

6 Room planing

6.1 Top View (Principe)

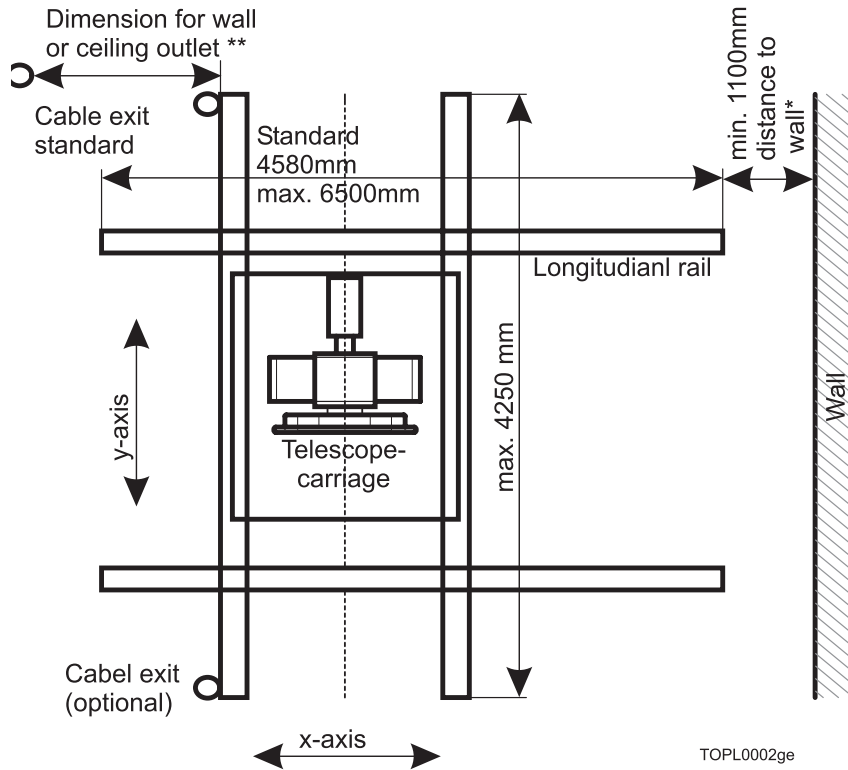


Figure 1:

* See chapter 8.2.4 on page 23

** See Ill. 5 on page 20.

Standardmovement in X-Axis (Patient longitudinal direction): 3660mm

Standardmovement in Y-Axis (Patient lateral direction): 2860mm

6.2 Movements of Toplift

	Movement X	Rail X	Difference	Movement Y	Rail Y	Difference
Standard	3660 mm	4580 mm	920 mm	2860 mm	4250 mm	1390 mm
Option	5560 mm	6480 mm	920 mm			

6.3 Side View

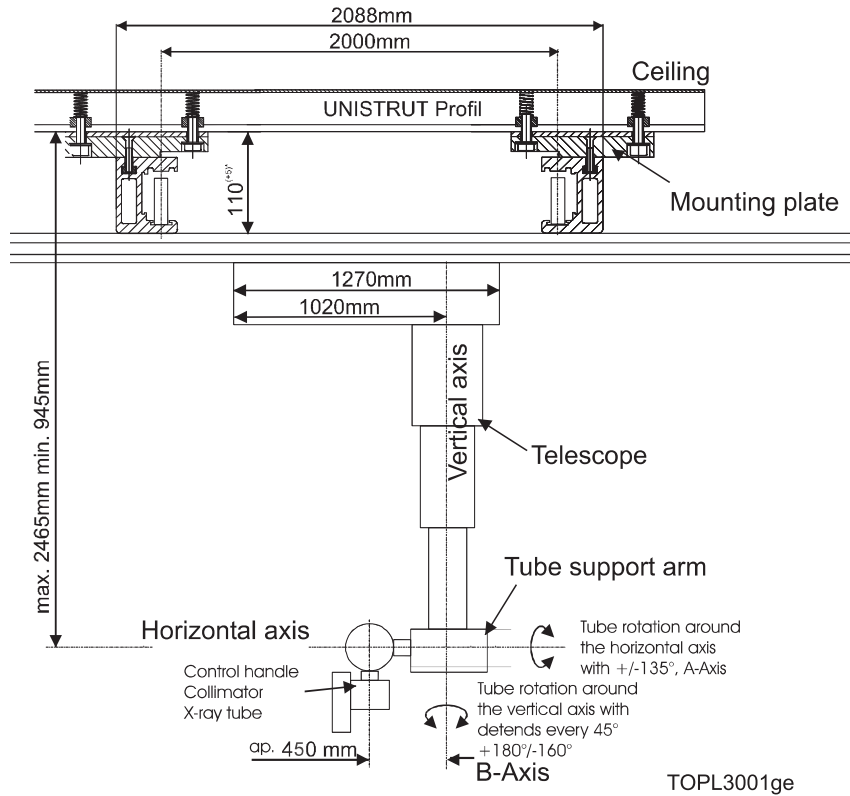


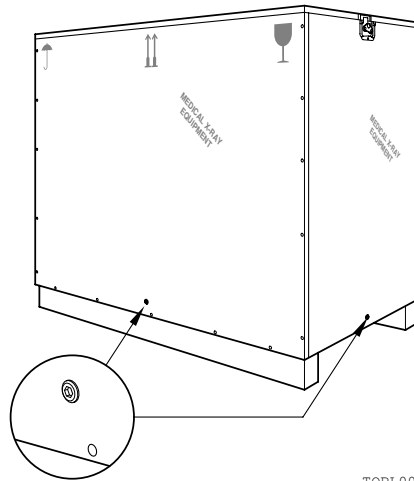
Table 3: Room height: maximum 3000mm, minimum 2765mm



ATTENTION!

The minimum floor/focus distance of 300 mm is only possible at a room height of 2765 mm.

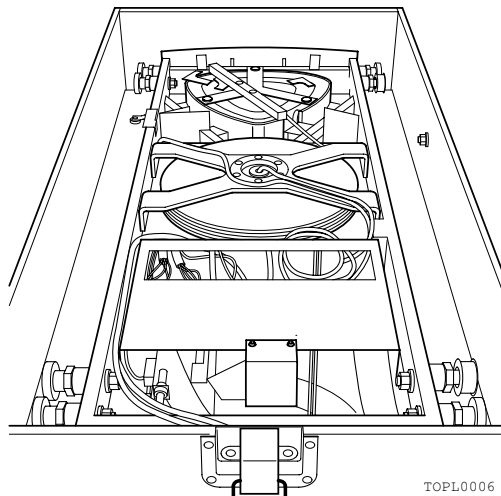
7 Unpacking



TOPL0005

Figure 2

While unpacking, watch for shipping damage which may cause later on problems to safety and functioning of the unit. Pay attention to the arrow marking on the crate during transport, storage and unpacking. To avoid any injuries use proper tools to open the crate.



TOPL0006

Figure 3

Opening of the lid. The lid can be removed by opening both locks on the right and left hand side of the box. To remove the side walls of the box unscrew the socket cap screws in the lower part of the crate (4 screws see Fig. 2).

7.1 Replacement for Lost Screws or Mounting Hard Ware

Defective or lost screws may only be replaced by screw type steel according DIN 267 with the proper grade of strength. Socket cap screws must always have the grade of strength of 8.8. Lost or damaged mounting material (ropes or other hardware) must be replaced only by original spare parts.

8 Installation

8.1 Mounting the Longitudinal Rails

8.1.1 Unpacking

Open the crate of the lateral carriage. In this crate you will find the longitudinal rails and the lateral carriage as well as miscellaneous accessories.

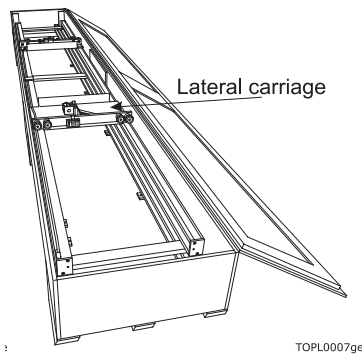


Figure 4



NOTE!

For proper ground connection to the longitudinal rails a $6mm^2$ ground wire is required.

Shipping Conditions	
Standard Length	4580 mm
Extention (Option)	1900mm
Required screws qty. for mounting the standard rails	
12 pc. Acc. DIN 6912 M10x40 8.8 Nm; 3/8"-16 low head	
12 pc. Acc. DIN 912 M10x40 8.8 Nm; 3/8"-16	
6 per rail = 12 Mounting plates (see Fig. 7)	
Mounting for UNISTRUT® C-Profile	



NOTE!

The UNISTRUT® C-Profile rails do not come standard with TOPLIFT and must be installed by the customer prior to installing TOPLIFT.



ATTENTION!

For safety reasons the ceiling supperot must only be mounted to the described UNISTRUT-System to the ceiling. The mounting instructions from UNISTRUT® must be followed. For other than here described mounting methods we, Pausch technologies can take no responsibilities and it's your own risk.

8.1.2 Calculation of the Distance for the Fastening Points

The standard rail system must be mounted at least with 12 mounting plates (see the following Fig. 6 on page 21). The distance for mounting the fastening set depends on the existing under construction (UNISTRUT® C-Profile) each max. 800 mm (see Fig. 5 on page 20).

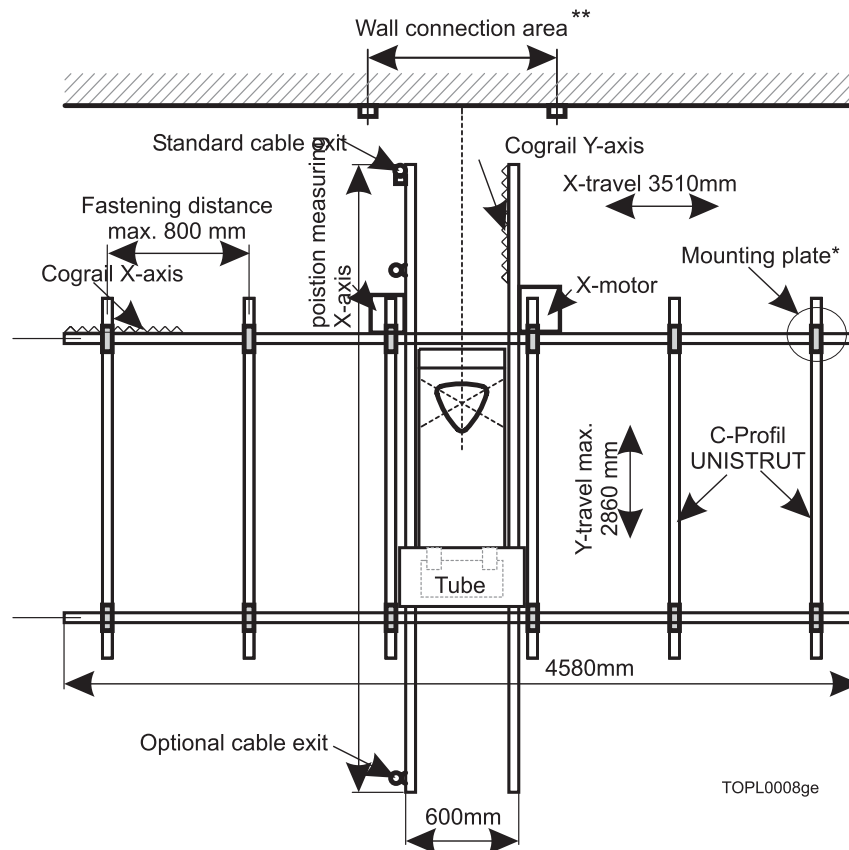


Figure 5

* Detail A see Fig.6

** If the wall connection box can not be mounted in this area an additional cable fastening point must be established.

8.1.3 Attaching of Longitudinal Ceiling Rails

Fixing of the mounting kit (mounting bracket set) in the T-Nuts of the longitudinal rail system (Basic version 6 pc for one rail). When mounting the longitudinal rails please pay attention that the parallelism is not more than $\pm 1\text{mm}$ (Fig. 6). The distance dimension of 2088mm is only a orientating dimension. The proper dimension is depending on the center adjustment of the bearing. Hereby the track must be running in the center to longitudinal rail. At center positioning of the bearings to the running track the lateral alignment amounts 2mm.

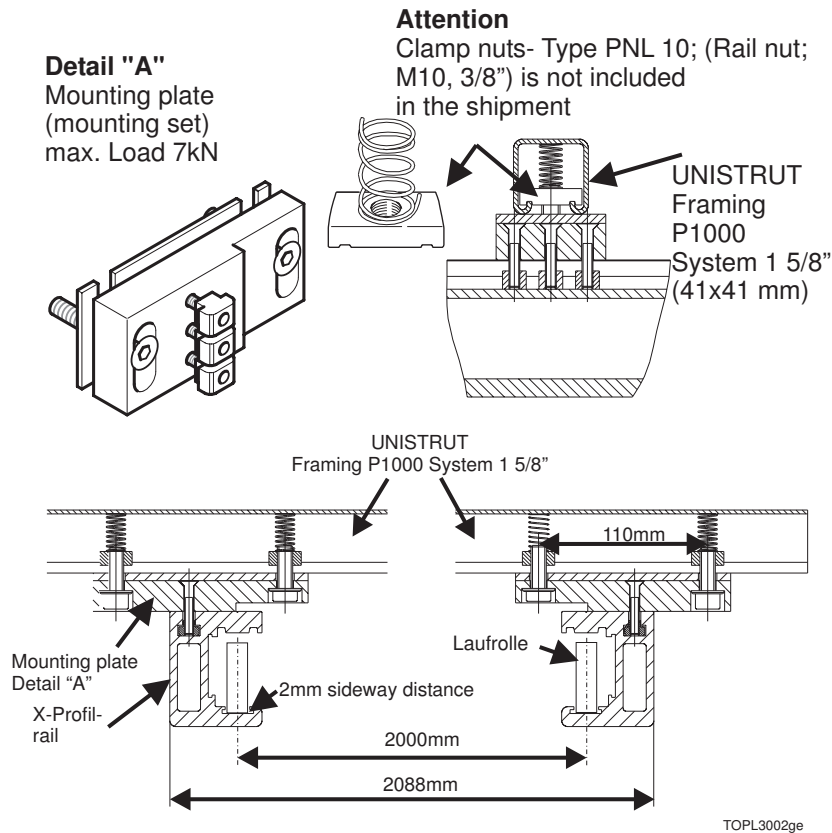


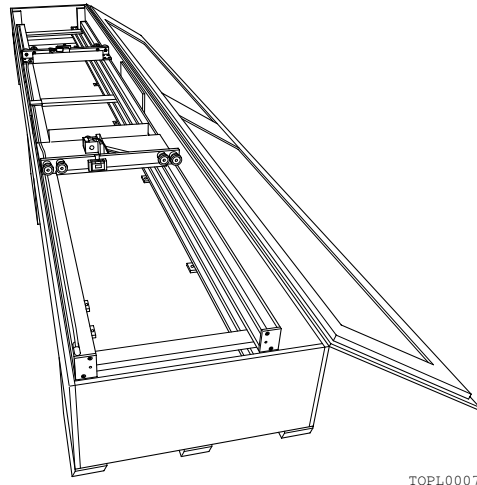
Figure 6

8.1.4 Leveling the Longitudinal Rail

For an expert and precise installation a two meter long straightedge with a water level or a leveling device (laser) is required. After the first X-rail is plain and horizontal aligned (only a snug tightening on the UNISTRUT®-Profiles and corresponding height compensation with the supplied shims) the mounting plates can be screwed on. A double check with a straightedge or water level and a readjustment must be done and is recommended. Only after the first rail is in proper position you should start with the second rail. The second rail must be aligned parallel accordingly to the first rail. The outside dimension of 2088mm must be held. Also a possible height difference to the already mounted rails can be adjusted with the supplied shims or distance plates (see Fig. 6 on page 21). The height difference in a length of 4m should only be max. 2mm. A permanent checking with the straight edge makes it possible to verify the tolerance.

8.2 Mounting of the Lateral Carriage

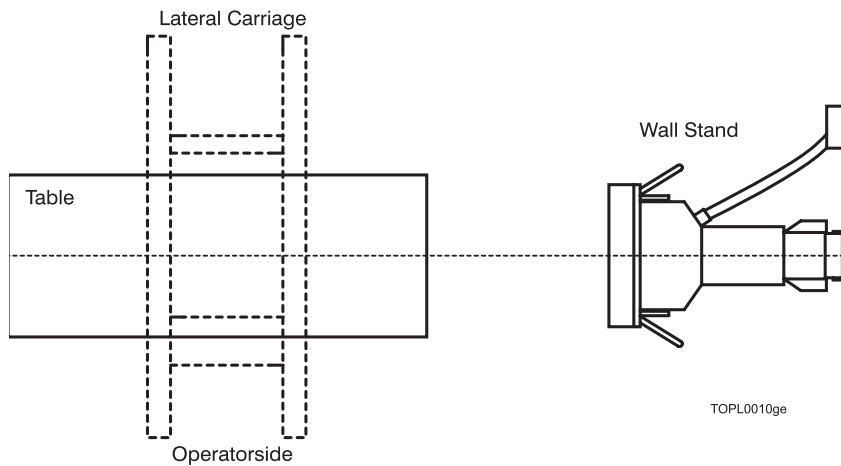
8.2.1 Unpacking



TOPL0007

Place the lateral carriage on the floor so that the side of the brakes face in operators direction.

Figure 7



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Figure 8

8.2.2 Preparation

The guide rollers and counter rollers should be adjusted in that way that the lateral rails can be easily be moved into the longitudinal rails (center track 2000mm) see Fig. 10 on page 24. Adjust the lateral carriage so, that the guide rollers are in line with the longitudinal rails. The X-drive is factory mounted on the cross carriage and is pre-adjusted to run in the toothed rack of the longitudinal tracks. Remove the factory mounted stop plates on one side. Then place the cross carriage (=lateral carriage) into the longitudinal tracks. After mounting the cross carriage, it will be necessary to mount the remaining two X-track end plates onto the longitudinal tracks.

Adjusting the X-drive

Push the cross carriage a short ways along its longitudinal tracks. If the X-drive does not run smoothly in the toothed rack, then it will be necessary to adjust it. To do so, loosen the nuts on the top of the X-drive's support plate (8 M6 nuts). The play in the X-drive's gearing can now be adjusted by moving the support plate. Pay attention to the play in the gear profile (it should not exceed 0.3 mm). Now tighten a few of the support plate nuts so that they are just snug and move the cross carriage by hand to determine whether it runs smoothly. Tighten all of the nuts. Now align the two eccentric rollers on the motor to the X-track. It may be necessary to re-adjust the counter rollers to ensure proper position determination functioning. Conclude by checking the smoothness of the entire run.

8.2.3 Installing the Extender Plates

The extender plates act as an additional guide for the lateral rails attached to the longitudinal rails. Mount the extender plates while the longitudinal rails are still on the ground. Do so by loosening the two sets of four screws on the cross bar and then using them to mount the extender plates to the cross bar. Make sure to apply the proper torque when tightening the screws.

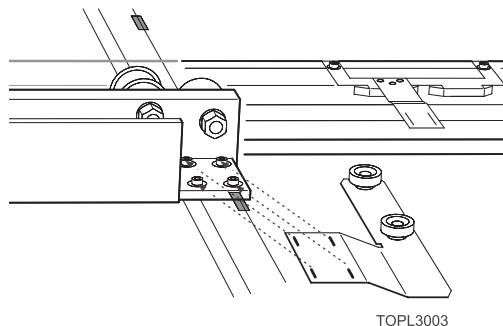


Figure 9

8.2.4 Mounting in Small Rooms

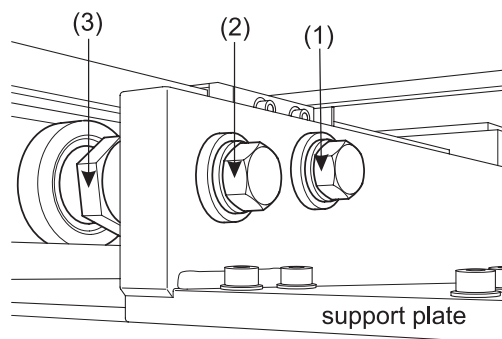
The term confined space refers to a space in which it is not possible to maintain a minimum distance of 70 cm from the longitudinal rails to the wall (see Section 6.1 Top View, Page 16).

- Mount the X-rails (longitudinal rails) as described in Section 8.1.3.
- Remove the eccentric rollers from the cross bars by loosening the fitting bolts and pulling them out to the rear (8 eccentric rollers, see Figures 10 and 11).
- Push the carriage into the Y-rail assembly (lateral rails). Remove one of the rail end plates (600 mm wide), run the carriage into the rails and re-attach the end plate.

- Remove the brake housing from the cross bar and release the spring bolts.
- Now place the brake housing in the X-rail.
- With the pre-mounted Y-rail on the floor, line up the stand carriage with the middle of the X-rail.
- Now use a suitable lifting device to lift the carriage to the ceiling.
- Run the eccentric rollers into the X-rail.
- Align the eccentric bolts to the track and guide rollers and tighten them with the fitting bolts (hand-tight). Make sure that the placement of all of the track and guide rollers is properly secure.
- The lifting device can be removed.
- Swing the inner guide rollers so that they are not resting on top (see 8.2.5.).
- Set the center mark for the track rollers to level.
- Now tighten the fitting bolts. Refer to tabel 1 on page 7 for the proper torque.
- Make sure that the guide rollers are straight.
- Attach the brake housing to the cross bar by first tightening the screws a little and then rocking them on the rocker lever until the brake housing is aligned in the middle. Then re-attach the brake lever with the spring bolts.
- Check the rail assembly for smooth running. It may be necessary to re-adjust the guide rollers.

8.2.5 Adjusting the Guide Rollers, Rollers and Counter Rollers

If you receive a factory unit the roller bearings are adjusted already.



TOPL0011

Figure 10

Possibly realignment of the rollers: The lateral carriage can be adjusted by turning the eccentric of the rollers. Therefore loosen first the counter nut (1). Afterwards the roller can be levelled by loosening the counter nut (2) and turning the eccentric (3). After finishing leveling the counter nuts of the rollers must be fastened again.