



Multitom Rax

Basic Planning Information

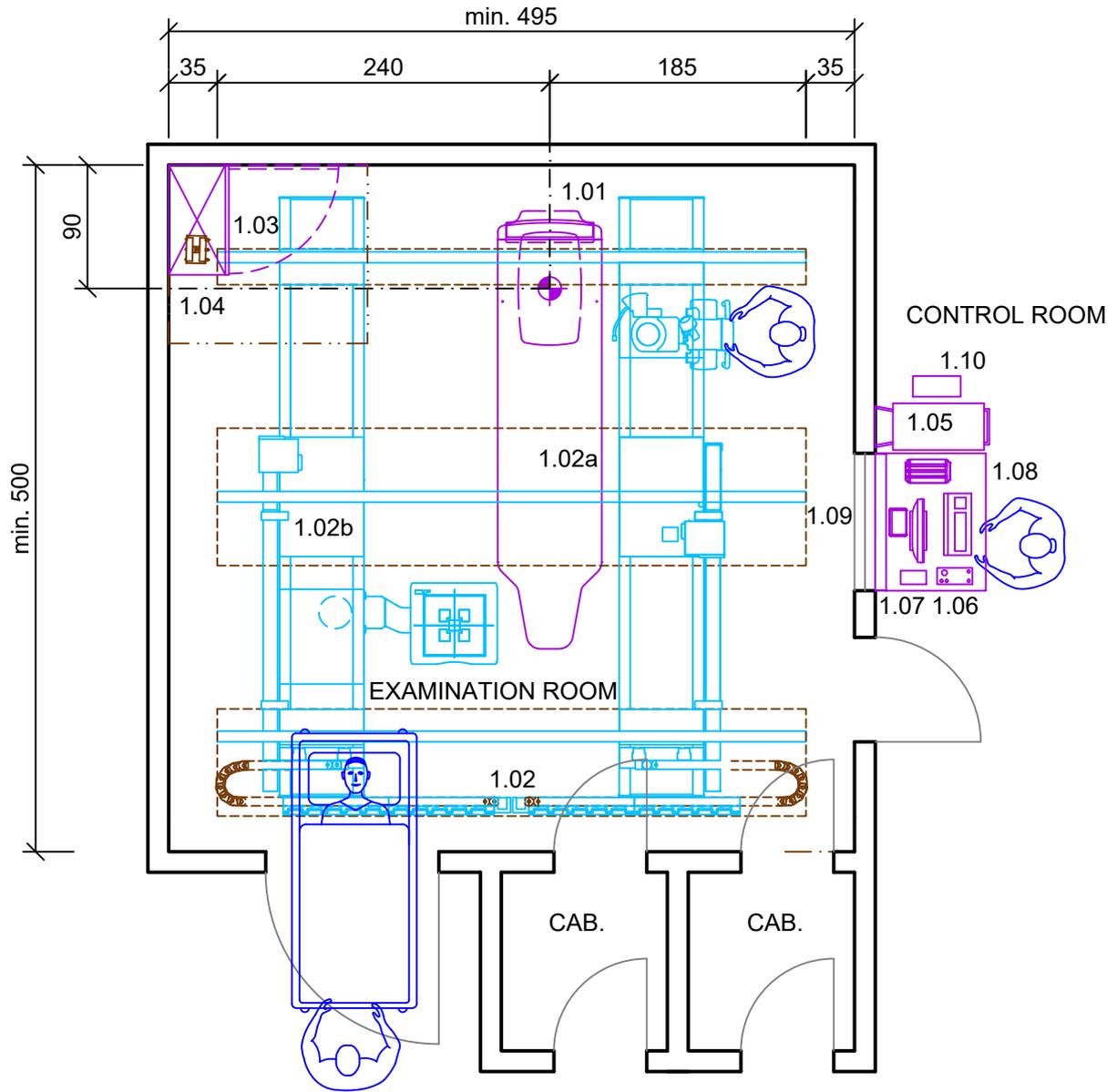
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Legend	
	Motion area / Swivelling range / Minimal room size / Safety distance
	Service area
	Floor mounted
	Ceiling mounted
	Wall mounted
	Additional equipment
	Demolition

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



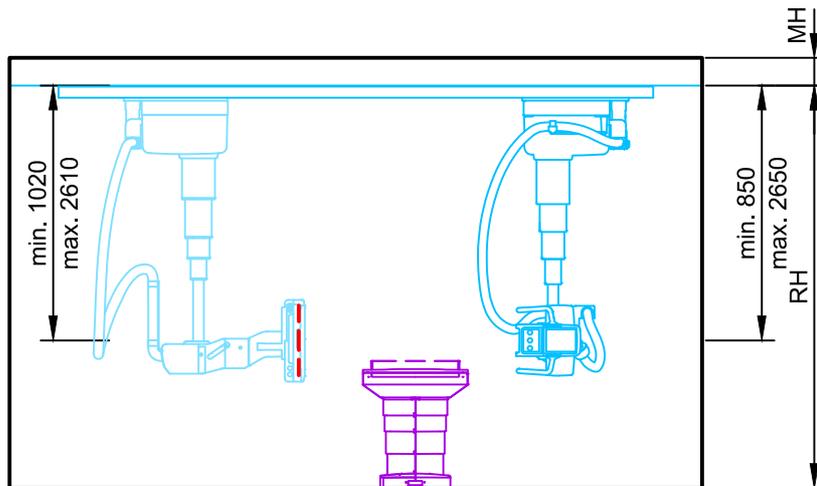
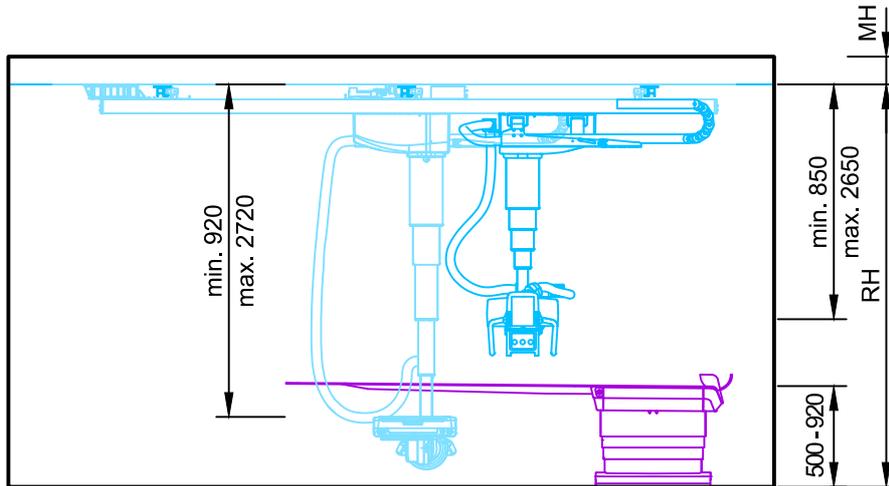
Multitom Rax - Equipment Legend				
Pos.	Description	Weight (kg), Heat dissipation to the air (W)		
		kg	W	Remark
1.01	Table	440	750	
1.02	Ceiling-mounted stand with longitudinal rails 4.25 m	800		
1.02a	Tube Unit stand Transverse Track	365	900	50 W standby
1.02b	Detector stand Transverse Track	355	n. n.	
1.03	Generator Polydoros F80-2 (65 kW)	380	600	350 W standby
1.04	Access Point			optional
1.05	Image system FLUOROSPOT Compact (incl. Keyboard and Monitor)	60	510	
1.06	Control Room Module	1		
1.07	Wireless remote-control	1		
1.08	Standing Desk (90cm x 80cm)	36		working height 100cm±5cm; optional
1.09	Detector batterie charger	2		optional
1.10	UPS for image system	11		optional

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

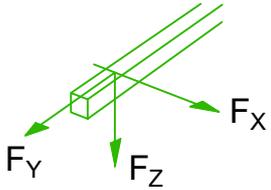


Room height (RH) measured from the top edge of the finished floor (with floor covering) to the bottom edge of the ceiling substructure.

Required clear Minimum Height (MH) 200 mm above the suspended Ceiling Construction for Installation and Service.

Minimum room height	2650 mm
Minimum room height for optional Real3D functionality at the table	2800 mm
Minimum room height for optional True2Scale Body Scan functionality	2900 mm
Optimal range for the room height	2900 mm - 3000 mm
Maximum room height	3000 mm

Statics and Transport

Static
<p>Minimum Load Bearing Capacity:</p> <p>The ceiling must ensure sufficient load distribution in transverse direction (e.g., steel-reinforced concrete ceiling) and need to be designed for an evenly distributed live load as defined below:</p> <ul style="list-style-type: none"> - Live load at least 3.5 kN/m² for component installation on the ceiling, e.g. wall stand. - Live load at least 2.5 kN/m² for component installation below the ceiling, e.g. tube stand. <p>Patient table:</p> <p>Max. compressive force: 9,17 kN Max. compressive stress: 0,38 kN/cm² Max. tensile force per mounting point: 5,91 kN</p> <p>Ceiling stand:</p> <p>Holding Forces per mounting point: F_x max.: 2,1 kN F_y max.: 2,1 kN F_z max.: 5 kN</p> <p>The listed load also include the dynamic loads up to a movement speed of 0.6 m/sec. in Y-direction. They are planned for the improbable situation in which if there is only one mounting point, it can handle the entire load. Safety margin values are thus not included.</p>
 <p>The diagram shows a perspective view of a rectangular ceiling stand. Three green arrows represent force vectors: F_x points to the right, F_y points to the left, and F_z points downwards from the center of the stand.</p>

Transport		
	Weight	Dimensions B x T x H
Transverse Bridge 4,38 m	235 kg	4450 x 954 x 375 mm
Tube Unit Stand (without carriage)	415 kg	1680 x 1020 x 1370 mm
Detector Unit Stand (without carriage)	500 kg	1880 x 1070 x 1620 mm
Table (without table plate)	375 kg	1580 x 890 x 1020 mm
Table plate only	75 kg	3100 x 855 x 290 mm
Minimum Door Opening 1050 mm, Minimum Corridor Width 2100 mm		
The door must have a final clearance of 1250 mm if bed entrance is requested.		

Air-conditioning

Environmental conditions			
	Operation	Transport	Storage
Temperature	15 to 35°C	-20 to 60°C	-20 to 60°C
Relative humidity	20 to 75 %	10 to 90 %	10 to 90 %
Air pressure	80 to 106 kPa	50 to 106 kPa	50 to 106 kPa
<p>If the mobile detector is transported / stored separately, a temperature of -10°C to +55°C has to be observed. If the grid is transported / stored separately, a temperature of 0°C to +50°C has to be observed.</p> <p>Vibrations: Maximum acceleration for mobile detector: 10g Maximum acceleration for fixed detector: 2,5g</p>			

Electrical Installation

Power requirements for generator 65 kW			
Power Line:	3/N/PE AC, 50/60 Hz \pm 1 Hz	Connection Value	34.6 kVA
Line Voltage:	400 V \pm 10 %	Power Consumption:	
Line Impedance:	\leq 170 m Ω	Radiography	110 kVA
Cable cross section to be determined by calculation, min. 16 mm ²		Fluoroscopy	2,5 kVA
Do not connect external components to the power line !			

Power requirements for generator 80 kW			
Power Line:	3/N/PE AC, 50/60 Hz \pm 1 Hz	Connection Value	34,6 kVA
Line Voltage:	400 V \pm 10 %	Power Consumption:	
Line Impedance:	\leq 110 m Ω	Radiography	126 kVA
Cable cross section to be determined by calculation, min. 16 mm ²		Fluoroscopy	2,5 kVA
Do not connect external components to the power line !			

Room lighting	
<p>Ambient lighting in rooms with diagnostics or with workstations must comply with the respective local and national regulations.</p> <p>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).</p>	

General Information

Notes to Wireless Detector

Operation of the mobile detector can be disturbed by other WLAN devices in the vicinity of the installation. To prevent this during the planning phase, it is necessary to inquire about the installation environment regarding any existing WLAN devices.

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.

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).

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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Siemens Healthineers AG
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Siemens Healthineers Headquarters

Siemens Healthineers AG
Siemensstr. 3
91301 Forchheim, Germany
Phone: +49 9191 180
siemens-healthineers.com