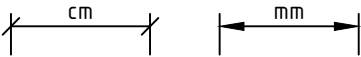



Artis Q / Q.zen ceiling

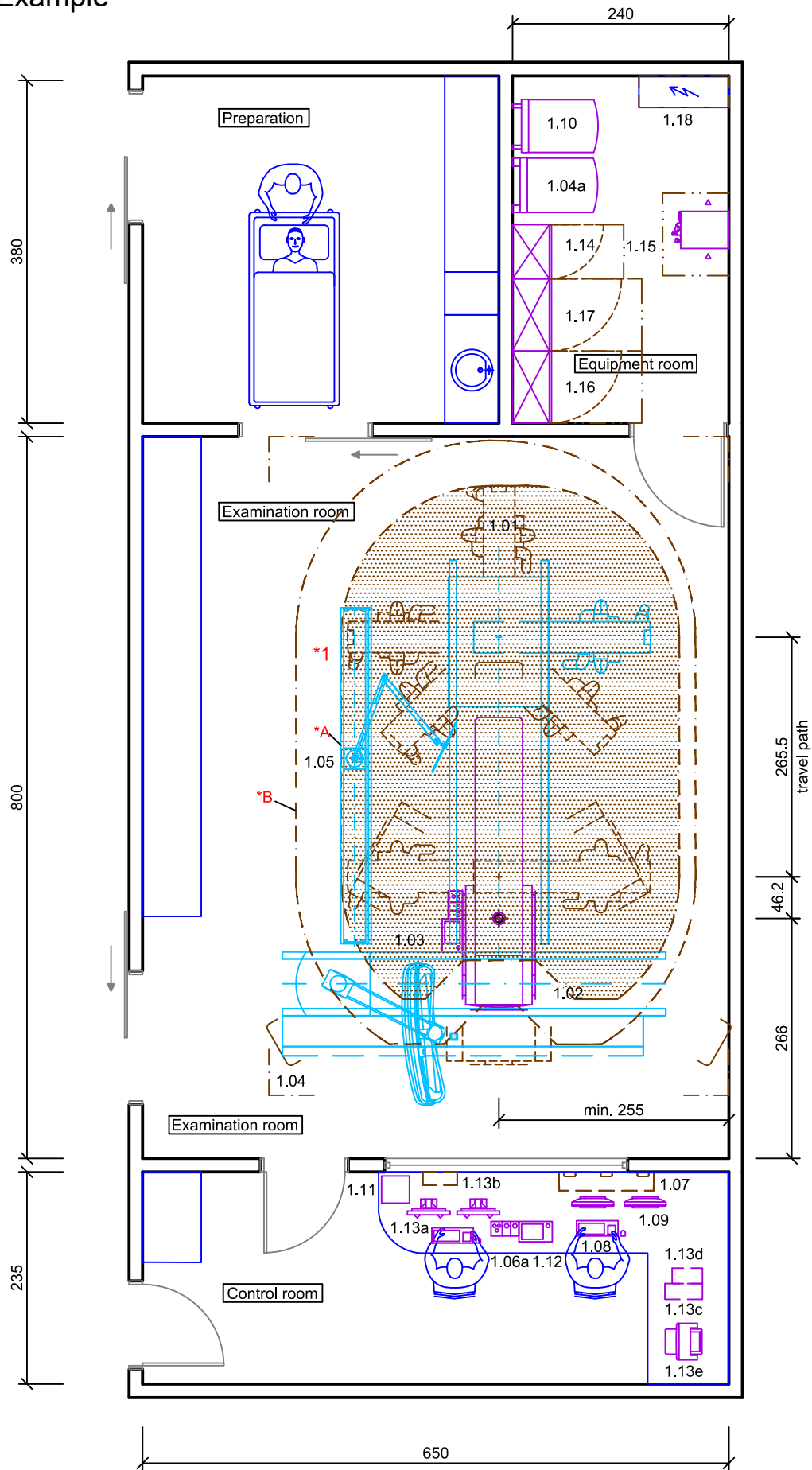
Basic Planning Information

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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



Artis Q / Q.zen ceiling – Equipment Legend

Pos.	Description	Weight (kg), Heat dissipation to the air (W)		
		kg	W	Remark
1.01	Ceiling stand	904	200	
1.02	Basic table narrow	452	200	
1.03	Control console and ECC I on patient table	4		
1.04	Ceiling stand DCS PRO 2 DVI	242	150	#6
1.04a	LDC (Large Display Container)	115	450	
1.05	Upper body radiation shield with OR light and injector, moveable (2. carriage)	130		optional
1.06a	Control module			optional
1.07	Control room distributor	29	100	
1.08	Workplace Display with keyboard	10	75	
1.09	Referenz Display	10	75	optional
1.10	AXIS image system	150	1270	
1.11	Archive Console Extension (ACE)	6		
1.12	Control console ECC II	3		optional
1.13a	Sensis - 2x Display with mouse and keyboard	21	150	
1.13b	Sensis - Control Room Cabinet CR2	20	1000	
1.13c	Sensis - Computer DMC	10	275	
1.13d	Sensis - Tripplite SmartPro - UPS	16	500	
1.13e	Sensis - Laser Printer	26		option, #20
1.14	Generator POLYDOROS A100G	328	1200	
1.15	Cooling unit - SMC one4all	28	4500	
1.16	System control cabinet	297	1600	
1.17	Cable cabinet	120		optional
1.18	Power distributor			by customer
	#6 Including 4.25 m longitudinal rails and system cable (with 3 m longitudinal rails weight is reduced by ca. 16kg) #20 heat dissipation: printing 800W, standby 17W			

Notes

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

***1** - Collision Area for “non-system Components”

Zone ***A** - No external system components may be installed.

Zone ***B** - Represents the safety distance of 500 mm between motor-driven parts and personnel as defined by EN 60601. No external system components may be installed whose fixed part (e.g. support arm column) is less than the clear minimum height of 2000 mm to the finished floor. Moving parts (e.g. support arm) of the components that are below the minimum height of 2000 mm must be able to perform evasion to outside of the safety area if there is a collision with the c-arm.

If this information is not observed, there is a risk of crushing for personnel or a risk of property damage.

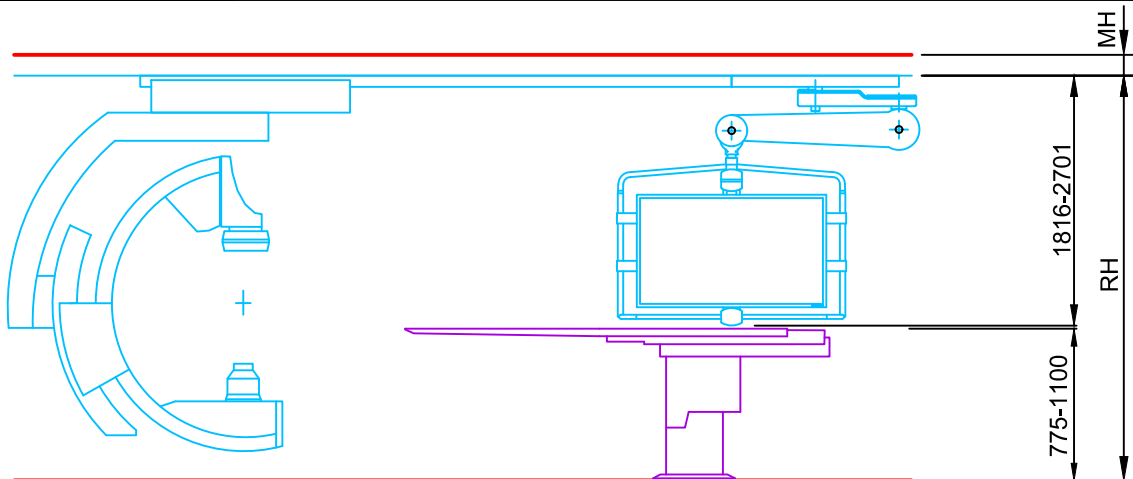
Room Dimensioning

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) 2700 to 2720 mm

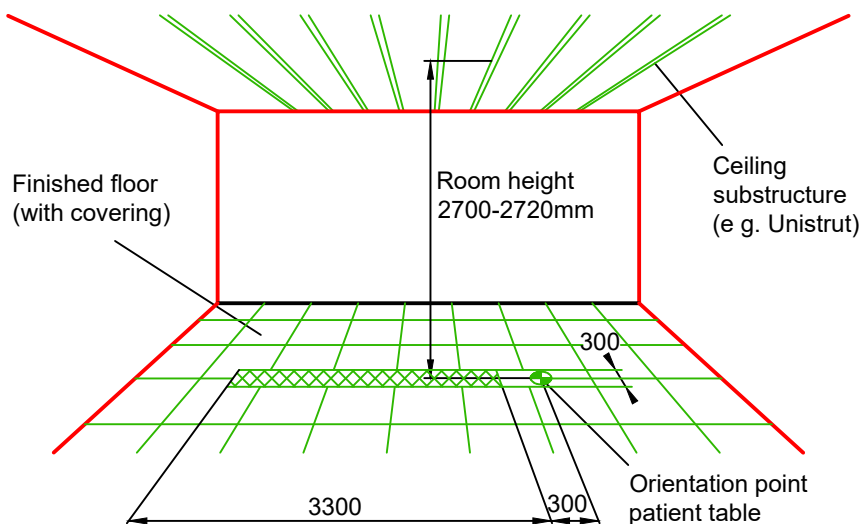
Measured from the highest point of the finished floor (incl. floor covering) to the lowest point of the ceiling substructure. Here, the area of the ceiling substructure in which the longitudinal rails for the ceiling stand are installed is the determining factor.

Recommended room height 2710 mm.

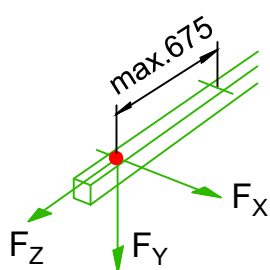
Required minimum height (MH) 150 mm in suspended ceiling for corrugated hose holder and cable routing.

The cross-hatched area is determined by the movement range of the ceiling stand.

Maximum admissible floor unevenness in the shaded area: 8 mm



Statics and Transport

Statics		not to scale
All specified load values are without safety loading.		
<p>The on-site threaded plate / screw nut of the ceiling substructure for the M10 mounting screws of the longitudinal rails MUST be able to hold 4 times of the maximum load!</p> <p>Do not use Unistrut nuts. PM17 profile nuts are included in the shipment for rail mounting. These profile nuts are designed for 4 times the load. PM17 nuts are suitable for the MSR TP1 ceiling profile, MSR BR 75/125, Unistrut P1000/1001 series and 1 5/8" series, Halfen HM 52/34 and Halfen 50/30.</p>		
<h3>Ceiling stand</h3> <p>$F_{X \max} = 2.0 \text{ kN}$ Maximum transverse force, exerted on the rail.</p> <p>$F_{Y \max} = 8.0 \text{ kN}$ Vertical ceiling load, dynamic load per mounting point (floating single load) (2 screws, 6.4 kN per screw)</p> <p>$F_{Z \max} = 4.0 \text{ kN}$ Maximum longitudinal force, exerted on the rail.</p> 		
<h3>Ceiling stand with DCS large work area:</h3> <p>For the mounting of a DCS large work area on the ceiling stand in the longitudinal rails:</p> <p>Vertical ceiling load $F_y \max$: 12.4 kN per mounting point (= 2 screws; load of the single screws is differently; max. 9.9 kN). The dynamic load appears on each mounting point, because each load is a floating single load.</p> <p>The on-site threaded plate / screw nut of the ceiling substructure for the M10 mounting screws of the longitudinal rails MUST be able to hold the specific pull-off force!</p>		
<h3>DCS-Stand</h3> <p>ceiling mounted for Displays (DCS, DCS PRO, DCS Large Display)</p> <p>$F_{Y \max} = 3.6 \text{ kN}$ vertical ceiling load, floating single load dynamic load per mounting point (2 screws; the screws are subject to different loads, max. 2.9 kN per screw)</p>		
<h3>Display Booms from non-Siemens Healthineers Manufacturers</h3> <p>In case of the use of Display Booms from non-Siemens Healthineers Manufacturers the static information must be requested from the manufacturer.</p>		
<h3>Patient Table</h3> <p>Load on each mounting point at the table foot-end: max. tensile force equaling 4.5 kN</p>		

Transport	
The transport route (doors and hallway) needs sufficient dimensions for the following parts:	
Largest single part with transp. carriage (min. door opening)	247 x 100 x 190 cm (W x D x H) Weight 910 kg
Largest crate with packaging	263 x 118 x 207 cm (W x D x H) Weight 1175 kg
The door must have a final clearance of 125 cm if bed entrance is requested.	
Shocks: max. 10 g / 16 ms	Vibration: max. 2 g / 58 to 150 Hz

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 m ² /s ³ (0.01 g ² /Hz) for oscillation frequencies from 10 to 200 Hz Maximum acceleration according to DIN EN 60721-3-2 class 2M2 Permissible peak acceleration \hat{a} (full shock response spectrum type I): Horizontal shock (longitudinal / transverse): 40 m/s ² (corresponds to the shunting of a train car) Vertical shock: 100 m/s ²

Environment		
Examination and control room	Temperature range Relative humidity	15 to 30 °C (recommended 22 °C) 20 to 75 % non-condensing
Image system	Temperature range Relative humidity Max. temperature gradient Air flow volume Max. noise generation	10 to 30 °C 20 to 75 % non-condensing 10 °C / h 850 m ³ / h 53 dB(A)
Generator	Temperature range Relative humidity Max. temperature gradient Air flow volume Max. noise generation	10 to 30 °C 20 to 75 % non-condensing 5 °C / h 160 m ³ / h 55 dB(A)
System-control cabinet 1	Temperature range Relative humidity Max. temperature gradient Air flow volume Max. noise generation	15 to 30 °C 20 to 75 % non-condensing 5 °C / h 500 m ³ / h 48 dB(A)
Cooling set	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
Stand with flat panel detector	Max. temperature gradient Air pressure Shocks Vibrations	5 °C / h 70 to 104 kPa max. 10 g / 16 ms max. 0.1 g / 10 to 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 m ³ / 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 m ³ / h 60 dB(A)

Electrical Installation

Electrical Data
<p>Power line: TN-S 3/N/PE AC 50/60 Hz \pm 1%, Line voltage: 400 V \pm 10% Cable cross section is to be determined by calculation!</p> <p>Line Impedance: \leq 135 mΩ , Power Consumption - continuous: 14 kVA, momentary: 162 kVA, Power load: 34.6 kVA, System control cabinet: Power Consumption - continuous: 8,5 kVA, Power load: 24.2 kVA</p>

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

Display screen workstations
<p>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).</p>

Smart Remote Services (SRS)
<p>Smart Remote Services (SRS) is used for remote diagnostics as well as remote service to provide highest system availability.</p> <p>Requirements:</p> <ul style="list-style-type: none"> - 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) <p>Data protection and security is defined in the Smart Remote Services security concept.</p>

Network Integration
<p>The Siemens Healthineers components are using TCP/IP Protocol, a 100/1000 Mbit/s switched Ethernet network and static IP addresses.</p> <p>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.</p> <p>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.</p> <p>This is the only way to ensure a seamless integration of the new system into the workflow of the department.</p>

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.

UPS - Notes

In case of a power failure no moving of the system and motorized table is possible. For all Artis systems with Artis Tilting table, Artis OR table or Artis zee Multipurpose an UPS is mandatory.

Minimum 15 kVA UPS for system and table movement e.g. Eaton Powerware 15 kVA. If customer already has an on-site Full Power UPS, this can be used, if it fulfills this requirement.

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Published by
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SHS ES FD

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