



ARCADIS Avantic

Cutting-edge mobile imaging with a larger field of view

Data Sheet

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ARCADIS Avantic

Cutting-edge mobile imaging with a larger field of view

The current ARCADIS generation takes you to a completely new level of clinical excellence.

From image quality to operability, from versatility to efficiency, the innovative features of ARCADIS Avantic are aimed to set new benchmarks – with outstanding functionalities that make excellent imaging a snap and an overall ergonomic concept that will redefine your clinical workflow in many fields of practice.

Powerful performance

ARCADIS Avantic features large power reserves with a generator power of 25 kW, high tube currents of up to 250 mA, and high endurance through 2.57 MHU (Mega Heat Units) heat capacity.

Precise imaging with a larger field of view

Thanks to its optimally matched and fully digital 1K² imaging chain from image acquisition to viewing and archiving, its industry leading Mu-metal shielded 33 cm (13") image intensifier, and EASY (Enhanced Acquisition System) with automatic dose, contrast, and brightness control, ARCADIS Avantic yields brilliant images in every situation.

Easiest operation throughout

ARCADIS Avantic features a counter-balanced C-arm design with high values in free space, immersion depth, and overscan for excellent patient access and positioning flexibility.

Its adjustable control panel provides all-in-one operation, and a remote user interface allows for control of the relevant C-arm functions from within the sterile area.

Electromagnetic brakes with intelligent color coding for fast and precise positioning as well as the programmable multifunctional footswitch provide user-friendly system operation.

In addition to the multitude of beneficial improvements to your daily work, ARCADIS Avantic offers EMotion, the onboard sound system that allows you to connect your choice of audio device, e.g. MP3 player.

Improved clinical workflow

With its ergonomic, lightweight trolley with 180° rotatable as well as vertically and horizontally adjustable monitors, it features enhanced maneuverability, requires less space, and adjusts to your specific need.

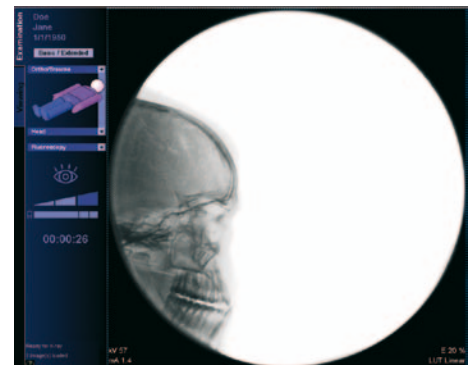
The *syngo* user interface with a Basic/Extended Menu allows for fast and intuitive system operation, image postprocessing, and networking, while practical solutions like Fluoro Loop (playback of an acquired scene) and LSH (Last Scene Hold) for optional storage of the last acquired scene simplify the imaging itself tremendously.

Maximum flexibility in data handling

ARCADIS Avantic supports virtually all DICOM 3.0 functionalities and delivers many options for postprocessing, archiving, and documentation with CD, DVD, and USB.

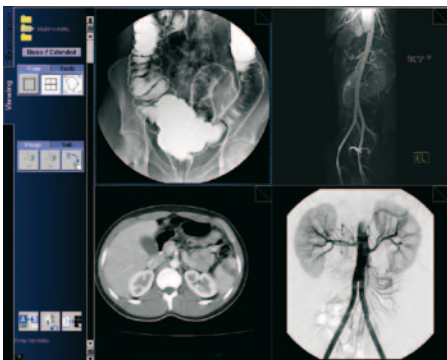
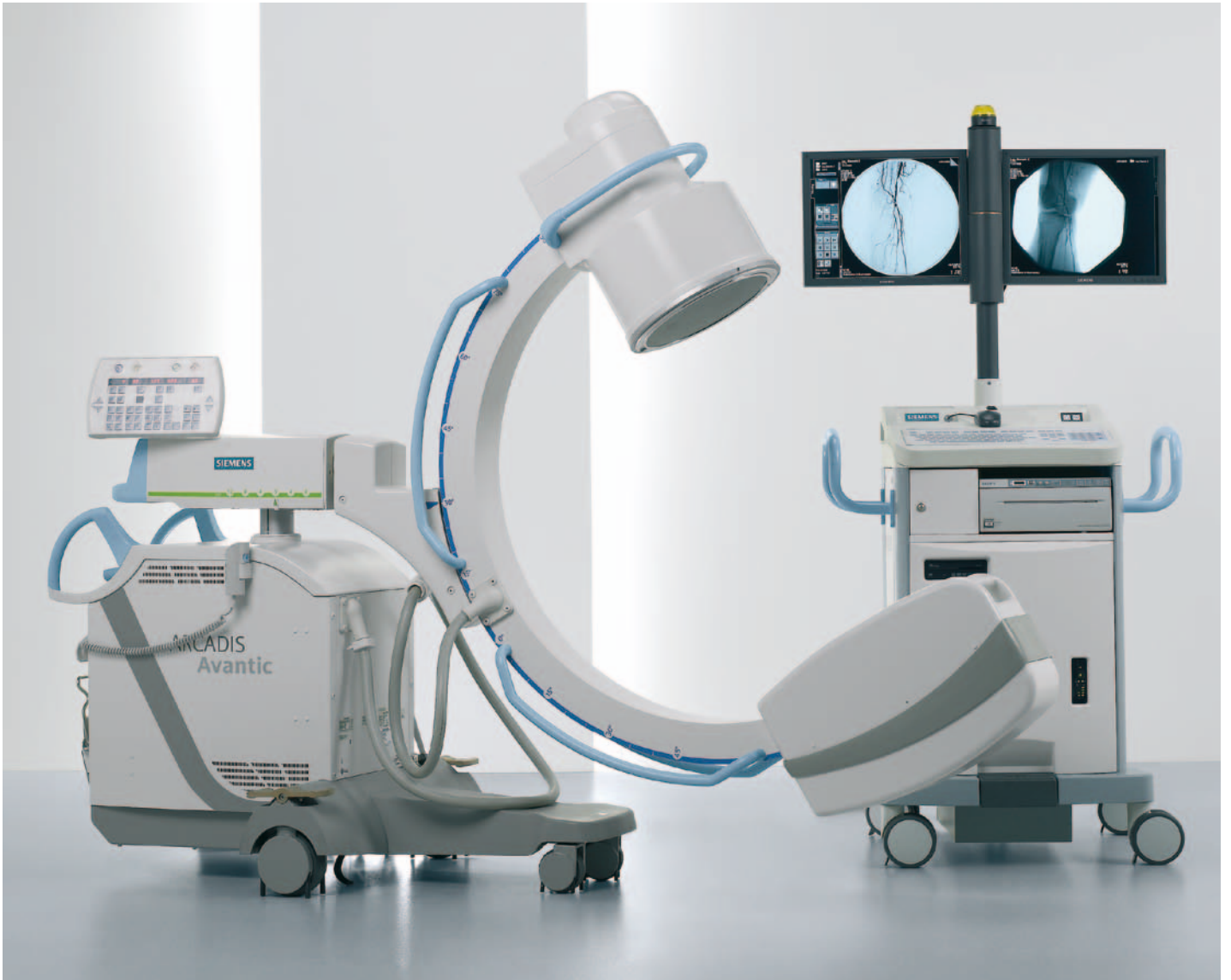
Improved serviceability and comprehensive maintenance options

The comprehensive service options available for ARCADIS Avantic provide high uptime and utilization rates. Thanks to Siemens Remote Services, your system is proactively monitored, and parameter deviations can be detected before problems occur. Remote diagnosis allows us to identify defective parts and to accelerate their delivery, helping to keep repair times to a minimum.

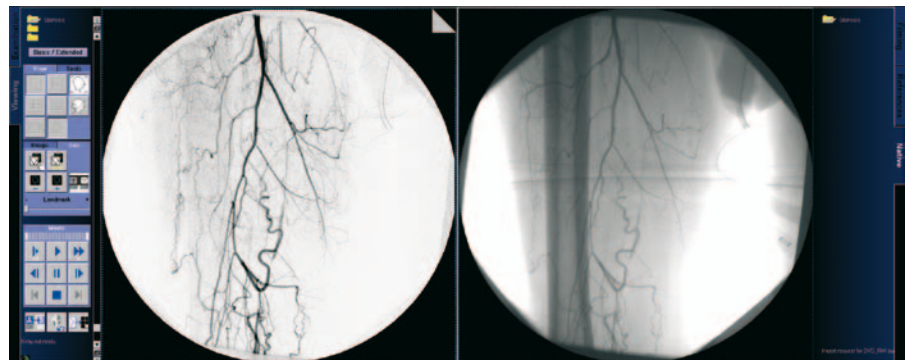


EASY for optimal image quality independent of object position

* Option



Multi-modality viewing – all required information always at hand



Vascular surgery

Technical specification

syngo

Patient data administration

Image acquisition

C-arm

Orbital movement	132° (- 42° to + 90°)
Angulation	± 190°
Horizontal movement	20 cm (7.9")
Immersion depth	73 cm (28.7")
Swivel range	± 10°
Vertical travel	38 cm (15"), motorized
Source-I.I. distance	100 cm (39.4")
Free space	78 cm (30.7")

X-ray generator/tube unit

POWERPHOS high-frequency generator

Power output	15 kW
Max. pulsed output	25 kW
Inverter control frequency	15 kHz to 35 kHz
kV range	40 kV to 125 kV
Digital Radiography	up to 250 mA
Fluoroscopy	0.2 mA to 15.2 mA (max. 1000 watts)
Power Mode	enables temporary max. output in continuous fluoroscopy
Pulsed Fluoroscopy	up to 67 mA
Pulse rate	up to 8 p/s, up to 15 p/s*
DCM* (Digital Cine Mode)	up to 250 mA
Minimum pulse width	7 ms
Pulse rate	up to 30 p/s
Heat storage capacity of POWERPHOS housing	1,900,000 J, 2,565,000 HU

Single tank with dual-focus rotating-anode tube

Focal spot nominal value	0.3 / 0.5
Nominal voltage	125 kV
Heat storage capacity of anode	200,000 J, 270,000 HU
Optical anode angle	10°
Inherent filtration	≥ 2.5 mm Al; 0.1 mm Cu
Anode drive	up to 10,800 RPM

Collimator system

Iris diaphragm	for concentric, radiation-free collimation
Semi-transparent slot diaphragm	for symmetric, radiation-free collimation, with unlimited rotation

ARCADIS Avantic

- Image display/processing
- Data transfer and documentation
- Options

X-ray TV system

High-resolution X-ray TV system in maintenance-free CCD technology with 1024 x 1024 (1K²) full-size CCD sensor

Constant image brightness due to automatic gain control

High contrast and high spatial resolution

TV matrix	1K ²
Digital image rotation	± 360°

X-ray image intensifier

Metal-enamel technology with Mu-metal shielding

Precision electron optics with minimal image distortion and consistent high resolution across the entire image field

Cesium-iodide input screen for minimum quantum noise and excellent resolution

Anti-glare output screen with scattered light trap for high contrast dynamics and prevention of scattered light effects

High-transparency input window

SIRECON 33-3 HDR-4

Nominal diameter	33 cm (13")		
Zoom formats	21 cm (8")	16 cm (6")	12 cm (5")
Grid	PB 17/70, f ₀ 100		

Trolley

Displays

19" TFT monochrome display*

High-contrast display with high luminance

Screen size	19" (48 cm)
Image matrix	1280 x 1024
Brightness, typical	400 cd/m ²
Maximum brightness, typical	600 cd/m ²
Horizontal / vertical viewing angle	170° / 170°

19" TFT color display

Screen size	19" (48 cm)
Image matrix	1280 x 1024
Brightness, typical	200 cd/m ²
Maximum brightness, typical	250 cd/m ²
Horizontal / vertical viewing angle	170° / 170°

Column

Display column Flex

Allows for vertical display positioning independently of trolley position with a rotation angle of – 30° to 180°
Defined lock-in positions at 0° and 180°

Display column Flex Plus*

Allows for vertical display positioning independently of trolley position with a rotation angle of 0° to 180°
Motorized height adjustment
Protection and transportation management by foldable displays
Defined lock-in positions at 0°, 90° and 180°

Sound system*

EMotion

Onboard sound system with aux-in connector for connecting audio devices
Stereo preamplifier with volume controller
Two blinded oval stereo loudspeakers

ARCADIS Avantic

- Image display/processing
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syngo

Fully digital, *syngo*-based online imaging system with continuous 1K² imaging chain (image acquisition, image processing, storage, archiving and documentation). Integrated, uninterruptible power supply (UPS) helps ensure that image and patient data are secure in the event of a power outage

<i>syngo</i> -based applications	<ul style="list-style-type: none">Intuitive menu guidance with function-oriented task cardsDedicated, application-related user programs with VPA (Virtual Patient Anatomy) with anatomic assignment and selectionDirect dose level selection for individual adaptation of the radiation dose to the patient's anatomy (ensures lowest possible dose at high image quality)Dynamic and static reference image displaySimultaneous display of subtracted and native images (with Subtraction option)
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Patient data administration

Patient data administration	<ul style="list-style-type: none">Emergency registrationPre-registrationManual patient registrationRegistration via database query (Patient Browser)Registration via DICOM Worklist*
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* Option



Image acquisition

Operating modes

Selection of 8 application-specific fluoroscopy and radiography curves for the individual operating modes

Digital Fluoroscopy (FL)	<p>Continuous fluoroscopy with 30 f/s (1K²/12-bit matrix) Image acquisition / storage of up to 8 f/s (up to 15 f/s*)</p> <p>Digital filtration</p> <p>Sliding weighted averaging for low-noise image display with minimum dose</p>
Digital Radiography (DR)	<p>Digital filtration (1K²/12-bit matrix)</p> <p>Sliding weighted averaging for low-noise image display with minimum dose</p>
Digital Pulsed Fluoroscopy (PFC)	Image acquisition / storage 0.5 to 8 f/s, (0.5 to 15 f/s*)
Digital Cine Mode* (DCM)	<p>Image acquisition / image storage 0.5 to 30 f/s</p> <p>Acquisition of moving objects with optimum image quality due to high temporal resolution</p>
Digital Subtraction Angiography* / Roadmap*	<p>Image acquisition with 30 f/s, storage of up to 8 f/s (up to 15 f/s*)</p> <p>Simultaneous dual-channel output for image acquisition and postprocessing, simultaneous storage of fill image</p>
EASY (Enhanced Acquisition System)	EASY with automatic dose, contrast, and brightness control in combination with a powerful X-ray tube allows ARCADIS Avantic to deliver brilliant images in every situation
Footswitch	<p>Standard footswitch* for radiation release</p> <p>Multifunctional footswitch* with advanced functionality</p>
Remote control unit	Remote control unit* for controlling the C-arm functions from the sterile area

CARE program (Combined Applications to Reduce Exposure)

CARE is a Siemens Healthcare initiative to reduce radiation dose. ARCADIS Avantic is equipped with state-of-the-art features to reduce radiation dose to the patient and operator. This includes EASY, the automatic dose, contrast, and brightness control system, as well as a dedicated low-dose examination setting and the optional measuring chamber integrated into the single tank to enable the measurement and recording of the dose area product and the standardized surface dose to the patient.

Dose optimization	<ul style="list-style-type: none"> Automatic dose, contrast, and brightness control system (EASY) Easy selection of dose levels and operating modes including dedicated low-dose programs (CAREVISION) Application-related user programs (VPA) Radiation-free positioning of primary collimators through graphical display in the LIH image on the image monitor (CAREPROFILE) Additional copper filter for further reduction of the patient dose Integrated dose measuring chamber* with automatic transfer of the accumulated dose into a radiation report (CAREMAX) System-integrated I.I. laser aimer* System-integrated tube-side laser targeting device* Horizontal laser light localizer for determining the isocenter* Detachable grid on the image intensifier for pediatric applications
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Combined Applications to Reduce Exposure (CARE), a Siemens initiative for dose reduction

Image display/processing

Image display	<ul style="list-style-type: none"> Split screen (1, 4, 9, 16 on 1) Digital zoom, fixed zoom, roaming Image intensifier zoom (optical zoom) Digital image rotation Movie function for playback of scenes Digital shutters Left/right and top/bottom image reversal Positive/negative image inversion Fluoro Loop* / LSH*
Image processing	<ul style="list-style-type: none"> Application-specific lookup tables (LUTs) for optimum contrast and brightness Spatial frequency filtration for edge-enhanced image display Pixelshift, Remask, Landmark (with Subtraction option) Edge enhancement Noise reduction Motion detection with active noise reduction
Text / graphic functions	<ul style="list-style-type: none"> Marking, image annotation and comment Measuring* of angles and distances

* Option

Technical specification

syngo

Patient data administration

Image acquisition

Data transfer and documentation

DICOM Basic*

DICOM Storage Send/Receive

DICOM interface for image data communication in a clinical network (PACS) based on the DICOM 3 standard

Sending, receiving and storing of images

DICOM Storage Commitment

Archiving confirmation from the image archive

DICOM Print

For printing within the network, on a DICOM-compatible camera or DICOM-compatible printer

syngo Filming task card

Enables dedicated image selection prior to printing; preview and grouping of images on the virtual film sheet

DICOM Advanced*

DICOM Advanced contains all the functions of DICOM Basic, plus:

DICOM Query/Retrieve

Retrieval of studies from a digital archive, a workstation, or other imaging systems; e.g., MR, CT

Multimodality viewing

DICOM Worklist Management

For importing patient/examination data from an independent HIS/RIS system, including HIS/RIS queries via special search criteria

MPPS (Modality Performed Procedure Step)

For importing / exporting examination data from / to an independent HIS/RIS system

All DICOM Advanced functions are also available as individual items in combination with DICOM Basic

ARCADIS Avantic

Image display/processing

Data transfer and documentation

Options

Data transfer and documentation

Image storage	60,000 images on hard disk in 1K ² matrix
WLAN*	WLAN-Client module with Ethernet connection for wireless transmission of DICOM image data, e.g. to a PACS
DICOM Offline Media (CD/DVD)	For documenting images on CD/DVD in DICOM and bmp format DICOM Viewer for viewing patient images on a PC can be written to CD/DVD
USB 2.0	Support for e.g. data exchange with external devices
External monitor connections*	Live monitor (L): Video splitter output for connecting an external live monitor Reference monitor (R): Video splitter output for connecting an external reference monitor VGA interface (splitter), 1 x 15 pin VGA (no galvanic separation)
Printer*	Digital printers for printing on film or paper
HIPAA*	Security and Privacy (Health Insurance Portability and Accountability Act)
Key switch*	X-ray release can be disabled with a key switch to prevent unauthorized use When disabled, the system can still be used as a viewing station and for image processing

Technical specification

syngo

Patient data administration

Image acquisition

Operating data

Power requirements	100 V, 110 V, 120 V, 127 V, 200 V, 230 V, 240 V ($\pm 10\%$); 50/60 Hz (± 1 Hz)
Device fusing (internal)	100 V to 127 V 20 A slow-blow fuse 200 V to 240 V 15 A slow-blow fuse

Environmental conditions (operation)

Temperature range	+ 15°C to + 35°C
Relative humidity	15% to 75%, non-condensing
Barometric pressure	700 hPa to 1060 hPa

Weight

C-arm chassis	347 kg (765 lbs) (without accessories)
Trolley with integrated UPS	188 kg (415 lbs) (without accessories)

ARCADIS Avantic

- Image display/processing**
- Data transfer and documentation**
- Options**

Options	
Image acquisition	Pulsed fluoroscopy (pulse rate up to 15 f/s) Digital Cine Mode (DCM) (pulse rate up to 8 p/s; 15 p/s; 30 p/s) Digital Subtraction Angiography / Roadmap System-integrated laser aimer on image intensifier side System-integrated laser targeting device on tube side Integrated dose measuring chamber Standard footswitch Multifunctional footswitch Remote control unit
Image display/processing	Fluoro Loop / LSH Measuring of angles and distances
Data transfer and documentation	DICOM Basic DICOM Advanced External monitor connections WLAN Printer HIPAA Key switch
Column	Display column Flex Plus
Sound system	EMotion
Accessories	Sterile covers for C-arm, X-ray tube, image intensifier and remote control unit

Accessories (optional)

Standard footswitch

144 04 749

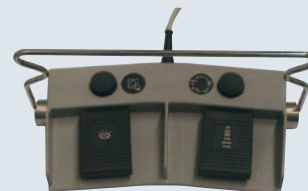
Standard footswitch for radiation release



Multifunctional footswitch

144 04 750

Multifunctional footswitch with extended functionality, e.g. radiation release, switching operating modes as well as storage of the last image (LIH)



Remote control unit

144 04 799

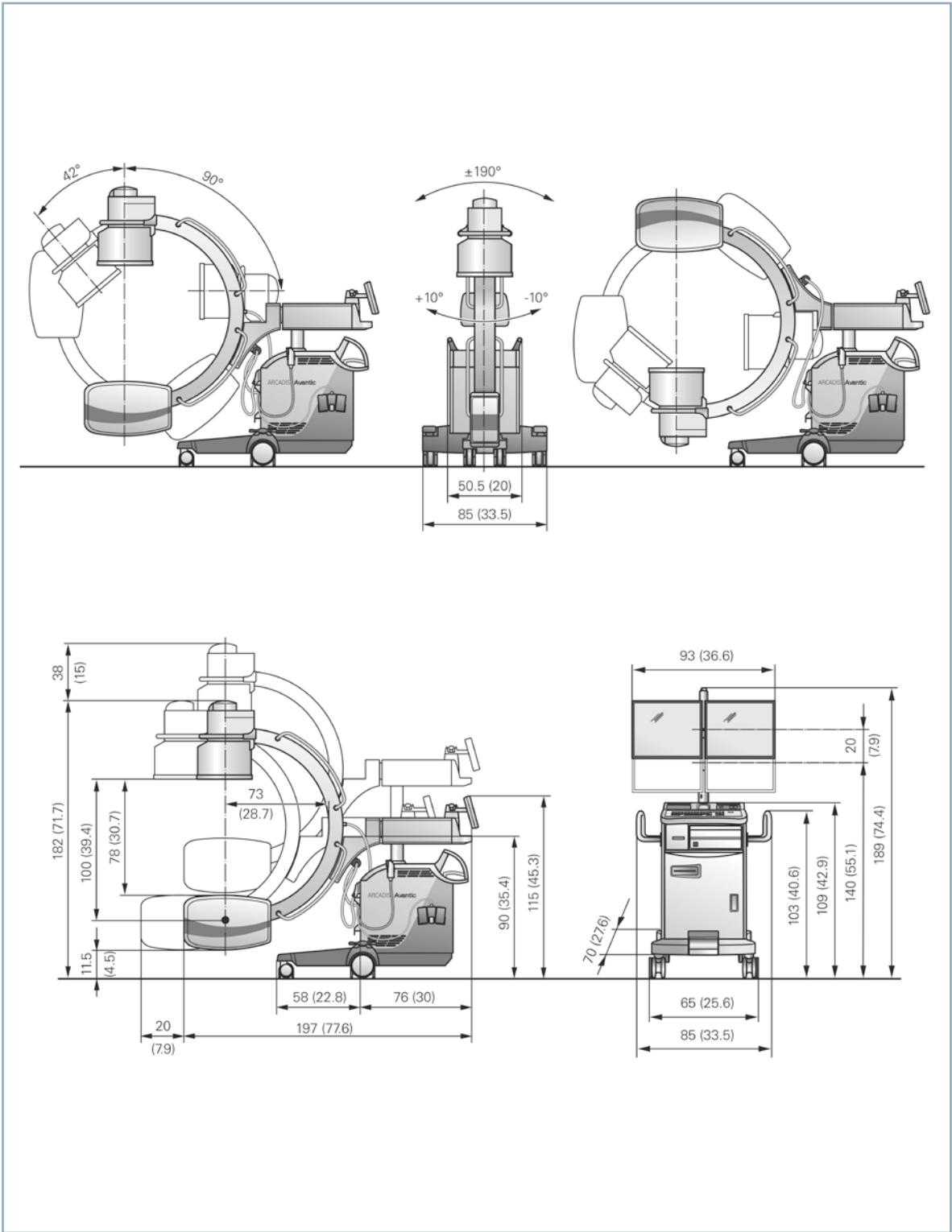
Remote control unit for controlling the C-arm functions from the sterile area

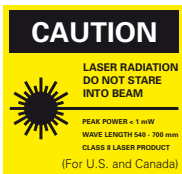


ARCADIS Avantic

- Image display/processing
- Data transfer and documentation
- Options

Dimensions in cm (inches)





The information in this document contains general descriptions of the technical options available and may not always apply in individual cases.

The required features should therefore be specified in each individual case at completion of contract.

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Original images always lose a certain amount of detail when reproduced.

In the interest of complying with legal requirements concerning the environmental compatibility of our products (protection of natural resources, waste conservation), we recycle certain components.

Using the same extensive quality assurance measures as for new components, we guarantee the quality of these recycled components.

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