probst
the better solution

Operating Instructions

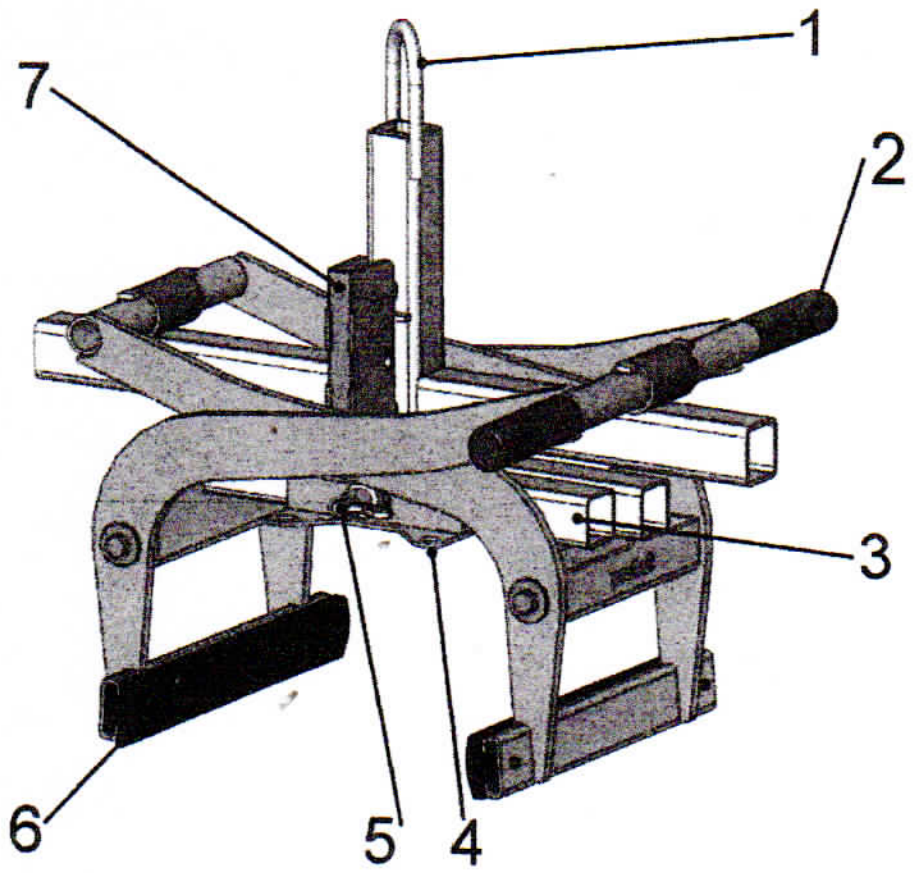
Translation of original operating instructions

Concrete Step Handles

TSZ-UNI

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)

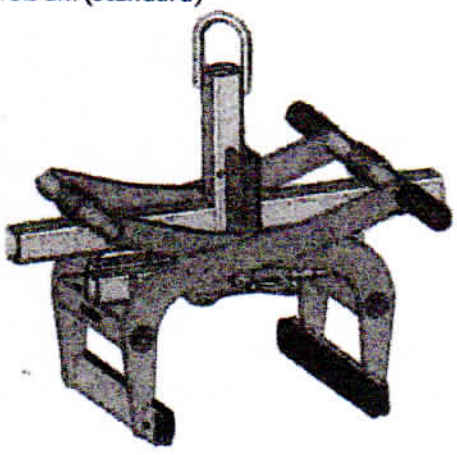


Fig. 2

TSZ-uni (with accessories A 43100867)

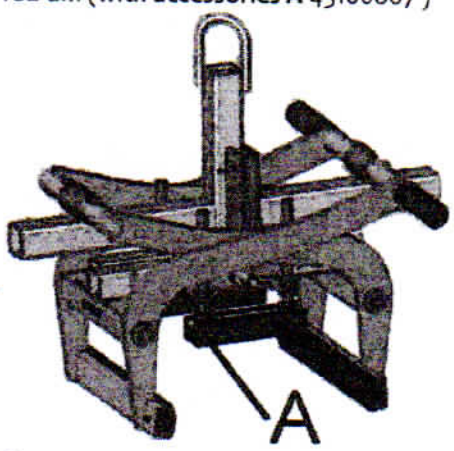


Fig. 3

A	Height adjustable support (43100867)

1.1 Technical Data

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

6 Adjustments

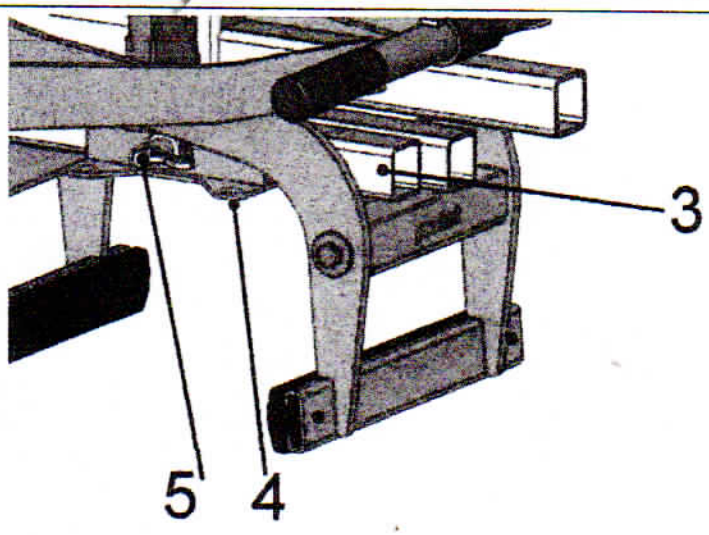
6.1 Adjustment - gripping range

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).



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

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

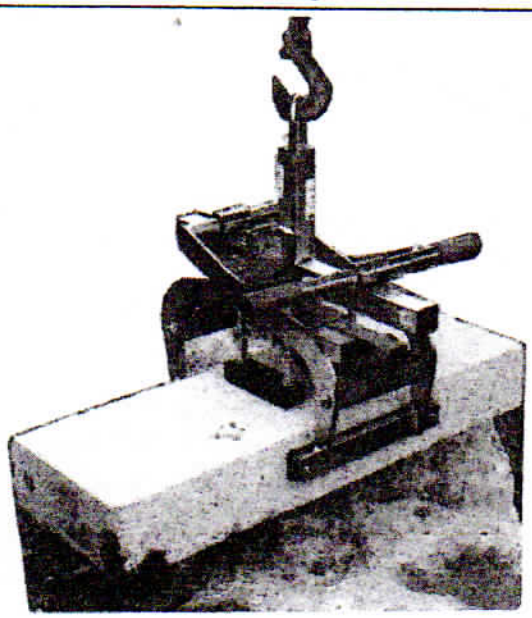


Fig. 1

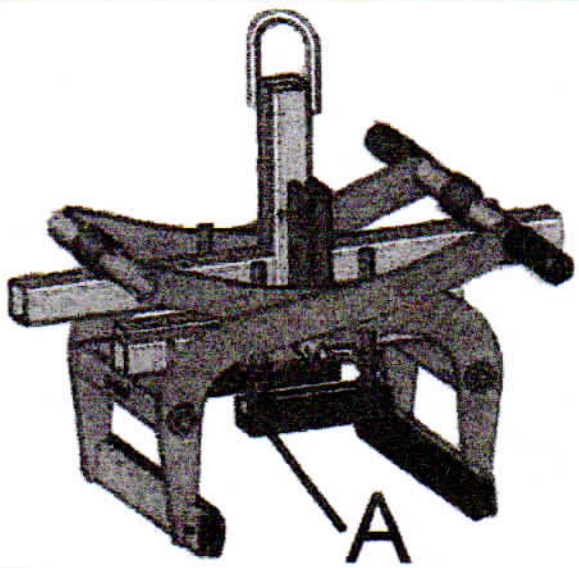


Fig. 2

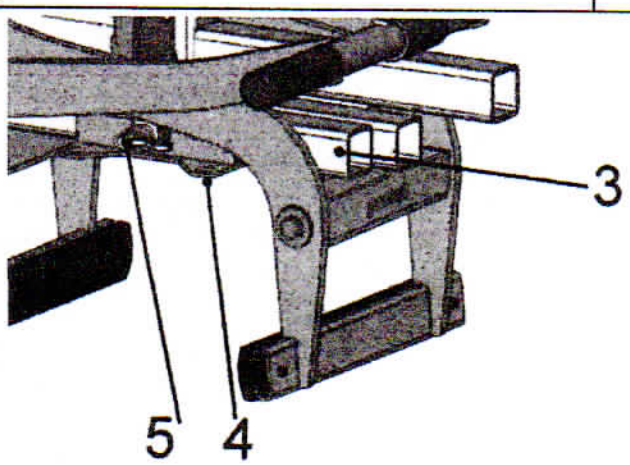


Fig. 3

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

①  • Device is lifted through the support frame. • Gripping arms are opened.	②  • Device is set up on the gripping good. • Gripping arms are opened.	③  • Device is lifted through the support frame. • Gripping good is clamped and can be transported to the destination.
④  • Device is set down with the gripping good (on the ground). • Gripping arms are opened.	⑤/①  • Device is lifted through the support frame. • Gripping arms are opened. (laydown position of the device on the ground)	

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 MECHNICAL

SERVICE INTERVAL	Maintenance work
First inspection after 25 operating hours	• Control and tighten all screws and connections. (The implementation is only allowed by an expert).
All 50 operating hours	• Tighten all screws and connections (take care that the tightening torques according to the property class of the screws are observed). • Check all existing safety elements (such as linchpins) for perfect function and replace defective safety elements. • Check all joints, bolts, guidance's and gears for correct function, if necessary adjust or replace it. • Check all Grippers (if available) for signs of wear. • Grease all slidings (if available) when the device is in opened position with a spatula. • Grease all grease nipples (if available) with a grease gun.
Minimum 1x per year (at rough conditions shorten the interval)	• Check of all the suspension parts, bolts and straps. Check for corrosion and safety by an expert.

8.3 Trouble shooting

ERROR	CAUSE	REPAIR
The clamping-power is not big enough, the load is slipping out		
(optional)	• The grippers are worn	• Replace the grippers
(optional)	• The maximum load is exceed	• Reduce the weight of. the load
(Adjustment of the gripping range) (optional)	• The actual opening width is not correct	• Adjust the gripping range according to the load you want to transport
(Property of material)	• The surface of the material is dirty or the material is not suitable / allowed for this device.	• Check the surface of the material or ask the manufacturer, if you the material is allowed for this device.
Unbalanced load		
	• The device is not loaded symmetrically	• Adjust the position of the load
(Adjustment of the gripping range) (optional)	• The adjustment of the gripping range is not symmetrical.	• Correct the adjustment of the gripping range
Automatic release does not work		
mechanical (optional)	• Automatic release does not work	• Clean automatic release with high pressure-cleaner • Oil the automatic release (never with grease) • Change the inset of the automatic release