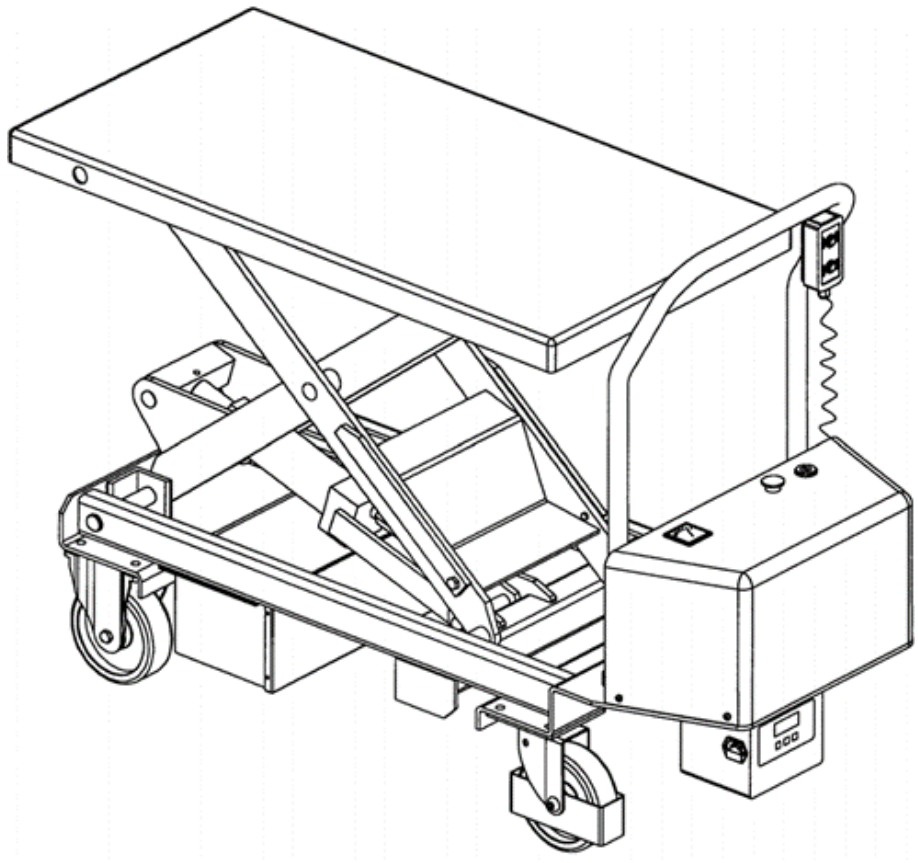
LTT 0.35 Double Scissor, Electric
LTT 0.5 Scissor, Electric

04.2023

Operating instructions

en-GB



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Contents

A About this manual

These operating instructions describe the correct use of the products listed in the "Scope" chapter – see page 5. All Jungheinrich products are developed and produced according to the current state of the art. However, risks can arise in the case of incorrect use. Please observe the corresponding information and read through the operating instructions carefully. The operating instructions form part of the device and are valid for all specified device versions. The operating instructions describe the safe and correct use of the device in all operating phases.

➔ Any technical questions should be directed to your authorised service partner.

The device described in these operating instructions is an industrial truck that is designed for lifting and transporting loads.

1 Scope and target group

Scope

This document applies to the following devices:

– LTT 0.35 Double Scissor, Electric
– LTT 0.5 Scissor, Electric

Target groups

For the purposes of these operating instructions the "owner" or "operator" is defined as any natural or legal person who either uses the described device himself or on whose behalf it is used. In special cases (e.g. rental), the owner is considered to be the person who is charged with the specified operational duties in accordance with existing contractual agreements between the owner and operator of the device.

Target group	Tasks
Owner	– Keep these operating instructions accessible at the usage location of the device, including for later reference. – Ensure that the device is used correctly and only by trained and authorised personnel. – Instruct employees to read and observe these operating instructions and other applicable documentation, particularly the safety instructions and warnings – see page 7. – Observe additional device-specific provisions and regulations.
Operator	– Read and observe these operating instructions and other applicable documentation, particularly the safety instructions and warnings see page 7. – Ensure that the device is used correctly and in accordance with the safety regulations.

Tab. 1: Owner and operator duties

2 Information and instructions

General information

Indicates additional information and explanations.

Structure of warnings

Warnings are used in this document to highlight potential causes of personal injury or material damage.

- Always read and observe these warnings.
- Follow all measures highlighted by the relevant warning.

The following warning levels are used to reflect the severity and probability of the relevant hazard:

⚠ DANGER!

Indicates an extremely dangerous situation. Failure to observe this warning can lead to serious, irreversible injuries or death.

⚠ WARNING!

Indicates an extremely dangerous situation. Failure to observe this warning can lead to serious, irreversible injuries or death.

⚠ CAUTION!

Indicates a dangerous situation. Failure to observe this warning can lead to minor or moderate injuries.

NOTICE

Indicates a risk of material damage. Failure to observe this warning can lead to material damage.

Structure of instructions

Instructions in this document are structured as follows:

Aim of the described activity

Requirements

– Prerequisites for activity

Tools and Material Required

– Tools and materials required for an activity (optional specification)

- Step
- Step
  - Sub-step

Result of action

B Security

The safety chapter provides important information on how to work safely with the described product. Failure to observe the specified measures can result in material damage and injuries, and potentially even death.

- Before commissioning and operating the device: Read the safety chapter thoroughly.
- Use the described device only as specified in this document.

1 Correct Use and Application

The device described in these operating instructions is designed for safe transport of heavy loads and is intended for private and commercial use. Any damage resulting from incorrect operation or improper use shall render all liability and warranty claims null and void.

Correct environmental conditions

The device will be permanently damaged if exposed to extreme environmental conditions.

– Only use the device under the permitted conditions – see page 18.
– Do not use the device in areas or environments with high levels of humidity.
– Do not use the device in areas or environments at risk of explosion or fire.
– Do not use the device in very dusty areas or environments.
– Do not use the device in outdoor areas.
– Do not use the device in corrosive areas or environments.
– Do not use the device in temperatures outside the permissible temperature range – see page 18.

Possible incorrect use

Inappropriate use of the device poses a risk of injury and reduces the service life of the device.

The device is not suitable for the following applications:

– Transporting persons
– Transporting loads on slopes or inclines
– Transporting insufficiently secured loads
– Transporting loads that are too heavy or placed on one side
– Moving the device with electrical or mechanical aids
– Picking up pallets from the side

NOTICE

The specified capacity applies only in the case of even load distribution on the load handler.

Attaching accessories to the device

Obtain written authorisation from the manufacturer and the responsible authority before attaching accessories to the device.

➔ The authority's approval does not replace the manufacturer's permission.

2 Duties of individuals

Duties of the owner

Incorrect preparation of the device can result in serious damage or injuries. The owner must:

– Ensure that the device is used as intended.
– Ensure that the device is in perfect technical condition.
– Ensure that all warnings and information signs are present on the device and in a language that the operator understands.
– Replace any damaged or missing warnings and information signs on the device.
– Ensure compliance with all regulations concerning accident prevention, safety and disposal as well as those regarding operation, maintenance and repairs.
– Provide suitable protective equipment for the operator.
– Make the operating instructions available at the usage location.
– Retain test reports for at least 2 years.

Duties of the operator

Irresponsible operation of the device can result in serious damage or injuries. The operator must:

– Provide evidence of his or her ability to use the device.
– Provide evidence of his or her commissioning by the owner or their legal representative.
– Prevent unauthorised use of the device.
– Wear safety shoes or safety equipment in accordance with statutory and operational regulations when operating the device.
– Assume responsibility for the correct use of the device during operation.
– Independently take the device out of service and inform the relevant supervisor(s) in the case of damage to the device during operation.
– Ensure that the load to be picked up is packaged correctly and does not exceed the permitted weight.

3 Safety information for specific operating phases

3.1 Transport

Transporting the device safely

Incorrectly secured transports can result in material damage and personal injury.

– Remove any load before transporting the device.
– Use lifting gear with sufficient capacity.
– Secure the HGV or trailer against rolling away before loading the device.
– Attach lifting accessories only to the designated attachment points.
– Correctly secure the device to the lashing rings on the HGV or trailer.
– When jacking up, prevent slipping or tipping by means of wedges or wooden blocks.

3.2 Operation

Operating the device safely

Unsafe operation of the device can result in significant material damage and severe personal injury.

– Never transport persons on the load handler.
– Always look in the direction of travel.
– If the load is obscuring your view, travel backwards or instruct an additional person to proceed in front of the device as a lookout.
– Never place feet or other body parts in the vicinity of moving rollers.
– Adapt your travel speed to local conditions.
– In corners, at and in passageways and at blind spots, reduce your speed and be aware of the device dimensions.
– Do not travel on slopes or inclines.
– Maintain a sufficient stopping distance from trucks travelling in front.
– Adapt the stopping distance to the condition of the ground.
– Restrict (sudden) braking to hazardous situations.
– Avoid quick changes in direction.
– Do not overtake at blind spots.
– Do not lean or reach out of the operating area.
– Lower the load as far as possible for transport.
– If the load threatens to become unstable, stop and lower the load.

Requirements for travel paths and work areas

Failure to observe the specific environmental conditions can result in significant material damage and severe personal injury.

– Only travel on level surfaces that are designated as traffic routes.
– Maintain a sufficient safety clearance between the tiller and racks/walls.
– Do not travel on slopes or inclines unless expressly permitted in this document.
– Traffic route conditions have a significant influence on the stopping distance. Adjust the travel behaviour to the prevailing conditions.
– Visibility conditions have a significant influence on the travel path. Ensure that you have clear visibility.
– Keep unauthorised persons out of the work area.
– Always set down and store the load at the designated locations.
– Never deposit the load and device on traffic, escape or rescue routes or in front of passageways, roller shutter gates and doors.
– Before working under a raised load, secure the load handler against lowering using a sufficiently strong chain.

Preventing injuries to third parties

A heightened accident risk exists for unauthorised persons in the hazardous area.

– Instruct unauthorised persons to leave the hazardous area.
– In the case of a potential risk to persons, issue a warning signal in a timely manner.
– If endangered persons fail to leave the hazardous area, stop the device immediately.

➔ The hazardous area is classed as the area in which persons are exposed to a direct risk by the movements of the device or are endangered indirectly, e.g. due to a falling load.

Travelling onto lifts and loading bridges

A heightened risk of material damage and personal injury exists in lifts and on loading bridges.

– Before travelling onto lifts and loading bridges, ensure that they offer sufficient capacity for the individual weight of the device including the load and operator.
– Before travelling onto lifts and loading bridges, ensure that they are suitable and approved for such use by the owner.
– Travel load-first onto lifts and loading bridges and maintain a sufficient distance from the side walls.
– Park the device securely before any persons step into the left or onto the loading bridge.

Moving loads safely

An inadequately secured load poses a heightened risk of material damage and personal injury.

– Ensure that the load is in correct condition.
– Do not move loads unless they have been safely and securely applied.
– If there is a risk of parts of the load tipping or falling, take suitable safety measures (e.g. load backrest).

Transporting liquids safely

When transporting liquids, the centre of gravity can vary according to the position of the device, which will significantly impact upon overall stability (e.g. in tanks).

– Avoid sudden/jerky braking or acceleration.
– Reduce the speed before and in corners.

3.3 Maintenance

Conducting maintenance work safely

Thorough and expert servicing is one of the most important prerequisites for safe operation of the device. Failure to perform regular maintenance can result in a malfunction of the device and poses a potential hazard to personnel and equipment.

– Perform maintenance and repair work in line with the specified maintenance intervals – see page 29.
– Maintenance and repair work must only be completed by specialist personnel with the requisite training.
– In the case of uncertainty, contact the manufacturer's customer service department.
– Use only original spare parts from the manufacturer.
– When repairing or replacing components, observe the device-specific settings.
– When replacing rollers, ensure that the device remains level (e.g. always replace left and right at the same time).
– The maintenance intervals for the lifting chains, which can wear out quickly, apply to normal use. In case of increased demands, relubricate more frequently, using the chain spray as prescribed.
– Hydraulic hoses must be replaced every 6 years.
– Immediately after any maintenance work, complete all steps for returning the device to service – see page 9.
– Do not clean the device with flammable liquids.
– Before working on the hydraulic unit: Fully lower the load handler.
– Before working on the pump: Secure the return spring.

4 Conversions and modifications

Modifying the design and function of the device

Any conversions or changes to the design of the device which have not been approved by the manufacture can result in severe personal injury and significant material damage. All warranty and liability claims will be void.

If modifications are to be made, they require written permission from the manufacturer, an authorised representative or a legal successor. This includes, but is not limited to, the following actions:

– Changes affecting the capacity
– Changes affecting the stability
– Changes affecting the control function
– Changes affecting the visibility
– Addition of attachments.

Under no circumstances must the operating speed of the device be changed, not even with the manufacturer's approval.

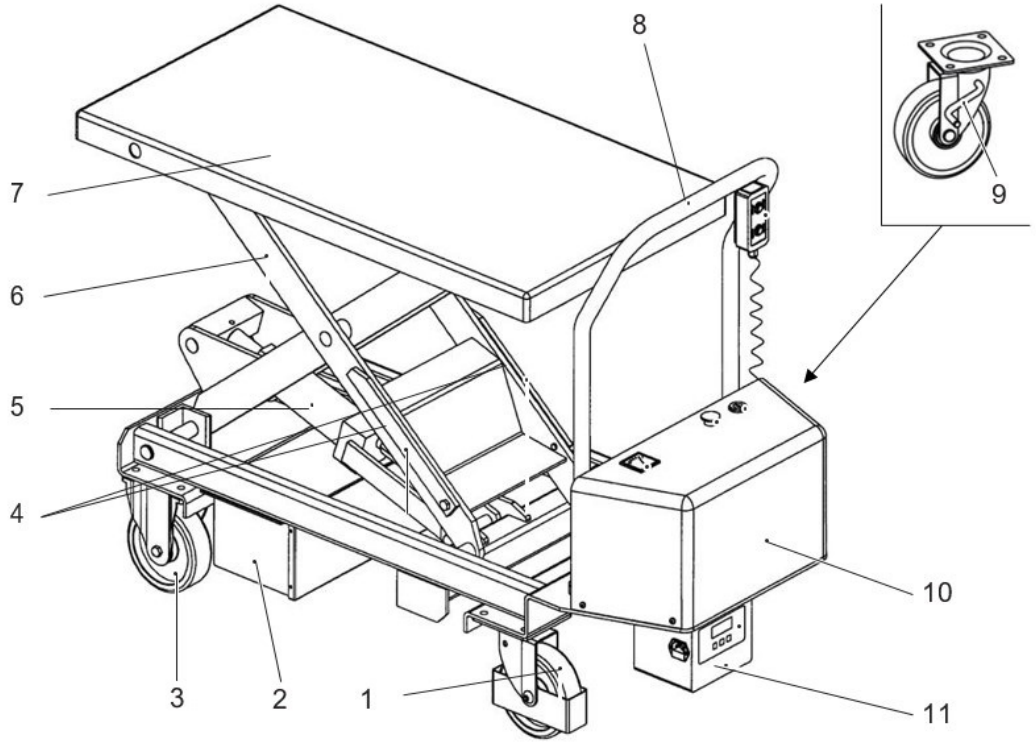
5 Residual risks

Using consumables

Improper handling of consumables is hazardous to health, life and the environment.

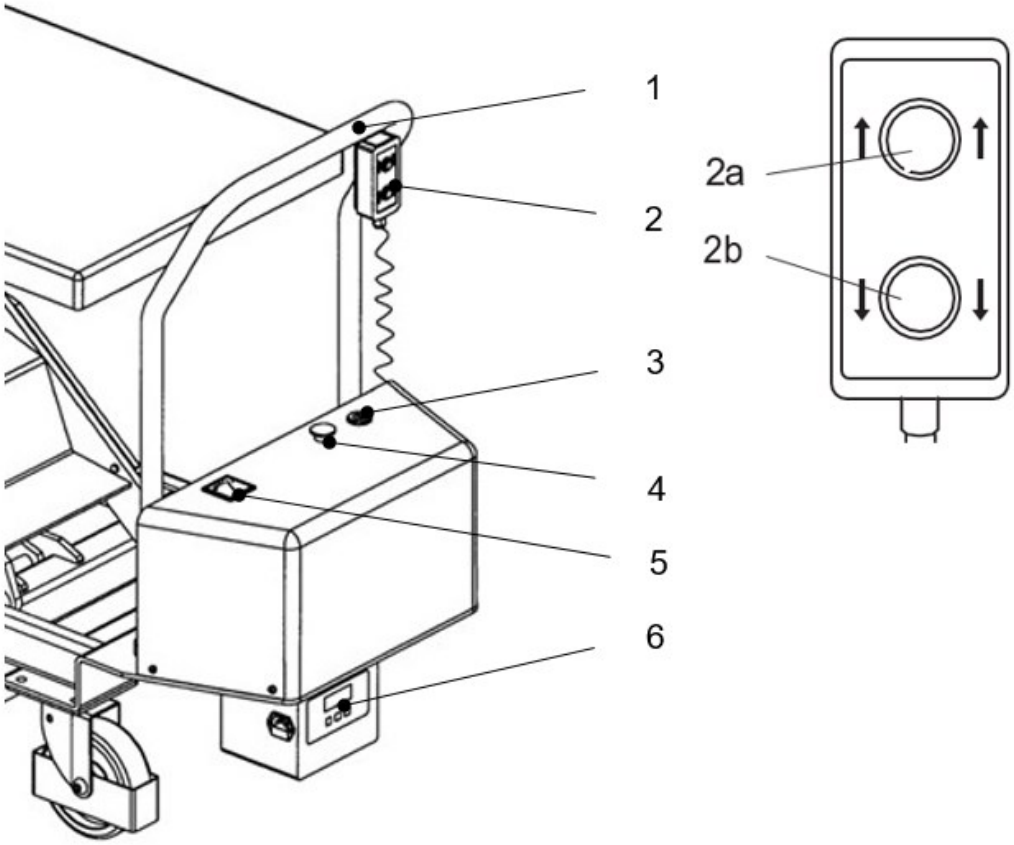
– Use consumables in the correct manner and in accordance with the manufacturer's specifications.
– Work with consumables must only be performed by qualified specialist personnel.

C Structure and function



Item	Description	Function
1	Swivel castors	Steer the device.
2	Battery box	Stores the battery.
3	Rollers	Move the device forward and back.
4	Mechanical lowering protection	Secures the lifting table against unintentional lowering.
5	Hydraulic cylinder	Raises and lowers the load handler.
6	Lifting mechanism	Raises and lowers the load handler.
7	Load retaining plate	Carries the load.
8	Handlebar	Used to control the device.
9	Parking brake on right roller	Used to apply/release the brake for the swivel castors.
10	Hydraulic unit	Raises and lowers the load handler.
11	Battery charger	Charges the battery.

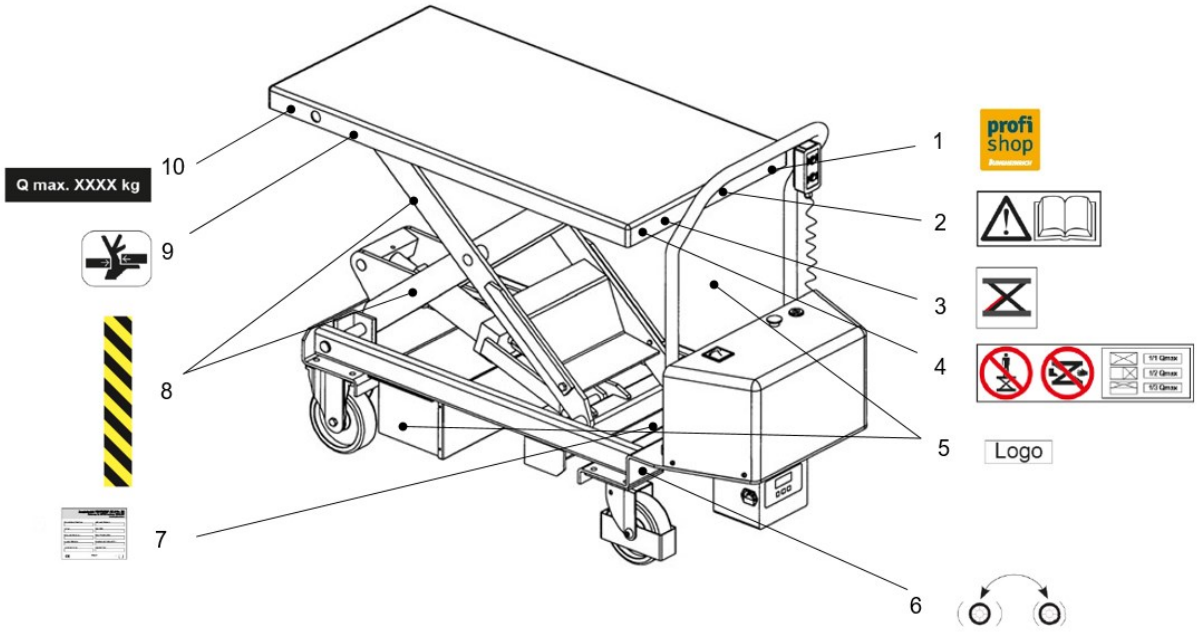
1 Controls



Item	Description	Function
1	Handlebar	Used to control the device.
2 2a 2b	Control unit "Lift" button "Lower" button	Used to operate the device. Raises the load. Lowers the load.
3	Key switch	Switches the control current on and off.
4	Emergency disconnect switch	Disconnects the power supply.
5	Voltage display	Displays the current voltage.
6	Charge indicator	Displays the charge/discharge status of the battery.

2 Marking and labelling

2.1 Warning and information signs



Item	Description
1	Jungheinrich PROFISHOP
2	Read operating instructions
3	Warning information regarding maintenance work
4	• Do not stand on the load handler • Do not place feet/hands under the load handler • Load chart / load distribution
5	Logo
6	Brake function
7	Data plate
8	Black/yellow scissor marking
9	Risk of crushing
10	Q_{max} XXXX kg

2.2 Data plate

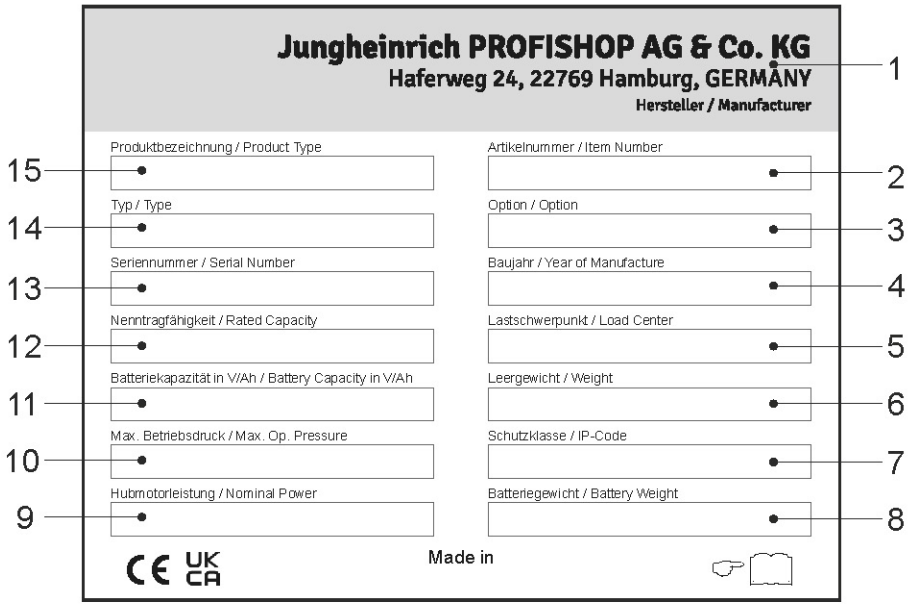


Fig. 1: Data plate (schematic)

Item	Information
1	Name and address of manufacturer
2	Article number
3	Option
4	Year of manufacture
5	Load centre
6	Net weight
7	Protection rating
8	Battery weight
9	Lift motor output
10	Max. operating pressure
11	Battery capacity in V/Ah
12	Rated capacity
13	Serial number
14	Type
15	Product designation

For truck-related queries or when ordering spare parts, always quote the truck serial number.

D Technical Specifications

1 Dimensions

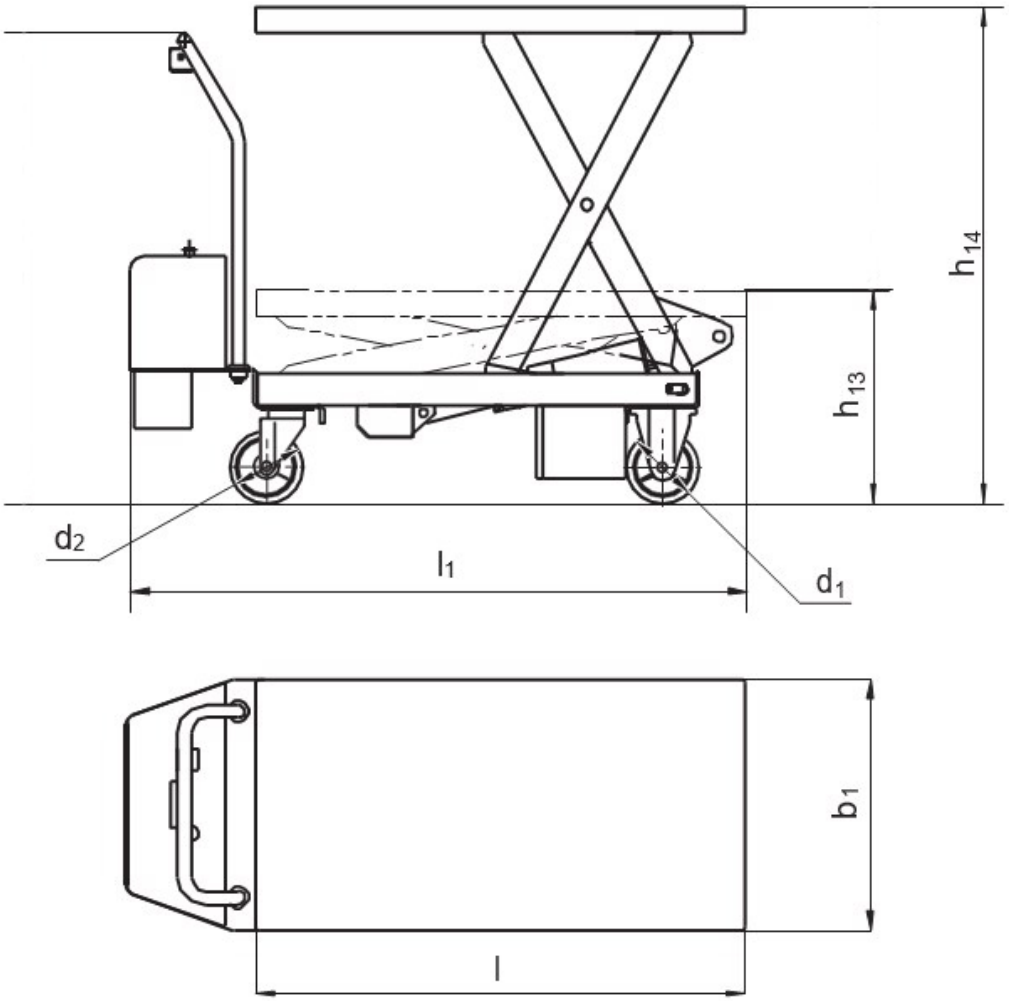


Fig. 2: Device dimensions (schematic)

2 Performance data

Description	Item	Value		Unit
Identification				
Manufacturer's type designation	–	LTT 0.35	LTT 0.5	–
Capacity (Q)	–	350	500	kg
Lift heights	–	370-1300	440-1025	mm
Operating voltage	–	24	24	V
Battery	–	2 x 12 (15 Ah)	2 x 12 (24 Ah)	V
Lift motor output	–	0.8	0.8	kW
Basic dimensions				
Load retaining plate length	l	910	1010	mm
Overall length	l_1	1140	1200	mm
Lowered height	h_{13}	370	440	mm
Overall height	h_{14}	1300	1025	mm
Overall width	b_1	500	520	mm
Roller diameter	d_1	125	150	mm
Steer wheel diameter	d_2	150	175	mm
Weight (excl. battery)	–	142	157	kg

Correct environmental conditions

Condition	Value
Application area	Indoor application
Permitted ambient temperature	+5°C to +40°C
Minimum illumination	50

E Commissioning and transport

1 Using the Truck for the First Time

Different versions of the device are described in this document. Verify which of the described models you are using prior to truck start-up.

Preparing for commissioning

- Verify that the warning and information signs are present and undamaged. Replace any damaged or missing signs.
- Check all supplied components for transport damage.
- Fit the handlebar and foot pedal.
  - Insert the handlebar and foot pedal into the holes on the chassis and secure them with Allen screws.
- Check the functionality of the actuators, rollers, wheel axles and scissor lift axles.
- Immediately notify the carrier of any transport damage or missing components.
- If necessary, turn the emergency disconnect switch clockwise until it pops out a little.

2 Transport

⚠ WARNING!

Inadequately secured load!

Risk of material damage and personal injury due to falling loads.

▶Always use cranes and lifting gear with sufficient capacity.

▶Attach lifting gear only to the designated attachment points.

▶Ensure that there are no persons in the area under the suspended load.

▶Instruct all persons to leave the hazardous area during crane loading.

Attaching the device

- Remove all loads from the load handler.
- Lower the load handler fully and secure it with lashing straps.
- Attach the lifting gear to the designated attachment points and secure it.

The device is attached and ready for transport.

F Operation

⚠ CAUTION!

Collisions with persons in the vicinity!

Risk of personal injury.

- ▶ Before moving the device, raising or lowering the load, instruct persons to leave the hazardous area.
- ▶ In the case of a potential risk to persons, issue a warning signal in a timely manner.
- ▶ If endangered persons fail to leave the hazardous area, stop the device immediately.

1 Checking the device before daily use

Regular inspection allows faults or malfunctions to be recognised at an early stage and rectified promptly. This increases the service life of the product and helps to ensure safe operation.

Checking the device for damage and defects before start-up at the beginning of a shift

- Remove any loads from the device and move the load handler to its lowest position.
- Visually inspect all assemblies for deformation or cracks.
- Check the lift mechanism for correct function and ease of movement. Look out for any unusual noises and blockages.
- Check the load handler and carriage for wear and damage.
- Check the hydraulic system for leaks.
- Check the rollers for correct function and ease of movement.
- Check the hydraulic oil level and top up if necessary.
- Check the vertical elongation of the lift mechanism.
- Verify that all screws and nuts are securely fastened.
- Verify that all signs and warnings are present and legible.
- Immediately notify the relevant supervisor(s) of any damage or defects on the device or attachments.
- Take any devices with damaged or defective safety-relevant components out of service and repair them before next use.

2 Raising the load

⚠ WARNING!

Falls from great heights!

Risk of fractures and head injuries due to falling.

▶ Never lift or carry persons with the load handler.

⚠ WARNING!

Inadequately secured load!

Risk of material damage and personal injury due to falling loads.

▶ Only lift adequately secured loads.

▶ Position the load's centre of gravity centrally on the device.

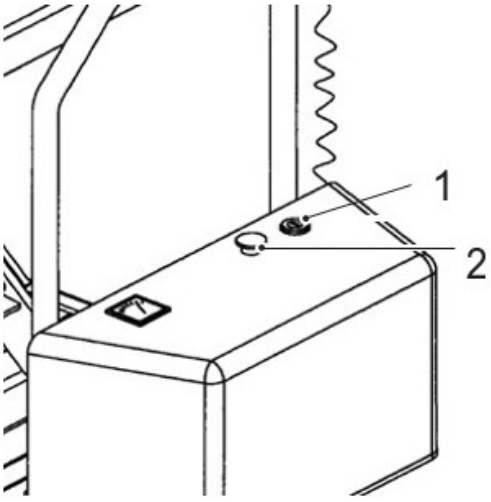
▶ If there is a risk of parts of the load tipping or falling, take suitable safety measures (e.g. load backrest).

NOTICE

Exceeding the permitted load capacity!

Risk of damage to the device due to excessive loads.

▶ Note the permissible maximum capacity.



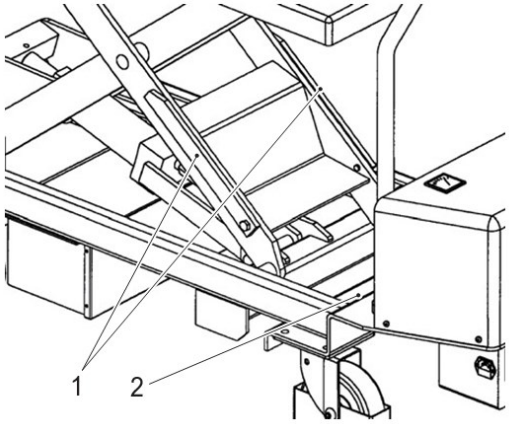
Raising the load

Requirements

– The load is palletised correctly and secured against tipping.
– The device is fully lowered.

- Apply the parking brake on the right roller.
- Insert the key into the key switch (1) and turn it clockwise.
- Press the "lift" button on the control unit until the desired height is reached.

The load has been raised.



Securing the device against accidental lowering

- Raise the device.
- Move the mechanical lowering lock (1) down.
- Lower the device until the mechanical lowering locks (on both sides) are propped up against the frame (2).

The device has been secured against accidental lowering.

3 Moving the load

⚠ WARNING!

Unevenly distributed loads!

Risk of personal injury and material damage due to sudden tipping of the load.

▶ Ensure that the load is in correct condition.

▶ Only move loads if they have been safely and securely applied.

▶ Take suitable precautions if there is a risk of the load tipping or falling down (e.g. load backrest).

⚠ CAUTION!

Unintentional lowering of the load!

Risk of personal injury due to crushing.

▶ Before tilting the tiller, ensure that the control handle is in "neutral" or "lift" position.

▶ Do not place any part of your body between the load handler and the ground.

⚠ CAUTION!

Unsafe operating condition!

Risk of personal injury and material damage due to faults or unexpected breakdowns.

▶ In the case of faults or unexpected breakdowns, cease operation immediately.

▶ Switch off the device and secure it against reactivation.

▶ Inform the relevant supervisor(s) or the manufacturer's service department.

⚠ CAUTION!

Protruding tiller!

Risk of personal injury and material damage due to the tiller protruding in tight corners.

▶ Be aware of your surroundings in tight corners.

▶ Keep a safe distance from people and objects.

Moving the load

Requirements

– The device is fully lowered.

- Release the parking brake.
- Push or pull the handlebar to move the device forwards or backwards.

The device moves in the desired direction.

If your view is obstructed by the load, the device must be pulled. If the device cannot be moved by pulling, push it while using a second person as a guide and lookout.

4 Lowering the load

⚠ CAUTION!

Lowering heavy loads!

Risk of personal injury due to crushing.

▶Always lower the load slowly and carefully.

▶Do not place any part of your body between the raised load and the ground.

▶Wear safety shoes.

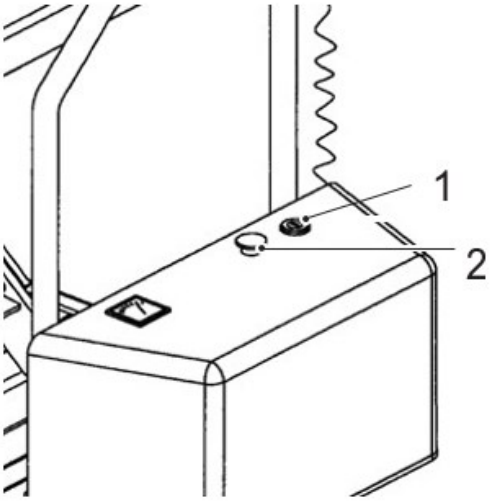
NOTICE

Increased impact load!

Risk of device damage and malfunction due to excessively fast lowering of the load.

▶Always lower the load slowly and carefully.

If the device is to be moved after depositing the load, ensure that there is sufficient room for manoeuvring.



Lowering the load

Requirements

– The device is at the required position.
– Mechanical lowering protection is disengaged.

- Apply the parking brake on the right roller.
- If necessary, turn the emergency disconnect switch (2) clockwise until it pops out a little.
- Insert the key into the key switch (1) and turn it clockwise.
- Press the "lower" button on the control unit until the desired height is reached.

The load has been lowered.

5 Braking the device

Braking the device slowly

- Push the handlebar in the opposite direction to the travel direction until the device comes to a stop.

The device has been stopped.

Braking the device quickly (emergency stop)

- Move the control handle to the "lower" position.
- Lower the load.

The lowered load brakes the device.

6 Operating the emergency disconnect switch

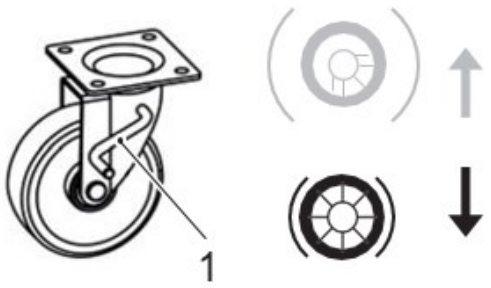
Switching off the device in an emergency

- Press the emergency disconnect switch.
  The power supply is interrupted.

Restoring the device to service after an emergency disconnect

- Turn the emergency disconnect switch in clockwise direction.
  The power supply is restored.

7 Parking the device



Parking the device securely

- Position the device on a smooth, level surface.
- Fully lower the device.
- Apply the parking brake (1) on the right roller.
- Turn the key anti-clockwise and remove it from the key switch

The device is parked securely.

G Maintenance and repair

1 Faults and troubleshooting

- In the case of a device fault, carry out the following troubleshooting measures.
- If you encounter problems when carrying out the measures or if they fail to rectify the problem, contact the manufacturer's customer service department.

⚠ CAUTION!

Incorrect maintenance!

Risk of material damage and personal injury due to failure of important components.

▶ Use only original spare parts from the manufacturer.

▶ Maintenance and repair work must only be completed by specialist personnel with the requisite training.

▶ When replacing rollers, ensure that the device remains level (e.g. always replace left and right at the same time).

▶ Always observe the device-specific settings when carrying out repairs or replacing components.

Fault table

Fault	Possible cause	Fault rectification
Load handler not lifting even though the hydraulic pump is working correctly.	Load is too heavy.	Reduce the load.
	Control lever is not set correctly.	Adjust the control lever or mechanism of the pull rod.
	Lowering valve no longer closes or valve body is leaking due to oil contamination.	Clean the lowering valve or piston rod and replace if necessary.
	Oil level in hydraulic reservoir too low.	Lower the load handler and top up the hydraulic oil.
	Viscosity of hydraulic oil is too high.	Use hydraulic oil with correct viscosity.
	Lowering valve is not coordinated with control lever.	Adjust the pull rod nut.
Raised load handler lowers automatically.	Steel balls of check valve not sealing correctly.	Clean the valve bore and replace the steel balls.
	Seals faulty.	Replace any faulty seals.
	Hydraulic unit is leaking.	Check the hydraulic unit and replace if necessary.
	Lowering valve no longer closes or valve body is leaking due to oil contamination.	Adjust, clean or replace the lowering valve.
Load handler cannot be lowered.	The seals on a new device are very tight and the cylinders are sometimes dry.	On a new device, perform multiple lifting and lowering operations with a load.
	Eyebolts are screwed into the support frame.	Remove the eyebolts.
	The mechanical lowering lock has moved down.	Move up the lowering lock on both sides.
	Stroke length of striker pin is insufficient to push the steel ball out of the valve bore.	Adjust the length of the tie rod (or lowering rod) such that the striker pin reaches the correct position.
Raised load is lowered slowly or not at all.	Ambient temperature too low, hydraulic oil too viscous.	Move to area with higher ambient temperature.
	Hydraulic cylinder is damaged or deformed.	Repair components or have them replaced.

Fault	Possible cause	Fault rectification
Oil has escaped below the load handler or around the device.	Too much oil in hydraulic circuit, reservoir overflowing.	Drain off oil in a controlled manner to correct the fill level.
	Cylinder or piston rod leaking.	Replace seals or, if necessary, replace the cylinder.
		Check the connections and rectify any faults.
Battery cannot be charged.	Battery is faulty.	Replace battery.
Display on charger lights up red.	(+/-) swapped on battery terminals.	Connect battery terminals correctly.

2 Maintenance

⚠ CAUTION!

Uncontrolled movement of the device!

Risk of personal injury and material damage due to sudden movements of the device.

▶ Park the device securely when not in use and before maintenance work.

▶ If possible, switch off the device.

▶ If possible, use the parking brake.

⚠ CAUTION!

Safety equipment rendered ineffective!

Risk of personal injury and material damage due to ineffective safety equipment.

▶ Under no circumstances must safety equipment (e.g. emergency disconnect switch) be rendered ineffective.

▶ Repairs must only be carried out by qualified specialists.

2.1 Maintenance intervals

Requirements

– The device is used in single-shift operation.
– The device is used under normal operating conditions – see page 7.

- Maintain the device at the specified intervals.
- If the device is operated in very dusty conditions, subjected to extreme temperature fluctuations or used in multi-shift operation, the intervals must be reduced accordingly.

Maintenance interval	Maintenance
Daily.	Check the device before use – see page 20
After all cleaning and repair work.	– Lubricate the truck at the designated points – see page 30. – Check and bleed the hydraulic system and/or top up oil.
After the first 100 operating hours.	– Re-tighten wheel nuts and bolts. – Check the hydraulic system for leaks. – Check that retaining rings, locking and cotter pins are in place.
Monthly.	– Lubricate all bearings and shafts with long-life lubricant. – Remove dirt and foreign bodies.
Every 3 months.	Check the setting of the bleed valve.
Every 4000 operating hours or at least every 6 months.	– Check the hydraulic oil and replace if necessary (more frequently if the oil is very dark, contaminated or flocculating). – Check all parts of the device for wear and replace faulty parts.
Annually or after unusual events.	Have safety checks performed at regular intervals and following any unusual events – see page 33.

2.2 Consumables

Lubricants

Lubricants		Value	Unit
Hydraulic oil	Oil type	ISO VG 32	-
	Viscosity	32	cSt at 40 °C
	Refill quantity	2.5	Litres
Multi-purpose lubricant		DIN 51825 T1-K 2 K	-

2.3 Charge indicator

The charge indicator on the hydraulic unit shows the charge status of the battery.

NOTICE

Deep discharge of the battery!

Deep discharge permanently damages the battery and shortens its service life.

▶Cease operation and charge the battery if the voltage shows less than 9.6 V.

▶Charge the battery whenever possible, e.g. when the device is not in use.

2.4 Charging and replacing the battery

⚠ CAUTION!

Production of explosive gases!

Risk of injury due to combustion of explosive gases.

- ▶ Always charge batteries in a well ventilated environment.
- ▶ Keep open flames, glowing embers and hot surfaces away from the battery during charging.

⚠ CAUTION!

Exposed electrical contacts

Risk of injury due to electric shock

- ▶ Never touch both electrical contacts at the same time.
- ▶ Do not remove the insulation on electrical contacts for longer than absolutely necessary.
- ▶ Work on truck batteries must be performed only by specialist personnel with the requisite training.

NOTICE

Incorrect mains voltage!

Risk of damage to battery charger.

- ▶ Check the mains voltage.

NOTICE

Incorrect charging process

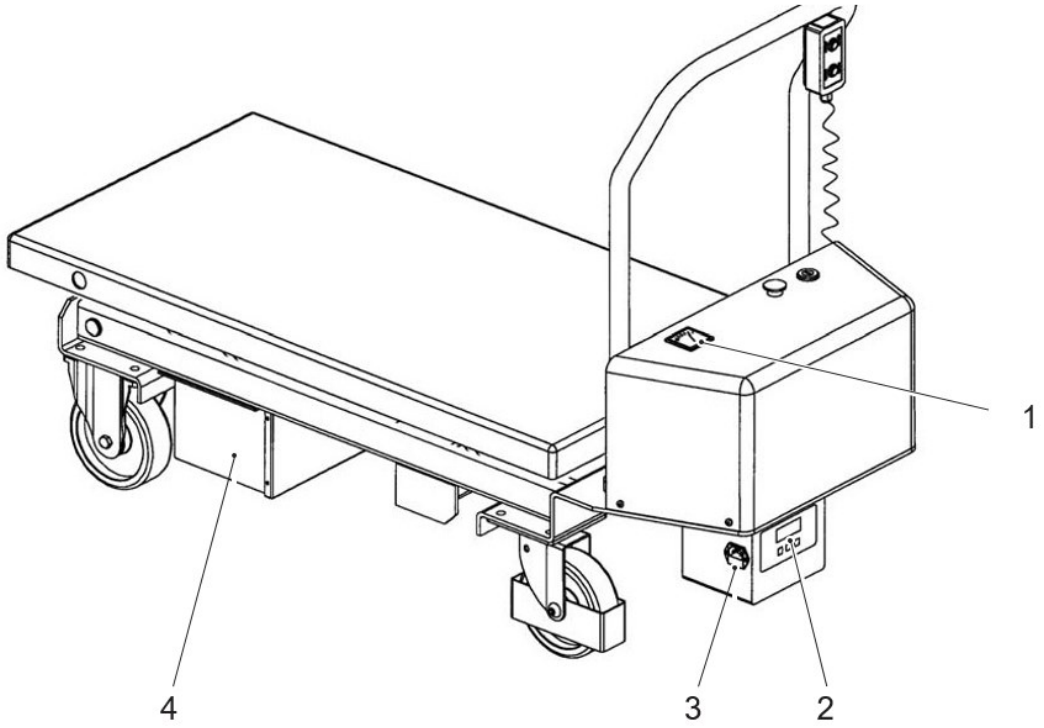
Reduced battery life

- ▶ Do not interrupt the charging process.
- ▶ Avoid deep discharge / intermediate charging.

Charging the battery with the on-board charger

➔ The on-board charger is designed to be used with the standard battery fitted to the device. When replacing the battery, be aware of the electrotechnical specifications.

➔ Preferably charge batteries when the device is not in use.



Requirements

– The mains voltage corresponds to the input voltage of the internal power supply unit.
– Device is parked securely in a dry and closed room.
– Device is switched off – see page 25.
– Voltage display (1) shows < 9.6 V.

- Check the charge status on the charge indicator (2).
- Connect the charge cable with the suitable connector to the charger socket (3).

➔ The charge cable is located by the handlebar

- Connect the other end of the charge cable to a suitable mains socket.
  The battery symbol on the charge indicator (2) flashes to indicate that the battery is being charged.
- Continue charging until the battery symbol on the charge indicator (2) is full.
  The battery is fully charged, and the charger switches to trickle charge mode.
- When the battery is fully charged: Unplug the power cable from the mains and disconnect it from the socket.

➔ The integrated automatic charger can be operated with 110 V or 230 V. Charging stops automatically when the battery has reached 80% capacity or if the charging duration has exceeded 12 hours.

➔ If the charge indicator (2) lights up red, check the battery cable, connections and presence of an AC voltage.

Replacing the battery

- Park the truck securely and switch it off – see page 25.
- Open the battery box (4).
- Release the strap securing the battery.
- Undo the terminal screws and detach the battery cables from the terminals.

- Position the battery cables such that they cannot catch on the device when the battery is pulled out.
- Remove the old battery.
- Insert the new battery.

➔ Ensure correct polarity of the battery cables during reassembly.
Red cable connection: + terminal
Blue cable connection: - terminal

- Attach the battery cables to the terminals and tighten the terminal screws. Grease the terminals with terminal grease if necessary.
- Secure the battery with the strap.
- Inspect all cable and plug connections for visible signs of damage.
- Close the battery box (4).

3 Repairs

3.1 Safety tests to be performed at intervals and after unusual events

➔ Always perform safety checks in accordance with national regulations. These may deviate from the steps listed below.

Requirements

– The inspecting person is qualified to conduct the following check.
– The inspecting person is independent and unbiased (from an operational and business perspective) and assesses the device purely in terms of its safety.
– The inspecting person possesses sufficient knowledge and experience to assess the condition of the device and the effectiveness of the safety equipment based on the rules of technology and the principles for testing the described device.

- Inspect the technical condition of the device with regard to accident safety.
- Thoroughly check the device for damage.
- Produce a written test report and retain it for at least 2 years. Responsibility for the test report rests with the owner.
- Rectify any identified defects before next using the device.
- Following a successful inspection, attach an inspection plaque to the device in a visible location.

H Shutdown, storage and disposal

1 Decommissioning

1.1 Shutting down the device

- Thoroughly clean the device.
- Check the hydraulic oil level and top up if necessary.
- Apply a thin layer of oil or grease to any non-painted mechanical components.
- Lubricate the device.

1.2 Returning the device to service after shutdown

- Thoroughly clean the device.
- Lubricate the device.
- Check the hydraulic oil for condensation water and replace the oil if necessary.
- Start up the device.
- Perform a complete function check immediately after start-up.

2 Storage

2.1 Storing the device

NOTICE

Incorrect storage!

Risk of material damage.

▶Always store the device in a dry and frost-free environment.

▶Jack up the device so that the rollers can spin freely.

Storing the device

Requirements

– Device is being taken out of service for more than 2 months (e.g. for operational reasons).
– Device has been prepared for storage as described, see page 34.

- Protect the device against dust and corrosion, e.g. using a tarpaulin.
- Before storing the device for longer than 6 months, discuss necessary additional measures with the manufacturer's customer service department.

3 Disposal

3.1 Decommissioning the device

- Observe the applicable regulations in the country of use when decommissioning the device.

3.2 Disposing of the device

- Observe the country-specific regulations regarding disposal of the device and consumables.