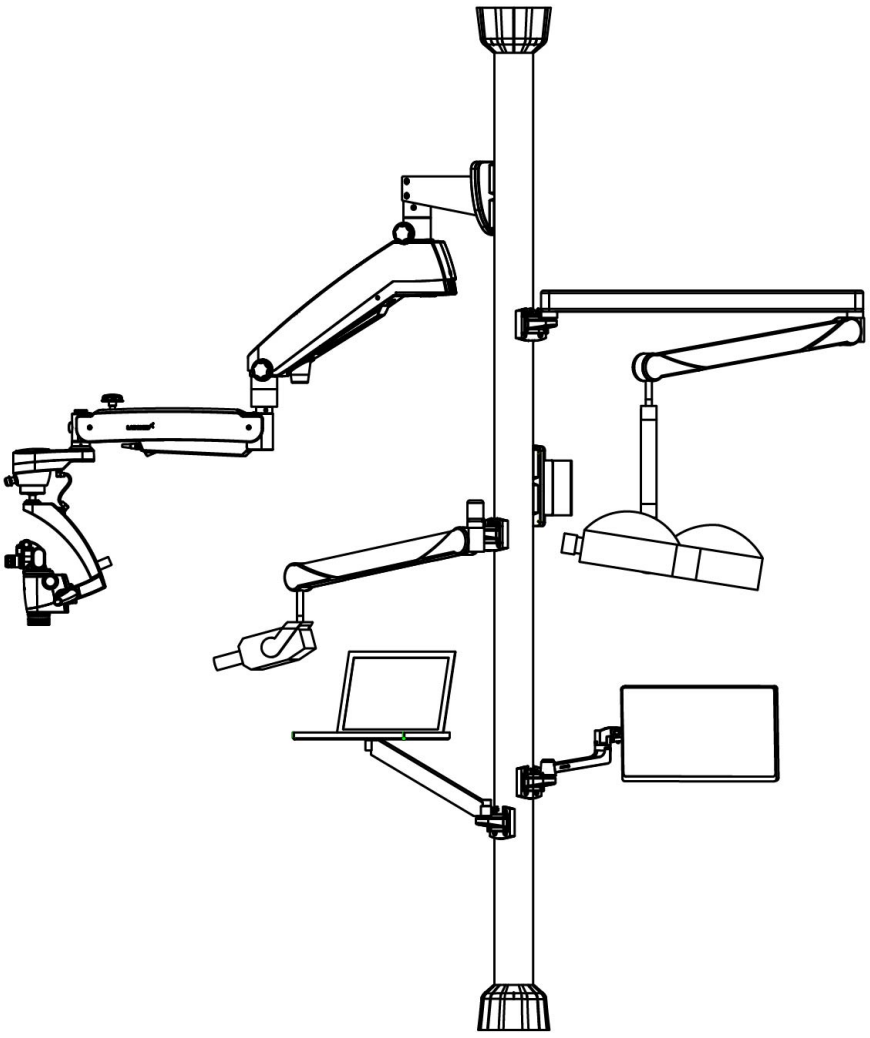
AXIUS

Centre Pole

User Manual



To ensure proper use of this instrument as well as to avoid injury while operating instrument, Understanding this manual completely before use is highly recommended.

Part No: 6137160-795
Issue: 1.0
Printed On: Jan, 2024

AXIUS is a Trade name for LABOMED microscopes.

The information contained in this document was accurate at the time of publication. Specifications are subject to change without prior notice. LABOMED reserve the right to make changes to the product described in this user manual without notice and without incorporating those changes in any products already sold.
ISO 13485 Certified - LABOMED products are designed and manufactured under quality processes that meet ISO 13485 requirements.

List of Contents

1. Introduction and Intended Use

LABOMED Axius provides an easy and efficient arrangement of mounting microscope, lights, X-ray equipment, camera monitors and data storage devices all around a central column mounted between the floor and ceiling of the operatory.
The Axius provides all devices within an easy reach of the doctor and positioned ergonomically around the patient, AXIUS is a well-engineered center of command and comfort which helps Doctors work for long hours in arduous procedures by fully organized work space helps reduce the user's work fatigue and allows comfortable use over a long period.

Salient features of Axius are:

1. **Axius carries all important equipments like X-Rays, Monitor, Light, Trays, Microscope.**
2. **Axius allows each Equipment's comfortable use within the reach of user.**
3. **Axius allows each equipment with an Individually and easily configurable adapters for mounting.**
4. **Axius allows a great room space to user and assistant staff without any hassle.**

Intended Use:

The Labomed Axius support system is a mounting column for exclusively mechanical connection conforming Microscope and dental accessories.

CONTRAINDICATIONS - NONE

Configurations	**Catalogue No.**
Axius	**6137160-800**

Specifications	
Diameter	**125mm with cladding**
Base and ceiling anchoring diameter	**230mm**
Length availability (for room height)	**2.40-2.90 mtr**
	2.91-3.40 mtr
	3.41-3.90 mtr
Weight	**10kg / mtr**
Load capacity	**1250N (125 KgF)**

2. User Instructions

2.1. User Guide

Requirement
Read all the instructions prior to first startup to avoid misuse and prevent damage.

2.1.1. Abbreviations

Abbreviation	Explanation
Ifu	Instructions for Use
CI	Care instructions
AI	Assembly instructions
TI	Technician's instructions
SC	Safety checks
IEC	International Electrotechnical Commision
RI	Repair instructions
EMC	Electromagnetic compatibility
PI	Processing instructions

2.1.2. Symbols


See Section on Hazard levels


Important information for users and technicians

CE mark (European Community). A product bearing this mark meets the requirements of the applicable EU directive.

▶ **Action required**

2.1.3. Target group

This document is for dental professionals, dental office staff and service staff.

2.2. Service

Labomed India
Customer Service:

Please refer to the serial no of the product in all inquiries!
For further information, please visit. www.labomedworld.com

User Instructions (continued)

2.3. Terms and Conditions of warranty

Labomed provides the final customer with a warranty that the product cited in the handover certificate will function properly and guarantees zero defects in the material or processing for a period of 12 months from data of purchase, subject to the following conditions:
Upon justified complaints of flaws or a short delivery, Labomed will make good its warranty by replacing the product free of cost or repairing it according to the customer's wishes. Other claims of any nature whatsoever, in particular with respect to compensation, are excluded. In the event of default and gross negligence or intent, this shall only apply in the absence of mandatory legal regulations to the contrary.
Labomed cannot be held liable for defects and their consequences due to natural wear, improper cleaning or servicing, non-compliance with operating, servicing or connection instructions, calcification or corrosion, contaminated air or water supplies or chemical or electrical factors deemed abnormal or impermissible in accordance with factory specifications.
The warranty does not usually cover bulbs, glassware, rubber parts and the colourfastness of plastics.
Defects or their consequences that can be attributed to interventions on or changes made to the product by the customer or a third party are excluded from the warranty.
Claims from this warranty can only be asserted when the transfer form (copy) belonging to the product has been sent to Labomed, and the original can be presented by the operator or user.

2.4 Transportation and storage

Note
Labomed shall not be held liable for damage arising from transportation. The shipment must be checked on arrival.

If the packing is visibly damaged on delivery, please proceed as follows:

1. **The recipient of the package must record the loss or damage on the delivery receipt. The recipient and the representative of the shipping company must sign this delivery receipt. Without this evidence, the recipient will not be able to assert a claim for damages against the shipping company.**
2. **Leave the product and packaging in the condition in which you received it.**
3. **Do not use the product.**

If the product is damaged but there was no discern able damage to the packaging on delivery, proceed as follows:

1. **Report any damage to the shipping company immediately and no later than 7 days after delivery.**
2. **Leave the product and packaging in the condition in which you received it.**

User Instructions (continued)

3. **Do not use a damaged product.**

2.4.1. Information on the packaging: Storage and transportation

Note
Please keep the packaging in case you need to return the product for servicing or repair.

The symbols printed on the outside are for transportation and storage, and have the following meaning:


Warning: Observe all warning labels and notes! If any label in missing on your instrument or has become illegible, please contact the manufacturer to obtain new labels.


Caution label: Observe all caution notes to avoid any unwanted situation with the instrument.


Accompanying documents must be consulted.


Compliance to medical devices directive 93/42/EEC and MDR 2017/745.


This way up – indicates the correct upright position of the transport package.


Keep dry – the transport package shall be kept away from rain.


Year of manufacture used on product data plate.


Fragile- content of the transport package are fragile and should be handled with care.


Recycling of packaging materials.

Permissible stacking load

Temperature range

Humidity

Air pressure

User Instructions (continued)

2.5. Packed items

Package 1:
Column, pre-assembled
Package 2:
Cladding profiles (4 units of 3.7 m length each)
Package 3:
Accessories

2.6. Disposal

Note

Any waste which is generated must be recycled or disposed of in strict compliance with all applicable national regulations in a manner which is safe both for people and the environment. If you have any questions regarding proper disposal of the Labomed product, please contact the Labomed branch.

3. Safety

3.1. Description of safety instructions

3.1.1. Warning symbol

Warning symbol

3.1.2. Structure

DANGER

The introduction describes the type and source of the hazard.
This section describes potential consequences of non-compliance.
▶ The optional step includes necessary measures for hazard prevention.

3.1.3. Description of Hazard levels

Safety instructions distinguishing between three hazard levels are used in this document to prevent personal and property damage.

The warning and safety notes in this document must be observed to prevent personal injury and material damage. The warning notes are designated as shown below:

NOTICE

In cases which – if not prevented – could lead to material damage.

CAUTION

CAUTION
indicates a hazardous situation that can cause damage to property or mild to moderate injuries.

WARNING

WARNING
indicates a hazardous situation that can lead to serious or fatal injury.

DANGER

DANGER
indicates a maximal hazard due to a situation that can directly cause death or fatal injury.

Safety (Continued)

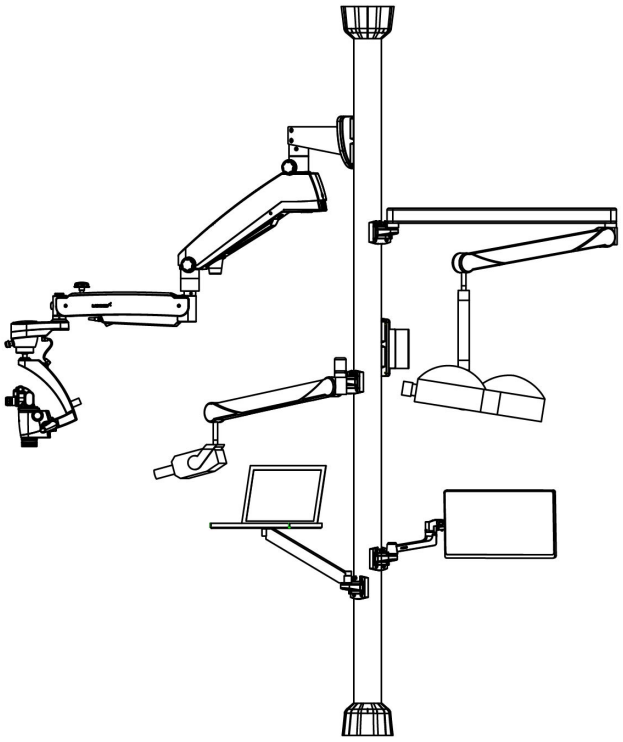
3.2 Safety instructions

As a matter of principle, the Labomed AXIUS Column is not an electric medical device. According to the intended use, the AXIUS is a „bearing system for devices, both medical and non -medical, which are used for dental treatment at the working space of a dentist“.

Devices that require connection to an electric supply (low voltage, mains voltage) can also be attached to the column. Compliance with the following instructions is required for electrical safety reasons if such devices are attached to the AXIUS Column:

- **The electric cables must be routed appropriately in the AXIUS to ensure the necessary freedom of movement required for the motions of the attached device while safeguarding the cables from damage.**
- **On principle, there must not be any electrical insulating points inside the AXIUS Column.**
- **The cables routed in the AXIUS Column must be equipped with double insulation in the column area.**
- **Cables, whose insulation is damaged, must be replaced!**
- **At the bottom of the AXIUS Column, the attached electric device must be connected with the equipotential bonding.**
- **At the bottom of the AXIUS Column, the equipotential bonding must be connected to the equipotential bonding of the voltage source.**
- **The devices connected to the AXIUS Column must be included in the safety checks of the working space of the dentist.**
- **The specifications of IEC 62353 apply to the electrical safety testing of medical electric devices or medical electric systems prior to commissioning, during servicing, inspection, maintenance and following repair or in the case of performance of the statutory prescribed recurrent tests.**

4. Product Description



The Axius support system consists of a column and a range of optional adapters for the mounting of dental components.

Configuration options

Microscope	**Part No**
Microscope adapter – Prima	6137160-802
Microscope adapter – Magna	6129301-802
OT light kit	**6137160-860**
Operating light adapter	6137160-876
Operating light arm	6137160-862
X-Ray arm kit	**6137160-874**
X-ray arm	6137160-871
Arm adapter	6137160-866
X-ray unit	6137160-869
Monitor arm kit	**6137160-865**
Flexible arm	6137500-800
Flexible arm mount	6137160-866
Laptop arm kit	**6137160-870**
Laptop arm mount	6137160-867
Laptop tray assembly	6137160-812
Arm adapter	**6137160-866**

Product Description (continued)

4.1 Intended use – Proper use Indications for use:

The Labomed Axius support system is a mounting column exclusively for mechanical connections conforming dental accessories in any dental operatory.
Proper use:
Application of and compliance with the general guidelines and/or national laws, national regulations, and the rules of technology applicable to this product for start-up and use of the Labomed product for the intended purpose are to be applied and complied with.

Intended use also comprises the observation of all indications in the instructions for used as well as adherence to prescribed inspections and maintenance.

Electrically supplied accessory devices must be integrated into the safety checks of the treatment centre according to the specifications of the manufacturer of the individual devices by the individual establishing the system.

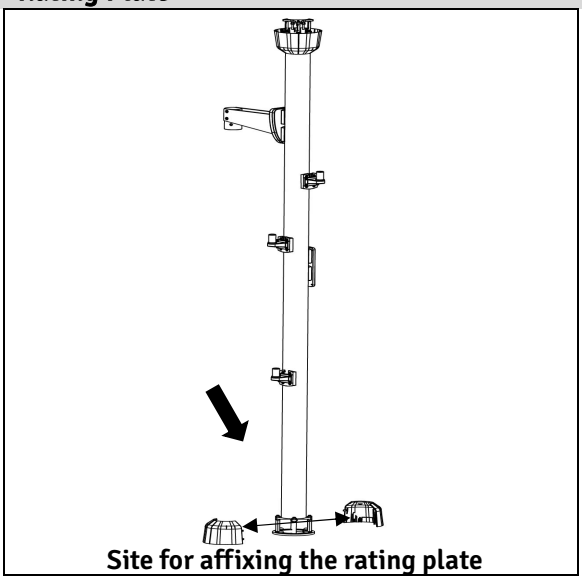
The user must ensure that the device works safely and is in a satisfactory condition before each use.

4.2 Scope of delivery

The Labomed Axius column complete contains:

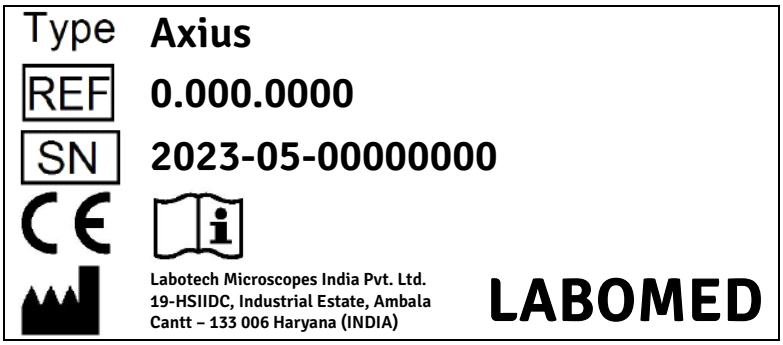
- **Axius Column..... 6137160-101**
- **Ceiling adapter..... 6137160-104**
- **Base Plate..... 6137160-102**
- **Cladding according to the room height..... 6137160-201**
- **Mounting bracket as ordered.....**

4.3 Rating Plate



Site for affixing the rating plate

Product Description (continued)



Type	Device type
SN	Year of Manufacture – Serial number
REF	Model Number
CE	CE Mark
	Read and take note of the content of accompanying documents

5. Installation

5.1 Fastening to floor

CAUTION

Watch out for under-floor heating and cables when drilling.
Special fasteners must be used for floors made of wood, hollow blocks, etc. These are not included in the scope of delivery. The technician is responsible for properly installing the unit with suitable fasteners.

5.2 Installation work by customer

Identify the setup site according to the floor plan
Provide the installations at the customer's premises.

5.3 Mounting the column

5.3.1 Positioning on the floor

- **Position the drilling template on the floor according to the template in the installation plan and the dimensions recommended in the corresponding floor plans, and make the markings and drill.**
- **Align the two notches on the inner diameter of the mounting plate 6137160-102 (see floor plan, section A-A) parallel to the middle axis of the patient chair.**

Note
The curved oblong holes in this mounting plate can be used to mount the entire column while it is rotated by up to +/- 30° about its middle axis or in order to be able to vary the position of the floor dowels if the floor poses problems.

- **Position the mounting plate ③ with pre-mounted column ④ on the floor and screw it down. (Fastening material is included with the accessories)**

Note
Remove the profile piece ① and the clamping washer ② if the difference between the upper end of the aluminium column profile and the ceiling is less than 250 mm.
The accessories carton contains a second profile piece and a second clamping washer. These can be plugged onto the equalising rod if the upper pair of hoods is to be attached relatively far up. This provides for additional supports to the cladding profiles.

Installation (continued)

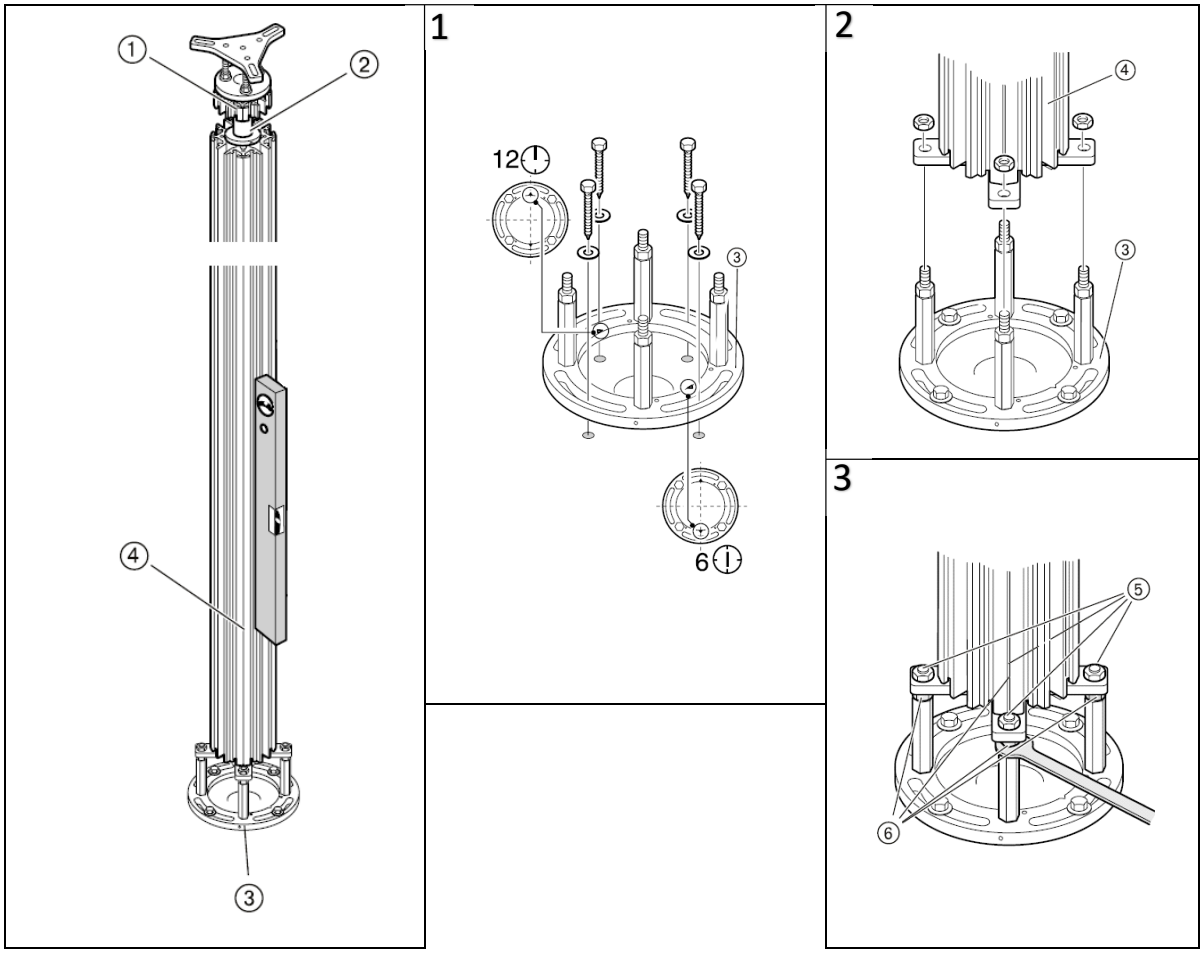
CAUTION

Deviation from vertical

Damage and injury

- **Do not exceed a maximum deviation from the vertical - 1 mm per 1 m of height.**
- **Align the column with the four fastening nuts ⑤ and the four counter nuts ⑥. Check the alignment with a spirit level.**
- **Finally, tighten all nuts ⑤ and ⑥.**

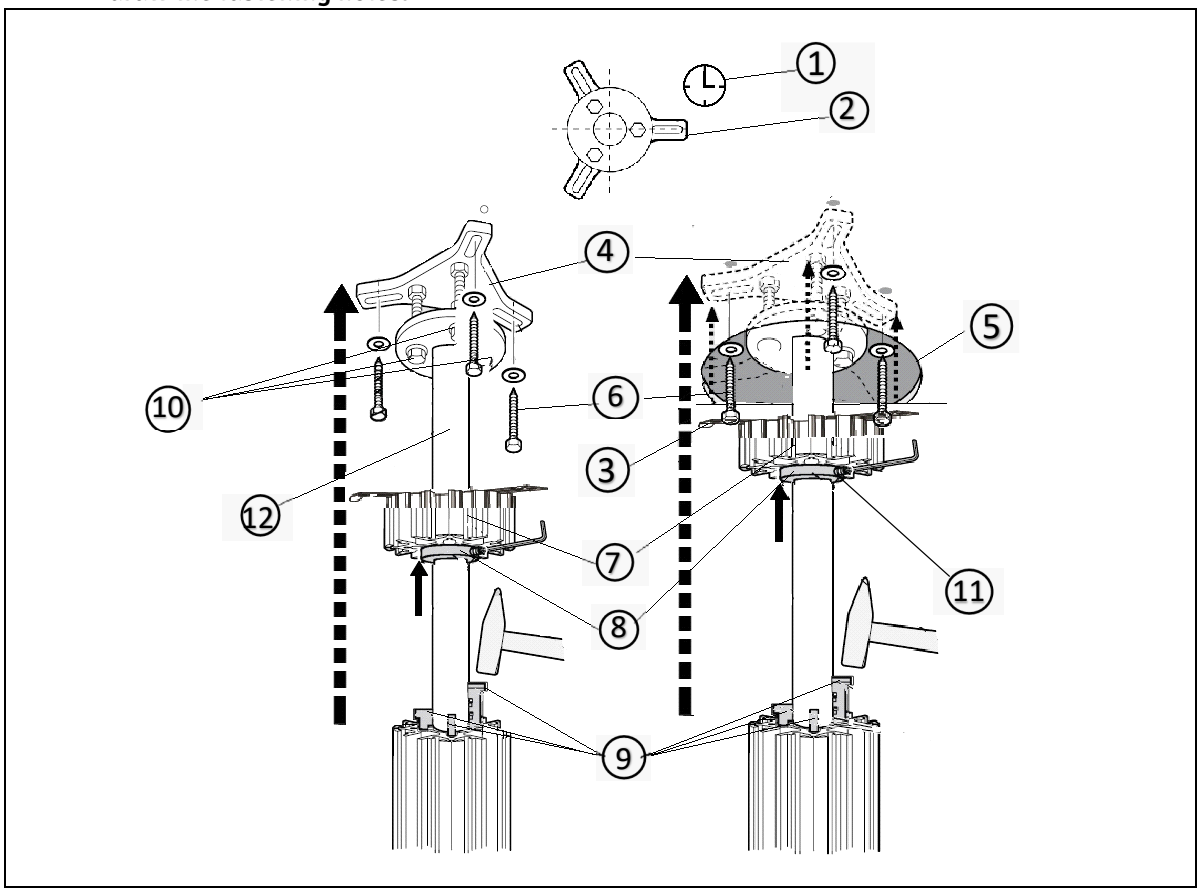
In general, the tightening torque for all screws and nuts with thread sizes equal to or larger than M8 as well as floor and ceiling screws is 10 Nm.



Installation (continued)

5.3.2 Positioning on the ceiling

- **Push the equalising rod with the ceiling plate ④ upward towards the ceiling and affix it lightly with the four wedges ⑨.**
- **If there is a false ceiling, now draw the cutout ⑤ with Ø 180 mm and saw it out.**
- **If the distance between ceiling and false ceiling is large in the area in which you work, disassemble the false ceiling elements to provide for freedom of movement during the installation in the ceiling area.**
- **In an installation without a false ceiling, position the ceiling plate ④ on the ceiling appropriately such that one of the 3 fastening straps ① faces in the 3 o'clock position. Then draw the fastening holes.**



Without false ceiling/with false ceiling

Installation (continued)

Note
In an installation in the presence of a false ceiling, the direction of the fastening straps of the ceiling plate can be selected freely.

- **Remove the four wedges again and drive the tube into the column.**
- **Now drill the holes on the ceiling.**
- **If the ceiling has no false ceiling, screw the supporting plate ③ to the ceiling plate on the ceiling.**

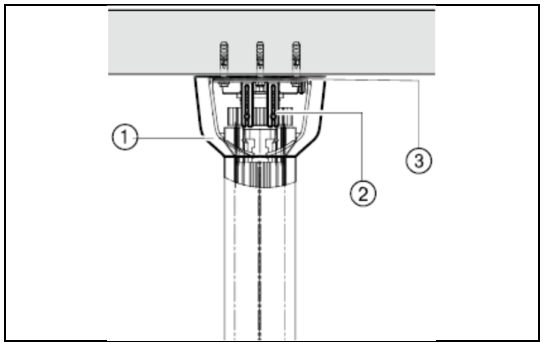
Note
Compensate for uneven surfaces on the ceiling with the nuts ⑩.

- **Re-attach the four wedges such that the column stands upright. Screw the threaded pins ⑩ (M6 x 8) into the threaded holes of the aluminium column profile ⑥ to the stop in order to support the pull-out rod ⑫. Check with a spirit level.**

CAUTION

Deviation from vertical
Damage and injury

- **Do not exceed a maximum deviation from the vertical - 1 mm per 1 m of height.**
- **In the presence of a false ceiling, the support plate ⑥ is to be installed on the profile piece ⑦ using 2 cheese-head screws M5x12 and 2 rhomboid T-slot nuts M5 or directly to the column (see Fig.).**
- **This profile piece is then slid upwards on the equaliser rod until the wings of the support plate touch the false ceiling. Align the profile piece appropriately such that one of the three wings of the intermediary plate ② points in the 3 o'clock position while the profile piece is aligned with the profile of the column.**
- **Use the threaded pin M6x10 to clamp the clamping washer ⑧ to the equaliser rod directly below.**
- **The cladding profiles must be sawed off properly such as to end just below the support plate.**
- **In rooms with no false ceiling, the one or two profile pieces ⑦ must be placed on the upright support such that the cladding profiles are optimally supported.**

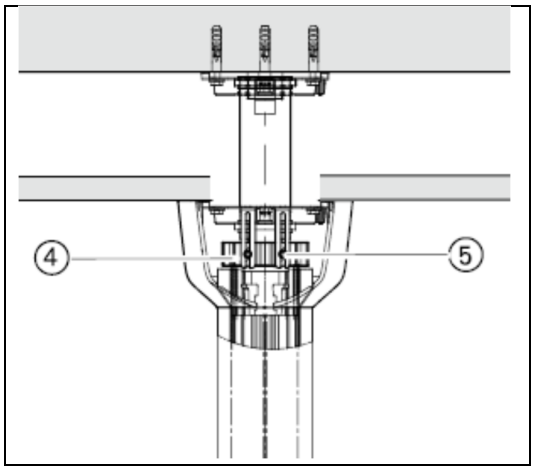


A without false ceiling

1.	**Cover**	**6137160-202**
2.	**Ceiling plate**	**6137160-104**
3.	**Support plate**	**6137160-305**

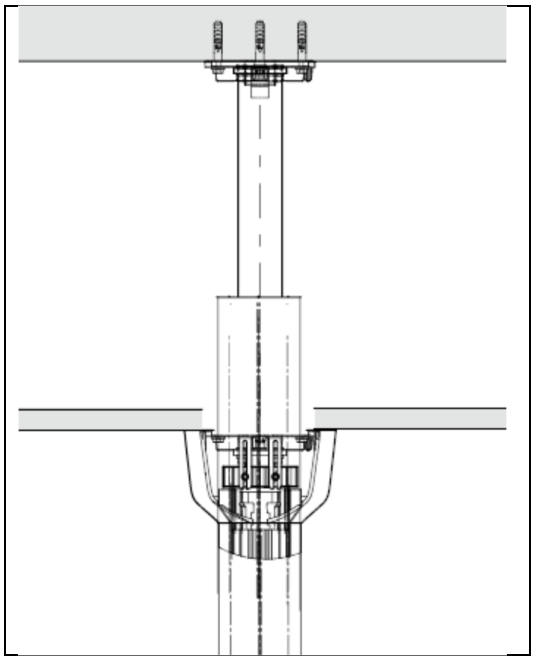
Installation (continued)

5.3.3 Mounting the column



B. False ceiling at the level of the pull-out rod

4. **Profile piece**..... **6137160-116**
5. **Allen screws**..... **SS-188**



C. False ceiling at the level of the profile column

Installation (continued)

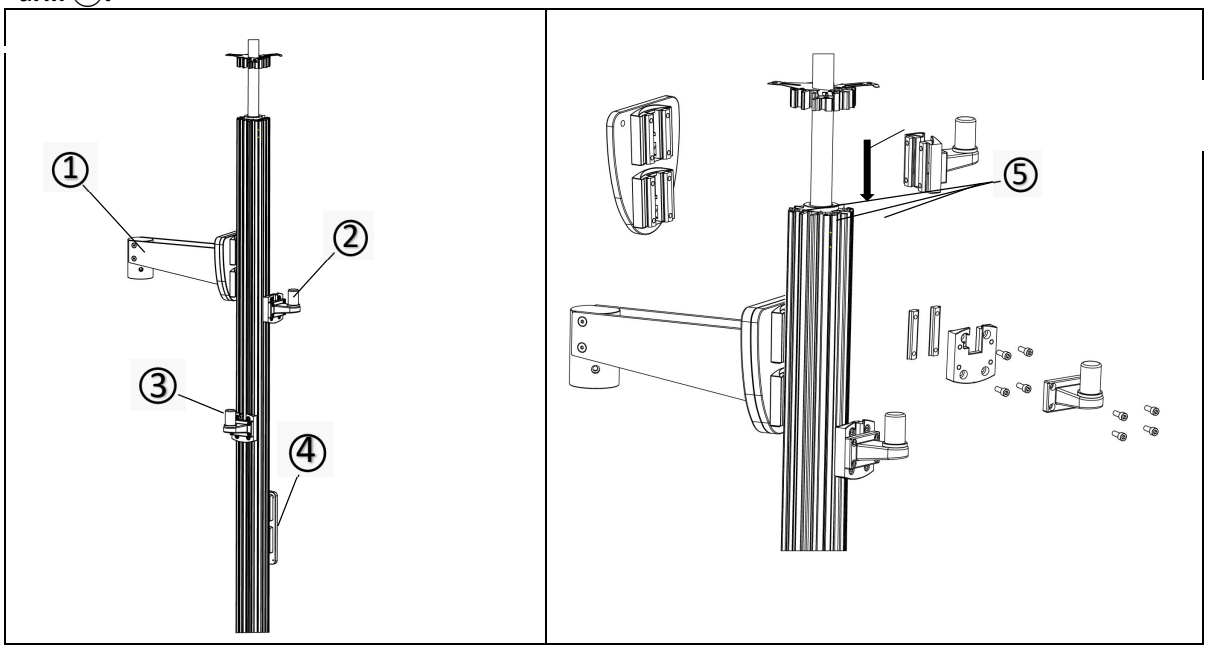
5.4 Installing the support arms

Currently, the following fasteners are available for fastening to the support system:
① Miroscope insert kit..... 6137160-803 - 1 No

Adapters/kits for support arms are available for the following units:

- **OT insert kit** **6137160-863 - 1 No**
- **Arm kit** **6137160-866 - 3 No**

The mounting plate is designed, e.g., for attachment of X-ray units and operating lights.
For lateral loads between 240 and 500 Nm, two support arms 400 can be combined to form a dual arm ④.



Installation (continued)

CAUTION

Loose screws
Damage and injury
The tightening torque for all screws of size M8 or larger is 10 Nm! Screws situated on the inside can be tightened using an Allen key or an open-ended spanner (SW 6 mm).

CAUTION

Overload
Damage and injury
The maximal load of the support system must not be exceeded! The following values apply to a column height of up to 3.9 m:

Max. Load	Vertical	Horizontal
Total	1200 N	1000 Nm
support arm	300 N	240 Nm
Mounting plate	300 N	350 Nm
Dual arm	600 N	500 Nm
Bracket	300 N	240 Nm

Note

The lower fastenings must be installed first.

- **Hook-in the support arm(s)/mounting plate(s) at the top of the column profile and position and tighten them at the desired height as requested by the customer.**
- **User spirit level to align the support arms during the assembly on the column such as to be vertical.**

The following heights (upper edge of fastening) and relative positions of the various Labomed assemblies are recommended where these are to be combined with a dental unit from Labomed:

Assembly for	Height	Position
Axius	3000 – 3900 mm	9 o'clock
Monitor arm adapter	1490 mm	9 0'clock
Tray Adapter	1230 mm	9 o'clock
X-Ray adapter	1675 mm	9 o'clock
Microscope	2512 mm	12 o'clock
Operating light	1900 mm	9 0'clock

Per definition, these dimensions relate to the distance between floor and upper edge of the support arm on the column. The four media channels of column ⑤, which each are situated between two T-slots, are intended for cables or other media lines.

Installation (continued)

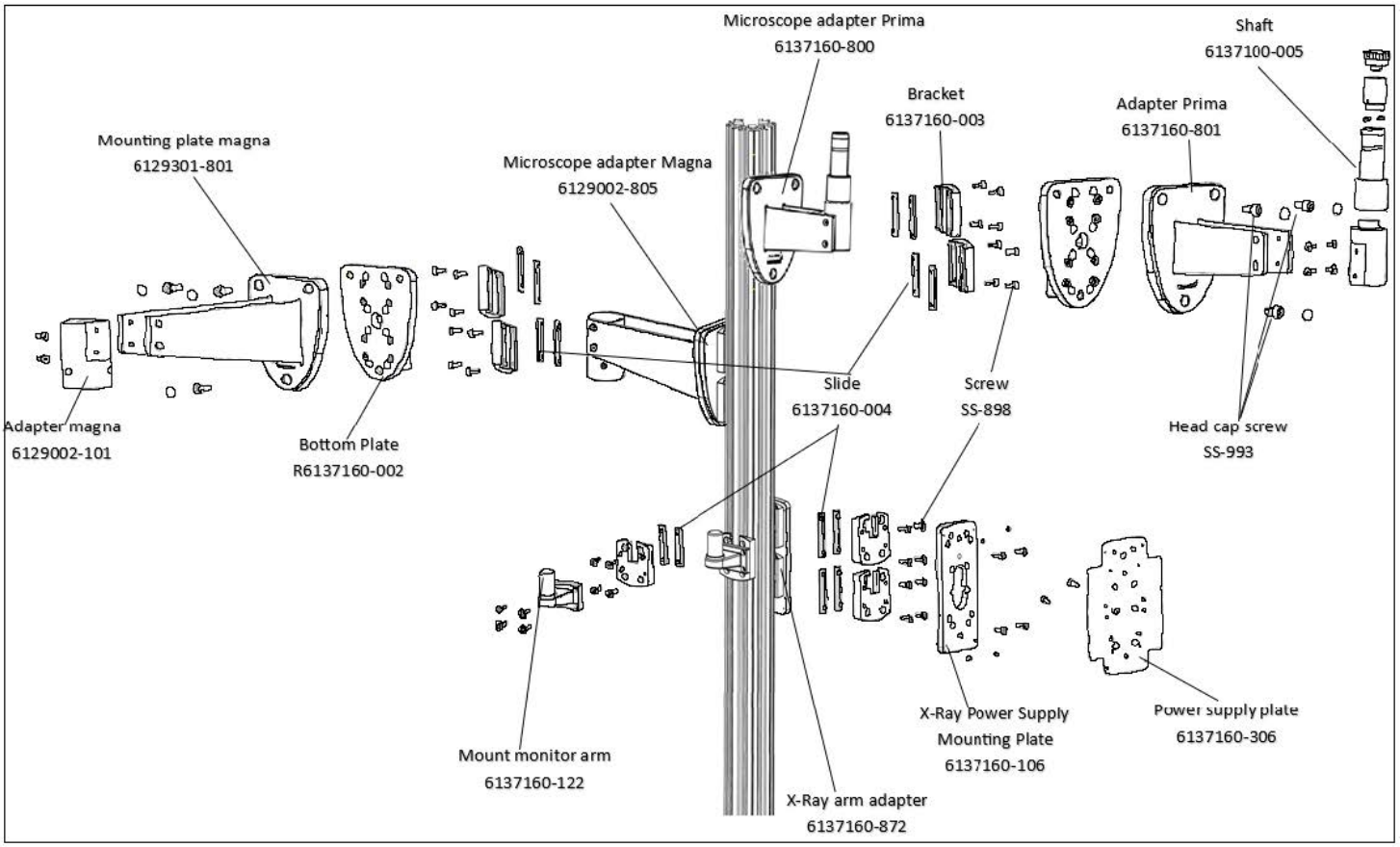
5.4.1 Kit for angle bracket

The following kits are available as angle bracket for the fastenings of support arm:

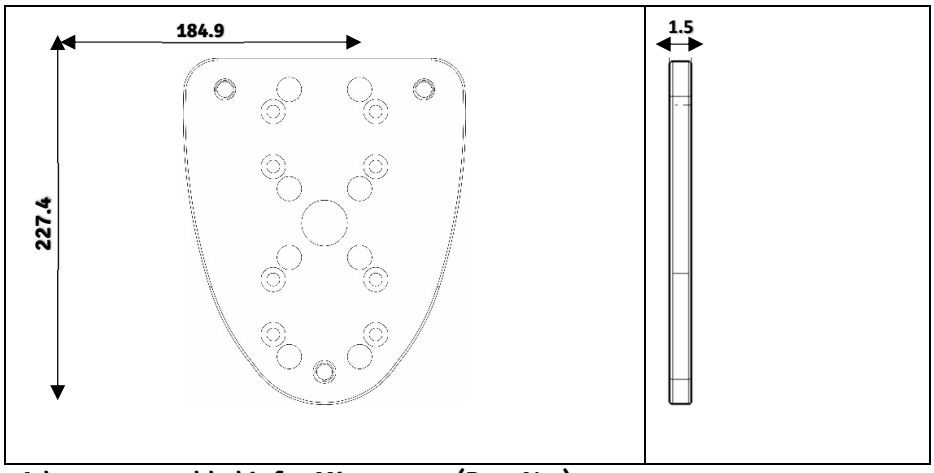
Adapter Microscope (Prima) – 6137160-802	**Adapter(X Ray/Monitor/Laptop) – 6137160-866**
Adapter microscope (Magna) – 6129301-802	**OT Light Adapter - 6137160-876**

Use: For shifting the mounting point if mounting areas are used doubly.

1. **Insert the slide 6137160-004 with Bracket mount from the top of the column profile and position and tighten them at the desired height as requested by the customer refer page 25.**
2. **Then affix the Adapter plate 6137160-802, 6129301-802 as ordered onto the mounting bracket in the support arm receptacle using the screw SS-898 as refered installation plan on page 25 as per user convinience.**
3. **Fix the Mounting Adapter 6137160-876 of Microscope as ordered with fixed shaft on to the Mounting bottom plate using head Cap screw SS-993 with allen key.**
4. **Fix the mounting plate (for Xray power supply, if ordered) 6137160-866 onto the bracket and tighten it using screws with allen key. Fix the Mount Monitor arm (if ordered) 6137160-866 on the bracket using screws SS-898.**
5. **Fix the cover as per the height maintained of the mounting adapters. Manually cut the cover of the maintained height between mounting adapters and fix it by gentle push to get it locked on the support arm.**
6. **Fix the Cover cap 6137160-202 of bottom of the support arm. Fix the top cover cap by gently lock in the leaf spring fixed in the height adjustment mount.**



Installation (continued)



Adapter assembly kit for Microscope (Part No.)

CAUTION

Loose screws

Damage and injury

The tightening torque for all screws of size M8 or larger is 10 Nm! Screws situated on the inside can be tightened using an Allen key or an open-ended spanner (SW 6 mm).

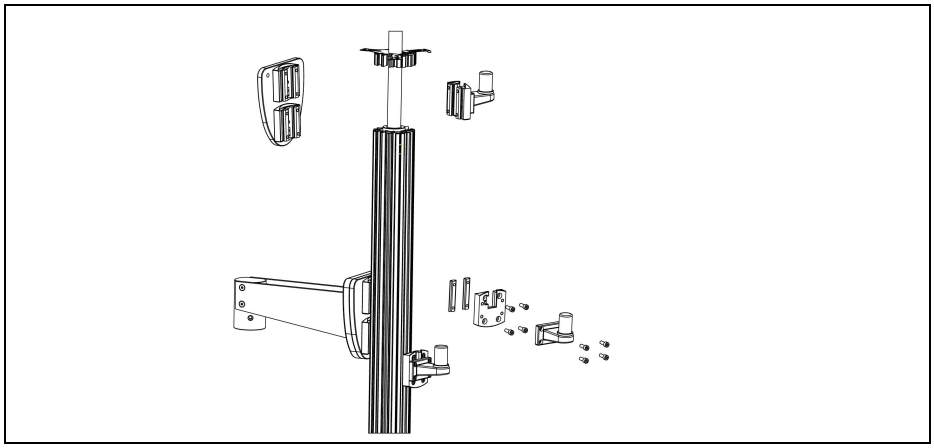
CAUTION

Overload

Damage and injury

The maximal load of the support system must not be exceeded! The following values apply to a column height of up to 3.9 m:

Mounted downstream from the bracket, the support arms exert the following.

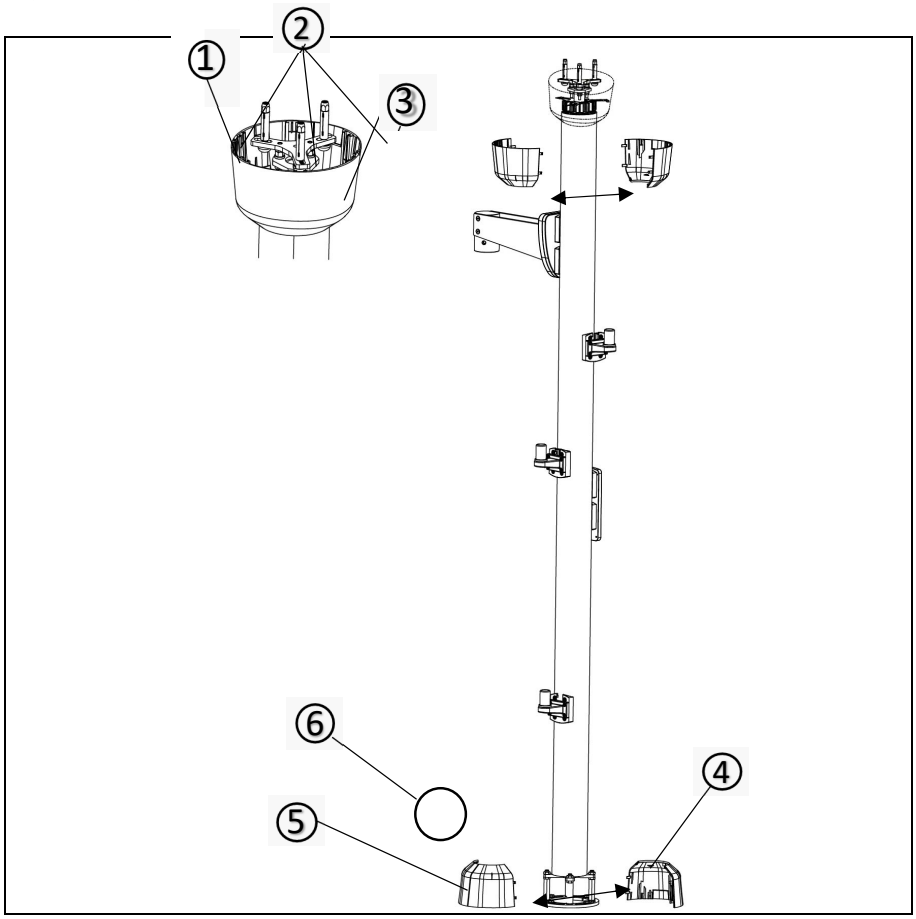


Installation (continued)

5.5 Installing the cladding

Saw the four cladding profiles for the column to size according to the onsite conditions, and snap them in.

Note
Cover the saw cuts on the ceiling and floor fastening by approximately 30 mm and on the arm systems by approximately 2 mm.

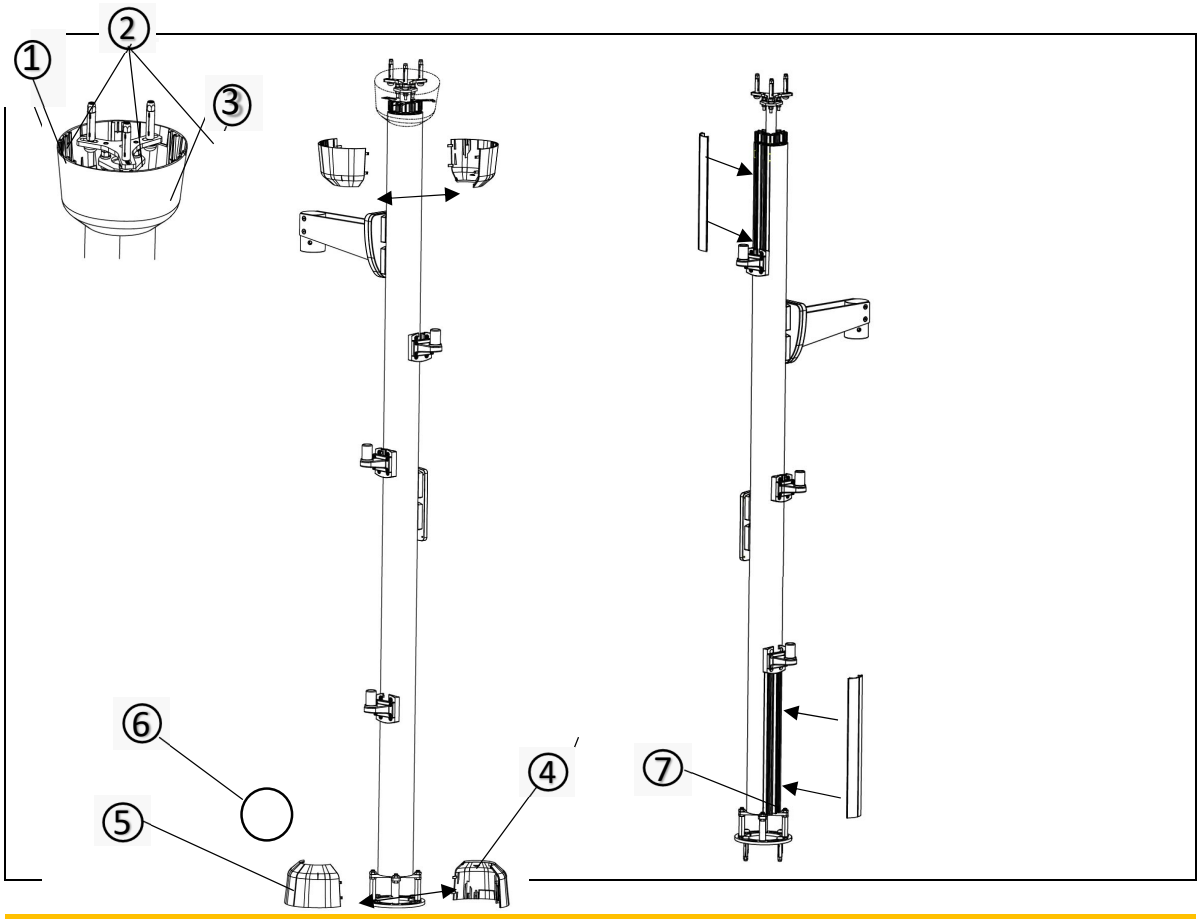


Snap-in the arm covers left/right on the support arm(s).

Note
The cover parts for the ceiling ①/③ differ from the ones for the floor ④/⑤ only by the pre-mounted clamping plates ②.

Installation (continued)

- If there is a surface mounted connector ⑥, saw the cover parts for the floor according to the on-site conditions.
- Plug the two cover parts into each other about the floor fastening on the floor and affix them with two countersunk-head screws M4x10.
- Screw the countersunk-head screws M4 down to the extent that the recesses provided in the cover can be pushed firmly over the screw heads.
- You might need to create a small recess in the cover at this site in order to be able to tighten down the countersunk-head screws with the cover mounted.
- Plug the cover parts for the ceiling into each other about the ceiling fastening and affix them on the support plate by turning them by a quarter of a turn in clockwise direction.



CAUTION

Collisions due to careless swivelling

Injury and damage to the paint.

- **Move attached parts carefully and mind the available pivot range.**

Installation (continued)

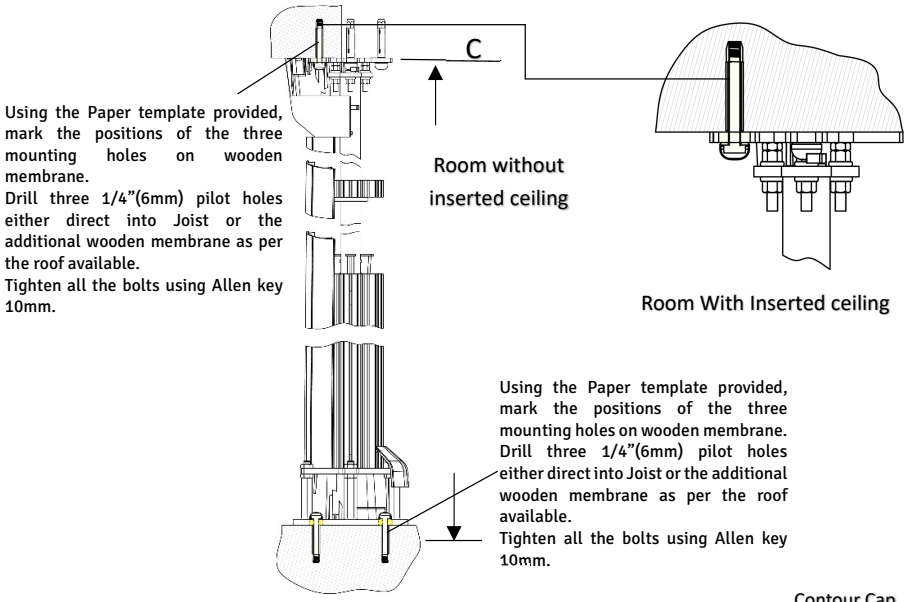
CAUTION

Improper installation

Injury and damage

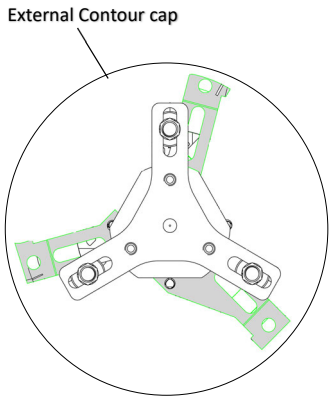
- **After the installation, check the support system for secure footing and ability to bear load.**

5.6 Floor plans

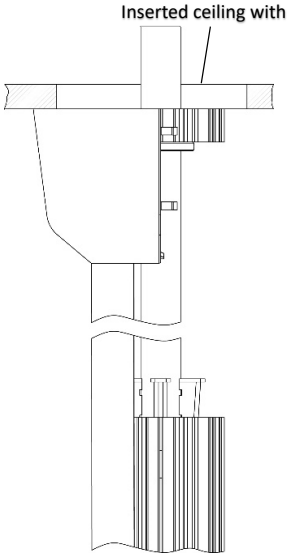


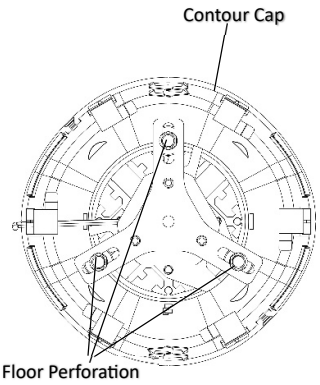
Using the Paper template provided, mark the positions of the three mounting holes on wooden membrane.
Drill three 1/4"(6mm) pilot holes either direct into Joist or the additional wooden membrane as per the roof available.
Tighten all the bolts using Allen key 10mm.

Using the Paper template provided, mark the positions of the three mounting holes on wooden membrane.
Drill three 1/4"(6mm) pilot holes either direct into Joist or the additional wooden membrane as per the roof available.
Tighten all the bolts using Allen key 10mm.

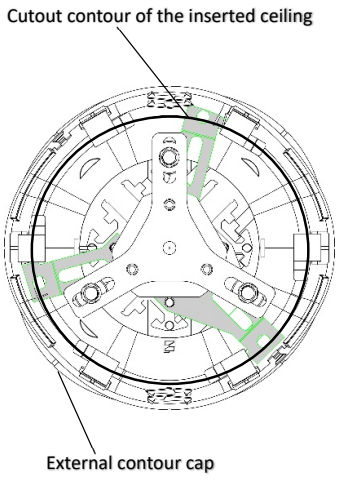


View from below of the room ceiling (without inserted ceiling)





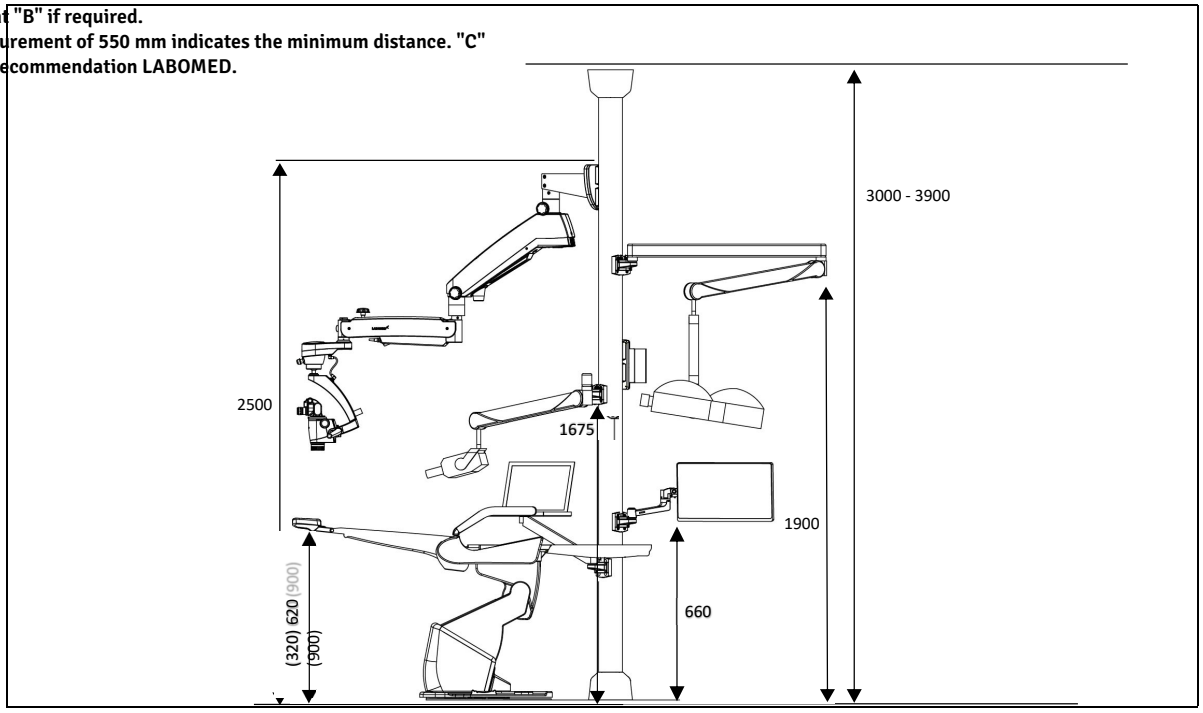
Drill the three mounting holes 14mm diameter and 100mm deep.
Place a 10mm flat washer and a split washer over each of the three M10 X 75 hex head RAWL Plug.
Tighten all the bolts with 10mm allen key.

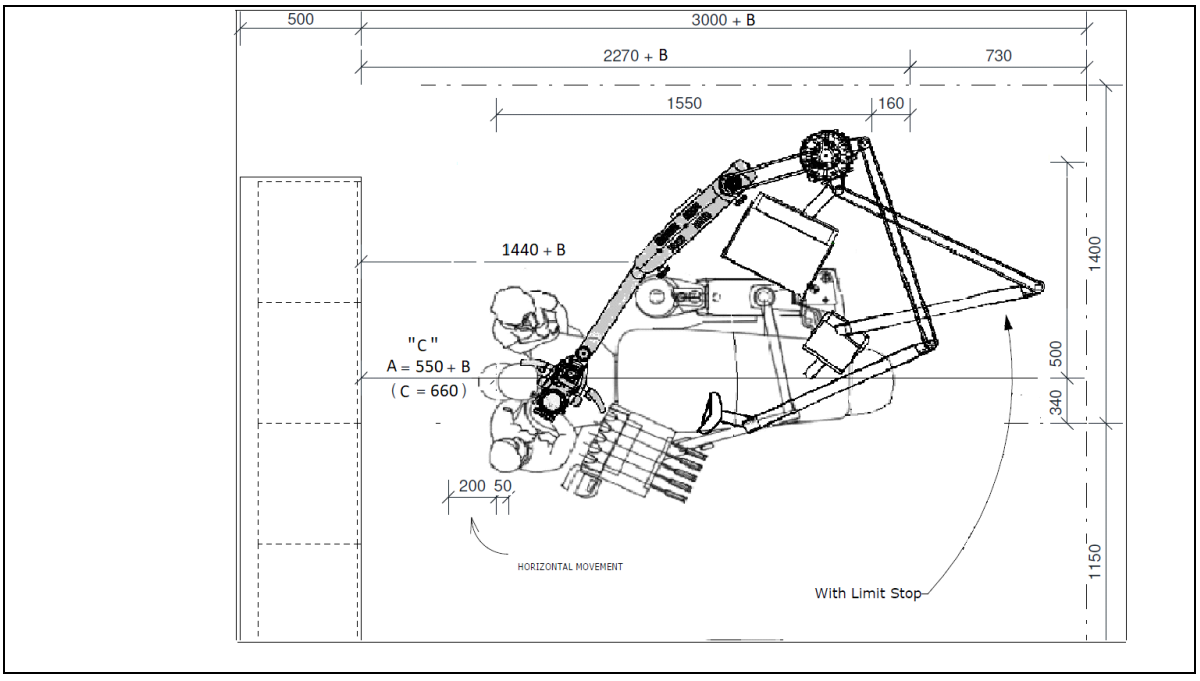


Installation (continued)

Floor Plans

On consultation with the dentist measurement "A" can be increased by amount "B" if required.
The measurement of 550 mm indicates the minimum distance. "C" 660 mm recommendation LABOMED.

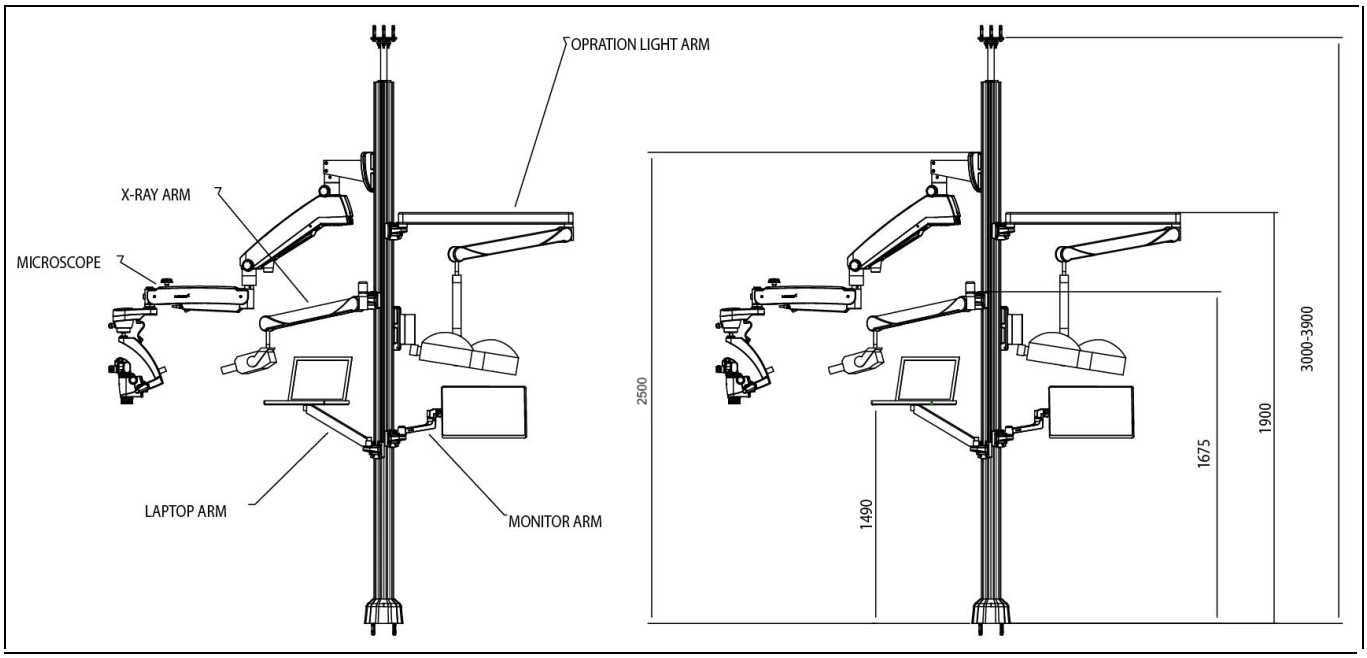




Installation (continued)

5.7 Installation heights of Axius

Installation heights recommended by Labomed, however, the heights can be determined individually according to the desired configuration.



5.8 Joining of Two Columns (Axius)

SR. No.	Part Code	Part Description	Qty.
1	6137160-872	Joint Bracket Assy.	04 Nos
2	6137160-101	Column Axius	02 Nos
3	6137160-866	Arm Adapter	01 Nos
4	6137160-002	Bottom Plate	01 Nos
5	S.S - 898	Socket head Screw (M8x20)	08 Nos

1. **Insert the four mounts marked as (1) one in each channel of the column (2) and tighten the same at the joints as shown in Figure A.**
2. **Fix the Plastic Cladding as shown in Figure B.**
3. **Arm adapter (3) is to use with any of the four mounts to fix the magna Microscope bottom plate (4) with Screws (5) to hang microscope.**

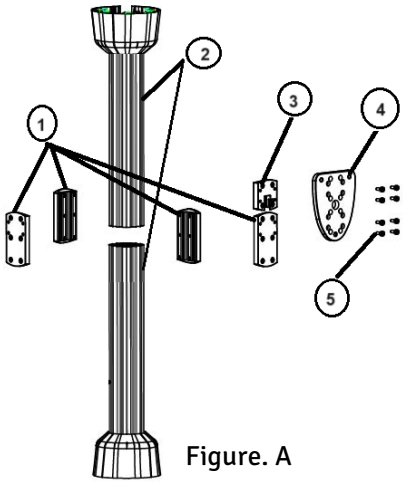


Figure. A

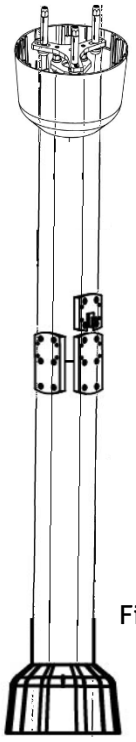


Figure. B

Installation (continued)

6 Startup

- Perform an electrical safety check according to IEC 62353 (DIN VDE 0751-1).
- Perform the general functional tests.

Note
For information regarding the operation of the devices, please refer to the respective Instructions for Use.

CAUTION

Collisions due to careless swivelling
Injury and damage to the paint.

- Move attached parts carefully and mind the available pivot range.

CAUTION

Improper installation
Injury and damage

- After the installation, check the support system for secure footing and ability to bear load.

7. Accessories

Microscope	Part No
Microscope adapter – Prima	6137160-802
Microscope adapter – Magna	6129301-802
OT light kit	**6137160-860**
Operating light adapter	6137160-876
Operating light arm	6137160-862
X-Ray arm kit	**6137160-874**
X-ray arm	6137160-871
Arm adapter	6137160-866
X-ray unit	6137160-869
Monitor arm kit	**6137160-865**
Flexible arm	6137500-800
Flexible arm mount	6137160-866
Laptop arm kit	**6137160-870**
Laptop arm mount	6137160-867
Laptop tray assembly	6137160-812
Arm adapter	6137160-866