Datasheet

Uroskop Omnia Max

Sharper images made smarter

siemens-healthineers.com/uroskop-omnia-max

SIEMENS Healthineers

Technical specifications

Tube & Generator

- Choice of 65 kW or 80 kW[1] high-frequency generator
- High anode heat capacity (820 kHU) and air-cooled X-ray tube assembly

Fully motorized table

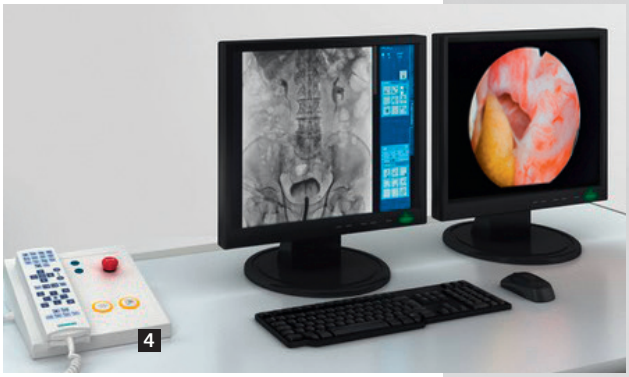
- Tilting ± 90° for examinations with patient seated or standing
- Trendelenburg tilt ± 15° around perineal table end
- 72 cm to 122 cm (28" to 48") adjustable table height
- Table size of 115 cm x 76 cm (45" x 30")
- Longitudinal ± 20 cm (8") and transverse ± 12.5 cm (5") movements
- Max. patient capacity of 272 kg (600 lbs)

Image acquisition & post-processing

- 43 cm x 43 cm (17" x 17") dynamic flat detector for excellent static and dynamic imaging
- CAREVISION pulsed fluoroscopy with 30, 15, 10, 7.5, and 3 p/s
- Workstation with two 48 cm (19") TFT displays
- DiamondView MAX for increased image sharpness and soft tissue detail
- Pediatric organ programs

Workflow

- System-mounted swivel arm with two large 48 cm (19") TFT displays
- SmartView[1] – access to all imaging modalities and display of live images from multiple sources such as endoscopy, ultrasound, or review workstations
- Single remote console for control of table, tube, detector movements
- Multifunctional foot switch[1] – intuitive, sterile control of all system movements and video functions, exposure, and fluoroscopy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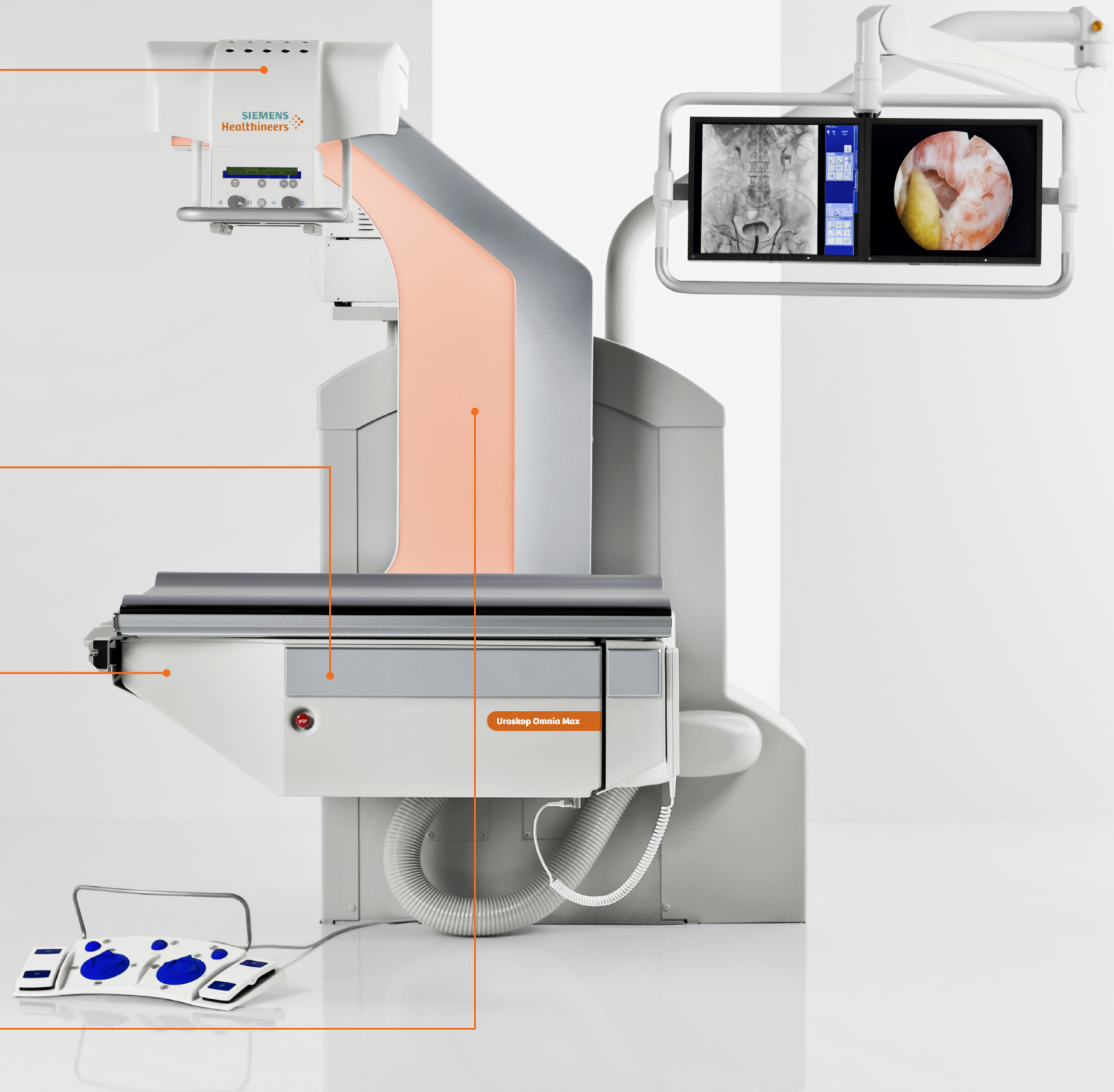
MoodLight[1]

- Creates a friendly working environment
- Color and transitions configurable by the user

[1] *Option*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System specifications

Basic unit	
System	Optional right-handed or left-handed version
Tube unit / flat detector	15 cm (5.9”) synchronized longitudinal travel independent of table position
Tilt range	Motorized tilt ± 90° Isocentric tilt ± 15° Automatic tilt stop in the horizontal position (0°) and Trendelenburg positions ± 15°
Table height	72 cm (28.3”) to 122 cm (48”), continuously adjustable by motor drive Micturition exams: seat height ≥ 43 cm (16.9”) Acquisition with standing patient: height of footboard ≥ 8 cm (3.1”)
Tube assembly park position	32 cm (12.6”) motorized travel between acquisition and park position
Source-detector distance (SID)	116 cm (45.7”)
Tabletop-detector distance	7 cm (2.8”)

System specifications

Patient table and tabletop	
Longitudinal movement	Motorized, continuous travel in a range of ± 20 cm (7.9”) + 20 cm (7.9”) to – 50 cm (19.7”) for acquisitions of standing patients
Transverse movement	Motorized, continuous travel in a range of ± 12.5 cm (4.9”)
Tabletop (L/W)	115 cm (45.3”) x 76 cm (29.9”) radiolucent carbon-fiber tabletop with foam mattress, allows controlled drainage of fluids
Tabletop extensions	95 cm (37.4”) / 30 cm [1] (11.8”) extensions attach to either side of the tabletop
Table load	max. 272 kg (600 lbs)

MoodLight [1]	
MoodLight	The illuminated glass panel creates a friendly working environment for the patient and staff. The color of the light as well as soft color transitions can be configured individually by the user

[1] *Option*

System specifications

Dynamic flat detector 43 cm x 43 cm (17" x 17")				
Amorphous silicon flat detector with Cesium iodide scintillator				
High-resolution 2840 x 2874 matrix with 148 µm pixel size and 16-bit digitization depth				
High-performance fiber-optic connection to digital imaging system				
Anti-scatter grid	Stationary, Pb 15:1, 80 lines/cm, f_0 = 115 cm, removable			
Input fields (active detector field)	Full format 42.0 cm x 42.5 cm 16.5" x 16.8"	Zoom 1 30 cm x 30 cm 11.8" x 11.8"	Zoom 2 22 cm x 22 cm 8.7" x 8.7"	Zoom 3 15 cm x 15 cm 5.9" x 5.9"
Material	a-Si with CsI scintillator			
Pixel size	148 µm			
Spatial resolution (Nyquist frequency)	3.4 lp/mm			
Matrix	Up to 2840 x 2874 pixels			
Digitization depth	16 bits			

System specifications

Dynamic flat detector 43 cm x 43 cm (17" x 17")	
DQE in %; 2 µGy (RQA5) (IEC 62220)	67 % at 0.05 lp/mm 56% at 0.5 lp/mm 50 % at 1.0 lp/mm 45% at 1.5 lp/mm 42 % at 2.0 lp/mm 35% at 2.5 lp/mm 27 % at 3.0 lp/mm 20 % at Nyquist
DQE in %; 200 nGy (RQA5) (IEC 62220)	66% at 0.05 lp/mm 56% at 0.5 lp/mm 49% at 1.0 lp/mm 45% at 1.5 lp/mm 40% at 2.0 lp/mm 34% at 2.5 lp/mm 25% at 3.0 lp/mm 20% at Nyquist
DQE in %; 20 nGy (RQA5) (IEC 62220)	63% at 0.05 lp/mm 52% at 0.5 lp/mm 44% at 1.0 lp/mm 38% at 1.5 lp/mm 31% at 2.0 lp/mm 23% at 2.5 lp/mm 16% at 3.0 lp/mm 12% at Nyquist
MTF in % (RQA5) (IEC 62220)	83% at 0.5 lp/mm 67% at 1.0 lp/mm 53% at 1.5 lp/mm 42% at 2.0 lp/mm 32% at 2.5 lp/mm 25% at 3.0 lp/mm 21% at Nyquist
Five selectable solid-state measurement fields	
Measurement fields are adjusted according to collimation depending on the selected zoom format	

System specifications

X-ray tube assembly		
OPTITOP 150/40/80HC-100		
Max. exposure voltage (IEC 60613)	150 kV	
Focal spot nominal value (IEC 60336)	0.6	1.0
Nominal anode input power (IEC 60613:1989) (thermal anode reference power = 300 W)	40 kW	80 kW
Nominal anode input power (IEC 60613:1989) (thermal anode reference power = 0 W)	52 kW	103 kW
Radiographic anode input power (IEC 60613:2010)	47 kW	85 kW
Optical anode angle (IEC 60788)	12°	
Anode heat dissipation rate	120,000 J/min. (170,000 HU/min.)	
Anode heat storage capacity	580,000 J (820,000 HU)	
Max. heat storage capacity of the tube housing	1,800,000 J (2,530,000 HU)	
Anode drive	150/180 Hz (9,000 to 10,800 rpm)	
Leakage radiation (IEC 60601-1-3) (at 150 kV at 1 m distance)	≤ 0.8 mGy/h (450 W)	
Total filtration (IEC 60601-1-3)	≥ 2.5 mm Al/80 kV	
Weight	26 kg (57.2 lbs)	

Primary collimator	
Collimation control	Manual and motorized, pre-set via organ programs
Inherent filtration	1 mm Al at 75 kV/2.7 mm Al HVL
Source to collimator flange distance	8 cm (3.1”)
Cu prefilter (1 HLV mm Al)	0.1 mm (3.5 mm), 0.2 mm (7.1 mm), 0.3 mm (10.8 mm), motorized Filter selection via the organ program and automatic monitoring of patient absorption (auto filter) Filter value displayed on image monitor and LCD of collimator
Accessory rails	Two levels for inserting additional filters, cones or collimators
Full-field light localizer	Very efficient 4 W high power LED technology; high energy efficiency enabling low-noise design without external cooling system, lifetime approx. 100,000 h, timer functionality, laser line light localizer (coverable)

System specifications

X-ray generators

Generator	**POLYDOROS F65**	**POLYDOROS F80** [1]
Output	40 kV to 150 kV, 1 mA to 1000 mA 65 kW (acc. IEC 60601-2-7) 0.5 to 800 mAs	40 kV to 150 kV, 1 mA to 1000 mA 80 kW (acc. IEC 60601-2-7) 0.5 to 800 mAs
Exposure times	0.001 s to 5 s	
Frequency	100 kHz	
Fluoroscopy	40 kV to 110 kV, 4 mA to 84 mA, 2 ms to 10 ms, pulsed fluoroscopy	

Displays

Examination room - Display support arm and color display	
Support arm	Spring-articulated arm mounted on the basic unit with 2 x 19" TFT color displays Suitable for live and reference image display of X-ray and fluoroscopy images as well as endoscopy and ultrasound images imported via the HD VideoManager[1] interface in the examination room
19" (48 cm) TFT color display	
Screen size	19" (48 cm)
Image matrix	1280 x 1024
Maximum brightness, typical	330 cd/m²
19" (48 cm) High-bright TFT color display [1]	
Screen size	19" (48 cm)
Image matrix	1280 x 1024
Maximum brightness, typical	1000 cd/m²
Control room	
19" (48 cm) TFT color display	
Screen size	19" (48 cm)
Image matrix	1280 x 1024
Maximum brightness, typical	280 cd/m²
19" (48 cm) Color high contrast display [1]	
Screen size	19" (48 cm)
Image matrix	1280 x 1024
Maximum brightness, typical	700 cd/m²

[1] *Option*

System specifications

Operation	
System controls	Single, intuitive remote console for control of table, tube and flat detector movements from the control room [1] Comprehensive hand-held control for all system movements and imaging functions, table-side and remote [1] Foot switch for fluoroscopy and radiography acquisition [1] Multifunctional foot switch [1] for table, tube and flat detector movements, video source selection, storage of displayed X-ray image (LIH) and endoscopy image as well as fluoroscopy and radiography acquisition [1]
SmartMove	SmartMove – the system takes the fastest way to the predefined position, with up to seven predefined, automatic and simultaneous functions (tube longitudinal, tube park, table longitudinal, table transversal, table height, table tilt, system ready) Motor-driven grid movement into parking position for pediatric imaging 5 customizable memory buttons for predefined exam positions
Imaging system	*syngo* FLC manages the exam workflow from registration to documentation including display, storage and postprocessing of images

syngo **FLC hardware**	
Computer	Intel Core i3 microprocessor, min. 3.7 GHz, 8 GB RAM, S-ATA drive, USB 3.0 and interface cards for the detector/X-ray system
Operating system	Windows 10 Enterprise LTSB 2016 (64 Bit)
Acquisition memory on hard disk	HDD 2TB – up to 200,000 DFR images (1 RAD image equals 8 DFR images)

[1] *Option*

Clinical workflow

Patient data administration	
Patient registration	Retrieval of patient list and examination data from the hospital/ radiology information system (HIS/RIS) Emergency patient registration Patient, study and image data administration Configurable patient registration page Password protected access [1] Cyber Security [1]

Examination preparation	
Exam manager	Selection of exams; adding, deleting or replacing organ programs Automatic acquisition mode/workstation selection
Organ program and exam set editor	Organ programs combined of multiple imaging and workflow parameters for particular body parts and imaging exposure and postprocessing More than 3000 organ programs can be stored, customized and arranged in exam sets using the advanced organ program and exam set editor Exam sets consist of one or more organ programs. The system automatically selects the next organ program in the chosen exam set as each exam step is completed
Organ programs	The following parameters can be set: X-ray parameters: E.g., acquisition mode, exposure technique, tube voltage, dose, fluoroscopy program, frame rate Image processing parameters: E.g., window values, edge enhancement, positive/negative image display, harmonization factor Automatic functions: Set default as on or off for automatic functions such as auto window, auto shutter and auto Cu filter

Image acquisition/display	
Flat detector	Digital Pulsed Fluoroscopy (CAREVISION): 30, 15, 10, 7.5 and 3 p/s, 12-bit matrix (30 p/s at Zoom 0 and 2) DFR series: 1k x 1k or 1420 x 1436/12-bit matrix: 0.5, 1, 2, 4 or 8 f/s Digital Radiography: up to 2840 x 2874 pixels/14-bit
Image display	Aspect ratio 5:4, corresponding to 1280 x 1024/14-bit matrix, 1k x 1k image content

[1] *Option*

Clinical workflow

Data transfer and documentation	
DICOM network interface	
DICOM Send/StC	Transmission of images to a DICOM network for viewing and archiving Confirmation from the image archive (StC = Storage Commitment)
DICOM Print	Printing of images to a DICOM laser camera via virtual film sheet
DICOM Query/Retrieve [1]	Retrieval of images from a picture archiving and communication system (PACS)
DICOM Multimodality Viewing [1]	Import and viewing of images/studies from other imaging modalities such as MR and CT prior and post examination
DICOM encryption [1]	Sending encrypted images to DICOM nodes which can receive encrypted images
DICOM Worklist/MPPS [1]	Get Worklist function for importing patient data from a data management system (RIS/HIS). XRF, CR and DX worklist entries supported, configurable Modality Performed Procedure Step (MPPS) function for sending examination statistics and dose information to a data management system
DICOM Dose Structured Report	Sending of dose values for each study to an archiving system

[1] *Option*

Clinical workflow

Data transfer and documentation

Documentation

Image data management	Transmission of images to a network Automatic and selective printing with virtual film sheet Available layout formats for printing: 2 x 1; 3 x 1; 3 x 2; 1 x 1; 1 x 2; 1 x 3; 2 x 2; 2 x 3 Up to 3 network nodes at the same time and one laser camera configurable Export of image data (12 bit) to CD/DVD recorder in: – DICOM format with integrated DICOM reader recorded on the disk – TIFF and AVI format – Proprietary format (raw data) Export to USB device in DICOM or TIFF format USB hard disk available as optional accessory
Video recording to DVD [1]	Direct recording of fluoroscopy and acquisition series to the DVD recorder
External DVI interface [1]	Standard video interface (DVI format) for connecting an external video recording device Recordings are triggered via radiation release
Background functionality	Imaging functions such as DICOM Send/Print, CD-R or DVD-R/DVD+R burning are performed in background mode
Recycle bin	This feature can be enabled or disabled Stores rejected and deleted images that are not archived/printed in a separate folder
Clinical Assurance Program (CAP)	Provides statistics of rejected images
Exposure index (EXI) monitoring	Provides minimum and maximum EXI value for export
Printer connection	For paper printing to a Level 2 PostScript printer

[1] *Option*

Clinical workflow

CARE Program (Combined Applications to Reduce Exposure)	
CAREMATIC	Automatic X-ray control system for fully automatic calculation and optimization of the exposure data based on fluoroscopic values
CAREFILTER	Adaptive Cu pre-filtration at 0.1, 0.2 and 0.3 mm Cu to reduce patient dose Filter selection via the organ program and automatic monitoring of patient absorption (auto filter)
CAREVISION	Pulsed fluoroscopy with selectable pulse frequencies of 30, 15, 10, 7.5, or 3 p/s
CAREPROFILE [1]	Radiation-free collimation and positioning of primary filters through a graphic display on Last Image Hold
CAREPOSITION [1]	Radiation-free positioning via graphic display of the field-of-view on Last Image Hold (only together with CAREPROFILE)
CAREMAX	An integrated measurement chamber in the collimator housing measures the dose area product in µGym² and/or standardized patient entrance dose, which are displayed on the generator display and imaging system display (CAREWATCH) The display can be configured as follows: During fluoroscopy: Skin dose During fluoroscopy pause: A choice of cumulative skin dose, dose area product or percentage of a defined dose limit value
Enhanced CARE package [1]	The following functionalities for low dose results can be found in this package: **Snapshot mode** Enables instantaneous snapshot image during fluoro at lower dose than DFR/DR images **Proactive FluoroLoop** Possibility to activate automatic storage of upcoming fluoro sequences instead of acquiring DFR/DR images/sequences to avoid additional dose **Histogram-based dose regulation** Automatic dose regulation for fast and easy patient positioning **Digital zoom** Live image zoom without dose increase

[1] *Option*

Clinical workflow

Image display/processing	
Image processing	Vertical and horizontal reversal, zoom, electronic magnifying glass, windowing for contrast/brightness, black/white image inversion, harmonization (DDO), edge enhancement filter, electronic shutter
Text functions	Marking, annotation, image comments, R/L markers
Graphic functions	Quantification with angle/distance measurement
DiamondView MAX	DiamondView MAX is our unique image processing engine that comes with all MAX systems. Even in gridless imaging, it delivers exceptionally sharp images with enhanced contrast, a high level of detail visibility, and optimized noise reduction – at low dose for all adult and pediatric patients.
Image impression	Simplified setting of image impression according to the policy of the customer institution

Software options	
FluoroLoop [1]	Storage and display of dynamic fluoroscopy sequences Maximum storage duration depends on the frame rate, e.g., 30 p/s approx. 60 s, 15 p/s approx. 60 s, 10 p/s approx. 90 s, 7.5 p/s approx. 120 s, and 3 p/s approx. 300 s

[1] *Option*

Clinical workflow

SmartView options	
SmartView [1]	Display of sources such as endoscopy, ultrasound or image review workstations on the right-hand monitor of the examination room display on the unit. Connection via HD VideoManager; supports HD (high-definition) endoscopy, features connections for 1 x Composite, 2 x S-Video 2 (Y / C), 2 x HDMI, 1 x DP 1, 2 x DVI I, 1 x S-Video 1, 2 x SD/HD/3G SDI; offers 150 pre-programmed timings and supports PAL and NTSC up to 1080p (4096 x 2160, 50/60 Hz, interlaced/progressive) at input
VideoManager Urodynamics [1]	Additional output on the HD VideoManager with the X-ray live image signal in DVI-I format (DVI-D and DVI-A); e.g. for video urodynamics or for connecting an additional external monitor
Monitor for reference/endoscopy/ultrasound [1]	Additional 19" TFT color monitor in the control room for displaying X-ray ultrasound [1] reference images or external image sources such as endoscopy or ultrasound connected via HD VideoManager
VideoManager Out [1]	Additional output on the HD VideoManager with the signal of the external image sources connected via HD VideoManager and the X-ray reference images in DVI-I format (DVI-D and DVI-A); e.g. for connecting an additional external monitor in the examination room
HD EndoStore [1]	A signal (e.g. endoscopy or ultrasound) connected via HD VideoManager is saved as a freeze frame in DICOM format and stored in the same patient record together with all the patient images acquired; images of all modalities can be transferred to a PACS as a bundled package; supports HD (high-definition) endoscopy
Reference image display [1]	Storage and display of reference images on the second monitor in the control room

[1] *Option*

Clinical workflow

Cyber Security	
Secure Product Lifecycle	Threat and Risk Analysis, Secure Architecture & Design, Secure Configuration and Hardening, Secure Coding & Testing with Vulnerability Scanning, Penetration Testing
Whitelisting	Malware protection based on Microsoft Device Guard
Hard Disk Encryption	A Bitlocker provides data encryption on hard disk
IPv6	It is possible to configure IP adressess in IPv4 or IPv6 format
High frequency hotfix delivery	Providing hotfixes for 3rd party components (e.g. Microsoft) every 90 days
Advanced security package [1]	Advanced user management: Active directory integration, Individual password management and user authorization Audit trail management: Detailed tracking of user and system actions and centralized automated logging DICOM encryption
Hardware security package [1]	Lock to generator cabinet Hardware port covers for *syngo* FLC

[1] *Option*

Accessories

Standard accessories
Arm shield
Control panel
Elbow supports
Hand control unit
Holder for hand control unit
Interface for paper printer
Standard mattress set with head wedge
Tabletop extension 95 cm (37.4“), weight: 5.4 kg (12 lbs)

Accessories

Optional accessories	
Endoscopy	Endoscopy shelf Endo cable holder SmartView VideoManager Urodynamics VideoManager Out Monitor for reference/endoscopy/ultrasound HD EndoStore
Table accessories	Coxafix leg support, clip-on (1 pair) Coxafix leg support (1 pair) Child leg supports KTEK Comfort 350 Stirrup (pair) KTEK Comfort 800 Stirrup (pair) KTEK Cysto Knee Crutch-gas spring (pair) KTEK Secure-Release Clamp (pair) KTEK Simple Blade Rail Clamp (pair) KTEK Stirrup Cart Amatech foot support (pair) Amatech leg support (pair) KTEK Armboard with pad 2.5 cm KTEK Armboard with pad 7.5 cm Flexible patient arm rest Lateral handgrip Shoulder supports Hand restraints (1 pair) Anesthesia bracket Infusion bottle holder Table extension 30 cm (11.8“), weight: 4.2 kg (9.2 lbs) Holder for plastic drain bag Plastic drain bags (20 pcs.) Drain tub Micturition seat Footboard
System operation	Advanced multifunctional foot switch Foot switch for fluorosccopy and X-ray Hand-held control
Miscellaneous	Radiation protection Uro, 46 cm Radiation protection Uro, 85 cm Radiation protection, removable Monitor table Accessories cart

Room planning

Installation data	
Power requirements	3/PE ~ 380/400/440/480 V (± 10 %) at 50 or 60 Hz Internal line impedance according to planning guides

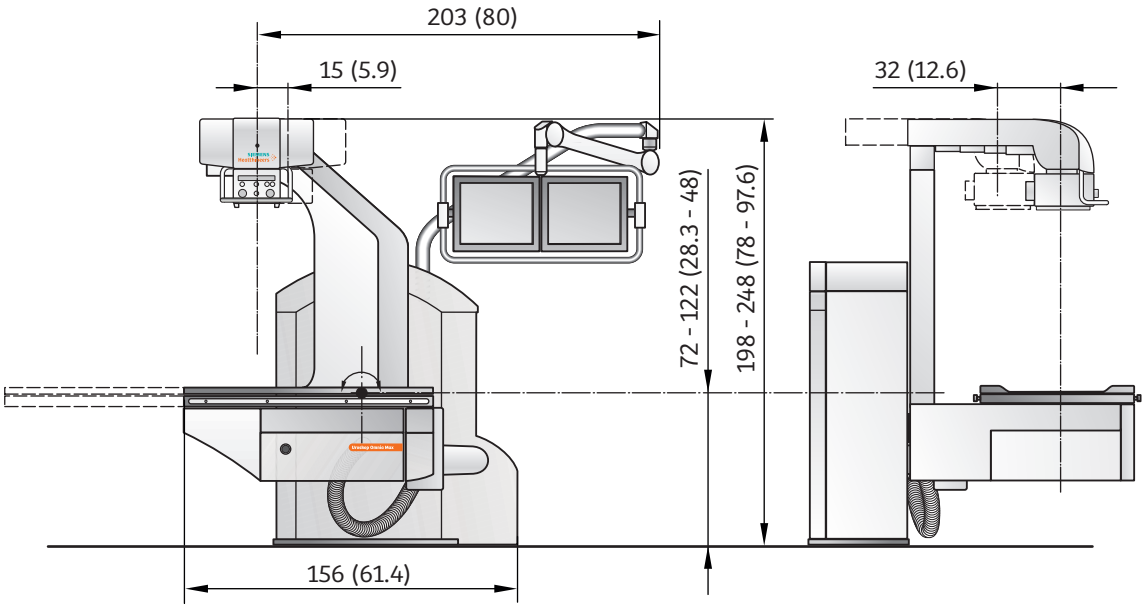
Room height	
Minimum room height without restriction of unit movements	2.8 m (9' 2")
Minimum room height with restriction of unit movements	2.4 m (7' 11")

Environmental conditions (operation)	
Temperature range	+ 15 °C to 35 °C
Relative humidity	20 % to 75 %
Barometric pressure	700 hPa to 1060 hPa

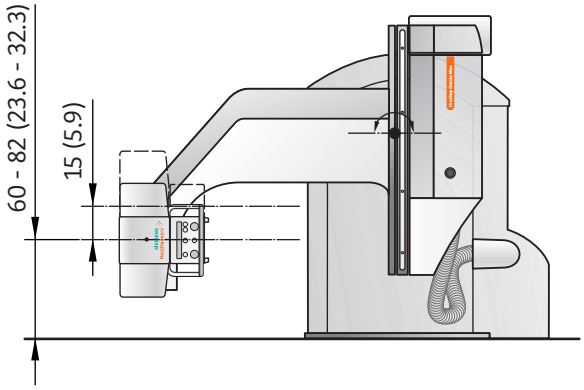
Weight			
Uroskop Omnia Max	approx.	1130 kg	(2486 lbs)
Control console	approx.	5 kg	(11 lbs)
Imaging system	approx.	50 kg	(110 lbs)
19" color TFT monitor (exam room)	approx.	5.5. kg	(12 lbs)
19" color TFT monitor (control room)	approx.	7.5 kg	(16.5 lbs)
Generator	approx.	335 kg	(737 lbs)

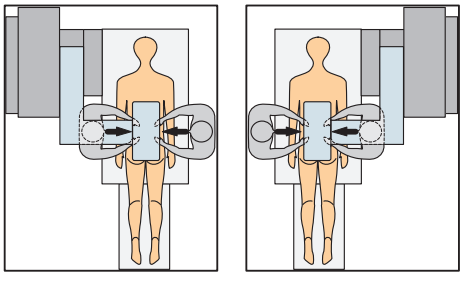
Room planning

Dimensions in cm (inches)



Urodynamics position



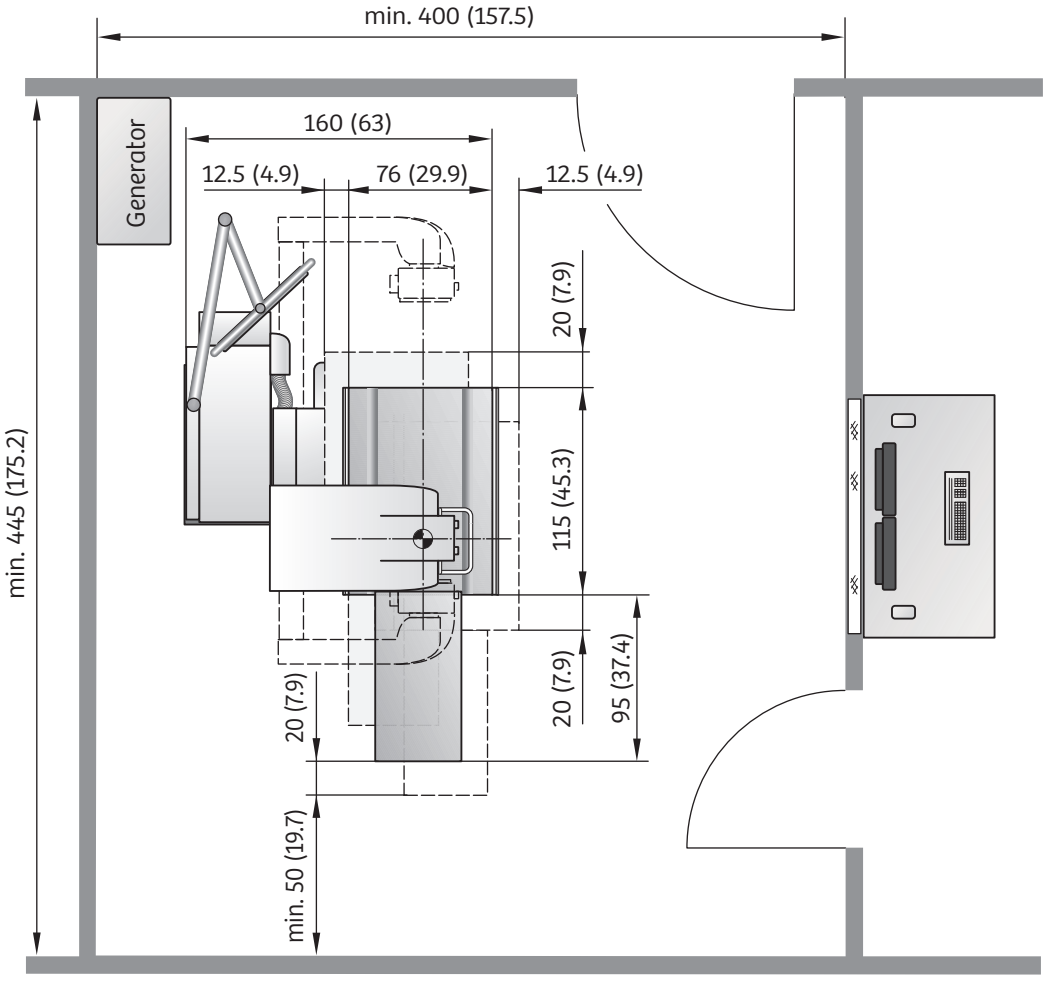


Left-hand version

Right-hand version

Room planning

Dimensions in cm (inches)



Dimensions valid for left-/right-hand version
Illustration: left-hand version

Generator preferably if possible to be installed in control room or outside procedure room if space available

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VF11

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