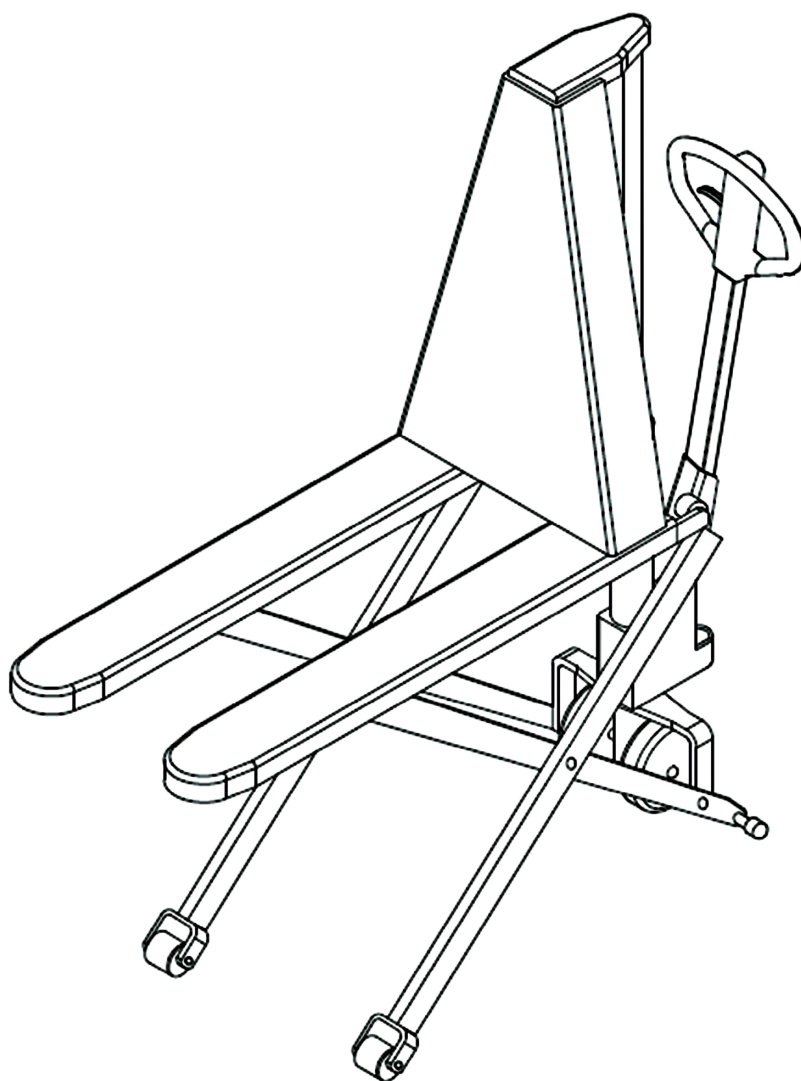


PTM 1.0 Scissor, PTM 1.0 Scissor electric

08.2020

Operating instructions

en-GB



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A About this manual

These operating instructions describe the correct use of the products listed in the "Scope" chapter – see page 6. 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.

Scope

This document applies to the following devices:

- PTM 1.0 Scissor
- PTM 1.0 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	<ul style="list-style-type: none">– 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 8.– Observe additional device-specific provisions and regulations.
Operator	<ul style="list-style-type: none">– Read and observe these operating instructions and other applicable documentation, particularly the safety instructions and warnings see page 8.– Ensure that the device is used correctly and in accordance with the safety regulations.

Tab. 1: Owner and operator duties

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 warning symbol and signal word.

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.

General information



Indicates additional information and explanations.

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.

The PTM 1.0 Scissor electric can be used as a stationary working platform on level surfaces.

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 21.
- 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 21.

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

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 Rights and duties

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 Commissioning, transport and storage

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 lift 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 and cleaning

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 32.
- 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).
- Immediately after any maintenance work, complete all steps for returning the device to service – see page 36.
- 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

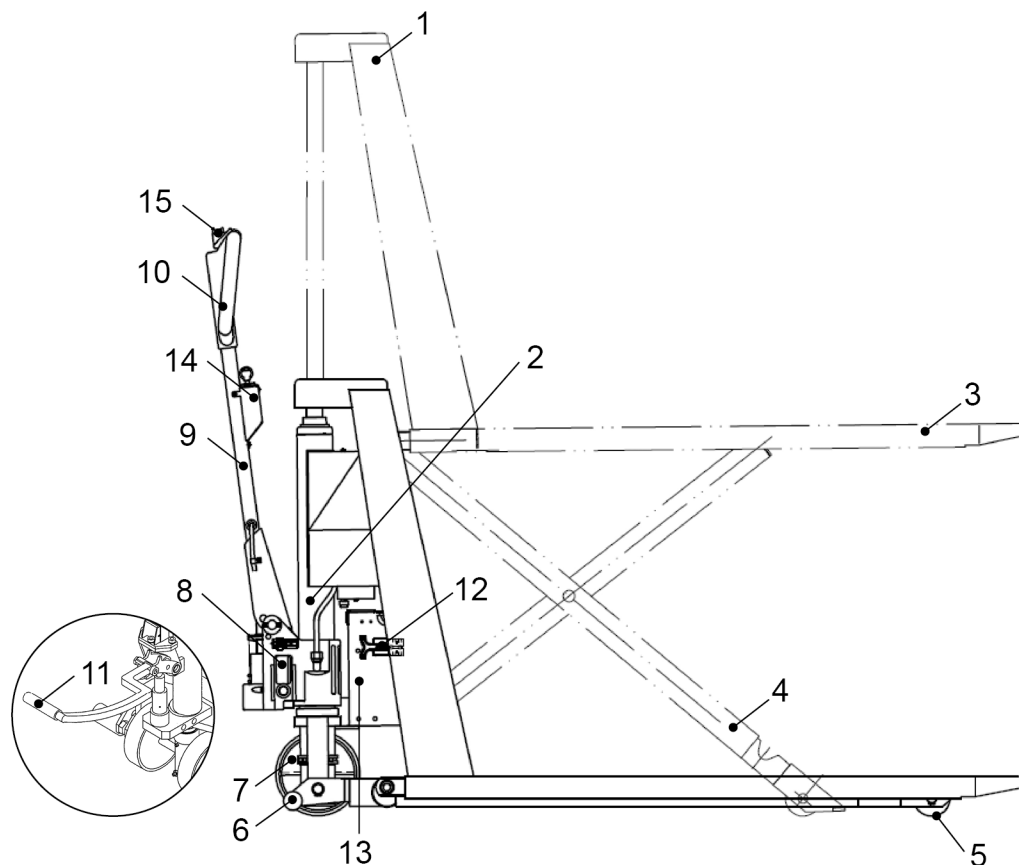
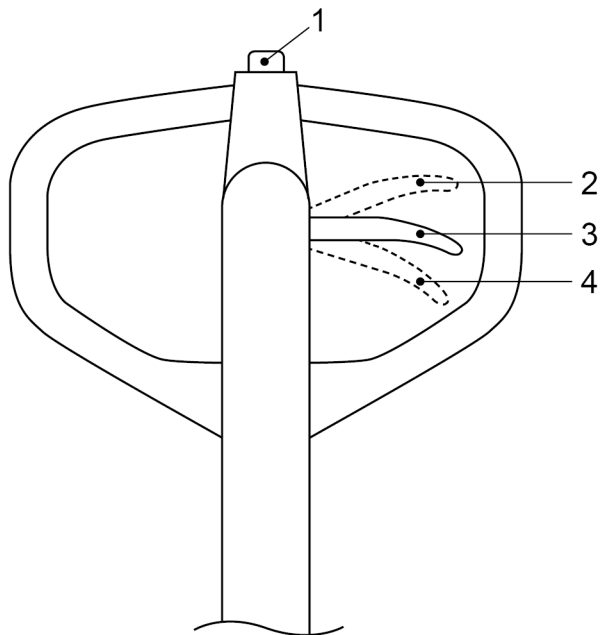


Fig. 1: Description of truck assemblies and functions

Item	Description	Function
1	Fork shank	Provides fundamental stability.
2	Hydraulic unit	Generates hydraulic pressure, lifts loads.
3	Load handler	Carries the load.
4	Scissors	Support the raised load.
5	Load wheels	Move the truck forward and back.
6	Stabilisers	Support the fork scissors.
7	Swivel castors	Steer the truck.
8	Hydraulic unit	Generates hydraulic pressure.
9	Tiller	Controls the truck. Generates hydraulic pressure.
10	Control lever	Moves the truck. Generates hydraulic pressure.
Item 11 applies only to PTM 1.0 Scissor.		
11	Foot pedal	Raises/lowers the load handler.
Items 12-15 apply only to PTM 1.0 Scissor electric.		
12	Safety connector	Establishes the connection between the lift switch and electrical controller.

Item	Description	Function
13	Battery	Supplies the truck with energy.
14	Key switch	Switches the truck on/off.
15	Lift switch	Raises/lowers loads electrically.
16	On-board charger (not shown)	Charges the internal battery.

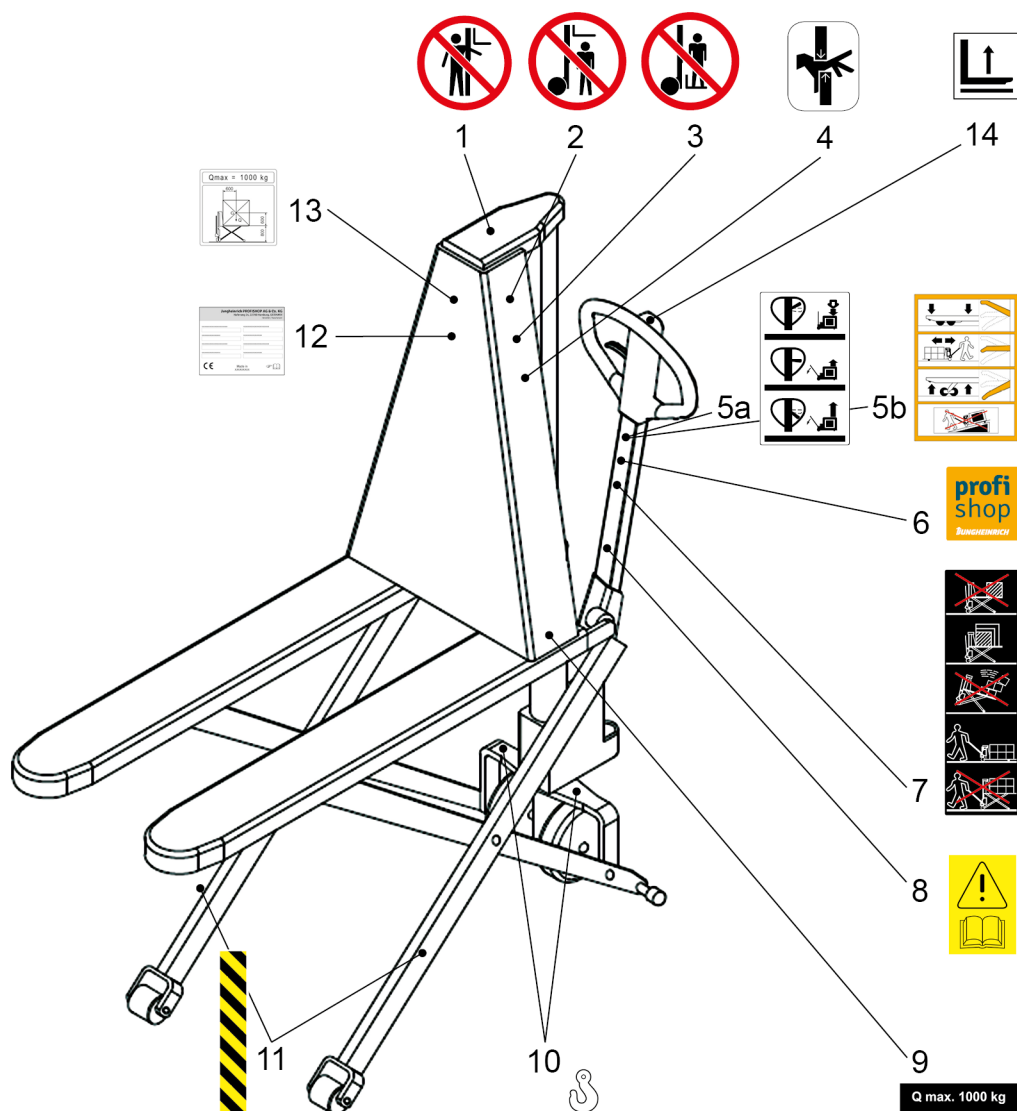
1 Controls



Item	Control	Function
1	PTM 1.0 Scissor electric: "Rapid lift" switch (electric)	Rapidly raises the load with the aid of the electric motor.
2	Control handle in "lower" position	Lowers the load.
3	Control handle in "lift" position	Raises the load with the movement of the tiller.
4	Control handle in "rapid lift" position	Raises the load with the movement of the tiller.

2 Marking and labelling

Locations of the warning and information signs



Item	Description
1	Prohibition sign: "Do not reach in"
2	Prohibition sign: "Do not step under the load handler"
3	Prohibition sign: "Do not climb onto the load handler"
4	Warning sign: risk of crushing
5a	Information sign: handle operation (PTM 1.0 Scissor)
5b	Information sign: handle operation (PTM 1.0 Scissor electric)
6	Jungheinrich PROFISHOP
7	Information sign: correct operation
8	Information sign: read operating instructions
9	Q_{max} XXXX kg
10	Marking of attachment points for loading by crane

Item	Description
11	Black/yellow scissor marking
12	Data plate
13	Q _{max} XXXX kg incl. load centre
14	Function sign: lift with lift button (PTM 1.0 Scissor electric)

Jungheinrich PROFISHOP AG & Co. KG
Haferweg 24, 22769 Hamburg, GERMANY
Hersteller / Manufacturer

15 Produktbezeichnung / Product Type

14 Typ / Type

13 Seriennummer / Serial Number

12 Nenntragfähigkeit / Rated Capacity

11 Batteriekapazität in V/Ah / Battery Capacity in V/Ah

10 Max. Betriebsdruck / Max. Op. Pressure

9 Hubmotorleistung / Nominal Power

Artikelnummer / Item Number

Option / Option

Baujahr / Year of Manufacture

Lastschwerpunkt / Load Center

Leergewicht / Weight

Schutzklasse / IP-Code

Batteriegewicht / Battery Weight

CE Made in

Fig. 2: 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

3 Battery display (only on PTM 1.0 Scissor electric)

The battery display indicates the charge status of the battery via 10 LEDs. The LEDs extinguish in line with the charge status.

Figure on right: battery fully discharged.

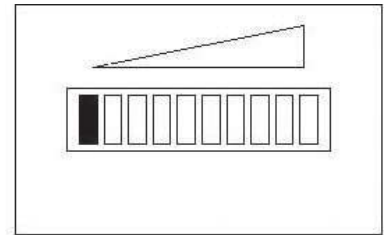
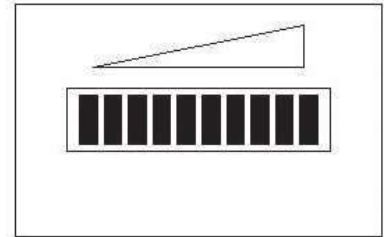


Figure on right: battery fully charged.



D Technical Specifications

1 Dimensions

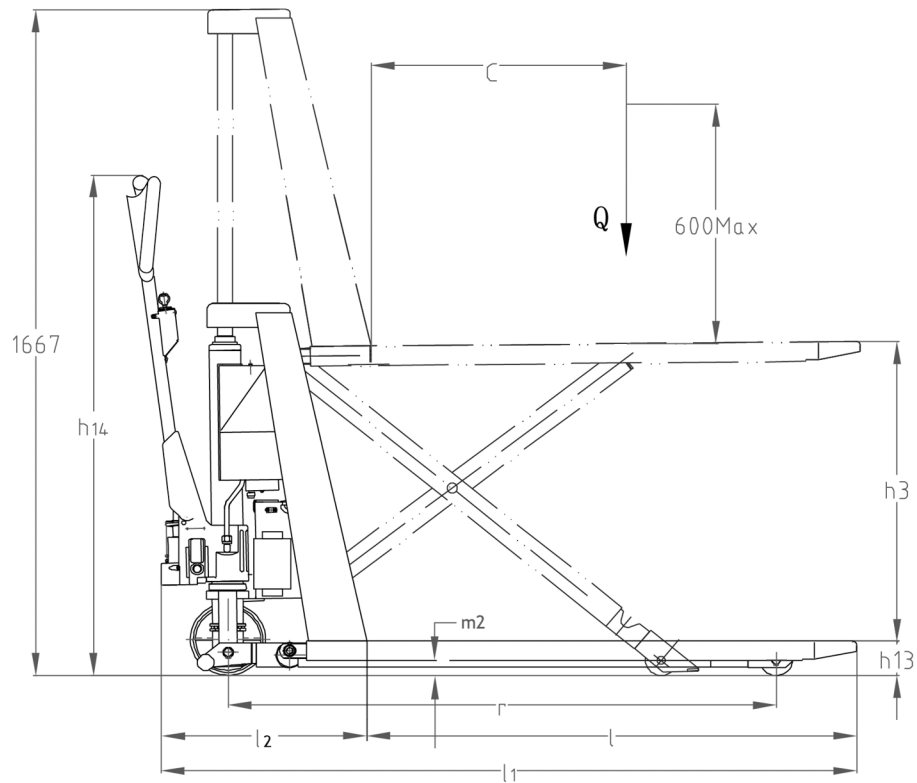


Fig. 3: Truck dimensions (side view, schematic)

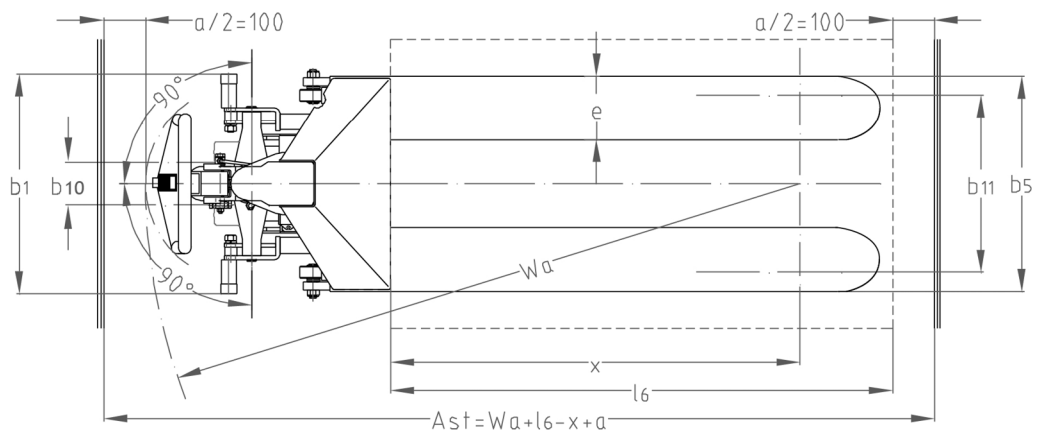


Fig. 4: Truck dimensions (top view, schematic)

2 Performance data

Technical data

Description	Item	Value		Unit
Identification				
Manufacturer's type designation	-	PTM 1.0 Scissor	PTM 1.0 Scissor electric	-
Drive type	-	-	Electric	-
Operation	-	-	Manual	-
Capacity	Q	1,0		t
Basic dimensions				
Total weight		128	-	kg
Total weight incl. battery (if fitted)	-	-	152	kg
Lift (standard mast)	h3	800	715	mm
Mast height, extended	h4	-	1660	mm
Tiller height	h14	1270	1254	mm
Lowered height	h13	85		mm
Fork length	l	1150	-	mm
Overall length	l1	1480	1715	mm
Length without fork arms	l2	-	492	mm
Overall width	b1	540		mm
Distance between outer edges of load handler	b5	540	-	mm
Fork dimensions	s/e/l	-	45/160/1170	mm
Ground clearance, centre of wheelbase	m2	-	18	mm
Aisle width for pallets 800 × 1200 lengthways	Ast	-	1986	mm
Turning radius	Wa	-	1564	mm
Performance data				
Load centre distance	c	600	-	mm

Technical data – electric motor and battery PTM 1.0 Scissor electric

Description	Item	Value	Unit
Lift motor, output for S3 15%	-	0,58	kW
Battery acc. to DIN 43531/35/36 A, B, C	-	No, maintenance-free	-
Battery voltage	-	12	V
Battery capacity K5	-	52	Ah
Battery weight	-	24	kg

Technical data – on-board charger PTM 1.0 Scissor electric

Description	Item	Value	Unit
Input voltage	-	150 - 260	V
Input current type	-	AC, 50 - 60	Hz
Output voltage	-	145 ±0,3	V
Input current value	-	5 - 6	A
Operating temperature	-	-15 - +65	°C

Correct environmental conditions

Condition	Value PTM 1.0 Scissor electric	Value PTM 1.0 Scissor
Application area	Indoor use	
Permitted ambient temperature	+5°C to +40°C	-10°C to +40°C
Minimum illumination	50 Lx	



Special equipment and authorisation is required if the truck is to be used continuously at temperatures below 5°C (e.g. in a cold store) or in areas subject to extreme fluctuations in temperature or humidity.

E Commissioning, transport and storage

1 Using the Truck for the First Time

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.
- Check the functionality of the actuators, rollers, wheel axles and scissor lift axles.
- Immediately notify the carrier of any transport damage or missing components.

2 Transport

⚠ CAUTION!

Inadequately secured transport!

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

- ▶ The device must be sufficiently secured when transported on an HGV or trailer.
- ▶ Use the lashing rings on the HGV or trailer.
- ▶ The device must only be loaded by specially trained personnel while observing the applicable regulations.

⚠ 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.
- ▶ Do not stand under suspended loads.
- ▶ Do not stand in the hazardous area when the device is being lifted by crane.

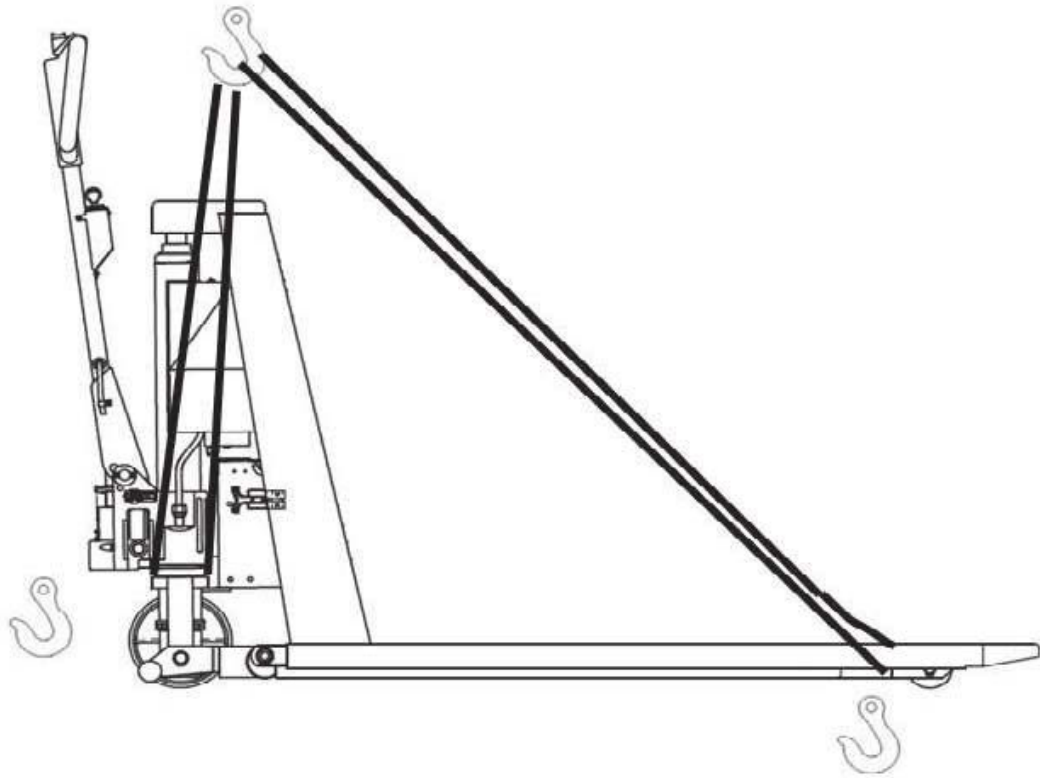


Fig. 5: Attachment points on device (example depiction)

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 loads

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.

- ▶ Never exceed the permitted maximum capacity.

The truck is equipped with two supports, which automatically extend towards the ground. Once the supports are fully extended, the truck can no longer be moved.

Requirements

- The load is correctly palletised and secured against tipping.
- The truck is switched on and the load handler is fully lowered.
- Slowly move the load handler under the load until the load is resting against the fork shank.

The load is distributed evenly on the load handler and can be raised.

Raising the load slowly

- Move the control handle to the "lift" position.
- Move the tiller up and down or operate the foot pedal until the load has reached the desired height (only on PTM 1.0 Scissor). Ensure that the load is positioned evenly on the load handler.
- Move the control handle to "neutral" position.

The load has been raised.

Raising the load quickly

- PTM 1.0 Scissor electric: Press the lift switch until the load has reached the desired height. Ensure that the load is positioned evenly on the load handler.
- PTM 1.0 Scissor: Move the control handle to the "rapid lift" position.
- Move the tiller up and down or operate the foot pedal until the load has reached the desired height (only on PTM 1.0 Scissor). Ensure that the load is positioned evenly on the load handler.

The load has been raised.

3 Lowering loads

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

- Move the control handle to the "lower" position.
- To stop the lowering process: Release the control handle.
- Before continued operation: Move the control handle to "neutral" position.

The load has been lowered.

4 Travel

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.
- ▶ Do not move loads unless 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 not in "lower" 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.



The tiller is connected to the steering castors and transmits the steering and travel movements performed by the operator.

Moving the load

- Move the control handle to "neutral" position.
- Push or pull the tiller to move the device forward or back.
- Move the tiller to the side to move left or right.

The device moves in the desired direction.

5 Brakes

Braking the device slowly

- Move the tiller in the opposite direction to the travel direction until the device comes to a stop.

The device has been stopped.

6 Parking the truck securely

Parking the device securely

- Position the device on a smooth, level surface.
- Fully lower the load handler.

- If possible, apply the parking brake.
- Fold up the tiller so that it doesn't hinder other operations.

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



This fault table applies to PTM 1.0 Scissor and PTM 1.0 Scissor electric.

Fault	Possible cause	Fault rectification
Control lever is in "lift" position, load handler not lifting.	Air in the hydraulic system.	Bleed the hydraulic system.
	Hydraulic pump faulty.	Check the hydraulic pump and replace if necessary.
Load handler not lifting even though the hydraulic pump is working correctly.	Load is too heavy (overload valve actuated).	Reduce load.
	Control lever is not set correctly.	Set the control lever or piston 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 hydraulic oil.
	Viscosity of hydraulic oil is too high.	Use suitable hydraulic oil.
	Lowering valve is not coordinated with control lever.	Adjust the piston rod nut.
Load handler does not reach the top position.	Oil level in hydraulic reservoir too low.	Lower the load handler and top up hydraulic oil.
Raised load is lowered only 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.
Raised load handler lowers automatically.	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 valve.

Fault table



This fault table applies only to PTM 1.0 Scissor electric.

Fault	Possible cause	Fault rectification
Motor and hydraulic pump not working.	Fuse "FU1", "FU2" or "FU3" faulty.	Replace fuses.
	Connector is loose or not connected.	Attach the connector correctly.
	Truck switched off.	Switch on the truck.
	Motor is faulty.	Replace motor.
Load is not raised even though the pump is working correctly.	Current circuit not closed.	Check wiring and replace if necessary.
	Electromagnetic contactor "KM" faulty.	Replace contactor "KM".
	Lift switch blocked or faulty.	Check the lift switch and replace if necessary.
Load handler does not reach the top position.	Battery is discharged.	Charge the battery.
Battery capacity too low.	Charge status too low.	Charge the battery.
	Battery is faulty.	Replace the battery.
Battery cannot be charged.	Fuse "FU2" is faulty.	Replace fuse "FU2".
	Battery or charger is faulty.	Replace battery or charger.
Battery discharges very quickly.	Battery is damaged due to sulphation or is otherwise faulty.	Repair or replace the battery.
	Battery has leaked.	Replace the battery.
	Battery or electrical system has been earthed accidentally.	Check the battery and electrical system for earthing contacts and repair.

2 Maintenance

2.1 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.
-

2.2 Maintenance intervals

Requirements

- The device is used in single-shift operation.
- The device is used under normal operating conditions – see page 8.
- 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
PTM 1.0 Scissor electric: as required, as soon as the battery is discharged.	Charge the battery – see page 34.
Daily.	Check the truck before use – see page 24
After all cleaning and repair work.	<ul style="list-style-type: none"> – Lubricate the truck at the designated points. – Bleed the hydraulic system.
After the first 100 service hours.	<ul style="list-style-type: none"> – Re-tighten wheel nuts and bolts. – Check hydraulic connections for leaks and tighten if necessary.
PTM 1.0 Scissor: Every 1000 service hours, or at least monthly.	Arrange for an expert inspection to be carried out.
Monthly.	<ul style="list-style-type: none"> – 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 2000 operating hours, or at least annually.	<ul style="list-style-type: none"> – Replace the hydraulic oil (more frequently if the oil is very dark, contaminated or flocculating). – Check all parts of the device for wear and replace faulty parts. – Perform a safety check according to national regulations. Jungheinrich recommends an inspection in accordance with FEM guideline 4.004.
Every 6 years.	Replace hydraulic components and hydraulic hoses.

2.3 Consumables

Lubricants

Lubricants		PTM 1.0 Scissor electric	PTM 1.0 Scissor	Unit
Hydraulic oil	Oil type	ISO VG 32		-
	Viscosity	32		cSt at 40 °C
	Top-up quantity	1 to 1.3	Approx. 1.1	Litres
Multi-purpose grease		DIN 51825 T1-K 2 K		-

2.4 Charging the batteries (PTM 1.0 Scissor electric)

⚠ 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.

NOTICE

Incorrect mains voltage!

Risk of damage to battery charger.

- ▶ Check the mains voltage.

Charging the battery with the on-board charger

- The current charge status can only be read from the charge status indicator. To check the charge status: Interrupt charging and start the truck.

Requirements

- Load handler fully lowered.
- Mains voltage corresponds to the input voltage of the internal power supply unit.

- Park the truck securely and switch it off.
- Connect the power cable plug to the mains.

The power display lights up red.

The charge display lights up red, the battery is charging.

- When the battery is fully charged: Disconnect the power cable from the mains and insert it into the designated holder.

The +12 V output cable is live.

3 Repairs

3.1 Replacing the battery

- Park the truck securely and switch it off – see page 27.
- Remove the old battery:
 - Detach the safety connector.
 - Undo both screws on the top cover.
 - Undo both screws on the rear mounting rail.
 - Remove the terminals and take out the battery.
- Insert the new battery:
 - Insert the battery and connect the terminals.
 - Tighten both screws on the rear mounting rail.
 - Tighten both screws on the top cover.
 - Connect the safety connector.
- If necessary: Fully charge the new battery – see page 34.

The battery has been replaced and the truck can be used again.

3.2 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.
- Carefully inspect the device for damage that may be attributable to incorrect use.
- 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, decommissioning and disposal

1 Decommissioning

- 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.

1.1 Shutting down and 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 shutdown as described – see page 36.
- Store the device securely in a dry and frost-free room.
- Jack up the device so that the rollers can spin freely.
- 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.

1.2 Recommissioning 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 Decommissioning and disposal

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