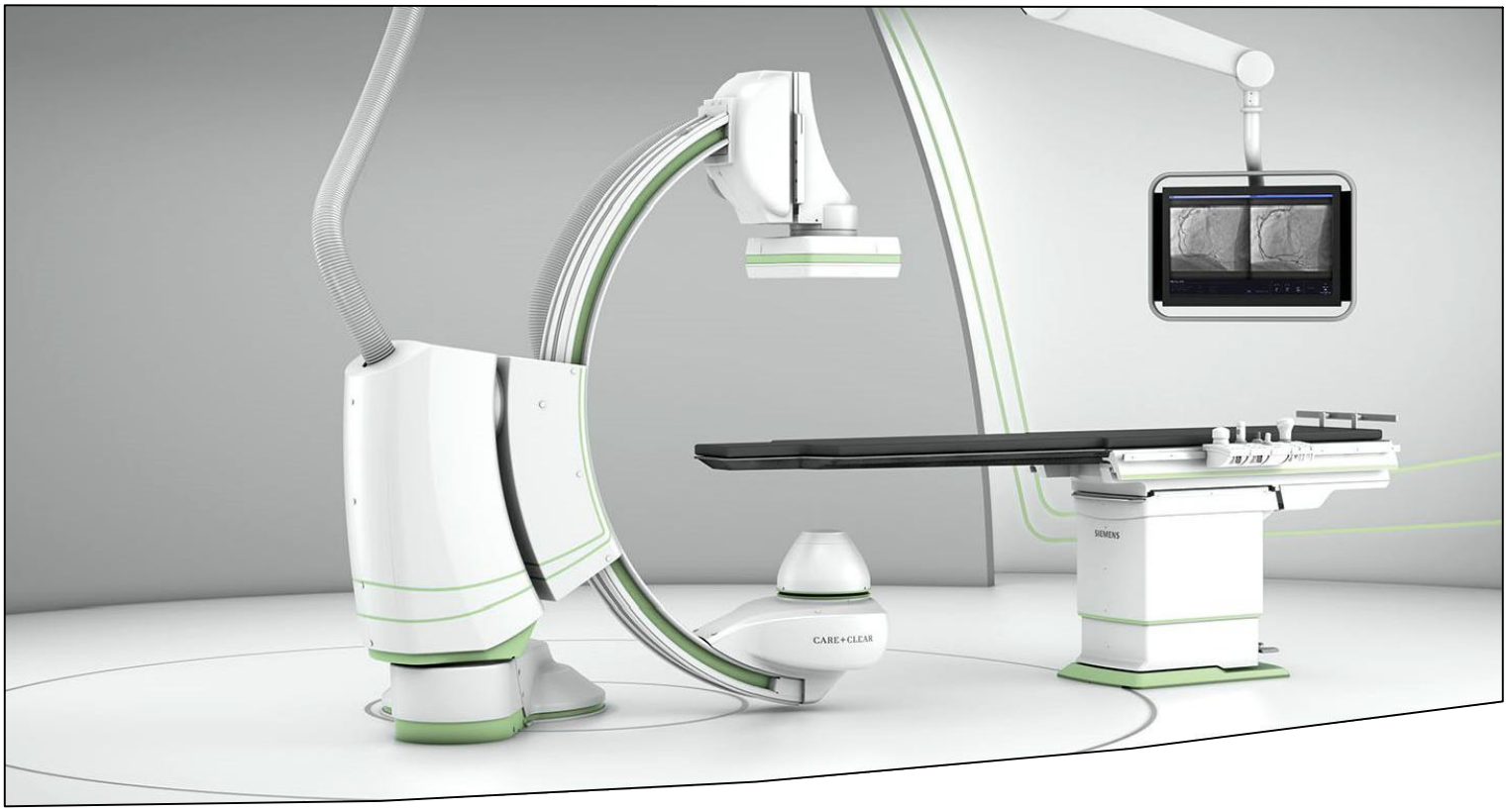

Artis one

Basic Planning Information

SIEMENS Healthineers

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Legend

- Motion area / Swivelling range / Minimal room size / Safety distance
- Service area
- Floor mounted
- Ceiling mounted
- Wall mounted
- Additional equipment
- Demolition

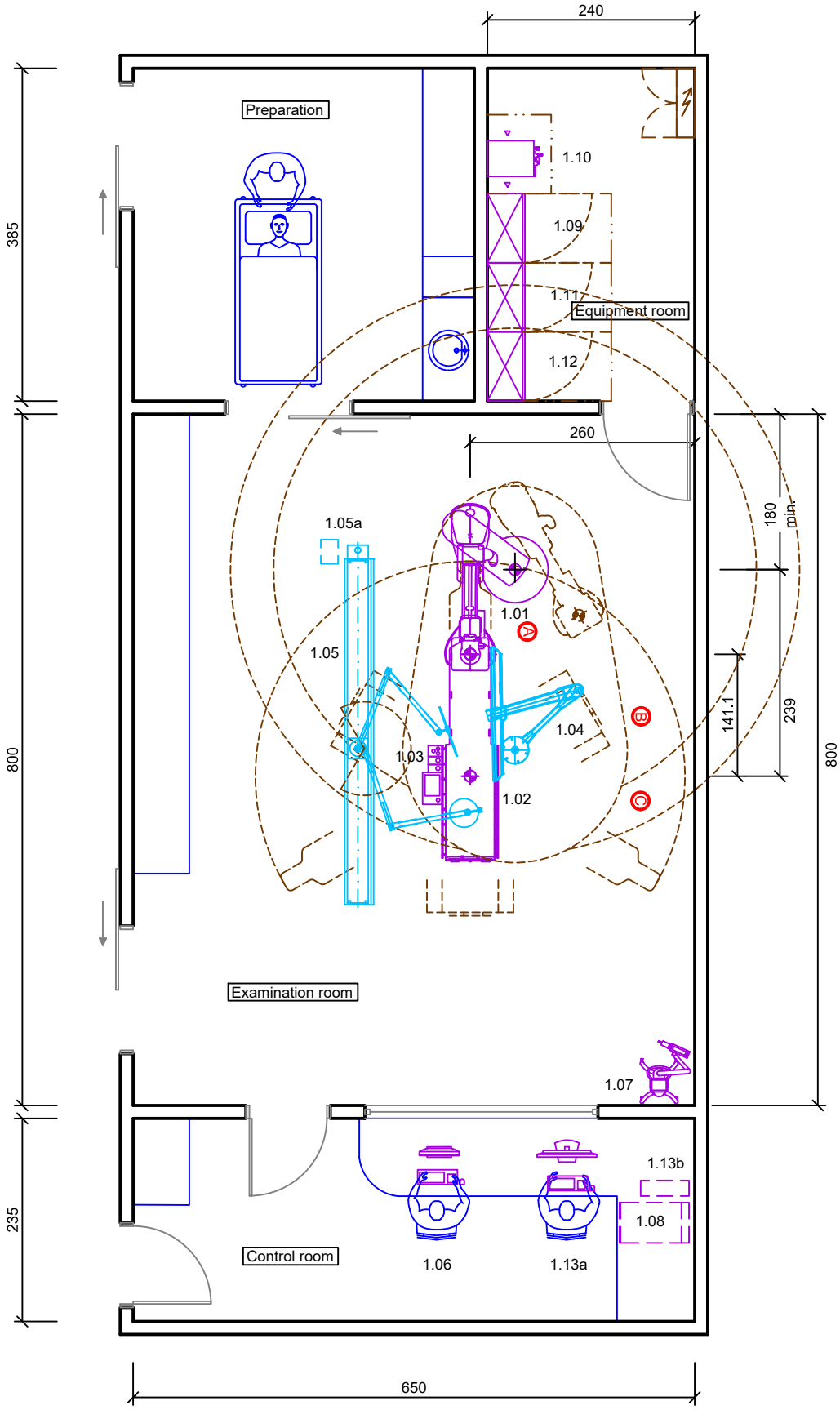
Dimensioning

All installation measurements apply to finished wall/floor/ceiling and are to be checked prior to assembling the unit.

Orientation point = reference point of the Siemens Healthineers unit for planning and installation

Please note: The drawing parts in this document are not to scale!

Planning Example



Artis one – Equipment Legend				
		Weight (kg), Heat dissipation to the air (W)		
Pos.	Description	kg	W	Remark
1.01	Floor stand (incl. Mounting plate 45 kg)	570	200	
1.02	Patient table (incl mounting plate 25 kg)	255	200	
1.03	Control console and ECC I on patient table	4		
1.04	DCS-EAS 2x 30" Display	117	270	
1.05	Upper body radiation shield with OR light LED, moveable	85		optional
1.05a	Transformer for LED-light			optional
1.06	Display with keyboard and mouse	10	175	
1.07	MEDRAD Injector Pedestal	97		optional
1.08	Axis smart image system	75	570	88 kg / 960 W with UPS
1.09	Generator POLYDOROS A100 Plus	300	1000	
1.10	Cooling unit - SMC one4all	28	2400	
1.11	System control cabinet	297	1600	
1.12	Cable cabinet	120		optional
1.13b	30" Color Display with Mouse and Keyboard	16	170	
1.13b	Cockpit Controller MLC	15	400	

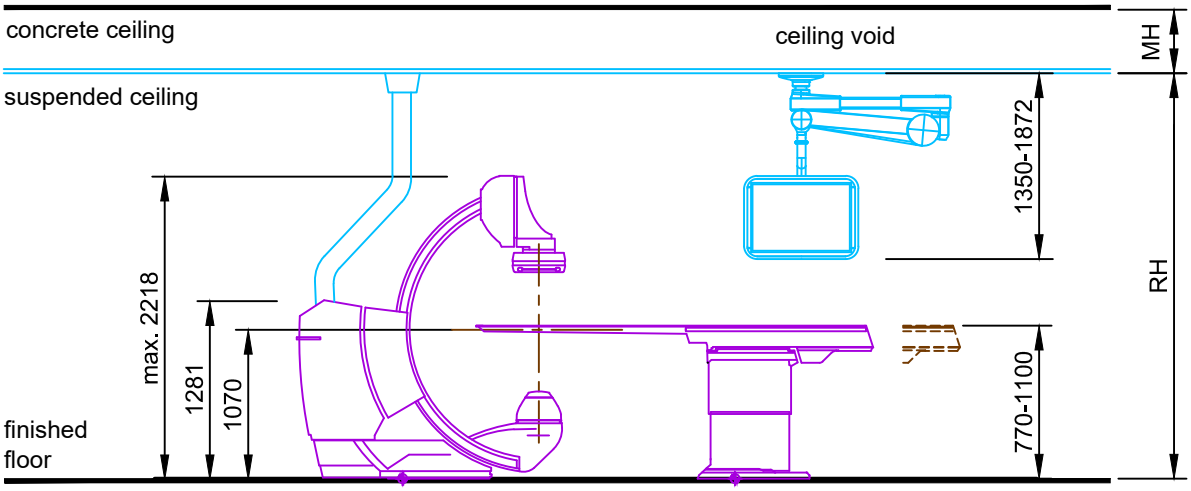
Room Dimensioning

Room dimensioning

The indicated room dimensions have to be checked on site. The planning department has to be informed about possible deviations. Otherwise we cannot assume any guarantee for the accurate implementation of the dimensions indicated in the planning documents.

Room height

not to scale



Room height (RH) : 2400 to 3100 mm

Measured from the highest point of the finished floor (incl. floor covering) to the lowest point of the ceiling substructure.
Required minimum height (MH) 150 mm in suspended ceiling for corrugated hose holder and cable routing.

Positioning of the DCS depends on the room height.

With a room height of < 2800 mm, the upper body radiation shield cannot be secured to the DCS.
The moveable upper-body radiation shield is required!

Rigid collisions of the C-arm with the DCS in case of room height equal 2700 and lower 2800 mm (> = 2700mm < 2800 mm) may lead to damages to the DCS and the Stand. Danger of personal injury due to falling parts ! The distance of 2590 mm between the floor stand's orientation point and DCS mounting point shall not be reduced.

Safety Areas

not to scale

All components that do not belong to the Siemens Healthineers system are labeled as external system components.

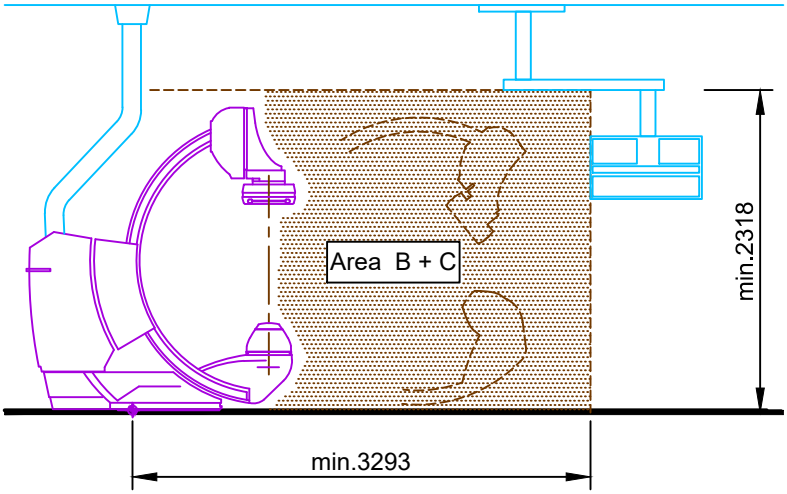
When planning non-system components in the examination room, pay attention to the movement ranges of the system components (risk of collision!).

The max. rotation range of the floor stand is limited by the configuration of the room limits during system startup.

Safety Areas for ceiling-mounted Components in the motorized movement Range of the Floor Stand

Area A - In this area, no components that are not part of the system may be installed on the ceiling.

Area B - Non-system components that are installed in this area must meet the following requirements: minimum clear space between the bottom edge of the fixed part (e.g. support arm column) of the component and the finished floor: 2318 mm.
Moving parts (e.g. support arm) of the components that are below the minimum height of 2318 mm must be able to perform evasion to outside of the max. movement range (including the safety distance) of the floor stand. Otherwise there is a risk of crushing for personnel or a risk of equipment damage.



Area C - represents the safety distance of 500 mm between motor-driven parts and personnel as defined by EN 60601.

Statics and Transport

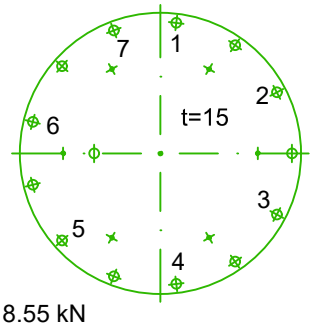
Statics

not to scale

Floor Stand

Mounting holes 1 to 7 for installation directly on the floor. The other holes are spare mounting holes.
Max. tension forces 8.13 kN at fastening points 1 to 7.

This maximum value does not appear simultaneously on all mounting points. Tensile forces depend on the operating position and on the unit movement.



Patient Table

Load on each mounting point at the table foot-end: max. tensile force equaling 8.55 kN
The max. admissible patient weight is 250 kg.

DCS-Stand

The installation of the DCS depends on the ceiling type.

For installation direct on a concrete ceiling the "DCS Artis One ceiling column" is necessary.
Max. tensile force of 5.96 kN per mounting point (assuming that only one anchor is supporting the entire load).

For installation on a suspended ceiling (heavy load ceiling) the "DCS Artis One adapter plate" is necessary.
Max. 2.9 kN pull force per mounting point.

Transport

not to scale

The transport route (doors and hallway) needs sufficient dimensions for the following parts:	
Floor stand with packaging	250 x 95 x 218 cm (W x D x H), Weight 911 kg
Floor stand with transport carriage	Weight 675 kg
Patient table with packaging	262,5 x 86 x 197,6 cm (W x D x H), Weight 605 kg
Patient table with transport carriage	Weight 354 kg
The door must have a final clearance of 125 cm if bed entrance is requested.	

Comply with the following transport conditions to prevent damages to the system:

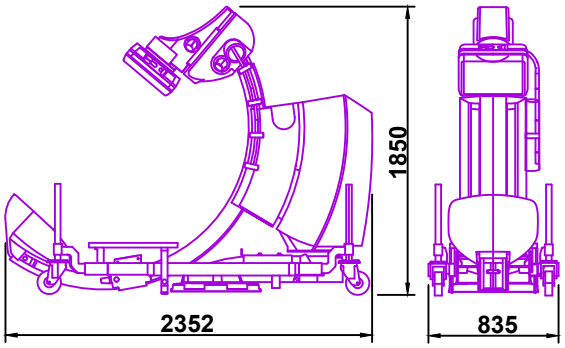
Maximum acceleration spectral density according to DIN EN 60721-3-2, class 2M2
- 1 m2/s3 (0,01 g2/Hz) for oscillation frequencies from 10 to 200 Hz

Maximum acceleration according to DIN EN 60721-3-2, class 2M2

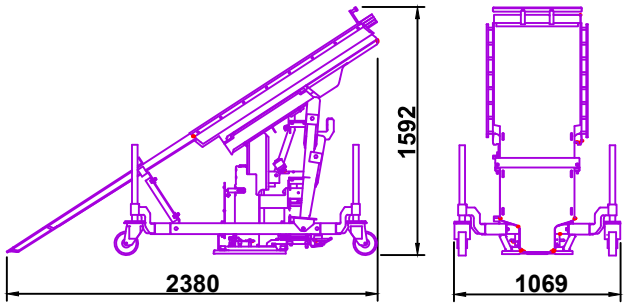
Peak acceleration permitted â (full shock response spectrum type I):
- horizontal shock (longitudinal / transversal):40 m/s2 (corresponds to the shunting of a train car)
- Vertical shock: 100 m/s2

Note:
All AX components are to be transported in the transport packaging provided by the supplier.
Only vehicles with air suspension may be used for road transport of AX systems.
Only rail cars with shock absorbing bumpers ma be used for rail transport of AX systems.

Floor stand with transport carriage



Patient table with transport carriage



Environment

Environmental conditions for transport / storage	
Temperature range Relative humidity Barometric pressure	-20° to 70 °C 10 to 95 % without condensation 50 to 106 kPa
Acceleration	There must be absolute compliance with the following transport conditions to prevent damage to the system: Maximum acceleration spectral density according to DIN EN 60721-3-2 class 2M2 1 m²/s³ (0.01 g²/Hz) for oscillation frequencies from 10 to 200 Hz Maximum acceleration according to DIN EN 60721-3-2 class 2M2 Permissible peak acceleration â (full shock response spectrum type I): Horizontal shock (longitudinal / transverse): 40 m/s² (corresponds to the shunting of a train car) Vertical shock: 100 m/s²

Environment		
Examination room Control room Equipment room	Temperature range Relative humidity Max. temperature gradient Barometric pressure	15 bis 30 °C (recommended 22 °C) 20 bis 75 % non-condensing 5 °C / h 70 bis 104 kPa
Image system	Air flow rate Max. noise generation	156 m³ / h 53 dB(A)
Generator	Air flow rate Max. noise generation	160 m³ / h 55 dB(A)
System control cabinet	Air flow rate Max. noise generation	295 m³ / h 55 dB(A)
Cooling unit	Cooling air Flow rate Max. noise generation	15 to 30 °C, frost-free room 4,2 l / min. 55 dB(A), 57 dB(A) at altitude > 3000m
Floor stand	Schocks Vibrations	max. 10 g / 16 ms max. 0,1 g / 10 bis 200 Hz
UPS 15 kVA	Temperature range Relative humidity Air change Max. noise generation	0 to 40 °C 20 to 25 °C recommended 5 to 95 % non-condensing 0,18 m³ / h 60 dB(A)
UPS 40 kVA	Temperature range Relative humidity Air change Max. noise generation	0 to 40 °C 20 to 25 °C recommended 5 to 95 % non-condensing 0,35 m³ / h 60 dB(A)

Electrical Installation

Power requirements for POLYDOROS A100 Plus (PU1)			
Power Line:	3/N/PE AC, 50/60 Hz ± 1 Hz	Connection Value:	34,6 kVA
Line Voltage:	400 V ± 10 %	Power Consumption: Fluoroscopy Radiography	 8 kVA 160 kVA
Line Impedance:	≤ 135 mΩ		
Cable cross section to be determined by calculation, max 70 mm²			

Power requirements for system control cabinet (SC1)			
Power Line:	3/N/PE AC, 50/60 Hz ± 1 Hz	Connection Value:	5,5 kVA
Line Voltage:	400 V ± 10 %	Power Consumption:	7,5 kVA
Cable cross section to be determined by calculation, min. 16 mm²			

Room lighting

Ambient lighting in rooms with diagnostics or with workstations must comply with the respective local and national regulations.
General requirements like the needed intensity of illumination - adjustable, reproducible, flicker-free or a limitation of dazzlings and reflections etc. have to be observed (EN 12464-1, DIN 5035-7).

General Information

Display screen workstations

For setting up display screen workstations, take account of the guidelines in the Display Screen Workstation directive as well as any national regulations (e.g. EN ISO 9241-5).

Smart Remote Services (SRS)

Smart Remote Services (SRS) is used for remote diagnostics as well as remote service to provide highest system availability.
Requirements:
- Broadband connection (minimum 4 MBit/s down- and 768 kBit/s upstream, optimum 30 MBit/s down- and 2 MBit/s upstream) without time or volume limitations
- Router (for exclusive use with SRS)

Data protection and security is defined in the Smart Remote Services security concept.

Network Integration

The Siemens Healthineers components are using TCP/IP Protocol, a 100/1000 Mbit/s switched Ethernet network and static IP addresses.
The required network cabling (min. CAT 5 TP) has to be provided on site. Media converters, which are needed for using fibre optic cabling, are not in scope of delivery.
To prepare the implementation of the new system into the existing network environment, the availability of the needed network data at least two weeks before starting the installation is mandatory.
This is the only way to ensure a seamless integration of the new system into the workflow of the department.

Notes on preparations for installation

Contracts for performing and supervising on-site installation preparations should be concluded with technically competent companies by the customer. The customer is responsible for timely and proper completion and supervision of all preparations for installation at the construction site in observance of all applicable legal regulations (e.g. X-ray regulations, radiation protection regulations) and all applicable general recognized rules of technology (e.g. VDE regulations, DIN standards).
Execution and supervision of installation preparations at the construction site and later observance of the standard operating conditions are not included in our duties. The customer is responsible for checking the static calculations and, where applicable, the air conditioning in the building to be equipped.

Safety distances

Distances from moving parts of the medical device to walls, furniture and other equipment have to be kept to avoid injuries by crushing in compliance with local regulations, e.g. a minimum distance of 50 cm according to DIN EN ISO 13854.

It is the customer's responsibility to ensure the above requirements are followed. This is to avoid the risk of injury.

Radiation protection

The structural radiation protection depends on the location of the unit and the function of the surrounding rooms. By order, the planning departments of Siemens Healthineers prepare radiation protection calculation and radiation protection plan.

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