

Load unit TS-HC-16kg

Assembly instructions
DCA-EN_000167 / 06.2014

Replaces:
ENGLISH



The data specified above only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. It must be remembered that our products are subject to a natural process of wear and aging.

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The cover page shows an example configuration. The product supplied may therefore differ from the figure.

The original operating instructions were prepared in German

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1 About This Documentation

1.1 Scope of documentation

This documentation applies to the following products:

- R961009584, Workstation TS-WS201-1x/M1L1B0
- R961009585, Workstation TS-WS201-1x/M2L2B0
- R961009588, Workstation TS-WS201-1x/M0L1B0
- R961009589, Workstation TS-WS201-1x/M0L2B0
- R961009507, Load unit TS-HC-16kg

This documentation is intended for installers, operators, service technicians, and system owners.

This documentation contains important information on the safe and appropriate assembly, transportation, commissioning, operation, use, maintenance, disassembly, and simple troubleshooting of the product.

Read this documentation completely, especially chapter 2 “Notes on Safety” and chapter 3 “General Notes on Equipment and Product Damage”, before working with the belt section.

1.2 Required and supplementary documentation


Only commission the product once you have obtained the system documentation that is marked with a book symbol Buchsymbol  and understood and complied with its contents.

Table 1: Required and supplementary documentation

	Titel	Dokumentnummer	Dokumentart
	„Workstation WS200“	DCA-EN_000151	Operating instructions



You can find these operating instructions as well as the related documents and data sheets in the Bosch Rexroth media directory at:

www.boschrexroth.com/various/utilities/mediadirectory/

The current training offer and other knowledge products of the Drive & Control Academy are available on the Internet at:

www.boschrexroth.de/academy

1.3 Presentation of information

Uniform safety instructions, symbols, terms, and abbreviations have been used in this documentation in order to ensure that you can get to work quickly and safely with your product. They are discussed in more detail in the following sections.

1.3.1 Safety instructions




This documentation contains safety instructions in section 2.6 “Product-specific safety instructions” and chapter 3 “General Notes on Equipment and Product Damage” and before any actions or steps whenever there is a danger of personal injury or damage to the equipment. The measures described to avoid these hazards must be observed.

Safety instructions are set out as follows:

 SIGNAL WORD
Hazard type and source Consequences Precautions: ...

- **Safety sign:** draws attention to the risk
- **Signal word:** identifies the degree of hazard
- **Type and source of the risk:** identifies the type and source of the hazard
- **Consequences:** describes what occurs when the safety instructions are not complied with
- **Precautions:** states how the hazard can be avoided


Table 2: Hazard classes acc. to ANSI Z535.6-2006

Safety sign, signal word		Meaning
	DANGER	Indicates an imminently hazardous situation which, if not avoided, will certainly result in death or serious injury.
	WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	CAUTION	Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE		Damage to equipment: The product or surrounding equipment may be damaged.

1.3.2 Symbols

The following symbols identify information that is not relevant for safety, but which increases the comprehensibility of the documentation.

Table 3: Meaning of the symbols

Symbol	Meaning
	If this information is disregarded, the operating procedure may be impaired.
▶	Individual, independent action
1. 2. 3.	Numbered steps: The numbers indicate the order for the steps.

1.3.3 Designations

This documentation uses the following designations:

Table 4: Designations

Designation	Meaning
M _D	Tightening torque of the connection elements (in Nm)

2 Notes on Safety

2.1 About this chapter

The product has been manufactured according to the accepted rules of current technology. Even so, there is a risk of injury or damage if this chapter and the safety information in these instructions are not observed.

- ▶ Read these instructions completely and thoroughly before working with the product.
- ▶ Keep this documentation in a location where it is accessible to all users at all times.
- ▶ Always include the operating instructions when you pass the product on to third parties.

2.2 Intended use

The product may be used as follows:

- for installation in a Rexroth-Workstation WS201
- for hydraulic exercise circuits

The product is intended exclusively for professional applications and not designed for private use.

Intended use includes having read and understood these instructions, especially chapter 2 “Notes on Safety”.

2.3 Improper use

The instructions in operating manual of the workstation WS200 are always valid.

2.4 Personnel qualifications

The instructions in operating manual of the workstation WS200 are always valid.

2.5 General safety instructions

The instructions in operating manual of the workstation WS200 are always valid.

2.6 Product-specific safety instructions

The safety instructions in operating manual of the workstation WS200 are always valid.

2.7 Personal protective equipment

The instructions in operating manual of the workstation WS200 are always valid.

2.8 Obligations of the system owner

The instructions in operating manual of the workstation WS200 are always valid.

2.9 Safety equipment

To protect people, the Load unit is equipped with the following safety equipment::

- Housing with lockable doors

3 General Notes on Equipment and Product Damage



The warranty only applies to the delivered configuration.

The warranty will not apply if the product is incorrectly assembled, commissioned, or operated, and/or if it is not handled or not used as intended.

4 Scope of Delivery

The scope of delivery includes:

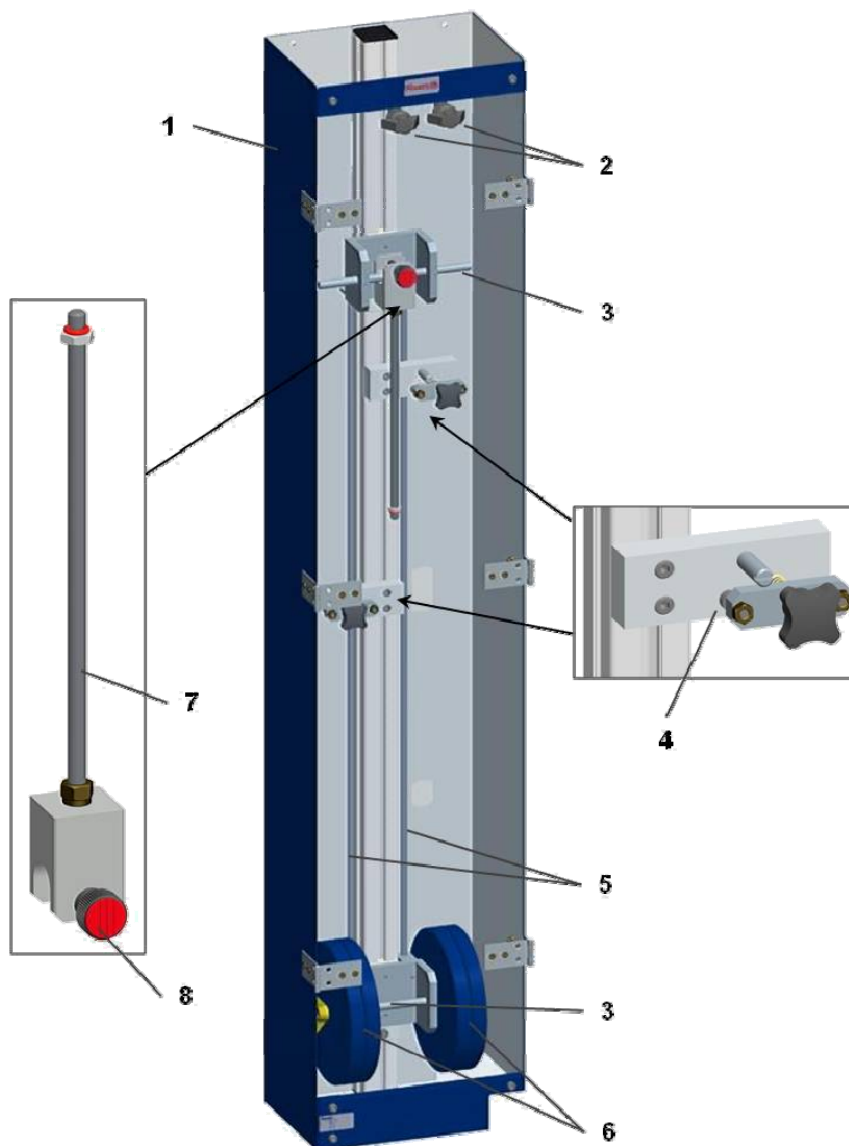
- Depending on the ordered configuration, - workstation mounted oder load unit single
- 1x connection kit for mounting on hydraulic cylinder (Matr. Nr. R961009526)

5 About this Product

5.1 Product description

The load unit is mounted in the workstation WS201. With the load unit are produced external loads on the piston rod of a hydraulic cylinder.

It is used the hydraulic cylinder from the device sets „ON/off hydraulics – first steps“, „ON/off hydraulics – manual control“ and „ON/off hydraulics – electrical control“.

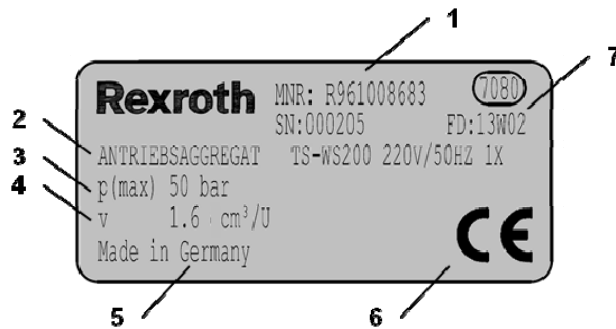


- | | | | |
|---|---------------------------------|---|---------------------------|
| 1 | Housing | 5 | Tension rods |
| 2 | Door lock | 6 | Weights (4 parts = 16 kg) |
| 3 | Carriage with holder for weight | 7 | Connection kit |
| 4 | Clamping mechanism | 8 | Knurled screws |

Fig. 1: Load unit

5.2 Product identification

For name plates, silver adhesive stickers are used.



- 1 Material number
- 2 Material short text
- 3 Optional – characteristic power value 1, e.g. max. operating pressure - 50 bar
- 4 Optional – characteristic power value 2, e.g. displacement - 1.6 cm³/rotation
- 5 Country of production
- 6 Optional - CE mark
- 7 Date of production, e.g. 13W02 -> year 2013 with calendar week 02

Fig. 2: Name plate

6 Transport and Storage

6.1 Transport

Observe the transport instructions on the packaging.

- see the shipping documents for product weight

6.2 Storing the product


Table 5: Storage conditions

Denomination	Unit	Value
Min. storage temperature (recommended)	°C	-15 (+5)
Max. storage temperature (recommended)	°C	+50 (+30)
Relative air humidity	%	5-85, not condensing

- ▶ Storage only in weather-protected areas

7 Assembly of the load unit

7.1 Unpacking the load unit


 CAUTION
<p>Danger due to parts falling out! If the packaging is opened improperly, parts may fall out and cause damage to the parts and even injuries.</p> <p>► Put the packaging on level, bearing ground.</p>

 CAUTION
<p>Risk of injury! In case of improper handling, sharp and pointed parts of the packaging may cause injuries.</p> <p>► Open the packaging using suitable aids.</p>

- Dispose of the packaging in accordance with the currently applicable national regulations in your country.

7.2 Necessary tools

Table 6: Necessary tools

Designation	Wrench size (in mm)	Symbol
Key for hexagon screw	13	

7.3 Aid

Table 7: Aid

Designation
Manual torque wrench

7.4 Assembling load unit

Table 8: Material numbers for assembling load unit

Pos. Nr.	Materialnummer	Materialkurztext
1	-	BASE FRAME TS-WS201
2	R961009507	LOAD UNIT TS-HC-16kg

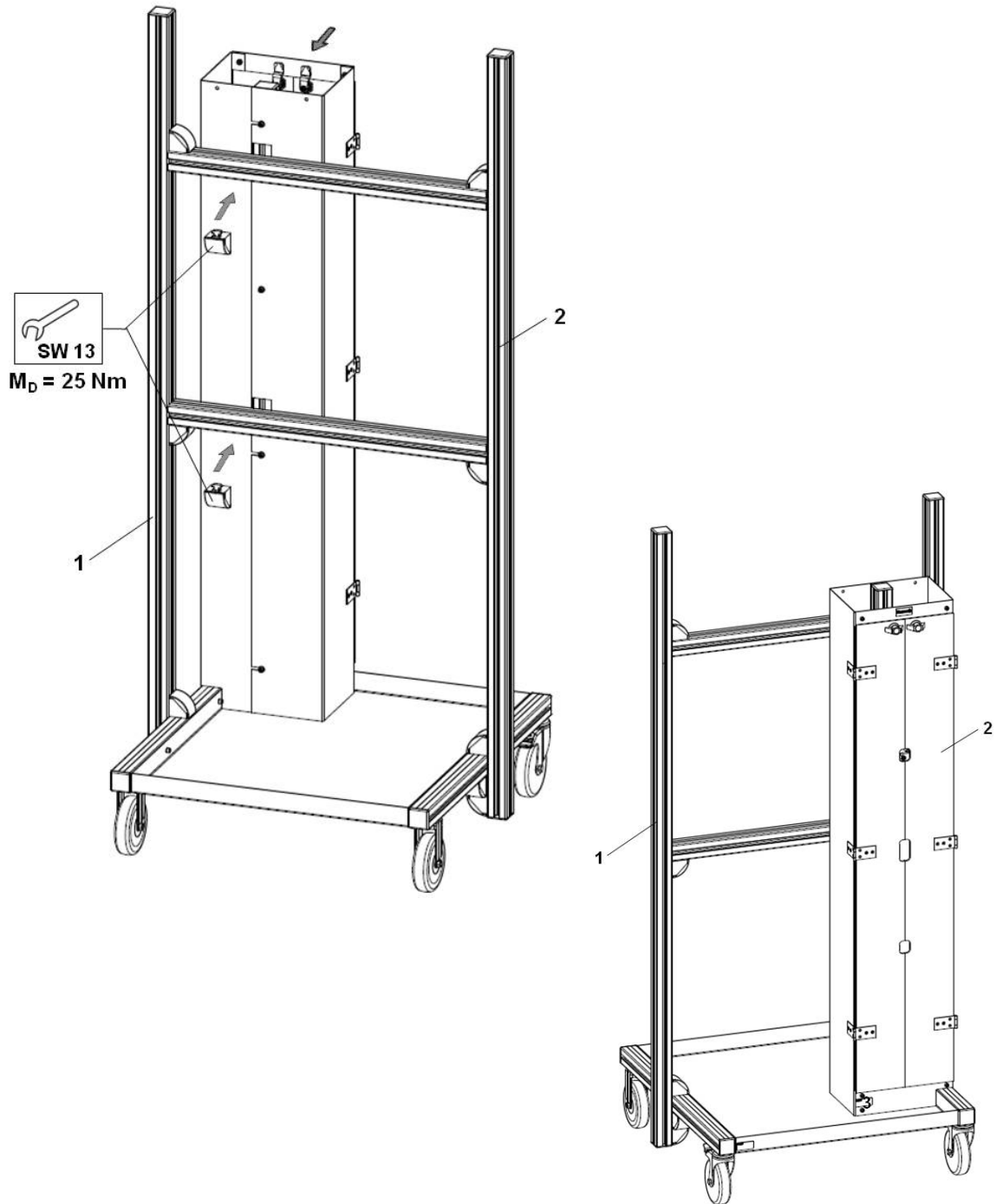


Fig. 3: Assembling load unit

8 Commissioning

The commissioning of the unit load is only possible with the hydraulic cylinder (matr. no. R961009526).

8.1 Mounting connection kit

The piston rod of hydraulic cylinder must be driven out. For actuating the hydraulic cylinder that hang in the grid of the WS200 and connect hydraulically to the recommended circuit diagram. The need components (valves, hydraulic hoses) are included in the hydraulic device sets.

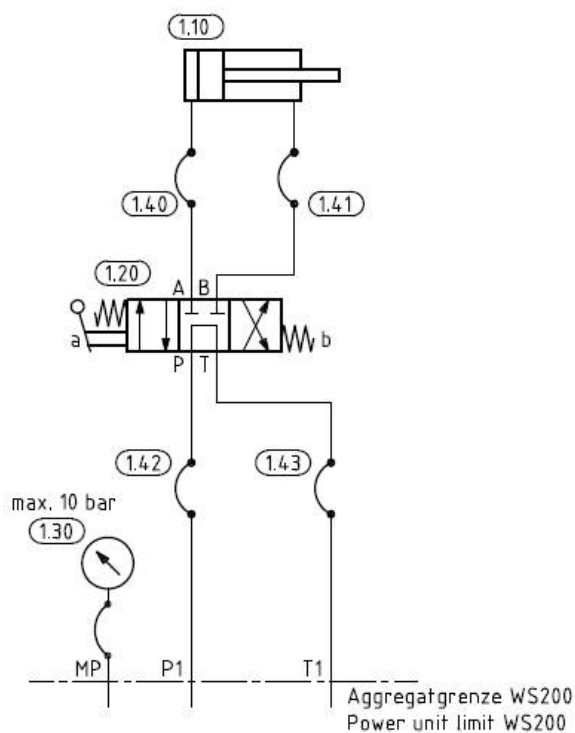
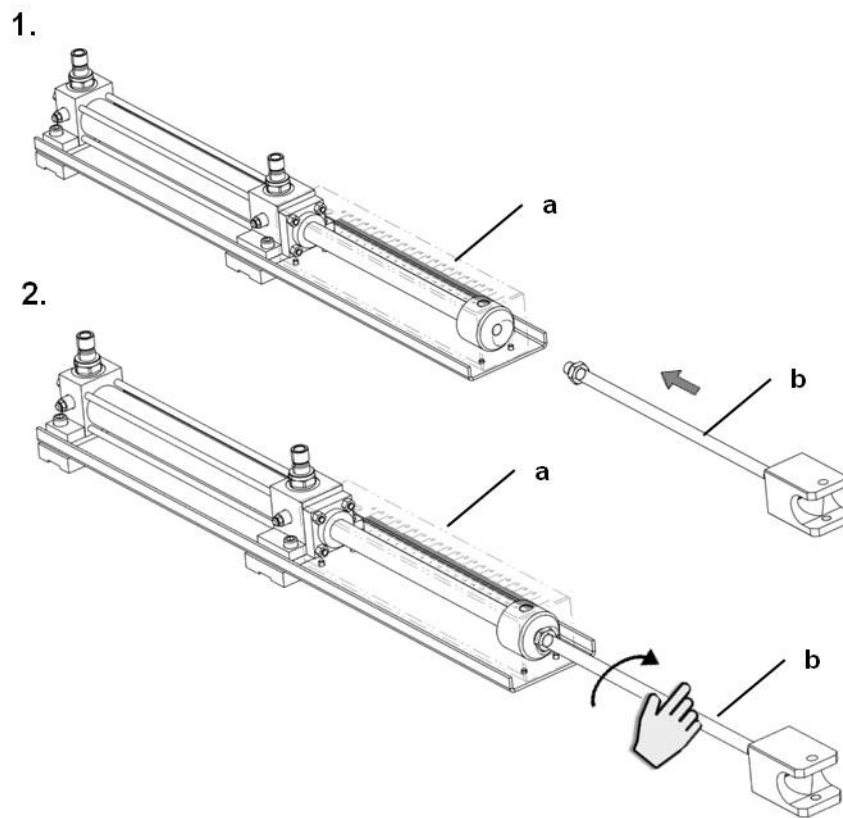


Fig. 4: Circuit diagram

Table 9: BOM

Pos.	Quantity	Mat.nr.	Material short text
1.10	1	R961009526	PLATE HPF-ZY1.9N-200-W KPL.
1.20	1	R961002550	PLATE HPF-DW4.NV-W KPL.
1.30	1	R961002715	PRESSURE GAUGE 100BAR HP4-DZ1.4 KH KPL.
1.40 – 1.43	4	R961002474	HYDRAULIC HOSES ZN10031-08-W00NN-630



- a Hydraulic cylinder
b Connection kit

Fig. 5: Mounting connection kit



recommended assembly sequence

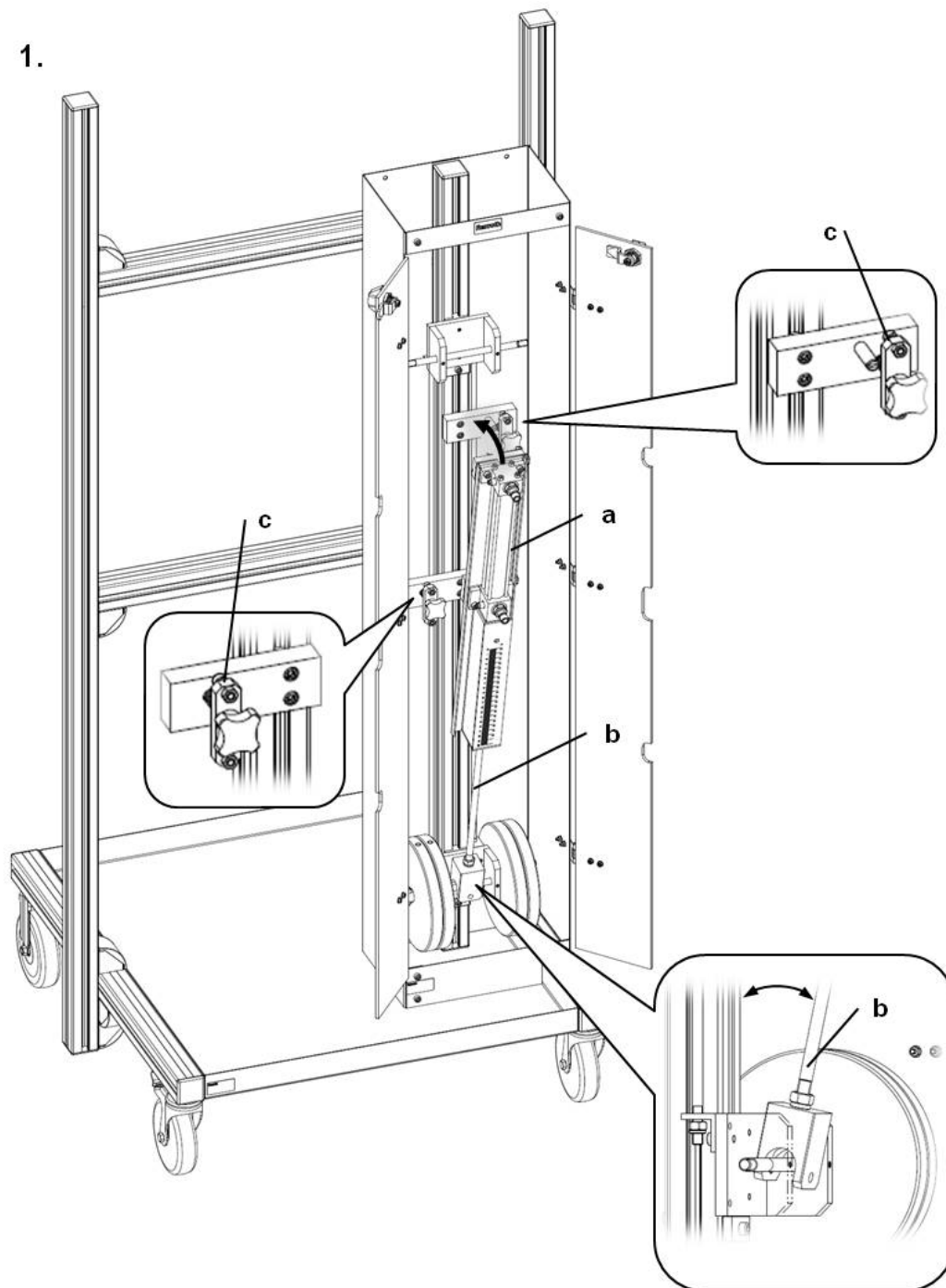
1. Open the end cover
2. Screw on connection kit.
3. Tighten by hand.

8.2 Assembling Hydraulic cylinder – tension force

The hydraulic cylinder must be mounted with the connection kit downwards.

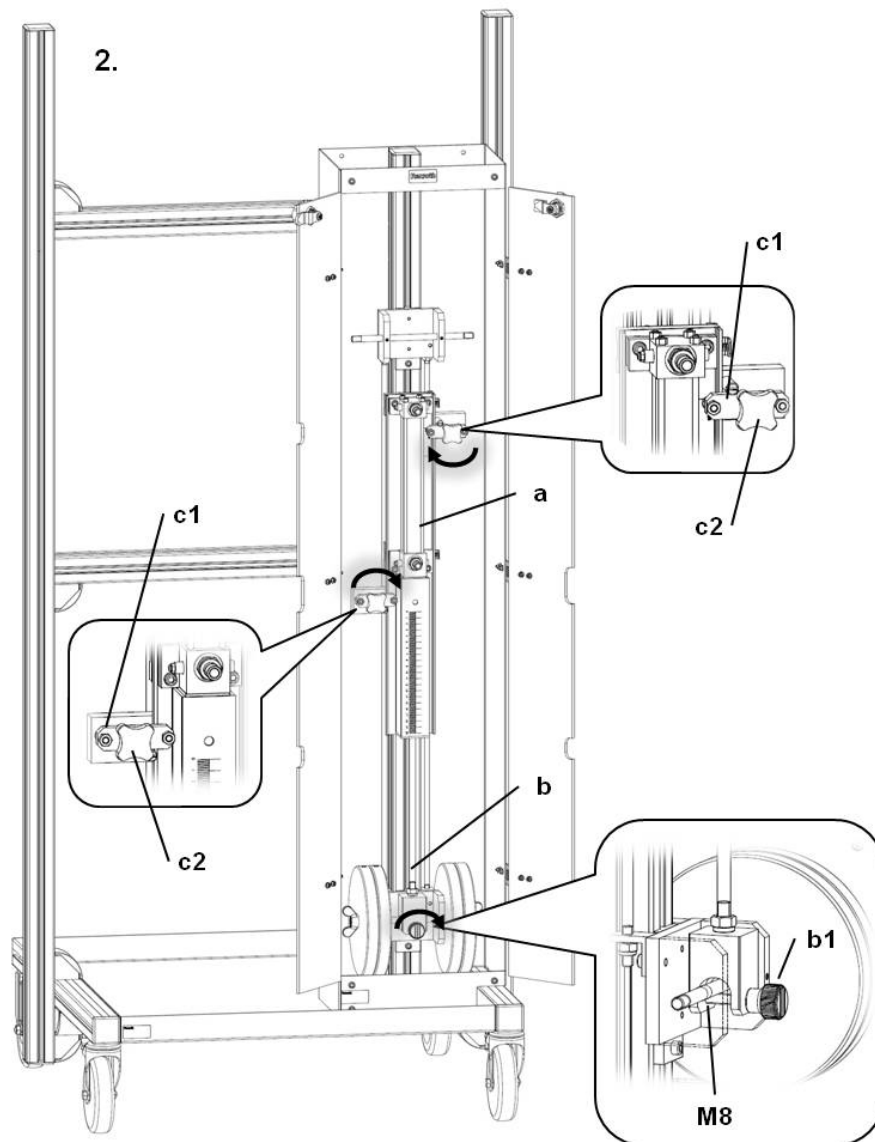
The piston rod of hydraulic cylinder must be driven out. For moving the piston rod view Cap. 8.1.

The weight is lifted by applying pressure to the piston rod side.



- a Hydraulic cylinder
- b Connection kit
- c Clamping mechanism

Fig. 6: Assembling Hydraulic cylinder – tension force (part 1)



- | | | | |
|----|--------------------|----|-----------------|
| a | Hydraulic cylinder | c1 | Hold down clamp |
| b | Connection kit | c2 | Star knob screw |
| b1 | Knurled screws | | |

Fig. 7: Assembling Hydraulic cylinder – tension force (part 2)



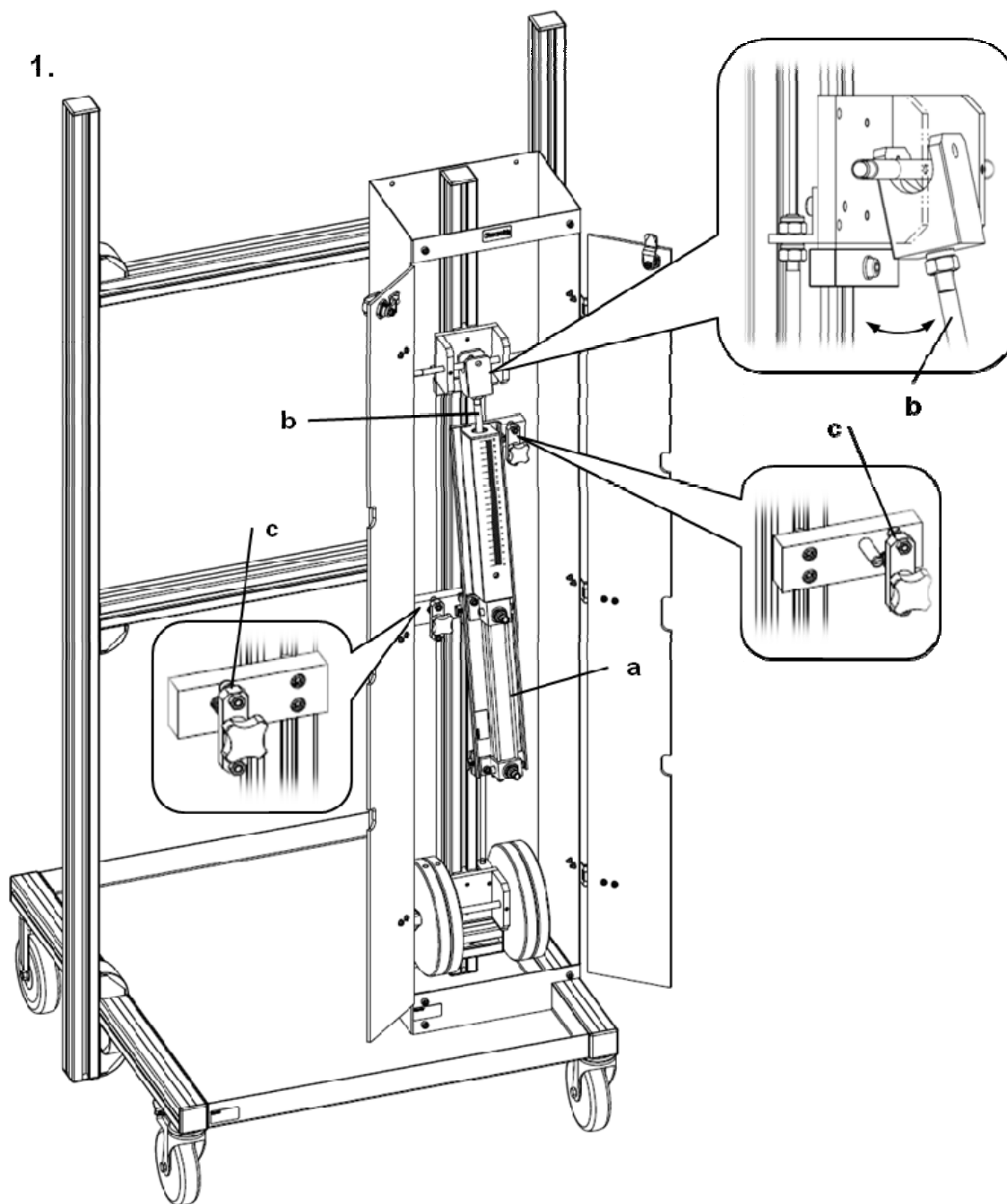
Star knob screw (c2) and knurled screws (b1) tighten by hand.

8.3 Assembling Hydraulic cylinder – pressure force

The hydraulic cylinder must be mounted with the connection kit upwards.

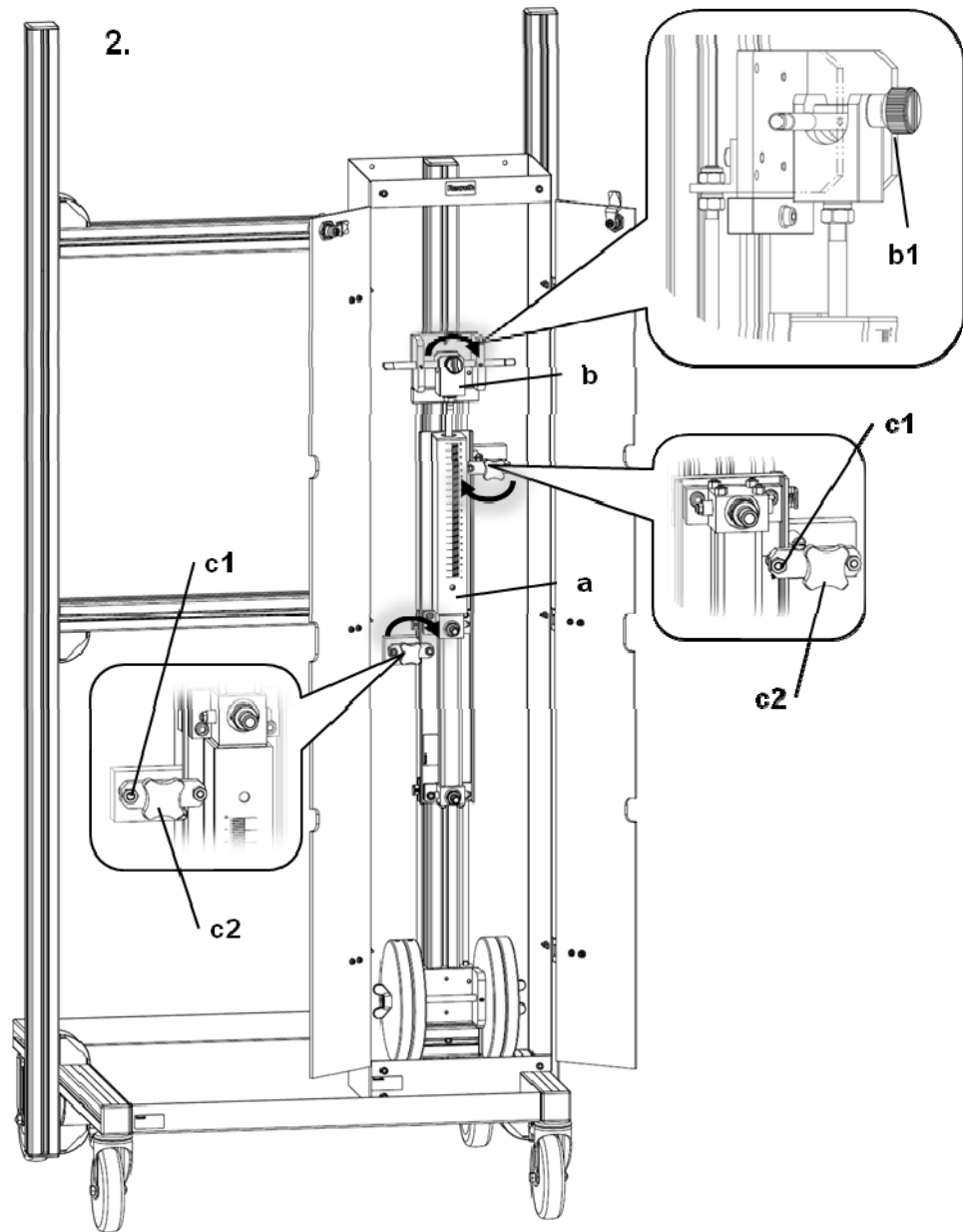
The piston rod of hydraulic cylinder must be driven in. For moving the piston rod view Cap. 8.1.

The weight is lifted by applying pressure to the piston side.



- a Hydraulic cylinder
- b Connection kit
- c Clamping mechanism

Fig. 8: Assembling Hydraulic cylinder – pressure force (part 1)



- | | | | |
|----|--------------------|----|-----------------|
| a | Hydraulic cylinder | c1 | Hold down clamp |
| b | Connection kit | c2 | Star knob screw |
| b1 | Knurled screws | | |

Fig. 9: Assembling Hydraulic cylinder –pressure force (part 2)



Star knob screw (c2) and knurled screws (b1) tighten by hand

8.3.1 Weights

When using hydraulic cylinder - pressure force the weights for better visibility can also be mounted on the upper carriage.

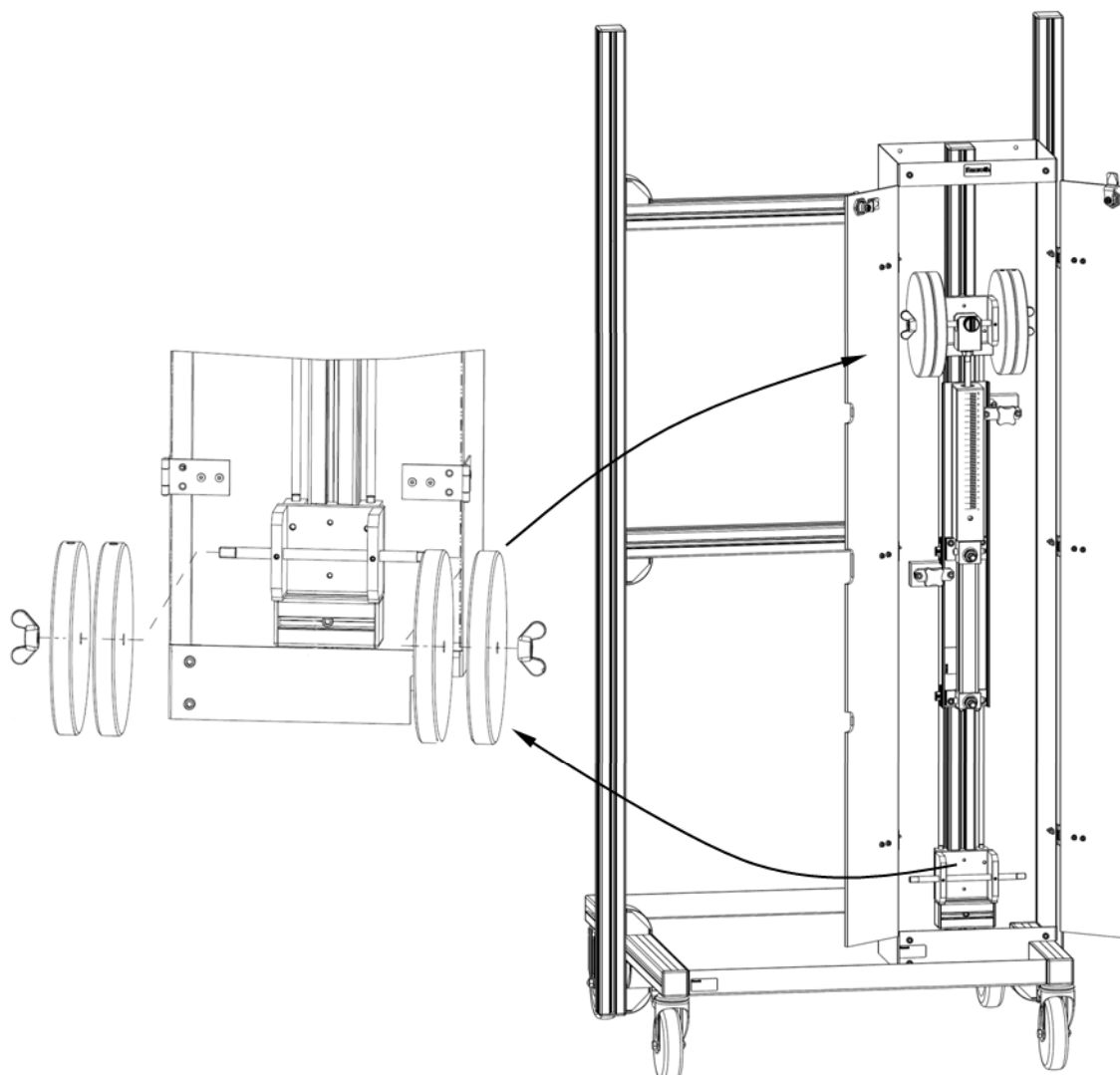


Fig. 10: Weights change



Fastening nuts tighten by hand.

9 Operation

The operation of the unit load is only possible with the hydraulic cylinder (matr. no. R961009526).

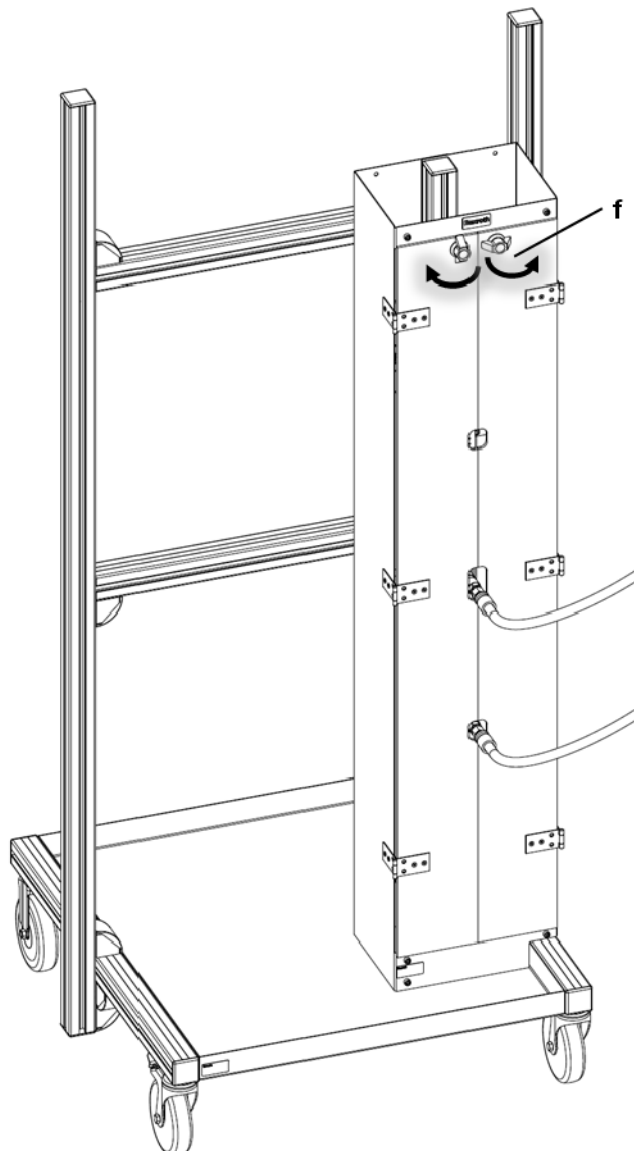
The instructions in operating manual of the workstation WS200 are always valid.

DANGER

Always observe chapter 2.0 notes of safety.

The following points should be observed for operation:

- The fixing nuts of the weights are hand-tightened.
- The two doors are closed



f Closing direction

Fig. 11: Operation

10 Technical Data

Table 10: Technical Data (only load unit without hydraulic cylinder)

Denomination		Unit	Value
Weight		kg	~25
Dimensions	Length max.	mm	220
	Width max.	mm	275
	Height max.	mm	1400

11 Decommissioning and disposal

11.1 Decommissioning



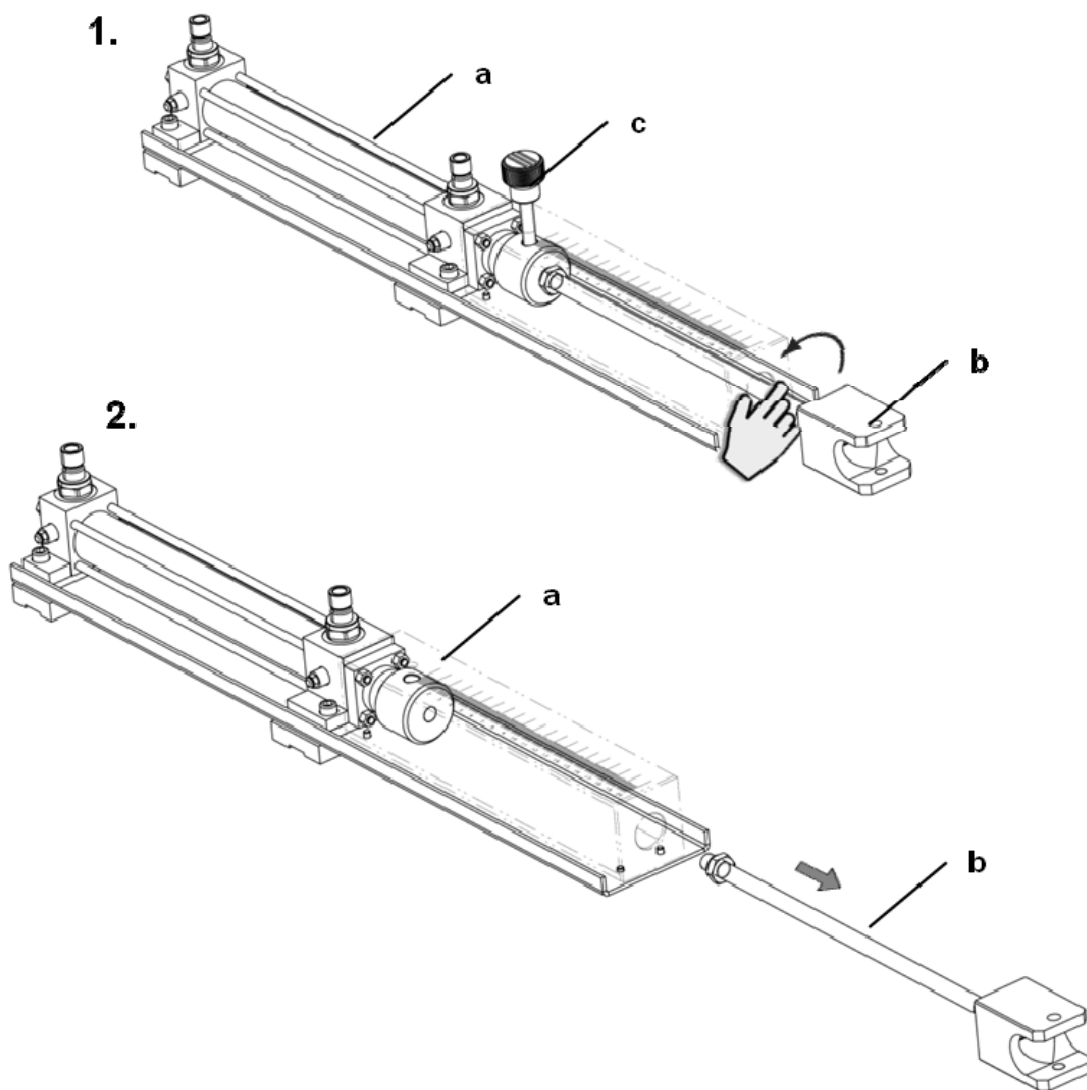
DANGER

Always observe chapter 2.1 concerning safety.

In case of noncompliance:

Threat to life or physical condition of the operator or third party,
 Damage of the training system, single products or other real values,
 Danger for the efficient run of the training system!

11.2 Demounting connection kit



- a Hydraulic cylinder
- b Connection kit
- c Knurled screws

Fig. 12: Demounting connection kit

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