Siemens-unique flat emitter.

It also offers next-generation tools for uncompromised imaging, such as CLEARstent Live to verify stent positioning in real time.

Intelligent operation is enhanced by a new, display-driven user interface, enabling intuitive interaction with the system.

So you can keep your attention where you need it. And because Artis one is easy to install and understand, it is sure to have a positive impact.

Now you can broaden your procedure mix and hit the sweet spot of your business.

Uncompromised Imaging

- State-of-the-art technology
- Next-generation imaging tools
- Embrace the 3rd dimension
- Unparalleled coverage

Intuitive Interaction

- Always knows where to go
- Intelligent controls keep your attention focused
- Large and crisp images with configurable layouts

Positive Impact

- Small footprint, large returns
- Easy to understand, easy to deploy
- one for all your everyday challenges



Environmental Management System

Our environmental, health and safety management system conforms with ISO 14001 and helps us put our policy into practice.

You can find further information about our environmental, health and safety management system at www.siemens.com/healthcare-ehs.

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 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 IEC 60601-1-9 "Environmental product design for medical electrical equipment".

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

Reduction of Critical Substances

Siemens has made progress in reducing materials in our Artis one system that are environmentally harmful or not easily recyclable.

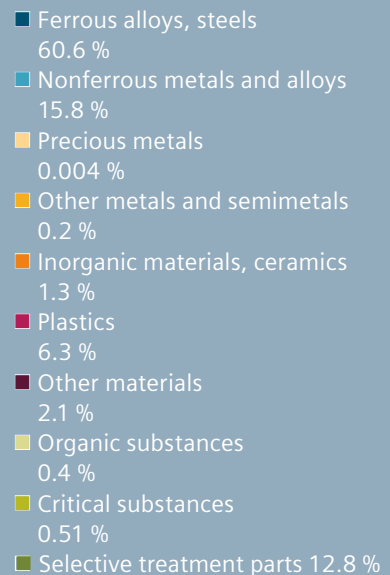
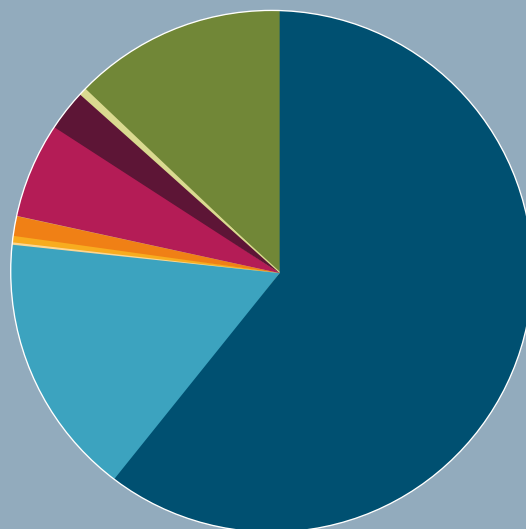
Two recent examples include the elimination of beryllium in the manufacture of our X-ray tube and of the softener diethylhexyl phthalate (DEHP).

Siemens has made very good progress in reducing non-recyclable materials. We are continually making improvements to reduce the environmental impact of Siemens products.

Identification of Product Materials

Artis one is mainly built out of metals.
This provides a high degree of recyclability.

Total weight 2,100 kg



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* required to produce, operate and dispose of a device – including all transportation.

Our systems can be recycled almost completely. With an appropriate end-of-life treatment it is possible to return 19 MWh in the 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).

Packaging

Our angiography systems are shipped as “closed packaging” worldwide.

The individual system parts are only wrapped in dust protective covers. They are then mounted into special transport frames, which are returned for reuse.

The wooden crates or sealed packaging can then be used for materials, or to some extent, thermal recycling.

Total Weight

Closed packaging approx. 1,010 kg

Product return and refurbishment

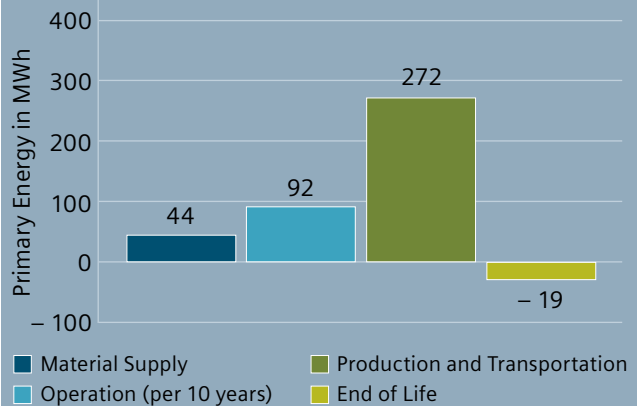
97 % of the materials used to produce an Artis one system are recyclable.

As part of the Siemens product disposal program, angiography systems are refurbished and components and replacement parts re-used whenever possible.

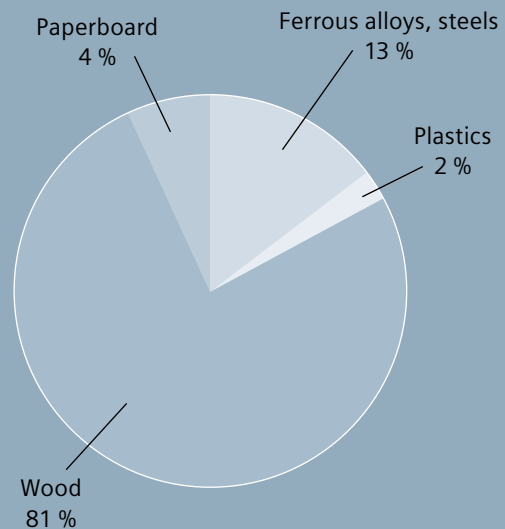
Not only are whole systems designed for refurbishment, but the components of the MEGALIX high-performance X-ray tube are designed to reuse as many parts as possible after refurbishment once the tube is returned after replacement.

To ensure proper disassembly, disposal and recycling, respective instructions are available for all our products.

Cumulative Energy Demand of Artis one systems



Average material composition of Artis one packaging





Operating Data

Heat emissions of the device	
– typical load ¹	3.8 kW
– acquisition (max)	8.1 kW
Allowed ambient temperature³	15 °C to 30 °C
Allowed relative humidity	20 % to 75 %
Power consumption⁶:	
– system off	1.1 kVA
– stand-by ¹	2.5 kVA
– full load ²	8.5 kW
– maximum load	160 kVA
Power-on time⁴	ca. 4 min.
Power-off time⁵	ca. 1.5 min.
Noise level	55 dB (A) 50 Hz 59 dB (A) 60 Hz

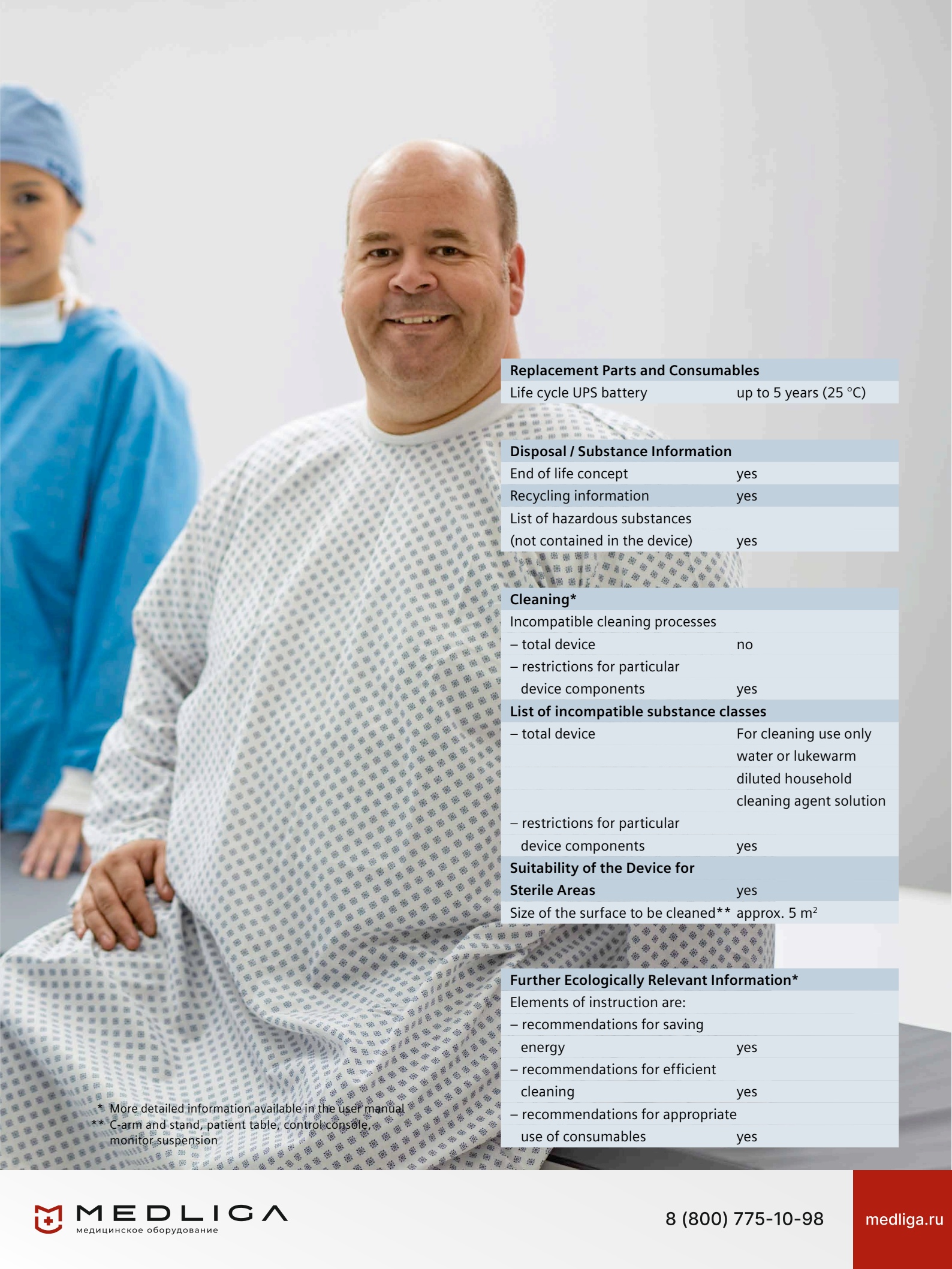
Technical Specifications

Interface for heat recovery	no
Possible type of cooling	water/oil cooling
Complete switch-off is possible	no
Device is height-adjustable for the user	yes
Uniform operating symbols for device families	yes

Radiation

Means / technologies employed to minimize ionizing radiation exposure	yes
Means / technologies employed to minimize the exposure to electromagnetic radiation	n.a.
Minimization compared to the limit value for users	yes

¹ Device is in operation but no patient examination is taking place
² Average value on examination of patients (abdomen routine mode)
³ Within examination room
⁴ From off-mode to operating state
⁵ From operating state to off-mode
⁶ Artis one system



Replacement Parts and Consumables	
Life cycle UPS battery	up to 5 years (25 °C)

Disposal / Substance Information	
End of life concept	yes
Recycling information	yes
List of hazardous substances (not contained in the device)	yes

Cleaning*	
Incompatible cleaning processes	
– total device	no
– restrictions for particular device components	yes

List of incompatible substance classes	
– total device	For cleaning use only water or lukewarm diluted household cleaning agent solution
– restrictions for particular device components	yes

Suitability of the Device for Sterile Areas	
Size of the surface to be cleaned**	approx. 5 m ²

Further Ecologically Relevant Information*	
Elements of instruction are:	
– recommendations for saving energy	yes
– recommendations for efficient cleaning	yes
– recommendations for appropriate use of consumables	yes

* More detailed information available in the user manual
 ** C-arm and stand, patient table, control console, monitor suspension



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8 (800) 775-10-98

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