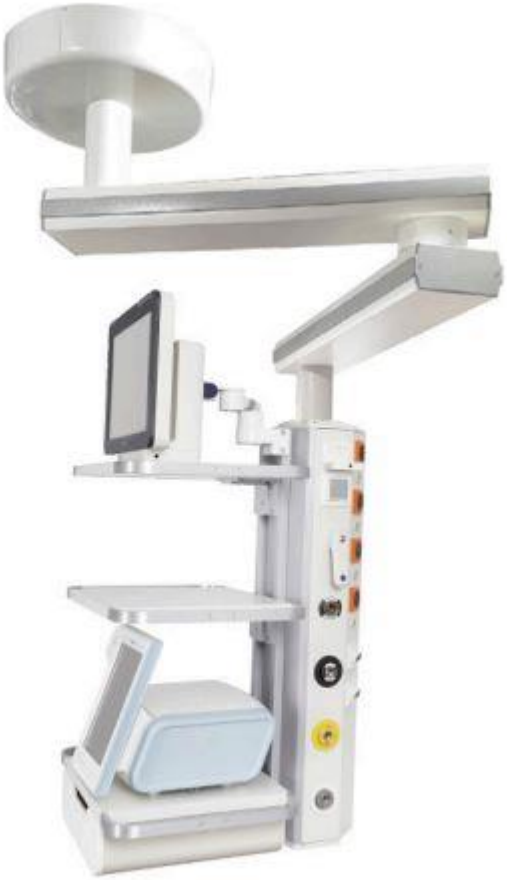
tediselmedical

S- COLUMN

MAINTENANCE MANUAL



tediselmedical.com

CE 0197

Content

1. Manufacturer

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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.

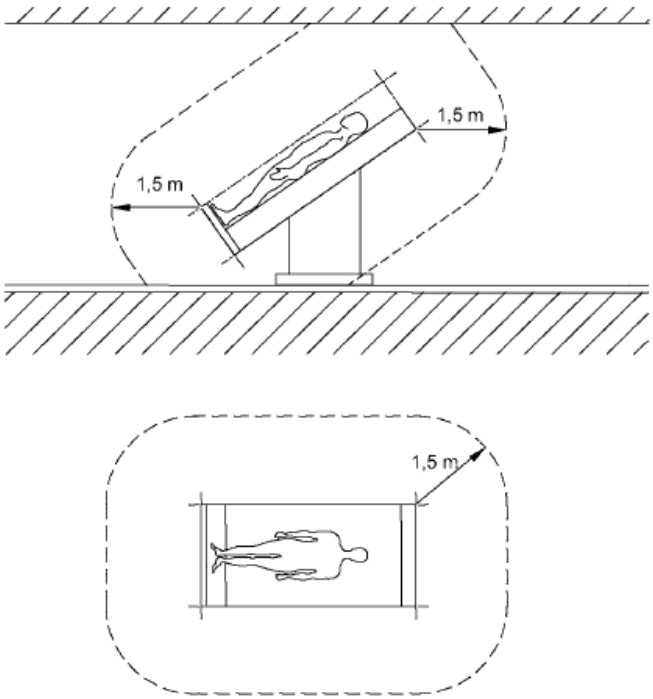

Fig. 1 Minimum extent of the PATIENT ENVIRONMENT

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 one 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 building connection ends 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 S-COLUMN model. This model belongs to the UMOS 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 UMOS 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 the Service Head from the mains and prevent reconnection.
- Ensure that all devices connected via the service header 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.

6.2.1. Opening of the side covers of a service head.

To carry out the operations described in sections 6.4 and 6.5 of this manual, you will need to fold down the service head covers.

- Open the side covers of the service head ① by removing the M4x16 socket head cap screws ④ at the top and bottom. The side cover can now be opened as shown in figure 1, revealing the inside of the service head.

Fold down the cover of the enclosure with the help of a plastic suction cup ②.

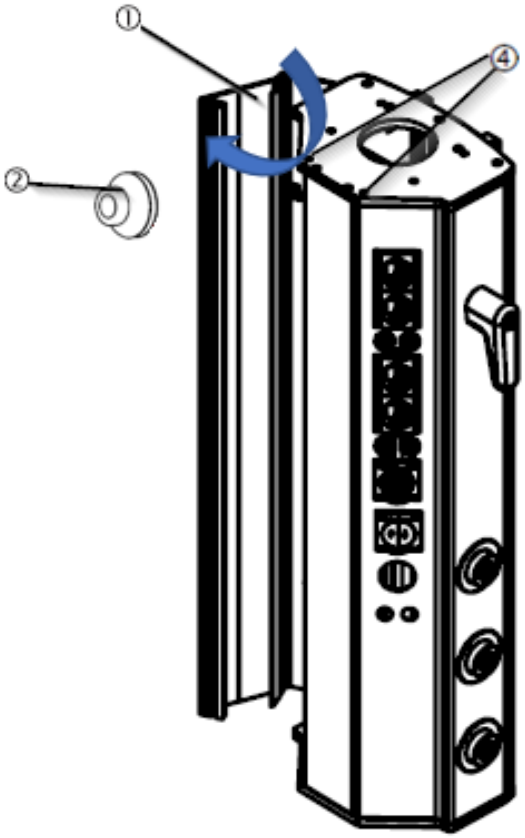

Fig. 2 Opening the sides of a service head

The figure illustrates a vertical service head, the most common, for the horizontal service head the procedure is identical.

6.3. 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 the pivot stops of each pivot point and adjust them if necessary.
- Check that the electromagnetic brakes function correctly, i.e. that they release when the corresponding push buttons are operated.
- Check that the extension arms can be comfortably brought into the desired position.
- Check that the gas hoses are not kinked or kinked, if necessary, release and reconnect them without tension and check the system's swivel stops to ensure that they are not re-tensioned / kinked.
- Adjust, if necessary, the friction brakes of the individual pivot points.

6.3.1. Adjustment of the rotary stops

The extension arm and drop tube are equipped with at least 1 swivel stop that prevents the internal cables from being destroyed. With 1 stop installed, the swivel range is restricted to a maximum of 340 degrees. With a second stop the swivel can be further restricted.

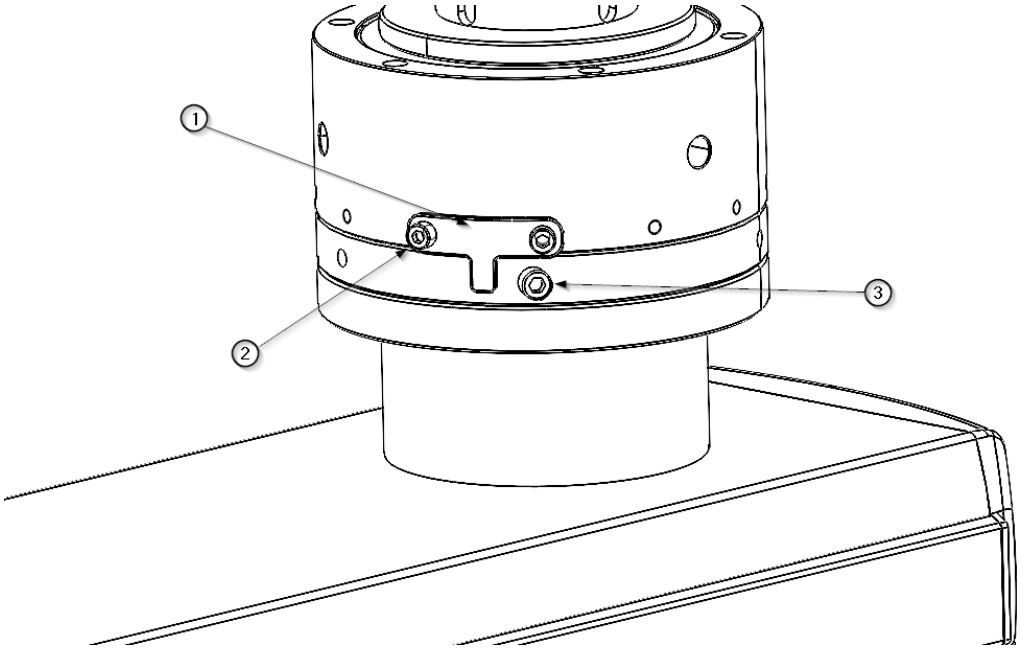

Fig.3 Adjustment of the rotary stops

1. Rotate the extension arm or console tube to the desired end stop position and then insert the pivot stop ① and secure it by means of the M5x16 DIN 912 socket head cap screws ②.

Make sure that the stop is firmly in place. The extension arm or drop tube can be rotated until the stop ① touches the limiting screw ③.

The first turning limit is already defined.

2. Rotate the extension arm or console tube to the desired position for the second end stop and then insert an additional end stop.

4. Tighten the fixing screws ② to 40 Nm.

5. Check that the swivel range of the arms is as desired.

6.3.2. Adjustment of the mechanical brake on the arms

In case of failure of the pneumatic (compressed air operated) brakes, additional mechanical brakes (friction brakes) keep the extension arm and motor arm stable. Adjust the braking force in such a way that the motor arm or extension arm remains stable in any position and can still be adjusted conveniently.

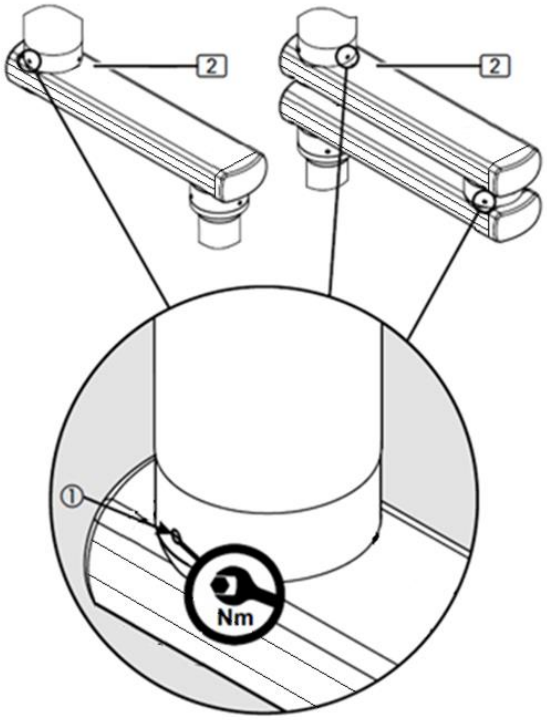

Fig.4 Adjustment of the friction brake on the arms

The mechanical brakes (friction brakes) hold the extension arm (2) in any set position. Adjust the braking force in such a way that the extension arm (2) remains stable in any position and can still be adjusted conveniently. If the brakes are not adjusted correctly, the extension arm may automatically move in an uncontrolled manner.

Observe the end stop recommendation in chapter 6 and make sure to tighten the brake bolts of the Unit on the roof tube more than at the bearing point of the lower extension arm. This facilitates the bending of the lower extension arm and allows the bearing unit on the lower extension arm to rotate freely.

See section 6.3.1 of this manual.

Use a suitable torque spanner to adjust the brake.

1. To increase the braking force, tighten the brake Allen screws ① by turning them evenly to the right (clockwise). Tighten to 1.6 Nm.
2. To reduce the braking force, unscrew the brake Allen screws ① by turning them evenly to the left (counterclockwise).
3. Carrying out a test run

6.3.3. Adjustment of the mechanical brake on the drop tube

The brake screw (friction brake) is adjusted in the same way for all different versions of the suspension system. Adjust the braking force of the respective end device so that the end device remains stable in any set position and can still be adjusted comfortably. In the figure below you can see the adjustment scheme for the service head.

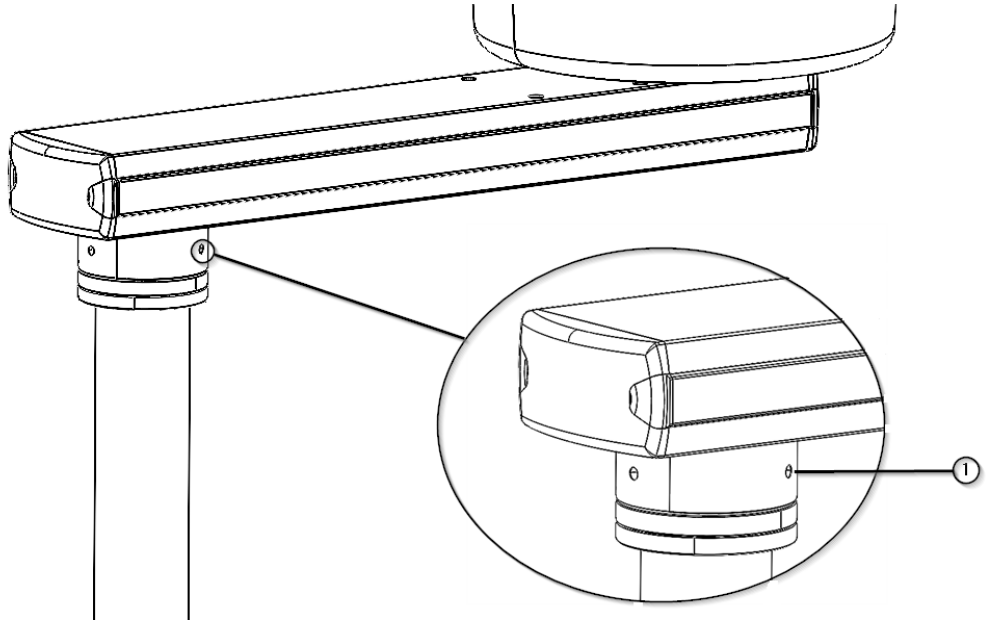

Fig.5 Adjustment of the friction brake on the drop tube

Use a suitable Allen screwdriver.

1. To increase the braking force, insert the flat screwdriver into the brake screws ① and turn it clockwise to the right.
2. To reduce the braking force, insert the flat screwdriver into the brake screws ① and turn it to the left (counterclockwise).
3. Carry out a test run.

6.4. Procedure for Inspection and Replacement of Flexible Hoses for Medical Gases

It is recommended that the equipment be disconnected electrically before servicing.

Passage	Description	Periodicity	Tools/Supplies needed
1	**Detailed Visual Inspection**: A) Open the service head by following the steps specified in *paragraph 6.2.1 Opening the side covers of a previously specified service head.*  B) Observe every inch of the flexible hoses, paying attention to signs of discolouration, hardening, cracking, bulging or general wear and tear. C) Also inspect the area where the hoses connect to other components for signs of wear at the joints.	Annual	Torch or spotlight, protective gloves
2	**Clamp Verification**: A) Examine all rim clamps for signs of rust, wear or deformation. B) Check that the clamps are firmly holding the hoses and that there is no slippage.	Annual	Torch or spotlight
3	**Connection Check**: A) Inspect each hose connection at the grooved nipple and at the tee. B) Make sure that the connections are tight, with no looseness.	Annual	Protective gloves

	C) Feel the connections to confirm that there is no slippage or unnecessary movement.		
4	**Leak Detection:** A) Prepare a soap solution in a container. B) Using a brush, apply the solution to the hose connections. C) Observe if bubbles form, indicating the presence of a leak. D) If a leak is detected, mark the area for later correction.	Biannual	Soap solution, brush or paintbrush
5	**Hose replacement**	Every 8 years	-
5.1	**Hose Replacement** See section *6.4.1 Replacement of flexible hoses for medical gases.* 	-	Spare hose, adjusting tools, new clamps
5.2	**Post-Substitution Test** See section *6.4.1 Replacement of flexible hoses for medical gases.* 	-	Soap solution, brush or paintbrush
6	**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.

6.4.1. Replacement of flexible hoses for medical gases

The gas hoses are pre-assembled on the Service Head. They must be replaced every 8 years in order to guarantee the correct functioning of the equipment.

- Shut off the power supply and the medical gas supply to the equipment.
- Open one of the side covers of the service head ① as shown in section 6.2.1 of this manual.
- See point 6.2.1 of this manual.

Release the connections of the hoses to be replaced both at the source (interface plate) and at the terminal unit inside the service head.

To work more comfortably, remove the service head as follows:

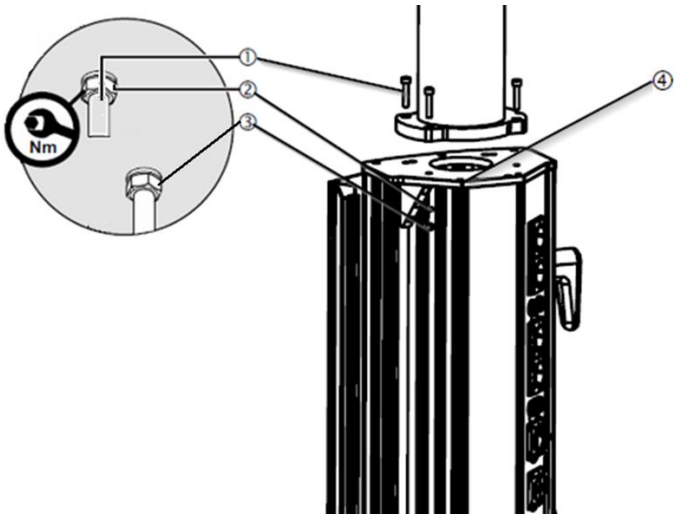

Fig. 7 Disassembly / assembly of the service head on the drop tube.

- Release the 4 M8 socket head cap screws ① that secure the service head.
- The service head is loose
- Remove the hoses to be replaced.
- Carefully pass the new hoses ① through the pendant system and onto the interface plate as shown in figure 16.

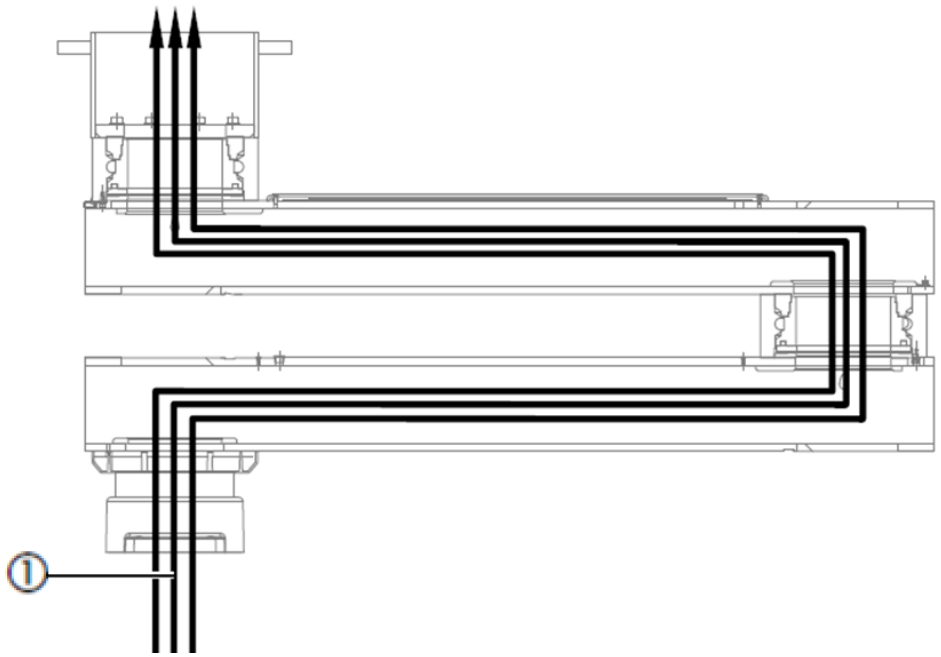

Fig. 6 Hose routing through the pendant system

- Make the connection of the new hoses at the point of origin (interface plate).

Then reassemble the service head.

- Route the service head without exerting tension on the supply hoses ①.
- Present the service head in front of the drop tube of the boom system(s) with the aid of the working platform.
- Pass the gas hoses through the upper hole of the service head.
- Fit the 4 M8 socket head cap screws ① into the 4 recesses provided in the upper part of the service head as shown in figure 15.
- For each M8 socket head cap screw ①, place 1 S10 lock washer ② (as illustrated in figure 15) so that the flat washer is seated between the upper seal of the service head (on the inside) and the corresponding hexagon nut ③.

Nm The M8 socket head cap screws ① - DIN EN ISO 10642 must be tightened to 40 Nm.

- Once the service head has been attached, connect the gas hoses to the appropriate gas terminal unit.
- Ensure that gas types are correctly assigned

The gas type is indicated by colour on the gas supply hoses. These hoses are fitted with a sealing plug which can only be removed during installation.

- Check hoses and lines for dirt and clean them with oil-free air.
- Attach a hose clamp to the gas supply hose, remove the sealing plug and push the hose into the correct gas supply outlet.
- Up to 3 gas supply hoses and up to 2 vacuum hoses can be connected to one gas valve using Y-connectors.
- Press the hose clamp and check that it is securely in place.
- Connect and secure the anaesthetic gas suction hoses.

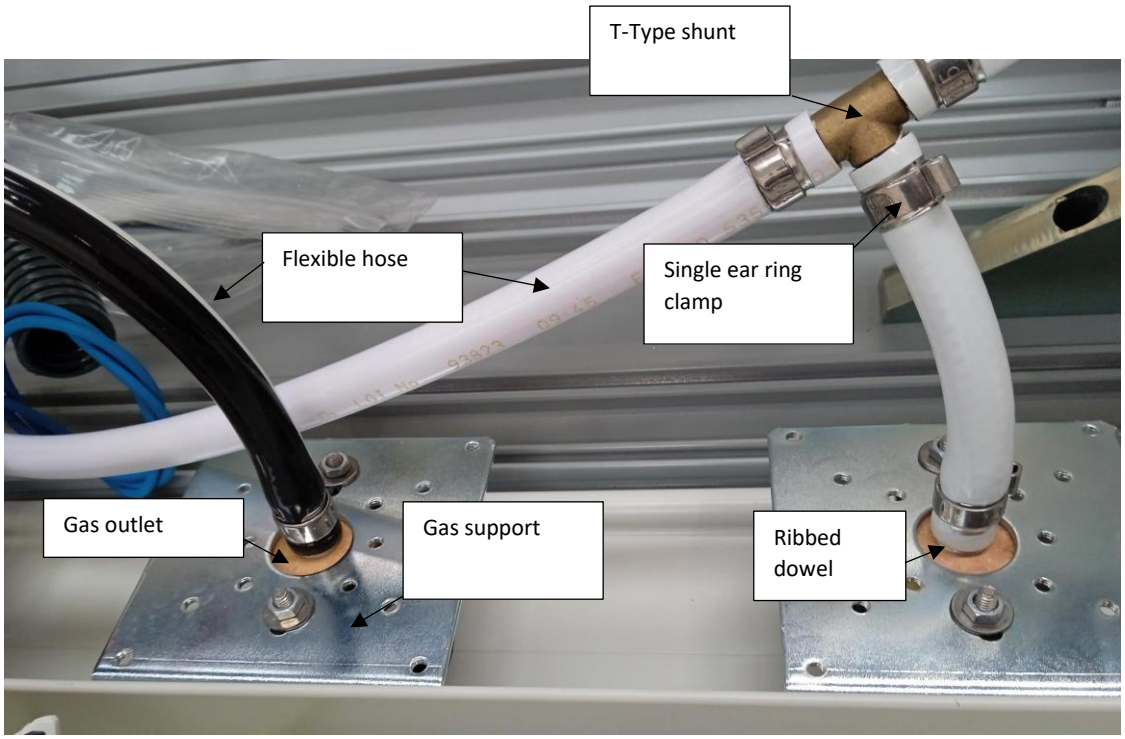

Fig. 8 Internal gas circuit components

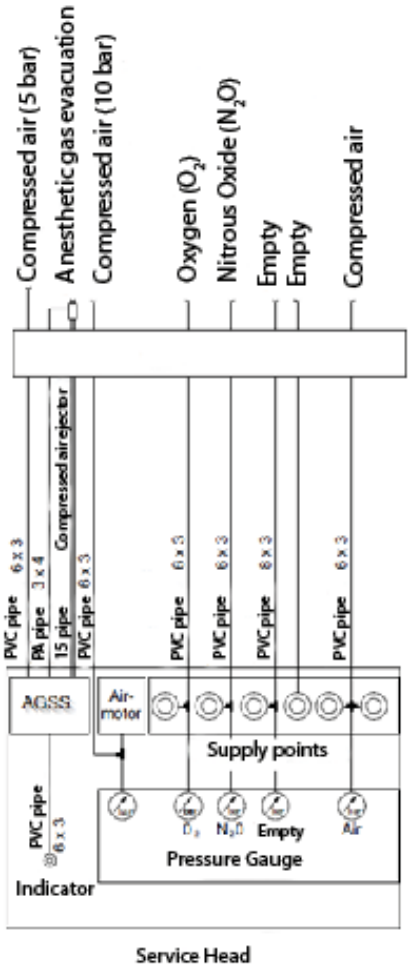

Fig. 18 Example of connection of gas hoses and anaesthesia gas evacuation systems

- Perform a gas type test by following these 5 points:

  1. gas outlets and marking according to EN ISO 9170-1 or EN ISO 9170-2

  2. Leakage according to EN ISO 11197

  3. Congestion according to EN ISO 7396-1 or EN ISO 7396-2

  4. Solid contamination according to EN ISO 7396-1 or EN ISO 7396-2

  5. Gas type according to EN ISO 7396-1 or EN ISO 7396-2

6.5. Maintenance plan

Item to be inspected	Description	Periodicity	Method of inspection
Structure	Ensuring strength and load-bearing capacity*.	Annual	Visual inspection for signs of wear or corrosion Check condition and robustness (1)
Service Column	Ensure that the spine remains firm and in position*.	Annual	Visual inspection and stability check
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
Flexible gas hoses I	Review and check of status and functionality*.  It is recommended to disconnect the equipment electrically before proceeding with the overhaul.	Annual	Visual inspection. Verification of clamps. Checking connections. See section *6.4 Inspection and Replacement Procedure for Flexible Hoses for medical gases.* 

Flexible gas hoses **II**	Overhaul and status check*.  It is recommended to disconnect the equipment electrically before proceeding with the overhaul.	Biannual	Leak detection. See section *6.4 Inspection and Replacement Procedure for Flexible Hoses for medical gases.* 
Replacement of flexible gas hoses	Replacement of flexible gas hoses*.  It is recommended to disconnect the equipment electrically before proceeding with the overhaul.	8 years	See point *6.4.1 Replacement of Flexible Hoses for medical gases* 
Arm brakes	Functionality check and adjustment*.	Annual	Functional testing and adjustment See section *6.3 Structural and movement check.* 
Arm motor	Functionality check (if applicable)	Annual	Functional test
LED lighting	Testing of LED strips for indirect light in Arm and LED Spotlight for waking light in Column	Half-yearly	Visual inspection and function test
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 hoses and data	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 paragraph *6.2.1 Opening the side covers of a previously specified service head.* 
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)

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 might 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** on medical devices, this product family is classified as:

- Class IIb, by Annex II, excluding section 4, rule 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 in accordance with 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) in accordance with the 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.
Overvoltages (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 Remark:	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 operation even in case of

	UN is the AC mains voltage before applying the test level.		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 according to 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 depending on 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