tediselmedical

TOR

MAINTENANCE MANUAL

tediselmedical.com

CE 0197

Content

1. Manufacturer

Manufacturer: TEDISEL IBÉRICA S.L.

Address: C/ Sant Lluc, 69-81. 08918 - Badalona (Barcelona) SPAIN

Tel. +34 933 992 058

Fax +34 933 984 547

tedisel@tedisel.com

www.tediselmedical.com

2. Security information

Important notes in these operating instructions are marked with graphic symbols and signal words.

2.1. Injury risk warnings

Signal words such as DANGER, WARNING or CAUTION describe the degree of risk of injury. The different triangular symbols visually emphasise the degree of danger.

	WARNING	Refers to a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	CAUTION	Refers to a potential hazard which, if not avoided, may result in minor or slight injury.
	DANGER	Refers to an immediate danger which, if not avoided, will result in death or serious injury.
		Risk of finger entrapment

2.2. Warnings of risk of damage

The signal word WARNING describes the degree of risk of material damage. The triangular symbol visually emphasises the degree of danger.

Damage to surfaces: warns of damage to surfaces due to unsuitable cleaning agents and disinfectants.

NOTICE

Refers to a potential hazard which, if not avoided, may cause damage to the equipment.

2.3. Additional symbols used in the safety instructions

Fire hazard

Explosion hazard: warns of ignition of explosive gas mixtures.

Dangerous voltage: warns about electric shocks that can cause serious injury or death.

Failure of the roof support system

Risk of collision

2.4. Indication of additional information

NOTA

A NOTE provides additional information and useful tips for safe and efficient use of the device.

2.5. Proper use of oxygen.

2.5.1. Oxygen explosion

Oxygen becomes explosive when it comes into contact with oils, greases and lubricants.

Compressed oxygen presents an explosion hazard:

- Make sure that oxygen and gas outlets are free of oil, greasy materials and lubricants!

- Do not use cleaning agents containing oil, grease or lubricants.

2.5.2. fire hazard

DANGER: Escaping oxygen is combustible:

- Open fire, red-hot objects and open light are not allowed when working.

with oxygen!

- Don't smoke!

2.6. Patient environment

The dimensions in the figure below illustrate the minimum extent of the patient environment in an unrestricted area according to IEC 60601-1.

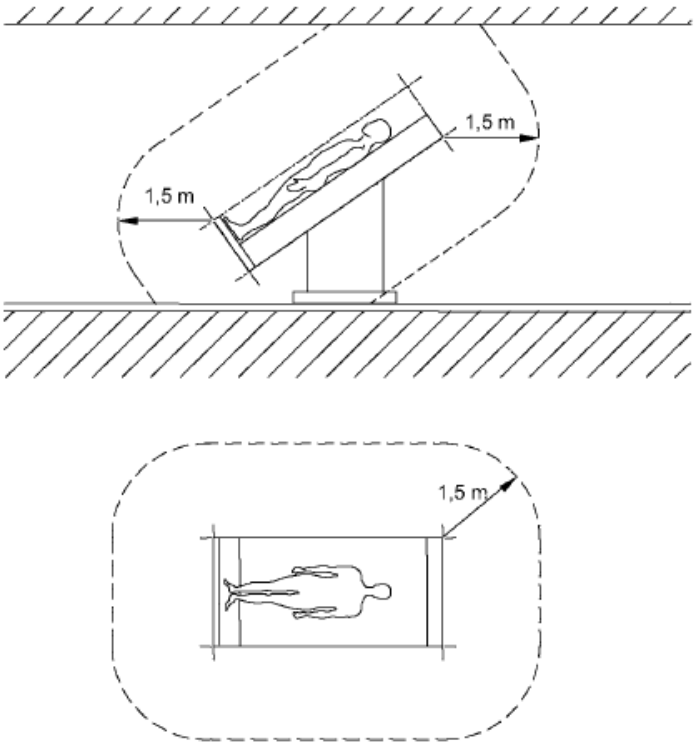

Fig. 1 Minimum extent of the PATIENT ENVIRONMENT

2.7. Combination with products from other manufacturers.

The suspension system is combined with the service head. To avoid dangerous overloads, which can damage or cause collapse of the service head and the pendant system, the specified maximum load capacity must be observed.

See section 6.7 of the user and cleaning manual supplied with the equipment.

Power supply packages intended to supply power to end devices must ensure electrical isolation and provide two protective measures according to IEC 60601-1.

NOTA

The party putting the device into operation is responsible for the validation of the whole system. If necessary, a conformity assessment procedure shall be performed and a declaration of conformity with Article 22 of the Medical Devices Regulation (EU) 2017/745 shall be provided.

Read the Operating Instructions provided by the external manufacturer to obtain the necessary information for the operation of the end device.

3. Risks

3.1. Ga explosion s

Oxygen becomes explosive when it comes into contact with oils, greases and lubricants.

When in contact with oxygen in the air, medical gases may form an explosive or easily flammable gas mixture. The equipment is not suitable for use in environments containing flammable mixtures of anaesthetics with high concentrations of oxygen or nitrous oxide.

If such high concentrations of flammable mixtures of anaesthetics with oxygen or nitrous oxide occur in the environment of the device, there is a risk of ignition under certain conditions.

3.2. Risk of device malfunction

CAUTION: If a device is connected to the equipment and trips the protection mechanism of the corresponding circuit in the health care facility, other devices connected to the equipment will also be de-energised.

3.3. Fire risk

Plug-in connections for the supply of medical gases must not come into contact with oil, grease or flammable liquids.

3.4. Danger of electric shock

Signal cables (network, audio, video, etc.) must be electrically isolated from equipment and the ends of building connections to prevent contact with currents that can cause serious injury or death.

4. Symbols used

	Applicable part B
	Earth (mass)
	Equipotentiality
	Protective earth (ground)
	Connection point for neutral conductor
	Nurse call button
	Direct lighting
	Indirect lighting
	Operating instructions
	Health Product
	Waste electrical equipment

CE 0197	CE symbol
REF	Product code
UDI	Unique identification code
SN	Serial number
	Manufacturer
	Date of manufacture
	Reference to the instruction manual
	Damage to surfaces
	Fire hazard
	Danger of explosion
	Dangerous tension
 NOTICE	Notice

Risk of finger entrapment

WARNING Warning

CAUTION Caution

DANGER Danger

5. Product data

This manual refers to the TOR model. This model is part of the SICS family.

5.1. Storage conditions

The individual packaging of this type of product consists of a bubble wrap on the inside and a cardboard box on the outside. Non-stackable packaging.

Under no circumstances should the product be stored with open or damaged packaging. If the product is inspected on receipt and installation is not carried out within 1 day, the product packaging must be resealed.

NOTICE: Failure to follow these instructions may result in damage to the equipment.

Recommended temperature range: -20 °C to 60 °C

Recommended humidity range: 10 % to 75 %.

Atmospheric pressure: 500 hPa to 1,060 hPa

5.2. Operating conditions

NOTICE: Failure to follow these instructions may result in damage to the equipment.

Recommended temperature range: -10 °C to 40 °C

Recommended humidity range: 30 % to 75 %.

Atmospheric pressure: 700 hPa to 1,060 hPa

5.3. Service life

The service life of the SICS family of products is determined by the service life of the medical gas intakes it incorporates, which is 8 years.

5.4. Purpose of the product

These systems have three main distinct functions within the hospital:

- Medical gas services
- Electrical, voice and data services
- Lighting
- Nurse call

They consist of a chassis made of aluminium profiles, which integrates the electrical equipment, call, voice and data systems, and installation and channelling of medical gas outlets.

6. Maintenance

Re-inspection shall be carried out in accordance with EN 62353.

6.1. Training

Personnel performing maintenance must be trained and qualified by the customer. Persons who:

1. have been instructed in the maintenance of this device by means of this instruction manual as a basis.

2. are able to assess the tasks they perform on the basis of their own professional experience and training in relevant safety standards and can recognise the potential hazards involved in the work.

6.2. Previous actions

- Disconnect all poles of the pendant system and prevent reconnection.
- Ensure that all devices connected through the main body of the equipment are de-energised.
- Wait until the terminal device (e.g. high frequency surgical device, flat panel display, etc.) has cooled down.

The necessary maintenance work must be carried out as specified in the inspection plan in this manual.

NOTA Built-in components from third party manufacturers must be inspected and maintained as prescribed in the corresponding Operating Instructions.

6.3. Disassembly and assembly of covers

The main body of the TOR is supplied finished, so for on-site installation, the side walls and top covers must be removed in order to be able to connect to the downpipes and, if necessary, to fit other accessory equipment (trolleys).

Disconnect the equipment electrically before proceeding with the disassembly of covers and end caps.

6.3.1. Disassembly and assembly of side walls

- Using an Allen tool, remove the 2 M4 x 16 screws ① and release the side tabs ③ from the side panel ②, as shown in figure 1.

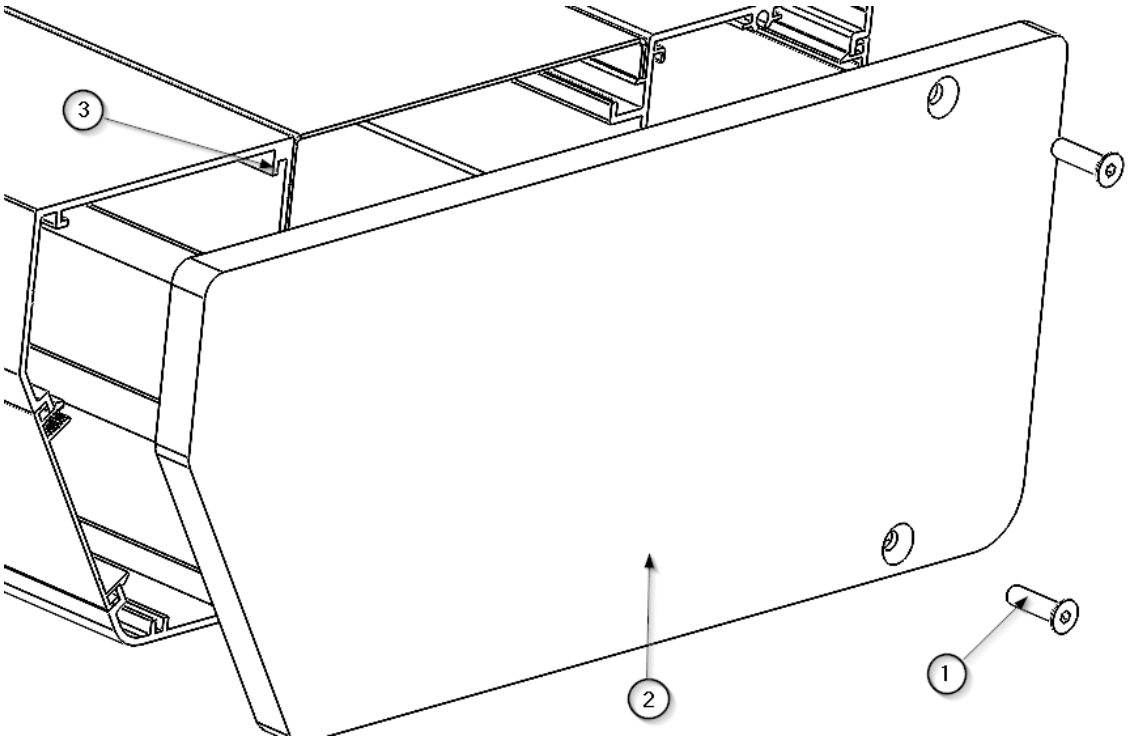

Fig. 2 Disassembly/assembly of end caps on main body TOR

- Carefully remove the side panel ② and place it in a safe place.
- To reassemble the end caps, carry out the above steps in reverse order.
- First attach the end cap ② by supporting the side tabs ③ in the slots of the main body and secure it with the 2 M4 x 16 hexagon socket screws ①.
- Check that the side wall ② is properly fixed.

6.3.2. Disassembly and assembly of top covers

- Remove the side wall as described in the previous chapter of this manual.

See section 6.6.1 of this manual.

- Now move the upper covers of the main body ① closest to the pressure sides with your hands, first moving them in the direction of the main body and, once the downpipe ② has been saved, pulling them upwards. See figure 2.

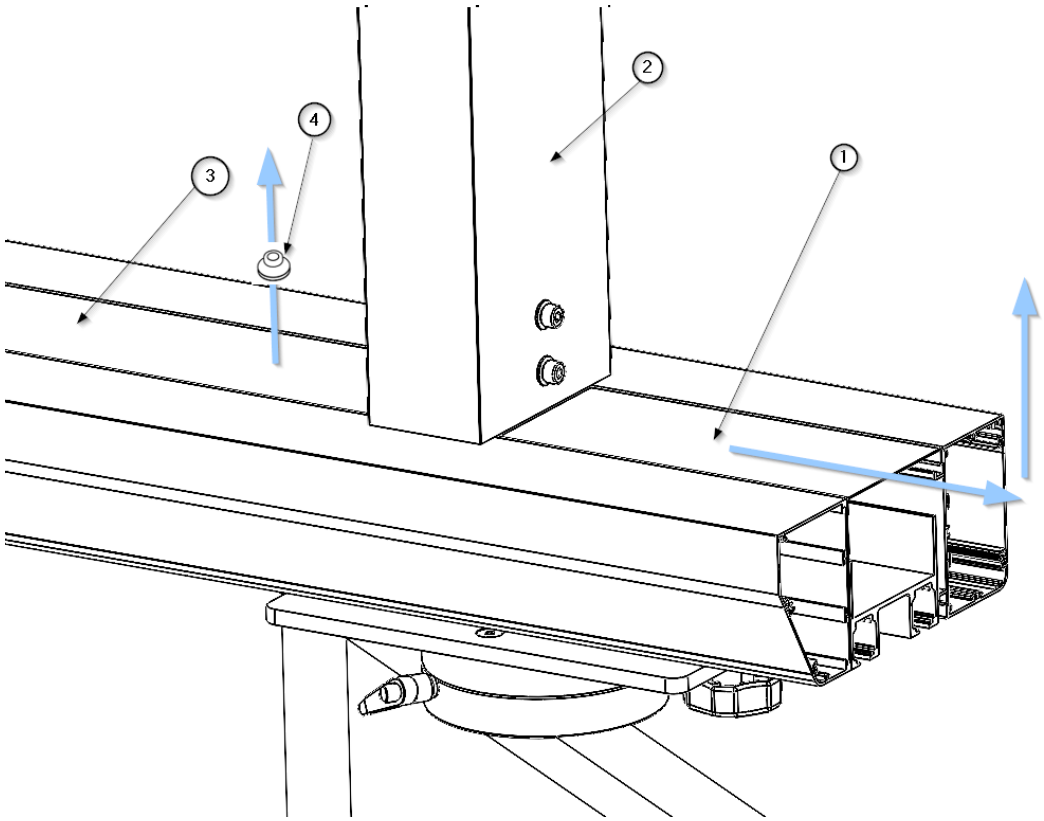

Fig. 3 Removal of main body covers

- Use the suction cup ④ to remove the upper cover between the two downpipes. This cover is snapped on.
- To reassemble these covers, carry out the above steps in reverse order.
- First attach the top covers ①. You will hear a sound when the clipping is done. If it is the cover on the side, slide it until it makes contact with the downpipe ② and then clip it on.
- Check that the covers are securely fastened and in the correct position.

6.4. Replacement of LED strips and drivers in the indirect light module

If the indirect light module of the TOR system malfunctions, both the LED strips ⑤ and the drivers ⑦ must be replaced.

Disconnect the equipment electrically before replacement.

- Using a suction cup ② remove the top cover ① housing the indirect light diffuser as shown in figure 3. The lighting module ③ for indirect light will be exposed.

See section 6.3.2 of this manual.

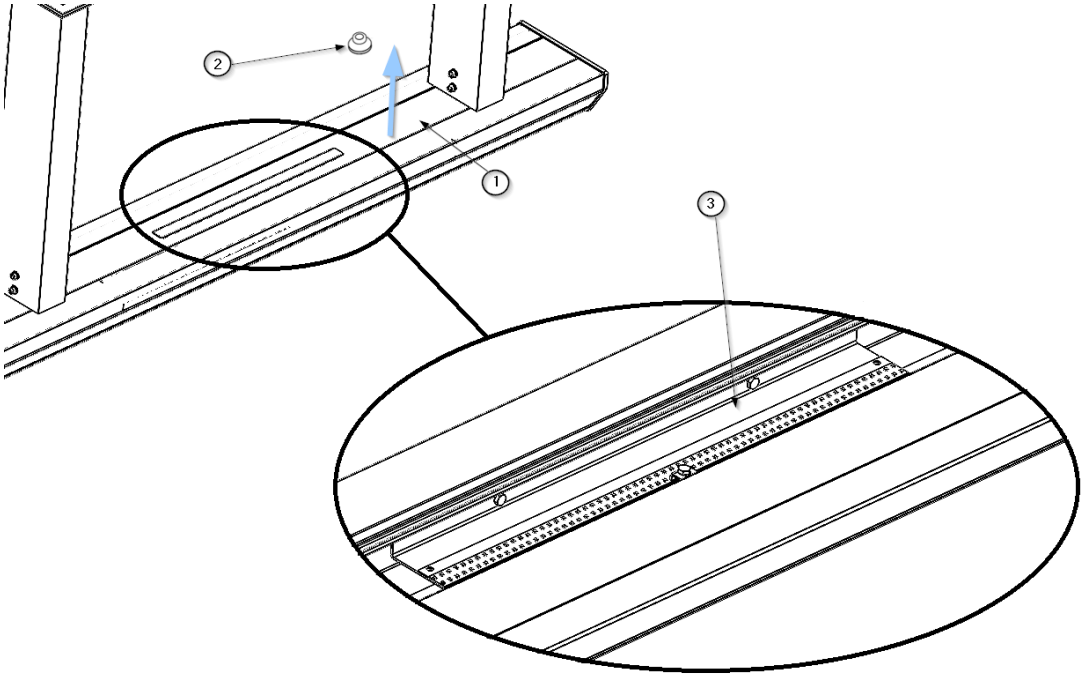

Fig. 4 Removal of main body cover

- Disconnect the power supply of the controller ⑥ and the quick connector of the LED strips ②
- Unscrew the M4 x16 hex screws ① DIN 933 releasing the LED strip ② from the lighting module bracket ③ as shown in figure 4.
- tabs ⑥ holding the controllers ⑦.

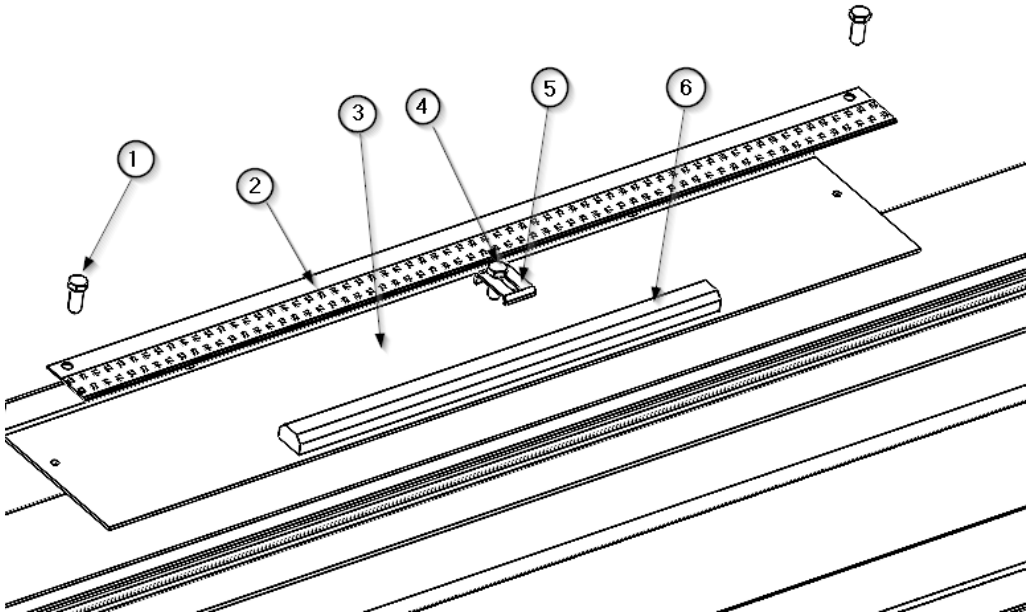

Fig.5 Substitution of indirect light

- Fit the new LED strips ② and secure them with the hexagonal screws ①.
- Unscrew the M4 x16 hexagonal screw ④ DIN 933 releasing the controller ⑥.
- Fit the new controller ⑥ and secure it with the flange ⑤ by screwing in the hexagonal screws ④.
- Connect the power supply of the controller ⑥ back to the terminal strip.
- Connect the power supply quick connector of the newly installed LED strips ②.
- Power up the lighting circuit and perform a test run to check that the lighting module switches on and off.

Contact with live parts can cause an electric shock.

- Replace the top cover with the polycarbonate diffuser.

6.5. Replacement of LED strips and drivers in the direct light module

If the direct light module of the TOR system malfunctions, both the LED strips ③ and the drivers ⑦ must be replaced.

Disconnect the equipment electrically before replacement.

- Using a flat-nosed tool, remove the polycarbonate diffuser ①. Be careful not to damage the outer covers of the device. The LED strips ③, the controllers ⑦ and their terminal strip are visible.

- Disconnect the power supply of the controller ⑦ from the terminal strip.
- Unscrew the 2 M4 x 10 hex screws ② DIN 933 releasing the LED strip ③, its quick connector is visible. See figure 5.

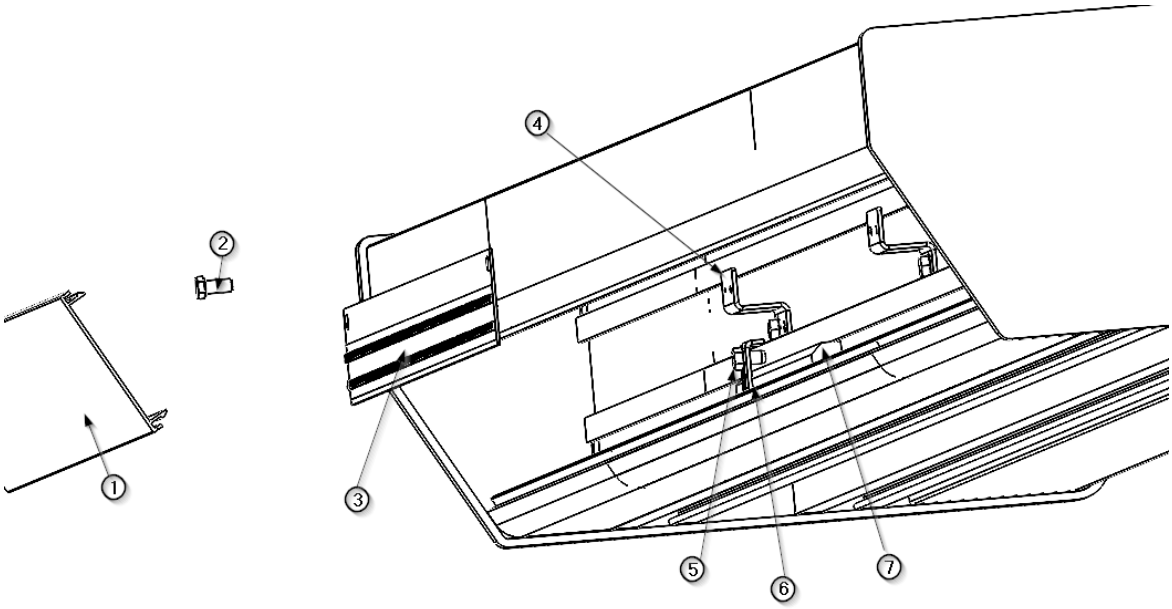

Fig.6 Substitution of direct light

- Disconnect the quick connector from the LED strip ③.
- Unscrew the M4 x8 hex screws ⑤ DIN 7500 releasing the controller ⑦.
- Fit the new controller ⑦ and secure it with the flange ⑥ by screwing in the hexagonal screws ⑤.
- Fit the new LED strip ③ and secure it with the hexagonal screws ②.
- Connect the quick connector of the LED strip ③.
- Check that the lighting module is fixed in position.
- Connect the power supply of the controller ⑦ back to the terminal strip.
- Power up the lighting circuit and perform a test run to check that the lighting module switches on and off.

Contact with live parts can cause an electric shock.

- Replace the polycarbonate diffuser ① by clipping it in. You will hear a sound when the clipping is done.

6.6. Structural and movement check

A complete inspection of the entire suspension system shall be carried out, adjusting all parameters that deviate from those initially foreseen.

- Carry out a visual inspection to detect if any item is not properly fixed and there are no deformed or damaged items.
- Check that the limit switches for the system carriages are properly secured.
- Check that the brakes on the trolleys are working properly and that the trolleys can be moved comfortably into the desired position.
- Adjust, if necessary, the friction brakes.

6.6.1. Adjustment of the mechanical brakes of the element carrier trolleys

The mechanical brakes keep the trolleys stable. Adjust the braking force in such a way that they remain stable in any position and can still be conveniently adjusted.

- To increase the braking force on the rotation axis, turn the rotation brake lever clockwise as shown in figure 6.
- To reduce the braking force on the rotating shaft, turn the rotation brake lever counterclockwise, in the opposite direction to that shown in figure 6.
- To increase the braking force on the drive shaft, turn the rotation brake lever clockwise as shown in figure 6.
- To reduce the braking force on the drive shaft, turn the rotation brake lever counterclockwise, in the opposite direction to that shown in figure 6.

If the brakes on the trolley are not properly applied, the trolley will move freely and may hit other objects in the vicinity.

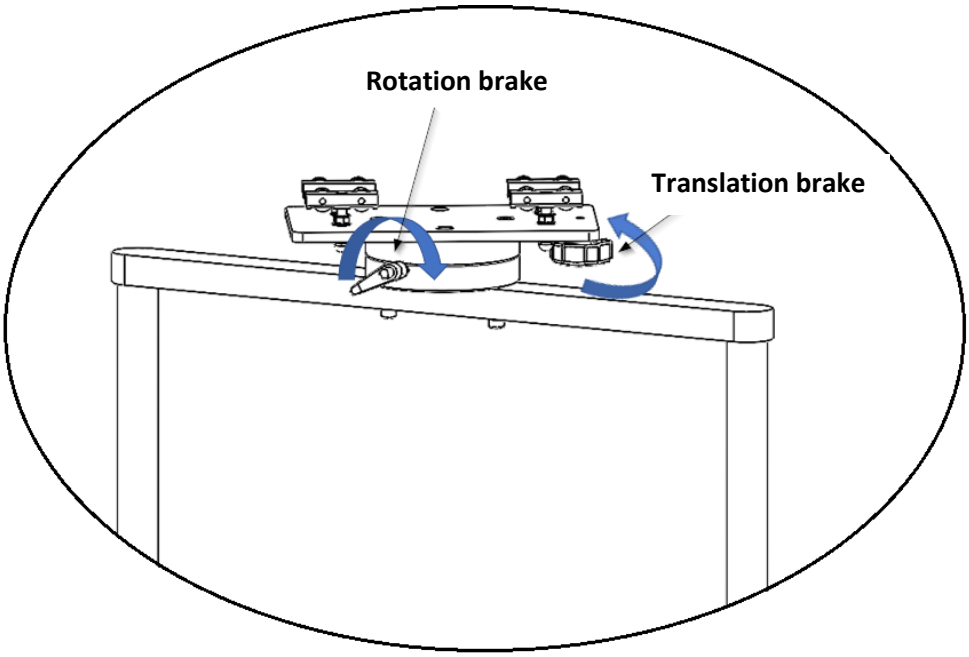

Fig.7 Adjustment of friction brakes on element carrier trolleys

6.6.2. Limit switch adjustment for element carriages

The trolleys of the TOR equipment can slide freely along the entire length of the main body section on which they are installed. It is necessary to limit their travel to ensure that they do not conflict with patient and operator space. See figure 7 and 8.

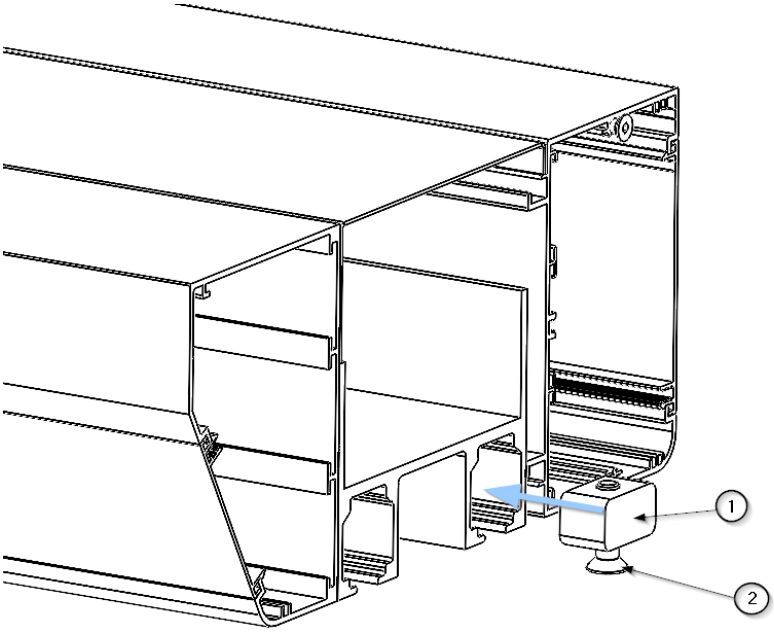

Fig.8 Adjustment of the travel limit switches.

- Use an Allen key to loosen the bolt ② of the cross stop ①.

- Move the cross stop to the desired position on the TOR main body guide.

The example in figure 15 shows a TOR unit with two element carriages, the limit switches must ensure that the element carriages do not collide with the other elements in the environment.

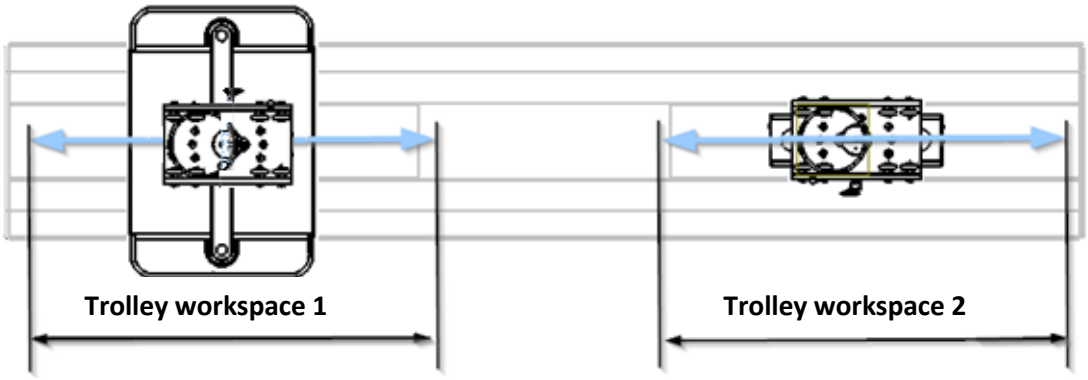

Fig.9 Adjusting the travel limit switches. Maximum stroke

- Tighten the Allen stud ② and check that the cross stop is fixed in this position.
- Do the same with the second crosscut fence.

The hexagon socket bolts ② M6 - DIN 913 must be tightened to 40 Nm.

6.7. Checking of medical gas supply circuits

It is recommended to disconnect the equipment electrically before proceeding with the revision.

Passage	Description	Periodicity	Tools/supplies
1	**Detailed Visual Inspection**: A) Remove the top covers to gain access to the inside of the equipment following the steps specified in section *6.3.2 Removing and fitting the top covers.* B) Perform a thorough visual inspection of all interior ductwork for signs of wear or damage.	Annual	Screwdriver set, protective gloves, torch, torch, etc.

2	**Leak Detection:** A) Prepare a soap solution in a container. B) With a brush or paintbrush, apply the solution to the junction points of the piping to the gas terminal units, and other soldered connections. C) Watch for bubbles to form, indicating the presence of a leak. D) If a leak is detected, mark the area for later correction.	Biannual	Soapy solution, brush or paintbrush
3	**Verification of gas terminal brackets:** A) Physically assess the condition and integrity of the trunking supports. Check for wear or structural damage. B) Ensure that the brackets are firmly fixed to the profile and that there is no movement or play in the brackets.	Annual	Hand tools, protective gloves
4	**Maintenance Register**: A) After each inspection or intervention, record in a document or management system all details, such as date, findings, actions taken, name of technician, and parts replaced. B) Keep this record organised and accessible for future reference and audits.	Always	Maintenance log

Additional note: Be sure to follow all relevant safety regulations and recommendations. It is essential that personnel involved in these tasks are properly trained and wear personal protective equipment.

6.8. Maintenance plan

Item to be inspected	Description	Periodicity	Method of inspection
Downpipe plate and structure	Ensuring strength and load-bearing capacity*.	Annual	Visual inspection for signs of wear or corrosion Check condition and robustness (1)
Downpipes	Ensure correct connections and check gas & electrical supply passages. Check height and relative position*.	Annual	Visual inspection and robustness check (1)
Service Head	Ensure that the service head is held firmly in position*.	Annual	Visual inspection and stability check
Trolleys	Check mobility and fixation with the skid*. Check movement and rotation restriction stops. Check end stops.	Annual	Visual inspection and functional test Robustness check (1) See section *6.6.1 Adjustment of the mechanical brakes of the element carriers and 6.6.2 Adjustment of the limit switch for element carriers* 
Trays and Drawers	Ensuring functionality and cleanliness	Half-yearly	Visual inspection and dummy load (2) Check condition and robustness (1)
Other accessories	Inspection of dripper support and other elements	Annual	Visual inspection and dummy load (2) Check condition and robustness (1)
Gas outlets	Review and check of status and functionality*.	Annual	Visual inspection and functional test Ease of connection and disconnection manoeuvres Wear and tear or damage Marking and labelling

Copper gas connection I	Overhaul and status check*.  It is recommended to disconnect the equipment electrically before proceeding with the overhaul.	Annual	Visual inspection Verification of supports See section *6.7 Checking of medical gas supply circuits* 
Copper gas connections II	Overhaul and status check*.  It is recommended to disconnect the equipment electrically before proceeding with the overhaul.	Biannual	Leak detection See section *6.7 Checking of medical gas supply circuits* 
LED lighting	Testing of LED strips for direct and indirect light	Half-yearly	Visual inspection and function test See points *6.4 and 6.5. Replacement of LED strips and driver* 
Nurse call	Operation of the call system	Half-yearly	Simulation of call and system response. Ensure effective communication with nursing
Switches	Checking of the lighting actuation	Annual	Functional test. Check operability
RJ45 sockets	Inspection of voice and data sockets	Annual	Connecting to devices and testing data transfer
Electrical outlets	Verification of equipment power supply*.	Half-yearly	Use of a multimeter to check supply voltage and continuity (3), and connection of devices

Electrical and data cabling	Review and check of status and functionality*.  It is recommended to disconnect the equipment electrically before proceeding with the overhaul.	Annual	Visual inspection and functional test. Check connections, and correct signalling. Check according to applicable regulations See section *6.3.1 Disassembly and assembly of the upper shrouds* 
Video & audio outlets	Operation of HDMI and USB sockets, etc.	Annual	Device connection and data/video/audio transfer
Protection mechanisms	Verification of earths and protections*.	Annual	Use of a multimeter (3) for continuity tests
Treatment and finishing	Check paint condition	Annual	Visual inspection and tactile test (4)
Headwalls	Inspection of the headwalls and their condition	Annual	Visual inspection and tactile test

Damaged, deformed or missing components must be replaced as soon as possible. In this case, please contact the supplier of the device.

*If one of the above points is found to be non-compliant during the inspection, the system must be shut down immediately as a precautionary measure to prevent further damage to persons and equipment. Immediately notify the System supplier.

(1) Check condition and robustness:

- This assessment is done through a detailed visual inspection, looking for obvious signs of damage, wear, or corrosion. To assess robustness, physical tests can be carried out, for example, by applying a manual force at different points to check its strength.
- For the specific structure or plate to be considered in good condition, it should not show visible signs of damage, excessive wear or corrosion. In addition, it should not deform or move beyond an acceptable range when force is applied to it.

(2) Dummy load:

- This refers to applying a weight or force that simulates the most extreme conditions of use to which the device could be subjected in practice. This load is used to assess whether the device can withstand the demands of day-to-day use in the operating theatre.

- The specific value of the load will depend on the specifications detailed in the Equipment.

(3) Use of the multimeter:

- It shall be used to verify that electrical outlets and related components are operating correctly. With it, values such as voltage (to ensure that the sockets are providing the correct voltage), resistance (to identify possible faults or short circuits) and continuity (to ensure that circuits are complete and there are no interruptions) can be measured.

(4) Tactile test:

- This refers to using touch to evaluate a surface or component. For example, by running the hand or fingers over the paint on a structure, one can determine if there are any irregularities, bumps or flaking.
- The test shall be considered successful if, to the touch, the surface is uniform, with no perceptible irregularities and no signs of flaking or deterioration.

7. Cleaning

Perform this operation with slightly moist cleaning instruments to ensure that no liquid enters the equipment. Since no part or component of the system is invasive, sterilisation is not necessary.

Do not use abrasive or very hard cleaning agents that may cause damage to the exterior coatings, such as disinfectants containing sodium hypochlorite, which is highly corrosive to aluminium.

WARNING: Damage to equipment may occur.

Formaldehyde-free disinfectants such as Saint Nebul Ald from Proder Pharma are recommended. Method of application:

1. Dilute 4 pulses of the valve supplied by the manufacturer per 5 litres of water.
2. Spray the compound on the product and let it react for 15 minutes.
3. Remove with water or soap solution with a wrung out cloth.

Switch off the power supply

Contact with live parts can cause an electric shock.

- Always disconnect the device from the main power supply before cleaning and disinfecting it.
- Do not insert objects into the openings of the device.

8. Waste management

Applies WEE2012/19 and RoHS directive 2011/65/EU, amendment 2015/863/EU. The equipment has electrical and electronic components, so it cannot be disposed of as organic waste, but as electrical/electronic waste.

9. Regulations

9.1. Team ranking

According to the new **MDD** regulation **93/42/EEC** concerning medical devices, this product family is classified as:

- Class IIb, by Annex II, excluding section 4, regulation 11.
- Protection level IP20 according to IEC 60529.

Equipment intended for continuous operation.

9.2. Reference standards

The device complies with the safety requirements of the following standards and directives:

ISO11197: Medical supply units

IEC 60601-1: Medical electrical equipment. General requirements for basic safety and essential performance.

IEC 60601-1-2: Medical electrical equipment. Part 1-2. General requirements for basic safety and essential performance. Collateral standard. Electromagnetic disturbances.

9.3. Electromagnetic compatibility.

According to EN 60601-1-2:2015 this equipment is intended for use in the electromagnetic environment specified below. The user of this equipment must satisfy himself that it is being used in such an environment.

Interference emission measurements	**Compliance**	**Comment**
HF emissions according to CISPR 11 standard	Group 1	The supply unit uses HF energy exclusively for its internal OPERATION. Therefore, its HF emissions are minimal and interference with devices in its vicinity is unlikely.

HF emissions according to CISPR 11 standard	Class A	The roof supply unit is suitable for use in non-domestic installations and in installations that are directly connected to the PUBLIC SUPPLY NETWORK, which also supplies residential buildings.
Harmonic emissions according to the standard IEC 61000-3-2	Class A	
Emissions of voltage fluctuations/transients according to the standard IEC 61000-3-3	In accordance with	

Interference resistance	Test level according to IEC 60601	Level of compliance	Environment/Guidelines
Static electric discharge (ESD) according to IEC 61000-4-2	±8 kV contact discharge 15 kV aerial discharge	±8 kV contact discharge 15 kV aerial discharge	Floors should be made of wood, concrete or ceramics. If the floor is covered with a synthetic material, the relative air humidity should be at least 30%.
Fast transient electrical interference amplitudes / bursts according to the norm IEC 61000-4-4	±2 kV for power supply cables ±1kV for input and output cables	±2 kV for power supply cables ±1 kV for incoming and outgoing cables	The quality of the supply voltage should be typical for a commercial or hospital environment.
Surges (waves) according to the standard IEC 61000-4- 5	±1 kV phase-to-phase voltage ±2 kV phase to ground voltage	±1 kV phase-to-phase voltage ±2 kV phase to ground voltage	The quality of the supply voltage should be typical for a commercial or hospital environment.
Voltage dips and fluctuations of the supply voltage according to the standard IEC 61000-4- 11	100% of U_N drop for 0.5 period 100% of U_N drop for 1 period 30% of U_N drop for 25 periods	100% U_N drop for 0.5 period 100% of U_N drop for 1 period 30% of U_N drop for 25 periods	The quality of the supply voltage should be typical for a commercial or hospital environment. If the user of the roof supply unit requires continuous

	Remark: UN is the AC mains voltage before applying the test level.		operation even in case of power supply interruptions, it is recommended to supply the roof supply unit from a device with an uninterruptible power supply or a battery.
Short interruptions of the supply voltage in accordance with the standard IEC 61000-4- 11	100% for 5 s Remark: UN is the AC mains voltage before applying the test level.		The quality of the supply voltage should be typical for a commercial or hospital environment. If the user of the roof supply unit requires continuous operation even in case of power supply interruptions, it is recommended to supply the roof supply unit from a device with an uninterruptible power supply or a battery.
Magnetic field for power supply frequencies (50/60 Hz) according to the standard IEC 61000-4-8	30 A/m	30 A/m	The magnetic fields created by the mains frequency should be those of a commercial or hospital environment.

Interference resistance	**Level of verification according to IEC 60601**	**Level of compliance**	**Environment/Guidelines**
HF interference induced by IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz 6 Vrms ISM band	3 Vrms 6 Vrms	AM 1KHz modulation Depth 80% Depth 80% Depth 80% Depth

HF interference induced by IEC 61000-4-3	

RANGE	FREQUENCY	MODULATION	STEP	LEVEL
A	80-1000MHz	AM 1 kHz Prof: 80%	LOG 1%	10 V/m
B	1000-2000MHz	AM 1 kHz Prof: 80%	LOG 1%	10 V/m
C	2000-2700MHz	AM 1 kHz Prof: 80%	LOG 1%	10 V/m
D	385MHz	PM 18 Hz Cycle: 50%	-	27 V/m
E	450MHz	FM 1 kHz Desv:± 5 kHz	-	28 V/m
F	810-930MHz	PM 18 Hz Cycle: 50%	-	28 V/m
G	1720-1970MHz	PM 217 Hz Cycle: 50%	-	28 V/m
H	2450MHz	PM 217 Hz Cycle: 50%	-	28 V/m
I	5240-5785MHz	PM 217 Hz Cycle: 50%	-	9 V/m

Transmitter power rating	**Safety distance as a function of the emission frequency Environment/Guidelines**		
	150 kHz to 80 MHz $D = 1,2\ P$	80 MHz up to 800 MHz $D = 1,2\ P$	800 MHz up to 2.5 GHz $D = 2,3\ P$
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23