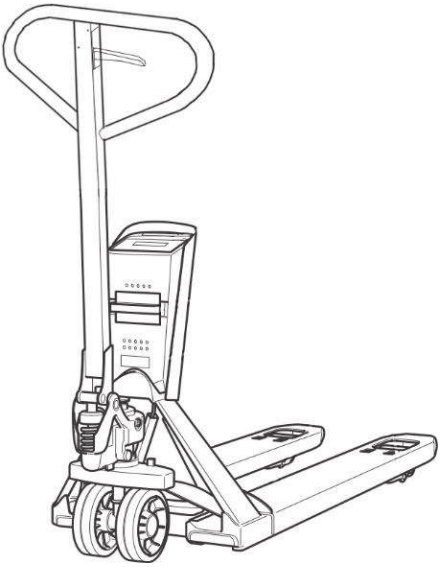
Ameise PTM 2.0 Scale PRO

Operating instructions

GB



Valid from: 01/01/2019

Revision 01

Foreword

These operating instructions are a translation of the original operating instructions.
These operating instructions are designed to provide sufficient instruction for the safe operation of the material handling equipment. The information is presented in a precise and clear manner. The chapters are arranged by letter. Each chapter starts with page 1. The individual pages are identified by the chapter letter and page number.
Example: Page B 2 is the second page of chapter B.

The operating instructions describe different truck versions. When operating and servicing the truck, make sure that the particular section applies to your truck model.

Safety instructions and important explanations are indicated by the following icons:

Used before safety instructions which must be observed to avoid danger to personnel.

Used before notices which must be observed to avoid material damage.

Used before notices and explanations.

● Indicates standard equipment.

○ Indicates optional equipment.

In the interest of ongoing development, the manufacturer reserves the right to incorporate modifications (without changing the basic characteristics of the equipment model) without necessarily updating the present operating instructions at the same time.

Contents

A Correct use

The truck described in these operating instructions is an industrial truck with weighing function designed for lifting and transporting loads.
It must be used, operated and serviced in accordance with these operating instructions. All other types of use are beyond its scope of application and may result in damage to personnel, the industrial truck or property. In particular, avoid overloading with items that are too heavy or placed on one side. The data plate attached to the truck or the load chart are binding for the maximum load capacity. The industrial truck must not be used in fire or explosion endangered areas, or areas threatened by corrosion or excessive dust.

Operating company responsibilities: For the purposes of these operating instructions the "operating company" is defined as any natural or legal person who either uses the industrial truck himself, or on whose behalf it is used. In special cases (e.g. leasing or renting) the operating company is considered the person who, in accordance with existing contractual agreements between the owner and user of the industrial truck, is charged with operational duties.
The operating company must ensure that the industrial truck is used only for the purpose for which it is intended and that danger to life and limb of the user and third parties are excluded. Furthermore, accident prevention regulations, safety regulations and operating, servicing and repair guidelines must be followed. The operating company must also ensure that the truck is operated and maintained correctly and solely by trained and authorised personnel.

The operating company must ensure that all users have read and understood these operating instructions.

Failure to comply with these operating instructions shall invalidate the warranty. The same applies if improper work is carried out on the truck by the customer or third parties without the permission of the manufacturer's customer service department.

Attaching accessories: The mounting or installation of additional equipment that affects or supplements the functions of the truck requires the written permission of the manufacturer. Local-authority approval may also need to be obtained.
Local authority approval, however, does not replace the manufacturer's approval.

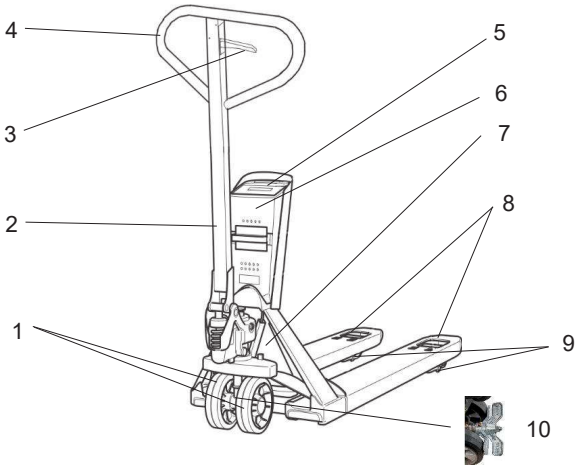
B Truck description

1 Application and operating conditions

The vehicle is a pallet truck with a weigher, designed for transporting goods on level surfaces. Open bottom pallets or pallets with diagonal boards can be lifted outside the range of the load wheels. The model is suitable for performing control and process weighing operations with very high accuracy. The capacity is shown on the data plate and on the capacity plate Qmax.

Operating conditions:
Ambient temperature: from -10°C to +40°C at 10 to 95% relative air humidity.
Ambient lighting: min. 50 Lux.

2 Assemblies



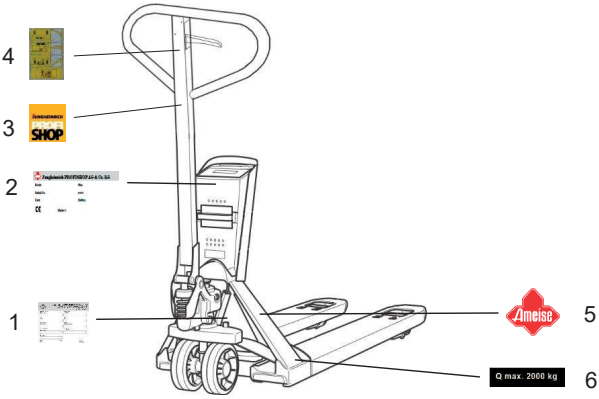
Item		Description
1	●	Steering wheels
2	●	Tiller
3	●	"Forks neutral/lift/lower" handle
4	●	Grip
5	●	Weigher operating and display unit
6	●	Data plate for weigher operating and display unit
7	●	Data plate
8	●	Load handler
9	●	Load wheels
10	○	Foot brake

● = Standard equipment	○ = Optional equipment

3. Technical data

	PRO
Capacity	2000 kg
Measuring tolerance for 2000 kg load	+/- 1.0 kg
Lift height min. - max.	90 - 200 mm
Steering wheel diameter	180 mm
Fork roller diameter	74 x 93 mm / 74 x 70 mm
Net weight	109 kg

3.1 Identification points and data plates



Warning and information signs	
1	Data plate for weighing scale pallet truck
2	Data plate for operating and display unit
3	Jungheinrich Profishop
4	"Correct operation" notice
5	Ameise logo, both sides
6	"Q max" plate, both sides

The warning and information signs must be attached as shown in the figure. The figures given on the truck should be seen as a supplement to these operating instructions. Any damaged or missing decals must be replaced immediately.

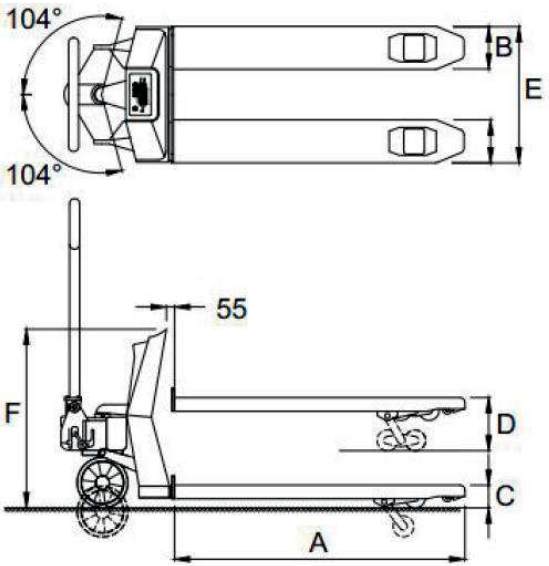
3.2 Pallet truck data plate

The following information is provided on the data plate

3.3 Batteries

	Quantity	Capacity	Voltage
PRO	1	1.2 Ah per unit	12 V per unit

3.4 Dimensions



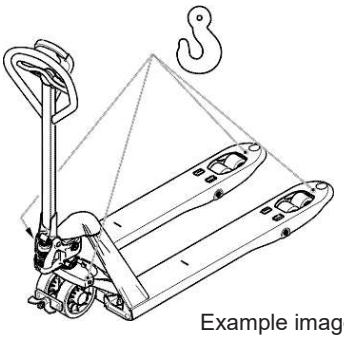
	Description	PRO
A	Fork length	1150 mm
B	Fork width	180 mm
C	Fork height, lowered Ground clearance	90 mm 22 mm
D	Fork height, max. lift height	210 mm 120 mm
E	Width across forks	555 mm
F	Height of upper edge of display Tolerance +/- 3 mm	800 mm

C Transport

1 Crane loading

Only use lifting gear with sufficient capacity (for transport weight see truck data plate).

Loading the truck by crane



Example image

Requirements

– Park the truck securely (see section D, chapter 5)

STOP

Tools and materials required
– Lifting gear
– Crane gear

Procedure

– Secure the crane gear to the attachment points.
– Attach the crane gear so that it cannot slip.
– Lifting accessories of the crane gear must be attached in such a way that they do not come into contact with any components.

The truck can now be loaded by crane.

2 Transport

STOP

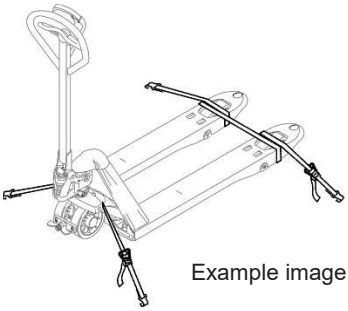
The truck must be securely fastened when transported on a lorry or a trailer.

Securing the truck for transport

Requirements

– Truck loaded.
– Truck parked securely (see section D, chapter 5.0)

Tools and materials required: Lashing straps



Example image

Procedure

– To secure the truck, attach the tensioning belt to the attachment points and secure it to the fastening rings.
– Tighten the tensioning belt with the tensioner.

Carry out this procedure on both sides of the truck. The truck can now be transported.

D Operation

1 Safety regulations for the operation of industrial trucks

Operator's rights, obligations and responsibilities: The operator must be informed of his duties and responsibilities and be instructed in the operation of the truck and must also be familiar with the operating instructions. The operator shall be afforded all due rights.

Do not allow unauthorised persons to use the truck: The operator is responsible for the truck during the time it is in use. The operator must prevent unauthorised persons from driving or operating the truck. Carrying or lifting of persons on the truck is prohibited.

Damage and faults: The supervisor must be immediately informed of any damage or faults to the truck or attachment. Trucks which are unsafe for operation (e.g. worn wheels or brake defects) must not be used until the problems have been rectified.

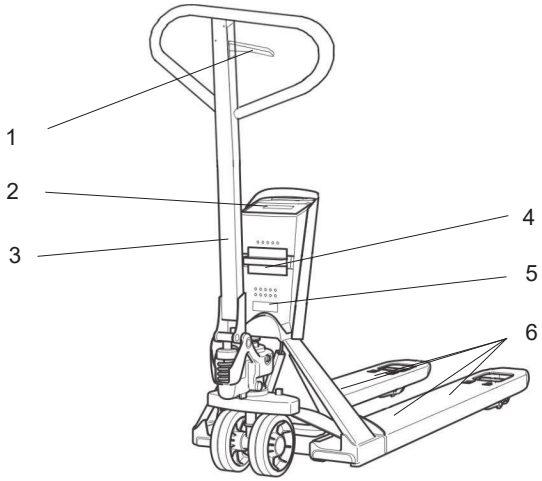
Repairs: The operator must not carry out any repairs or alterations to the truck without the necessary training and authorisation to do so. The operator must never disable or adjust safety equipment or switches.

Hazardous area: The hazardous area is defined as the area in which a person is at risk due to truck movement, lifting operations, the load handler (e.g. forks or attachments) or the load itself. This also includes areas which can be reached by falling loads or lowering operating equipment.

Unauthorised persons must be kept away from the hazardous area. Where a danger to personnel exists, a warning must be sounded in good time. If unauthorised personnel fail to leave the hazardous area when instructed, the truck must be brought to a halt immediately.

Safety devices and warning signs: The safety devices, warning signs and warning instructions described in these operating instructions shall be strictly observed.

2 Description of the controls and of the weighing system



Item	Control / Display		Function
1	"Lift/lower fork" handle	●	Selects lift/neutral/lower.
2	Weigher operating and display unit	●	Operates the weigher. Displays the weight on the forks.
3	Tiller	●	Moves and steers the truck. Raises the forks manually.
4	Battery	●	Power supply
5	On-board printer	○	Prints out the weighing data
6	4 weighing cells	●	Used to weigh the load

● = Standard equipment	○ = Optional equipment

Weight detection

Four load cells are bolted to the load carrying frame and also to the load attachment head. The load cells and the connection cables to the evaluation and display unit are installed so that they are protected.

Operating and display unit

Weights and system statuses are displayed. All functions of the weighing system can be called up using the buttons below the display.

3 Starting up the truck

Before the truck can be started, operated or a load lifted, the operator must ensure that there is nobody within the hazardous area.

Checks and operations to be performed before starting daily work

Inspect the entire truck (especially the wheels and the load handler) for visible signs of damage.

4 Industrial truck operation

4.1 Safety regulations for truck operation

Travel routes and work areas: Only use lanes and routes specifically designated for traffic. Unauthorised third parties must stay away from work areas. Loads must only be stored in places specially designated for this purpose.

Travel conduct: The operator must adapt the travel speed to local conditions. The truck must be driven at slow speed when negotiating bends or narrow passageways, when passing through swing doors and at blind spots. The operator must always observe an adequate braking distance between the forklift truck and the vehicle in front and must be in control of the truck at all times. Abrupt stopping (except in emergencies), rapid U turns and overtaking at dangerous or blind spots are not permitted.

Travel visibility: The operator must look in the direction of travel and must always have a clear view of the route ahead. Loads that affect visibility must be positioned at the rear of the truck. If this is not possible, a second person must walk in front of the truck as a lookout.

Negotiating slopes and inclines: The industrial truck must not be operated or parked on inclines or slopes.

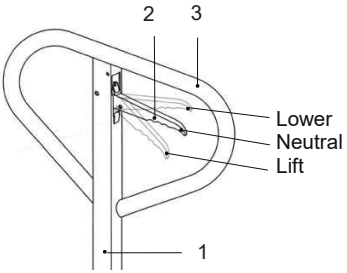
Negotiating lifts and docks: Lifts and docks must only be used if they have sufficient capacity, are suitable for driving on and authorised for truck traffic by the owner. The driver must satisfy himself of the above before entering these areas. The truck must enter lifts with the load in front and must take up a position which does not allow it to come into contact with the walls of the lift shaft. People travelling in the lift with the forklift truck must only enter the lift after the truck has come to a halt and must exit the lift before the truck.

Nature of loads to be carried: Only properly secured loads must be transported.

4.2 Travel, steering, braking

Never carry passengers.

Travel



– Set the handle (2) to the "neutral" position.
– The truck can be pulled or pushed using the grip (3) on the tiller (1).

The handle (2) must be in the "neutral" position in order to move a laden truck.

Steering

– Move the tiller (1) to the left or right, within a range of approx. 105°.

On tight bends the tiller extends beyond the perimeter of the truck.

Braking

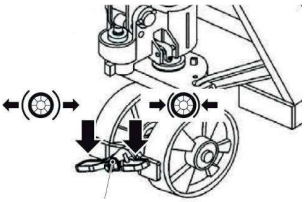
In an emergency you can stop the truck by lowering the load:

– Push the handle (2) in the "Lower" direction to lower the load.

Foot brake (optional)

Never attempt to apply the brake manually.

– To apply the brake, use your foot to press the right side of the brake (9) all the way down. The brake shoe is pressed against the wheels and blocks them.
– To release the brake, use your foot to press the left side of the brake (9)
– all the way down. The spring pushes the brake shoe back and releases the wheels.



4.3 Lifting and depositing load units

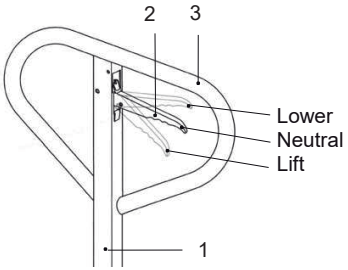
Only pick up correctly palletised load units. Observe the permitted capacity of the truck. Do not lift long loads sideways.

The truck may tip over due to an excessive top load.

The handle (2) must be in the "neutral" position in order to move a laden truck.

– Push the handle (2) in the "lower" direction to lower the load.
– Fully insert the load handler underneath the load unit.

Lifting



– Push the handle (2) in the "Lift" direction.
– Lift the forks by moving the tiller (1) up and down until you reach the desired lift height.
– Set the handle (2) to the "neutral" position.

Rapid lift

Note: Rapid lift is effective for loads of up to 120 kg. For pallets over 120 kg, rapid lift applies for the distance under the pallet. As soon as the load is raised, the truck switches to normal lift.

Lowering
– Push the handle (2) in the "Lower" direction to lower the load.
– Set the handle (2) to the "neutral" position.

4.4 Operating the weigher

Commissioning

Press the on/off button (3) to activate the weighing system.
After three to five minutes, the electronics and weighing cells will have reached operating temperature. Until this time, deviations of up to around 0.3% are possible.

Loads should only be lifted following zero adjustment.

4.5 Power supply and operating time

Power is supplied by a rechargeable battery module.
The device is deactivated automatically when not used for a period of 30 minutes.

	Operating time
Pro	Up to 35 hours continuous operation

4.5.1 Replacing and charging batteries in the operating and display unit

If battery acid has escaped, avoid contact with the skin, eyes and mucous membranes. In the event of contact with acid, immediately rinse the affected areas with plenty of clear water and contact a doctor immediately.

General battery instructions

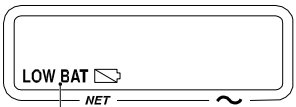
Always remove depleted and/or damaged batteries from the device immediately. Remove batteries from the unit if it is not going to be used for an extended period of time. The batteries may run out and damage the unit.

Clean the battery and unit contacts before inserting batteries. Always replace all batteries at the same time. Ensure correct polarity when inserting the batteries. Use only batteries of the same type. Do not mix used and new batteries

Do not expose batteries to extreme conditions, do not place them on heaters or expose them to direct sunlight. Otherwise they are more likely to run out.

Batteries must not be charged or reactivated with other agents, must not be taken apart, thrown into fire or short-circuited.

– If "LOW BAT" (6) is displayed, the battery voltage is too low and the batteries must be replaced.



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Replacing the battery

1. Switch off the weigher.
2. Turn the tiller 45º to the side to gain access to the battery.
3. Pull the battery out of the housing by the handle.
4. Charge the battery using the charger (see below) and then re-insert it.

Charging the battery

➔ Charge the empty battery using the supplied charger.

➔ When the system is used in multi-shift operation or is equipped with a printer, we recommend that you procure an additional battery (optional).

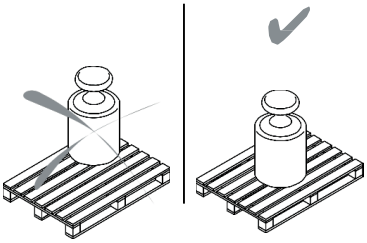
To ensure maximum battery service life, observe the following points:

1. Insert the replacement battery into the charger.
2. Connect the plug of the charger to a wall socket with a supply voltage of 220 to 240 VAC. The red LED of the charging station illuminates during charging. This indicates that the battery is being charged. An empty battery must be charged for at least 6 hours. This is necessary to maintain the capacity of the battery.
3. An empty battery is fully charged after approx. 6 hours. When the red LED extinguishes, the battery is charged. The battery cannot be overcharged since the charger switches off automatically.
4. Disconnect the plug from the socket (220 to 240 VAC).
5. Remove the battery from the charger immediately.
If the battery remains in the charger, it will be drained again and the battery capacity will be reduced; this can cause lasting damage to the battery.
6. To charge the next battery, refer to step 1.

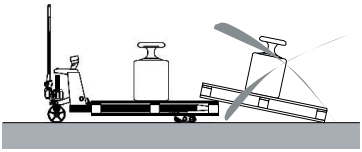
4.6 Avoiding faults during weighing

Position the load centrally on the pallet in order to obtain an accurate weight measurement.

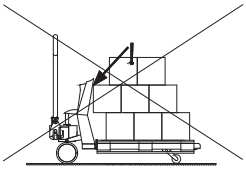
An eccentric load will bend or twist the forks slightly. This can impair the measurement accuracy.
On models that can be calibrated, an eccentric load or inclined position will affect the accuracy of the weight measurements. In this case, the tilt switch is activated, which in turn disables the display.



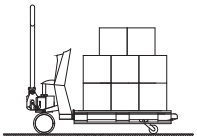
The weighing process must not be hindered by other objects.



The load must be lifted freely, without touching the housing of the display unit or other objects.

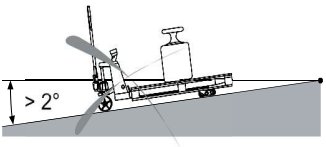


Incorrect lifting of load

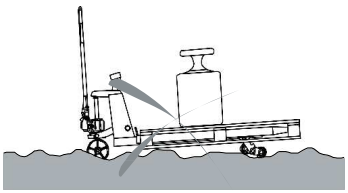


Correct lifting of load

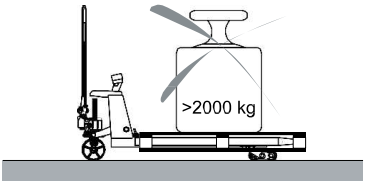
During weighing, do not exceed the maximum truck tilt of 2°. In the case of an inclination in excess of 2°, the accuracy of the weighing system declines by approx. 0.1% per degree.



Weighing operations must only be performed on solid, level surfaces.



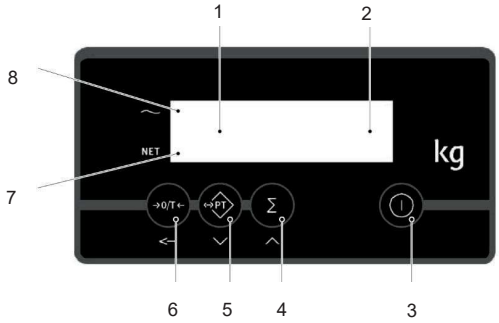
Do not exceed the maximum capacity of the truck.



Temperature range: Between -10 and +40°C, the maximum deviation amounts to 0.1% of the measured weight. Outside this temperature range, deviations of up to 0,3% are possible.

Rapid changes in temperature should be avoided, otherwise condensation may form in the electronics. In the case of significant temperature differences, the scales should be switched off for acclimatisation purposes.

4.7 Display and controls



Protection rating: Weigher operating and display unit: IP65, load cells: IP67

Item	Indicator	Meaning
1		– Weight display in kg, messages
2	—	– The displayed weight has a negative value.
8 (~)	◄	– The weighing system including the load is stable.
7 (NET)	◄	– The displayed weight is a net weight.

Only if the load is stable and the "Stable load" segment (8) is activated will button operations be accepted and functions executed.

Item	Operating function button	Input function button
6	Zero setting, Automatic tare	– Confirm, skip to next (ENTER)
5	Tare weight entry	– Reduce value
4	Add weight	– Increase value
3	On/Off	– Correction

4.7.1 Display messages

The following messages can appear on the display:

HELP 1 The weighing system has been overloaded.

The measured weight exceeds the maximum setting. To avoid damage to the display or weighing cells, the load must be removed from the weigher immediately.

HELP 2 Tare weight cannot be set due to negative gross weight.
HELP 3 Negative signal from the load cells to the AD converter / inclination.
HELP 4 The entered tare weight is too high.

Press the ⇔PT button (5) again to close the HELP display and enter a new, lower tare weight.

HELP 5 Memory full.
HELP 7 The signal from the load cells to the AD converter is too high.
HELP 9 Battery charge prompt to charge the battery (RF systems only).
LO-BA The battery charge level is too low. The battery must be recharged.
or

Inclination

On the calibrated version of the weighing system, the display shows only stripes if the inclination is greater than 2°. In this case, the weighing system must be placed on a level surface.

Multi-range display

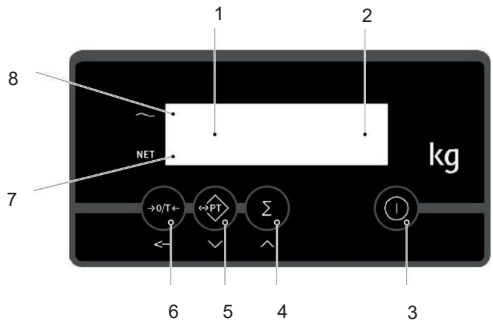
The resolution of the weight display depends on the weight:

Weight range	Standard(●)
0 - 200 kg	0.2 kg
200 - 500 kg	0.5 kg
500 - 2000 kg	1.0 kg

Weight range	Optional(○)
0 - 200 kg	0.1 kg
200 - 400 kg	0.2 kg
400 - 2000 kg	0.5 kg

Display adjustment during incremental weighing:
The display increment adapts to the relevant measuring range. For example, if a total weight of 650 kg is weighed in separate steps, the display increment will change from 1 kg to 0.5 kg as soon as the weight falls below 500 kg.

4.8 Weighing loads



Gross

After the load is picked up, the display shows the gross value of the measured weight.

Zero adjustment

Before each weighing operation, ensure that the system is unloaded and is free to move. The weighing system features automatic zero adjustment and automatically compensates for small variations of the zero point. For larger variations of the zero point, the adjustment must be performed manually using the →0/T← button (6).

Net: taring at the press of a button

The weighing system allows tare weights to be set to zero at the press of a button. This makes it possible to track changes to the net weight. After taring, the weighing system restarts with the lowest display increment.

- Raise the load.
- Press the →0/T← button (6).
  - The indicator is at zero.
  - The "NET" indicator bar is lit, indicating that a tare weight is active.
- Load or unload the net load.
  - The net value of the measured weight is displayed.
  - For unloading, this is a negative value.
- Performing a zero adjustment with the system unladen causes the system to revert to standard weighing mode.

Net: manual tare entry

A tare weight can be entered both in laden and unladen condition. For greater accuracy, a tare weight with finer gradation can be entered, regardless of the weight and the display increments.

A tare weight that is greater than the "MAX1" of the weighing system is not accepted by the display. MAX1 is the maximum value of the weight in the first interval of the multi-range display. In the standard version, this is 200 kg. If a higher weight is entered, the display shows "HELP4". Pressing the ↔PT button (5) clears this HELP display.

Checking the current tare weight:

- Press the ↔PT button (5).
  - The most recently used tare value appears.
  - The segment on the right side flashes.
- Press and hold the ENTER (↵) button (6) for three seconds to reuse the displayed tare value. D 9

Entering a new tare weight

- Press the ↔PT button (5).
- Press the digit up ∧ (4) or digit down ∨(5) button until the flashing number has the desired value.
- Press the ENTER (↵) button (6) to move to the next segment.
- Repeat this operation until the desired tare weight is displayed.

Activating the tare weight without saving:

- To activate the tare weight without saving, press the ENTER (↵) button (6) for three seconds to confirm the value.
  - The tare weight is activated.
  - "NET" is displayed.
  - If the system is laden at this time, the net value of the measured weight will appear on the display.
  - If at this time the system is unladen, the display will show the entered tare value as a negative number.
  - The entered value will remain active until the weighing system is switched off, a new tare weight is entered, a new load is tared or a new zero setting is performed:
    - The weighing system is laden: Press the ↔PT button (5) for two seconds. The tare value is now set to zero and the system reverts to the standard weighing mode.

Or

- The weighing system is unladen: Press the →0/T← button (6). A zero setting is performed and the system reverts to standard weighing mode.

Activating and saving the tare weight:

- To activate *and save* the tare weight, confirm all segments with ENTER (↵).
  - The tare weight is activated and saved.
  - "NET" is displayed.
  - If the system is laden at this time, the net value of the measured weight will appear on the display.
  - If at this time the system is unladen, the display will show the entered tare value as a negative number.
  - The entered value will remain active even after the system is switched off, until a new tare weight is entered, a new load is tared or a new zero setting is performed.

Deactivating the tare weight by zeroing

- The weighing system is laden: Press the ↔PT button (5) for two seconds. The tare value is now set to zero and the system reverts to the standard weighing mode.

Or

- The weighing system is unladen: Press the →0/T← button (6). A zero setting is performed and the system reverts to standard weighing mode.

Adding Individual Weights

The weighing system provides the option of adding individual weights and displaying the total weight. If a tare weight is active, the net weight it totalled automatically.

- Load the system with the load to be added.
- Press the Σ button (4) to add the measured weight to memory.
  - The displayed value is saved and is also added to the total in memory.
  - The display alternates between the consecutive number (the number of weights) and the total value (total in memory).
  - If the system is fitted with a printer, the displayed value will also be printed out.
  - After a few seconds, the system automatically reverts to standard weighing mode.

Resetting the addition of individual weighing operations

- The memory can be deleted while the total value is displayed by pressing the Σ button (4).
  - A cumulative printout is then produced (with the printer option).
  - After the reset, the display shows 00 as the consecutive number and the initial value 0.0 kg.
  - After a few seconds, the system automatically reverts to standard weighing mode.

Calibration (option)

Weight range	Resolution
	PRO/PRO +
10 - 500 kg	0.5 kg
500 - 1000 kg	1.0 kg

4.9 Printing the weighing data (option)

If the weighing system is equipped with a printer, current weighing data can be printed.

- Press the Σ button (4).
  - ❑ A printout is generated. The current weight is added to the total in memory.

A gross weight is identified on the printout by the letters "B/G", while a net weight is indicated by the letter "N". If a tare weight has been entered, this is also printed out and identified by the letters "PT". The total net weight appears after the letters "TOT" (Total).

Example of a printout:

01	B/G	6.8	kg
02	B/G	158.2	kg
03	N	426.5	kg
04	N	1200.0	kg
04	PT	150.0	kg
04	TOT	1791.5	kg

On-board printer: Replacing paper

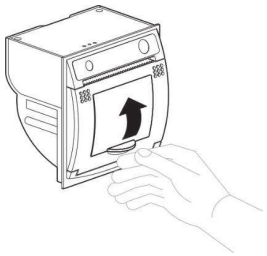


Figure 1

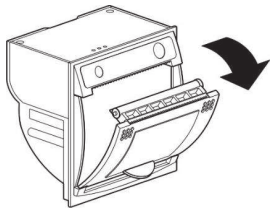


Figure 2

- To open, pull on the handle until it disengages from its locked position (see figure 1 and 2).
- Remove the empty paper roll from the holder.
- To insert a new paper roll, you must unroll a few centimetres of this roll. Approx. 5 cm of the paper should protrude from the printer when you insert the new roll. Close the flap by applying equal pressure on both sides. Remove the excess paper.

5 Parking the truck securely

Always park the truck securely.
Do not park the truck on slopes and always lower the forks fully.
The truck must be securely fastened when transported on a lorry or a trailer. The truck must be tied down and the wheels secured with chocks.

6 Troubleshooting

This chapter allows the user to identify and rectify basic faults or the consequences of incorrect operation. When trying to locate a fault, proceed in the order shown in the table.

Fault	Possible cause	Corrective measures
Display on control and display unit cannot be read.	– Operating temperature out of range. – Loose cable connection or broken wire. – Battery voltage too low.	– Check ambient temperature. – Contact manufacturer's service department if necessary. – Replace batteries.
Malfunctions of the weighing system display		– See section D, chapters 4.6 and 4.7.1.
Pallet truck does not reach max. lift height.	– Insufficient oil in reservoir	– Top up oil
Pallet truck does not lift.	– No oil in reservoir	– Top up oil
	– Contaminated oil	– Change oil
	– Air in oil	– Bleed the hydraulic system
Pallet truck does not lower.	– Lift piston or pump is deformed due to overloading with excessive or incorrectly positioned loads.	– Replace lift piston or pump
	– Lift piston rusty or jammed because forks have remained elevated for an extended period.	– When not in use, park the pallet truck with the forks lowered. Ensure that the lift piston is lubricated.
Leaks	– Seal is worn or damaged.	– Insert new seal
	– Component torn.	
Pallet truck lowers automatically.	– Contaminated oil causes the bleed valve to jam.	– Replace with suitable oil and clean the bleed valve
	– Hydraulic unit is partially torn or broken.	– Check and replace the damaged component
	– Air in oil	– Bleed the hydraulic system

If the fault cannot be rectified after carrying out the remedial procedure, notify the manufacturer's service department, as any further troubleshooting can only be performed by specially trained and qualified service personnel.

E Industrial truck maintenance

1 Operational safety and environmental protection

Any modification to the truck, in particular the safety mechanisms, is prohibited. Do not alter the truck operating speeds under any circumstances.

Only original spare parts are subject to our quality control. To ensure safe and reliable operation, use only the manufacturer's spare parts. Used parts and consumables must be disposed of in accordance with the applicable environmental-protection regulations. For oil changes, contact the manufacturer's specialist department.

Upon completion of inspection and servicing, the tasks contained in the "Recommissioning" section must be performed.

2 Maintenance Safety Regulations

High spring force in tiller spring.
Slight risk of injury to hands or face during disassembly. Insert a bolt horizontally all the way though the hole to depress the spring seat. Bolt Ø 8 mm, optimum bolt length 10 cm.
The hydraulic unit must only be disassembled by trained specialist personnel using special tools.

Maintenance personnel: Industrial trucks must only be serviced and repaired by specialist personnel. The manufacturer's service department has field technicians specially trained for these tasks.

Lifting and jacking up: When an industrial truck is to be lifted, the lifting gear must only be secured to the points specially provided for this purpose. When jacking up the equipment, take appropriate measures to prevent it from slipping or tipping over (e.g. wedges, wooden blocks). You must only work underneath a raised load handler if it is supported by a sufficiently strong chain.

Tyres: The quality of tyres affects the stability and performance of the truck. When replacing factory-fitted wheels/rollers, only use the manufacturer's original spare parts. Otherwise the truck's rated performance cannot be ensured.

3 Maintenance and Inspection

Thorough and expert servicing is one of the most important requirements for the safe operation of the industrial truck. Failure to perform regular servicing can lead to truck failure and poses a potential hazard to personnel and equipment.

The oil level must be checked every 4000 service hours, or at least every 6 months (type: ISO VG32, viscosity 30cSt at 40ºC). Capacity: 0.4 litres.

Lubricate the joints monthly with an MoS2 lubricant.

3.1 Consumables

Handling consumables: Consumables must always be handled correctly. Follow the manufacturer's instructions.

Improper handling is hazardous to health, life and the environment. Consumables must only be stored in appropriate containers. They may be flammable and must therefore not come into contact with hot components or naked flames.

Only use clean containers when filling up with consumables. Do not mix consumables of different grades. The only exception to this is when mixing is expressly stipulated in the Operating Instructions.

Avoid spillage. Spilled liquids must be removed immediately with suitable bonding agents and the bonding agent / consumable mixture must be disposed of in accordance with regulations.

4 Maintenance instructions

4.1 Preparing the truck for maintenance and repair work

All necessary safety measures must be taken to avoid accidents when carrying out maintenance and repair work.

The pump delivery flow can be interrupted if the pallet truck is placed on its side for repairs or maintenance work. Before recommissioning, the tiller must be moved up and down several times with the handle in the "lower" position in order to prime the pump again.

4.2 Recommissioning

The equipment must only be restored to service after cleaning or repair work, once the following operations have been performed:

– Grease the truck.
– Bleed the hydraulic system by pumping the hand pallet truck to the uppermost position.

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

A safety check must be performed in accordance with national regulations. Jungheinrich recommends the truck be checked according to FEM guideline 4.004.

The truck must be checked by a qualified inspector at least annually (observe national regulations) or after any unusual event. The inspector shall assess the condition of the system purely from a safety viewpoint, without regard to operational or economic circumstances. The inspector shall be sufficiently instructed and experienced to be able to assess the condition of the truck and the effectiveness of the safety mechanisms based on the technical regulations and principles governing the inspection of forklift trucks.

A thorough test of the truck must be undertaken with regard to its technical condition from a safety aspect. The truck must also be closely examined for damage caused by possible improper use. A test report must be produced. The results of the inspection must be retained for at least the next two inspections.

The operating company is responsible for ensuring that faults are rectified immediately.

An inspection plaque is attached to the truck as proof that it has passed the safety inspection. This plaque indicates the due date for the next inspection.

6 Final De-Commissioning, Disposal

Final, correct decommissioning or disposal of the truck must be performed in accordance with the regulations of the country of use. In particular, regulations governing the disposal of batteries, consumables as well as electronic and electrical systems must be observed.

When recycling defective batteries, observe the applicable regulations of the relevant country. If in doubt, return the battery to the dealer to ensure correct disposal.

Battery disposal in countries outside the European Union

This symbol is only valid within the European Union. Observe the local regulations when disposing of used batteries.