



# Operating Instructions

Translation of original operating instructions

## **Concrete Step Handles**

**TSZ-UNI**

**1 Contents**

|          |                                                          |           |
|----------|----------------------------------------------------------|-----------|
| <b>1</b> | <b>Contents .....</b>                                    | <b>2</b>  |
| <b>2</b> | <b>EC-Declaration of Conformity .....</b>                | <b>4</b>  |
| <b>3</b> | <b>Safety.....</b>                                       | <b>5</b>  |
| 3.1      | Safety symbols.....                                      | 5         |
| 3.2      | Explanation of basic concepts.....                       | 5         |
| 3.3      | Definition skilled worker / specialist .....             | 5         |
| 3.4      | Safety Marking.....                                      | 6         |
| 3.5      | Personal safety requirements .....                       | 7         |
| 3.1      | Protective equipment.....                                | 7         |
| 3.2      | Accident prevention.....                                 | 7         |
| 3.3      | Function Control .....                                   | 7         |
| 3.3.1    | General .....                                            | 7         |
| 3.4      | Safety procedures .....                                  | 8         |
| 3.4.1    | General .....                                            | 8         |
| 3.5      | Hydraulic excavator and other lifting equipments .....   | 8         |
| <b>4</b> | <b>General.....</b>                                      | <b>9</b>  |
| 4.1      | Authorized use.....                                      | 9         |
| 4.2      | Survey and construction .....                            | 11        |
| 1.1      | Technical Data .....                                     | 11        |
| <b>5</b> | <b>Installation.....</b>                                 | <b>12</b> |
| 1.2      | Mechanical connection .....                              | 12        |
| 5.1.1    | Suspension lug.....                                      | 12        |
| 5.1.2    | Load hook and chains.....                                | 12        |
| <b>6</b> | <b>Adjustments .....</b>                                 | <b>12</b> |
| 6.1      | Adjustment - gripping range .....                        | 12        |
| 6.1.1    | Accessories – height adjustable support .....            | 13        |
| <b>7</b> | <b>Operation .....</b>                                   | <b>15</b> |
| 7.1      | Operating for devices with automatic release .....       | 15        |
| 7.2      | Picture of the automatic release.....                    | 15        |
| 7.3      | Gripper change (steelfinger grippers TSZ-UNI-WB-SQ)..... | 16        |
| 7.4      | Handling with steelfinger grippers (WB-SQ).....          | 17        |

8      **Maintenance and care ..... 19**

    8.1      Maintenance .....19

    8.2      MECHANICAL .....19

        8.2.1      Additional with steelfinger grippers (WB-SQ).....20

    8.3      Trouble shooting .....20

    8.4      Repairs .....21

    8.5      Safety procedures .....21

    8.6      Hints to the identification plate .....22

    8.7      Hints to the renting/leasing of PROBST devices.....22

## 2 EC-Declaration of Conformity

### EC-Declaration of conformity

Description: Concrete Step Handles  
Type: TSZ-UNI  
Order-Nr.: 53100338

Manufacturer: Probst Greiftechnik ♦ Verlegesysteme GmbH  
Gottlieb-Daimler-Strasse 6  
D-71729 Erdmannhausen  
[info@probst.eu](mailto:info@probst.eu) [www.probst.eu](http://www.probst.eu)

Complies with the following provisions applying to it

**EC-machinery directive 2006/42/EG**

#### **DIN EN ISO 12100**

Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)

#### **DIN EN ISO 13857**

Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)

#### **DIN EN 349**

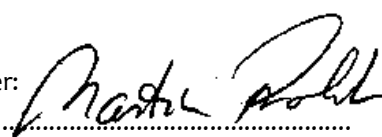
Minimum distance to avoid squeezing any parts of the body (ISO 13854).

### Authorized person for EC-dokumentation:

Name: J. Holderied

Address: Probst Greiftechnik ♦ Verlegesysteme GmbH; Gottlieb-Daimler-Str. 6; D-71729 Erdmannhausen

Signature, informations to the subscriber:

Erdmannhausen, 18.12.2012.....

(M. Probst, Managing director)

### 3 Safety

#### 3.1 Safety symbols



**Danger to life!**

Identifies imminent hazard. If you do not avoid the hazard, death or severe injury will result.



**Hazardous situation!**

Identifies a potentially hazardous situation. If you do not avoid the situation, injury or damage to property can result.



**Prohibition!**

Identifies imminent a prohibition. If you do not avoid the prohibition, death and severe injury, or damage to property will result.

#### 3.2 Explanation of basic concepts

|                     |                                                                                                                                                                                                                                                         |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gripping range:     | <ul style="list-style-type: none"> <li>specify the minimum and maximum product measurements of the gripping good, which can be gripped with this device.</li> </ul>                                                                                     |
| Gripping good (s):  | <ul style="list-style-type: none"> <li>is the product, which will be gripped or transported.</li> </ul>                                                                                                                                                 |
| Opening width:      | <ul style="list-style-type: none"> <li>consists of the gripping range and the measure to drive over the gripping good.<br/><i><math>\text{gripping range} + \text{measure to drive over the gripping good} = \text{opening width}</math></i></li> </ul> |
| Immersion depth:    | <ul style="list-style-type: none"> <li>is the maximum gripping height of gripping goods, conditional of the height of the gripping arms of the device.</li> </ul>                                                                                       |
| Device:             | <ul style="list-style-type: none"> <li>is the description for the gripping device.</li> </ul>                                                                                                                                                           |
| Product dimensions: | <ul style="list-style-type: none"> <li>Are the dimensions of the gripping good (e.g. length, breadth, height of the product).</li> </ul>                                                                                                                |
| Dead weight:        | <ul style="list-style-type: none"> <li>is the own weight (without gripping good) of the device.</li> </ul>                                                                                                                                              |
| Load capacity:      | <ul style="list-style-type: none"> <li>specify the maximum possible load of the device (lifting of gripping goods).</li> </ul>                                                                                                                          |

#### 3.3 Definition skilled worker / specialist

Only skilled workers or specialists is it allowed to carry out the installation,- maintenance, - and repair work on these device!

Skilled workers or specialists must have for the following points (if it applies for these device), the necessary professional knowledge.

- for mechanic
- for hydraulics
- for pneumatics
- for electrics

### 3.4 Safety Marking

#### PROHIBITION SIGN

| Symbol                                                                            | Meaning                                                             | Order-No.: | Size: |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------|------------|-------|
|  | The transportation of non rectangular goods is not allowed!         | 2904.0213  | 30 mm |
|                                                                                   |                                                                     | 2904.0212  | 50 mm |
|                                                                                   |                                                                     | 2904.0211  | 80 mm |
|  | It is not allowed to be under hanging loads. <b>Danger to life!</b> | 2904.0210  | 30 mm |
|                                                                                   |                                                                     | 2904.0209  | 50 mm |
|                                                                                   |                                                                     | 2904.0204  | 80 mm |
|  | Do not lift any components off-centre.                              | 2904.0216  | 30 mm |
|                                                                                   |                                                                     | 2904.0215  | 50 mm |
|                                                                                   |                                                                     | 2904.0214  | 80 mm |

#### WARNING SIGN

| Symbol                                                                              | Meaning                        | Order-No.: | Size: |
|-------------------------------------------------------------------------------------|--------------------------------|------------|-------|
|  | Danger of squeezing the hands. | 2904.0221  | 30 mm |
|                                                                                     |                                | 2904.0220  | 50 mm |
|                                                                                     |                                | 2904.0107  | 80 mm |

#### REGULATORY SIGN

| Symbol                                                                              | Meaning                                                   | Order-No.: | Size:    |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------|------------|----------|
|  | Manual guiding is only allowed for machines with handles. | 2904.0227  | 30 mm    |
|                                                                                     |                                                           | 2904.0226  | 50 mm    |
|                                                                                     |                                                           | 2904.0225  | 80 mm    |
|  | Read operating instructions before operating.             | 2904.0366  | 30x57 mm |
|                                                                                     |                                                           | 2904.0365  | 50x95 mm |

### 3.5 Personal safety requirements



- Each operator must have read and understood the operating instructions.
- Only qualified, authorized personal is allowed to operate the device and all devices which are connected (lifting equipment).
- The manual guiding is only allowed for machines with handles.

### 3.1 Protective equipment

The protective equipment must consist, according to the safety regulations of the following parts:

- Protective clothing
- Safety gloves
- Safety shoes

### 3.2 Accident prevention



- The workplace has to be covered for unauthorized persons, especially children.
- Take care in case of thunderstorm!



- The workplace has to be sufficiently illuminated.
- Take care with handling wet, dirty and not solidified components.



- The working with the device in case of atmospheric editions under 3° C (37,5° F) is forbidden! Because the goods could be fall down caused by dampness or freezing.

### 3.3 Function Control

#### 3.3.1 General



- Before using the device check the functions and the working condition.
- Maintenance and lubrication are only permitted when device is shut down!



- Do not use the device, until all faults which can cause safety hazards are removed.
- If there are any cracks, splits or damaged parts on any parts of the device, **immediately** stop using it.



- The operating instructions must be available at the workplace every time.
- Do not remove the data-plates of the machine.
- Unrecognisable information signs must be replaced.

### 3.4 Safety procedures

#### 3.4.1 General



- The use of the device is only permitted in proximity to the ground. Do not swing it over peoples heads.
- The manual guiding of is only allowed for devices with handles.
- The operator is not allowed to leave the control unit as long as the device loaded with load. The load must always be in the range of vision of the operator.



- While using the device is the stay of persons in the working area forbidden. Except it is indispensable. Caused of the way of using the device, e.g. if the device must be leaded by hand.
- The jerky lifting and lowering of the device with and without load. e.g. caused through driving fast with the support frame/lifting device over uneven grounds is **forbidden**. Because the gripping good could **fall down**. Unchecked movements of the device.



- While using the device be sure that there are no persons in the working area. **Danger to Life!**
- Do not pull out stuck or tightened loads with the device.
- Do not lift any components off-centre, because that **could fall down**.
- The device should not be opened if the opening path of the gripping arm is blocked by a resistance (e.g. other concrete blocks or the like)!
- **Never exceed the carrying capacity and the nominal width of the device.**
- **Never** pull or drag loads sideways. Otherwise parts of the device could be damaged. (see Fig. A →)

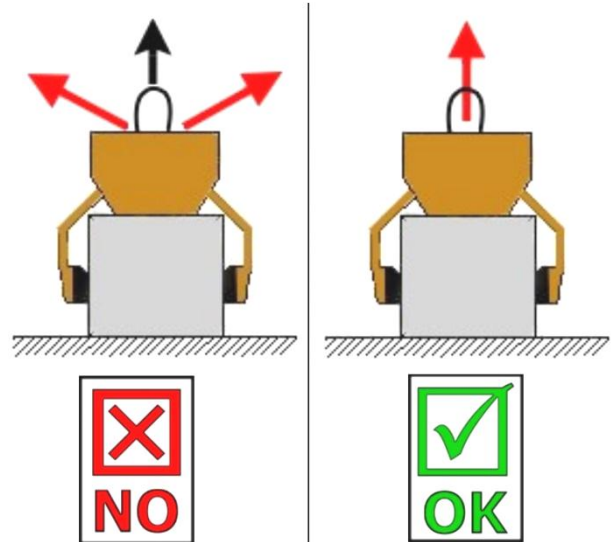


Fig. A

### 3.5 Hydraulic excavator and other lifting equipments



- Hydraulic excavator and other lifting equipments have to be in good, safe working condition.
- Only authorized and qualified personnel is allowed to operate the excavator and other lifting equipments.
- The operator staff must have all the necessary qualifications.



- **Never exceed the maximum capacity of the hydraulic excavator and other lifting equipments.**

## 4 General

### 4.1 Authorized use

The device (TSZ-uni) is specially designed for gripping, transporting and the following laying of gripping goods such as, steps, kerb stones, contact angle, L-stones, as well ashlar rocks (via the assembly of the accessories “steelfinger grippers WB-SQ”) in conjunction with a corresponding lifting device (e.g. excavator).

This device is series-produced equipped with the following elements:

- suspension lug for the crane hook (lifting equipment operation)
- handles for the guidance of the device
- automatic release for the fully automatic switch over from „full“ to “empty”.
- exchangeable rubber bars (as gripping elements)

#### Accessories:

- steelfinger grippers WB-SQ (43101110) for movements of roughly-cut ashlar rocks .
- Height adjustable support (for gripping in batch operation)



- The device is only designed for the use specified in this documentation.
- Every other use is not authorized and is forbidden!
- All relevant safety regulations, corresponding legal regulations, especially regulations of the declaration of conformity, and additional local health and safety regulations have to be observed.



Prior to every operation the user must ensure that:

- the equipment is suited to the intended operation, the functioning and the working condition of the equipment is examined, and the loads are suitable to be handled.

*Any doubts about instructions should be raised with the manufacturer prior to use.*



**ATTENTION: The use of this device is only permitted in proximity to the ground.**



Only stone elements with parallel and plane surface are allowed to be picked-up and handled.  
Because the gripping good could **fall down**.



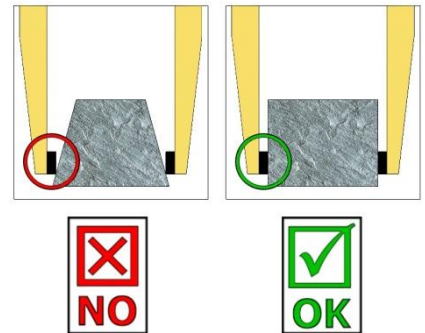
#### NOT ALLOWED AKTIVITIES:

**Unauthorized alterations** of the device and the use of any self-made additional equipment could cause danger and are therefore **forbidden!!**

Never exceed the **carrying capacity** and the **nominal width/gripping range** of the device.

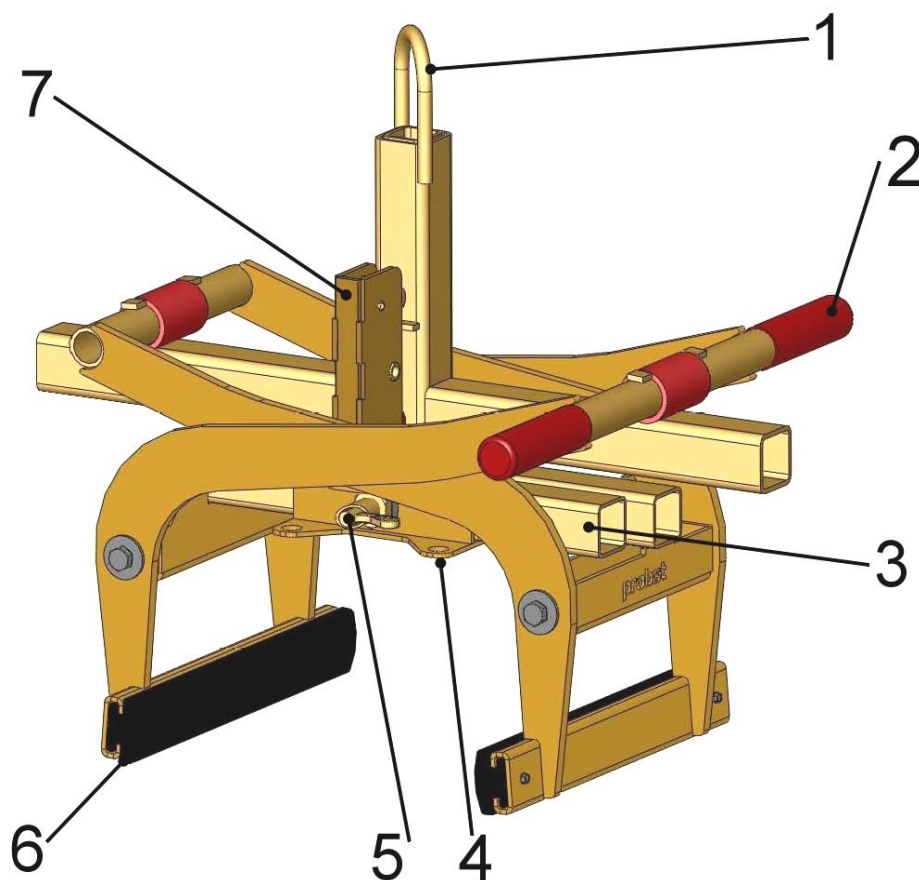
#### All unauthorized transportations with the device are not allowed:

- Transportation of people and animals.
- Transportation of other loads and materials than described in this manual.
- Never suspend any goods with ropes, chains or similar at the device.
- Transportation of **non rectangular** and **round** gripping goods, because they could fall down. (see figure to the right). →
- Gripping of gripping goods with **packaging foil**, because they could fall down.
- Transportation of material with “feet”, “bellies” and “blind spacers”.



## 4.2 Survey and construction

Fig.1



|   |                                                         |
|---|---------------------------------------------------------|
| 1 | Suspension lug                                          |
| 2 | Handles                                                 |
| 3 | Adjustment of gripping range                            |
| 4 | Assembly plate for height adjustable support (43100867) |
| 5 | Spring bolt (for gripping range adjustment)             |
| 6 | Rubber gripper bar (PGL3)                               |
| 7 | Automatic release                                       |

TSZ-uni (standard)

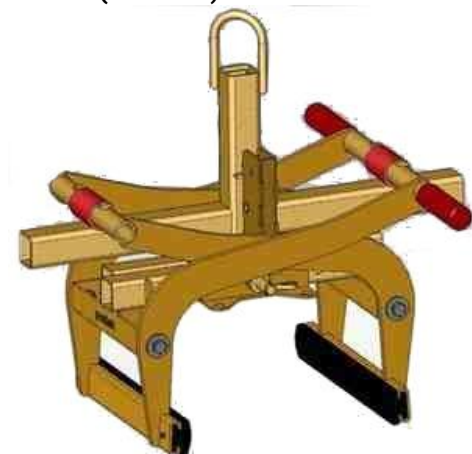


Fig. 2

TSZ-uni (with accessories A 43100867 )

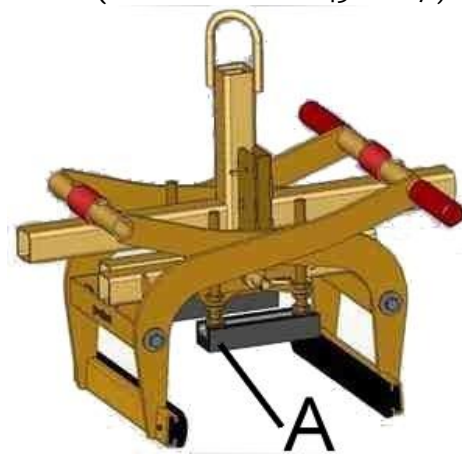


Fig. 3

|   |                                      |
|---|--------------------------------------|
| A | Height adjustable support (43100867) |
|---|--------------------------------------|

## 1.1 Technical Data

| Type:   | Gripping range W         | Inside height E | Carrying capacity     | Gripper length L | Dead weight           |
|---------|--------------------------|-----------------|-----------------------|------------------|-----------------------|
| TSZ-uni | 50 – 600 mm<br>(2- 23½") | 185 mm<br>(7¼") | 600 kg<br>(1.320 lbs) | 350 mm<br>(13¾") | ~ 30 kg<br>(~ 64 lbs) |

## 5 Installation

### 1.2 Mechanical connection

#### 5.1.1 Suspension lug

- The device is equipped with a suspension lug and can be mounted on various support frames/lifting devices.



- Take careful that the suspension lug is safety joined with the crane hook and can not slip down.



- **The maximum carrying capacity of the support frame/lifting device is not allowed to cross over by the dead weight of the device and the maximum load.**

#### 5.1.2 Load hook and chains



- Fit suspension ring in the load hook of the lifting equipment.
- **Ensure that the single chains are not twisted and may be easily pulled through the jaws**



- Attaching the device to the lifting equipment take care that all local safety regulation is observed.
- **It is not allowed to exceed the carrying capacity of the lifting equipment with the device and the maximum load.**

## 6 Adjustments

### 6.1 Adjustment - gripping range



**Before the product can be lifted and transported, the gripping range has to be adjusted to the dimensions of the product.**



- Caution while adjusting of the gripping range. **There is danger of injuring the hands!**

- The adjustment of the gripping range may **never** take place on both sides at the same time. Always adjust the gripping range first to the one and then on the other side.
- Pull the spring bolt (5) upwards, rotate around 180° and lock in position (in nick).
- Move the rectangular tube (3), until the gripping range is approx. 5 cm larger than the gripping good.
- Pull the spring bolt (5) upwards again and rotate around 180°.
- Move the rectangular tube (3) so long, until the spring bolt engages in one of the holes.



- The adjustment of the gripping range has to follow general **symmetrical**. That means, it must be used in each case the same adjustable hole with both rectangular tubes (3).



- When gripping **L-stones**, the gripping range **must** be adjust **asymmetrical** (because of the center of gravity of the L-stone, so that when lifting, the L-stone is in horizontal position). That means, it must **NOT** be used the same adjustable hole with both rectangular tubes (3) (a asymmetrical positioning of the adjustable holes up to 2 holes is allowed).

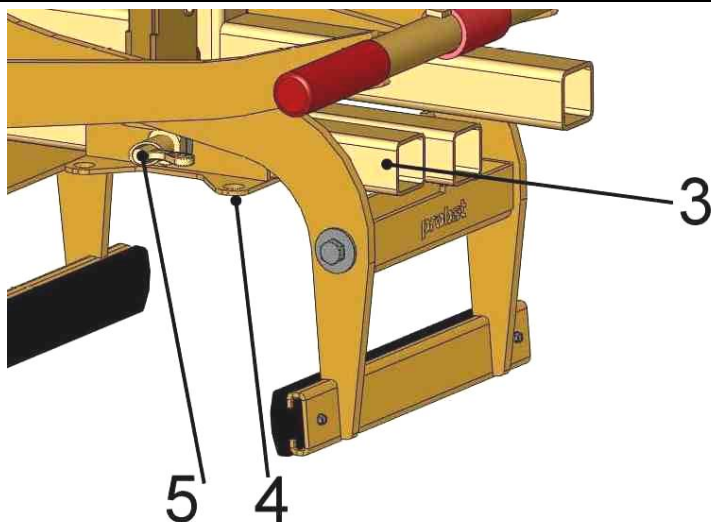


Fig. 1

#### 6.1.1 Accessories – height adjustable support



When using the device (TSZ-uni) in batch operation, for gripping of single stone slabs (batched one upon the other), we advise to use the accessories “height adjustable support” (43100867)! – see Fig. 1  
Therefore, the *inside height* must not always adjusted again for gripping goods with the same dimensions (see Figure 1). When picking up in batch operation the **top** stone slab **may** only be lifted!



- Caution while adjusting of the gripping range. **There is danger of injuring the hands!**

- The “height adjustable support (A) is attached to the “mounting plate of the height adjustable support” → see Fig. 2 (and Fig. 3)
- Adjust the “height adjustable support (A) with the adjusting screws and regard the both “height adjustable supports (A)” have the same height and that the rubber gripper bars are positioned in the middle area of stone thickness. → see Fig. 1



Fig. 1

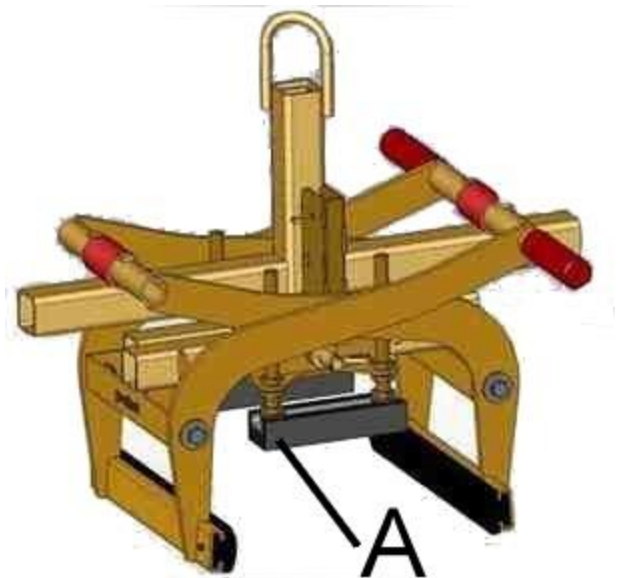


Fig. 2

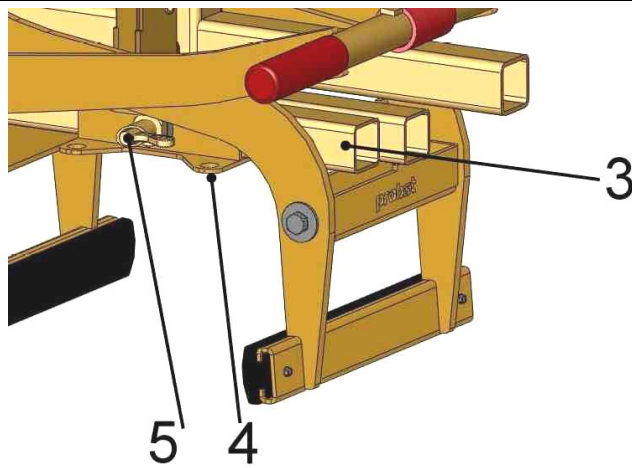


Fig. 3

|   |                                                                       |
|---|-----------------------------------------------------------------------|
| 3 | Adjustment positions at the adjustable hole in both rectangular tubes |
| 4 | Height adjustable support                                             |
| 5 | Spring bolt                                                           |

## 7 Operation

### 7.1 Operating for devices with automatic release

- The device is connected to the lifting equipment/support frame (e.g. excavator).
- Before lifting the device, the gripping range has to be adjusted.
- The device is placed over the product, set down, the device closes round the product and it can be lifted.
- Set down on the ground again, the device opens automatically, the automatic release locks it into position so that the device can be lifted without closing up.
- Placed over the next product, the automatic release disengages itself and the product can be lifted.
- The device therefore is a ONE-MAN-MACHINE.

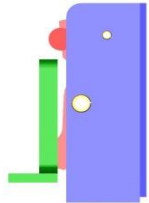
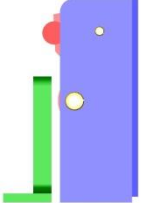
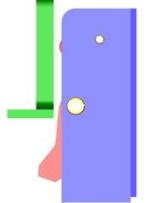
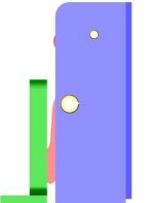
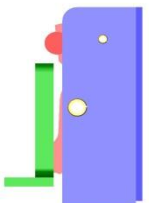


**Shut-down the device without lifting equipment/support frame only on even ground. The gripping arms must be opened enough, to ensure a secure standing of the device. Otherwise exists danger of overturning!**

### 7.2 Picture of the automatic release

The device is mounted with a automatic release, that means the opening and closing of the gripping arms results through the set down and lifting of the device.

#### Pictures the positions of the automatic release

|                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>①</p> <ul style="list-style-type: none"> <li>• Device is lifted through the support frame.</li> <li>• Gripping arms are opened.</li> </ul>                |  <p>②</p> <ul style="list-style-type: none"> <li>• Device is set up on the gripping good.</li> <li>• Gripping arms are opened.</li> </ul>                                                       |  <p>③</p> <ul style="list-style-type: none"> <li>• Device is lifted through the support frame.</li> <li>• Gripping good is clamped and can be transported to the destination.</li> </ul> |
|  <p>④</p> <ul style="list-style-type: none"> <li>• Device is set down with the gripping good (on the ground).</li> <li>• Gripping arms are opened.</li> </ul> |  <p>⑤/①</p> <ul style="list-style-type: none"> <li>• Device is lifted through the support frame.</li> <li>• Gripping arms are opened. (laydown position of the device on the ground)</li> </ul> |                                                                                                                                                                                                                                                                               |

### 7.3 Gripper change (steelfinger grippers TSZ-UNI-WB-SQ)

For movements of roughly-cut ashlar rocks with the device (TSZ-uni) change the standard rubber grippers (Figure A) against steelfinger grippers (Figure B)

1.) Unscrew both standard rubber grippers and then pull them out of the holders (Figure A)

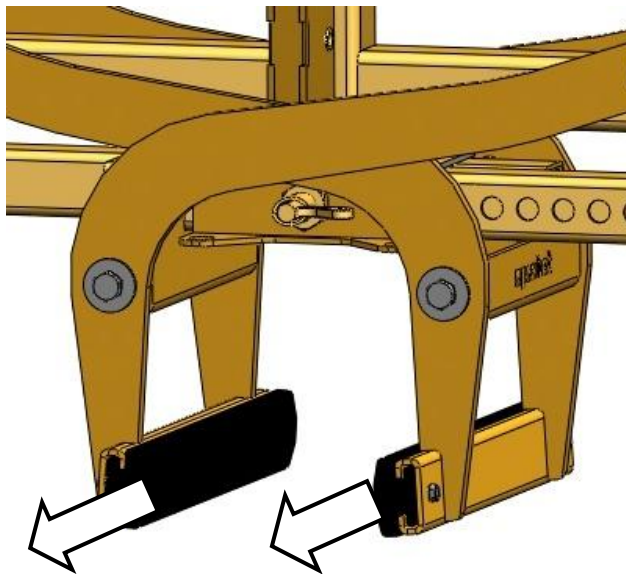


Figure A

2.) Figure B shows the device (TSZ-uni) without rubber grippers.

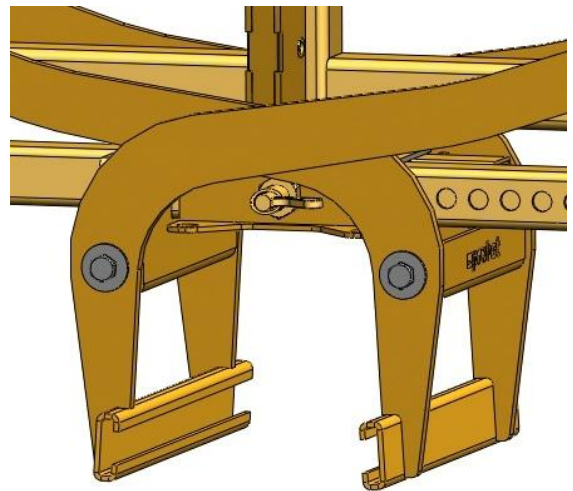


Figure B



3.) The steelfinger grippers must be installed as shown in **Figure C**. Take notice, that "Part 1" (with chain box) may be mounted **only on the left side** of the device, thus at the "wide external gripper arm"!

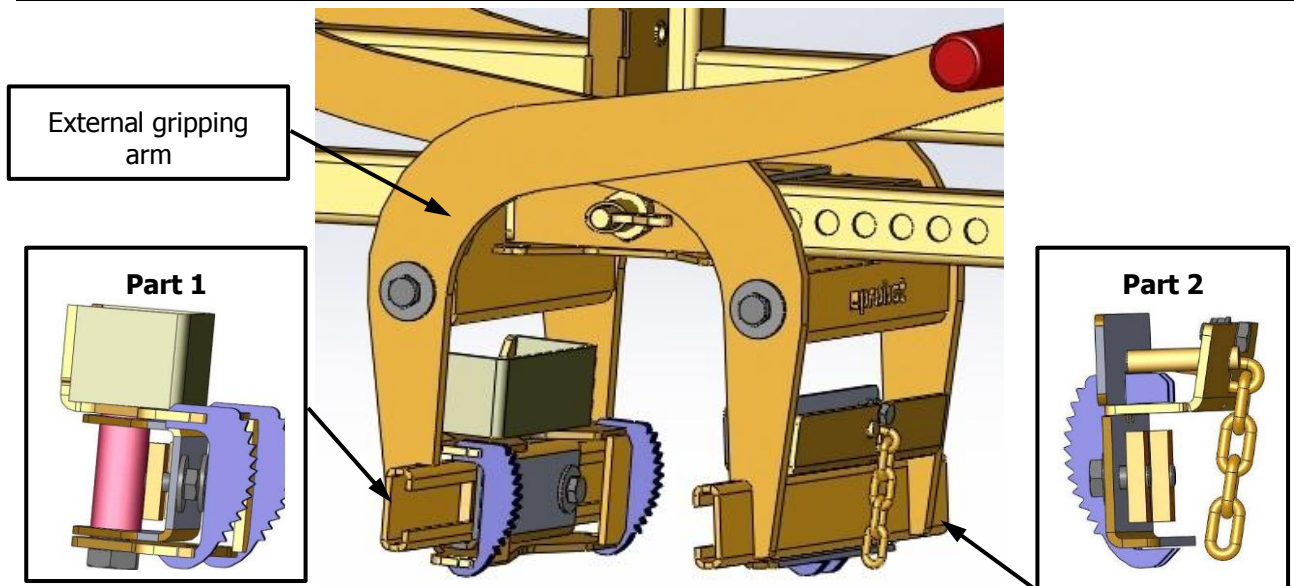


Figure D

#### 7.4 Handling with steelfinger grippers (WB-SQ)



Before each use of the device, check the steelfinger grippers for mobility, abrasion and contamination



Worn (no longer sharp-edged) or bent steelfinger grippers **must** be replaced! **Otherwise it exists slipping danger of the gripping good!**

1.) Position the device (TSZ-uni) direct over the gripping good (ashlar rock).

2.) Put the device (TSZ-uni) at the gripping good (ashlar rock). Then lift the device (TSZ-uni) approx. 20 cm (7.8").

3.) Remove the safety chain from the chain box and throw it under the lifted gripping good (ashlar rock) → see Figure A

4.) Suspend the security chain on the other side of the device (at the hook ). → see Figure B



**Never grip with the hands under the gripping good (ashlar rock) – danger of squeezing the hands!**

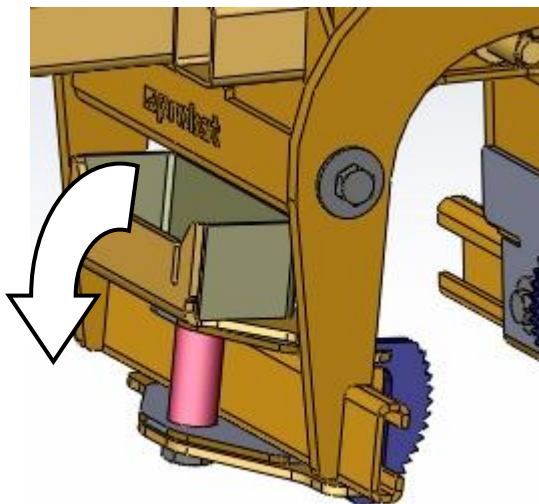


Figure A

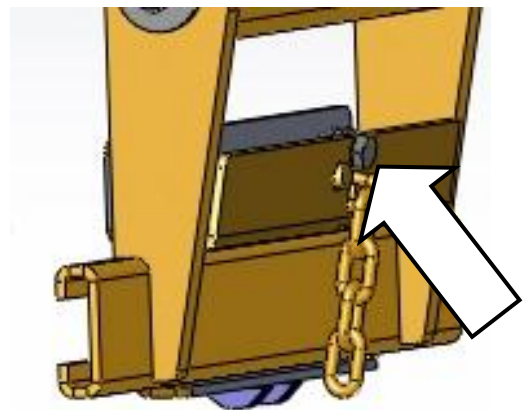


Figure B

5.) The safety chain must fit tightly (and centric) to the gripping good (ashlar rock), so that gripping good with is secured by the security chain! → see **Figure C**



**Figure C**



The safety chain must never be used as a "lifting tackle" to attach the device (TSZ-uni) on the support frame (e.g. excavators)!



**Figure D**



Before lifting the gripping good (ashlar rock) be sure that the steelfinger grippers do have a good hold/grip and that the load is distributed evenly, otherwise there is a high **risk of accident!**

**Touch/guide the device (ZSZ-uni) only on the handles and put the feet out of the danger zone.**

## 8 Maintenance and care

### 8.1 Maintenance



To ensure the correct function, safety and service life of the device the following points must be executed in the maintenance interval.

Used **only original spare parts**, otherwise the warranty expires.



**All operations may only be made in closed state of the device!**

### 8.2 MECHANICAL

| SERVICE INTERVAL                                                         | Maintenance work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>First inspection after 25 operating hours</b>                         | <ul style="list-style-type: none"> <li>Control and tighten all screws and connections. (The implementation is only allowed by an expert).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>All 50 operating hours</b>                                            | <ul style="list-style-type: none"> <li>Tighten all screws and connections (take care that the tightening torques according to the property class of the screws are observed).</li> <li>Check all joints, bolts, guidance's and gears for correct function, if necessary adjust or replace it.</li> <li>Check all Grippers (if available) for signs of wear.</li> <li>Grease all slidings (if available) when the device is in opened position with a spatula.</li> <li>Grease all grease nipples (if available) with a grease gun.</li> </ul> |
| <b>Minimum 1x per year</b><br>(at rough conditions shorten the interval) | <ul style="list-style-type: none"> <li>Check of all the suspension parts, bolts and straps. Check for corrosion and safety by an expert.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                           |

#### Rubber gripper bar



Regular control for dirt (e.g. little stone particles) in the upper area (see points in figure detail „X“ in Fig. 2) of the rubber gripper bar (6) → see Fig. 1 / Fig. 2

**Problem:** Dirt can damage the rubber gripper bar (6) when gripping (when little stone particles are pressed into the rubber gripper bar).

**Redress:** Remove the dirt in this area at the rubber gripper bar (6), or when heavy polluted, dismount and clean the rubber gripper bar.

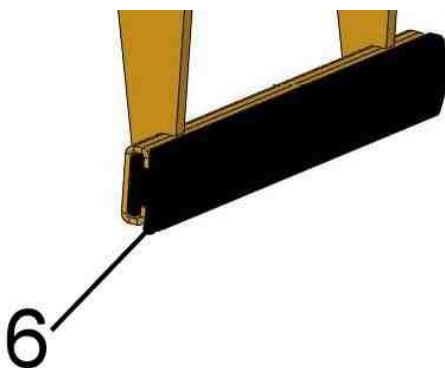


Fig. 1

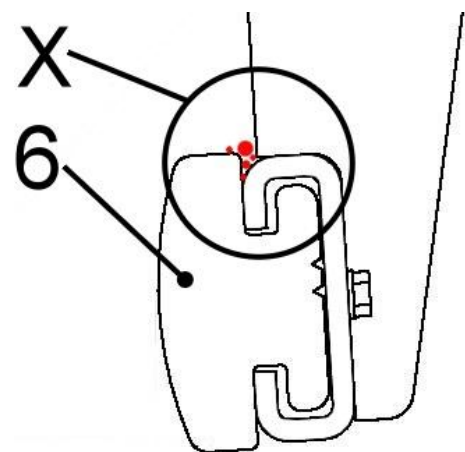


Fig. 2

### 8.2.1 Additional with steelfinger grippers (WB-SQ)

|                       |                                                                                                                                                                                                               |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Before each start-up: | <ul style="list-style-type: none"> <li>Check all steelfinger grippers for mobility, abrasion and contamination. Worn (no longer sharp-edged) or bent steelfinger grippers <b>must</b> be replaced!</li> </ul> |
| Regular:              | <ul style="list-style-type: none"> <li>Cleaning of the device with high pressure cleaner (warm water).</li> </ul>                                                                                             |
| Weekly:               | <ul style="list-style-type: none"> <li>Lubricate and oil mobile parts</li> </ul>                                                                                                                              |

#### AUTOMATIC-RELEASE



Never grease the automatic-release, if necessary use oil!

### 8.3 Trouble shooting

| ERROR                                                                 | CAUSE                                                                                                                                             | REPAIR                                                                                                                                                                                                         |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>The clamping-power is not big enough, the load is slipping out</b> |                                                                                                                                                   |                                                                                                                                                                                                                |
| (optional)                                                            | <ul style="list-style-type: none"> <li>The grippers are worn</li> </ul>                                                                           | <ul style="list-style-type: none"> <li>Replace the grippers</li> </ul>                                                                                                                                         |
| (optional)                                                            | <ul style="list-style-type: none"> <li>The maximum load is exceed</li> </ul>                                                                      | <ul style="list-style-type: none"> <li>Reduce the weight of. the load</li> </ul>                                                                                                                               |
| (Adjustment of the gripping range)<br>(optional)                      | <ul style="list-style-type: none"> <li>The actual opening width is not correct</li> </ul>                                                         | <ul style="list-style-type: none"> <li>Adjust the gripping range according to the load you want to transport</li> </ul>                                                                                        |
| (Property of material)                                                | <ul style="list-style-type: none"> <li>The surface of the material is dirty or the material is not suitable / allowed for this device.</li> </ul> | <ul style="list-style-type: none"> <li>Check the surface of the material or ask the manufacturer, if you the material is allowed for this device.</li> </ul>                                                   |
| <b>Unbalanced load</b>                                                |                                                                                                                                                   |                                                                                                                                                                                                                |
|                                                                       | <ul style="list-style-type: none"> <li>The device is not loaded symmetrically</li> </ul>                                                          | <ul style="list-style-type: none"> <li>Adjust the position of the load</li> </ul>                                                                                                                              |
| (Adjustment of the gripping range)<br>(optional)                      | <ul style="list-style-type: none"> <li>The adjustment of the gripping range is not symmetrical.</li> </ul>                                        | <ul style="list-style-type: none"> <li>Correct the adjustment of the gripping range</li> </ul>                                                                                                                 |
| <b>Automatic release does not work</b>                                |                                                                                                                                                   |                                                                                                                                                                                                                |
| mechanical (optional)                                                 | <ul style="list-style-type: none"> <li>Automatic release does not work</li> </ul>                                                                 | <ul style="list-style-type: none"> <li>Clean automatic release with high pressure-cleaner</li> <li>Oil the automatic release (never with grease)</li> <li>Change the inset of the automatic release</li> </ul> |

## 8.4 Repairs

- Only persons with the appropriate knowledge and ability are allowed to repair the device.
- Before the device is used again, it has to be checked by an expert.

## 8.5 Safety procedures

- It is the contractors responsibility to ensure that the device is checked by an expert in periods of max. 1 year and all recognized errors are removed (→ see BGR 500).
- The corresponding legal regulations and the regulations of the declaration of conformity have to be observed!
- We recommend, that after checking the device the badge „Safety checked“ is put on the device. (Order-No.: 2904.0056+inspection sticker with date).
- You can receive these badges from us.



**The check by an expert must be proved!**

| Device | Year | Date | Expert | Company |
|--------|------|------|--------|---------|
|        |      |      |        |         |
|        |      |      |        |         |
|        |      |      |        |         |
|        |      |      |        |         |
|        |      |      |        |         |
|        |      |      |        |         |
|        |      |      |        |         |
|        |      |      |        |         |
|        |      |      |        |         |

## 8.6 Hints to the identification plate



Type, serial-number and production year are very important for the identification of your device. If you need information to spare-parts, warranty or other specific details please refer to this information.

The maximum carrying capacity is the maximum load which can be handled with the device. Do not exceed this carrying capacity.

If you use the device in combination with other lifting equipment (Crane, chain hoist, forklift truck, excavator) consider the deadweight of the device.

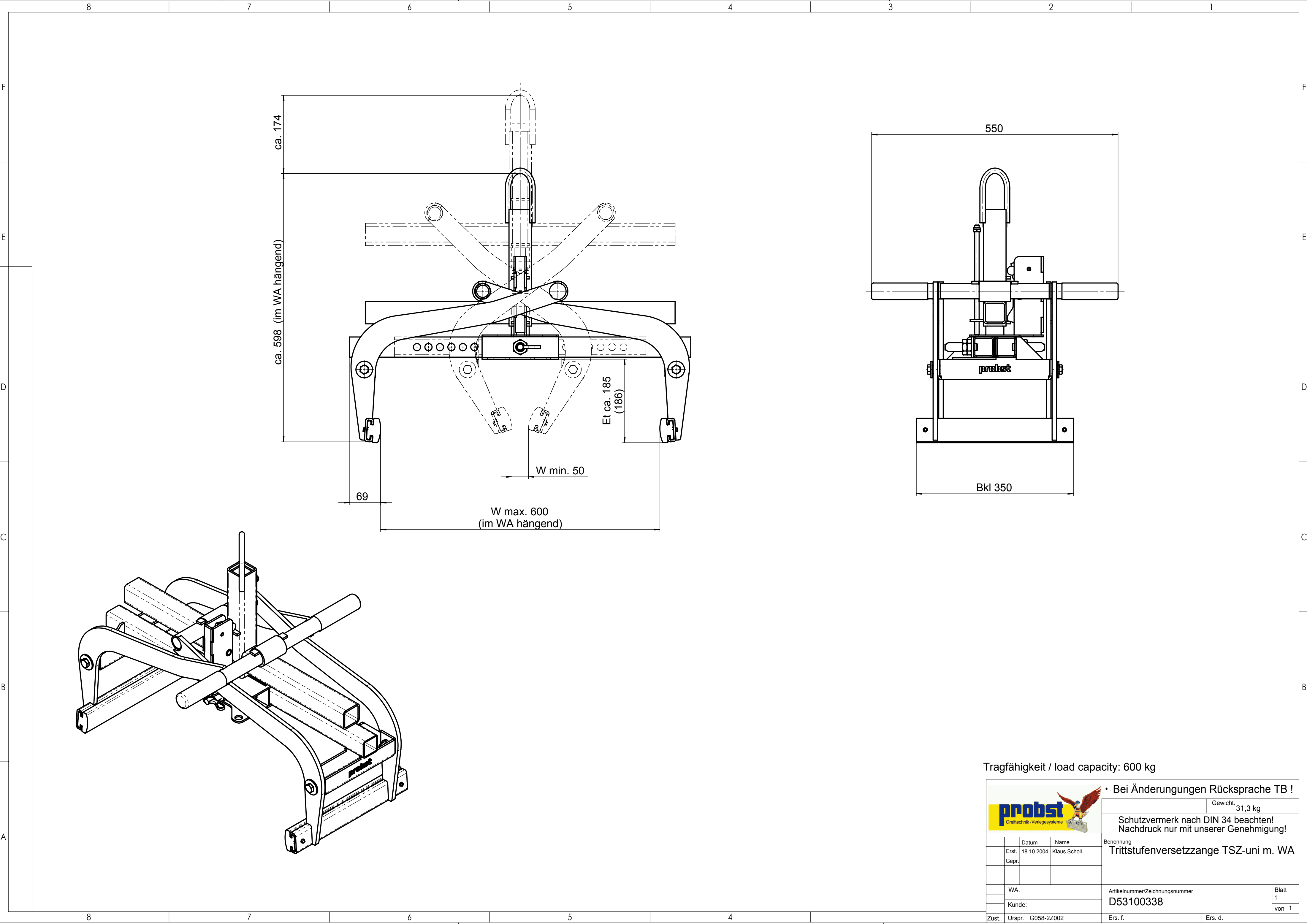


Example:

## 8.7 Hints to the renting/leasing of PROBST devices

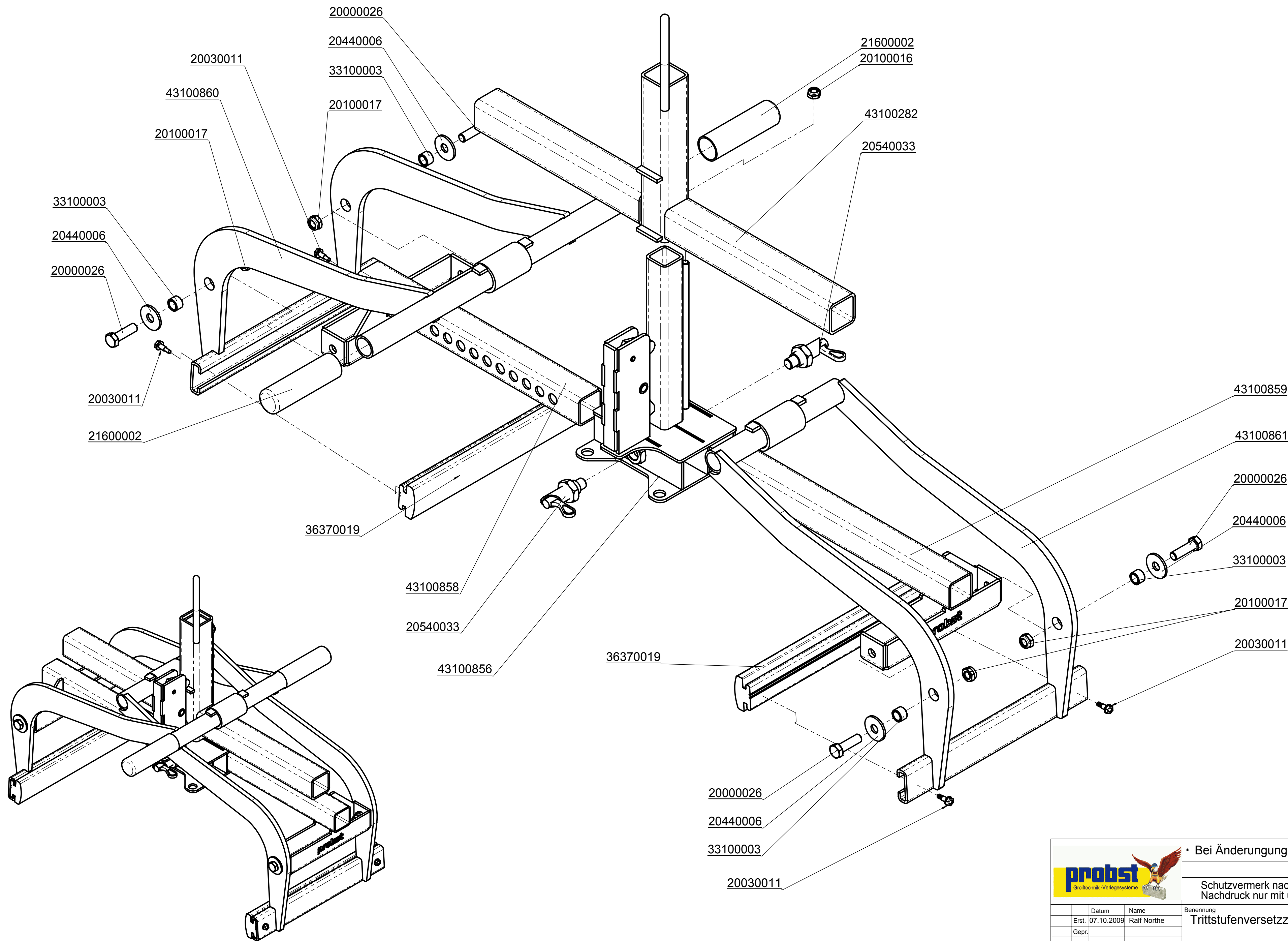


With every renting/leasing of PROBST devices the original operating instructions must be included unconditionally (in deviation of the users country's language, the respective translations of the original operating instructions must be delivered additionally)!



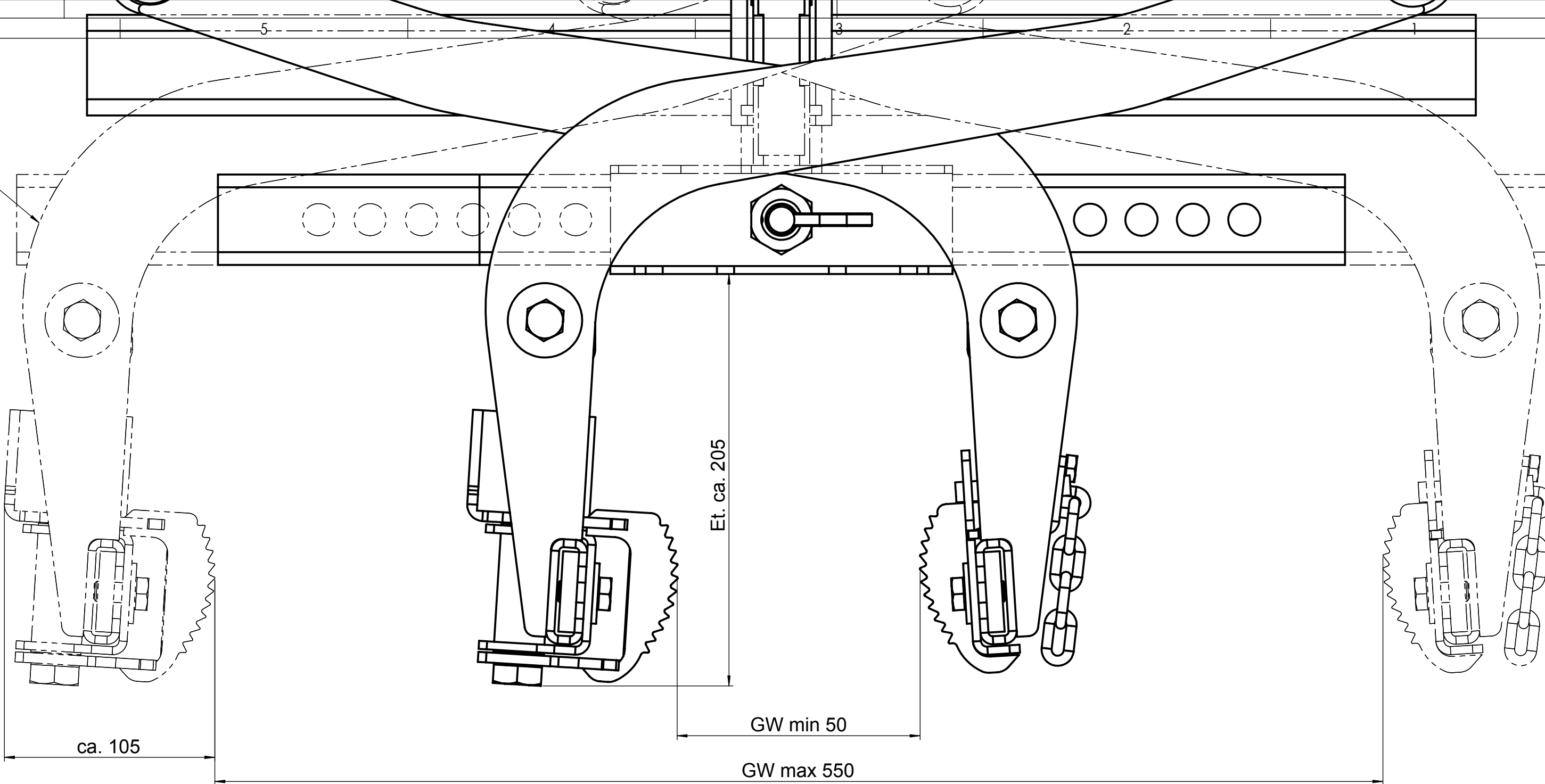
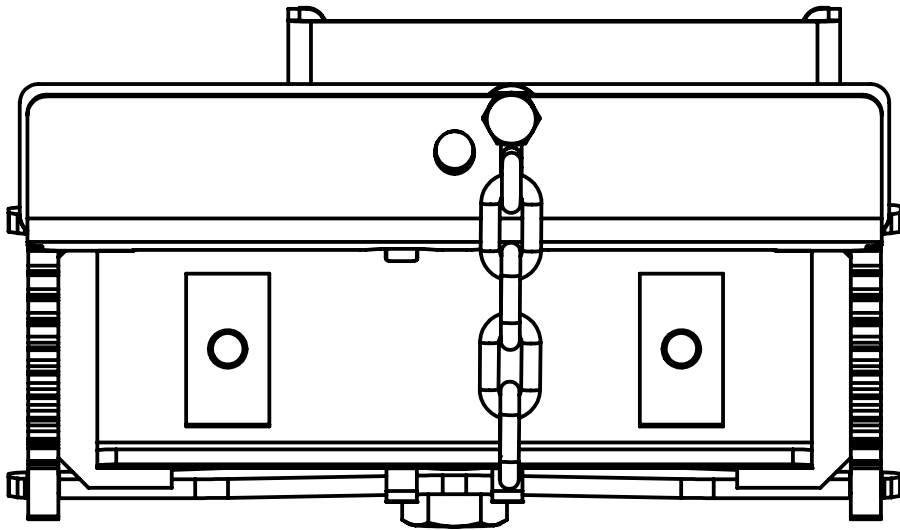
Tragfähigkeit / load capacity: 600 kg

|                                                                                       |            |              |                                                                               |         |
|---------------------------------------------------------------------------------------|------------|--------------|-------------------------------------------------------------------------------|---------|
|  |            |              | • Bei Änderungen Rücksprache TB !                                             |         |
|                                                                                       |            |              | Gewicht:                                                                      | 31,3 kg |
|                                                                                       |            |              | Schutzvermerk nach DIN 34 beachten!<br>Nachdruck nur mit unserer Genehmigung! |         |
|                                                                                       |            |              | Benennung                                                                     |         |
|                                                                                       |            |              | Tritstufenversetzzange TSZ-uni m. WA                                          |         |
|                                                                                       | Datum      | Name         | Artikelnummer/Zeichnungsnummer                                                |         |
| Erst.                                                                                 | 18.10.2004 | Klaus.Scholl |                                                                               |         |
| Gepr.                                                                                 |            |              | Blatt                                                                         |         |
|                                                                                       |            |              |                                                                               |         |
|                                                                                       | WA:        |              | D53100338                                                                     |         |
|                                                                                       | Kunde:     |              |                                                                               |         |
| Zust.                                                                                 | Urspr.     | G058-2Z002   | Ers. f.                                                                       | Ers. d. |
|                                                                                       |            |              | von 1                                                                         |         |

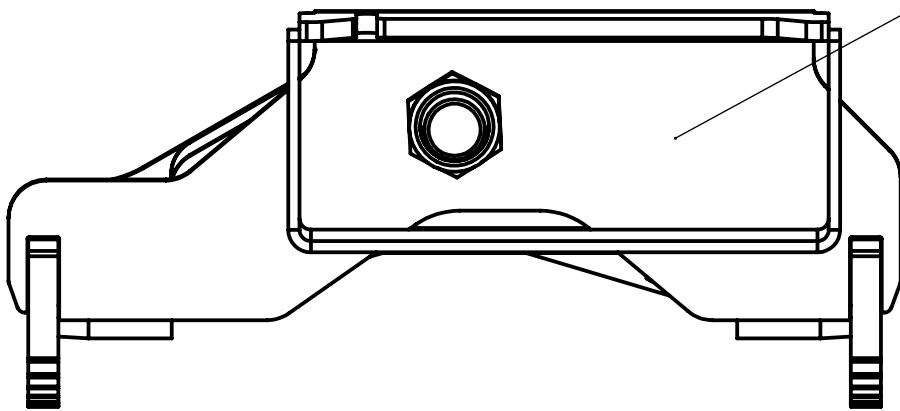


|                                                                                       |        |          |                                                          |         |
|---------------------------------------------------------------------------------------|--------|----------|----------------------------------------------------------|---------|
|  |        |          | • Bei Änderungen Rücksprache TB !                        |         |
|                                                                                       |        |          | Gewicht: 31,3 kg                                         |         |
| Schutzvermerk nach DIN 34 beachten!<br>Nachdruck nur mit unserer Genehmigung!         |        |          | Benennung<br><b>Tritstufenversetzzange TSZ-uni m. WA</b> |         |
| Artikelnummer/Zeichnungsnummer<br><b>E53100338</b>                                    |        |          |                                                          |         |
| WA:                                                                                   |        |          | Blatt<br>1                                               |         |
| Kunde:                                                                                |        |          | von 1                                                    |         |
| Zust.                                                                                 | Urspr. | 53100251 | Ers. f.                                                  | Ers. d. |

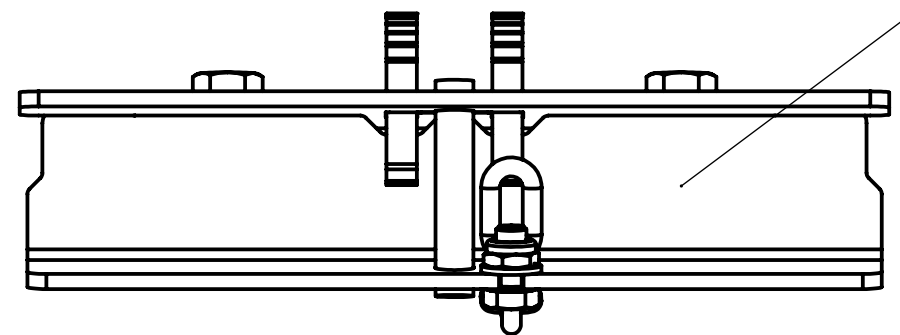
TSZ-uni (nicht im Lieferumfang)  
TSZ-uni (not included)



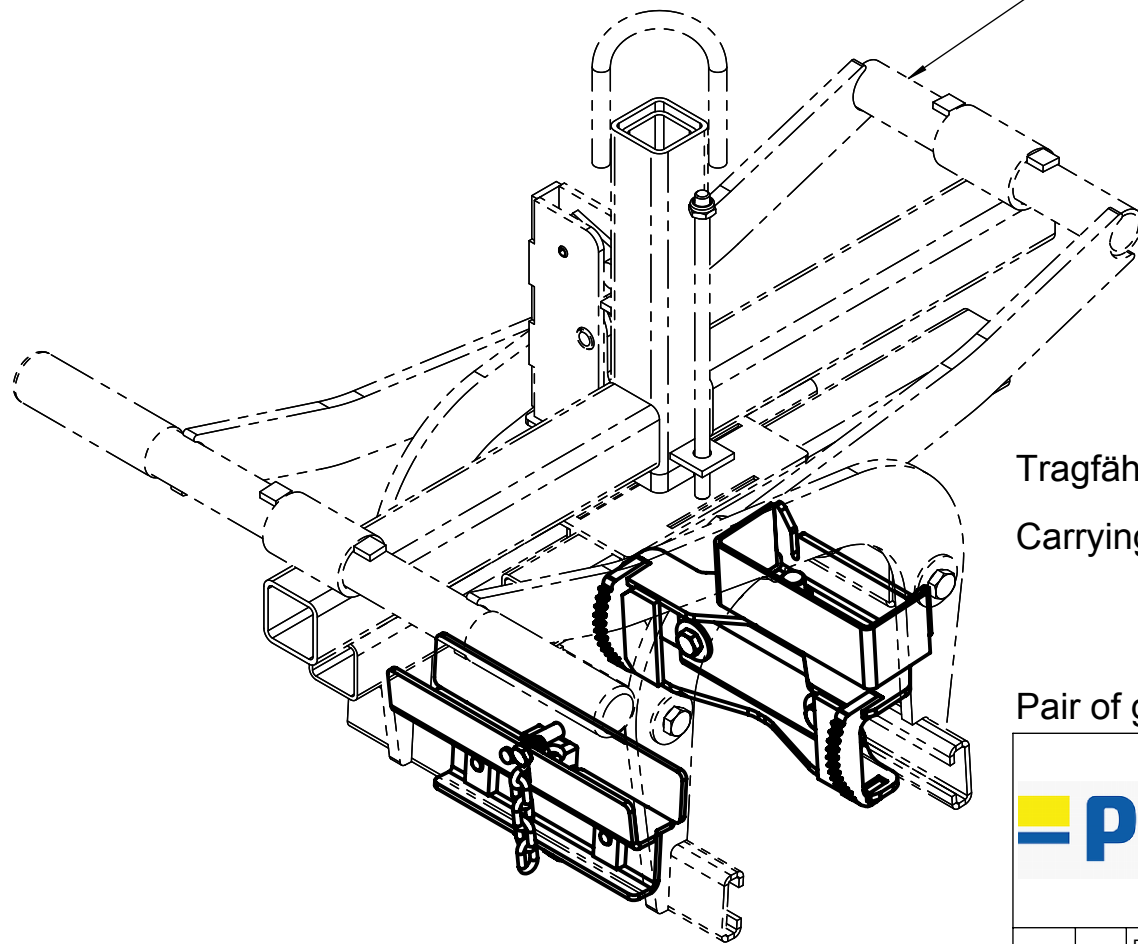
Kettenablage bei Sicherungsposition  
chain storage at locking position



Ketten-Aufbewahrung  
chain storage



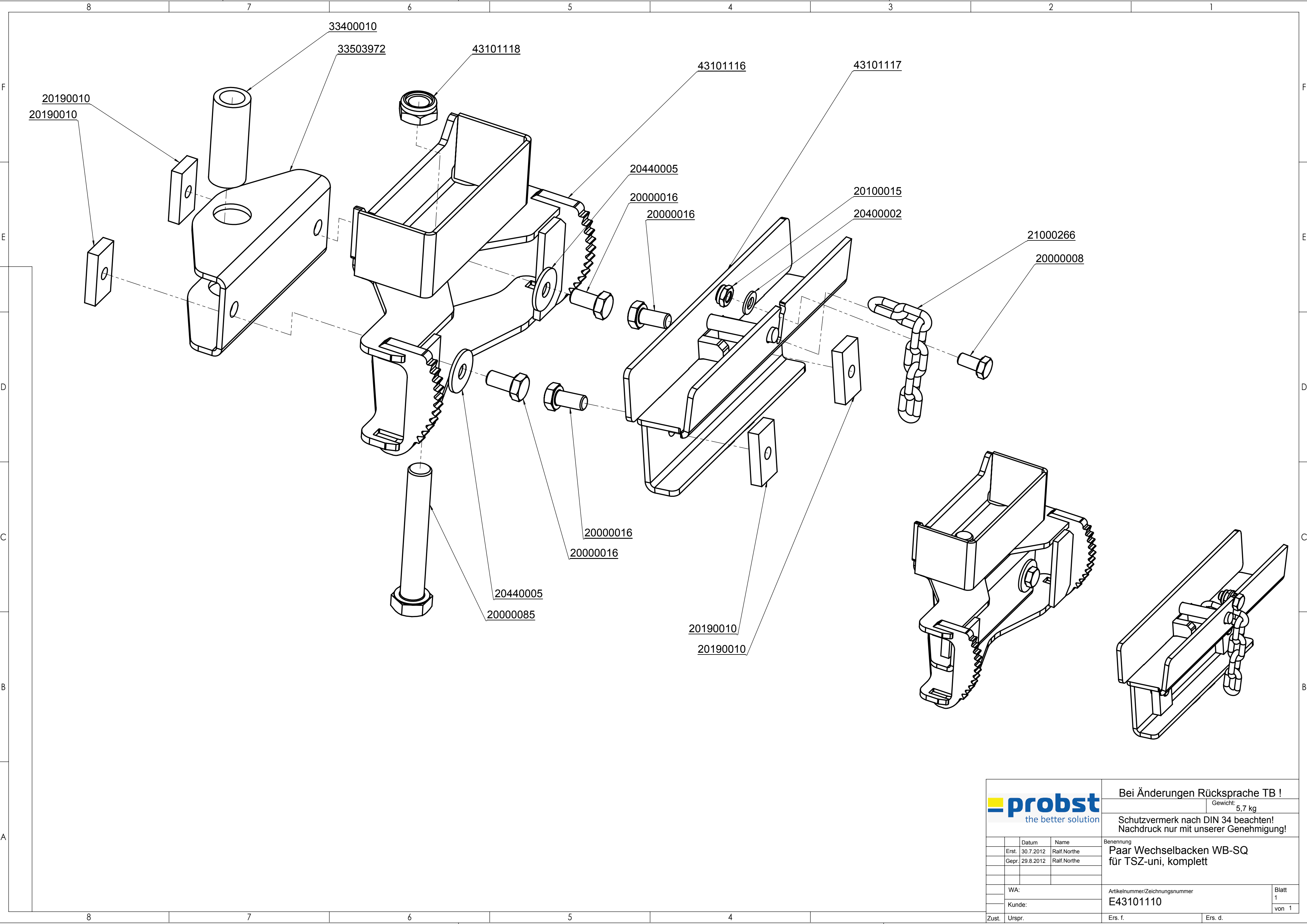
TSZ-uni (nicht im Lieferumfang)  
TSZ-uni (not included)



Tragfähigkeit: 600 [kg]  
Carrying Capacity: 600 [kg] / (1320 [lbs.])

Pair of grippers WB-SQ for TSZ-uni

|                                                                                                              |           |                                                                               |                  |
|--------------------------------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------|------------------|
| <br>the better solution |           | Bei Änderungen Rücksprache TB !                                               |                  |
|                                                                                                              |           |                                                                               | Gewicht: 5,7 kg  |
|                                                                                                              |           | Schutzvermerk nach DIN 34 beachten!<br>Nachdruck nur mit unserer Genehmigung! |                  |
|                                                                                                              |           | Benennung                                                                     |                  |
| Erst.                                                                                                        | 30.7.2012 | Paar Wechselbacken WB-SQ<br>für TSZ-uni, komplett                             |                  |
| Gepr.                                                                                                        |           |                                                                               |                  |
|                                                                                                              |           |                                                                               |                  |
|                                                                                                              |           |                                                                               |                  |
|                                                                                                              | WA:       | Artikelnummer/Zeichnungsnummer<br>D43101110                                   |                  |
|                                                                                                              | Kunde:    |                                                                               |                  |
|                                                                                                              |           | Blatt<br>1                                                                    |                  |
| Zust.                                                                                                        | Urspr.    | Ers. f.                                                                       | Ers. d.<br>von 1 |



|                                                                                                              |           |                                                                               |                 |
|--------------------------------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------------|-----------------|
| <br>the better solution |           | Bei Änderungen Rücksprache TB !                                               |                 |
|                                                                                                              |           |                                                                               | Gewicht: 5,7 kg |
|                                                                                                              |           | Schutzvermerk nach DIN 34 beachten!<br>Nachdruck nur mit unserer Genehmigung! |                 |
|                                                                                                              | Datum     | Benennung                                                                     |                 |
| Erst.                                                                                                        | 30.7.2012 | Paar Wechselbacken WB-SQ                                                      |                 |
| Gepr.                                                                                                        | 29.8.2012 | für TSZ-uni, komplett                                                         |                 |
|                                                                                                              |           |                                                                               |                 |
|                                                                                                              |           |                                                                               |                 |
|                                                                                                              | WA:       | Artikelnummer/Zeichnungsnummer                                                | Blatt 1         |
|                                                                                                              | Kunde:    | E43101110                                                                     | von 1           |
| Zust.                                                                                                        | Urspr.    | Ers. f.                                                                       | Ers. d.         |

# Proof of maintenance

**The claim under guarantee for this device only exists and is subject to the proper execution of the mandatory maintenance works. (In case of warranty request please always attach a copy of the proof of maintenance)**

Operator: \_\_\_\_\_

Device type: \_\_\_\_\_

Device-No.: \_\_\_\_\_

Article -No.: \_\_\_\_\_

Year of make: \_\_\_\_\_

## First inspection after 25 operating hours

| Date: | Maintenance work: | Inspection by company: |
|-------|-------------------|------------------------|
|       |                   |                        |
|       |                   |                        |
|       |                   | Company stamp          |
|       |                   | .....                  |
|       |                   | Name Signature         |

## After 50 operating hours

| Date: | Maintenance work: | Inspection by company: |
|-------|-------------------|------------------------|
|       |                   |                        |
|       |                   |                        |
|       |                   | Company stamp          |
|       |                   | .....                  |
|       |                   | Name Signature         |
|       |                   |                        |
|       |                   | Company stamp          |
|       |                   | .....                  |
|       |                   | Name Signature         |
|       |                   |                        |
|       |                   | Company stamp          |
|       |                   | .....                  |
|       |                   | Name Signature         |

## Minimum 1x per year

| Date: | Maintenance work: | Inspection by company: |
|-------|-------------------|------------------------|
|       |                   |                        |
|       |                   |                        |
|       |                   | Company stamp          |
|       |                   | .....                  |
|       |                   | Name Signature         |
|       |                   |                        |
|       |                   | Company stamp          |
|       |                   | .....                  |
|       |                   | Name Signature         |



# Proof of maintenance

**The claim under guarantee for this device only exists and is subject to the proper execution of the mandatory maintenance works. (In case of warranty request please always attach a copy of the proof of maintenance)**

Operator: \_\_\_\_\_

Device type: \_\_\_\_\_

Device-No.: \_\_\_\_\_

Article -No.: \_\_\_\_\_

Year of make: \_\_\_\_\_

## First inspection after 25 operating hours

| Date: | Maintenance work: | Inspection by company: |
|-------|-------------------|------------------------|
|       |                   |                        |
|       |                   |                        |
|       |                   | Company stamp          |
|       |                   | .....                  |
|       |                   | Name Signature         |

## After 50 operating hours

| Date: | Maintenance work: | Inspection by company: |
|-------|-------------------|------------------------|
|       |                   |                        |
|       |                   |                        |
|       |                   | Company stamp          |
|       |                   | .....                  |
|       |                   | Name Signature         |
|       |                   |                        |
|       |                   | Company stamp          |
|       |                   | .....                  |
|       |                   | Name Signature         |
|       |                   |                        |
|       |                   | Company stamp          |
|       |                   | .....                  |
|       |                   | Name Signature         |

## Minimum 1x per year

| Date: | Maintenance work: | Inspection by company: |
|-------|-------------------|------------------------|
|       |                   |                        |
|       |                   |                        |
|       |                   | Company stamp          |
|       |                   | .....                  |
|       |                   | Name Signature         |
|       |                   |                        |
|       |                   | Company stamp          |
|       |                   | .....                  |
|       |                   | Name Signature         |