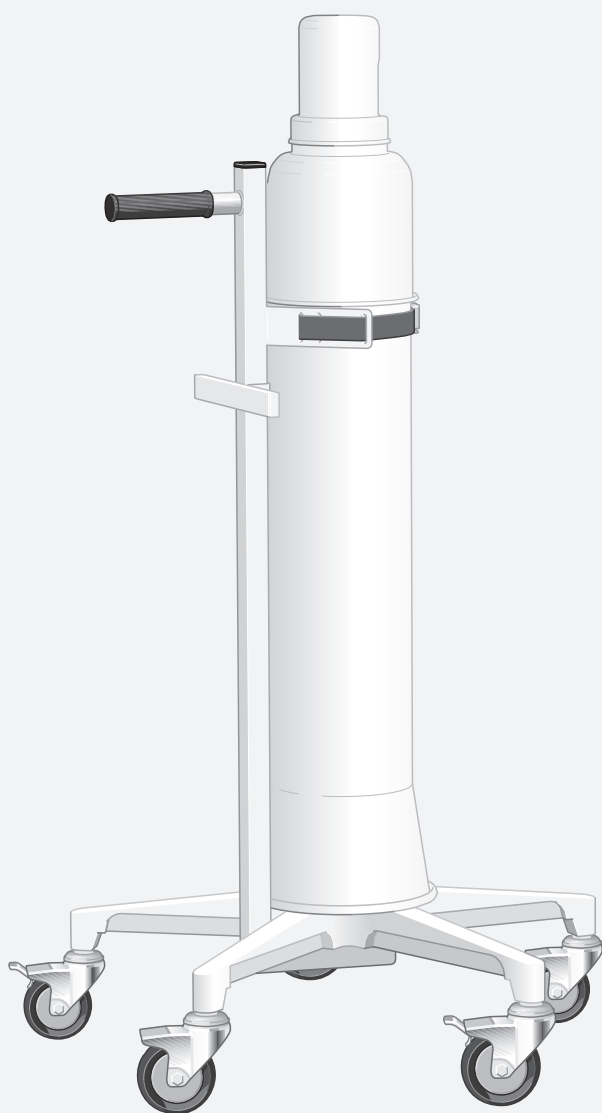


OPERATING INSTRUCTIONS

MEDAP CYLINDER TROLLEY

MEDAP ■■■



Subject to technical modification!

Illustrations and technical specifications may vary slightly from those in these Operating Instructions as a result of ongoing product development.

V10 2022-01



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1 Introduction

1.1 Foreword

Your facility has selected the leading-edge medical technology made by ATMOS. We sincerely appreciate the trust you have placed in us.

1.2 How to use these operating instructions

These operating instructions are provided to familiarise you with the features of this ATMOS product. They are subdivided into several chapters.

Please note:

- Please read these operating instructions carefully and completely before using the product for the first time.
- Always proceed in accordance with the information contained herein.
- Store these operating instructions in a location near the product.

1.2.1 Symbols

1.2.1.1 Cross-references

References to other pages in these operating instructions are identified with a double arrow symbol „»“.

1.2.1.2 Actions and responses




The „☒“ symbol identifies an action taken by the user while the „✓“ symbol identifies the reaction that this will induce in the system.

Example:

- ☒ Turn on the light switch.
✓ Lamp lights up.

1.2.2 Definitions


1.2.2.1 Design of safety notes

Pictogram	Descriptor	Text
	DANGER! Indicates a direct and immediate risk to persons, which may be fatal or result in most serious injury.	The text for the safety note describes the type of risk and how to avert it.
	WARNING! Indicates a potential risk to persons or property which may result in health hazard or grave property damage.	
	CAUTION! Indicates a potential risk to property which may result in property damage.	

Tab. 1: Design of safety notes

1.2.2.2 Structure of notes











Notes not referring to personal injury or property damage are structured as follows:






Pictogram	Descriptor	Reference to
	NOTE	Supplementary assistance or further useful information without potential injury to persons or property damage is described in the text of the note.

Tab. 2: Structure of notes

1.2.3 Explanation of pictograms, symbols and codes

Symbols are attached to products, type plates and packaging.

Symbols	Identification
	Consult operating instructions
	This device complies with the relevant requirements of EU regulations.
	Manufacturer
	Date of manufacture Country of manufacture
	Reference number
	Unique Device Identifier of a medical device
	Medical device
	Batch code
	Net weight
	Load

Symbols	Identification
	Keep dry
	Fragile, store with care
	Temperature limit
	Humidity limitation
	Atmospheric pressure limitation

UDI code

(01)	UDI-DI: Identification of the manufacturer and the device
(10)	Batch code
(11)	Date of manufacture

Tab. 3: Pictograms, symbols, codes

1.3 Disposal

1.3.1 Packing

The packing is made of materials compatible with the environment. ATMOS will dispose of the packing materials upon request.

1.3.2 ATMOS products

ATMOS will take back used products or those which are no longer in service. Please contact your ATMOS representative for more detailed information.

1.4 Basic requirements

1.4.1 Use in accordance with the intended purpose

The product bears the CE marking CE in accordance with the European Medical Device Regulation No. 2017/745.

Accessories

Accessories or combinations of accessories may be utilised only as and when indicated in these operating instructions. Use other accessories, combinations and parts subject to wear only if these are intended expressly for the application and will not adversely affect performance features or safety requirements.

1.5 Overview of the cylinder trolley

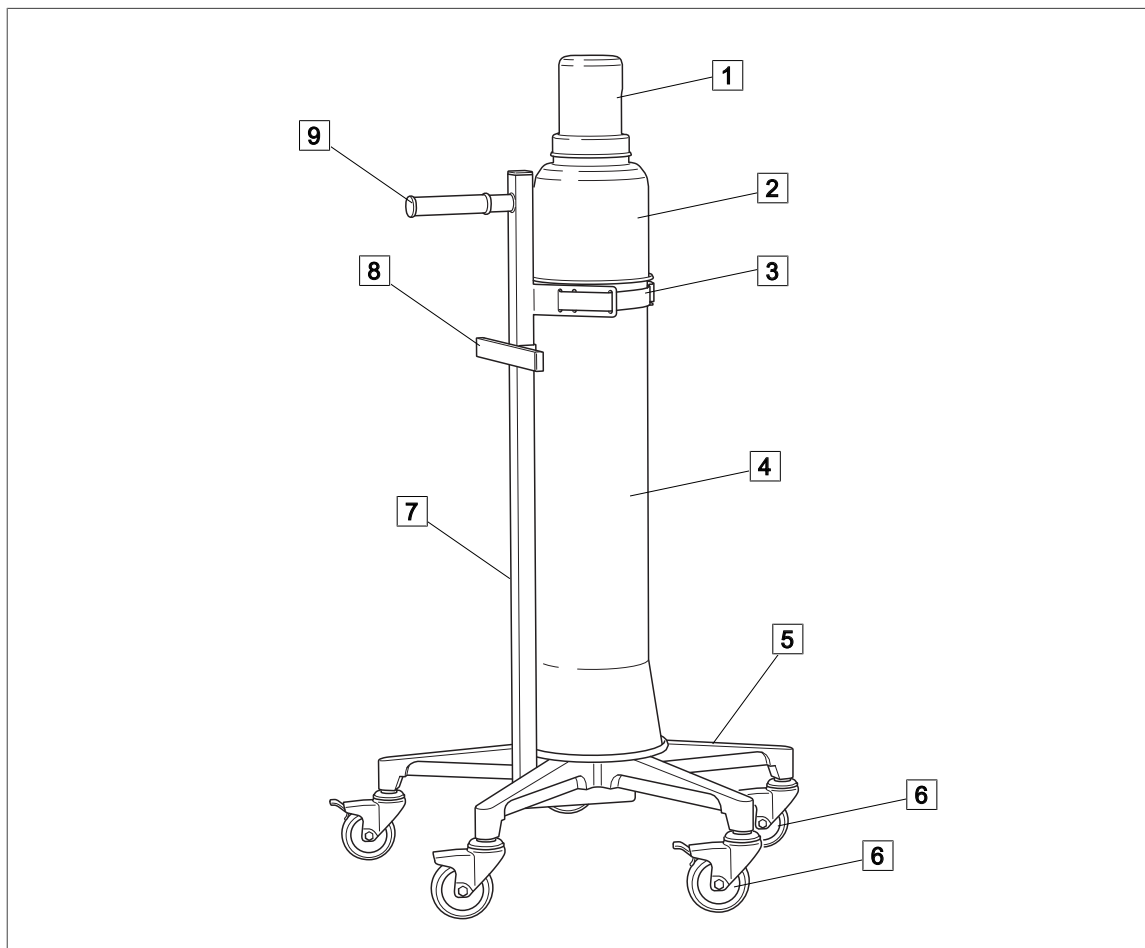


Fig. 1: Overview of the cylinder trolley

- | | |
|---------------------|-----------------------------|
| 1 Valve cap | 6 Castors: |
| 2 Cylinder cover | Two castors with brake, |
| 3 Strap | Three castors without brake |
| 4 Cylinder jacket | |
| 5 Five-foot trolley | 7 Support pipe |
| | 8 Equipment rail |
| | 9 Push bar |

1.6 Intended Use

Product Name: Accessories trolley

Main functions: Mobile use / transport of suction devices

Intended purpose: Mobile use of suction devices through easy transport by pushing and/or pulling.
The devices are securely fixed directly on the trolley.

Intended Users / User profile:	<ul style="list-style-type: none"> • Doctors • Healthcare professionals • Non-medical users (patients, relatives)
Intended Patient population:	Patients of all age groups with and without restriction of any kind
Medical conditions to be diagnosed, treated or monitored:	Non applicable
Application organ:	Non applicable
Application time:	Non applicable
Application site:	<ul style="list-style-type: none"> • Outpatient and inpatient care • Home environment (healthcare)
Patient selection criteria:	Non applicable
Indications:	Non applicable
Medical contra-indications:	Non applicable
Other contra-indications:	<ul style="list-style-type: none"> • Not for use with other suction devices. • Not for use with non-medical devices.
Warnings:	Non applicable
The product is:	not active
Sterility/specific microbial status:	Non sterile
Single use product / reprocessing:	Options for reprocessing according to instructions for use.

1.6.1 Versions

These operating instructions apply to the versions listed below.

Cylinder trolley for 10 / 11 l gas cylinders	REF 5752 4675
Cylinder jacket for 10 / 11 l gas cylinders	REF 5752 4676
Equipment rail 20 cm for trolley	REF 5752 4677

2 Safety notes

2.1 General safety notes



DANGER!

Danger to life!
Danger due to unauthorised modifications.
The product may not be modified.



DANGER!

Incorrect use can result in fatalities!
Instructions for using components made by other manufacturers are not part of these operating instructions.
Ensure that the manufacturer's instructions are followed.



DANGER!

Risk of injury!
Patient may be endangered as a result of incorrect use.
Follow the operating instructions for all accessories.



WARNING!

Risk of injury!
ATMOS products may be used only when fully functional.
Check to ensure that the ATMOS product is fully functional and in good working order prior to use.



WARNING!

Risk of injury!
Products / accessories which are improperly mounted can loosen and cause injuries.
Ensure that products / accessories are mounted correctly and that the securing elements (handle screws, catches, levers, etc.) are closed and firmly tightened, also ensure that moving parts are correctly secured.



WARNING!

Risk of injury!
Risk of crushing during the assembly of individual components.
Always ensure that nobody will be crushed.

2.2 Product safety notes



WARNING!

Risk of injury!
The cylinder jacket is made of thin sheet metal. Despite thorough grinding of the edges as well as a powder coating, it may cause cuts.
Pay attention to sharp edges when using the cylinder jacket.

**DANGER!**

Danger to life!

Danger due to improper configuration of the system!

The configuration of the overall system as well as the functional testing are subject to the overall responsibility of the medical staff. The operator must check the proper functionality and suitability of the connected accessories for each intended application prior to every use, in particular, connection parts, sealing properties and suitability with regard to material, work pressure and flow.

**WARNING!**

Risk of injury due to material failure!

The maximum permitted load for the product is 25 kg.

**CAUTION!**

Property damage!

Only gas cylinders with a 140 mm diameter may be used.

**CAUTION!**

Property damage!

The cylinder trolley, cylinder jacket and equipment rail are partially made of magnetic materials.

The cylinder trolley, cylinder jacket and equipment rail may not be put to use in the MRI area.

**CAUTION!**

Property damage!

Remove any potential hindrances before moving / adjusting the product and avoid collisions.

**CAUTION!**

Property damage!

Do not drag the cylinder jacket over the ground, as the coating may be scratched.

**CAUTION!**

Property damage!

Excessive load on the equipment rail may cause the cylinder trolley to tip over.

The maximum permitted load for the equipment rail is 0.2 Nm or 2 kg.



Report all serious incidents that have occurred in connection with this product to the manufacturer and your national competent authority.

3 Initial operation

3.1 Scope of delivery

The scope of delivery includes these operating instructions and the individual components in accordance with the version ordered.

Remove the product from its packaging and check the shipment for completeness and to ensure the scope of delivery is intact.

Scope of delivery of cylinder trolley (REF 5752 4675)

- Five-foot trolley,
- Support pipe,
- Strap,
- Handle,
- 5 cylindrical screws DIN 912 - M 8x22,
- 2 castors with brake,
- 3 castors without brake,
- Cone,
- Bowl,

Installation material:

- 1 nut, DIN 934 -M 10,
- 1 carriage bolt, DIN 603 - M 10x70,
- 1 dented edge washer SKK10 (galvanised steel).

Scope of delivery of complete cylinder jacket (REF 5752 4676)

- Cylinder jacket,
- Cylinder cover,
- Valve cap.

Scope of delivery of equipment rail (REF 5752 4677)

- Clamp bracket,
- Equipment rail,

Installation material:

- 2 self-locking nuts,
- 2 washers,
- 2 blind plugs.

4 Mounting

4.1 Mounting the castors



CAUTION!

Property damage!

If the castors with brake are mounted next to each other, this will not ensure sufficient tilt stability.

Do not mount castors with brake next to each other.

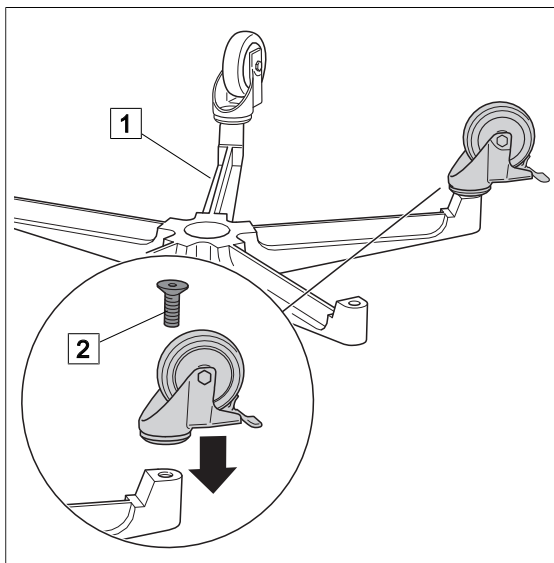


Fig. 2: Mounting the castors

Two of the castors have a brake. The two castors with brake are marked with a yellow dot. Mount the castors in such a way that the castors with brakes are not next to each other.

Mounting the castors

- ☒ Place the five-foot trolley(1) on the ground with the top face down on the ground.
- ☒ Insert the cylindrical screw M 8x22 (2) through the hole in the castor and screw into the foot.
- ☒ Mount the other castors in the same way.
- ☒ Turn the five-foot trolley over.
 - ✓ Castors have been attached.

4.2 Mounting the support pipe

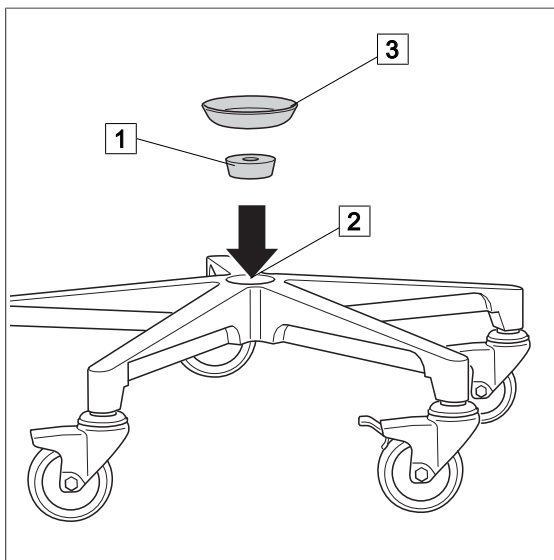


Fig. 3: Mounting the support pipe

Mounting the support pipe

- ☒ Insert the cone (1), with the smaller diameter pointing downwards, into the centre section (2) of the five-foot trolley.
- ☒ Place the bowl (3) on the centre.

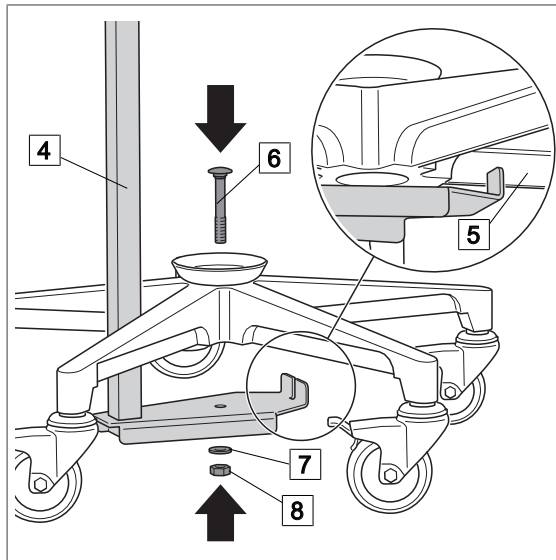


Fig. 4: Mounting the support pipe

- ☒ Position the support pipe (4) underneath the five-foot trolley.
 - ✓ The slot of the bottom sheet engages into the rib (5) of the five-foot trolley.
- ☒ Insert the carriage bolt (6) from above through the bowl, the cone and the support pipe.
- ☒ Place the dented edge washer (7) on the carriage bolt.
- ☒ Screw the nut (8) onto the carriage bolt and tighten slightly.
- ☒ Raise the cylinder trolley.
 - ✓ Align the support pipe.
- ☒ Tighten the nut with a wrench (SW 17).
 - ✓ The dented edge washer is in full contact with the sheet of the support pipe.
 - ✓ The support pipe is mounted.

4.3

Mounting the handle

**NOTE**

The handle adheres to the support pipe, so that it does not change its position. The adhesion resistance must be overcome during assembly.

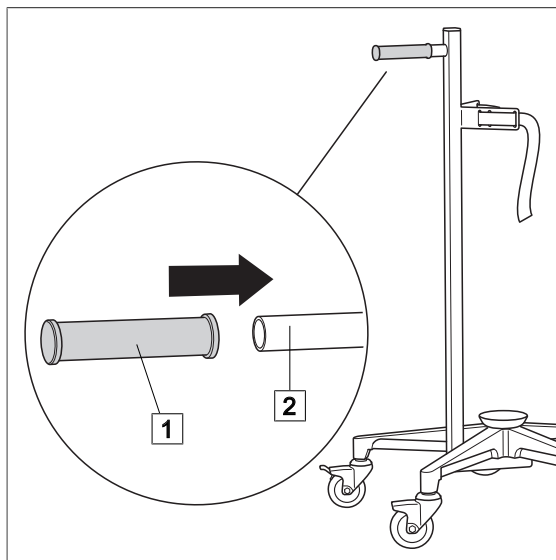


Fig. 5: Mounting the handle

Mounting the handle

- ☒ Push the handle (1) onto the support pipe (2).
 - ✓ The handle adheres to the support pipe.

4.4

Mounting the equipment rail

**NOTE**

Mount the equipment rail underneath the handle.

**NOTE**

Due to the plastic insert, the self-locking nuts can only rotate freely with increased exertion.

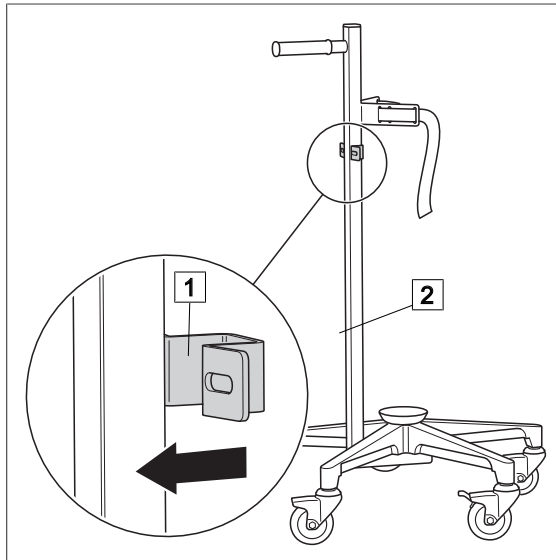


Fig. 6: Mounting the equipment rail

Mounting the equipment rail

- ☒ Attach the clamp bracket (1) to the support pipe (2) at the desired height.

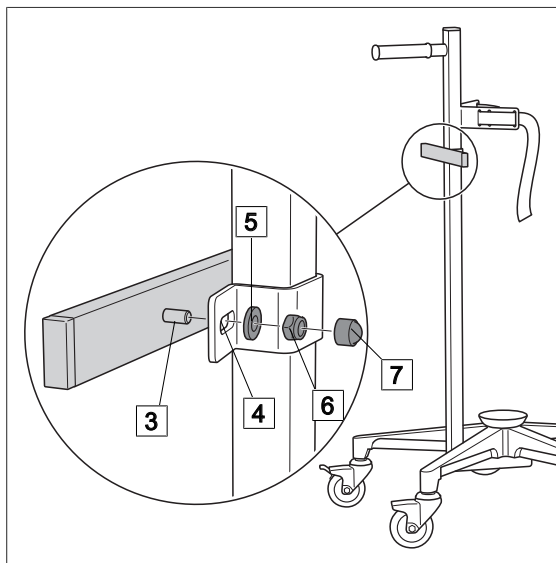


Fig. 7: Mounting the equipment rail

- ☒ Insert the set screws (3) of the equipment rail in the holes (4) in the clamp bracket.
- ☒ Put washers (5) onto the set screws.
- ☒ Tighten self-locking nuts (6) with a wrench (SW 8).
 - ✓ The equipment rail is at a right angle to the support pipe.
- ☒ Fit the blind plugs (7).
 - ✓ The equipment rail is mounted.

4.5**Mounting the cylinder jacket and gas cylinder****NOTE**

The cylinder jacket is fitted together. When moving the cylinder you may hear rattling noises, in particular on uneven floors.

**NOTE**

Due to covering of the gas cylinder, the standardised identification colour is no longer visible.

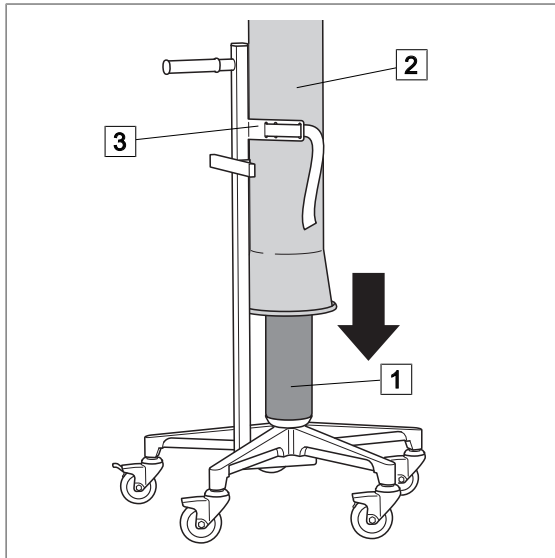


Fig. 8: Affixing the cylinder jacket and gas cylinder

Affixing the cylinder jacket and gas cylinder

- ☒ Place the gas cylinder (1) onto the bowl of the cylinder trolley and hold it with one hand.
- ☒ Put the cylinder jacket (2) over the gas cylinder starting with the foot.
 - ✓ The cylinder jacket fits closely to the V-shaped mount (3) of the support pipe.
 - ✓ The gas cylinder stands on the bowl and is fixed by bowl and cylinder jacket.

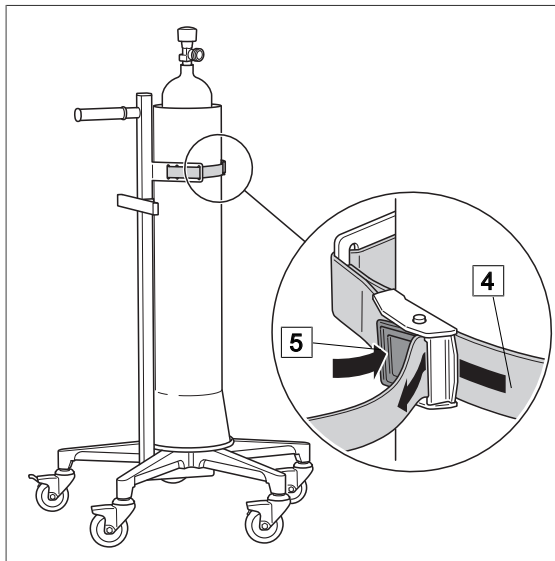
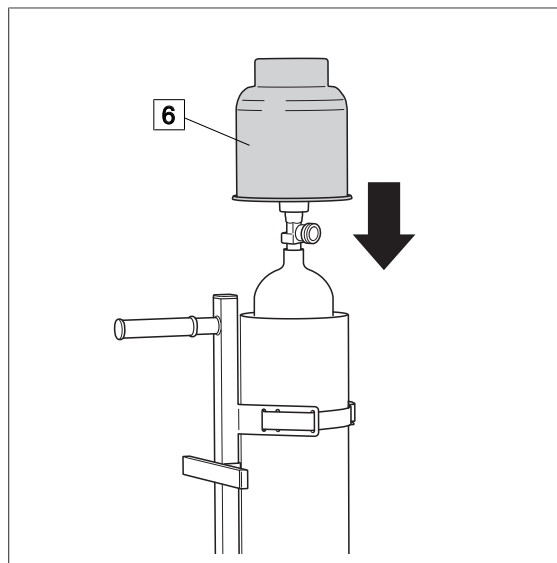


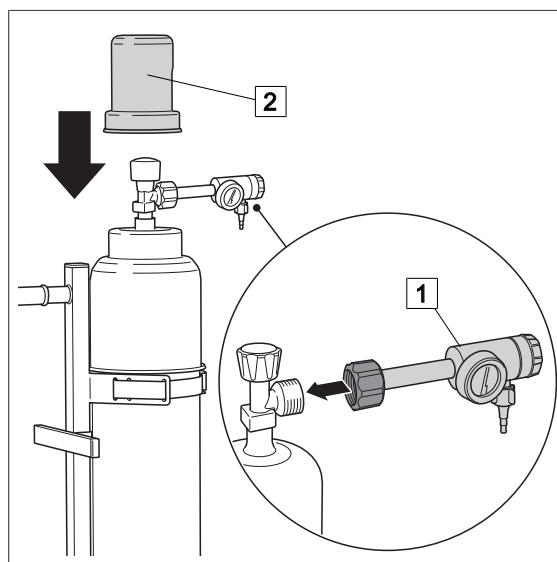
Fig. 9: Fixing the cylinder jacket

- ☒ Put the strap (4) around the cylinder jacket.
- ☒ Push the loop (5) of the quick clamp downwards and tighten the strap.
 - ✓ The cylinder jacket is fixed.



☒ Put on the cylinder cover (6).

Fig. 10: Putting on the cylinder cover.



Mounting the pressure regulator and valve cap

☒ Connect the pressure regulator (1).

☒ Put on the valve cap (2).

Fig. 11: Mounting the pressure regulator and valve cap

5 Cleaning and disinfection

5.1 General

The product must be cleaned as well as wipe disinfected after every use.



DANGER!

Risk due to incorrect use of detergents and disinfectants!

It is strictly advised to observe the manufacturer instructions regarding how to use the detergents and disinfectants as well as the valid hospital hygiene rules.



DANGER!

Infection hazard!

Product may be contaminated.

Always wear gloves for cleaning and disinfection.



DANGER!

Infection hazard!

Particles of grime may become encapsulated and lead to the product not reaching the desired germ-reduction after disinfection.

Before disinfection, the product must be cleaned thoroughly of contamination and encapsulated particles of grime.



CAUTION!

Improper cleaning and disinfection can cause property damage!

Do **not** use the following products for cleaning and disinfection:

- Products containing alcohol (e. g. hand disinfectants)
- Halogenides (e. g. fluorites, chlorides, bromides, iodides)
- Dehalogenating compounds (e. g. fluorine, chlorine, bromine, iodine)
- Products that may scratch the surface (e. g. scouring agents, wire brushes, wire wool)
- Standard commercial solvents (e. g. benzene, thinner)
- Water containing iron particles
- Cleaning sponges containing iron
- Products containing hydrochloric acid

Use a soft, lint free cloth or a soft nylon brush to clean the product.



CAUTION!

Improper cleaning and disinfection can cause property damage!

Use only as much detergent and disinfectant as required.



CAUTION!

Improper cleaning and disinfection can cause property damage!

Perform visual and functional inspections after each cleaning and disinfection process.

5.2 Cleaning

5.2.1 General

**NOTE**

In the event of product surfaces that are very dirty, carry out an additional cleaning procedure before disinfecting the product.

**NOTE**

Use only all-purpose cleaners which are slightly alkaline (soap solution) and contain tensides and phosphates as the active cleaning agents.

In the event of heavily contaminated surfaces, use concentrated multi-purpose detergent.

**CAUTION!**

Improper cleaning can cause property damage!

Residues of physiological saline solutions (e. g. sodium chloride) can attack the surfaces of the product.

Remove residues of physiological saline solutions with a cloth dipped in clean water. Then dry the product with a dry, lint free cloth.

**CAUTION!**

Improper cleaning can cause property damage!

Do not spray cleaning agent directly into the joints or gaps and never use a high-pressure cleaning unit!

5.2.2 Cleaning procedure

- ☒ Use the correct dose of multi-purpose detergent with water for the degree of surface contamination and in accordance with the instructions of the detergent manufacturer.
- ☒ Thoroughly wipe off the product with a soft cloth slightly wetted in a multi-purpose detergent solution.
- ☒ Ensure that the product is free of contamination and encapsulated particles of grime.
- ☒ Thoroughly wipe off the product with a soft cloth dipped in clean water.
- ☒ Ensure that the product is free of detergent residues.
- ☒ Dry product with a dry, absorbent and lint free cloth.
 - ✓ This will help to reduce pathogen growth on the product's surface.
- ☒ Wipe disinfect the product after every cleaning process.

5.3 Disinfection

5.3.1 General

**CAUTION!**

Material damage due to excessive exposure times!

Exceeding the specified exposure time of the disinfectant may damage the surfaces.

Observe the specified exposure time of the disinfectant manufacturer.

**WARNING!**

Risk of injury!

Do not use any disinfection agents that would jeopardize patients, personnel or the functionality of the product.

- Do not disinfect with phenoles or agents that split halogen, chlorine or oxygen
- Do not disinfect with solvents (benzene, thinner)
- Do not spray-disinfect

5.3.2**Suitable disinfectants**

Only surface disinfectants based on the following combinations of active ingredients may be used for disinfection:

- Aldehydes
- Quarternary compounds
- Guanidine derivatives

Ingredient group	Active ingredients
Aldehydes	2-ethyl-1-hexanal, formaldehyde, glutardialdehyde, glyoxal, o-phthaldialdehyde, succinaldehyde
Quarternary compounds	Alkyl-didecyl-polyoxethyl ammonium propionate, alkyl-dimethyl-alkylbenzyl ammonium chloride, alkyl-dimethyl-ethyl ammonium chloride, alkyl-dimethyl-ethylbenzyl ammonium chloride, benzalkonium propionate, benzalkonium chloride (alkyl-dimethyl-benzyl ammonium chloride, coco-dimethyl-benzyl ammonium chloride, lauryl-dimethylbenzyl ammonium chloride, myristyl-dimethyl-benzyl ammonium chloride), benzethonium chloride, benzyl-dihydroxyethyl-coco-alkyl ammonium chloride, dialkyl-dimethyl ammonium chloride (didecyldimethyl ammonium chloride), didecyl-methyl-oxyethyl ammonium propionate, mecetronium-ethyl sulfate, methyl-benzethonium chloride, n-octyl-dimethyl-benzyl ammonium chloride
Guanidine derivatives	Alkyl-biguanide, chlorhexidine-digluconate, cocospropylene-diamine guanidinium diacetate, oligomeric biguanide, polyhexamethylene biguanide hydrochloride (oligo-diimino imido-carbonyl imino-hexamethylene, polyhexanide)

Tab. 4: Active ingredients of disinfectants

5.3.3**Disinfection procedure**

- ☒ After each cleaning process, wipe or spray disinfect the product in accordance with the instructions of the disinfectant manufacturer.
- ☒ Ensure that the product is free of disinfectant residue.
- ☒ Perform visual and functional inspections.

6 Maintenance

6.1 General

Maintenance, repairs and period tests may only be carried out by persons who have the appropriate technical knowledge and are familiar with the product. To carry out these measures the person must have the necessary test devices and original spare parts.

ATMOS recommends: Work should be carried out by an authorised ATMOS service partner. This ensures that repairs and testing are carried out professionally, original spare parts are used and warranty claims remain unaffected.

6.2 Visual and functional inspections

To ensure correct operation, it is necessary to have visual and functional inspections performed by a trained person prior to each use of the operating table.

Documentation of the results of the visual and functional inspections is recommend and should include the date and signature of the person who performed the inspections. The following table can be used as a template.

No.	Inspection	Defects are present		No defects
1	Has the product been cleaned and disinfected according to the hygiene guideline?	<input type="checkbox"/>	<input checked="" type="checkbox"/> Do not use the product any longer. <input checked="" type="checkbox"/> Clean and disinfect the product according to the guidelines.	<input type="checkbox"/>
	Comment:			
2	Are all screw connections tightened?	<input type="checkbox"/>	<input checked="" type="checkbox"/> Tighten screw connections.	<input type="checkbox"/>
	Comment:			
3	Are gas cylinder, strap and equipment rail mounted tightly and safely?	<input type="checkbox"/>	<input checked="" type="checkbox"/> Insert gas cylinder correctly. <input checked="" type="checkbox"/> Tighten strap.	<input type="checkbox"/>
	Comment:			
4	Is the trolley protected against tilting?	<input type="checkbox"/>	<input checked="" type="checkbox"/> Mount the trolley with 5 feet correctly. <input checked="" type="checkbox"/> Move trolley on a solid and horizontal floor.	<input type="checkbox"/>
	Comment:			
5	(Space for other tests)	<input type="checkbox"/>		<input type="checkbox"/>

Tab. 5: Visual and functional inspections

6.3

Malfunctions and troubleshooting

Defect	Source of malfunction	Troubleshooting
Support pipe shakes / swings	Carriage bolt between support pipe and foot is not tightened	Tighten bolt
	Too much load on the cylinder trolley (max. 25 kg)	Take load off the cylinder trolley
	Too much load on the support pipe (max. 5 kg)	
	Cylinder is too heavy (max. 20 kg)	Use a lighter cylinder
Trolley cannot be moved	Brake of castor is activated	Release brake
	Castors are damaged	Take cylinder trolley out of service and send it to Customer Service

Defect	Source of malfunction	Troubleshooting
Gas cylinder is not safely supported on the trolley	Gas cylinder and trolley are not compatible	Use gas cylinders that go with the trolley
Gas cylinder cannot be mounted or clamped	Diameter of gas cylinder is too small or too big	Use a gas cylinder with 140 mm diameter
	The cylindrical part of the gas cylinder is not long enough (640 mm)	Use gas cylinder with a sufficient length
Cylinder jacket cannot be pushed over the gas cylinder	Gas cylinder has a bigger diameter than the cylinder jacket	Use gas cylinder that goes with the cylinder jacket
	Cylinder jacket is battered	Take cylinder jacket out of service and send it to Customer Service
Cylinder cover cannot be pushed onto the cylinder jacket	Gas cylinder is too long	Use suitable gas cylinder
	Cylinder jacket or cylinder cover is battered	Take cylinder jacket or cylinder cover out of service and send it to Customer Service
Valve cap cannot be mounted	Valve is bigger than valve cap	Do not use valve cap
	Cut-out of valve cap does not match the valve	
Cylinder jacket is not safely supported on the trolley	Cylinder jacket and trolley are not compatible	Use a suitable trolley
The valve of the gas cylinder does not protrude from the cylinder jacket	Gas cylinder is too small	Use gas cylinder with a sufficient length
Equipment rail shakes / swings	Clamp connection between equipment rail and support pipe has been released	Tighten self-locking nuts
	Too much load on the equipment rail (max. 2 kg)	Remove some of the load from the equipment rail.
Self-locking nuts cannot be tightened	Thread is damaged	Take equipment rail out of service and send it to Customer Service

Tab. 6: Troubleshooting

6.4 Repairs

The following may require repairs from the manufacturer or an authorized service partner:

- Abnormal noises occur.
- Functional faults cannot be rectified according to the measures in chapter Malfunctions and troubleshooting [► page 22].

If defects are detected the product may not be used any longer.

Make a note of the deficiencies and the REF number on the data plate and inform the responsible ATMOS Service.

Observe the information in chapter Sending in the device [► page 24].

6.5 Service hotline:

+49 7653 689-0

6.6 Sending in the device

- ☒ Remove and properly dispose of consumables.
- ☒ Clean and disinfect the product and accessories according to the operating instructions.
- ☒ Place used accessories with the product.
- ☒ Fill in the form QD 434 „Delivery complaint / return shipment“ and the respective **decontamination certificate**.

This form is enclosed with each delivery and can be found at www.atmosmed.com.

- ☒ The device must be well padded and packed in suitable packaging.
- ☒ Place the form QD 434 „Delivery complaint / return shipment“ and the respective **decontamination certificate** in an envelope.
- ☒ Affix the envelope to the outside of the package.
- ☒ Send the product to ATMOS or to your dealer.

7 Technical specifications

7.1 Ambient conditions

Temperature: Operation	–10 °C to +40 °C
Temperature: Shipping / storage	–10 °C to +40 °C
Relative humidity: Operation	10 % to 95 %
Relative humidity: Shipping / storage	10 % to 95 %
Atmospheric pressure: Operation	700 hPa to 1060 hPa

7.2 Cylinder trolley

Foot diameter	approximately 610 mm
Overall height	approximately 930 mm
Net weight	approximately 5 kg
Suitable cylinder diameter	approximately 140 mm
Maximum permissible load of foot	20 kg
Maximum permissible load of support pipe	5 kg (depending on type of load)

7.3 Cylinder jacket

Foot diameter	approximately 198 mm
Inner diameter of the cylinder	approximately 148 mm
Overall height (including valve cap and cylinder cover)	Approximately 920 - 1020 mm (variable)
Net weight (including valve cap and cylinder cover)	Approximately 2.4 kg
Net weight of valve cap	Approximately 0.1 kg
Net weight of cylinder cover	Approximately 0.3 kg
Suitable cylinder diameter	140 mm

7.4 Equipment rail

Length	200 mm
Altitude	25 mm
Width	10 mm
Net weight	0.2 kg
Suitable clamp pipe diameter	25 x 25 mm
Maximum load	2 kg

Notes



■ **Manufacturer:**

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