



Example of product

AXIOM Multix MT

Requirements for Planning

All values contained in this document are for orientation only. Detailed information is part of the final drawing set. Siemens reserves the right to make technical alterations.

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▪ **Preliminary**

- **Separate site specific customer drawing in the appendix of this document**

Room Dimensions

Room size Examination room

Minimum room size with a reasonable arrangement of the components and without restrictions of the functions.

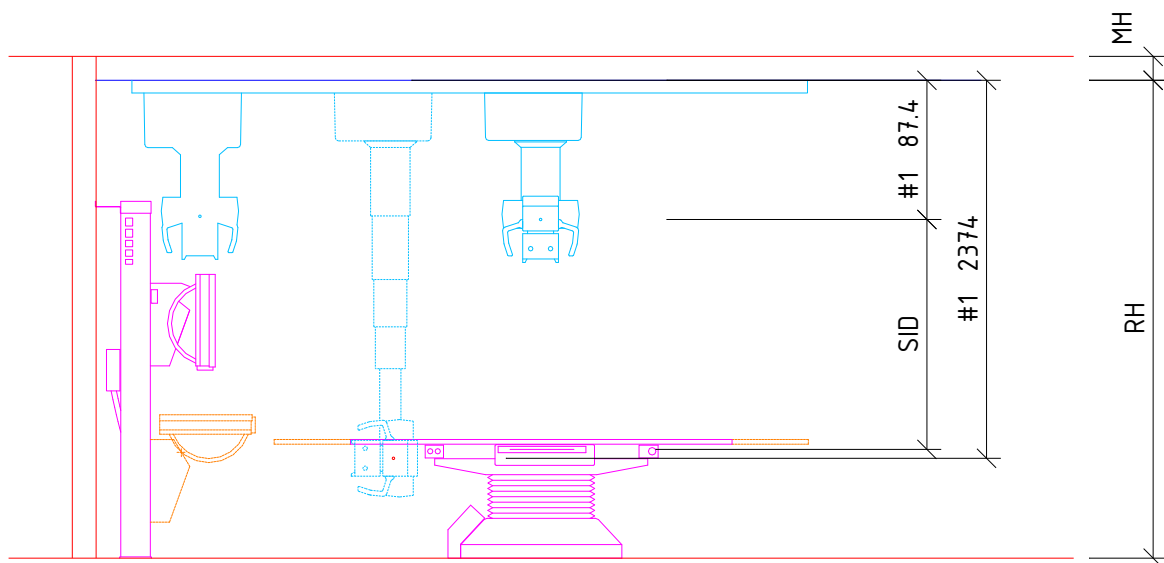
530 x 400 cm with 3D TOP with 3 m transverse track

530 x 500 cm with 3D TOP with 4 m transverse track

Room height Examination room

RH with a Source-Image-Distance (SID) of 115 cm and a table height of 75 cm
= min. 272 cm

RH with a Source-Image-Distance (SID) of 150 cm and a table height of 75 cm
= min. 307 cm



Room Height (RH) = Distance from finished floor to finished ceiling

Required Minimum Height (MH) 150 mm for suspended ceiling.

#1 When configured with telescope tube extension (option), the distance is increased by 200 mm.

Weights

The system has to be installed on a solid surface with sufficient load carrying capacity, such as, e.g. concrete.

If the underground, e.g. screed, doesn't have a sufficient bearing load, it must be removed and replaced by a concrete replenishment min. C20/25.

Concrete fill-up 140 x 86 cm for MULTIX Table and 65 x 65 cm for VERTIX MP/MT.

If an appropriate substructure is provided on site, the devices may also be mounted on false floor.

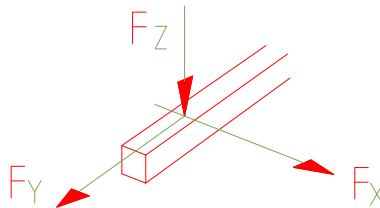
Ceiling stand 3D TOP

An on-site substructure of Unistrut rails or comparable support profiles is needed.

Vertical ceiling load F_z
max. 7 kN per fastening point

Max. transverse force F_x 2.7 kN

Max. longitudinal force F_y 2.1 kN



Dynamic load forces for a movement speed of up to 0.6 m/s in the direction F_y

Heaviest parts

Ceiling stand 3D TOP	353 to 388 kg
MULTIX MT Table	360 kg
VERTIX MT	235 kg
VERTIX MP	190 kg
Generator cabinet	154 kg
Central electronics	15 kg

Power Supply

Power requirements for POLYDOROS IT55	
Power Line	3/N/PE AC, 50/60 Hz \pm 1 Hz
Line Voltage	400 V \pm 10 % *
Connection Value	24.3 kVA
Line Impedance	\leq 170 m Ω
Internal fuse	35 A
Power consumption Fluoroscopy	n.a.
Power consumption Radiography	96 kVA
Cable cross section to be determined by calculation, min. 10 mm ²	

Power requirements for POLYDOROS IT65	
Power Line	3/N/PE AC, 50/60 Hz \pm 1 Hz
Line Voltage	400 V \pm 10 % *
Connection Value	34.6 kVA
Line Impedance	\leq 170 m Ω
Internal fuse	50 A
Power consumption Fluoroscopy	n.a.
Power consumption Radiography	105 kVA
Cable cross section to be determined by calculation, min. 10 mm ²	

Power requirements for POLYDOROS IT80	
Power Line	3/N/PE AC, 50/60 Hz \pm 1 Hz
Line Voltage	400 V \pm 10 % *
Connection Value	34.6 kVA
Line Impedance	\leq 110 m Ω
Internal fuse	50 A
Power consumption Fluoroscopy	n.a.
Power consumption Radiography	120 kVA
Cable cross section to be determined by calculation, min. 10 mm ²	

* A pretransformer, installed in the generator at the factory is required for 440/480 V.

Power to the complete equipment is supplied via the generator.

The installation has to conform to all National Guidelines and Codes.

Environment

	Temperature	Rel. humidity	Air pressure
System in operation	10 to 35 °C	30 to 75 %	700 to 1060 hPa
Transport / storage	- 20 to 50 °C	10 to 60 %	700 to 1060 hPa

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 prepares radiation protection calculation and radiation protection plan.

Transport

Largest crate	L 2480 x W 1400 x H 800 mm
Heaviest single part	approx. 580 kg with packaging approx. 360 kg without packaging
Door width Corridor width	min. 750 mm approx. 1800 mm

For use of a patient trolley a door opening of 125 cm is needed.

Planning Recommendations

Maximum distances between the cable outlets in m

	Generator	Control room distributor	Multix table	Ceiling stand
Central-electronics	1.5	20	17.5	
Control room-distributor	17			
VERTIX MT	21		15	
Multix table	19			10
Ceiling stand	12			

Length of the detector cable (connection Power box -- Detector in stand) = 7 m
Distance of the fixpoints = 5 m.

Distance of the fixpoints Control room distributor -- Ethernet outlet = 4 m.

Distance of the fixpoints Image system -- Display for image system = 2 m.

Distance Image system -- Multix/Vertex minimum 150 cm.

According to the German standard (DIN 6812) an **intervisibility and a voice communication** is required between the patient and the operator.

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 !

Data carriers, technical documentation and service tools should be stored in the vicinity of the system.

Room lighting

Ambient light in rooms where diagnosis take place on image display devices (monitors) must meet the following requirements:

- Free of dazzle, controllable, reproducible setting of the lighting intensity (e.g. dimmer with scale)
- No reflections from windows, lamps and viewing boxes in the usual operating position of the image display devices.

This is a specification of DIN 6868-57 in Germany, which should also be complied within all other countries.

In regard to the lighting of rooms for diagnostic imaging and treatment procedures, the intensity of the lighting in general depends on the type of procedure.

If only X-ray exposures are produced, the requirements for lighting for diagnostic imaging with image intensifiers apply (50 lx).

When images are displayed on monitors, the possibility of reducing the general lighting intensity must be provided (30 lx; if necessary, down to 1 lx).

Reflections and glare on the screen must be avoided (DIN 5035-3; EN 12464).

As a rule, therapy rooms require a general lighting with a nominal lighting intensity of 300 lx. This also applies to rooms where patients are treated with physical, radiological or electromedical procedures.

Network

The individual (Siemens) components support the TCP/IP protocol.

A switched gigabit Ethernet with Autosense Ethernet switches is recommended (1 Gbit/s in the backbone and 100 Mbit/s on high-end reporting workstations for review and image distribution AP).

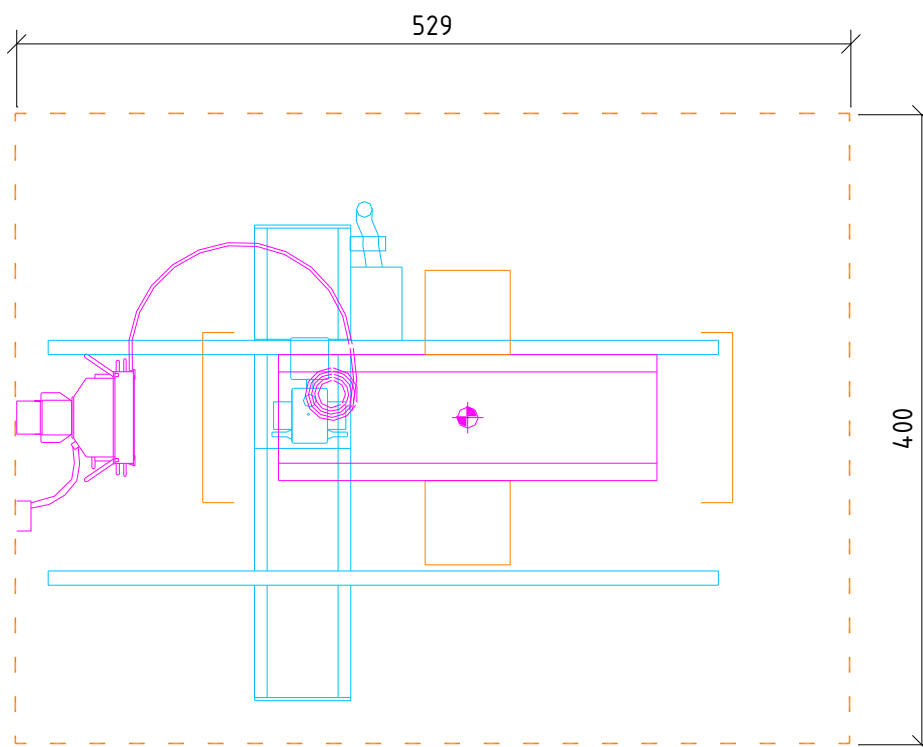
Autosense means that the active network component (switch) automatically detects whether a terminal unit is connected at 10 Mbit/s, 100 Mbit/s or 1 Gbit/s.

The highest possible data throughput is automatically selected.

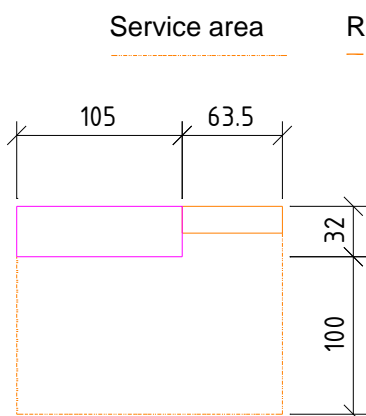
It should be noted that the necessary network cabling (minimum category 5) as well as the required network components and connection sockets must be available on the customer side.

Floor space and height (H) of the system components

Measures in cm, not to scale



Ceiling stand 3D TOP with transverse track 300 cm
MULTIX Table H = 60 to 89, Detector stand H = 200



Generator cabinet H = 105
Central electronics H = 2,5

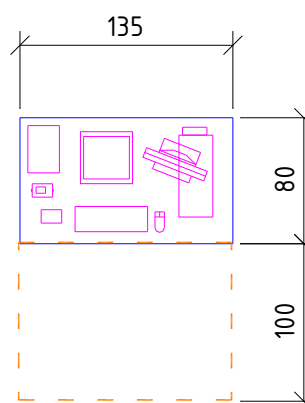
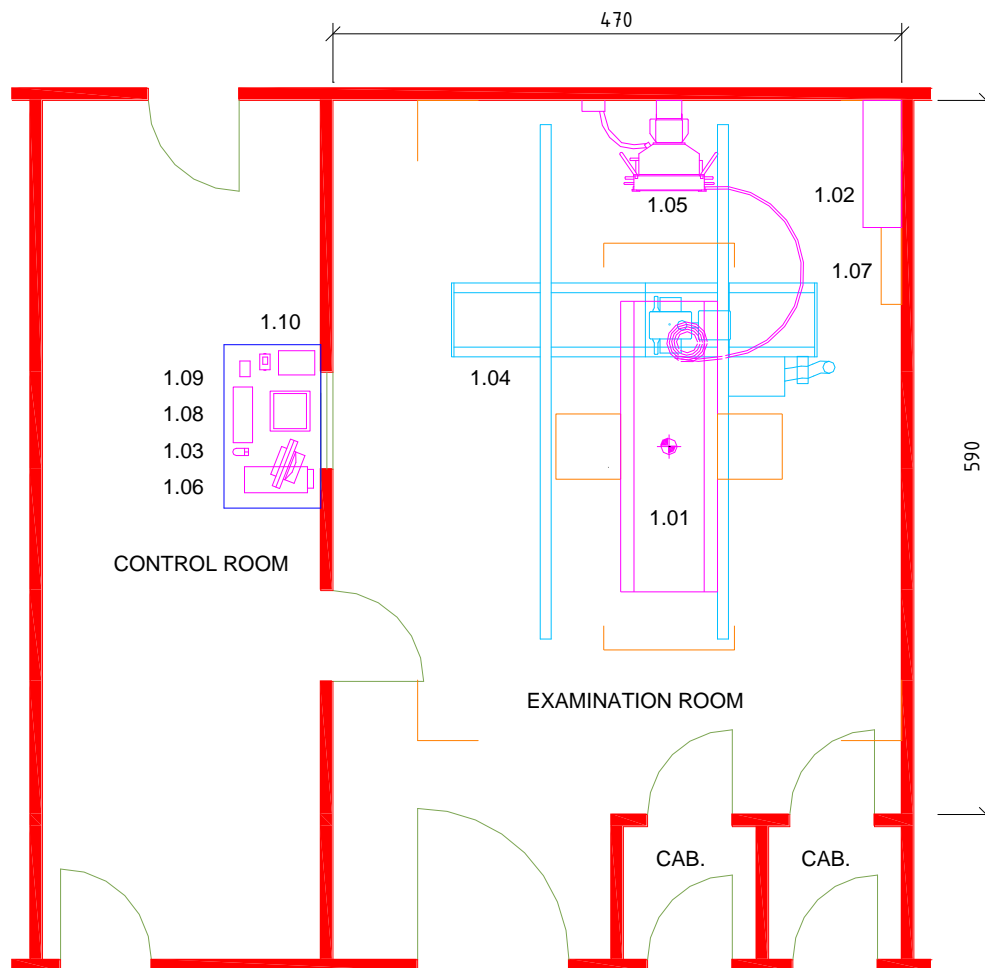


Table for generator control,
Image system, Caremax and
Data printer H = approx. 80

Planning Example

Measurements in cm, not to scale



AXIOM MULTIX MT – Equipment Legend				
Pos.	Description	Weight (kg), Heat dissipation to the air (W)		
		kg	W	Remark
1.01	MULTIX MT	360	300	
1.02	POLYDOROS IT55 – power cabinet	154	400	
1.03	POLYDOROS IT55 – touch panel	4	50	
1.04	Ceiling stand 3D TOP with transverse track 300 cm and planigraphic attachment	374	100	
1.05	Bucky wall stand VERTIX MT	235		
1.06	Image system: computer, keyboard, mouse, display	30	220	
1.07	Central electronics	15	100	
1.08	Emergency circuit display			
1.09	Caremax Duo Master Display			optional
1.10	Data printer			optional

Final Planning

Preliminaries are recommended. Before starting construction it is necessary to have a final drawing set made by Siemens.

The following specifications are needed for final planning:

Floor plan with details where the equipment will be installed with possible structural changes if necessary.

Floor plan of the rooms above and below the equipment with their use.

Sectional drawing of floor and rooms.

Specification of transport ways resp. accessibility of the rooms.

Equipment to be installed.

Notes