

# Operating instructions

## ErgoPack 600 **E**



Operation of the device is only permitted if the operating instructions have been carefully read and understood before use!

# Declaration of conformity

## **EU declaration of conformity for the purposes of the EU directive 98/37/EU, Annex II A**

We, Firma ErgoPack Deutschland GmbH  
Holzbrückleweg 9a  
89420 Höchstädt  
Germany

declare herewith, that the device "ErgoPack 600 E", to which this declaration refers conforms to the respective safety and health requirements laid down by the EU directives, because of its concept and type of construction and the model we have brought on to the market.

This declaration loses its validity if a change is made to the machine without our approval.

Respective  
EU directives : EU-Machine directive (98/37/EU)  
EU-Low voltage directive (73/23/EEC)  
EU-Guideline on electromagnetic compatibility  
(89/336/EEC) in the version 93/31/EEC

Applied standards EN292-1 & 2, EN294, EN349  
EN60204-1, EN50081-2, EN50082-2  
EN55014-2

Höchstädt, <sup>31st</sup>. March 2005

Andreas Kimmerle  
CEO

# List of contents

	Seite
<b>1 Technical data</b>	<b>4</b>
<b>2 General</b>	<b>6</b>
2.1 Notes on environmental protection	7
<b>3 Safety regulations</b>	<b>8</b>
3.1 Safety regulations for charger and battery	10
<b>4 Description</b>	<b>11</b>
4.1 Construction	11
4.2 Operating panel	12
4.3 Charger displays	13
<b>5 Commissioning</b>	<b>14</b>
5.1 Battery charger	14
5.2 Charging the battery	14
<b>6 Operation</b>	<b>16</b>
6.1 Switching on the control unit	16
6.2 Threading in the strap	17
6.3 Strapping	33
6.4 Strapping and sealing with the cutter	38
6.5. Strapping and sealing without the cutter	41
6.6. Strapping and sealing with the Tool-Lift	43
6.7 Moving the device	48
<b>7 Servicing and repair</b>	<b>49</b>
7.1 Cleaning the ChainLance	49
7.2 Replacing the ChainLance	50
7.3 Replacing individual chain links	51
7.4 Replacing the reversing sledge	52
7.5 Replacing the length stop strap	54
7.6 Changing the control with drive unit	56
<b>8 Explosion drawings and spare parts lists</b>	<b>58</b>
8.1 Frame, cutter, strap lifter	
8.2 Storage plates	
8.3 Control with drive unit / electrical parts	
8.3 Reversing sledge	
8.4 ChainLance	
8.5 Tool-Lift	

# 1. Technical data

## **Weight:**

(incl. battery, without strap)

a) with cutter	75.5 kg
b) with cutter and tool lift	83.0 kg

## **Dimensions**

length 630 mm  
width 770 mm  
height 1200 mm

## **Maximum chain speeds**

### **Mode A, strapping**

moving out, horizontally:	40 m/min
moving out, vertically:	60 m/min
moving in, vertically:	44 m/min
moving in, horizontally:	54 m/min

### **Mode B: setting up/inserting strap**

moving out:	20 m/min
moving in:	16 m/min

<b>Max. chain thrust:</b>	310 N
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<b>Charger</b>	2- stage lead charger Prim.: 100-240 VAC 50/60Hz 1.2A Sec.: 24V DC/2A Total max. power 56W
<b>Battery</b>	24V lead battery
Weight:	12.0 kg
Charging time:	approx. 6 hours
Temperature range:	5°C - 45°C
Number of strappings:	500 to 800 per charge, depending on size of pallet, strap tension and the extent to which the ChainLance is dirty
Life span:	approx. 500 charges (for discharge up to the switch-off point, red LED lights up on the control box)

## 2. General

These operating instructions will help you to know the device and to use it according to regulations. The operating instructions contain important notes on how to use the device safely, properly and economically.

Adhering to the notes helps to avoid dangers, reduces repairs and down times and also increases the reliability and life span of the device.

**The operating instructions must be available at the place where the device is used. They have to be read, understood and used by everybody who works with the device.** This is especially important for the operation, removal of faults and servicing.

In addition to the operating instructions and the local rules in force for the prevention of accidents, the recognized, specialist rules for safe working according to proper and professional standards shall also be observed.

## 2.1 Notes on environmental protection

Physical or chemical materials injurious to health have not been used for manufacturing the device.

The valid, legal regulations have to be taken into consideration during disposal. The electrical component groups have to be dismantled, so that the mechanical, electromechanical and electronic components can be disposed of separately.

The specialist dealer offers disposal of battery according to proper environmental protection.

- Do not open battery
- Do not throw used battery into the domestic waste bin, into the fire or into water.

# 3. Safety regulations



## **Inform yourself!**

The operating instructions have to be read carefully and understood before using the device. The device may only be serviced and maintained by trained personnel.



## **Protect yourself!**

Wear eye and hand protection (cut-proof gloves) and also safety shoes when working.



## **Energy source!**

Before servicing and maintenance work: Set main switch to „0“ and remove the plug of the battery cable from the battery.



## **Be careful: Only strap packaging materials!**

Hands or other parts of the body must not come between the strap and the packaged materials during strapping operations.



## **Be careful: Danger of crushing!**

Do not reach into the chain with your fingers! Increased danger of crushing exists especially in the area of the reversing sledge!

## **Only use original ErgoPack spare parts!**

The use of other than ErgoPack spare parts excludes guarantees and liability.



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**Make sure before each strapping operation that no other persons are in the area of operation** (especially the ChainLance) or can enter into it.

This applies especially to the area on the opposite side of the pallet on which the operator has limited or bad view.

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When the ChainLance on the opposite side of the pallet moves upwards, its own weight causes it to fall across the pallet in the direction towards the operator.

**The ChainLance can fall on top of the operator's head if he is not careful and can cause injuries.**

You should always be careful and concentrated and should always catch the ChainLance when it falls across the pallet.

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#### **Use in accordance with the regulations**

This device is to be used for strapping pallets.

The device has been developed and constructed for safe operation when strapping.

The device is only to be used for strapping with plastic straps (polypropylene and polyester).

#### **Possible misuse**

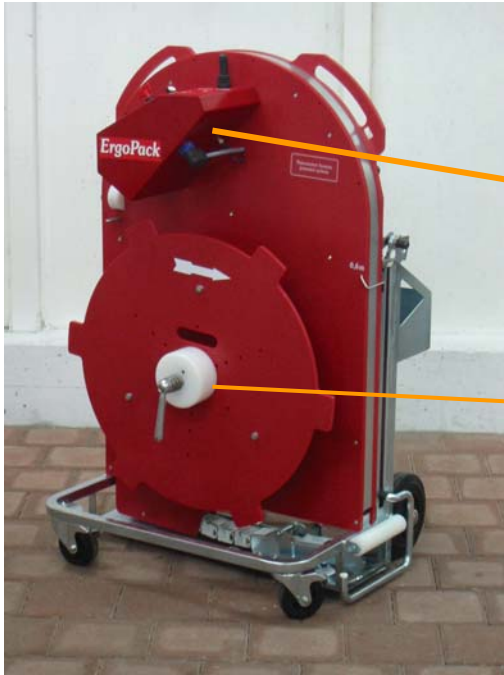
Strapping with steel strap is not possible with this device.

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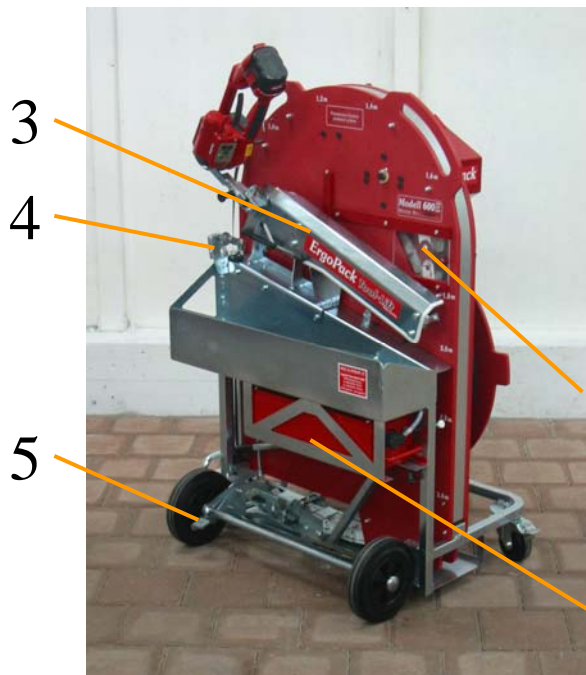
## 3.1 Safety regulations for charger and battery

- Check the plug and the cable before each use and have them replaced by a specialist if damaged.
- Do not use any batteries from other manufacturers, only use original spare parts.
- Keep the connection plug to the battery away from non-related objects and dirt.
- Protect the charger from moisture; only operate it in dry rooms.
- Do not open the battery and protect it from shock, heat and fire.  
Danger of explosion!
- Store batteries in a dry, frost proof place. The ambient temperature must not exceed 50°C and must not fall below -10°C.
- Damaged batteries may not be reused.

## 4. Description

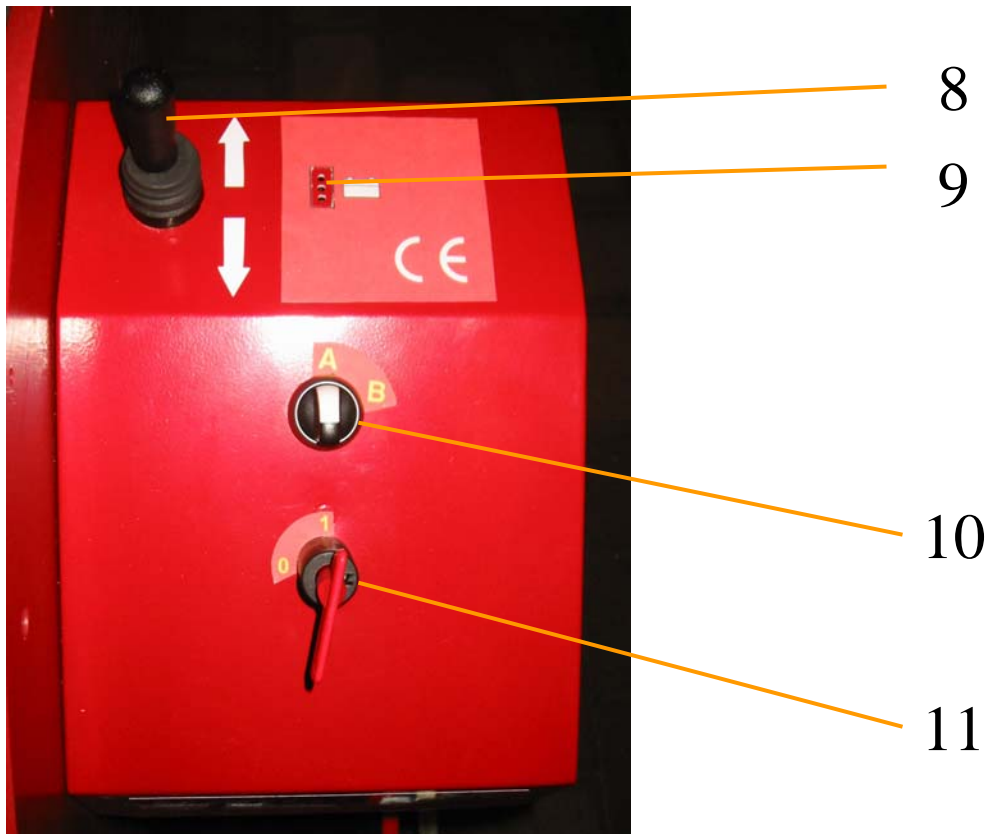


### 4.1 Construction



- 1 Control with drive unit
- 2 Brake block
- 3 Tool lift
- 4 Cutter
- 5 Foot lever for cutter
- 6 Sliding window with safety switch
- 7 Battery

## 4.2 Operating panel



- 8 Joystick to move ChainLance in and out, with precision speed control.
- 9 LED display
  - Permanent light, green = battery full
  - Permanent light, yellow = battery will soon be empty
  - Permanent light, red = battery empty, control unit switches off
  - Flashing light all LEDs = control unit in the learning mode
  - Flashing light green or yellow LED = control unit in set up mode
  - quick flashing light, red LED = sliding window open
- 10 Rotary switch, strapping mode „A“/ set up mode „B“
- 11 Main switch “power supply 1/0“

## 4.3 Charger display



LED

LED lights up red	= charger ready for use
LED lights up orange	= battery is being charged
LED lights up green	= charging procedure finished / battery charged

# 5. Commissioning

## 5.1 Battery charger

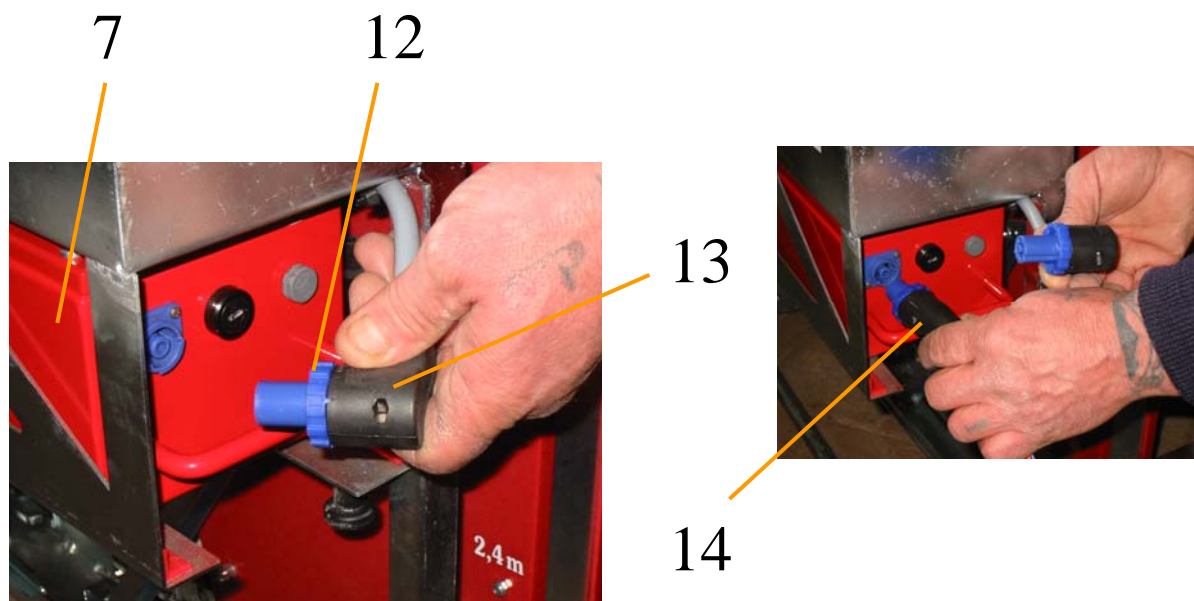
The main voltage must comply with the details on the name plate.

The charger is only suitable for charging the delivered 24V lead battery.

## 5.2 Charging the battery

The following points should be observed to achieve the longest possible life span of the battery:

- 1.) Connect the charger to the main voltage
- 2.) Turn the blue ring (12) of the plug (13) on the battery (7) to the left.
- 3.) Disconnect the plug (13) from the battery
- 4.) Insert the plug (14) of the charger in the battery (7).



The charging time is approximately 6 hours

The maximum charging current flows if the temperature of the battery is between 10 - 45 °C. Avoid battery temperatures below 0 °C when loading.

The intelligent charger loads the battery with the respective, optimum charging current. A maintenance charge flows when there is a full charge to prevent self-draining so that the battery has a longer life span.

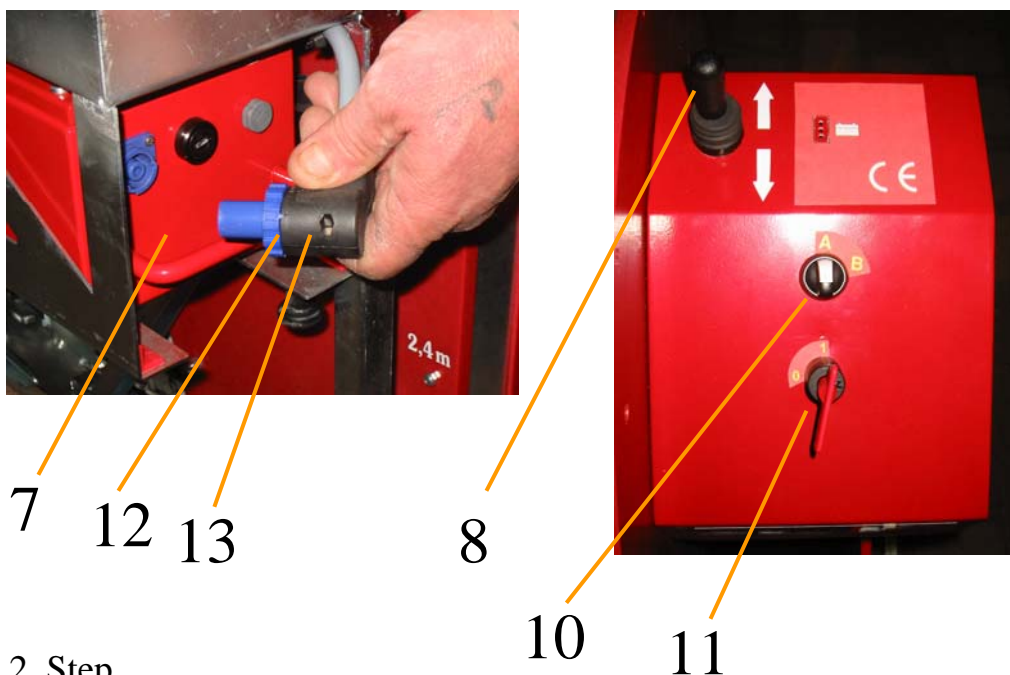
**You achieve the longest life span, if the battery is charged daily and is not being operated until the control unit is switched off (red LED lights up).**

## 6. Operating the device

### 6.1 Switching on the control unit

#### 1. Step

- Charge the battery as described in 5.2.
- Insert the plug (13) of the power cable in the battery (7) and lock it by turning the blue ring (12) to the right
- Turn the main switch (11) to the right to position “1”.
- Set the operating mode switch (10) to operating mode “A”.



#### 2. Step

All 3 LEDs (green, yellow, red) are now flashing. The control unit is in the learning mode.

Now move the joystick (8), completely in the “move out“ or the “move in“ direction and push it until the green LED lights up. The control unit is now ready for operational use.



## 6.2 Threading in the packaging strap

### 1. Step

Switch on the control unit according to 6.1.

### 2. Step

Set the operating mode switch (3) to position “B” (green LED flashes)

3



### 3. Step

You can use the joystick (8) to position the ChainLance so that the red chain link is in the middle of the sliding window (6).

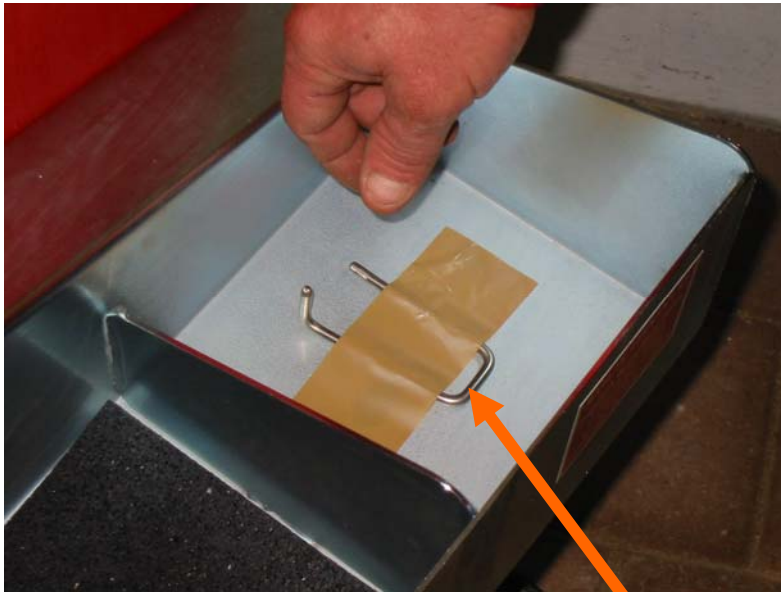
**The sliding window must be closed during this operation!**

### 4. Step

Open the sliding window (6) (red LED flashes quickly).  
The control unit automatically switches off for safety reasons when the sliding window is open.



6

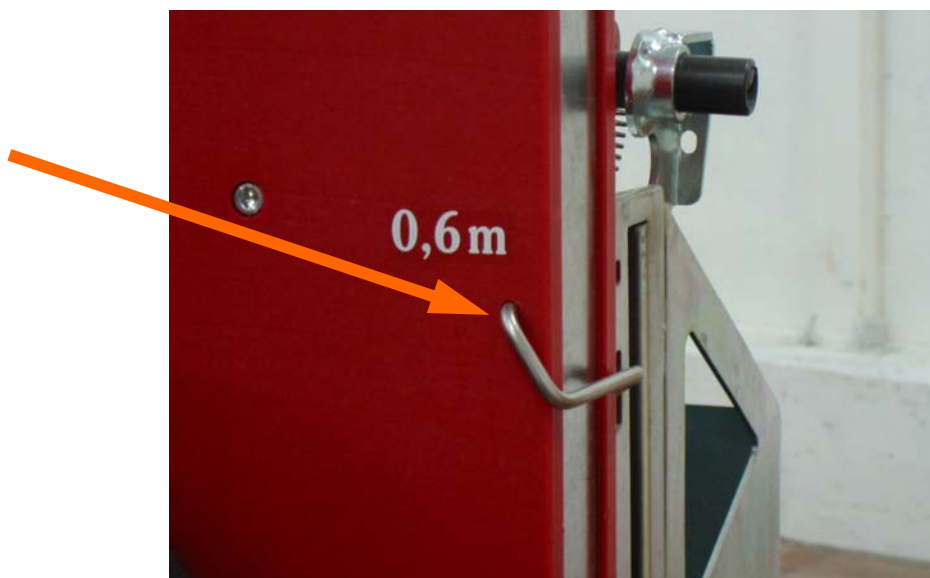


### 5. Step

Remove the clamp for setting the package width from the storage tray.

6. Step

Insert the clamp into the drilled hole at 2.0 ft (0,6m) as shown

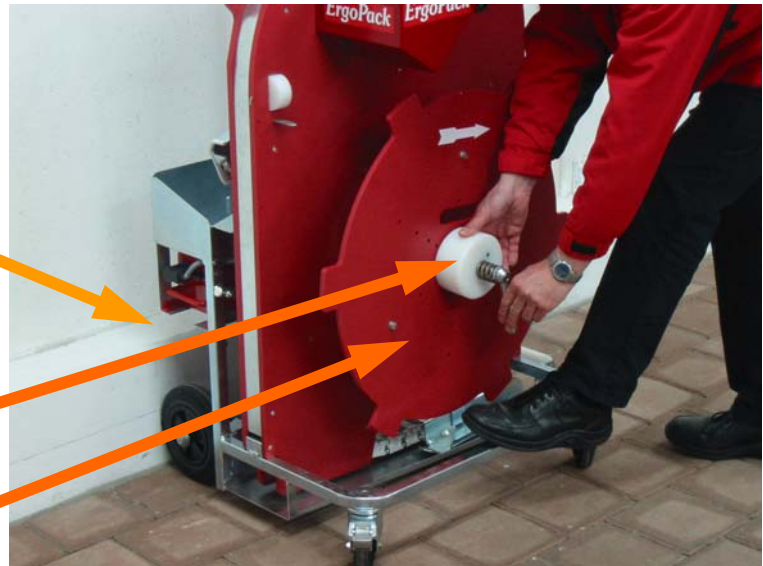


### 7. Step

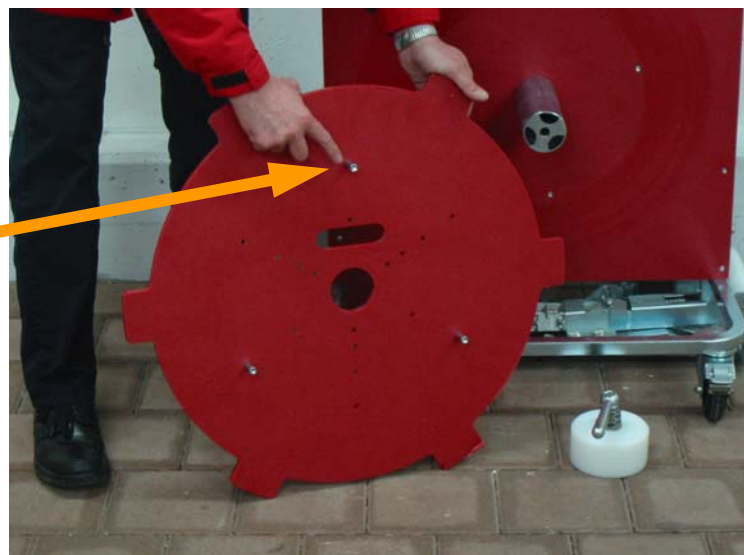
Put the ErgoPack 600 in front of a wall or a pallet so that it can't move while you load it.

Remove the round brake block ...

... and the red plastic disc



Adjust the three bolts to the core diameter of the roll of your strap. Core diameter has been pre-set to 406 mm.



### 8. Step

Place the roll with the strap as shown on the plastic disc in such a way, that the roll rotates clockwise when unrolling the strap.



### 9. Step

Lift the plastic wheel together with the strap roll onto the bearing tube by using the hand hole (as shown).

Press with the left foot on the wheel as shown so that the strap roll is attached properly to the device.





### 10. Step

Place the brake block on the holding device and tighten the lever screw clockwise until the spring is slightly tensioned.



### **Important !**

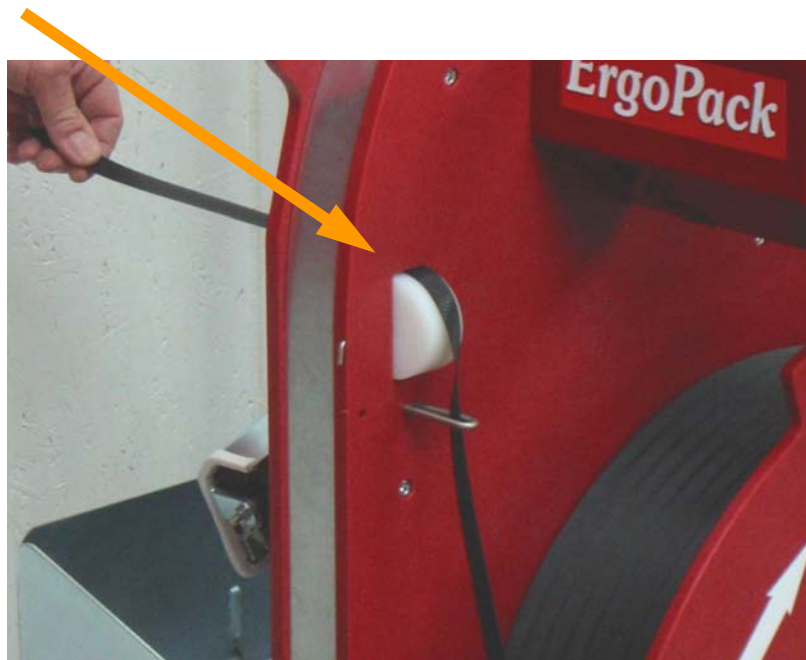
**To check the spring tension, turn the roll of strap by hand. The roll must be easily turned by hand, with a slight braking resistance.**

11. Step

Thread the strap  
through the guide  
piece ...



... and over the feed  
roll to the inside ...

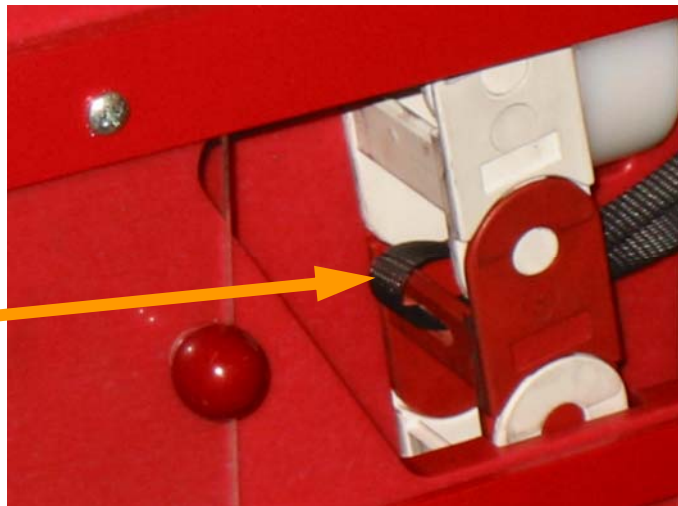




### 12. Step

Now thread the strap as shown from right to left through both slots of the red chain link.

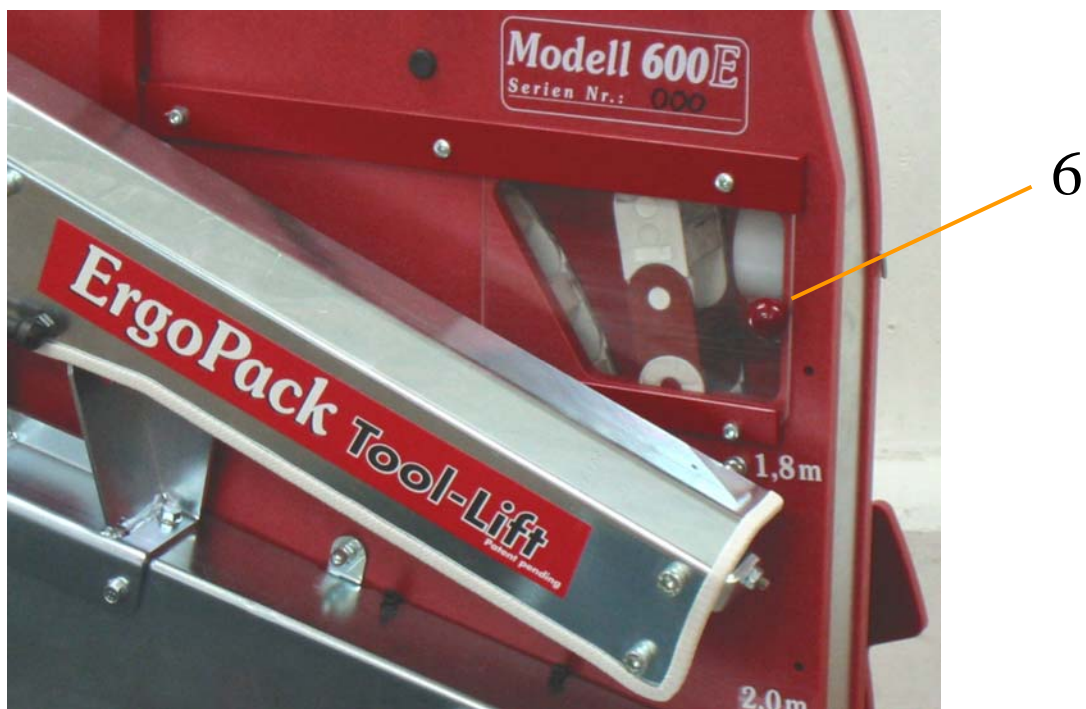
... then over the left slot ...



... back through the right slot.



Close the sliding window (6) now.  
Make sure that the window is closed  
up to the stop, since the safety switch for  
the control unit will only unlock again  
when the window is completely closed.  
(red LED turns off, green LED lights up)





### 13. Step

Press the joystick in the “move out” direction until the reversing sledge tilts upwards.

**Be careful: Danger of injury!**

**Never put your fingers in between the links of the chain.**



Hold the end of the ChainLance with the left hand while you still continue to push the joystick in the “move out” direction.

Move the ChainLance out until you are able to place it on the device as shown ...



... and approx.  
2 ft (50 cm) of  
strap can be seen

#### 14. Step

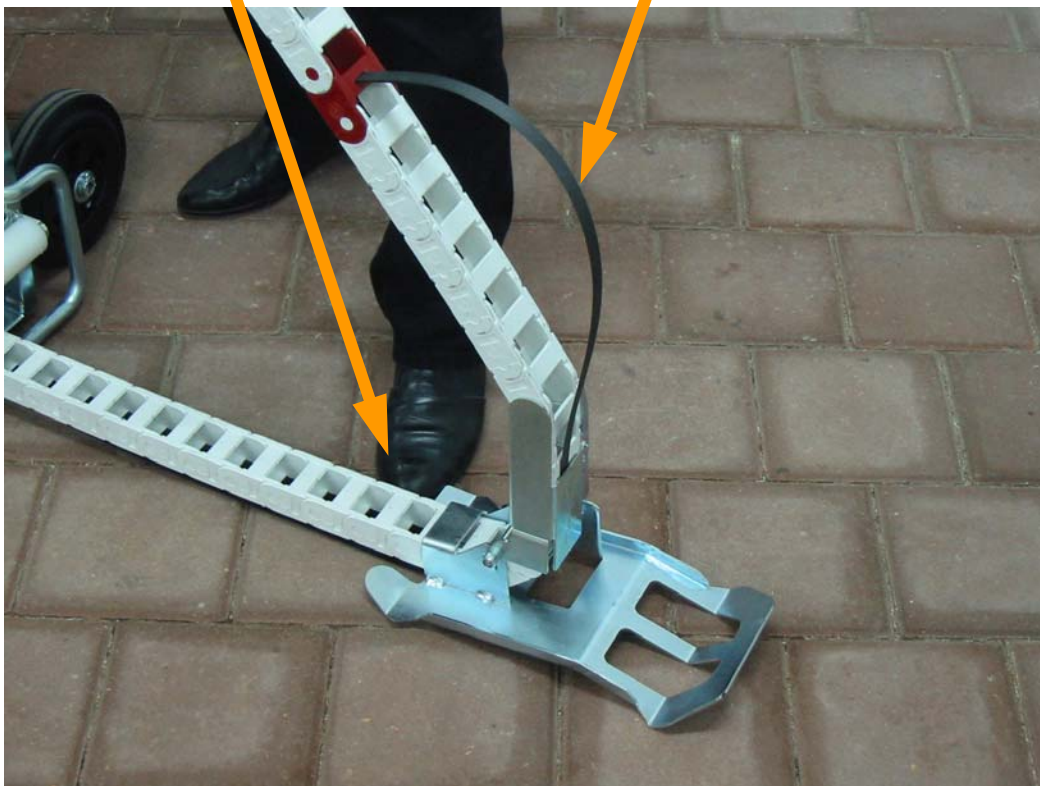
Place your left foot behind the reversing slide in such a way, that it cannot get pulled back into the device when turning back the ChainLance.

**Be careful:  
Danger of injury!**



#### 15. Step

Move the ChainLance now backwards by approx. 5 - 10 cm by quickly pushing the joystick in the “move in“ direction until the strap is loose.







### 16. Step

Remove the strap again from the slots in the red chain link and hold it straight up, as shown.

**Be careful:  
Danger of injury!**

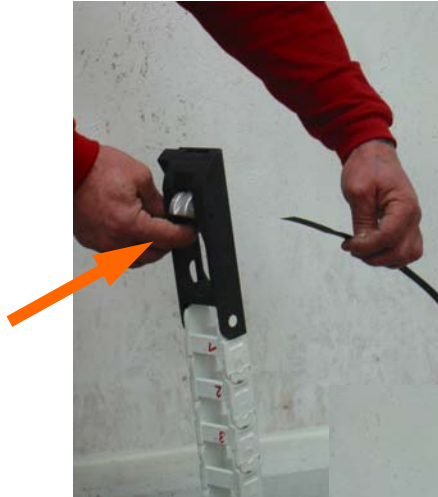


### 17. Step

Turn the ChainLance further back by pushing the joystick in the “move in” direction until only approx. 30 cm (1 ft) stick out from the reversing sledge.

### 18. Step

Open the eccentric latch by pushing it inwards with the finger, as shown.



**Be careful:  
Danger of injury!**



Push the strap from the back through the top piece of the ChainLance, as shown. The strap must be pushed under the eccentric latch.



### 19. Step

Now hold the strap up so that the strap and the ChainLance are straight.



## 20. Step

Move the ChainLance completely backwards by pushing the joystick again in the “move back” direction.

### **Important!**

**Make sure that the strap remains continuously tensioned while the ChainLance moves back, to avoid the strap being pushed back into the device.**



## 21. Step

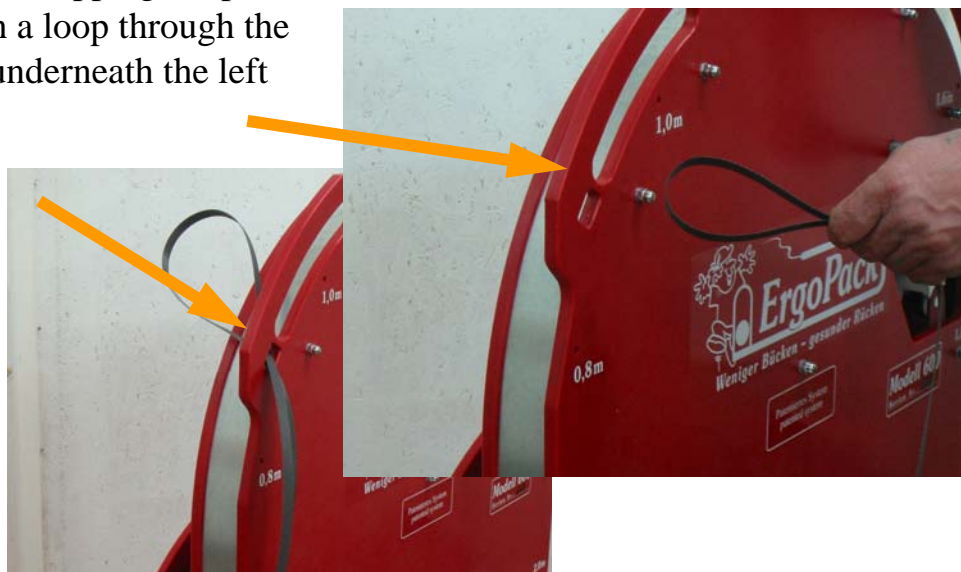
Set the operating mode switch (3) back to position “A”

3



## 22. Step

Place the overlapping strap as shown with a loop through the small slot underneath the left handle.



### 23. Step

Remove the clamp for setting of the package width again from the position 2.0 ft (0,6 m) ...

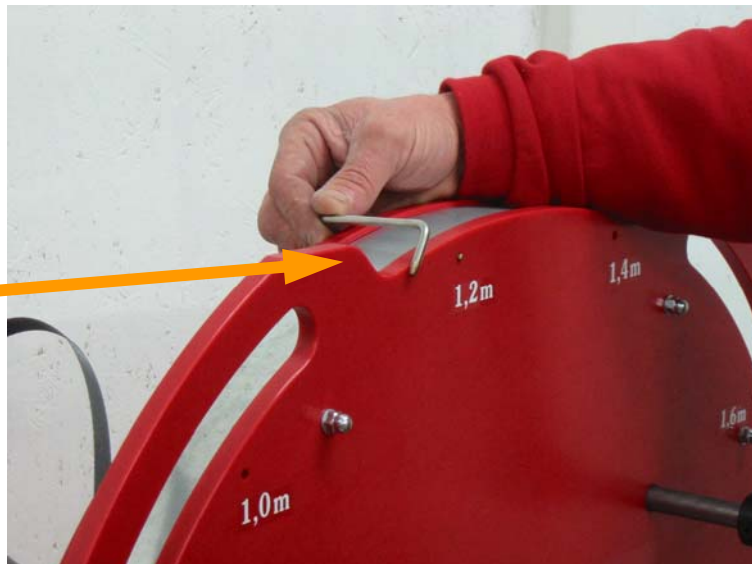
... and set the package width as shown. Plug the clamp into the next highest dimension of your package width.

#### **Example 1:**

Package width 0,8 m – insert adjusting piece at 1,0 m

#### **Example 2:**

Package width 1,2 m – insert adjusting piece at 1,4 m



**Your ErgoPack is now ready for strapping.**



## 6.3 Strapping



### 1. Step

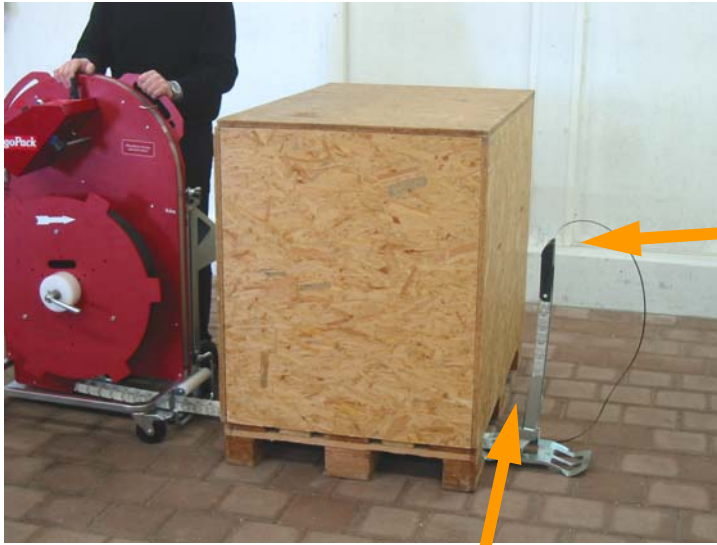
Place the Ergo Pack at a distance of ca. 1.0 ft (30 cm) in front of the pallet to be strapped ...



### 2. Step

Move the ChainLance by pushing the joystick in the “move out” direction.

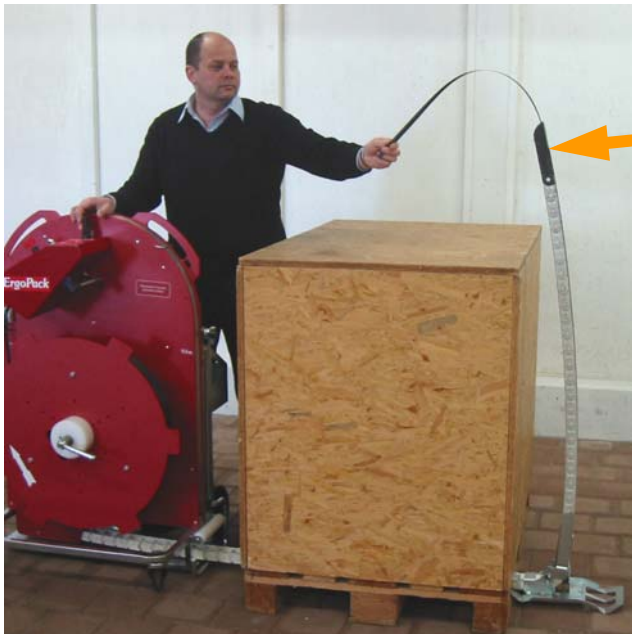
The reversing sledge leads the strap through underneath the pallet ...



... and up again on the opposite side.

The device should be positioned in such a way, that the distance between the rising ChainLance and the pallet is approx. 0.5 ft (15 cm).

### **Important!**



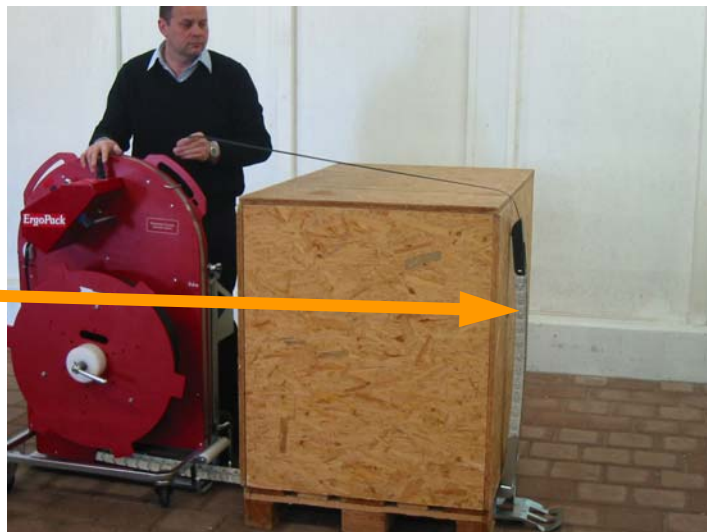
**To guarantee that the ChainLance remains straight it is important, that you push the joystick until the ChainLance appears on the other side. When you see the ChainLance, keep pushing the joystick until the ChainLance protrudes over the package as shown. The ChainLance falls towards you as soon as you let go of the joystick and you can catch the strap. You should always catch the ChainLance and never let it fall on top of the package.**

### 3. Step

Hold the strap, as shown, with the left hand at the front, directly at the ChainLance ...



... and move the ChainLance completely backwards by pushing the joystick in the “move in” direction.



### **Important!**

**Proceed as follows when moving back the ChainLance:**

- 1.) First move the ChainLance back by approx. 5 cm.**
- 2.) Unlock the eccentric latch with a short tug on the strap,**
- 3.) then keep the strap slightly under tension and move the ChainLance completely backwards.**

**Always keep the strap slightly under tension when moving the ChainLance backwards. The strap must not form loops or be pushed into the device when moving the ChainLance backwards. This can lead to faults.**

#### Step 4

After the reversing sledge has moved back into the device again, the strap lifter rises automatically.

**You now have to let the strap slide through your left hand, the strap lifter will not be able to rise otherwise.**

The strap lifter will give you the strap up to working height so that you can take it into your hand without having to bend over.

Keep pushing the joystick until the strap lifter is in the uppermost position. The strap lifter automatically moves down again after 2 seconds.



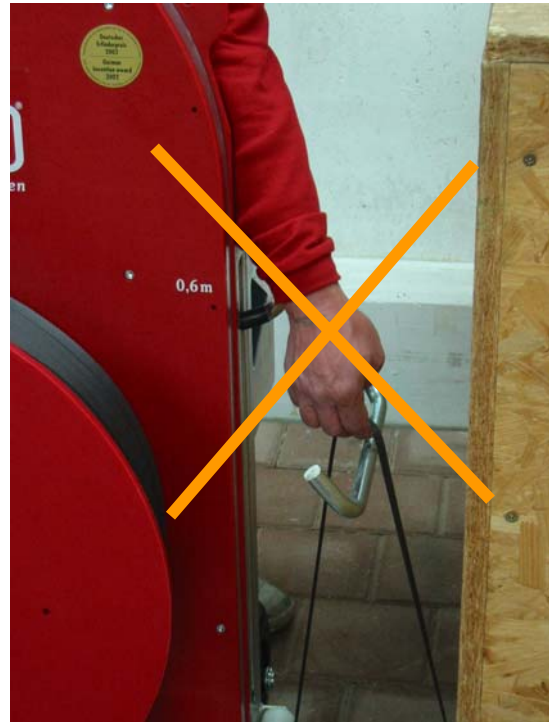
#### **Important!**

**When the strap lifter rises, you have to hold the strap loosely in your hand.**

**If you do not let go of the strap as the strap lifter rises, the device automatically switches off to prevent damage. The strap lifter can be raised up again with repeated pushing of the joystick in the “move in“ direction.**



If you have to pull more strap out of the device for locking, do not take the strap directly at the strap lifter ...



... but about 10 cm below the strap lifter. Hold the strap with the whole hand and pull it out of the unit.

## 6.4 Strapping and sealing with the cutter

### 1. Step

Measure the necessary length of strap for locking by holding both ends of the strap on top of each other before you cut off the strap.

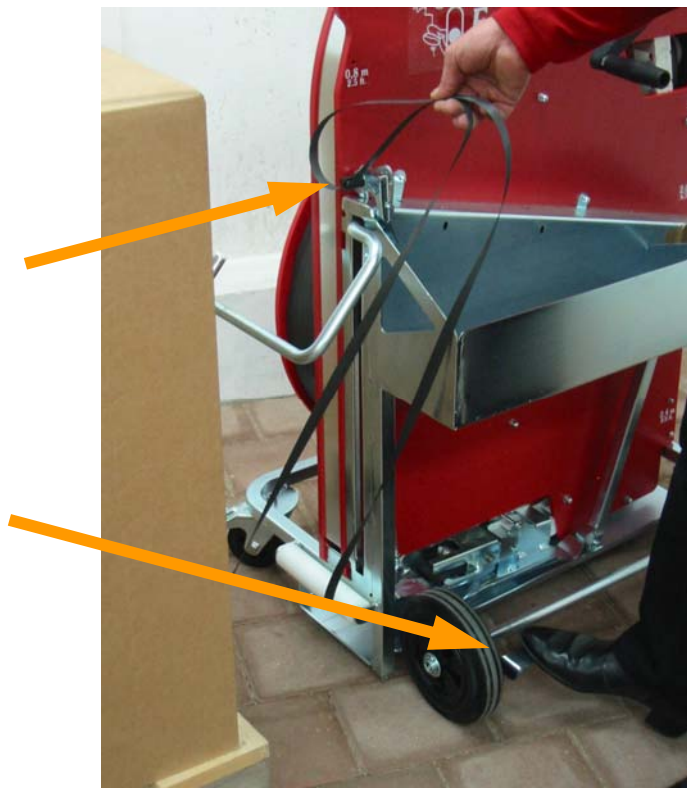
You need a strap overlap of approx. 0.5 to 1 ft (20 - 30 cm). If possible, hold the strap in a loop in the right hand, as shown.



### 2. Step

Insert the strap loop into the cutter, as shown ...

... and cut off the strap by pressing the foot lever.





### 3. Step

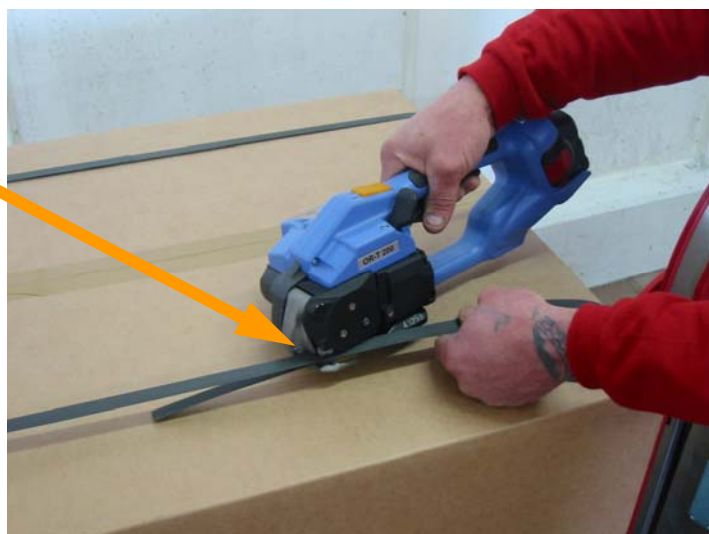
Change the position of the two ends of the strap (upside down and downside up) as shown on the picture. The end which was cut just before must be placed at the bottom.



### 4. Step

Hold the two ends of the strap with your left hand at the end of the upper strap.

Place the front left hand corner of the locking tool at an angle on the strap as shown ...



... and thread the strap into the locking tool.



The locking tool cuts off the protruding ends of the strap after strapping and sealing.

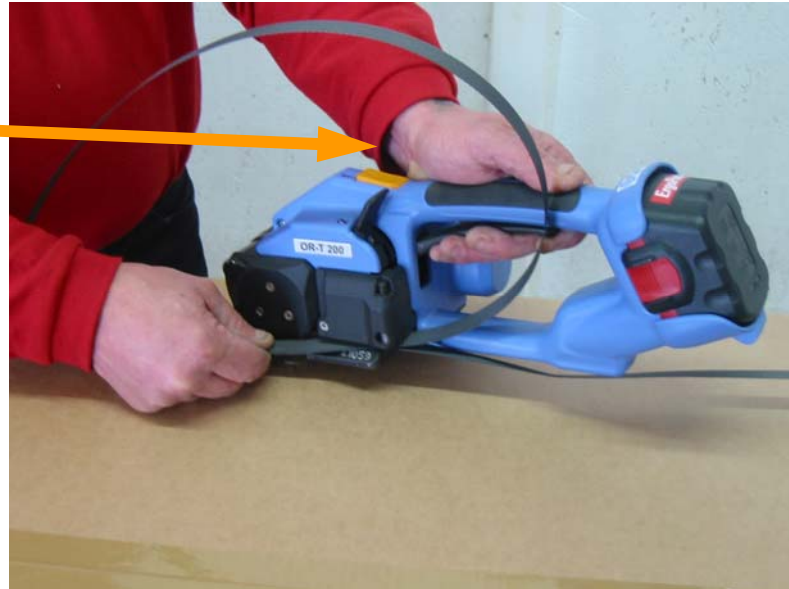


**Important!**

**The length of the waste piece depends on the accuracy of your measuring before cutting off with the cutter.**

## 6.5 Strapping and sealing without the cutter

Turn the locking tool by 180° and hold it with the left hand.

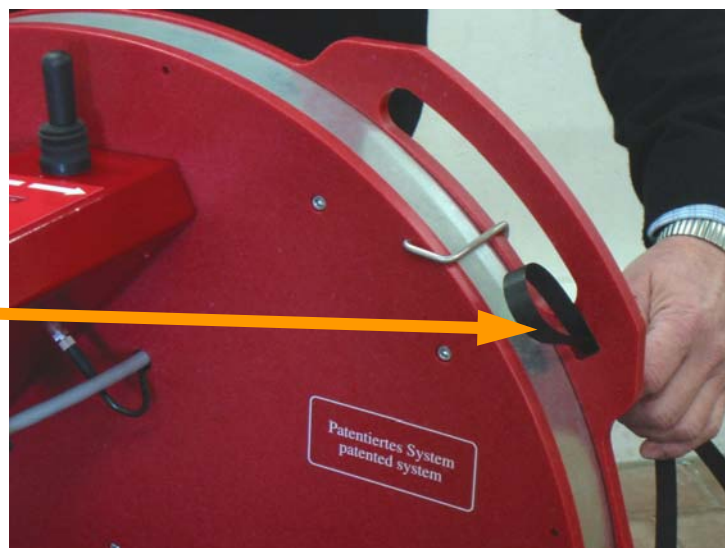


### **Important!**

If you turn the locking tool, you must hold it, as shown, with your left hand and thread the strap into the locking tool with your right hand accordingly.



Push the overlapping strap as shown into the small slot underneath the left handle.



Then put the locking tool into the storage tray.



## 6.6 Strapping and sealing with the ErgoPack Tool-Lift

### 1.Step

Fasten the adapter, as shown, into the threaded holes of the locking tool.



### 2.Step

Push the locking tool with the adapter into the holder on the tool lift.

To do so, unlock the plunger by pulling the black knob.



### Important!

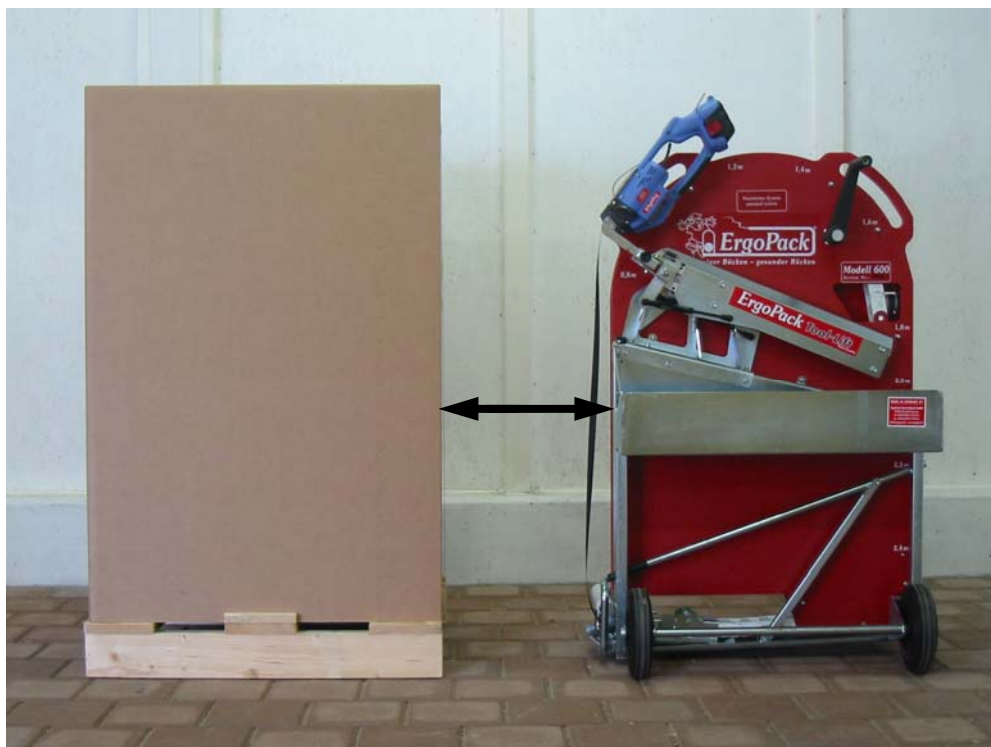
**Make sure that the plunger snaps back into position and that the locking tool is fastened.**

### **Important!**

**The ErgoPack Tool-Lift has been specially designed to strap high pallets. It requires a minimum pallet height of at least 3.0 ft (1 m) or more.**

**If you work with the ErgoPack Tool-Lift you should keep a larger distance between the ErgoPack and the pallet than when using the ErgoPack 600 without the Tool-Lift.**

**The distance to the pallet should be approx. 1 to 1.5 ft (30 to 45 cm). This may require setting a wider pallet width at the ErgoPack than when working without the Tool-Lift.**





### 3. Step

Hold the strap **with the right** hand. The end of the strap must be at the bottom.

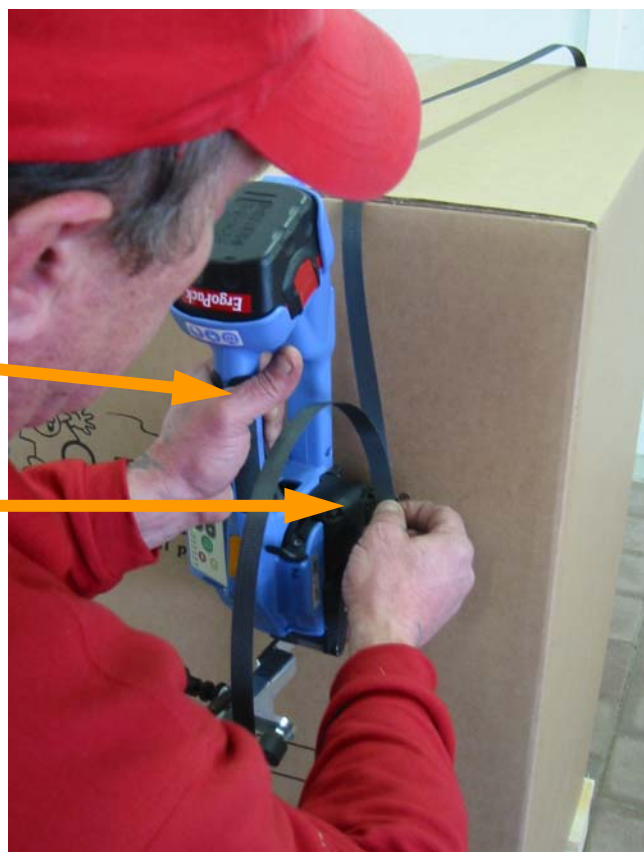


### 4. Step

Push the locking tool towards the pallet with the left hand and press the handle to open the strap clamp of the locking tool.

With your right hand you can now feed the strap into the locking tool.

**Please watch the „Tool-Lift Video-CD“ where we show exactly the best way of doing this.**





### 5. Step

If you work with corner protectors, let the locking tool move back before tightening the strap. The Tool-Lift will hold the locking tool and keep the strap tensioned. You can now fit the corner protectors underneath the strap.



### 6. Step

Tighten and seal the strap.

The locking tool is automatically pulled towards the package when the strap is tightened.



### 7. Step

Pull the lever for opening the strap clamp to remove the locking tool.

Then pull the locking tool upwards and to the left.



## 6.7 Moving the device

You can either move your ErgoPack in a vertical standing position ...



... or push it in the tilted position.

Obstacles such as stairs, for example, can be overcome in the tilted position.



## 7. Servicing and repair

Your ErgoPack is made out of galvanized steel and ultra wear-resistant plastic materials and is basically maintenance-free.

Clean the outside of the ErgoPack with a damp cloth if it is extremely dirty.

**Be careful: Danger of injury!**

**The main power cable must be disconnected from the battery and the main switch must be set to the “0” position for all servicing and repair work.**

### 7.1 Cleaning the ChainLance

Clean the ChainLance with acetone or petroleum if it has become dirty with oil.

**Be careful: Do not place the ChainLance in the cleaner.**

Then spray the ChainLance with commercially obtainable silicone spray.

**Be careful: Never use other lubricants such as grease or oil, etc. under any circumstances.**



## 7.1 Replacing the ChainLance

### 1. Step

Disconnect the main power cable from the battery.

### 2. Step

Pull out the reversing sledge by about 3 ft (1 m), pull the ChainLance out of the device as shown and roll it up.



### 3. Step

Push the new ChainLance in again in the reverse sequence.





## 7.2 Replacing individual chain links

The ChainLance can be opened as described in point 7.3 to replace individual broken chain links.

A defective chain link can also be removed without having to fit a new chain link. The control unit adjusts automatically to the current length of the ChainLance after each strapping operation.

### **Important!**

**You have to make sure that no chain links are fitted the wrong way if individual chain links have to be exchanged.**

**Each chain link has the lettering „ErgoPack“ on one side.**

**Make sure that this lettering appears on the same side of the chain links to be installed as the others.**

**The device can no longer be used if only one individual chain link has been fitted the wrong way.**

## 7.3 Replacing the reversing sledge

### 1. Step

Disconnect the main power supply cable from the battery.

### 2. Step

Pull the reversing sledge out of the device by about 3 ft (1 m), fold up the hinge at the reversing sledge and pull about 2.5 ft (80 cm) of the chain upwards, as illustrated.



### 3. Step

Use a screwdriver to push between the sides of two chain links and carefully turn the screwdriver to twist the sides apart until both chain links can be completely separated from each other.



#### 4. Step

Push the ChainLance back into the device until it has completely moved out of the reversing sledge.



#### 5. Step

Place the reversing sledge on its top, as illustrated and use a screwdriver to unscrew both screws of the length stop strap.



#### 6. Step

Fitting is done in the reverse sequence for dismantling.

#### **Important!**

**Both screws of the length stop strap must be protected with screw retaining varnish.**

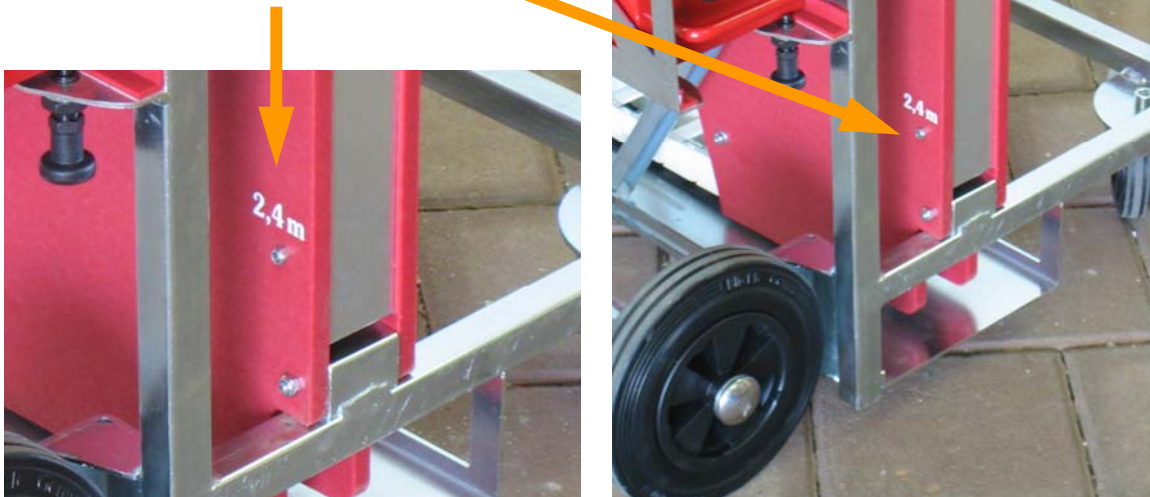
## 7.4 Replacing the length stop strap

### 1. Step (dismantling)

Perform all 5 steps listed in point 7.3 and then proceed to step 2.

### 2. Step (dismantling)

Remove the screw at position 2.4 m.

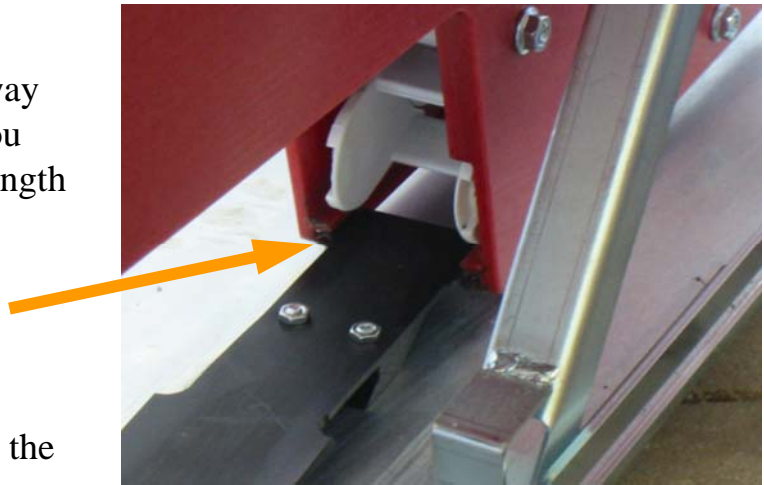


### 3. Step (dismantling)

Pull out the length stop strap.

#### 4. Step (installation)

Push the ChainLance all the way back into the device so that you can see the guide slot of the length stop strap.



#### 5. Step (installation)

Push the length stop strap into the small slot below the slot for the ChainLance.

#### **Important!**

**Make sure that you do not push the length stop strap into the slotted track of the ChainLance!**

**The further installation is done in the reverse sequence for dismantling.**

**The screw at 2.4 m may only be tightened until the stop nut engages. The screw must still be loosely positioned in the hole.**

**If the screw has been tightened up too much, the storage plates will be pressed together, the ChainLance and the length stop strap could become jammed.**

## 7.5 Changing the control with drive unit

### 1. Step

Disconnect the power cable plug and the plug of the safety switch for the sliding window.



### 2. Step

Remove the 5 covering caps in the storage plate.

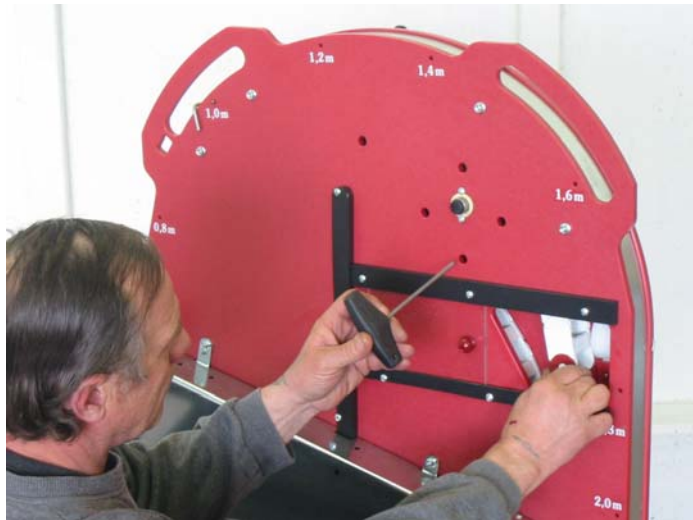




### 3. Step

Use a 4 mm allen key to first remove the four screws of the drive shaft.

You have to turn the gearwheel by pushing the ChainLance until you can see and remove the individual screws.



### 4. Step

Remove the fifth screw now. Hold the control box firmly when you do this.



### 5. Step

Pull off the control box. Make sure that you do not lose the small adjustment spring on the drive shaft.

### 6. Step

The control box is mounted in the reverse sequence for dismantling.

