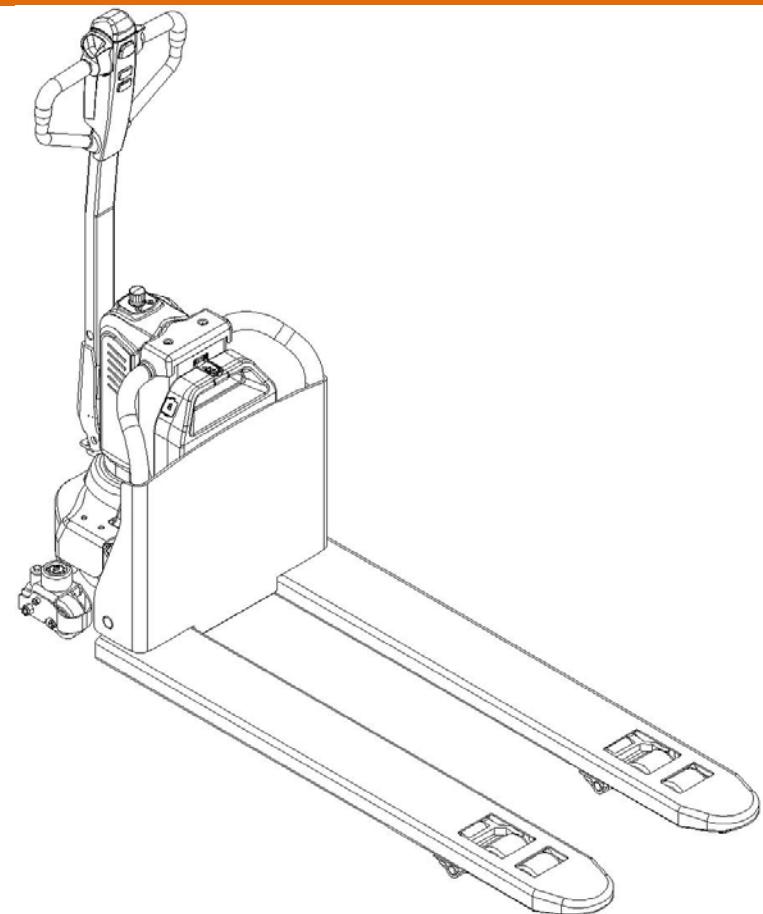


## SPARE PARTS LIST Electric

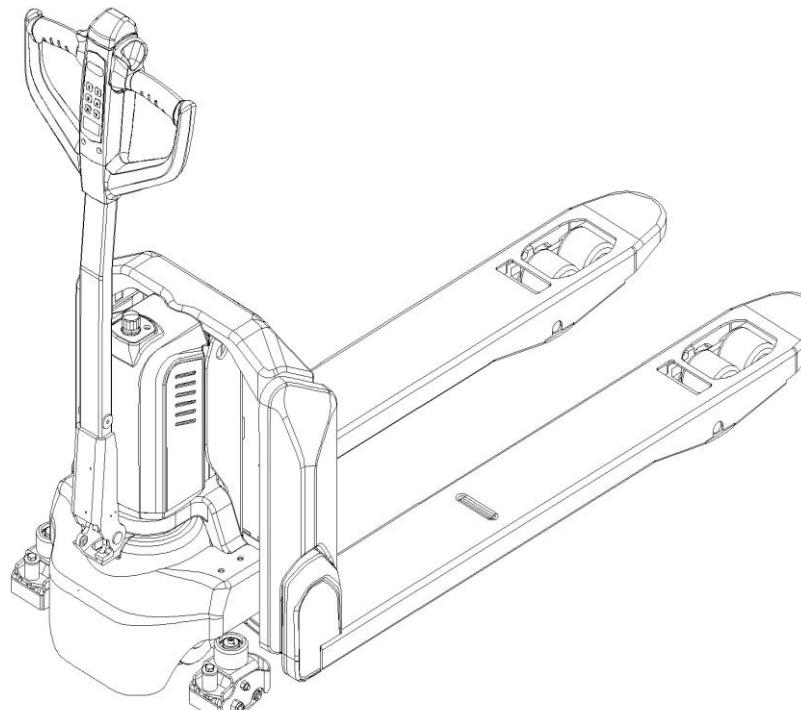
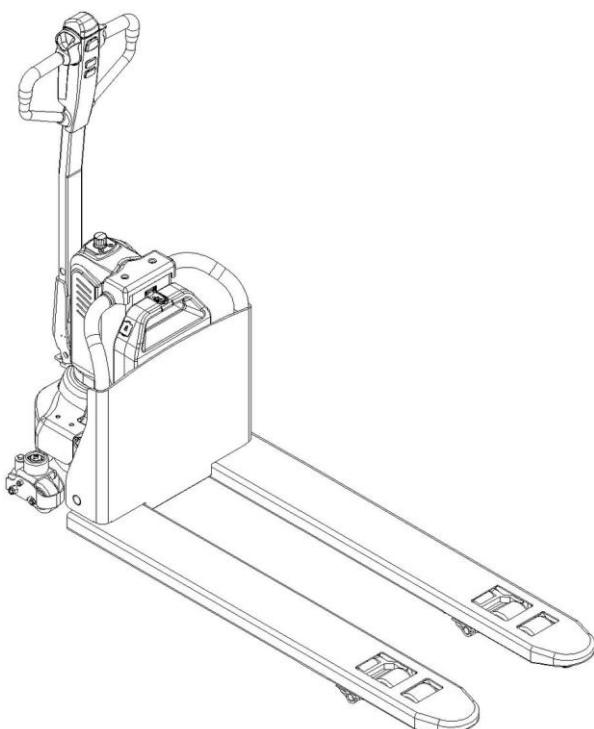
### Pallet Truck SKP1200E



# INSTRUCTION HANDBOOK

## Electric Pallet Truck

**SKP1200E**



### WARNING

**Do not use the pallet truck before reading and understanding these operating instructions.**

### NOTE:

- Please check the designation of your present type at the last page of this document as well as on the ID-plate.**
- Keep for future reference.**

Version 09/2019

PTE12N-PTE15N-PTE20N-PTE20B-SM

S-001-EN



## **FOREWORD**

Before operating the truck, read this ORIGINAL INSTRUCTION HANDBOOK carefully and understand the usage of the truck completely. Improper operation could create danger.

This handbook describes the usage of different electric pallet trucks. When operating and servicing the truck, make sure, that it applies to your type.

Keep this handbook for future reference. If this or the warning/ caution labels are damaged or got lost, please contact your local dealer for replacement.

This truck complies with the requirements according to EN 3691-1; -5 (Industrial trucks- safety requirements and verification, part 1; part 5), EN 12895 (Industrial trucks- electromagnetic compatibility), EN 12053 (Safety of industrial trucks- test methods for measuring noise emissions), EN 1175-1 (Industrial truck safety – electrical requirements), assumed the truck is used according to the described purpose.

The noise level for this machine is 69 dB(A) according to EN 12053.

### **ATTENTION:**

- Environmentally hazardous waste, such as batteries, oil and electronics, will have a negative effect on the environment, or health, if handled incorrectly.
- The waste packages should be sorted and put into solid dustbins according to the materials and be collected disposal by local special environment protection bureau. To avoid pollution, it's forbidden to throw away the wastes randomly.
- To avoid leaking during the use of the products, the user should prepare some absorbable materials (scraps of wooden or dry duster cloth) to absorb the leaking oil in time. To avoid second pollution to the environment, the used absorbable materials should be handed in to special departments in terms of local authorities.
- Our products are subject to ongoing developments. Because this handbook is only for the purpose of operating /servicing the pallet truck, therefore please have understanding, that there is no guarantee out of particular features out of this handbook.



NOTE: On this manual, the left sign means warning and danger, which can lead to death or serious injury if not followed.

### **Copyright**

The copyright remains with the company, mentioned on the CE- certificate at the end of this document or, if sold within the USA, with the company, mentioned on the company sticker.

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# 1. CORRECT APPLICATION

It is only allowed to use this electric pallet truck according to this instruction handbook.

The trucks described in this handbook are self propelled electric power pallet trucks. The trucks are designed to lift, lower and transport palletized loads.

A wrong usage can cause human injuries or can damage equipment.

The operator/ the operating company has to ensure the correct usage and has to ensure, that this pallet truck is used only by staff, which is trained and authorized to use this truck.

The pallet truck has to be used on substantially firm, smooth, prepared, level and adequate surfaces. The truck is intended to be used for indoor applications with ambient temperatures between +5°C and +40°C and for various transportation applications without crossing permanent obstacles or potholes. The work on ramps is allowed if ramp is not exceeding the allowed angle. While operating, the load must be placed approximately on the longitudinal centre plane of the truck.

Lifting or transporting people is forbidden.

If used on tail lifts or loading ramps, please ensure that these are used correctly according to the operating instructions.

The capacity is marked on capacity sticker as well on the Identification plate. The operator has to consider the warnings and safety instructions.

Operating lighting must be minimum 50 Lux.

## Modification

No modifications or alterations to this pallet truck which may affect, for example, capacity, stability or safety requirements of the truck, shall be made without the prior written approval of the original truck manufacturer, its authorized representative, or a successor thereof. This includes changes affecting, for example braking, steering, visibility and the addition of removable attachments. When the manufacturer or its successor approve a modification or alteration, they shall also make and approve appropriate changes to capacity plate, decals, tags and operation and maintenance handbooks.

Only in the event that the truck manufacturer is no longer in business and there is no successor in the interest to the business, may the user arrange for a modification or alteration to a powered industrial truck, provided, however, that the user:

- a) arranges for the modification or alteration to be designed, tested and implemented by an engineer(s) expert in industrial trucks and their safety,
- b) maintains a permanent record of the design, test(s) and implementation of the modification or alteration,
- c) approves and makes appropriate changes to the capacity plate(s), decals, tags and instruction handbook, and
- d) affixes a permanent and readily visible label to the truck stating the manner in which the truck has been modified or altered, together with the date of the modification or alteration and the name and address of the organization that accomplished those tasks.

By not observing these instructions, the warranty becomes void.

## 2. DESCRIPTION OF THE PALLET TRUCK

### a. Overview of the main components

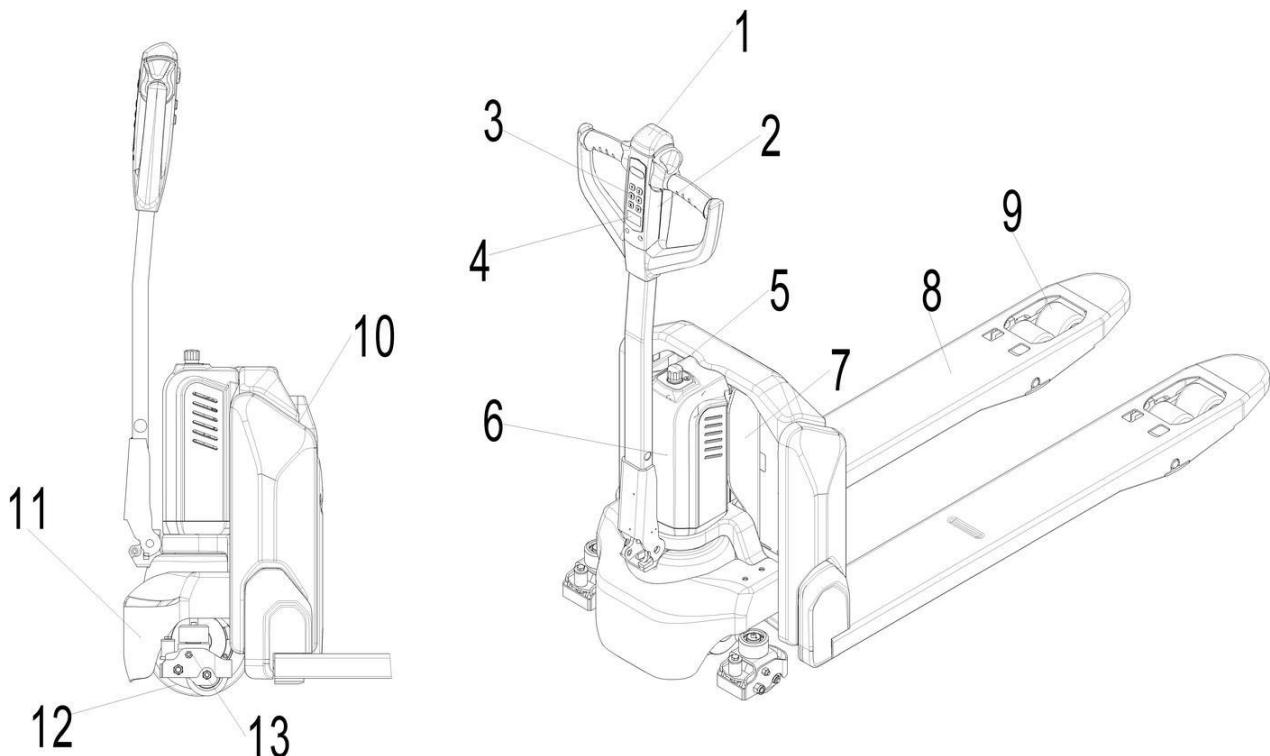


Fig. 1: SKP1200EN and SKP1500E Overview main

- |  |                                     |
|--|-------------------------------------|
| 1. Safety (belly) button                           | 8. Leg                              |
| 2. Tiller  | 9. Load roller                      |
| 3. Pin-code panel (PTE20N with card)               | 10. Battery                         |
| 4. Discharge indicator and charging indicating LED | 11. Apron                           |
| 5. Emergency button                                | 12. Driving unit                    |
| 6. Hydraulic unit cover                            | 13. Side roller (option for PTE15N) |
| 7. Chassis   |                                     |

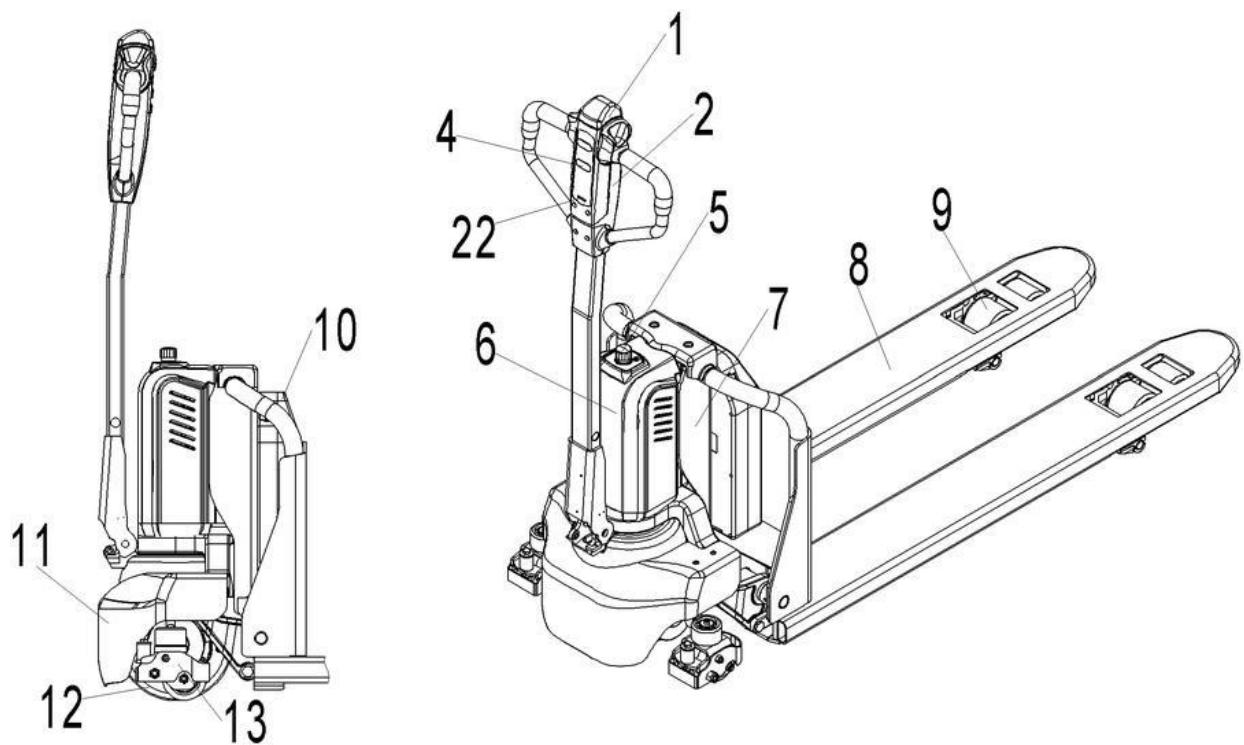


Fig. 2: PTE12N and PTE20B Overview main

- |                          |                                     |
|--------------------------|-------------------------------------|
| 1. Safety (belly) button | 8. Leg                              |
| 2. Tiller                | 9. Load roller                      |
| 4. Pin-code panel        | 10. Battery                         |
| 5. Emergency button      | 11. Apron                           |
| 6. Hydraulic unit cover  | 12. Driving unit                    |
| 7. Chassis               | 13. Side roller (option for PTE12N) |
|                          | 22. Key switch                      |

## b.Main technical data

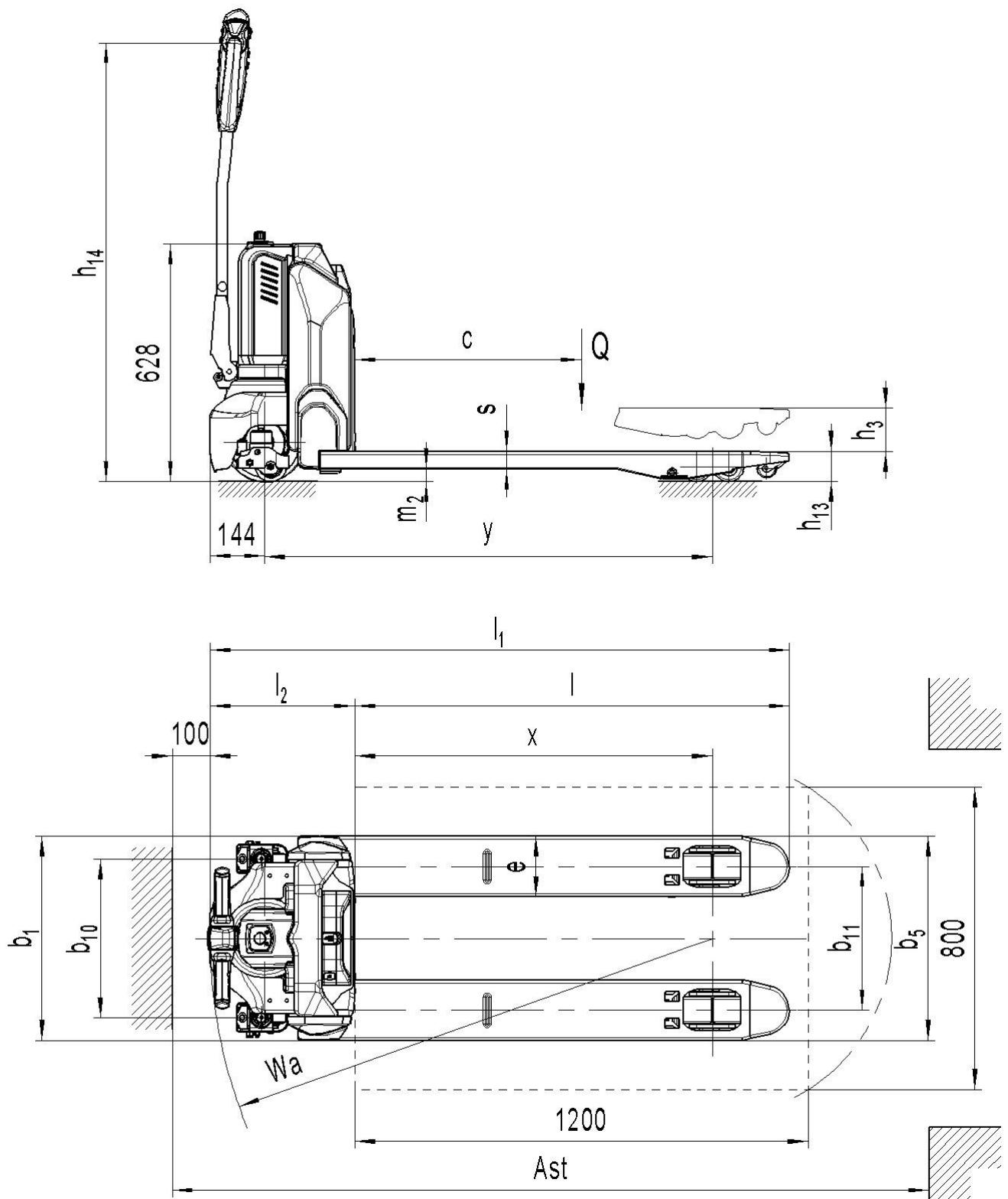


Fig. 3: PTE15N and PTE20N Technical data

Table 1: Main technical data for standard version

Type sheet for industrial truck acc. to (VDI2198)						
Distinguishing mark	1.2	Manufacturer's type designation		PT E15N		PT E20N
	1.3	Power(battery,diesel,petrol,gas,manual)		Battery		
	1.4	Operator type		Pedestrian/Stand		
	1.5	Load Capacity / rated load	Q (t)	1.5		2.0
	1.6	Load centre distance	c (mm)	600		
	1.8	Load distance, centre of drive axle to fork	x(mm)	947		951
	1.9	Wheelbase	y (mm)	1185		1189
Weight	2.1	Service weight	kg	123	126	149
	2.2	Axle loading, laden front/rear	kg	623 / 1000	626 / 1000	621 / 1528
	2.3	Axle loading, unladen front/ rear	kg	96 / 27	99 / 27	115 / 34
Tires, chassis	3.1	Tires		Polyurethane (PU)		
	3.2	Tire size, front	Ø x w (mm)	Ø 210x70		
	3.3	Tire size, rear	Ø x w (mm)	Ø 80x93(Ø 80x70)		
	3.4	Additional wheels (dimensions)	Ø x w (mm)	Ø 80x30		
	3.5	Wheels, number front/ rear(x=driven wheels)		1x/ 2(1x/ 4) or 1x +2/ 2(1x +2/ 4)		
	3.6	Tread, front	b <sub>10</sub> (mm)	420		
	3.7	Tread, rear	b <sub>11</sub> (mm)	380	525	380
Dimensions	4.4	Lift height	h <sub>3</sub> (mm)	115		
	4.9	Height of tiller in drive position min. / max.	h <sub>14</sub> (mm)	700 / 1160		
	4.15	Height, lowered	h <sub>13</sub> (mm)	80		
	4.19	Overall length	l <sub>1</sub> (mm)	1530		1536
	4.20	Length to face of forks	l <sub>2</sub> (mm)	380		386
	4.21	Overall width	b <sub>1</sub> (mm)	540	685	540
	4.22	Fork dimensions	s/e/l (mm)	47 / 160 / 1150		
	4.25	Width across forks	b <sub>5</sub> (mm)	540	685	540
	4.32	Ground clearance, centre of wheelbase	m <sub>2</sub> (mm)	33		
	4.34	Aisle width for pallets 800X1200 lengthways	Ast(mm)	2000		2006
	4.35	Turning radius	Wa (mm)	1330		1336
Performance	5.1	Travel speed, laden/ unladen	km/h	4.6/ 4.8		4.8/ 5.2
	5.2	Lift speed, laden/ unladen	m/s	0.020 / 0.025		0.017 / 0.022
	5.3	Lowering speed, laden / unladen	m/s	0.05 / 0.04		0.05 / 0.03
	5.8	Gradeability, laden/ unladen	%	6 / 16		7 / 16
	5.10	Service brake		Electromagnetic		
Motors	6.1	Drive motor rating S2 60min	kW	0.65		0.75
	6.2	Lift motor rating at S3 10%	kW	0.50		0.8
	6.3	Battery acc. to DIN 43531 /35 / 36 A, B, C, no		/		/
	6.4	Battery voltage, nominal capacity K5	V/Ah	24 / 20(24 / 30; 24 / 36)		48/ 20

	6.5	Battery weight (minimum)	kg	4.6	7.5
	6.6	Energy consumption acc. to EN16796-2	KWh	0.22	0.18
	8.1	Type of drive control		DC -Speed Control	
	8.4	Sound level at driver's ear acc. to EN 12053	dB(A)	69	<70

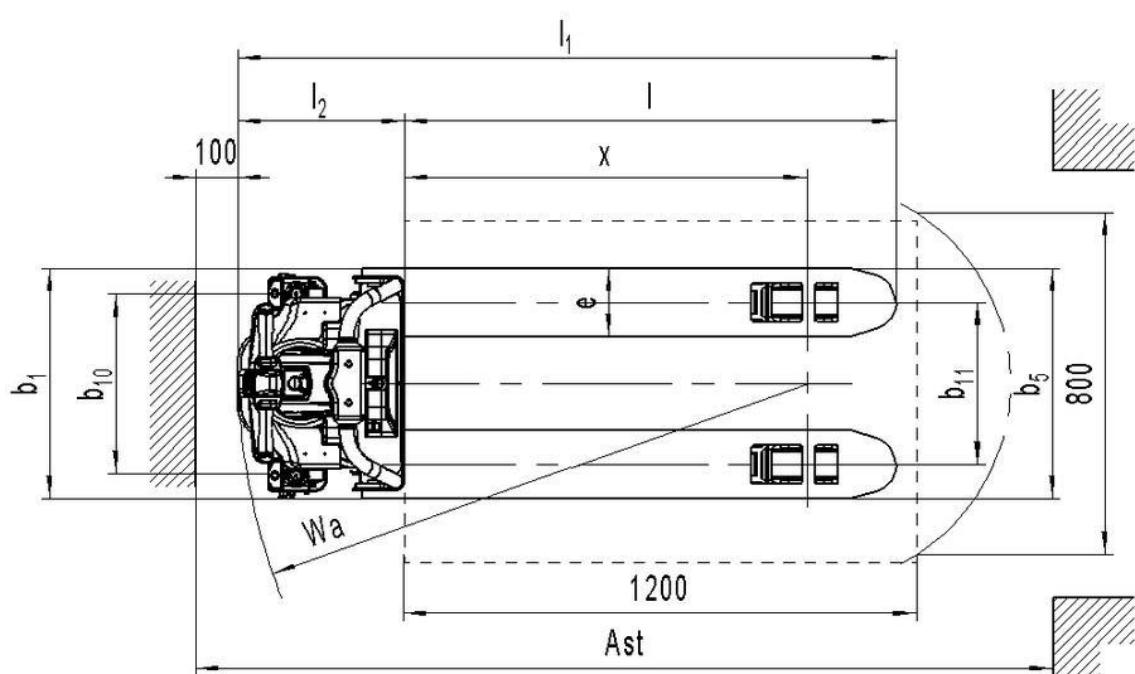
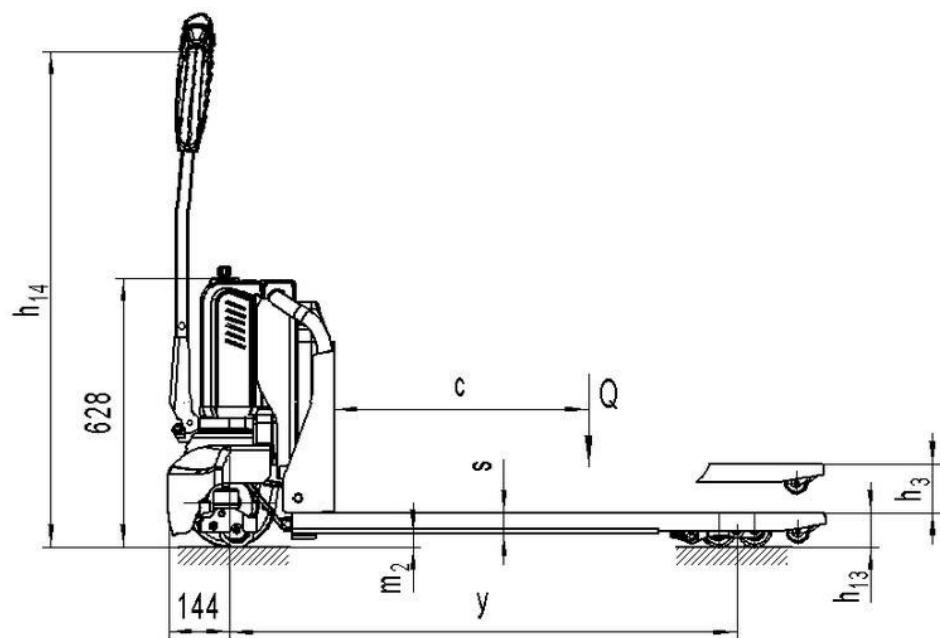


Fig. 4: PTE12N Technical data

Table 2: Main technical data for standard version

Type sheet for industrial truck acc. to VDI 2198				
Distinguishing mark	1.2	Manufacturer's type designation		PT E12N
	1.3	Drive		Battery
	1.4	Operator type		Pedestrian
	1.5	Load Capacity / rated load	Q (t)	1.2
	1.6	Load centre distance	c (mm)	600
	1.8	Load distance ,centre of drive axle to fork	x (mm)	942
	1.9	Wheelbase	y (mm)	1185
Weight	2.1	Service weight	kg	124 129
	2.2	Axle loading, laden front/rear	kg	355 / 972 425 / 908
	2.3	Axle loading, unladen front/rear	kg	101 / 27 106 / 27
Tyres, chassis	3.1	Tires		Polyurethane (PU)
	3.2	Tire size,front	Ø x w (mm)	Ø 210x70
	3.3	Tire size,rear	Ø x w (mm)	Ø 80x93(Ø 80x70)
	3.4	Additional wheels(dimensions)	Ø x w (mm)	-/Ø 80x30
	3.5	Wheels,number front/rear(x=driven wheels)		1x/ 2(1x/ 4) or 1x +2/ 2(1x +2/ 4)
	3.6	Tread, front	b <sub>10</sub> (mm)	-/420
	3.7	Tread, rear	b <sub>11</sub> (mm)	380 (360) 525
Dimensions	4.4	Lift	h <sub>3</sub> (mm)	115
	4.9	Height of tiller in drive position min./ max.	h <sub>14</sub> (mm)	700 / 1160
	4.15	Height, lowered	h <sub>13</sub> (mm)	80
	4.19	Overall length	l <sub>1</sub> (mm)	1537
	4.20	Length to face of forks	l <sub>2</sub> (mm)	387
	4.21	Overall width	b <sub>1</sub> (mm)	540 (520) 685
	4.22	Fork dimensions	s/e/l (mm)	48 / 160 / 1150
	4.25	Width across forks	b <sub>5</sub> (mm)	540 (520) 685
	4.32	Ground clearance, centre of wheelbase	m <sub>2</sub> (mm)	32
	4.34	Aisle width for pallets800X1200 lengthways (200mm safe distance)	Ast (mm)	2007
Performance data	4.35	Turning radius	Wa (mm)	1337
	5.1	Travel speed, laden/ unladen	km/h	4.6 / 4.8
	5.2	Lift speed, laden/ unladen	m/s	0.031 / 0.037
	5.3	Lowering speed, laden/ unladen	m/s	0.069 / 0.051
	5.8	Max. gradeability, laden/ unladen	%	4 / 16
Electric- engine	5.10	Service brake		Electromagnetic
	6.1	Drive motor rating S2 60min	kW	0.65
	6.2	Lift motor rating at S3 10%	kW	0.50
	6.3	Battery acc. to DIN 43531/ 35/ 36 A, B, C, no		No
	6.4	Battery voltage, nominal capacity K5	V / Ah	24 /15
	6.5	Battery weight	kg	4.0
Addit ion data	6.6	Energy consumption acc. to VDI cycle	kWh/h	0.14
	8.1	Type of drive control		DC speed Control
	8.4	Sound level at driver's ear acc. to EN 12053	dB(A)	<70

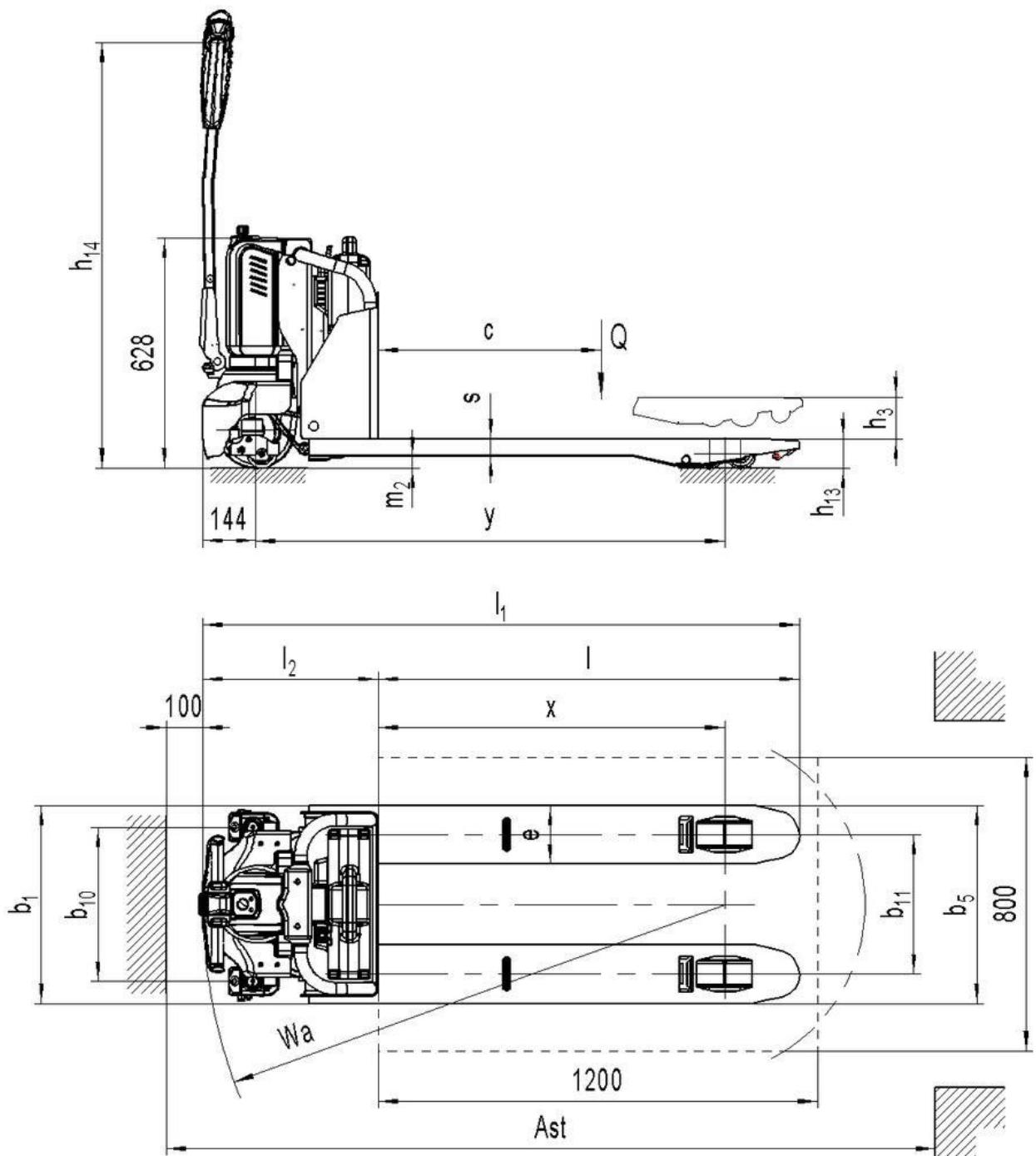


Fig. 5: PTE20B Technical data

Table 3: Main technical data for standard version

		Type sheet for industrial truck acc. to VDI 2198		
Distinguishing mark	1.2	Manufacturer's type designation		PT E20B
	1.3	Power(battery,diesel,petrolgas,manual)		Battery
	1.4	Operator type		Pedestrian/Stand
	1.5	Load Capacity / rated load	Q (t)	2.0

	1.6	Load centre distance	c (mm)	600
	1.8	Load distance, centre of drive axle to fork	x (mm)	946
	1.9	Wheelbase	y (mm)	1281
Weight	2.1	Service weight	kg	185      192
	2.2	Axle loading, laden front/rear	kg	670 / 1515      673 / 1519
	2.3	Axle loading, unladen front/ rear	kg	145 / 40      152 / 40
Tires, chassis	3.1	Tires		Polyurethane (PU)
	3.2	Tire size, front	Ø x w (mm)	Ø 210x70
	3.3	Tire size, rear	Ø x w (mm)	Ø 80x93(Ø 80x70)
	3.4	Additional wheels (dimensions)	Ø x w (mm)	Ø 80x30
	3.5	Wheels, number front/ rear(x=driven wheels)		1x/ 2(1x/ 4)    OR    1x +2/ 2(1x +2/ 4)
	3.6	Tread, front	b <sub>10</sub> (mm)	420
	3.7	Tread, rear	b <sub>11</sub> (mm)	380      525
Dimensions	4.4	Lift height	h <sub>3</sub> (mm)	115
	4.9	Height of tiller in drive position min. / max.	h <sub>14</sub> (mm)	700 / 1160
	4.15	Height, lowered	h <sub>13</sub> (mm)	80
	4.19	Overall length	l <sub>1</sub> (mm)	1628
	4.20	Length to face of forks	l <sub>2</sub> (mm)	478
	4.21	Overall width	b <sub>1</sub> (mm)	540      685
	4.22	Fork dimensions	s/e/l (mm)	47 / 160 / 1150
	4.25	Width across forks	b <sub>5</sub> (mm)	540      685
	4.32	Ground clearance, centre of wheelbase	m <sub>2</sub> (mm)	33
	4.34	Aisle width for pallets 800X1200 lengthways	A <sub>st</sub> (mm)	2098
	4.35	Turning radius	Wa (mm)	1428
Performance	5.1	Travel speed, laden/ unladen	km/h	4.2/ 4.6
	5.2	Lift speed, laden/ unladen	m/s	0.025 / 0.030
	5.3	Lowering speed, laden / unladen	m/s	0.075 / 0.063
	5.8	Gradeability, laden/ unladen	%	5/ 16
	5.10	Service brake		Electromagnetic
Motors	6.1	Drive motor rating S2 60min	kW	0.75
	6.2	Lift motor rating at S3 10%	kW	0.8
	6.3	Battery acc. to DIN 43531 /35 / 36 A, B, C, no		No
	6.4	Battery voltage, nominal capacity K5	V / Ah	48/ 20
	6.5	Battery weight (minimum)	kg	30
	6.6	Energy consumption acc. to VDI cycle	kWh/h	0.19
	8.1	Type of drive control		DC -Speed Control
	8.4	Sound level at driver`s ear acc. to EN 12053	dB(A)	<70

## c. Description of the safety devices and warning labels (Europe and other, excepting USA)



For the USA –market, the description of the safety and warning labels is mentioned in chapter 12.

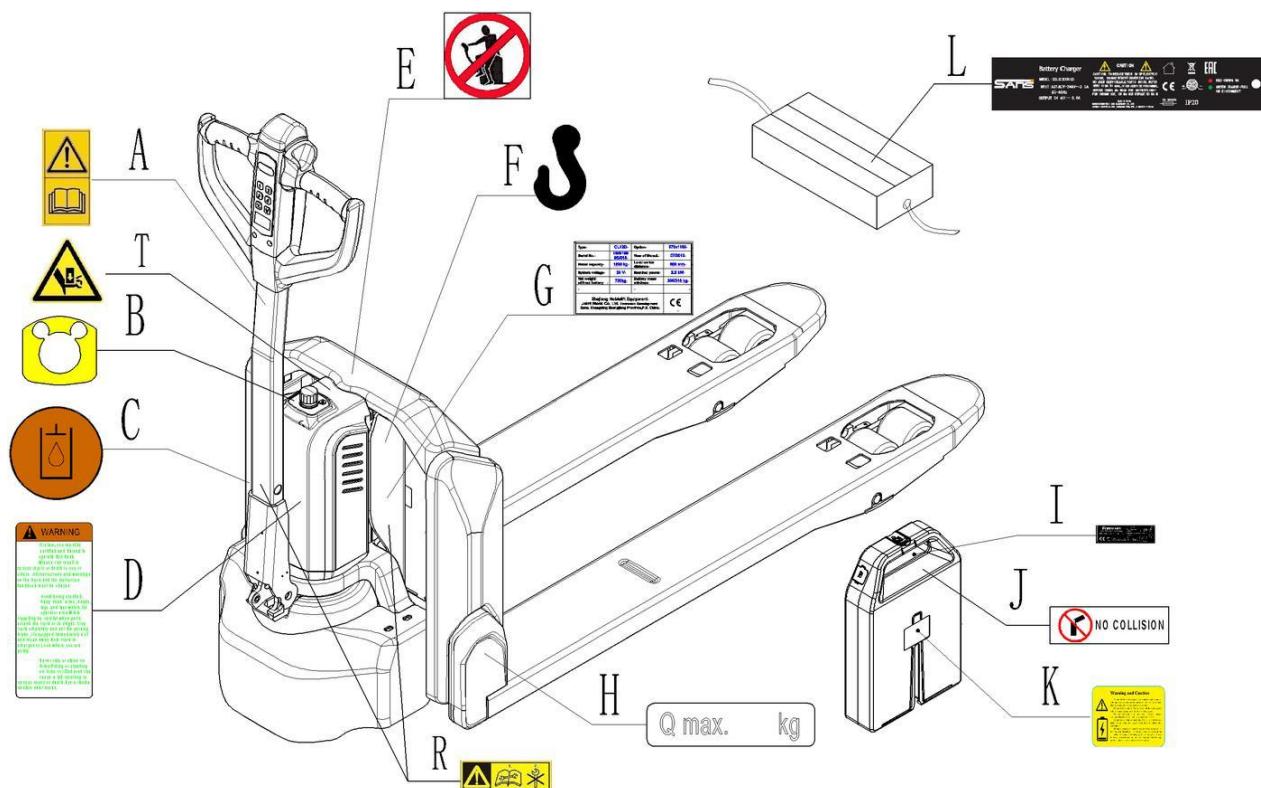
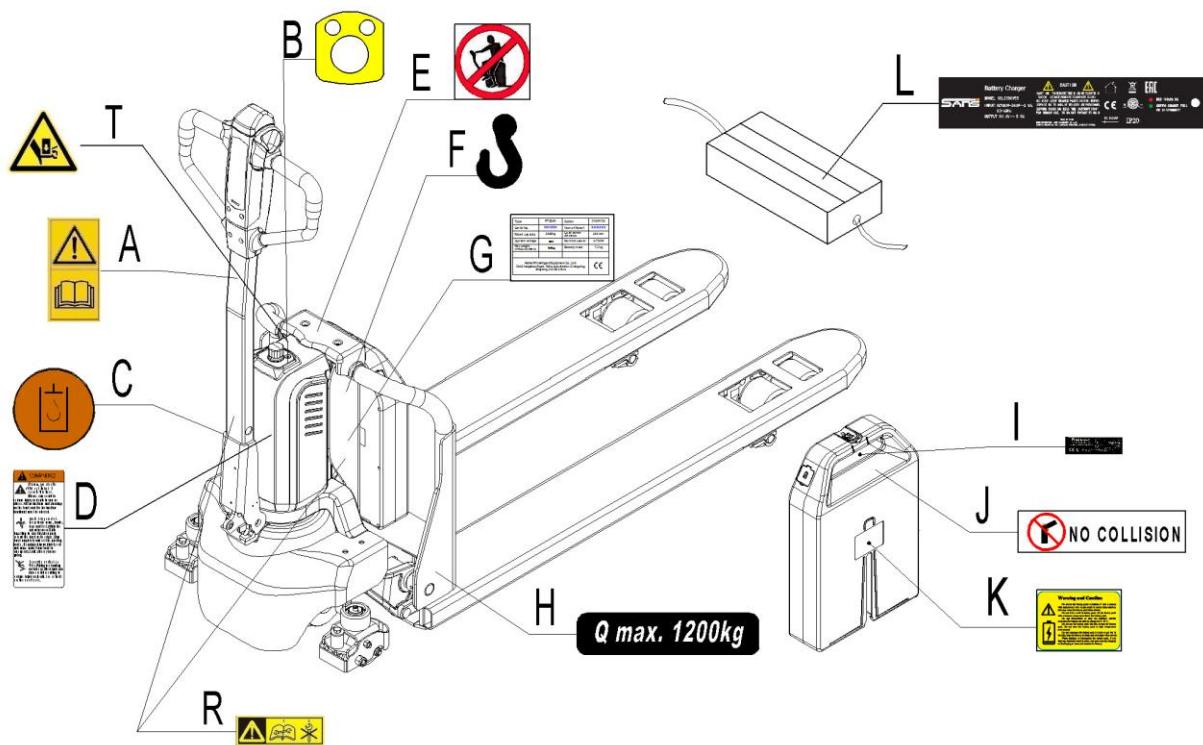


Fig. 6: PTE15N and PTE20N Safety and warning labels

- |          |   |          |   |
|----------|---|----------|---|
| <b>A</b> | Sticker to read and follow this instruction | <b>H</b> | Capacity sticker                          |
| <b>B</b> | Emergency button sticker                    | <b>I</b> | Battery ID plate                          |
| <b>C</b> | Sign oil filling point                      | <b>J</b> | No collision sticker                      |
| <b>D</b> | Warning sticker                             | <b>K</b> | Battery warning sticker                   |
| <b>E</b> | "No passengers" decal                       | <b>L</b> | Charger ID plate                          |
| <b>F</b> | Crane hook label                            | <b>R</b> | Sticker to read and follow service manual |
| <b>G</b> | Identification plate (ID-plate)             | <b>T</b> | Warning sticker                           |

The truck is equipped with an emergency switch (5) which stops all lifting-, lowering-, driving- functions and engages the failsafe electromagnetic brake when it is pressed. By turn this button clockwise, the truck can be operated after the controller checked the functions. Before operating, type the password on pin-code panel and press the ✓ button. For PTE20N, truck can also be activated with RFID access card. To prevent against unauthorized access, press emergency switch (5) or press the X button of pin-code panel.

The truck is equipped with a safety (belly) button (1) which switches the driving function away from the operator, if the truck travels towards the operator and the tiller is activated in the tillers operating zone. Follow also the instructions given on the decals. Replace the decals if they are damaged or missing.



**Fig. 7: PTE12N Safety and warning labels**

- A Sticker to read and follow this instruction
- B Emergency button sticker
- C Sign oil filling point
- D Warning sticker
- E “No passengers” decal
- F Crane hook label
- G Identification plate (ID-plate)
- H Capacity sticker
- I Battery ID plate
- J No collision sticker
- K Battery warning sticker
- L Charger ID plate
- R Sticker to read and follow service manual
- T Warning sticker

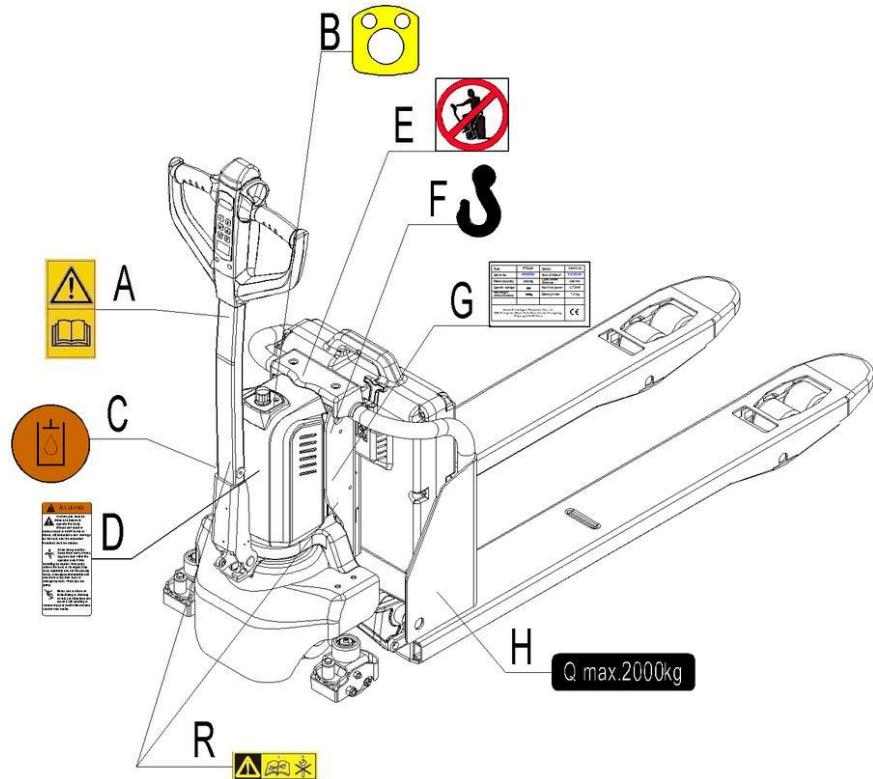


Fig. 8: PTE20B Safety and warning labels

- A Sticker to read and follow this instruction
- B (Label) Stop!
- C Filling sticker
- D Label(Electric Vehicle Portfolio Warning)
- E “No passengers” decal
- F Crane hook label
- G CE sticker
- H Capacity sticker
- R Check service manual

The truck is equipped with an emergency switch (5) which stops all lifting-, lowering-, driving- functions and engages the failsafe electromagnetic brake when it is pressed. By turn this button clockwise, the truck can be operated after the controller checked the functions. Before operating, insert the key(22). To prevent against unauthorized access, press emergency switch (5) or remove key (22).

The truck is equipped with a safety (belly) button (1) which switches the driving function away from the operator, if the truck travels towards the operator and the tiller is activated in the tillers operating zone. Follow also the instructions given on the decals. Replace the decals if they are damaged or missing.

## d. Identification plate

- |  |                                   |
|--|-----------------------------------|
| 1 Designation, type                            | 7 Battery weight minimum/ maximum |
| 2 Serial number                                | 8 Nominal power in kW             |
| 3 Rated capacity in kg                         | 9 Load center distance            |
| 4 Supply voltage in V                          | 10 Manufacturing date             |
| 5 Own mass (self weight) in kg without battery | 11 Option                         |
| 6 Name and address of manufacturer)            |                                   |

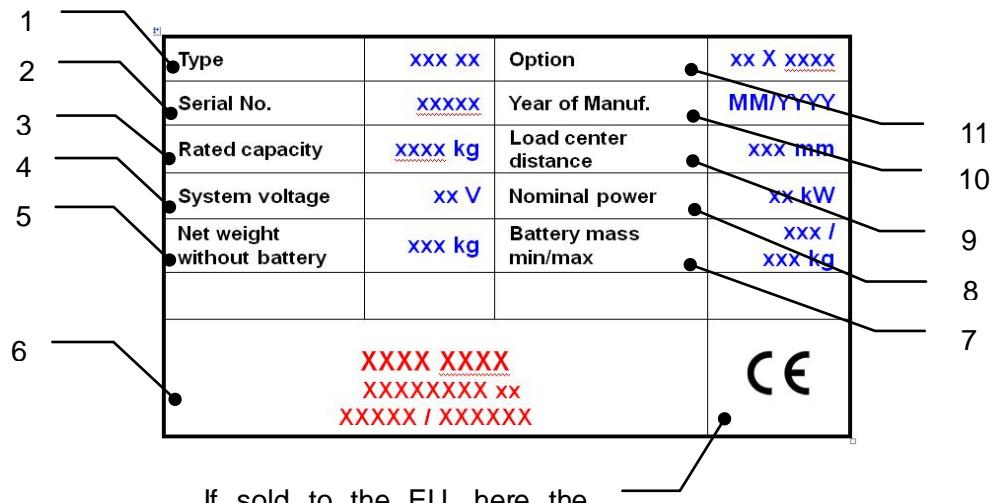


Fig. 9: Identification plate

## 3. WARNINGS, RESIDUAL RISK AND SAFETY INSTRUCTIONS



### DO NOT

- Put foot or hand under or into the lifting mechanism.
- Allow other person than the operator to stand in front of or behind the truck when it is moving or lifting/lowering.
- Overload the truck.
- Put foot in front of the wheels, injury could result.
- Lift people. People could fall down and suffer severe injury.
- Push or pull loads
- Side or end load. Load must be distributed evenly on the forks.
- Use the truck with unstable, unbalanced not stable load.
- Use truck without manufacturer's written consent.
- Lifted loads could become unstable at wind forces. In the case of wind forces do not lift the load if there is any influence to the stability

Watch difference in floor levels when driving. Load could fall down or the truck could get uncontrollable.  
Keep watching the condition of load. Stop operating the truck if load becomes unstable.

Brake the truck and activate the emergency button (5) by pushing when sliding load on or off the truck. If the truck has any malfunctions, follow chapter 10.

Practice maintenance work according to regular inspection. This truck is not designed to be water resistant. Use the truck under dry condition. Prolonged continuous operation might cause damage of the power pack. Stop operation if temperature of hydraulic oil is too high.



- When operating the electric pallet truck, the operator has to wear safety shoes.
- The truck is intended to be used for indoor applications with ambient temperatures between +5°C and + 40°C.
- The operating lighting must be minimum 50 Lux.
- To prevent unintended sudden movements when not operating the truck (i.e. from another person, etc.), press emergency switch (5) or press the X button of pin-code panel.

## 4. COMMISSIONING, TRANSPORTING, DECOMMISSIONING

### a. Commissioning

Table 2: Commissioning data

Type	PTE15N (540X1150)	PTE15N (685X1150)	PTE20N (540X1150)	PTE20N (685X1150)
Commissioning weight [kg]	123kg	126kg	149kg	153kg
Dimensions [mm]	1530x540x1250	1530x685x1250	1530x540x1250	1530x685x1250
Type	PTE12N (540X1150)	PTE12N (685X1150)	PTE20B (540X1150)	PTE20B (685X1150)
Commissioning weight [kg]	124kg	129kg	185kg	192kg
Dimensions [mm]	1530x540x1250	1530x685x1250	1530x540x1250	1530x685x1250

After receiving our new pallet truck or for re-commissioning you have to do following before (firstly) operating the truck:

- Check if are all parts included and not damaged
- Make sure the tiller is assembled correctly (electrical socket is connected and fixed with two plastic clamps, circlip of the axle is installed)
- Check that battery is charged (follow chapter 8)
- Do the work according to the daily inspections as well as functional checks.

### b. Lifting/ transportation

For transporting, remove the load, lower the forks to the lowest position and fix the truck safe with dedicated lifting gear according to the following figures.

## Lifting

USE DEDICATED CRANE AND LIFTING EQUIPMENT

DO NOT STAND UNDER THE SWAYING LOAD

DO NOT WALK INTO THE HAZARDOUS AREA DURING LIFTING

Park the truck securely and lash the truck according to the points identified in Fig. 5. Lift the truck to its destination and place the truck securely before removing the lifting gear. The lashing points are according to the Fig. 5.

## Transportation



DURING TRANSPORTATION ON A LORRY OR TRUCK ALWAYS FASTEN THE TRUCK SECURELY

Lower the forks and park the truck securely.

Fasten the truck according to Fig. 6 by fixing dedicated lashing belts to each side of the trucks crane hook holes and fasten the other side at the transporting truck.

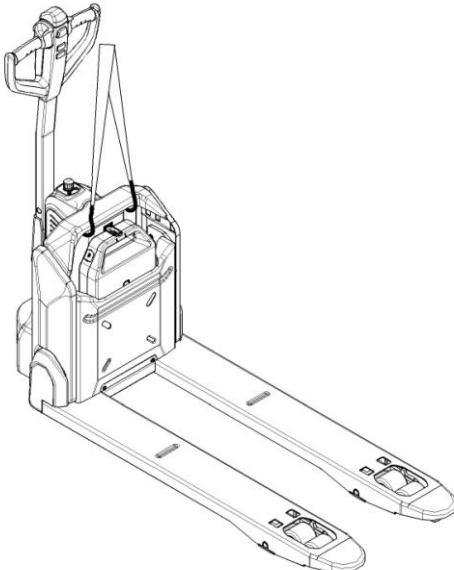


Fig. 10: PTE15N and PTE20N Lifting with a crane

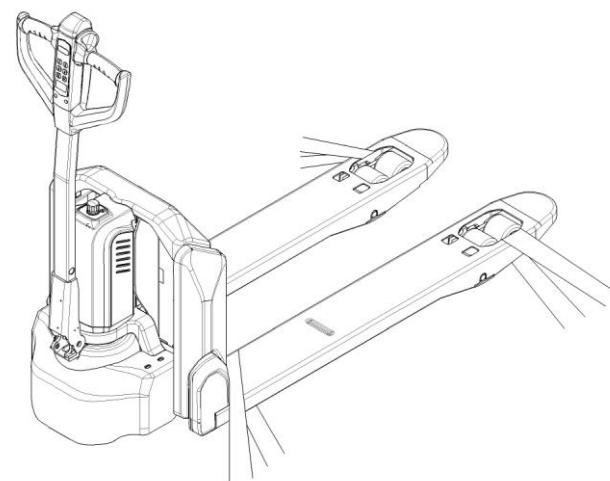


Fig. 11: PTE15N and PTE20N fixing points

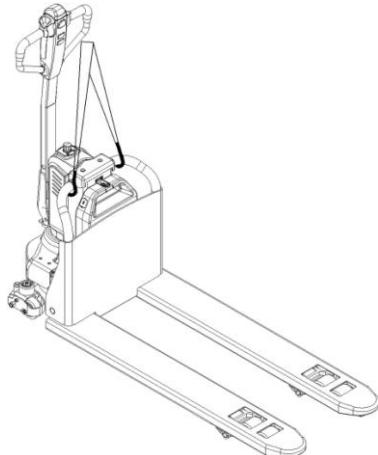


Fig. 12: PTE12N and PTE20B Lifting with a crane

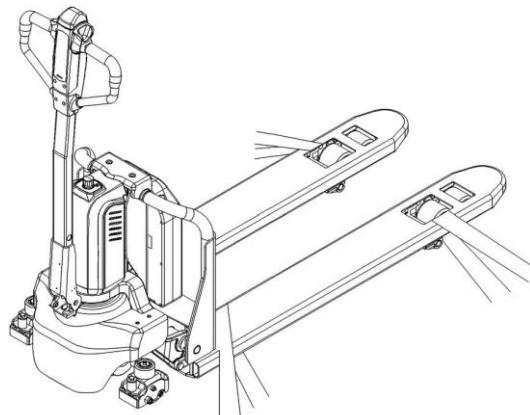


Fig. 13: PTE12N and PTE20B fixing points

## c. Decommissioning

For storage, remove the load, lower the truck to the lowest position, grease all in this handbook mentioned greasing points (regular inspection), and eventually protect the truck against corrosion and dust. Remove the batteries and jack the truck safely, so that there will be no flattening after storage.

For final decommissioning hand the truck to a designated recycling company. Oil, batteries and electric components must be recycled due to legal regulations.

## 5. DAILY INSPECTION

This chapter describes pre-shift checks before putting the truck into operation.

Daily inspection is effective to find the malfunction or fault on this truck. Check the truck on the following points before operation.

Remove load from truck and lower the forks.



### DO NOT USE THE TRUCK IF ANY MALFUNCTION IS FOUND.

- Check for scratches, deformation or cracks.
- Check if there is any oil leakage from the cylinder.
- Check the smooth movement of the wheels.
- Check the function of driving in both directions (section 6d).
- Check the functions of braking by activation of tiller arm sensor, reversing of driving buttons, release of driving buttons and of the safety (belly) button (section 6f).
- Check the function of driving with tiller in its vertical position (section 6d).
- Check the function of the emergency brake by activating the emergency button.
- Check the lifting and lowering functions by operating the buttons (section 6b and 6c).
- Check the function of steering by turning the tiller from one end position to the other one. The steering should be smooth, without jerks or abnormal sound.
- Check if all bolts and nuts are tightened firmly.
- Visual check if there are any broken electric wires.
- If supplied with a backrest extension, check it for damages and correct assembling.
- Check the presence of warning stickers and signs (section 2c and section 12)

## 6. OPERATING INSTRUCTIONS

**!** BEFORE OPERATING THIS TRUCK, PLEASE FOLLOW THE WARNINGS AND SAFETY INSTRUCTIONS (CHAPTER 3).

Make sure, that the load is palletized and stable and that the daily inspection is carried out.

Type the password on pin-code panel and press ✓ button to start the truck.

For PTE20N, truck can also be activated with RFID access card.

Press the horn button (Fig.14,15) to activate the audible warning signal.

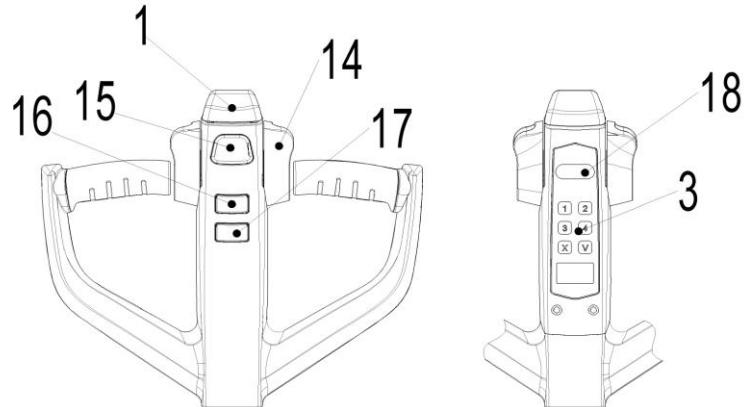


Fig.14: PTE15N and PTE20N Tiller operating controls

Make sure, that the load is palletized and stable and that the daily inspection is carried out.

Turn emergency button (Fig.1, 5) clockwise, and insert the key (Fig.1, 22).

Press the horn button (Fig.15, 15) to activate the audible warning signal.

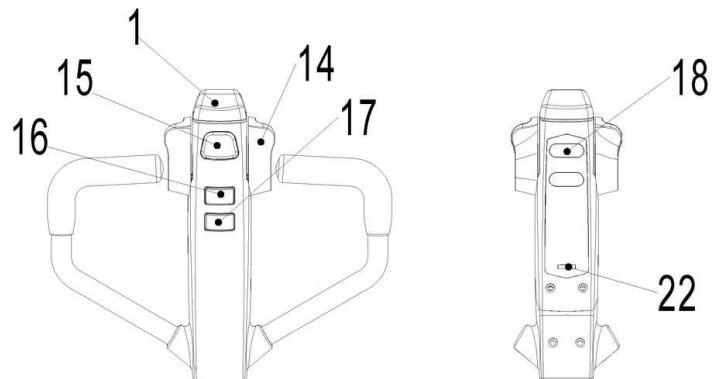


Fig.15: PTE12N and PTE20B Tiller operating controls

## a. Parking



DO NOT PARK THE TRUCK ON INCLINED SURFACES

The truck is equipped with an electromagnetic failsafe stopping and parking brake.  
Always lower the forks fully. Press the emergency switch (5).

## b. Lifting



DO NOT OVERLOAD THE TRUCK!

THE MAXIMUM CAPACITY OF PTE12N IS 1200 kg.

THE MAXIMUM CAPACITY OF PTE15N IS 1500 kg.

THE MAXIMUM CAPACITY OF PTE20N and PTE20B are 2000 kg.

Travel with the lowered forks fully underneath the pallet and press the lifting button (Fig. 14/15, 16) until you reached the desired lifting height.

## c. Lowering

Press the lowering button ((Fig. 14/15, 17) carefully.

Lower the load until the forks are clear of the pallet, then drive the truck carefully out of the load unit.

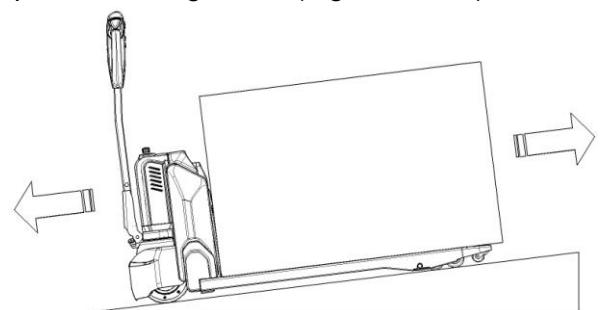


Fig. 16: Load facing uphill

## d. Travelling



TRAVEL ON INCLINES ONLY WITH THE LOAD FACING UPHILL.

DO NOT TRAVEL ON INCLINES MORE THAN SPECIFIED WITH THE TECHNICAL DATA.

After starting the truck by activation from Pin-code panel, move the tiller to the operating zone ('F', Fig.17).

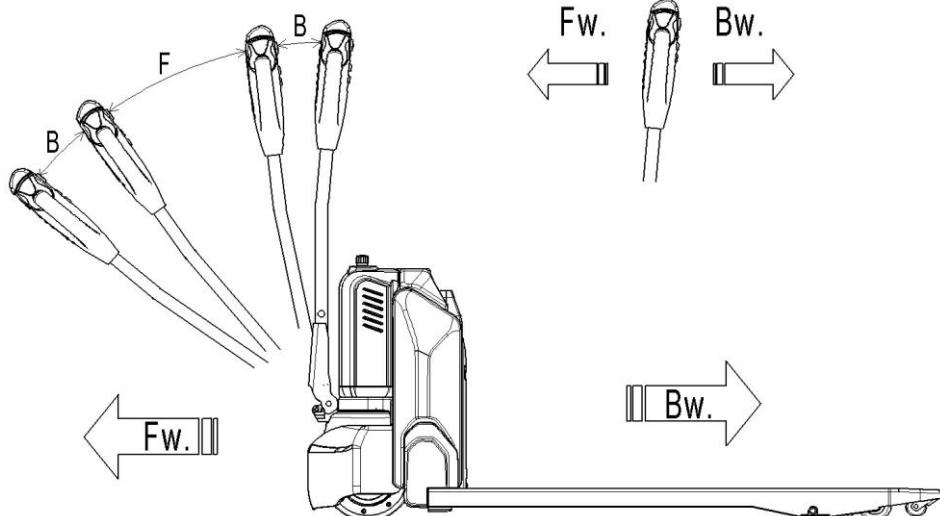


Fig. 17: Operating direction

Turn the accelerator button to the desired direction forward 'Fw.' or backwards Bw.'(Fig. 17).

Control the travelling speed by moving the accelerator button (Fig.14/15,14) carefully until you reached the desired speed. If you move the accelerator button back to the neutral position, the controller decelerates the truck until the truck stops. If the truck stopped, the parking brake will be engaged.

Drive carefully the truck to the destination. Watch the route conditions and adjust the travelling speed with the accelerator-button.

Press turtle button (Fig.14/15,18) to enter into slow speed mode, travel slowly by moving the accelerator button (Fig.14/15,14) , press turtle button again to return back to regular mode.

Press turtle button (Fig.14/15,18)and hold for 2 seconds to realize driving with tiller vertically when in confined area.

## e. Steering

You steer the truck by moving the tiller to the left or right side.

## f. Braking



PLEASE CHECK THE BRAKING DISTANCE WITH TRUCK BEFORE OPERATION  
THE BRAKING PERFORMANCE DEPENDS ON THE TRACK CONDITIONS AND  
THE LOAD CONDITIONS OF THE TRUCK

The braking function can be activated on several ways:

- By moving the accelerator button (14) back to the initial '0' position or by releasing the button, the regenerative braking is activated. The truck brakes until it stops.
- By moving the accelerator button (14) from one driving direction directly to the opposite direction, the truck brakes regenerative until it starts traveling into the opposite direction.
- The truck brakes, if the tiller is moved up or down to the braking zones ('B'). If the tiller is released, the tiller moves automatically up to the upper baking zone ('B').The truck brakes until it stops.
- The safety (belly) button (1) prevents the operator from being crushed. If this button is activated, the truck decelerates and/ or starts traveling into the backwards direction ('Bw.') for a short distance and stops. Please consider, that this button also operates, if the truck is not traveling and the tiller is in the operating zone.

## g. Malfunctions

(PTE15N and PTE20N)If there are any malfunctions or the truck is inoperative, please stop using the truck and activate the emergency button (5) by pushing it. If possible, park the truck on a safe area and press the X button of pin-code panel. Inform immediately the manager and, or call your service. If necessary, tow the truck out of the operating area by using dedicated towing/ lifting equipment.

(PTE12N and PTE20B)If there are any malfunctions or the truck is inoperative, please stop using the truck and activate the emergency button (5) by pushing it. If possible, park the truck on a safe area and remove the key (22). Inform immediately the manager and, or call your service. If necessary, tow the truck out of the operating area by using dedicated towing/ lifting equipment.

## **h. Emergency**

In emergencies or in the event of tip over (or off dock), keep safe distance immediately. If possible push the emergency button (5). All electrical functions will be stopped.

## **7. PIN-CODE PANEL**

PTE15N is equipped with a pin-code panel (3).

PTE20N is equipped with a pin-code panel (3) and ID cards.

### **a. Introduction**

Pin-code panel is an electronic system which is similar with an electronic alarm system. Truck will not able to operate before typing a correct password, the main function is to prevent unauthorized operation.

### **b. Main parameters**

Working voltage: 12V-60V

Ambient temperature: -40°C to +90°C

IP grade: IP65

### **c. Main functions**

For PTE15N, it can be operated only when correct password is typed.

For PTE20N, it can be operated only when correct password is typed or valid ID card is used.

There are two passwords of pin-code panel, one is the default user password 1234, and you can use it immediately. The other one is the administrator password 3232; with this you can set a new user password according to the following steps:

- Type “3232”, click “√”.
- Type previous user password, click “√”.
- Type new password, and click “√”, previous password will be replaced.

In case you need to reset the password, please follow the procedure under:

- Type “123”, click “√”.
- Type “123” again, click “√”. Password will be “1234”.

In case you need to add additional ID card (only for PTE20N), please follow the procedure under:

- Type “3434”, click “√”.
- Swipe the new ID card within 5 seconds.
- This pin-code panel supports Max. five cards.

## 8. BATTERY CHARGING AND REPLACEMENT



- Only qualified personnel are allowed to service or charge the batteries. The instructions of this handbook must be observed.
- (PTE12N/PTE15N/PTE20N) The batteries are lithium batteries, PTE20B battery is lead acid batteries.
- Recycling of batteries undergoes national regulations. Please follow these regulations.
- By handling batteries, open fire is prohibited!
- In the area of battery charging neither burning materials nor burning liquids are allowed. Smoking is prohibited and the area must be ventilated.
- Park the truck securely before starting charging or installing/changing the batteries
- Before finishing the maintenance work, make sure, that all cables are connected correctly and that there are no disturbing towards other components of the truck.

Table 3: Available batteries

Model	Battery options
PTE12N	24V15Ah lithium battery, 4kg
PTE15N	24V20Ah lithium battery, 4.5kg
	24V30Ah lithium battery, 6kg
	24V36Ah lithium battery, 7kg
PTE20N	48V20Ah lithium battery, 7.5kg
PTE20B	48V20Ah lead acid batteries, 30kg



IT IS ONLY ALLOWED TO USE LITHIUM BATTERIES.  
PLEASE CONSIDER THE MAXIMUM OPERATING  
TEMPERATURE OF THE BATTERIES.

### a. Replacement

Park the truck securely and press emergency switch (5). Hold the battery grip with one finger pull out the lock, and then take out the battery vertically. The installation is in the reverse order.

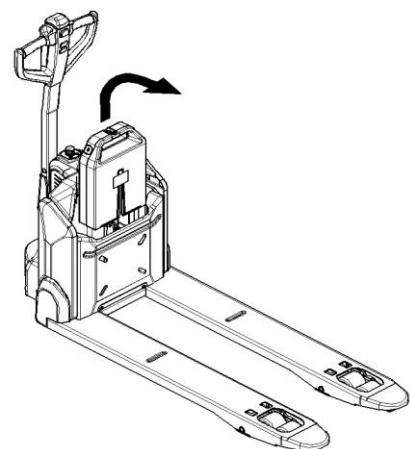
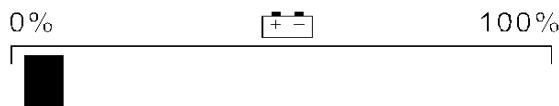
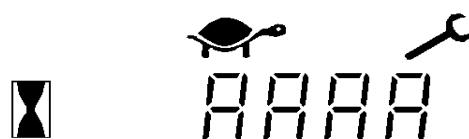
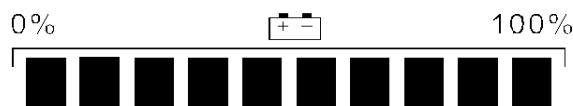


Fig. 18: Battery replacement

### Battery indicator



**Battery discharged**



**Battery charged**

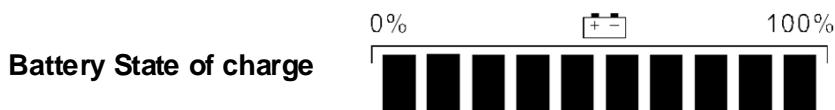
Fig. 19: PTE15N and PTE20N Battery discharge indicator

### Display

An alpha-numeric liquid crystal display is fitted in the centre of the unit that shows the hours worked. The display is backlight (the backlight is normally lighted).

### Alarms

The same display can also indicate the alarm state, showing a code corresponding to the type of alarm.



The battery's state of charge indication is integrated in the LCD display; it is shown by ten notches. Each notch represent the 10% of the battery charge. As the battery becomes discharged, the notches turn off progressively, one after the other, in proportion to the value of the residual battery charge. This value, sent to the display by the controller via CAN-BUS.

PTE15N: When there is fault code 0 on the display, means BATTERY LOW POWER. The lifting function will be cut off. Fault code 91 will appear if truck is further used without charging, driving speed will be slower.

PTE20N: When there is fault code 12 on the display, means BATTERY LOW POWER. The lifting function will be cut off. Fault code 91 will appear if truck is further used without charging, driving speed will be slower.

#### Turtle Symbol:



It is normally off, when it appears (fixed) it shows activation of the "soft" mode of the truck, in which maximum speed and acceleration are reduced.

#### Monkey Wrench Symbol:



It is normally off, when it appears (fixed) it shows the request of programmed maintenance or the alarm state. In this case the relative code will be displayed. The information supplied by the MDI-CAN can be extremely useful. Failures can be quickly identified by the operator or service technician thereby finding the fastest solution to the problem.

#### Hourglass Symbol:



It blinks when the hour meter is working.

## PTE12N and PTE20B

It is normally off, when it appears (fixed) it shows activation of the “soft” mode of the truck, in which maximum speed and acceleration are reduced.

### Battery State of charge

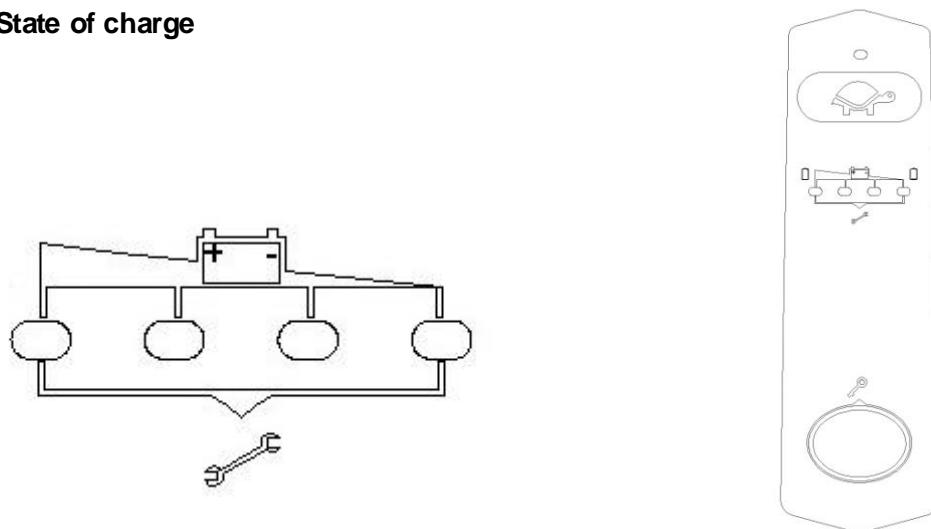


Fig. 20: PTE12N and PTE20B Battery discharge indicator

Battery's state-of-charge is indicated by four LED on the tiller:

The 1st green LED from left is on, indicating 75% -100% of battery power.

The 2nd blue LED from left is on, indicating 50% -75% of battery power.

The 3rd yellow LED from left is on, indicating 25% -50% of battery power.

The 4th LED from left is on, indicating 0% -25% of battery power.

If there is fault code, four LEDs will flash for 1s, then the 1st green LED from left will flash and count, after that the 4th LED from left will flash and count. The amount that green LED flashes times ten, then plus the amount that led LED flashes means the fault code.

## b.Charging



- Before charging ensure that you are using an appropriate charger for charging the installed battery.
- Before using the charger, please fully understand the instructions of the charger instructions.
- Always follow these instructions.
- The room, where you are charging must be ventilated.
- The exactly charge status can be only checked from the discharge indicator. To control the status, the charging must be interrupted and the truck must be started.

Park the truck at a dedicated secured area with a dedicated power supply.

Lower the forks and remove the load;

Switch the truck off and connect the charger plug (20) to the charging port (21) on the battery. The charger starts charging the battery if the charger plug (19) is connected to the main power supply.

Disconnect the charger plug from the battery and close the cap after the charger finished charging.

When charging is finished, disconnect the plug (19) from the socket and place it in the designated pocket.

It's also allowed to remove the battery out and charge in dedicated area.

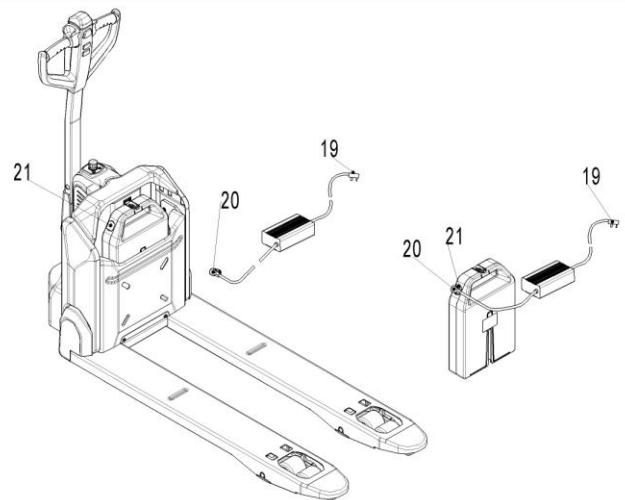


Fig.12: Battery charging

Table 6: LED-Status

LED- signal	Function
Red	Charging
Green	Fully charged

Table 7: ChargerPTE15N

Model	Specification	Input	Output
DZL2420SS02	24V5A	100Vac -240Vac~2.0A MAX	29.4V 5.0A
DZL300SS02	24V8A	180Vac -240Vac~3.0A MAX	29.4V 8.0A
SSLC300V29	24V8A (EU)	180Vac -240Vac~3.0A MAX	29.4V 8.0A
SSLC300V29	24V8A (US)	108Vac -132Vac~5.0A MAX	29.4V 8.0A
QQE288-10CH109	24V12A	100Vac -240Vac~6.0A MAX	29.4V 12.0A

Table 8: ChargerPTE20N

Model	Specification	Input	Output
DZL500SS02	48V9A	180Vac -240Vac ~2.0A MAX	54.6V 9.0A
SSLC500V48	48V9A (US)	100Vac -132Vac ~5.0A MAX	54.6V 9.0A
SSLC500V48	48V9A (EU)	180Vac -240Vac ~2.0A MAX	54.6V 9.0A

Table 9: Charger PTE12N

Model	Specification	Input	Output
DZL2420SS02	24V5A (Chinese sticker)	180Vac -240Vac~2.0A MAX	29.4V 5.0A
DZL2420SS02	24V5A (English sticker)	180Vac -240Vac~2.0A MAX	29.4V 5.0A
S12030-C0500	24V5A (US)	100Vac -240Vac~3.5A MAX	29.4V 5.0A
SSLC165V29	24V5A (EU)	180Vac -240Vac~3.0A MAX	29.4V 5.0A

Table 10: ChargerPTE20B

Model	Specification	Input	Output
DZ-M-48-20-4	48V3A	110Vac -230Vac	48V 3.0A

## 9. REGULAR MAINTENANCE



- Only qualified and trained personnel are allowed to do maintenance on this truck.
- Before maintaining, remove the load from the forks and lower the forks to the lowest position.
- If you need to lift the truck, follow chapter 4b by using designated lashing or jacking equipment. Before working, put safety devices (for instance designated lift jacks, wedges or wooden blocks) under the truck to protect against accidental lowering, movement or slipping.
- Please pay attention by maintain the tiller arm. The gas pressure spring is pre-loaded by compression, carelessness can cause injury.
- Use approved and from your dealer released original spare parts.
- Please consider that oil leakage of hydraulic fluid can cause failures and accidents.
- It is allowed to adjust the pressure valve only from trained service technicians.

Check the items emphasized in maintenance checklist.

### a. Maintenance checklist

Table 11: Maintenance checklist

		Interval(Month)			
		1	3	6	12
<b>Hydraulic</b>					
1	Check the hydraulic cylinder(s), piston for damage noise and leakage		•		
2	Check the hydraulic joints for damage and leakage		•		
3	Inspect the hydraulic oil level, refill if necessary		•		
4	Refill the hydraulic oil ( 12 month or 1500 working hours )				•
5	Check and adjust function of the pressure valve (1500kg(PTE15N)+0/+10% or2000kg(PTE20N)+0/+10%)				•
<b>Mechanical system</b>					
6	Inspect the forks for deformation and cracks		•		
7	Check the chassis for deformation and cracks		•		
8	Check if all screws are fixed		•		
9	Check the push rods for deformation and damages		•		
10	Check the gearbox for abnormal sound and noise		•		
11	Inspect the wheels for deformation and damages		•		
12	Inspect and lubricate the steering bearing if necessary				•
13	Inspect and lubricate the pivot points if necessary		•		
14	Lubricate the grease nipples	•			
<b>Electrical system</b>					
15	Inspect the electric wiring for damage		•		
16	Check the electric connections and terminals		•		
17	Test the Emergency switch function		•		
18	Check the electric drive motor for noise and damages		•		
19	Test the display		•		

20	Check, if correct fuses are used		•		
21	Test the warning signal		•		
22	Check the contactor(s)		•		
23	Check the frame leakage (insulation test)		•		
24	Check function and mechanical wear of the accelerator		•		
25	Check the electrical system of the drive motor		•		
<b>Braking system</b>					
26	Check brake performance, if necessary replace the brake disc or adjust the air gap		•		
<b>Battery</b>					
27	Check the battery voltage		•		
28	Clean and grease the terminals and check for corrosion and damage		•		
29	Check the battery housing for damages		•		
<b>Charger</b>					
30	Check the main power cable for damages			•	
31	Check the start-up protection during charging			•	
<b>Function</b>					
32	Check the horn function	•			
33	Check the air gap of the electromagnetic brake	•			
34	Test the emergency braking	•			
35	Test the reverse and regenerative braking	•			
36	Test the safety (belly) button function	•			
37	Check the steering function	•			
38	Check the lifting and lowering function	•			
39	Check the tiller arm switch function	•			
<b>General</b>					
40	Check if all decals are legible and complete	•			
41	Inspect the castors, adjust the height or replace these if worn out.		•		
42	Carry out a test run	•			

## b. Lubricating points

Lubricate the marked points according to the maintenance checklist. The required grease specification is: DIN 51825, standard grease.

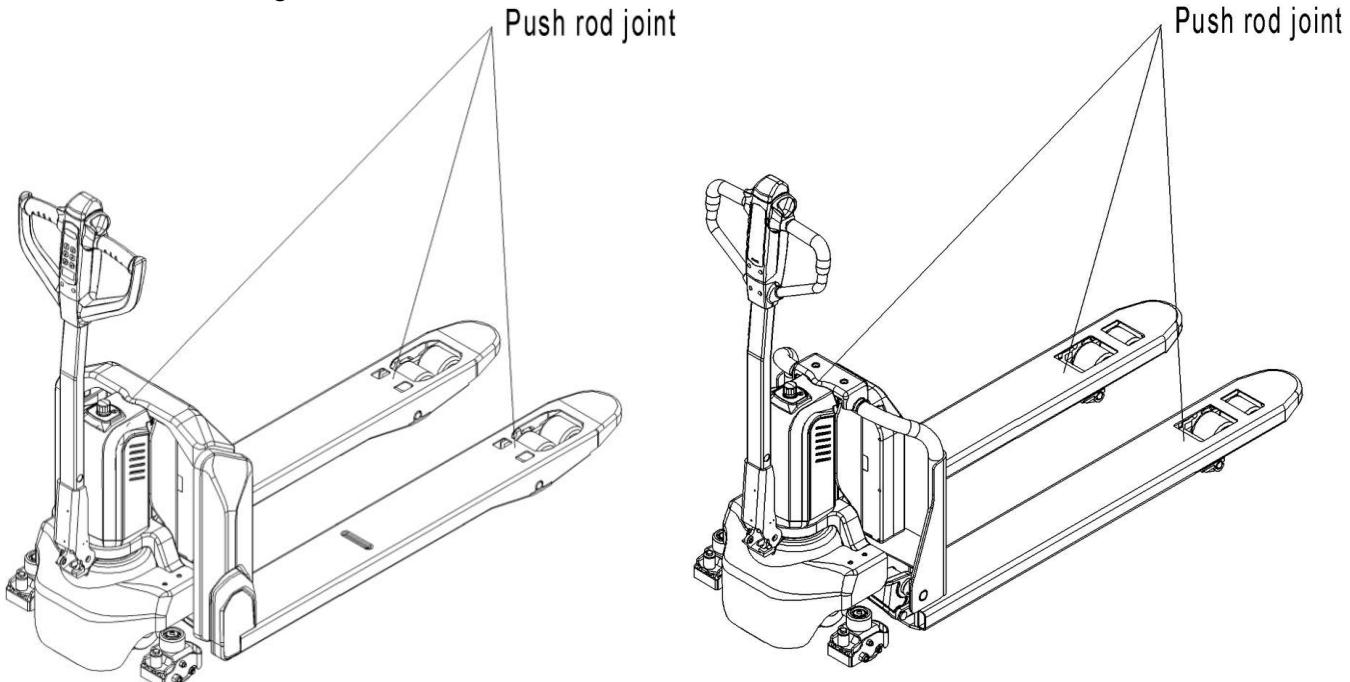


Fig. 22: PTE15N and PTE20N Lubricating points

Fig. 23: PTE12N and PTE20B Lubricating points

## c. Check and refill hydraulic oil

It is recommended to use hydraulic oil in connection with average temperature:

Environment temperature	-5°C~25°C	>25°C
Type	HVLP 32, DIN 51524	HLP 46, DIN 51524
Viscosity	28.8-35.2	41.4 - 47
Amount	0.4L	

Waste material like oil, used batteries or other must be probably disposed and recycled according to the national regulations and if necessary brought to a recycling company.

The oil level in the oil tank should be between min and max marks with fully lowered forks.

If necessary add oil at the filling point.

## d. Checking electrical fuses

Remove the main cover. The fuses are located according to Fig. 14; the size is according to table 7.

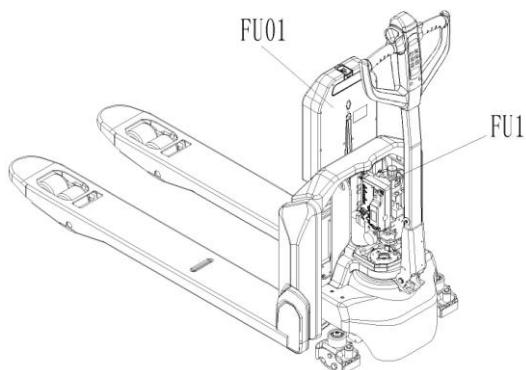


Fig. 24: Location of fuses for PTE20N

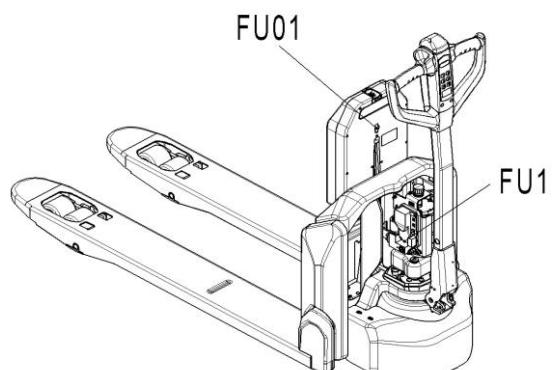


Fig. 25 Location of fuses for PTE15N

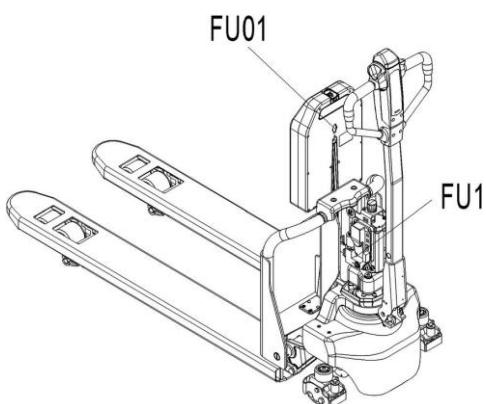


Fig. 26: Location of fuses for PTE12N

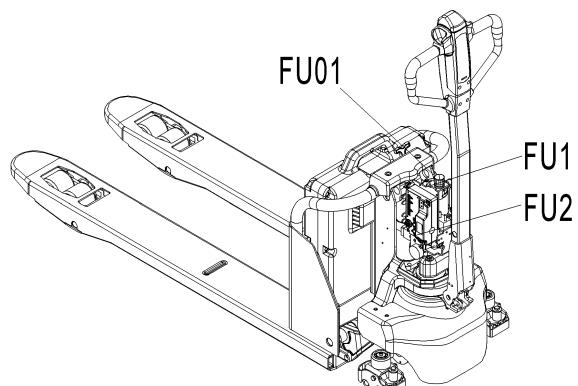


Fig. 27: Location of fuses for PTE20B

Table 12: Size of the fuses

	Rate
FU 1	10A
FU 01	70A
FU 2	6A(only PTE20B)

## 10. TROUBLE SHOOTING



- If the truck has malfunctions follow the instructions, mentioned in chapter 6.

Table 13: Trouble shooting

TROUBLE	CAUSE	REPAIR
Load can't be lifted	Load weight too high	Lift only the max. capacity, mentioned on the ID-plate
	Battery low power	Charge the battery
	Lifting contactor failure	Check and contact with service support for replacement if necessary
	Hydraulic oil level too low	Check and eventually refill hydraulic oil
	Oil leakage	Repair the sealing of the cylinder
Oil leakage from air breathing	Excessive quantity of oil.	Reduce oil quantity.
Truck not starts operating	Battery is charging	Charge the battery completely and then remove the main power plug form the electrical socket.
	Battery not connected	Connect the battery correctly
	Fuse faulty	Check and eventually replace fuses
	Low battery	Charge the battery
	Emergency switch is activated	Turn the emergency clockwise
	Tiller in the operating	Move the tiller firstly to the braking zone.

If the truck has malfunctions and can't be operated out of the working zone, jack the truck up and go with a load handler under the truck and safe the truck securely. Then move truck out of the aisle.

## 11. WIRING/ CIRCUIT DIAGRAM

### a. Electrical circuit diagram

PTE12N/PTE15N without speed reduction on curves

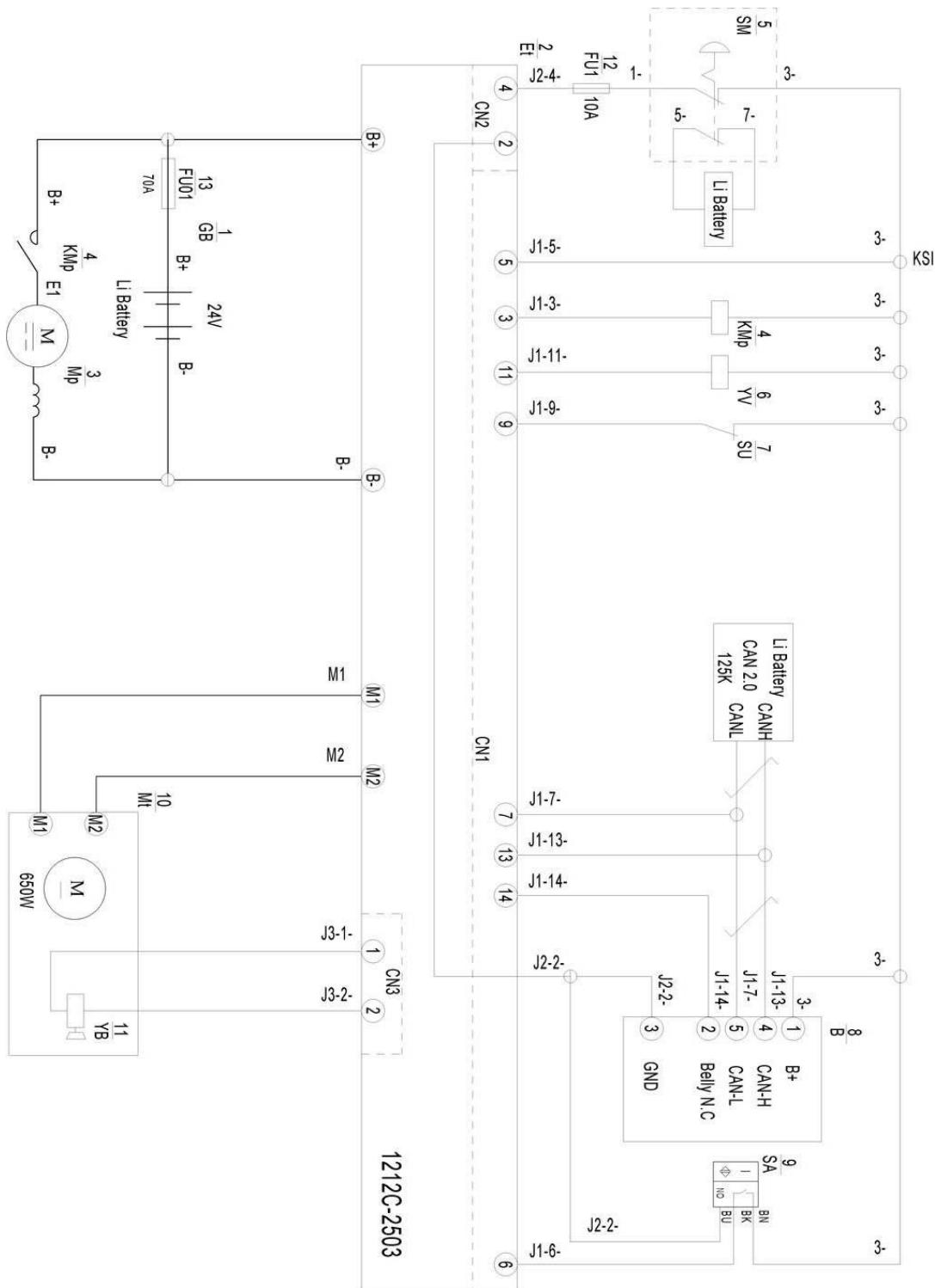


Fig.28: Electric diagram

Table 14: Description of electrical diagram

Code	Item	Code	Item
GB	Battery	B	CAN tiller
Et	Controller	SA	Proximity switch
Mp	Pump motor	Mt	Traction motor
KMp	Pump contactor	YB	Electromagnetic brake
SM	Emergency button	FU1	10A fuse
YV	Electromagnetic valve	FU01	70A fuse
SU	Micro switch		

## PTE12N/PTE15N with speed reduction on curves

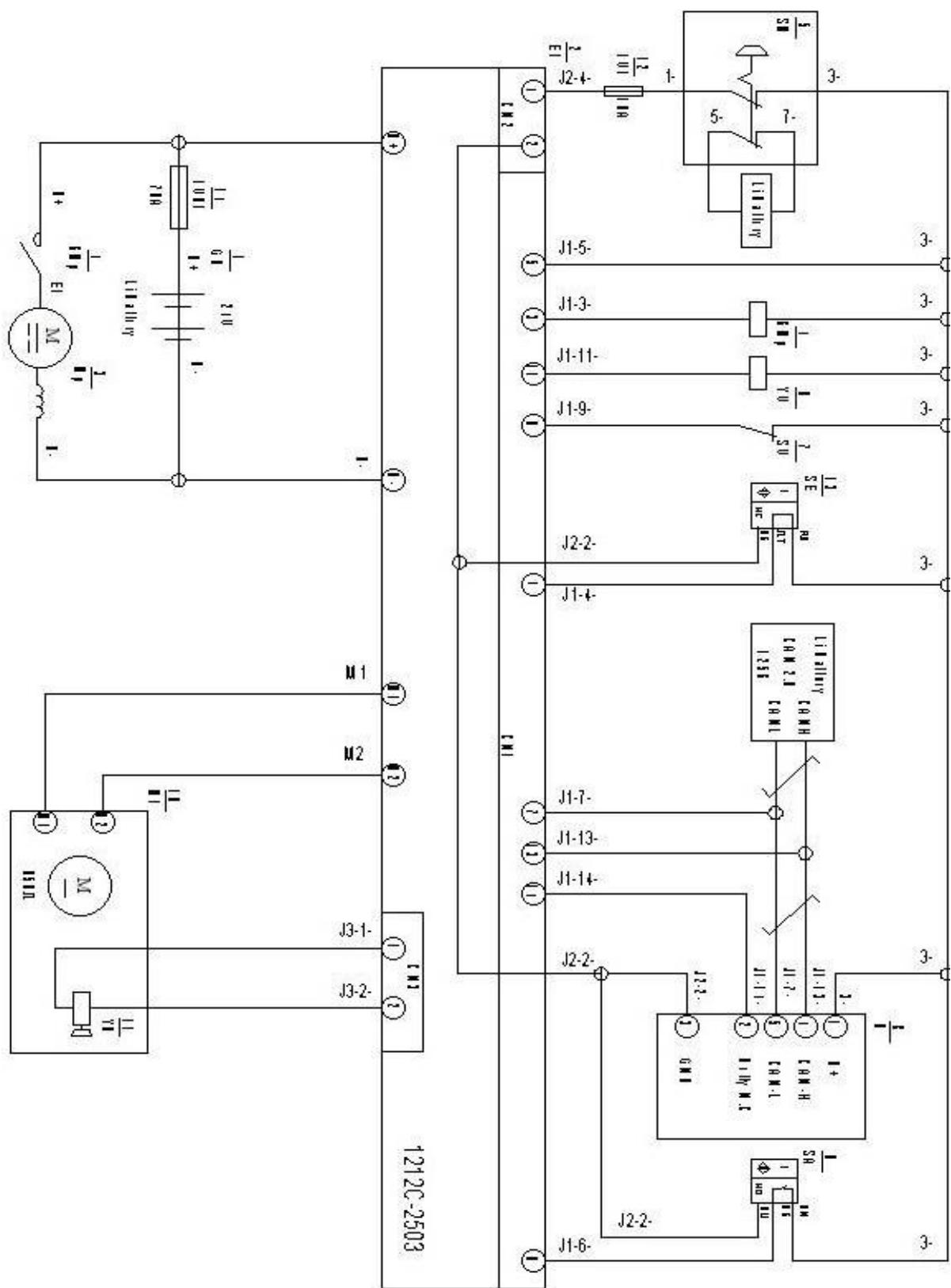


Fig.29: Electric diagram

FU1 :10A  
FU01 : 70A

Table 15: Description of electrical diagram

Code	Item	Code	Item
GB	Battery	B	CAN tiller
Et	Controller	SA	Proximity switch
Mp	Pump motor	Mt	Traction motor
KMp	Pump contactor	YB	Electromagnetic brake
SM	Emergency button	FU1	10A fuse
YV	Electromagnetic valve	SE	Proximity switch
SU	Micro switch	FU01	70A fuse

## PTE20N with speed reduction on curves

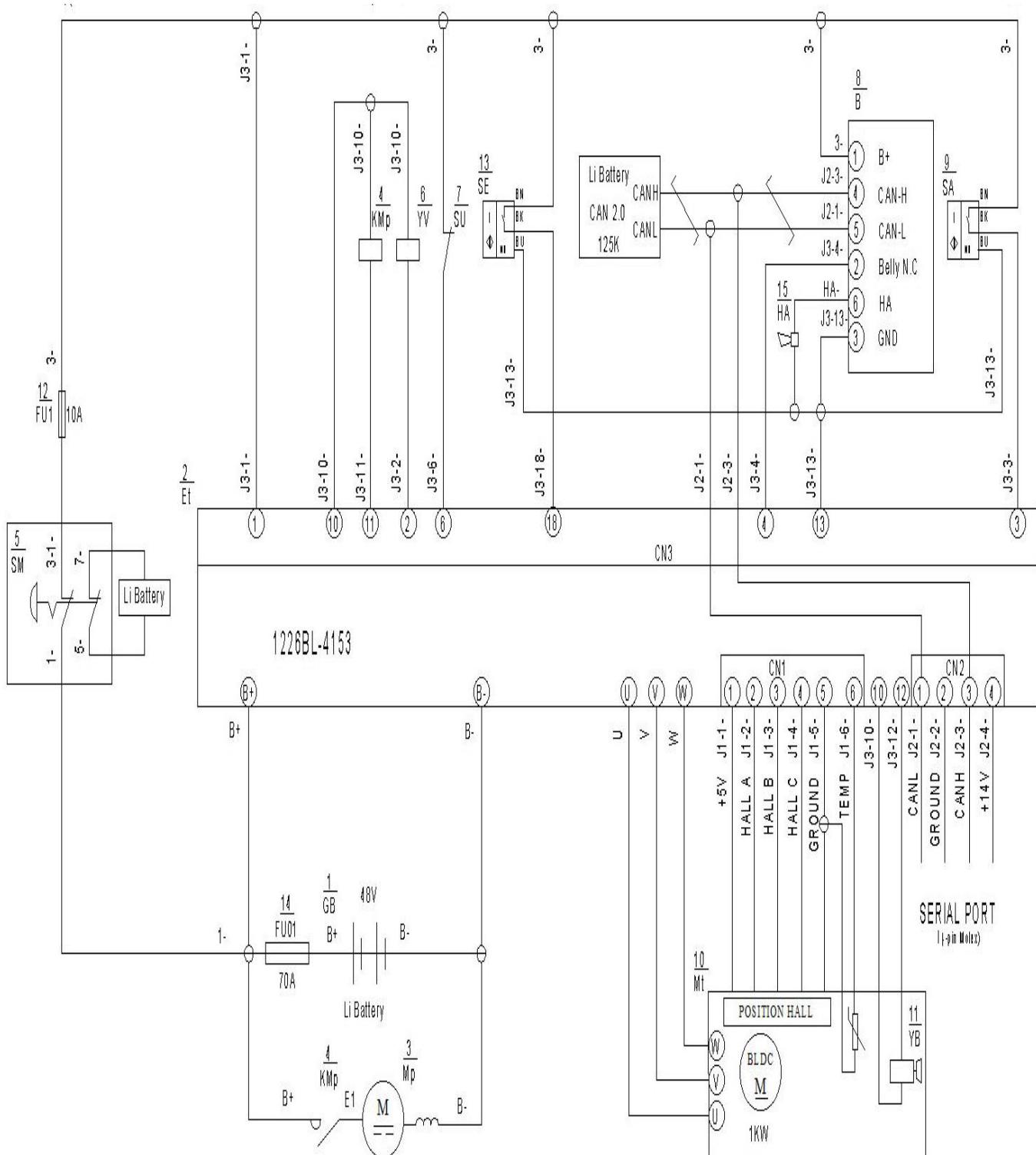


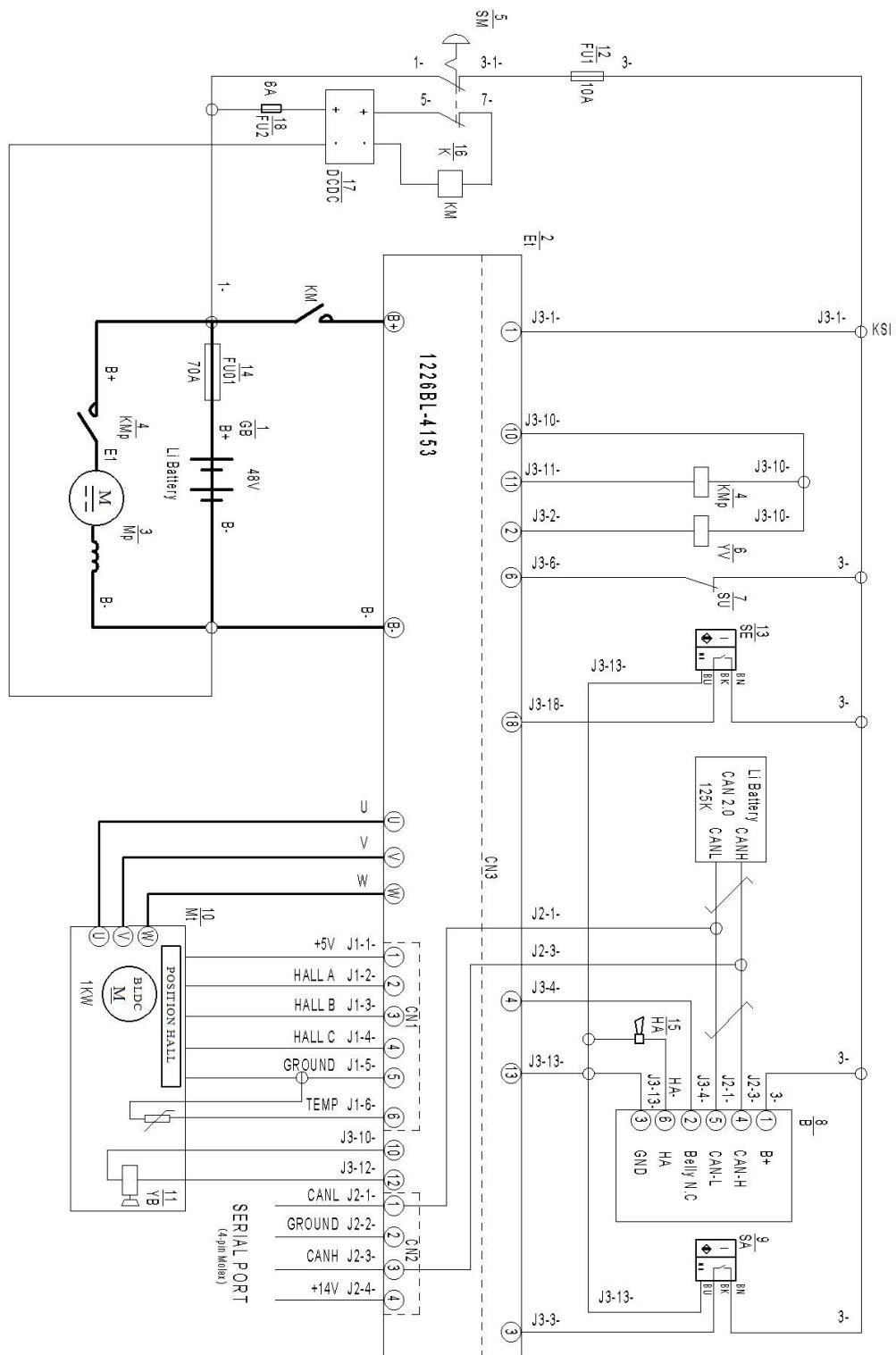
Fig.30: Electric diagram

FU1 :10A  
FU01 : 70A

Table 16: Description of electrical diagram

Code	Item	Code	Item
GB	Battery	B	CAN tiller
Et	Controller	SA	Proximity switch
Mp	Pump motor	Mt	Traction motor
KMp	Pump contactor	YB	Electromagnetic brake
SM	Emergency button	FU1	10A fuse
YV	Electromagnetic valve	FU01	70A fuse
SU	Micro switch	HA	Buzzer
SE	Proximity switch		

## PTE20B with speed reduction on curves



FU1 :10A  
FU2 :6A  
FU01 : 70A

Fig.31: Electric diagram

Table 17: Description of electrical diagram

Code	Item	Code	Item
GB	Battery	B	CAN tiller
Et	Controller	SA	Proximity switch
Mp	Pump motor	Mt	Traction motor
KMp	Pump contactor	YB	Electromagnetic brake
SM	Emergency button	FU1	10A fuse
YV	Electromagnetic valve	SE	Proximity switch
SU	Micro switch	FU01	70A fuse
HA	Horn	K	Relay
DCDC	Convertor	FU2	6A fuse

## b. Hydraulic circuit

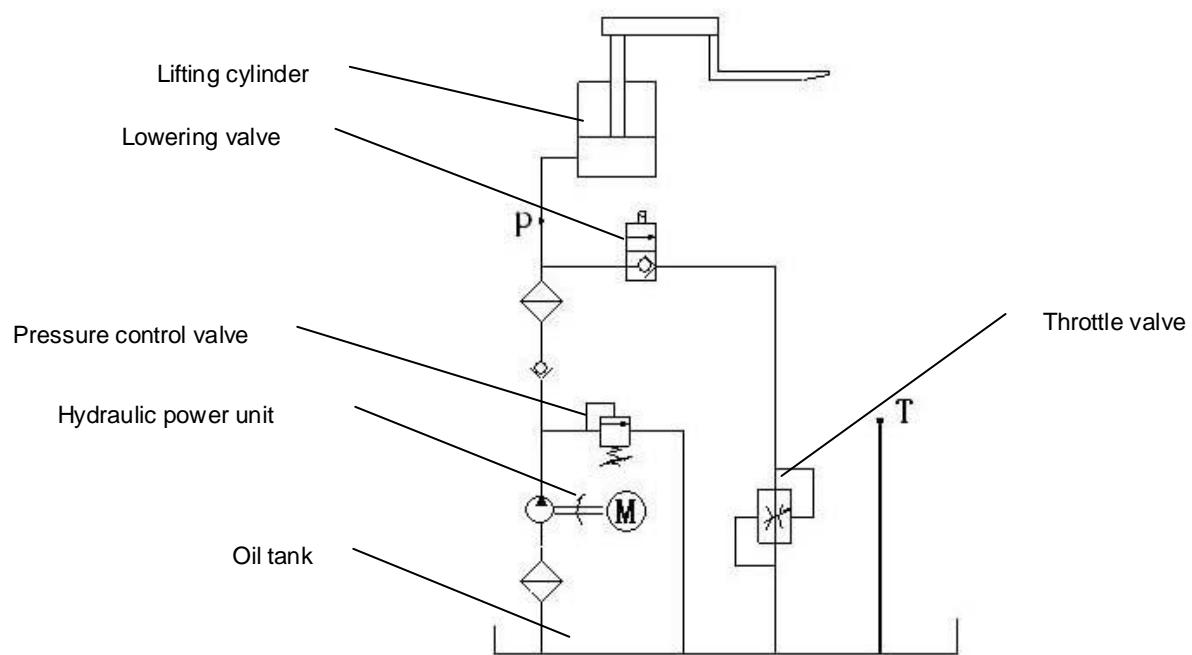


Fig. 32: Hydraulic circuit

## **12. SPECIALIZED STIPULATIONS FOR THE US- AMERICAN MARKET**

The content in this chapter is specialized for the US-American market.

### **a. Foreword/ Compliance**

Operating this truck requires knowledge which can be acquired from this instruction handbook. This handbook must be kept available throughout the entire period of use of the industrial truck.

**IT IS LAW; YOU MUST BE TRAINED AND CERTIFIED TO OPERATE THIS TRUCK!  
READ AND OBEY ALL WARNINGS AND INSTRUCTIONS IN THIS MANUAL AND ON THE TRUCK!**

Only properly trained operators are allowed to operate a powered industrial truck. Your employer must train you and certify, that you are qualified to operate this truck (required by OSHA § 1910.178). The training must satisfy OSHA requirements and as minimum the topics mentioned in this handbook. Depending on the context in this operating manual, the user can refer to several people, including the owner of the truck, anyone who leases or borrows this truck, and the operator as defined in ASME B56.1. Please pay attention to the section in ASME B56.1 concerning the operator. In this standard, it is defined that the safe operation is the responsibility of the operator (ASME B56.1-2003, Part II, section 5.1.1). You and others can be seriously injured or even killed if you don't use this truck correctly. Before operating your truck, inspect your truck and ensure that it is in correct working order. This truck was designed and built to current industry and government standards. For more information see following:

- ASME B56.1 (American Society of Mechanical Engineers)
- OSHA §1910.178 (Occupational Safety and Health Act)
- UL 583 (Underwriters Laboratory)
- ANSI Z535.4 (American National Standards Institute)

**⚠ DANGER** This sign indicates hazard situations, if not avoided, will result in serious injury or death. The instructions or precautions to this message must be observed to avoid the potential risk of injury or death.

**⚠WARNING** If not followed, warning indicates hazard situations which may lead to moderate injury. The instructions or precautions to this message must be observed to avoid the potential risk of injury or death.

**⚠ CAUTION** If not followed, caution indicated situations which may lead to minor injury. Instructions or precautions must be observed to avoid minor injury.

## b. Description warning labels (only US- market)

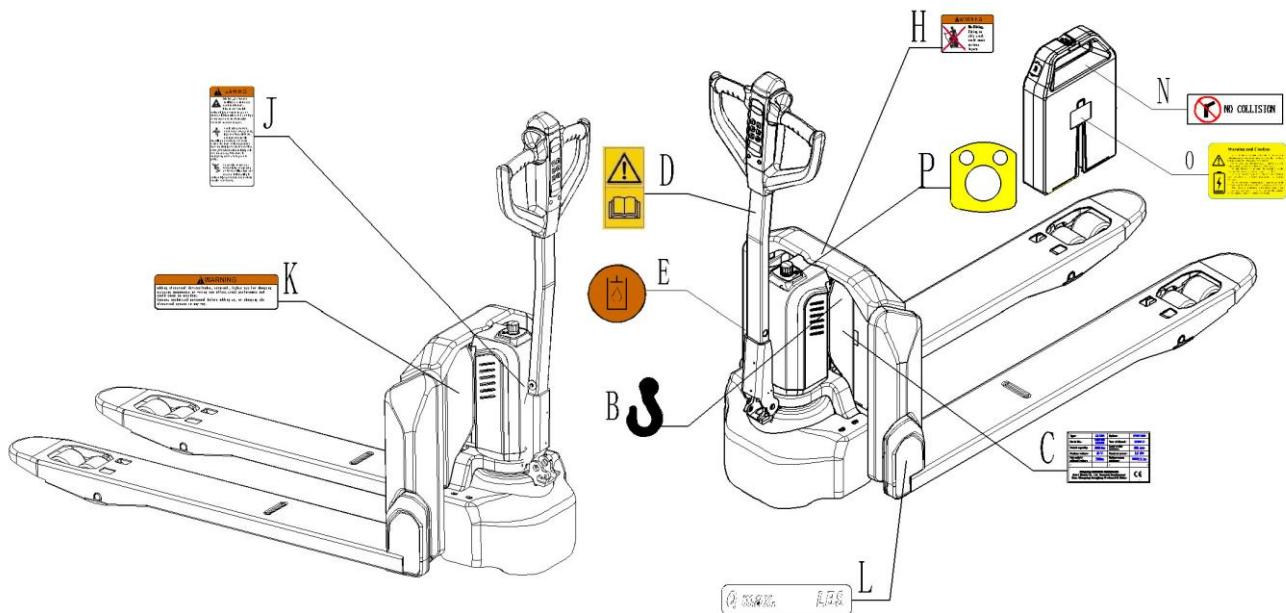
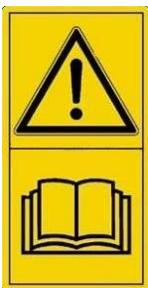


Fig. 33: Warning labels and safety devices (only USA)

- |   |   |   |                                    |
|---|---|---|------------------------------------|
| C | CE sticker                                    | J | Sign warning stay clear stop truck |
| D | Sticker to read and follow these instructions | K | Sign warning electrical device     |
| E | Filling sticker                               | L | Capacity sticker                   |
| G | Tiller sticker                                | N | Charge sticker                     |
| H | No passenger                                  |   |                                    |
| P | Emergency switch                              |   |                                    |
| O | Warning sticker                               |   |                                    |

The truck is equipped with an emergency button (5) which stops all lifting-, lowering-, driving- functions and engages the failsafe electromagnetic brake when it is pushed. The function is described in chapter 2c. Follow the instructions given on the decals. Replace the decals if they are damaged or missing.

### Sign read and follow this instruction (D)



### Sign warning electrical devices (K)



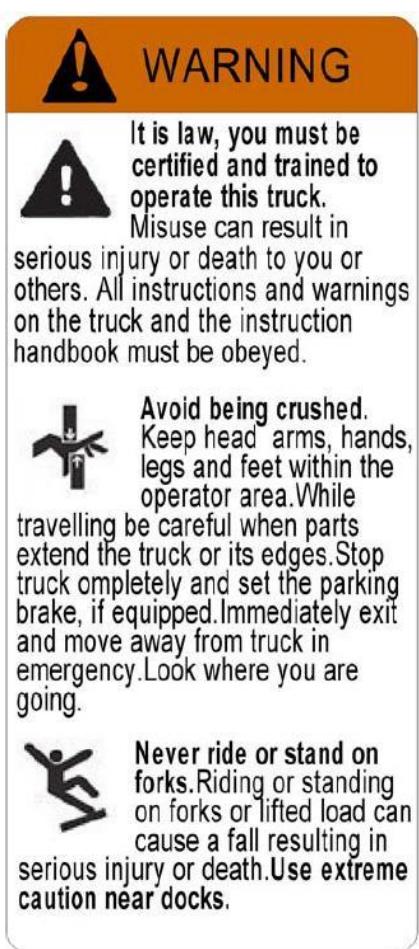
### Sign oil filling point (E)



### Sign no collision(N)



### Sign warning stay clear stop truck (J)



### Sign emergency switch(P)



### Warning sticker



### c. Technical data for US market

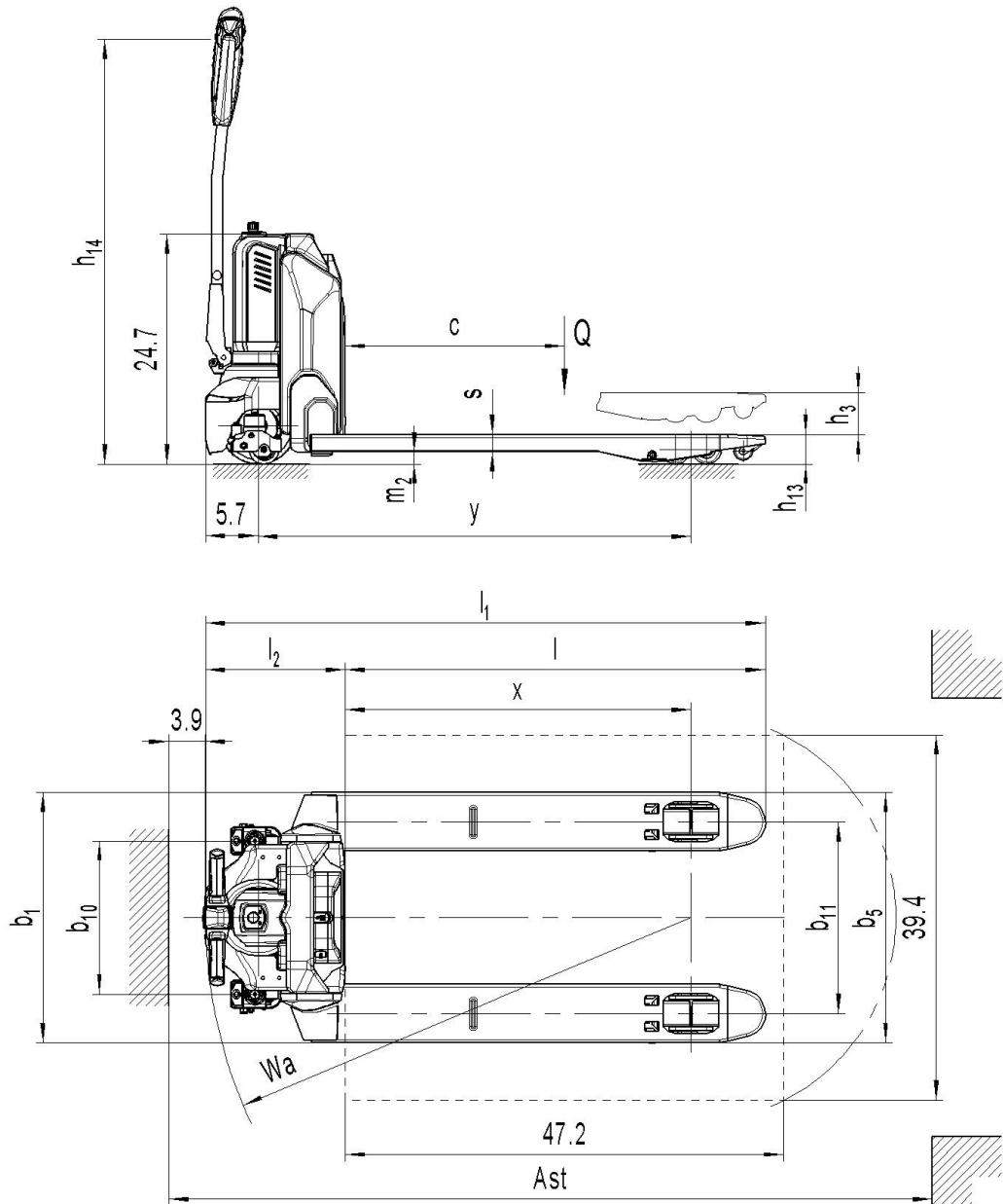


Fig. 34: PTE33N and PTE45N Technical data US

Table 18: Main technical data for standard version (US market)

		Type sheet for industrial truck acc. to (VDI 2198)		
Distinguishing mark	1.2	Manufacturer's type designation	PTE33N	PTE45N
	1.3	Drive	Battery	
	1.4	Operator type	Pedestrian	
	1.5	Load Capacity / rated load Q (lbs)	3300	4500
	1.6	Load centre distance c (in)	23.6	
	1.8	Load distance ,centre of drive axle to fork x (in)	37.3	

	1.9	Wheelbase	y (in)	46.6		46.8			
Weight	2.1	Service weight	lbs	271	278	328	337		
	2.2	Axle loading, laden front/rear	lbs	1373/2198	1380 / 2198	1369/3368	1378/3368		
	2.3	Axle loading, unladen front/rear	lbs	211 / 60	218 / 60	254/75	262/75		
Tyres, chassis	3.1	Tires		Polyurethane (PU)					
	3.2	Tire size,front	Ø x w (in)	Ø 8.27x2.76					
	3.3	Tire size,rear	Ø x w (in)	Ø 3.15x3.66(Ø 3.15x2.76)					
	3.4	Additional wheels(dimensions)	Ø x w (in)	-/Ø 3.15x1.18					
	3.5	Wheels,number front/rear(x=driven wheels)		1x/ 2(1x/ 4) or 1x +2/ 2(1x +2/ 4)					
	3.6	Tread, front	b <sub>10</sub> (in)	16.5					
	3.7	Tread, rear	b <sub>11</sub> (in)	15	20.7	15	20.7		
Dimensions	4.4	Lift	h <sub>3</sub> (in)	4.53					
	4.9	Height of tiller in drive position min./ max.	h <sub>14</sub> (in)	27.6 / 45.7					
	4.15	Height, lowered	h <sub>13</sub> (in)	3.15					
	4.19	Overall length	l <sub>1</sub> (in)	60		60.5			
	4.20	Length to face of forks	l <sub>2</sub> (in)	15		15.2			
	4.21	Overall width	b <sub>1</sub> (in)	21.3	27	21.3	27		
	4.22	Fork dimensions	s/e/l (in)	1.85 / 6.3 /45.3					
	4.25	Width across forks	b <sub>5</sub> (in)	21.3	27	21.3	27		
	4.32	Ground clearance, centre of wheelbase	m <sub>2</sub> (in)	1.3					
	4.34	Aisle width for pallets 39.4X47.2 lengthways (7.9in safe distance)	Ast (in)	78.7		79			
Performance data	4.35	Turning radius	Wa (in)	52.36		52.6			
	5.1	Travel speed, laden/ unladen	mph	2.85 / 2.98		3.0/3.2			
	5.2	Lift speed, laden/ unladen	fpm	3.93 / 4.92		3.35/4.33			
	5.3	Lowering speed, laden/ unladen	fpm	9.8 / 7.9		9.8/5.9			
	5.8	Max. gradeability, laden/ unladen	%	6 / 16		7/ 16			
Electric-engine	5.10	Service brake		Electromagnetic					
	6.1	Drive motor rating S2 60min	HP	0.87		1.02			
	6.2	Lift motor rating at S3 10%	HP	0.67		1.08			
	6.3	Battery acc. to DIN 43531/ 35/ 36 A, B, C, no		No					
	6.4	Battery voltage, nominal capacity K5	V / Ah	24 / 20(24 / 30; 24 / 36)		48/ 20			
	6.5	Battery weight	lbs	10		16.5			
Addition data	6.6	Energy consumption acc. to 16796-2	kWh	0.22		0.18			
	8.1	Type of drive control		DC speed Control					
	8.4	Sound level at driver's ear acc. to EN 12053	dB(A)	<70					

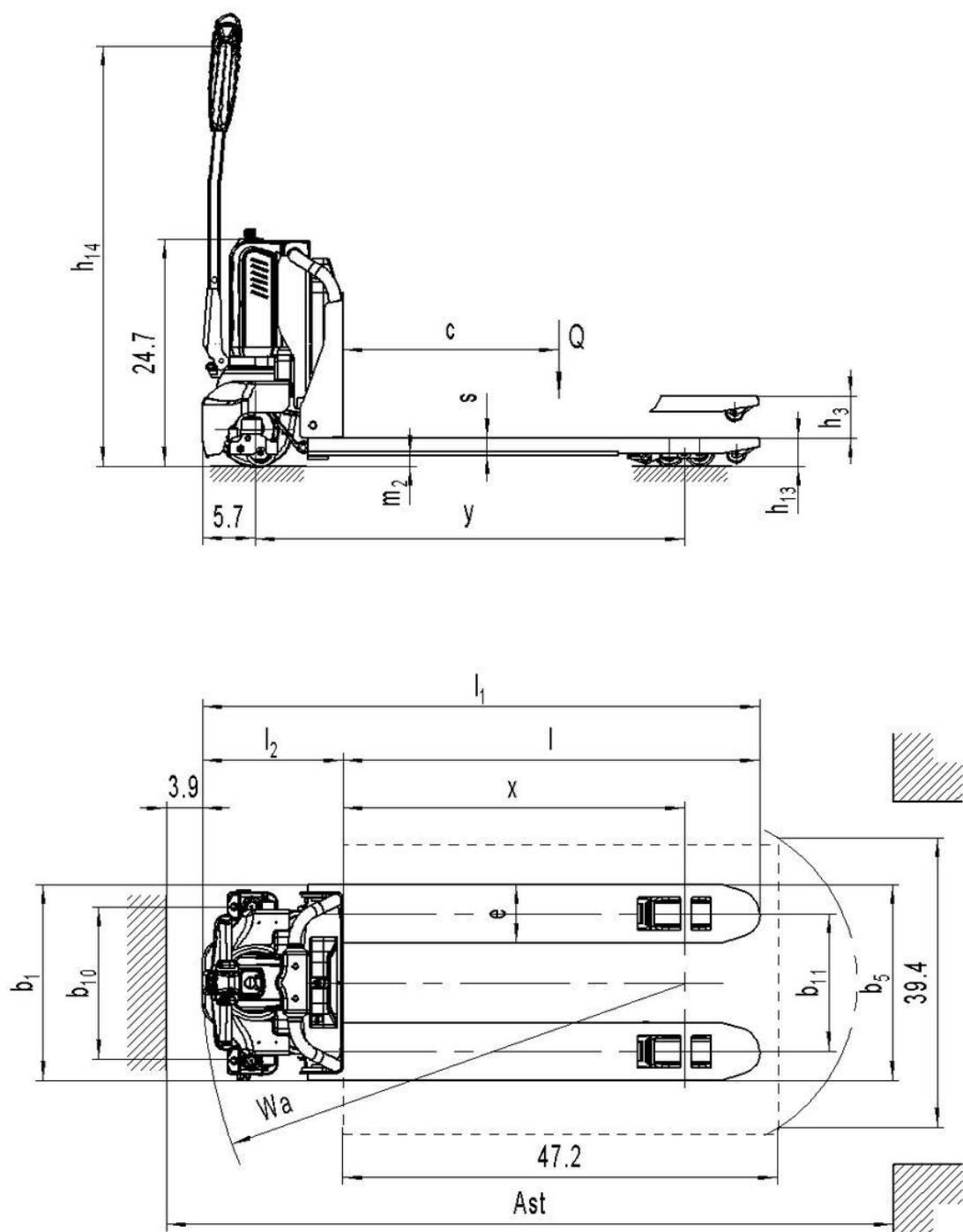


Fig. 35: PTE26N Technical data US

Table 19: Main technical data for standard version (US market)

Type sheet for industrial truck acc. to VDI 2198			
Distinguishing mark	1.2	Manufacturer's type designation	PT E26N
	1.3	Drive	Battery
	1.4	Operator type	Pedestrian

	1.5	Load Capacity / rated load	Q (lbs)	2640
	1.6	Load centre distance	c (in)	23.6
	1.8	Load distance ,centre of drive axle to fork	x (in)	37.1
	1.9	Wheelbase	y (in)	46.7
Weight	2.1	Service weight	lbs	273 284
	2.2	Axle loading, laden front/rear	lbs	783/2143 937/2002
Tyres, chassis	2.3	Axle loading, unladen front/rear	lbs	223/60 234/60
	3.1	Tires		Polyurethane (PU)
	3.2	Tire size,front	Ø x w (in)	Ø 8.27x2.76
	3.3	Tire size,rear	Ø x w (in)	Ø 3.15x3.66(Ø 3.15x2.76)
	3.4	Additional wheels(dimensions)	Ø x w (in)	Ø 3.15x1.18
	3.5	Wheels,number front/rear(x=driven wheels)		1x/ 2(1x/ 4) or 1x +2/ 2(1x +2/ 4)
	3.6	Tread, front	b <sub>10</sub> (in)	-/16.5
	3.7	Tread, rear	b <sub>11</sub> (in)	15(14.2) 20.7
	4.4	Lift	h <sub>3</sub> (in)	4.53
Dimensions	4.9	Height of tiller in drive position min./ max.	h <sub>14</sub> (in)	27.6 / 45.7
	4.15	Height, lowered	h <sub>13</sub> (in)	3.15
	4.19	Overall length	l <sub>1</sub> (in)	60.5
	4.20	Length to face of forks	l <sub>2</sub> (in)	15.2
	4.21	Overall width	b <sub>1</sub> (in)	21.3(20.5) 27
	4.22	Fork dimensions	s/e/l (in)	1.85 / 6.3 /45.3
	4.25	Width across forks	b <sub>5</sub> (in)	21.3(20.5) 27
	4.32	Ground clearance, centre of wheelbase	m <sub>2</sub> (in)	1.3
	4.34	Aisle width for pallets 39.4X47.2 lengthways (7.9in safe distance)	Ast (in)	79
	4.35	Turning radius	Wa (in)	52.6
Performance data	5.1	Travel speed, laden/ unladen	mph	3.0/3.2
	5.2	Lift speed, laden/ unladen	fpm	6.10/7.28
	5.3	Lowering speed, laden/ unladen	fpm	13.58/10.04
	5.8	Max. gradeability, laden/ unladen	%	4/ 16
	5.10	Service brake		Electromagnetic
Electric-engine	6.1	Drive motor rating S2 60min	HP	0.87
	6.2	Lift motor rating at S3 10%	HP	0.67
	6.3	Battery acc. to DIN 43531/ 35/ 36 A, B, C, no		No
	6.4	Battery voltage, nominal capacity K5	V / Ah	24/ 15
	6.5	Battery weight	lbs	9.7
	6.6	Energy consumption acc. to VDI cycle	kWh/h	0.14
Addition data	8.1	Type of drive control		DC speed Control
	8.4	Sound level at driver's ear acc. to EN 12053	dB(A)	<70

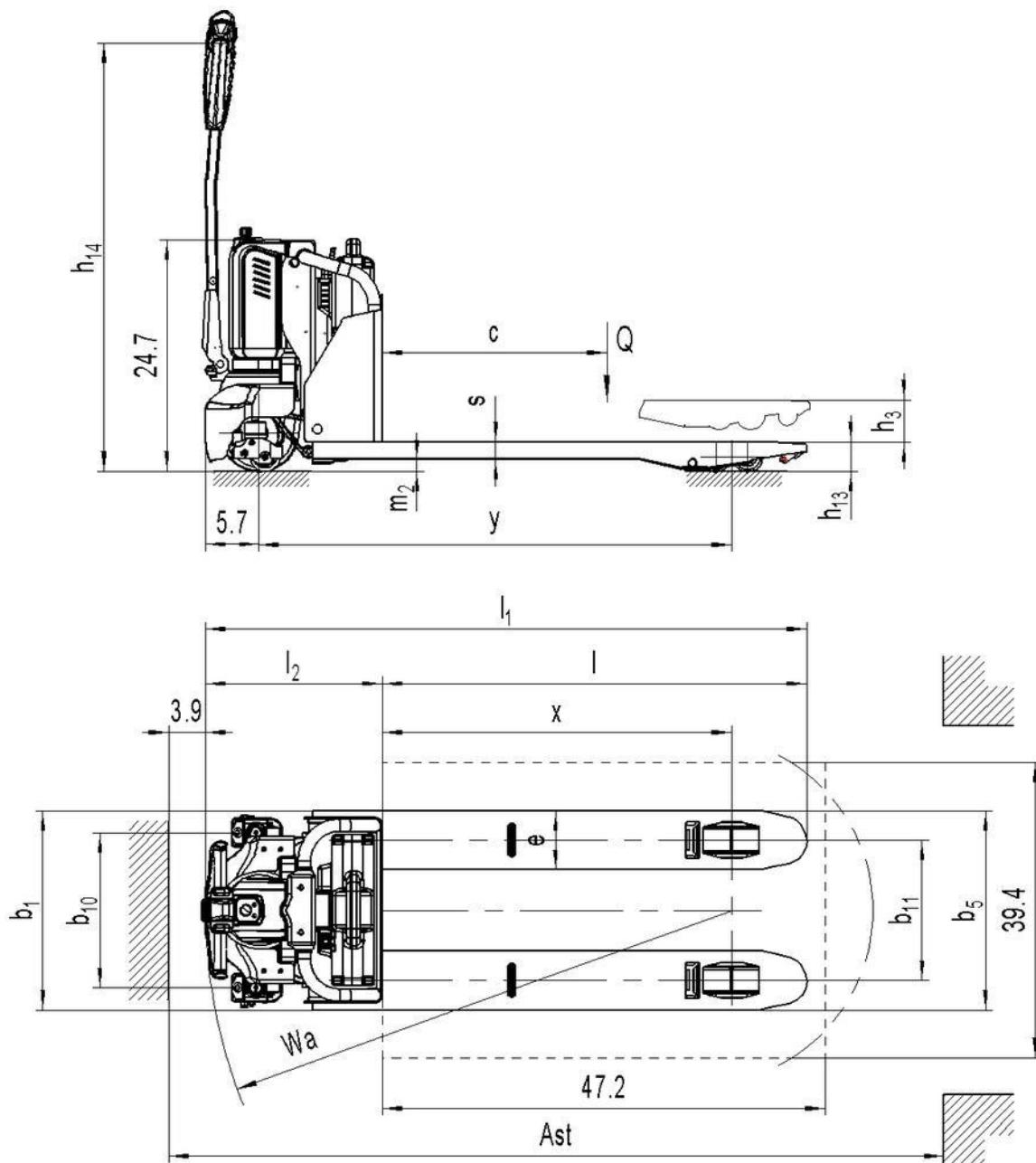


Fig. 36: PTE45B Technical data US

Table 20: Main technical data for standard version (US market)

Type sheet for industrial truck acc. to VDI 2198			
Distinguishing mark	1.2	Manufacturer's type designation	PT E45B
1.3	Drive		Battery
1.4	Operator type		Pedestrian
1.5	Load Capacity / rated load	Q (lbs)	4500
1.6	Load centre distance	c (in)	23.6
1.8	Load distance ,centre of drive axle to fork	x (in)	37.2
1.9	Wheelbase	y (in)	50.4

Weight	2.1	Service weight	lbs	408	423
	2.2	Axle loading, laden front/rear	lbs	1477/3340	1484/3349
	2.3	Axle loading, unladen front/rear	lbs	320/88	335/88
Tyres, chassis	3.1	Tires		Polyurethane (PU)	
	3.2	Tire size,front	Ø x w (in)	Ø 8.27x2.76	
	3.3	Tire size,rear	Ø x w (in)	Ø 3.15x3.66(Ø 3.15x2.76)	
	3.4	Additional wheels(dimensions)	Ø x w (in)	Ø 3.15x1.18	
	3.5	Wheels,number front/rear(x=driven wheels)		1x/ 2(1x/ 4) or 1x +2/ 2(1x +2/ 4)	
	3.6	Tread, front	b <sub>10</sub> (in)	16.5	
	3.7	Tread, rear	b <sub>11</sub> (in)	15	20.7
Dimensions	4.4	Lift	h <sub>3</sub> (in)	4.53	
	4.9	Height of tiller in drive position min./ max.	h <sub>14</sub> (in)	27.6 / 45.7	
	4.15	Height, lowered	h <sub>13</sub> (in)	3.15	
	4.19	Overall length	l <sub>1</sub> (in)	64	
	4.20	Length to face of forks	l <sub>2</sub> (in)	18.8	
	4.21	Overall width	b <sub>1</sub> (in)	21.3	27
	4.22	Fork dimensions	s/e/l (in)	1.85 / 6.3 /45.3	
	4.25	Width across forks	b <sub>5</sub> (in)	21.3	27
	4.32	Ground clearance, centre of wheelbase	m <sub>2</sub> (in)	1.3	
	4.34	Aisle width for pallets 39.4X47.2 lengthways (7.9in safe distance)	Ast (in)	82.6	
Performance data	4.35	Turning radius	Wa (in)	56.2	
	5.1	Travel speed, laden/ unladen	mph	2.6/2.9	
	5.2	Lift speed, laden/ unladen	fpm	4.92/5.91	
	5.3	Lowering speed, laden/ unladen	fpm	14.76/12.40	
	5.8	Max. gradeability, laden/ unladen	%	5/ 16	
Electric- engine	5.10	Service brake		Electromagnetic	
	6.1	Drive motor rating S2 60min	HP	1.01	
	6.2	Lift motor rating at S3 10%	HP	1.07	
	6.3	Battery acc. to DIN 43531/ 35/ 36 A, B, C, no		No	
	6.4	Battery voltage, nominal capacity K5	V / Ah	48/ 20	
	6.5	Battery weight	lbs	66	
Addition data	6.6	Energy consumption acc. to VDI cycle	kWh/h	0.19	
	8.1	Type of drive control		DC speed Control	
	8.4	Sound level at driver's ear acc. to EN 12053	dB(A)	<70	

## 13. DECLARATION OF CONFORMITY (valid, if sold within the EU)

### **[GB] CE Declaration of Conformity**

The signatory hereby declares that the specified machine conforms to the EU Directive 2006/42/EC (Machine Directive) and 2014/30/EU (Electro-Magnetic Compatibility, EMC) including their amendments as translated into national legislation of the member countries. The signatory is individually authorized to compile the technical documents.

### **[D] EG-KONFORMITÄTSERKLÄRUNG**

Der Unterzeichner bescheinigt hiermit, dass die im Einzelnen bezeichnete Maschine den Europäischen Richtlinien 2006/42/EG (Maschinenrichtlinie) und 2014/30/EU (Elektromagnetische Verträglichkeit - EMV) einschließlich deren Änderungen sowie dem entsprechenden Rechtserlass zur Umsetzung der Richtlinien in nationales Recht entspricht. Der Unterzeichner ist bevollmächtigt, die technischen Unterlagen zusammenzustellen.

### **[E] DECLARACIÓN DE CONFORMIDAD CE**

El signatario certifica por medio de la presente que la máquina especificada cumple con las Normas Europeas 2006/42/CE (Normativa para maquinarias) y 2014/30/EU (Compatibilidad electromagnética), incluyendo sus respectivas modificaciones, así como con el decreto-ley para la adaptación de las normas al derecho nacional. El signatario dispone de una autorización individual que le permite compilar la documentación técnica.

### **[F] DECLARATION DE CONFORMITE CE**

Par la présente déclaration, les soussignés certifient que le machines spécifié ci-dessus est conforme à la loi et aux directives européennes 2006/42/CE (directive sur les machines) et 2014/30/EU (compatibilité électromagnétique - CEM), y compris aux modifications qui y sont apportées et à l'arrêté autorisant sa transposition en droit national. Chaque signataire est habilité individuellement à établir individuellement la documentation technique.

### **[NL] EG-CONFORMITEITSVERKLARING**

Ondergetekenden verklaren hierbij dat - volgens de nationale wetgeving van de Lidstaten - de hierboven vermelde opgegeven machina beantwoordt aan de bepalingen qua veiligheid bij machines (EG richtlijn 2006/42/EC) en electro-magnetische compatibiliteit (EG richtlijn 2014/30/EU). Ondergetekenden zijn ieder individueel gemachtigd het technisch dossier samen te stellen.

### **[P] DECLARAÇÃO DE CONFORMIDADE CE**

Pela presente, os signatários certificam que o máquina especificado está conforme às Directivas Europeias 2006/42/CE („Máquinas“) e 2014/30/EU („Inocuidade Electromagnética - IEM“), incluindo as alterações das mesmas e o respetivo decreto-lei para a transposição em lei nacional. Cada um dos signatários está autorizado a proceder à elaboração da documentação técnica.

### **[I] DICHIARAZIONE DI CONFORMITÀ CE**

I sottoscritti dichiarano che il veicolo per trasporti internazionali acchina specificato soddisfa le Direttive Europee 2006/42/EC (Direttiva Macchine) e 2014/30/EU (Compatibilità elettromagnetica - EMV) comprese le relative modifiche, come pure il rispettivo decreto legislativo per la conversione delle direttive in diritto nazionale. I sottoscritti sono singolarmente autorizzati alla creazione della documentazione tecnica.

### **[BG] ЕВРОПЕЙСКА ОБЩНОСТ - ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ**

Подписаните удостоверяват с настоящето, че подробно описаната машина съответства на европейския норматив 2006/42/EG (норматив за машини) и на 2014/30/EU (електро-магнетична съвместимост), включително с техните промени, както и на съответния указ за прилагане на нормативите в националното право. Подписаните при това са упълномощени поотделно да съставят техническата документация.

### **[CZ] EG - PROHLÁŠENÍ OSHODE**

Nížepodepsaný tímto potvrzuje, že podrobný popis uvedené stroje odpovídá Evropským směrnicím 2006/42/EC (směrnice pro stroje) a 2014/30/EU (elektromagnetická interference - EMV) včetně jejich pozdějších úprav, jak ož ipříslušným právním výnosům poučnatelné příslušné směrnice v rámci nařízení o právě. Každý zpodpisy je jednotlivě zplnomocněn vytvoření technických podkladů.

### **[DK] EF-OVERENSSTEMMELSESERKLÆRING**

Undertegnede attesterer hermed, at det specificerede maskine stemmer overens med de Europæiske Direktiver 2006/42/EU (maskindirektiv) og 2014/30/EU (elektromagnetisk kompatibilitet - EMC) samt med den modsvarende lovgivning til implementering af direktiver i den nationale lovgivning. De undertegnede er hver for sig beføjet til at sammenstille de tekniske dokumenter.

### **[EST] EL vastavusavaldis**

Allkirjutanud töendavad käesolevaga, et üksikasjalikult kirjeldatud täpsustatud masin vastab Euroopa direktiiviidele 2006/42/EÜ (Direktiiv masinate kohta) ja 2014/30/EU (Elektromagnetiline sobivus - EMS) kaasa arvatud nende muudatused ja nendele vastavatele õigusmäärustele direktiiviide muutmiseks siseriiklikuks õiguseks. Iga allkirjutanu üksikult on volitatud koostama tehnilist dokumentatsiooni.

### **[FIN] EU-YHDENMUKAISUUSSELOSTUS**

Allekirjoittaneet todistavat täten, että kukaan erikseen mainittu omalla voiman lähteellä varustettu tehdaskone vastaa EU-direktiivien 2006/42/EC (koneen rakennusdirektiivi) ja 2014/30/EU (sähkömagneettinen yhteensopivuus – EMC) määräyksiä sekä niiden muutoksia ja niiden kansalliseen lainsäädäntöön soveltamista koskevaa oikeussääntöä. Jokaisella allekirjoittaneesta on oikeus itsenäisesti laataa asiaankuuluvia teknisiä asiakirjoja.

### **[GR] ΔΗΛΩΣΗΣ ΥΜΜΟΡΦΩΣΗΣΕΟΚ**

Οι πουρά φοντες εβαίωνουν διάτησπα ράστριζοποιούσυγκεκριμένο μηχανισμό μορφώνεται προτιγήνοι νοτική Οδηγία 2006/42/EK («Μηχανήματα») και 2014/30/EU (Ηλεκτρομαγνητική ημιτοποιητική, ΗΜΣ), καθώς και οποιοι ιστούσι, όπως μεταφράστηκε στην εθνική νομοθεσία των χωρών μελών. Οι πουρά φοντες είναι οι επιστημονικές ομάδες που συμμετείχαν στην παραγωγή της νομοθεσίας.

### **[H] EU KONFORMITÁSI NYILATKOZAT**

Alulirottak ezennel igazolják, hogy a részletesen leírt a megfelel a 2006/42/EC (Gép-Irányelv) és a 2014/30/EU (Elektromágneses összeférhetőség - EMV) Európai Irányelvnek, beleértve azok módosításait, valamint az irányelvök nemzeti jogba történő általánosítására vonatkozó jogi rendelkezést. Továbbá az alulirottak mindegyike rendelkezik meghatalmazással arra névre, hogy összeállíthatja a műszaki dokumentációt.

### **[LT] ES atitinkimo deklaracija**

Žemaiu pasiraše asmenys patvirtina, kad atskirai aprašytas nurodyta mašina atitinka Europos Sajungos direktyvas 2006/42/EB (Mašinų direktyva) ir 2014/30/EU (Elektromagnetinis suderinamumas – EMS) įskaitant jų pakeitimus, o taip pat ir atitinkamą teisės aktą dėl direktyvų įgyvendinimo nacionalinėje teisėje. Kiek vienas iš pasirašiusių asmenų turi teisę ruošti techninę dokumentaciją.

### **[LV] ES atbilstības deklārācija**

Ar zemāk redzamajiem parakstiem tiek apliecināts, ka norādītā mašīna atbilst Eiropas Savienības normatīvām 2006/42/EG (Mašīnu normatīvas) un 2014/30/EU (Elektromagnētiskā atbilstība – EMV), ieskaitot to izmaiņas, kā arī atbilstošos tiesiskos rīkojumus normatīvu pielāgošanai

nacionālajai likumdošanai. Parakstu īpašnieki ir atsevišķi pilnvaroti sastādīt tehniskās dokumentācijas.

## [N] EU-KONFORMITETSERKLÄRING

Undertegne de bekrefter hermed at de enkelte betegnede maskin med kraft drift tilsvarer de europeiske retningslinjene 2006/42/E C (maskinretningslinje) og 2014/30/EU (elektromagnetisk fordraglighet - EMV) inklusiv disses endringer og den tilsvarende rettsforordning til omsetning av nasjonal rett. Hver undertegnede er fullmektig til å sette sammen de tekniske dokumentene.

## [PL] DEKLARACJA ZGODNOŚCI WE

Niżej podpisani deklarują, że poniżej opisana maszyna spełnia wymagania określone w dyrektywach Europejskich 2006/42/EC (Dyrektywa Maszynowa) i 2014/30/EU (Kompatybilność elektromagnetycznej - EMC) wraz z ich późniejszymi zmianami oraz odpowiednimi rozporządzeniami mającymi na celu przeniesienie tych dyrektyw do prawa krajów członkowskich. Sygnatariusz jest indywidualnie upoważniony do zestawiania dokumentacji technicznej.

## [RO] DECLARATIE DE CONFORMITATE CE

Subsemnătiaideverescprincipalelevehiculul despecificația mașină descris individual corespunzător direcțiilor europene 2006/42/CE (Directiva privind mașinile) și 2014/30/EU (Compatibilitatea electromagnetică - CEM) inclusiv modificările precum Subsemnătii sunt și acțiuni legislative care pot prezenta un răspuns directivelor în drept național. fiecare în parte împotriva însăși tocmai a documentației tehnice.

## [RUS] Декларация соответствия стандартам EC

Настоящим лица, подписавшие документ, удостоверяют, что машина с указанной спецификацией соответствует европейским стандартам 2006/42/EG (Транспортная директива) и 2014/30/EU (Электромагнитная совместимость - EMC), включая изменения в них, а также соответствующим национальным стандартам и нормам. Каждое по отдельности лицо, подписавшее документ, имеет полномочия для составления технической документации.

## [S] EG-KONFORMITETSFÖRKLARING

Undertecknarna intygar härmed att det i detalj betecknade maskin uppfyller de Europeiska direktiven 2006/42/EG (Maskindirektiv) och 2014/30/EU (Elektromagnetisk tillighet - EMV), inklusive ändringarna i detta och den motsvarande rättsförordningen för att omsätta direktiven i nationell rätt. Undertecknarna har var för sig fullmakt att sammanställa den tekniska dokumentationen.

## [SK] vyhlásenie o zhode

Dolu podpísaní týmto potvrzujeme, že podrobny popis uvedené stroje Zodpovedá Európskym smerniciam 2006/42/EC (ernica pre stroje) a 2014/30/EU (elektromagneticke tolerancia – EMV ) vrátane jeho neskorších úprav, rovnako zodpovedá aj príslušným právnym nariadeniam na uplatnenie smerníc v rámci národného práva. Každý z podpísaných je jednotlivou splnomocnený na vytvorenie technických podkladov.

## [SLO] EU IZJAVA O SKLADNOSTI

Podpisani s tem potrjujemo, da posamično označeno določeno stroj vozilo odgovarja Evropski direktivi 2006/42/EC (Direktiva o strojih) in 2014/30/EU (Elektromagnetna skladnost - EMV) vključno z njihovimi spremembami ter ustrezno pravno uredbo o prevzemu smernic v nacionalno pravo. Podpisniki so vsakokrat posamezno pooblaščeni za izdajanje tehnične dokumentacije.

## [TR] AB Uygunluk Açıklaması

İmza sahibi şahıslar, ayrıntıları belirtilen makine aracının, 2006/42/EC (Makine Yönetgesi) ve 2014/30/EU (Elektromanyetik Uyumluluk – EMC) no'lu Avrupa Yönergelerine ve bunların değişiklik sonucu oluşan metinlerine ve yönergelerin milli hukuk hükümlerine dönüştürülmesine dair ilgili hukuk kararnamesine uygun olduğunu tasdik ederler. İmza sahibi şahıslar teknik dosyaları bir araya getirmek için münferiden vekil tayin edildi.

- (1) Type/ Typ/ Modelo/ Typpi/ Tipo / ΤΥΠΟΣ/ Típus/ Tip/ Tip/ Tips/ Tipas/ Tüüp:
- (2) Serial No./ Serien-Nr./ Nº. de série/ Serienummer/ Nº de serie/ Numero di serie/ Serienr./ Sarjanro/ սւյնարթմօց/ Seriové číslo/ Szériaszám/ Nr.Seryjny/ Serijska številka/ Výrobné číslo/ Серийный номер/ Seri No./ Seerianr./ Sērijas Nr./ Serijos numeris:
- (3) Year of constr./ Baujahr/ Année de constr./ Bouwjaar/ Año de constr./ Anno di costruzione/ Produktionsår/ Byggeår/ Tillverkningsår/ Valmistus vuosi / Ano de fabrico / έτοςκατασκευής/ Rok výroby/ Gyártásiév/ Rokprodukcji / Letnik / Годизготовления / Üretim yılı / Váljalaskeaasta / Izgatavošanas gads / Gamybosmetai
- (4) Manufacturer or his authorized representative in Community/ Herstelleroder in der Gemeinschaft ansässiger Vertreter/ Fabricant ou son mandataire établi dans la Communauté/ Fabrikant of zijn in de Gemeenschap gevestigde/ Fabricante o representante establecido en la Comunidad/ Construtor ou Representante estabelecido na Comunidade/ Costruttore oppure il suo rappresentante nella Comunità/ Fabrikant eller dennes Fællesskab etablerede befugtigede/ Produsenteller agent innenfelleskapet/ Tillverkare eller representant inom EU/ Valmistaja tai yhteisömaassaolevaedustaja / Výrobce nebo jeho zastoupení/ Gyártó / producent albo jego przedstawiciel w EG (Wspólnota Europejska)/ Концерн/ Yetkili Temsilci/ Proizvajalec alipooblaščenizastopnik s sedežem v EU/ Výrobca alebo zástupca so stálým bydliskom v EÚ / Изготавитель или его представитель, зарегистрированный в стране Содружества/ Tootjavõiorganisatsioonispaike vesindaja/ Ražotājs vai vietējais uzņēmuma pārstāvis / Gamintojas arba šalyje reziduojantis satstovas:
- (5) Date/ Datum/ Data/ Fecha/ datum/ Dato/ päiväys/ Kuupäev/ Datums/дата/ Dátum/ dátum/ tarih/ ημερομηνία
- (6) Authorised signatory/ ImAuftrag/ pour ordre/ Incaricato/ Por orden de/ por procuração/ op last van/ på vegne af/ på uppdrag/ Etteroppdrag/ psta./ Ülesandel / pavedus / v.i. / Попоручению / megbízásából /должностолице / z pověření / z poverenia / po nalogu / napolecenie / din sarcina / adina / θαντικό επικουρέας

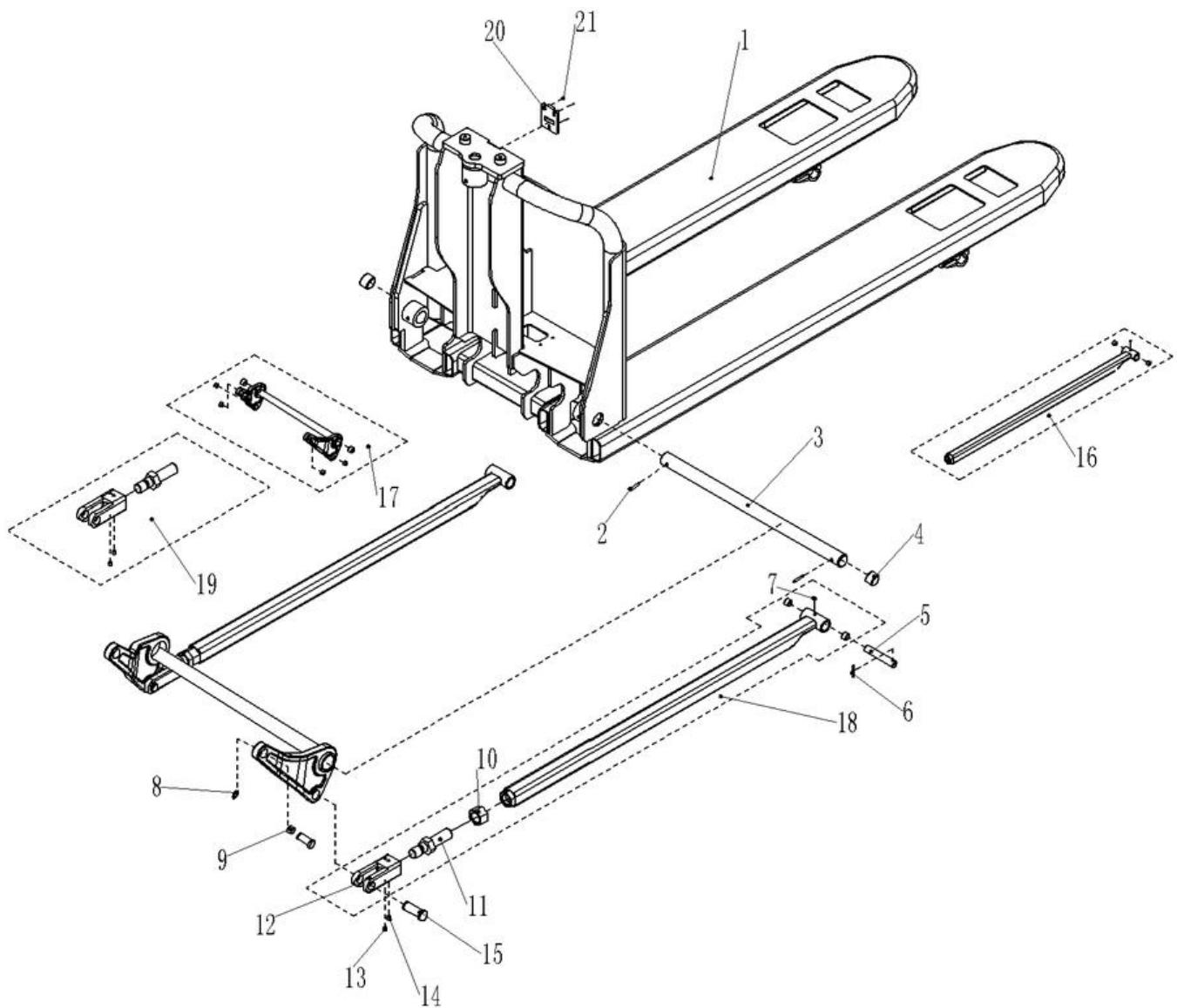
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your declaration is not complete.  
In this case please ask for a copy

(1) Type:	XX XX-Self-propelled industrial truck
(2) Serial No:	XXXXXXX
(3) Year of constr.:	YYYY
(4) Manufacturer or his authorized representative in Community:	Company name/ Street / Postal code Town/ Country
(5) Date:	YYYY/MM/DD
(6) Authorized signatory:	Mr. <u>Sample</u>

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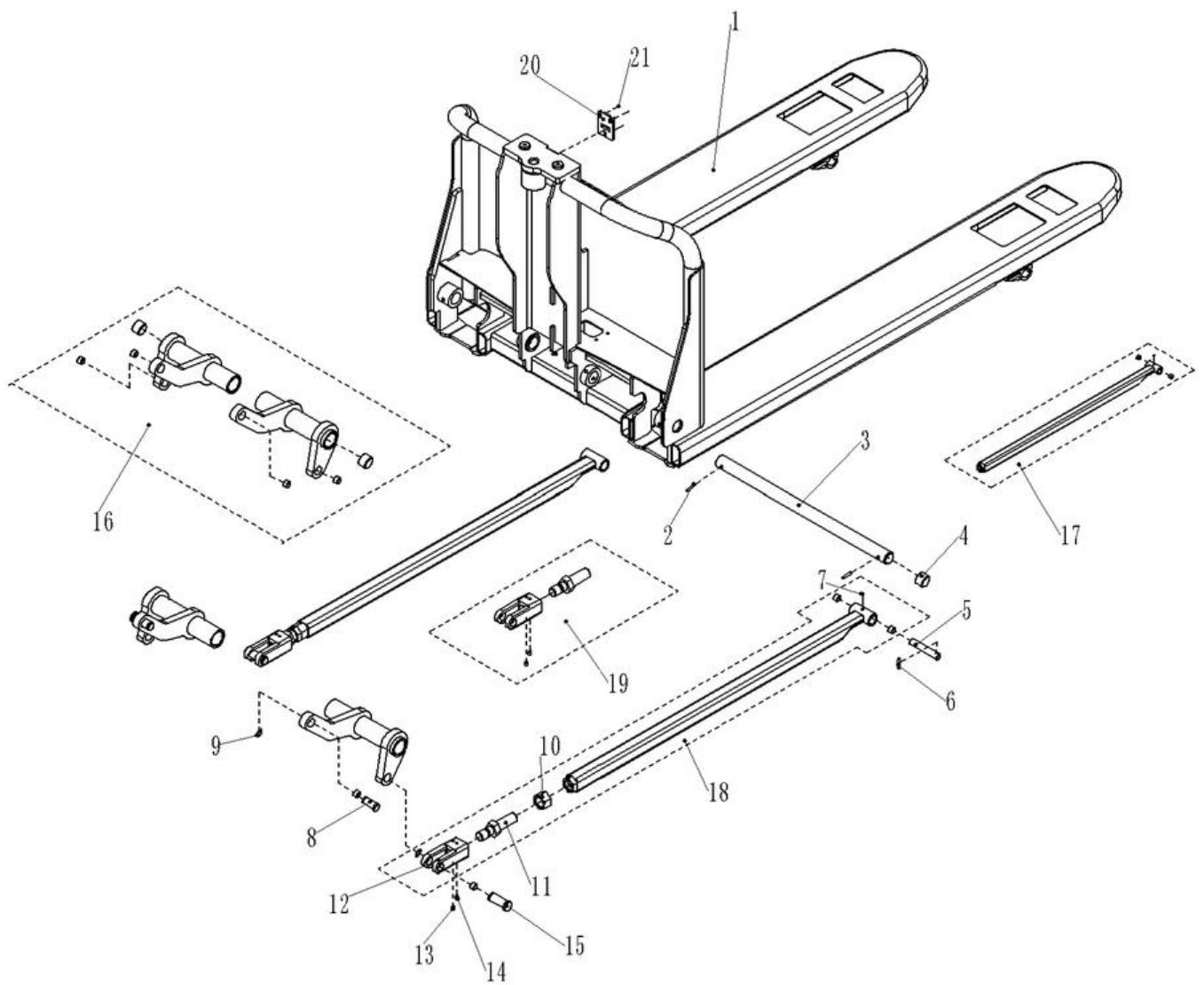
**Fig. 1 Chassis (540x1150)**



**Fig. 1 Fig. 1 Chassis (540x1150)**

No.	Art No.	Description	Qty.	Note
1	507938510000	Chassis welding (EU540X1150)	1	
	507938510002	Chassis welding (Single540X1150)	1	
	507938510004	Chassis welding (EU520X1150)	1	
	507938510005	Chassis welding (Single520X1150)	1	
2	910600400041	Cylindrical pin GB879.1-6x40	2	
3	507938520012	Axle $\Phi 24.6 \times 498$	1	
4	940500100097	Bushing $\Phi 24.6 \times \Phi 29 \times 25$ -SF-1(With grease storage holes)	2	
5	502338520030	Push rod Axle $\Phi 16 \times 82$	2	
6	910600400024	Cylindrical pin GB879.1-5x28	2	
7	911200100001	Grease nipple JB7940.4-6	2	
8	910401300007	Circlip GB894.1-16	4	
9	940500100083	Bushing $\Phi 16 \times \Phi 18 \times 15$ -SF-1(With grease storage holes)	8	
10	910300400008	Nut GB6173-M20x1.5-05	2	
11	508038520029	Bolt	2	
12	508038520028	Push rod fork	2	
13	910201000005	Screw GB79-M6x8-45H	2	
14	910600400015	Cylindrical pin 4x30	2	
15	508038520041	Axle $\Phi 16 \times 44$	4	
16	508098510000	Push rod components (1150)	2	1150
17	508098510001	Rock arm components (540)	1	
	507998510000	Rock arm components (520)	1	
18	508098510002	Push rod kits (1150)	2	1150
19	508098510004	Push rod fork components	2	
20	508038520109	Locker	1	
21	910200500034	Screw GB818-M4x8-4.8	3	

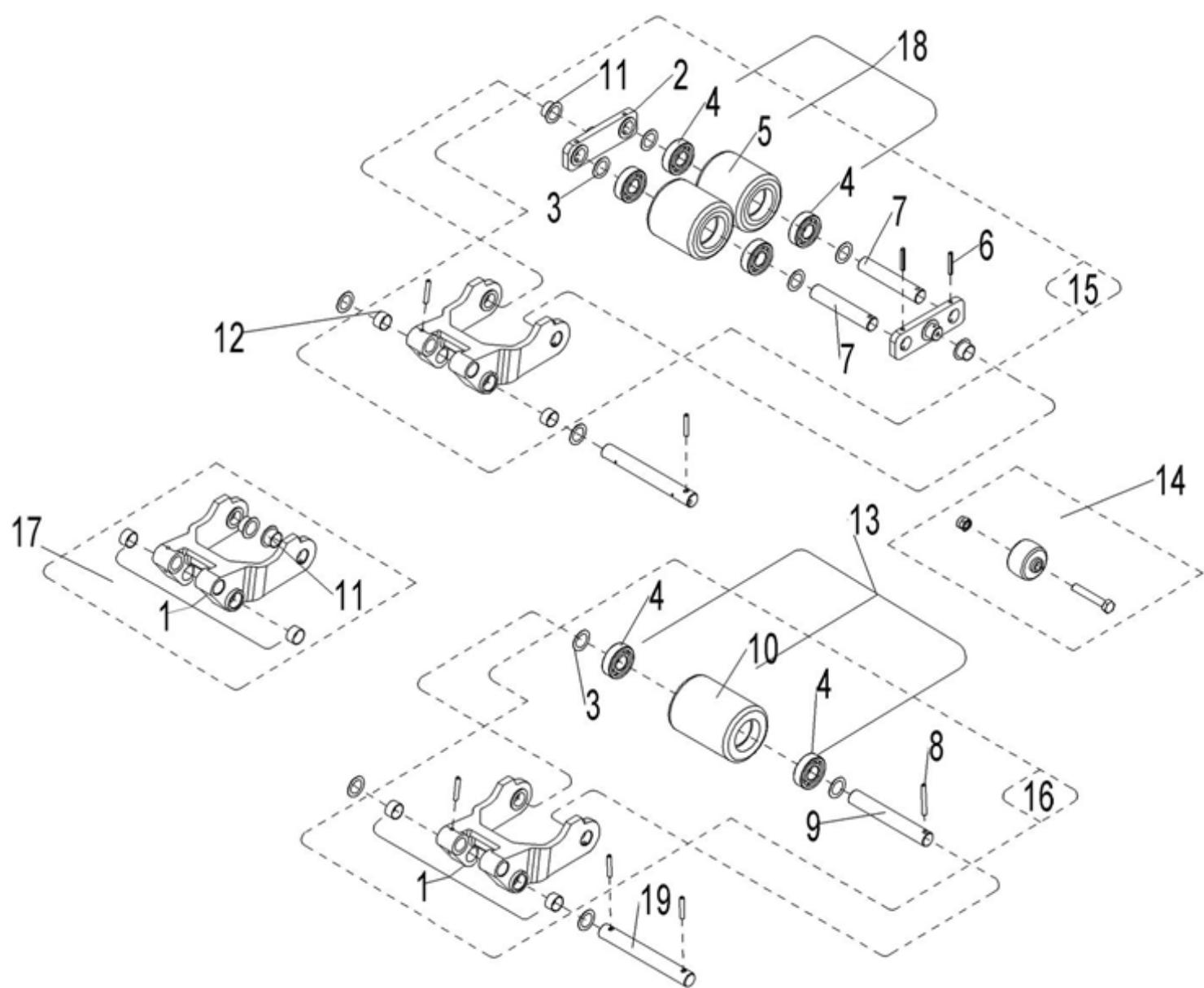
**Fig. 2 Chassis (685x1150)**



**Fig. 2 Chassis (685x800/915/1000/1150/1220)**

No.	Art No.	Description	Qty.	Note
1	507938510001	Chassis welding (EU685X1150)	1	
	507938510003	Chassis welding (Single685X1150)	1	
2	910600400041	Cylindrical pin GB879.1-6x40	2	
3	507938520022	Axle $\Phi 24.6 \times 643$	1	
4	940500100097	Bushing $\Phi 24.6 \times \Phi 29 \times 25$ -SF-1(With grease storage holes)	4	
5	502338520030	Push rod Axe $\Phi 16 \times 82$	2	
6	910600400024	Cylindrical pin GB879.1-5x28	2	
7	911200100001	Grease nipple JB7940.4-6	2	
8	940500100083	Bushing $\Phi 16 \times \Phi 18 \times 15$ -SF-1(With grease storage holes)	8	
9	910401300007	Circlip GB894.1-16	4	
10	910300400008	Nut GB6173-M20x1.5-05	2	
11	508038520029	Bolt	2	
12	508038520028	Push rod fork	2	
13	910201000005	Screw GB79-M6x8-45H	2	
14	910600400015	Cylindrical pin 4x30	2	
15	508038520041	Axle $\Phi 16 \times 44$	4	
16	508098510003	Rock arm components (685)	1	
17	508098510000	Push rod components (1150)	2	1150
18	508098510002	Push rod kits (1150)	2	1150
19	508098510004	Push rod fork components	2	
20	508038520109	Locker	1	
21	910200500034	Screw GB818-M4x8-4.8	3	

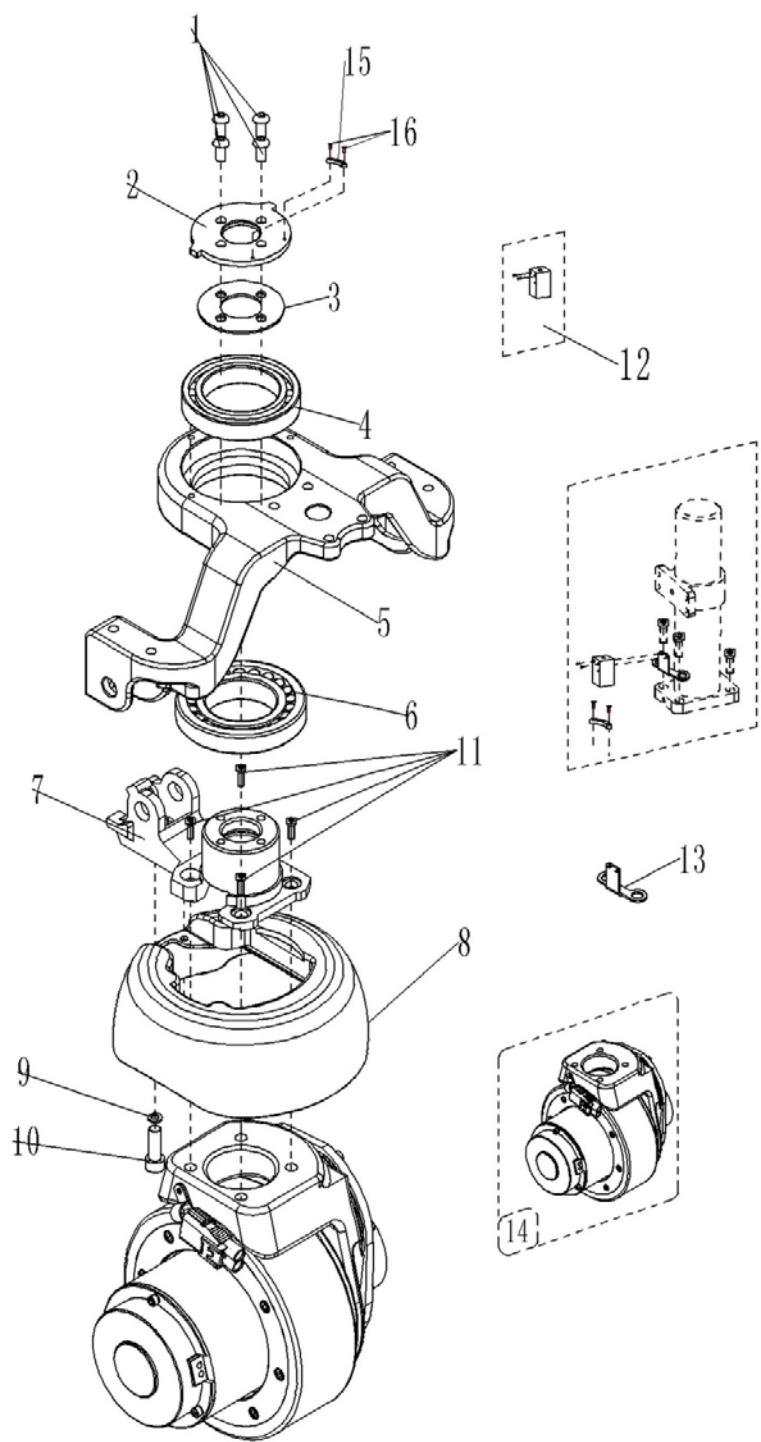
**Fig. 3 Load roller components**



**Fig. 3 Load Roller Components**

No.	Art No.	Description	Qty.	Note
1	508098510048	Frame of roller components (Single)	2	
2	502317020000	Linking plate	4	Tandem
3	940600500013	Washer $\Phi 25 \times \Phi 20.5 \times 1$	8/4(Tandem/Si ngle)	
4	910700200019	Bearing GB276-6204-2RS	8/4(Tandem/Si ngle)	
5	940300300005	Roller $\Phi 80 \times 70$ (Steel core PU)	4(Tandem)	
6	910600400027	Cylindrical pin GB879.1-5x35	8(Tandem)	
7	502317020001	Wheel axle $\Phi 20 \times 94$	4(Tandem)	
8	910600400027	Cylindrical pin GB879.1-5x35	8(Tandem)	
9	301017020001	Wheel axle $\Phi 20 \times 122$	2(Single)	
10	940300300023	Roller $\Phi 80 \times 93$ (Steel core PU)	2(Single)	
11	940500200038	Bushing (With shoulder) $\Phi 18 \times \Phi 20 \times 12$ -SF-1(W ith grease storage holes)	4 (Tandem)	
12	940500100088	Bushing $\Phi 20 \times \Phi 22 \times 12$ -SF-1(With grease storage holes)	4	
13	502398510014	Wheel set kits (Single)	2	
14	502398510003	Entry roller kits	2	
15	508098510049	Roller kits (Tandem)	2	
16	508098510050	Roller kits (Single)	2	
17	508098510051	Frame of roller components (Tandem)	2	
18	502398510002	Wheel set kits (Tandem)	4	
19	508038520030	Axle $\Phi 20 \times 158$	2	

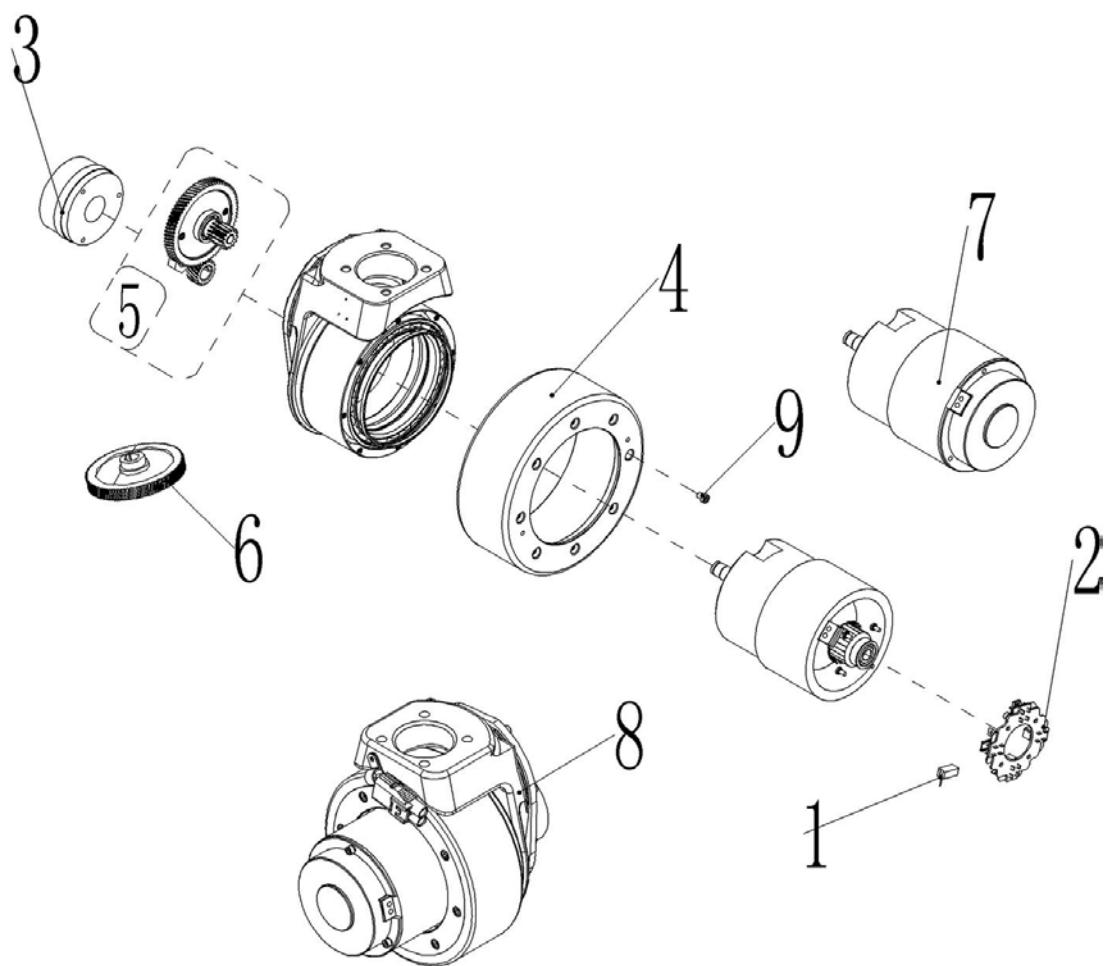
**Fig. 4 Driving unit**



**Fig. 4 Driving Unit**

No.	Art No.	Description	Qty.	Note
1	910200300024	Screw GB70.2-M8x16-8.8	4	
2	508013520003	Bearing cap	1	
3	508013520004	Washer	1	
4	910700200058	Bearing GB276-6013-2RS	1	
5	508013520000	Driving wheel seat	1	
6	910700600044	Bearing GB297-32913	1	
7	508013520001	Linking flange	1	
8	508013520101	Round cover	1	
9	910400100005	Washer GB97.1-6-200HV	2	
10	910200200032	Screw GB70.1-M6x10-8.8	2	
11	910200200076	Screw GB70.1-M10x25-8.8	4	
12	508098510012	Proximity switch components	1	With speed reduction on curve
13	508033020003	Frame	1	With speed reduction on curve
14	508098510014	Driving components	1	
	508098510052	Driving components (PU)		
15	508033020002	Sensor block	1	
16	910200700001	Screw GB820-M4x10-4.8	2	

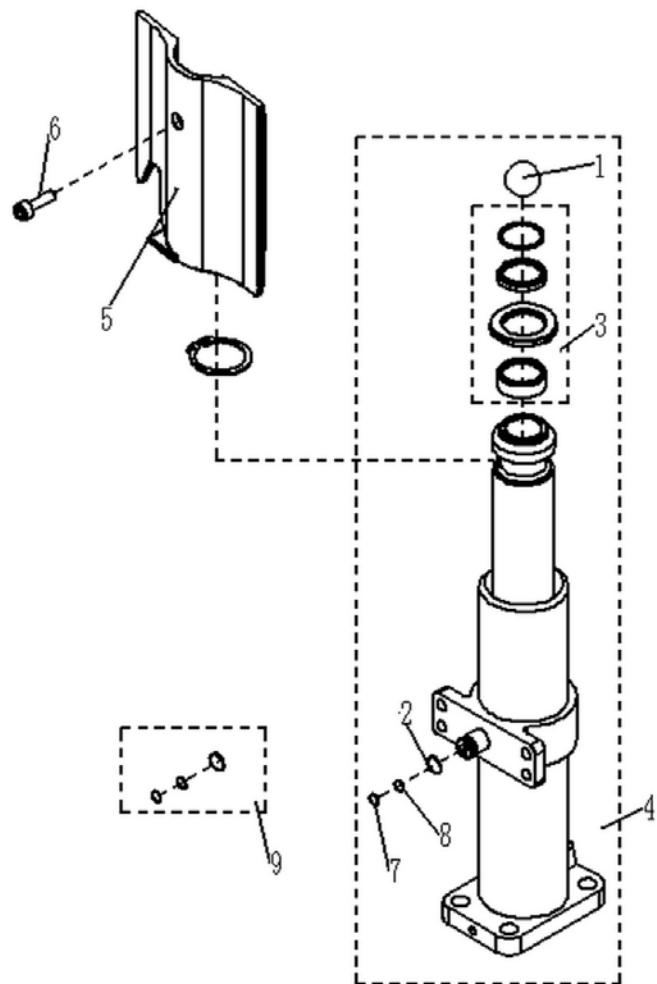
**Fig. 5 Driving wheel components**



**Fig. 5 Driving Wheel Components**

No.	Art No.	Description	Qty.	Note
1	508098520000	Carbon brush	4	
2	508098520001	Carbon brush frame	1	
3	508098520002	Brake	1	
4	508098520003	Wheel ring	1	
	508098520026	Wheel ring (PU)		
5	508098510015	Gear wheel components	1	
6	508098520004	Gear ring	1	
7	508098510016	Motor components	1	
8	508098510014	Driving components	1	
	508098510052	Driving components (PU)		
9	910200200167	Screw with washer M6 x20-8.8	8	

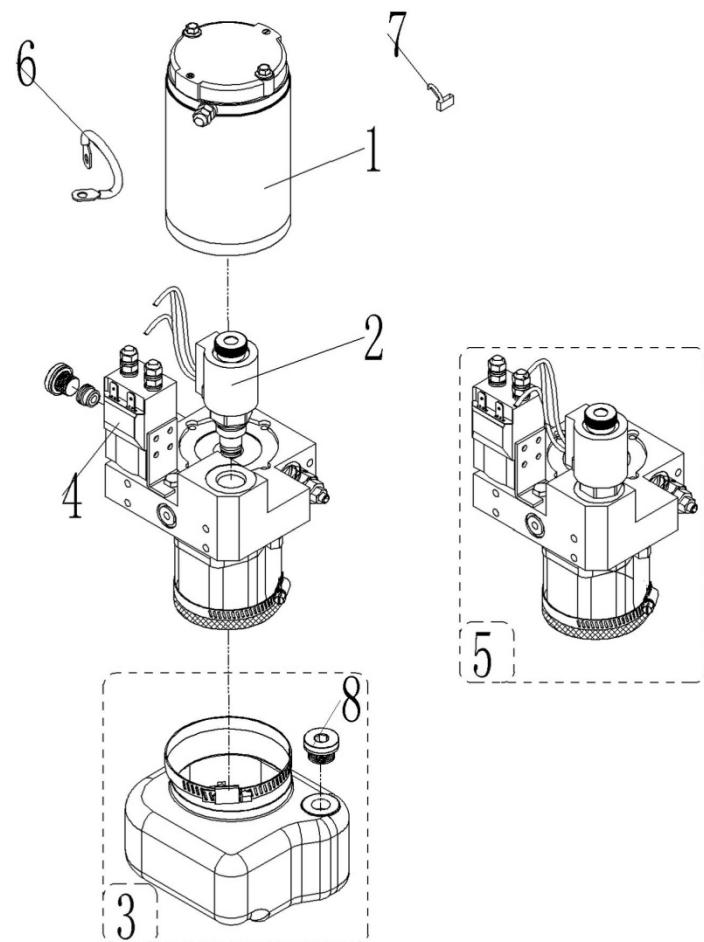
**Fig. 6 Cylinder**



**Fig. 6 Cylinder**

No.	Art No.	Description	Qty.	Note
1	910701100019	Steel ball GB308-18	1	
2	910800100098	O ring	1	13.5x1.8
3	508098510018	Sealing components	1	
4	508024010003	Cylinder assembly	1	
5	508024020103	Cylinder cover	1	
6	910200200033	Screw GB70.1-M6x12-8.8	1	
7	910800800003	Circlip 12.7x9.8x1.25	1	
8	910800100001	O ring -inner 9.5x1.8	1	
9	508598510004	Sealing components	1	

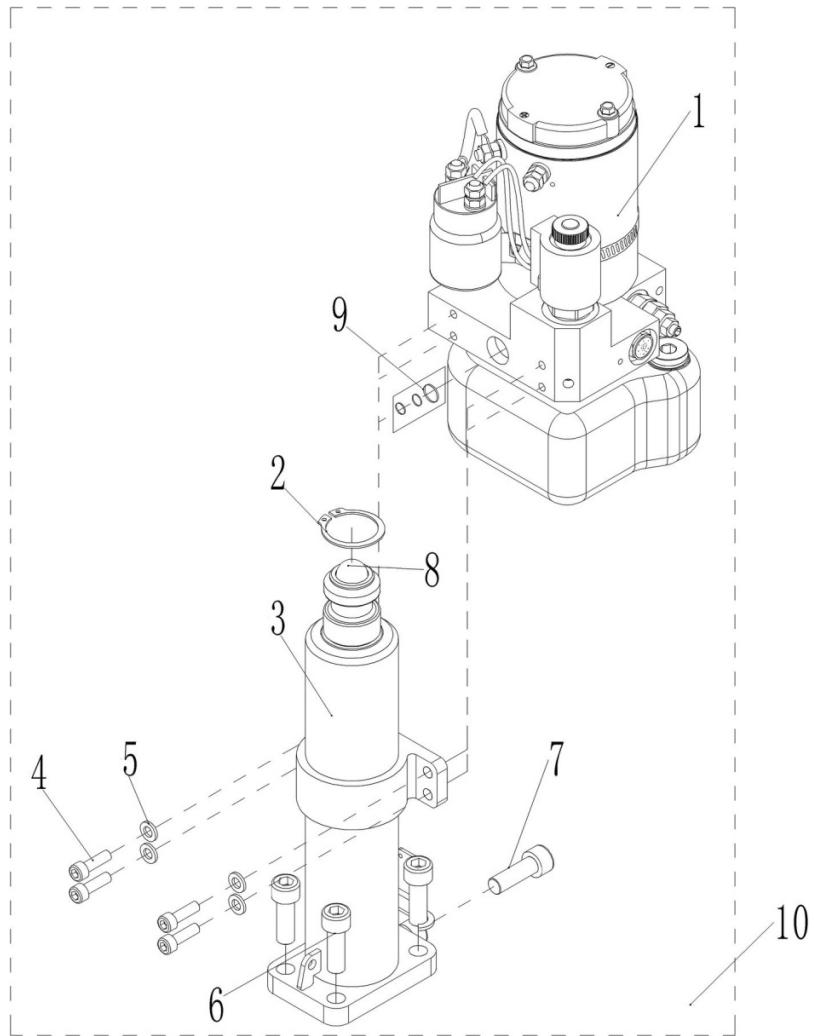
**Fig. 7 Power unit**



**Fig. 7 Power Unit**

No.	Art No.	Description	Qty.	Note
1	508098510020	DC Motor	1	MD24050
2	508098510034	Electromagnetic valve components	1	
3	508098510023	Oil tank components	1	
4	508098510021	Relay	1	ZJWP80DE
5	508098510053	Gear pump components	1	Tandem 层 Sealing
6	508098520007	Linking cable	1	RSWC-04
7	508098520008	Brush	1	
8	508598510009	Cap	1	Z3/8

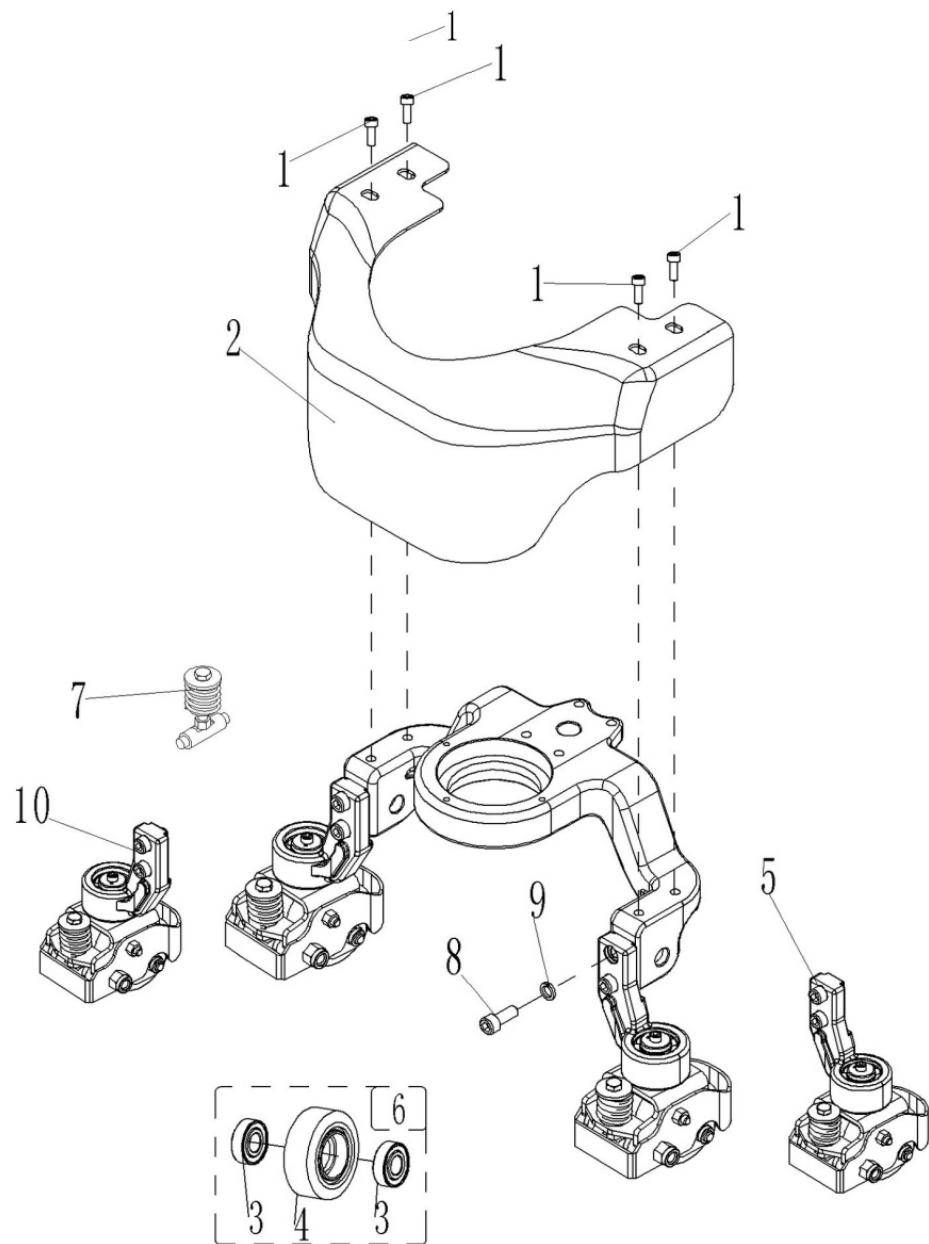
**Fig. 8 Hydraulic components**



**Fig. 8 Hydraulic Components**

No.	Art No.	Description	Qty.	Note
1	950900100060	Hydraulic power unit 24V0.5KW0.38cc	1	
2	910401300017	Circlip GB894.1-32	1	
3	508024010003	Cylinder assembly	1	
4	910200200036	Screw GB70.1-M6x20-8.8	7	
5	910400100005	Washer GB97.1-6-200HV	7	
6	910200200077	Screw GB70.1-M10x30-8.8	4	
7	910200200160	Screw GB70.1-M6x6-12.9-c1B	1	
8	910701100019	Steel ball GB308-18	1	
9	508598510004	Sealing components	1	
10	508098510054	Hydraulic components	1	

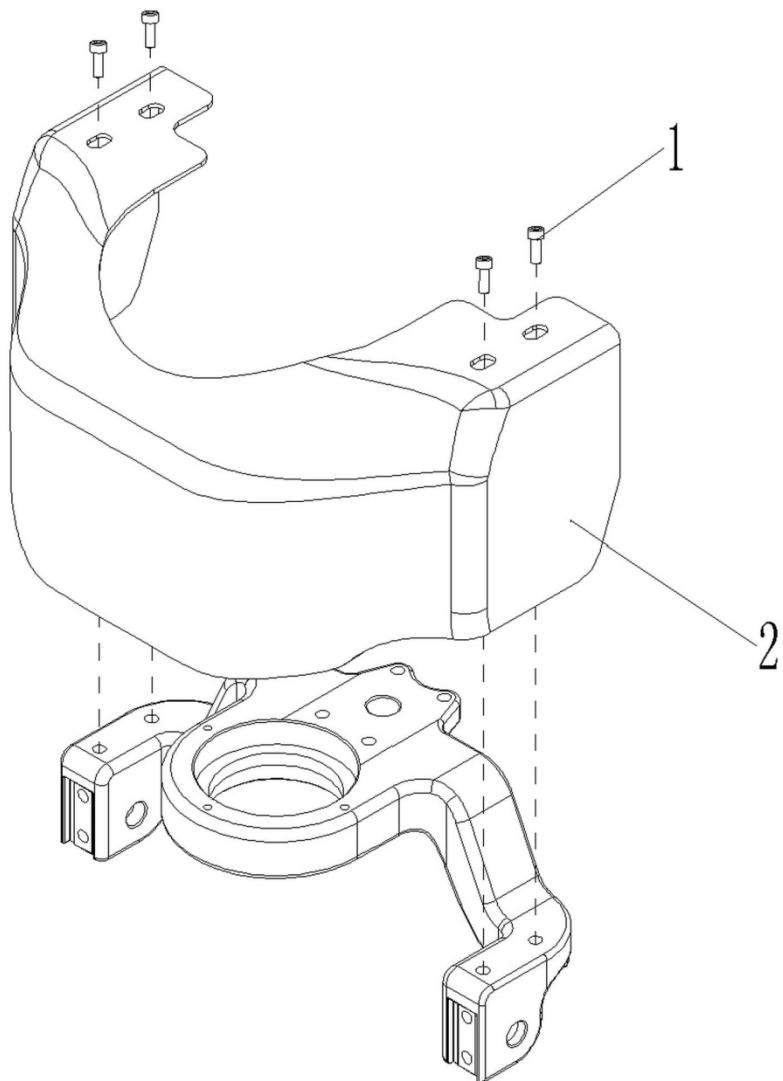
**Fig. 9 Steering wheel components (with side rollers)**



**Fig. 9 Steering Wheel Components (with side rollers)**

No.	Art No.	Description	Qty.	Note
1	941100100005	Screw M10x15-8.8	4	
2	508016520000	Driving cover (Side roller)	1	Ground clearance 35mm
	508016520008			Ground clearance 45mm
3	910700200018	Bearing GB276-6203-2RS	4	
4	940300300017	Roller $\Phi 80 \times 30$ (Steel core PU)	2	
5	508016510005	Side roller components $\Phi 80 \times 30$ (PU/Right )	1	
6	502398510015	Roller components	2	
7	508098510047	Spring components	2	
8	910200200076	Screw GB70.1-M10x25-8.8	4	
9	910400100007	Washer GB97.1-10-200HV	4	
10	508016510002	Side roller components $\Phi 80 \times 30$ (PU/Left )	1	

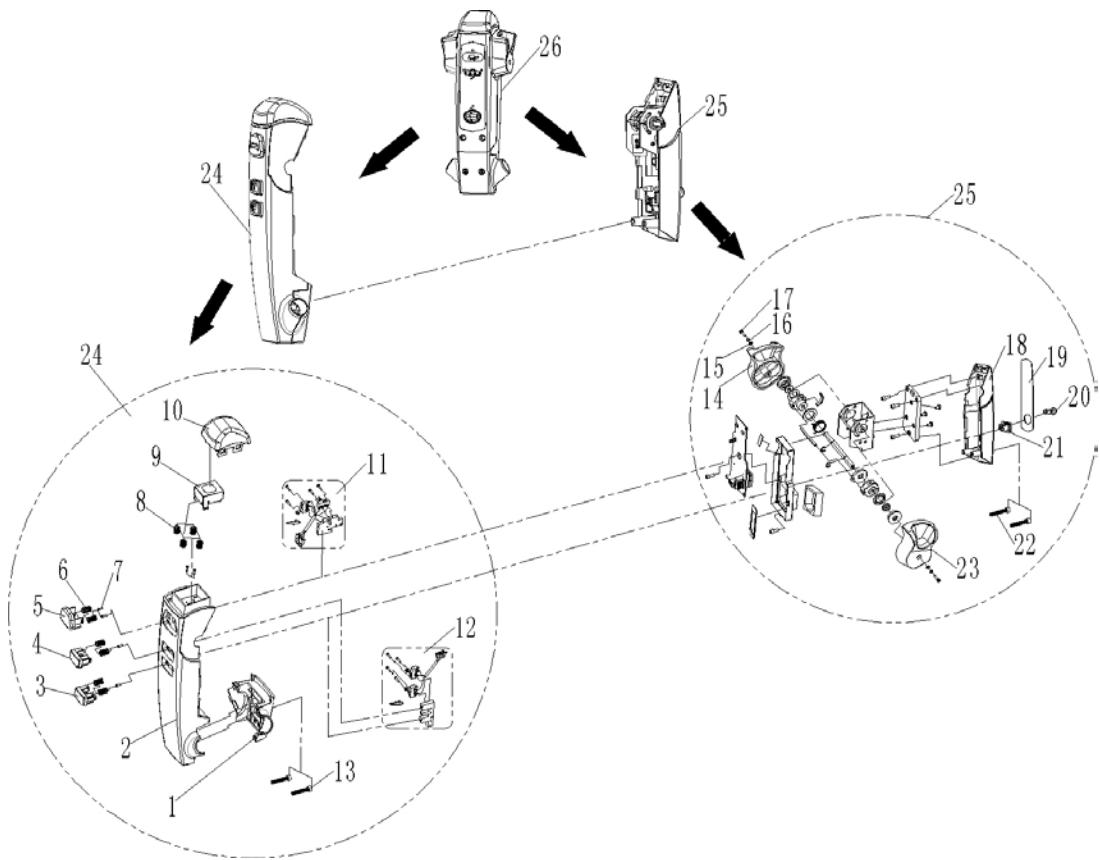
**Fig. 10 Steering wheel components (without side rollers)**



**Fig. 10 Steering Wheel Components (without side rollers)**

No.	Art No.	Description	Qty.	Note
1	941100100005	Screw M10x15-8.8	4	
2	508016520001	Driving cover (without side roller)	1	Ground clearance 35mm
	508016520009			Ground clearance 45mm

**Fig. 11 Tiller head**

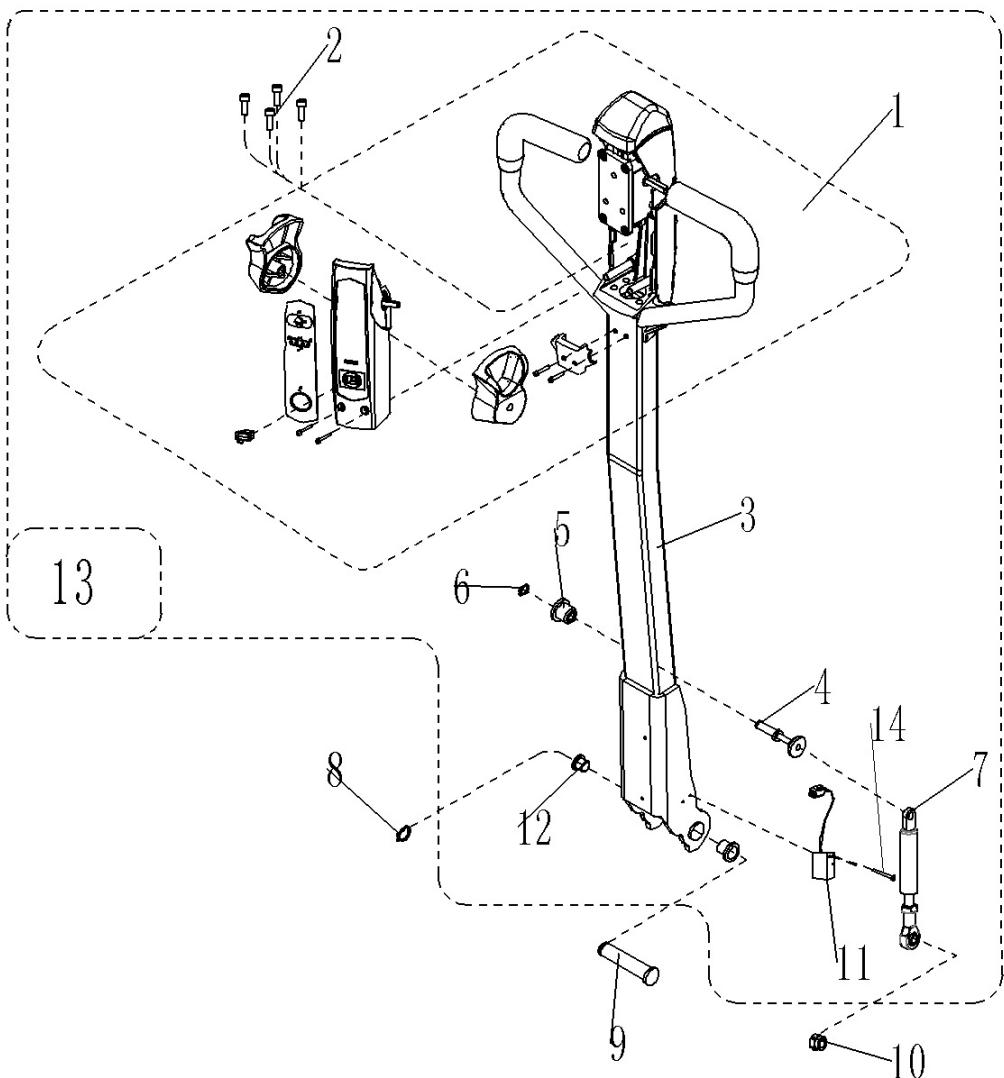


**Fig. 11 Tiller Head**

No.	Art No.	Description	Qty.	Note
1	508698520001	Tiller front part	1	
2	508698520002	Tiller cover	1	
3	502398520011	Lowering button	1	
4	502398520010	Lifting button	1	
5	502398520009	Horn button	1	
6	502311020022	Spring	6	$\varnothing 0.6 \times 16\text{mm}$
7	508698520003	Screw	8	ST2.2*13
8	502311020018	Spring	4	$\varnothing 0.8 \times 11\text{mm}$
9	508098520019	Belly button transition button	1	

10	508098520018	Belly button	1	
11	508698510000	Horn micro switch assembly	1	Z211
12	508698510001	Lifting micro switch assembly	1	Z212
13	910200200028	Screw GB70.1-M5x40-8.8	2	M5*40
14	508098520020	Right driving knob	1	N200
15	910400100002	Washer GB97.1-3-200HV	2	Ø3
16	910400500002	Spring Washer GB93-3	2	Ø3
17	508698520004	Bolt	2	M3*14
18	508698520005	Tiller back part	1	N200
19	508698520006	Pin-code panel sticker	1	N200
20	508698520000	Key	2	N200
21	508698520007	Key base	1	N200
22	910200200159	Screw (black) GB70.1-M5x50-8.8	2	M5*50
23	508098520014	Left driving knob	1	N200
24	508698510002	Back part assembly	1	Z400-13/26C-6
25	508698510003	Front part assembly	1	Z401-1
26	508698510004	Tiller	1	N200-13/26C-6

**Fig. 12 Tiller arm components**

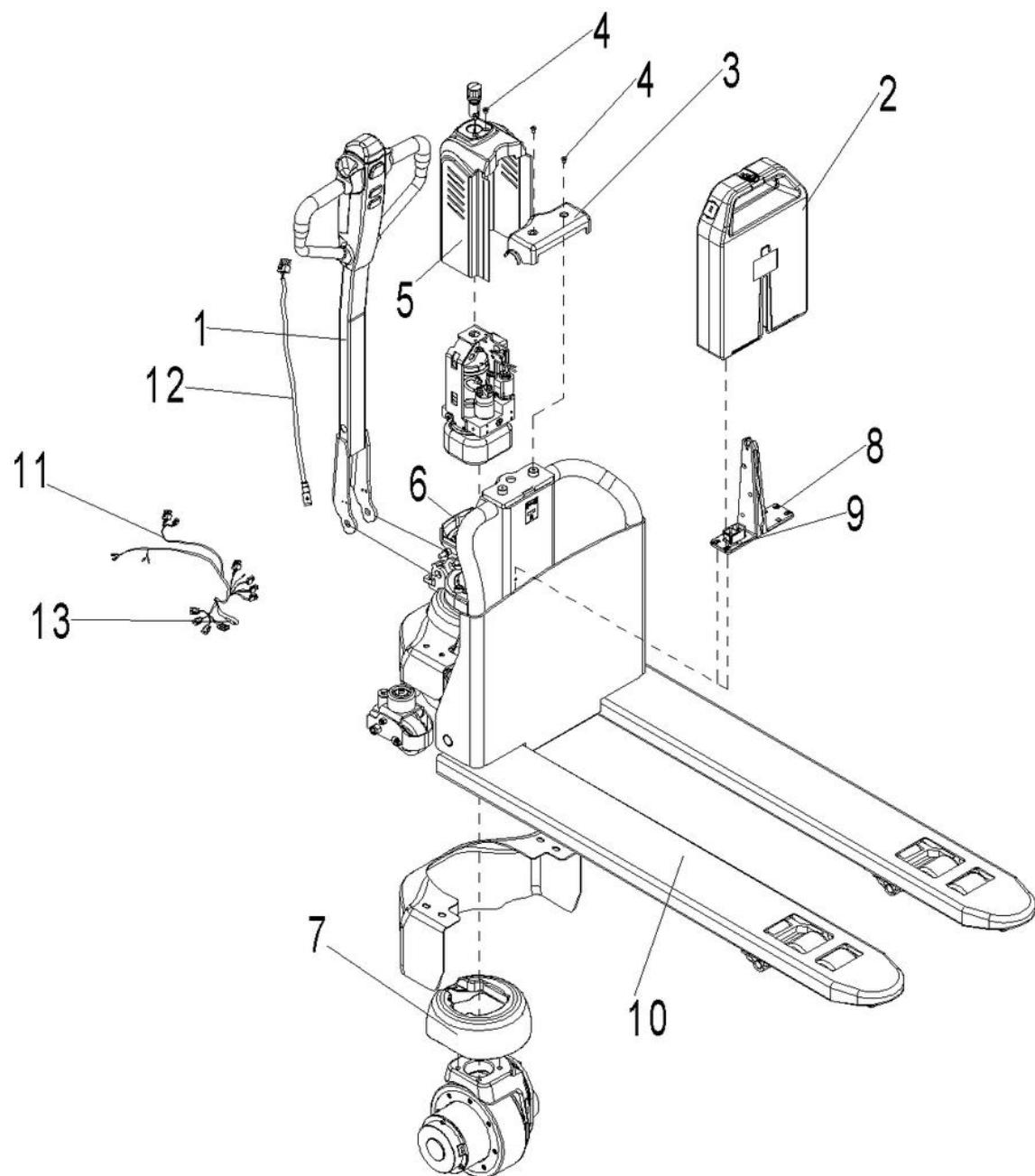


**Fig. 12 Tiller Arm Components**

No.	Art No.	Description	Qty.	Note
1	922100100031	Tiller N200(12C-7)	1	
2	910200200040	Screw GB70.1-M6x35-8.8	4	
3	508011010000	Tiller arm welding	1	
4	508011010002	Fixing axle welding	1	
5	508011020005	Fixing base	1	
6	910401300001	Circlip GB894.1-8	1	
7	508011010001	Air spring (D245)	1	
8	910401300006	Circlip GB894.1-15	1	
9	508011020004	Axle $\Phi 15 \times 70$	1	

10	910200200057	Screw GB70.1-M8x20-8.8	1	
11	505633510002	Proximity switch NBN5-F7-E2(800mm)	1	
12	940500200001	Bushing (With shoulder)Φ15xΦ17x9-SF-1	2	
13	507911001000	Tiller control assembly (P+F)	1	
	507911001001	Tiller control assembly (Fu Rui)		
14	910200200006	Screw GB70.1-M3x22-8.8	2	

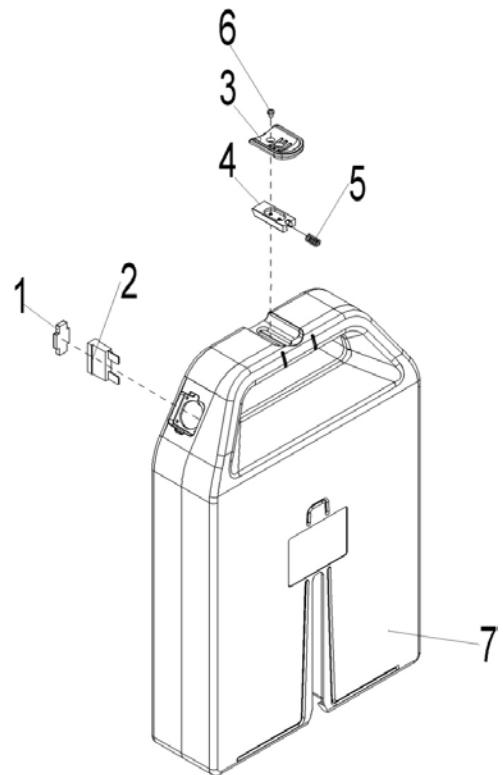
**Fig. 13 Truck components**



**Fig. 13 Truck Components**

No.	Art No.	Description	Qty.	Note
1	922100100031	Tiller N200(12C-7)	1	
2	920600100084	Lithium battery 24V15Ah	1	15Ah
3	507938520011	Top cover	1	
4	910200400015	Screw GB70.3-M6x10-8.8	4	
5	508024020101	Motor protective cover	1	
6	508024020102	Electrical cover base	1	
7	508013520101	Round cover	1	
8	920600100045	Lithium battery base	1	
9	910200500037	Screw GB818-M5x10-4.8	4	M5x10
10	507938510000	Chassis welding (Tandem540X1150)	1	
	507938510002	Chassis welding (Single540X1150)		
	507938510001	Chassis welding (Tandem685X1150)		
	507938510003	Chassis welding (Single685X1150)		
11	508033010000	Main control wiring harness	1	
	508033010009	Main control wiring harness (with speed reduction on curve)	1	with speed reduction on curve
12	508033010001	Tiller control wiring harness	1	
13	920100200002	Fuse 10A	1	

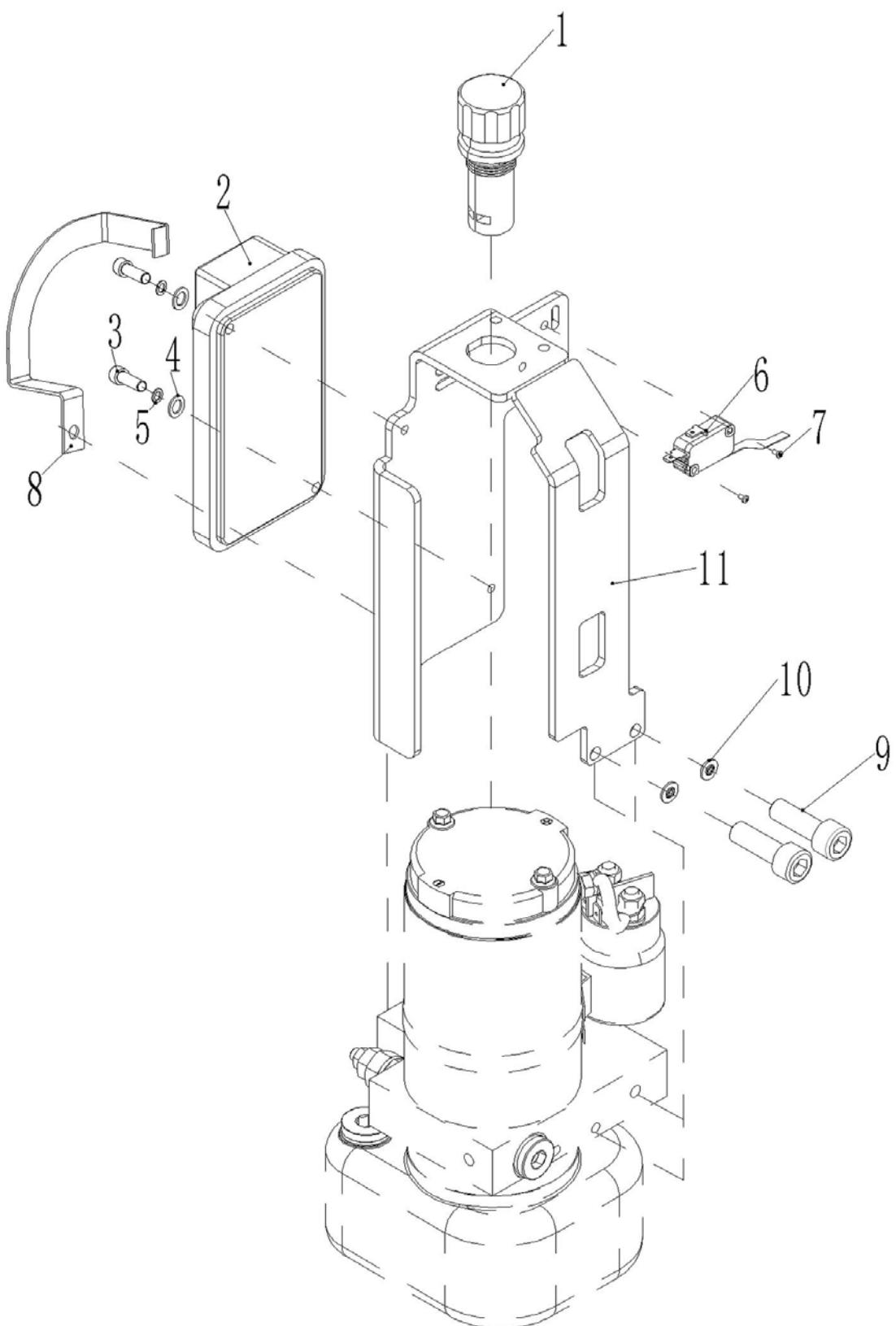
**Fig.14 Power supply assembly**



**Fig. 14 Power supply assembly**

No.	Art No.	Description	Qty.	Note
1	508098520021	Fuse cap	1	
2	920100200006	70AFuse	1	ATM70A DC32V
3	508098520022	Locker	1	
4	508098520023	Aluminium block	1	
5	508098520024	Spring	1	
6	910200500011	Screw	2	Screw GB818-M3x10-4.8
7	920600100084	Lithium battery 24V15Ah	1	15Ah

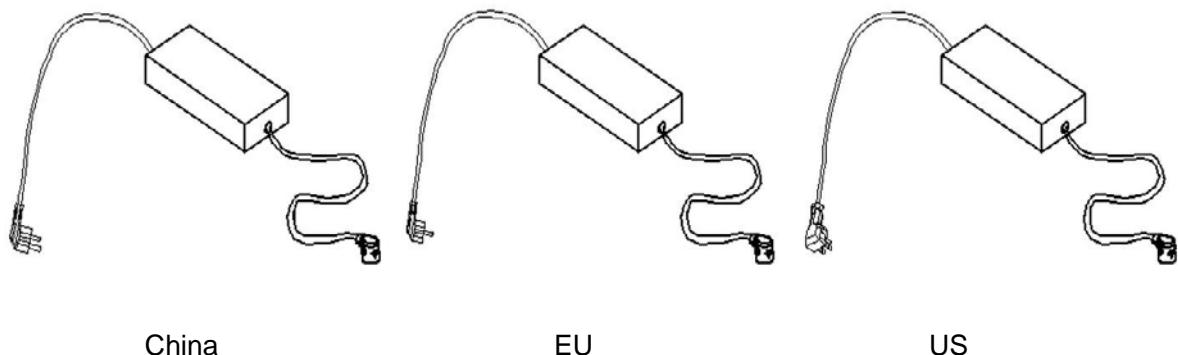
**Fig. 15 Controller components**



**Fig. 15 Controller Components**

No.	Art No.	Description	Qty.	Note
1	920200100015	Emergency button CE3T-10R-02	1	
2	921400100112	Controller 1212C-2504	1	
3	910200200025	Screw GB70.1-M5x25-8.8	2	Screw GB70.1-M5x25-8.8-c1B
4	910400100004	Washer GB97.1-5-200HV	2	Washer GB97.1-5-200HV-A-c1B
5	910400500004	Spring Washer GB93-5	2	Spring Washer GB93-5-c1B
6	920200300012	Micro switch V-J163-1C25	1	
7	910200200003	Screw GB70.1-M3x12-8.8	2	Screw GB70.1-M3x12-8.8-c1B
8	508033020000	Cable fixing plate	1	
9	910200200036	Screw GB70.1-M6x20-8.8	7	Screw GB70.1-M6x20-8.8-c1B
10	910400100005	Washer GB97.1-6-200HV	7	Washer GB97.1-6-200HV-A-c1B
11	508024010002	Controller mounting frame	1	

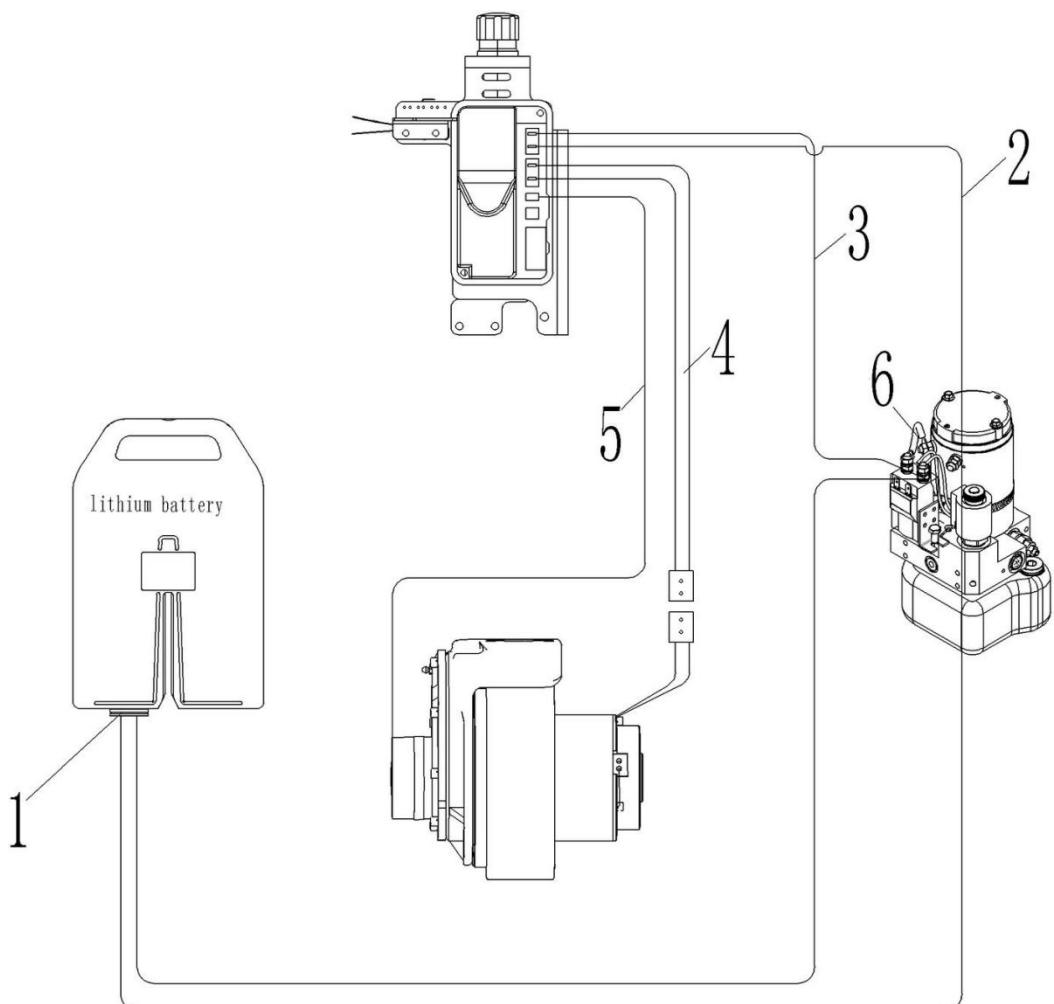
**Fig. 16 Charger**



**Fig. 16Charger assembly**

No.	Art No.	Description	Qty.	Note
1	508036510011	Lithium battery Charger 24V5A	1	Asia Chinese
	508036510012	Lithium battery Charger 24V5A	1	Asia English
	507936510001	Lithium battery Charger 24V5A	1	US
	508036510023	Lithium battery Charger 24V5A	1	ENG
	508036510025	Lithium battery Charger 24V5A	1	EU
	508036510026	Lithium battery Charger 24V5A	1	AUS
	508036510027	Lithium battery Charger 24V5A	1	ITY
	508036510028	Lithium battery Charger 24V5A	1	Sweden
	508036510029	Lithium battery Charger 24V5A	1	Israel
	508036510030	Lithium battery Charger 24V5A	1	Brazil
	508036510031	Lithium battery Charger 24V5A	1	Argentina
	507936510002	Lithium battery Charger 24V8A	1	Asia

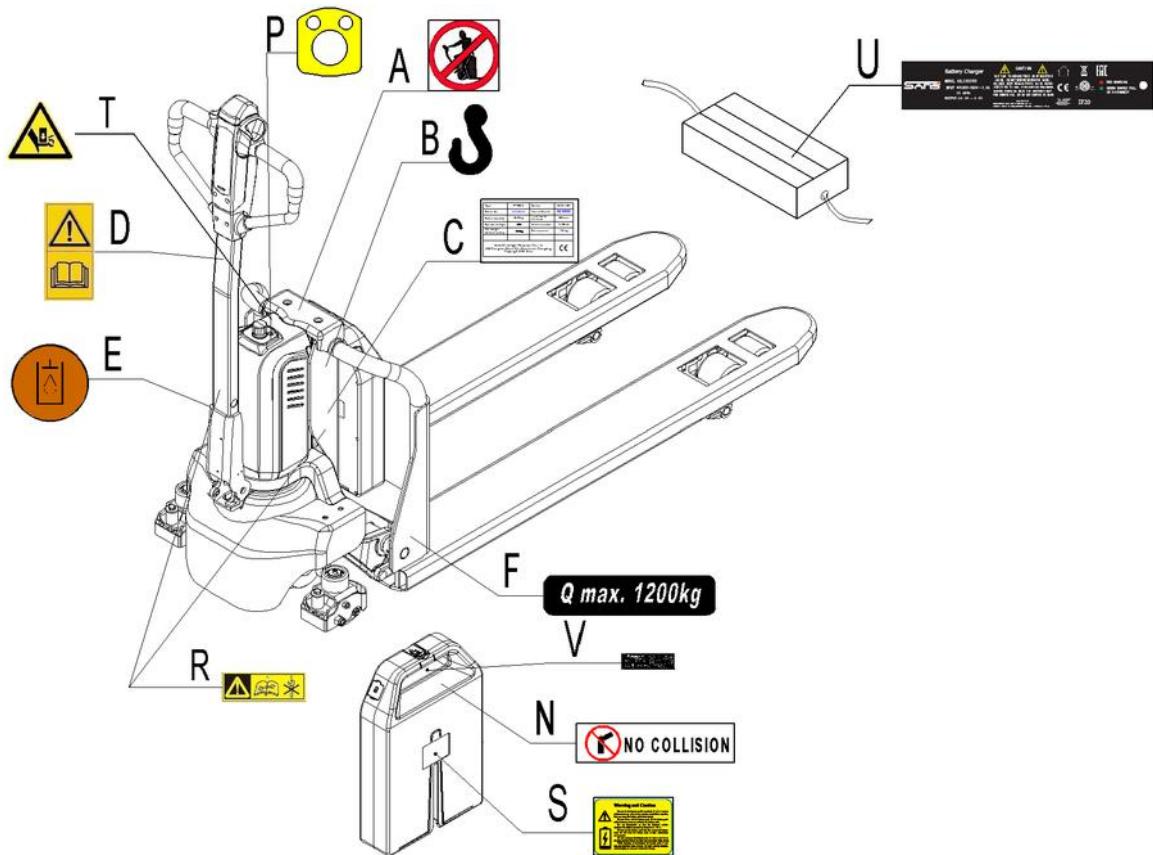
**Fig. 17 Wiring harness**



**Fig. 17 Wiring Harness**

No.	Art No.	Description	Qty.	Note
1	508033010003	Main plug wiring harness	1	
2	508033010004	Controller B+ wiring harness	1	
3	508033010005	Controller B- wiring harness	1	
4	508033010006	Motor main wiring harness	1	
5	508033010007	Controller main wiring harness	1	
6	508033010010	Pump motor B+ wiring harness	1	

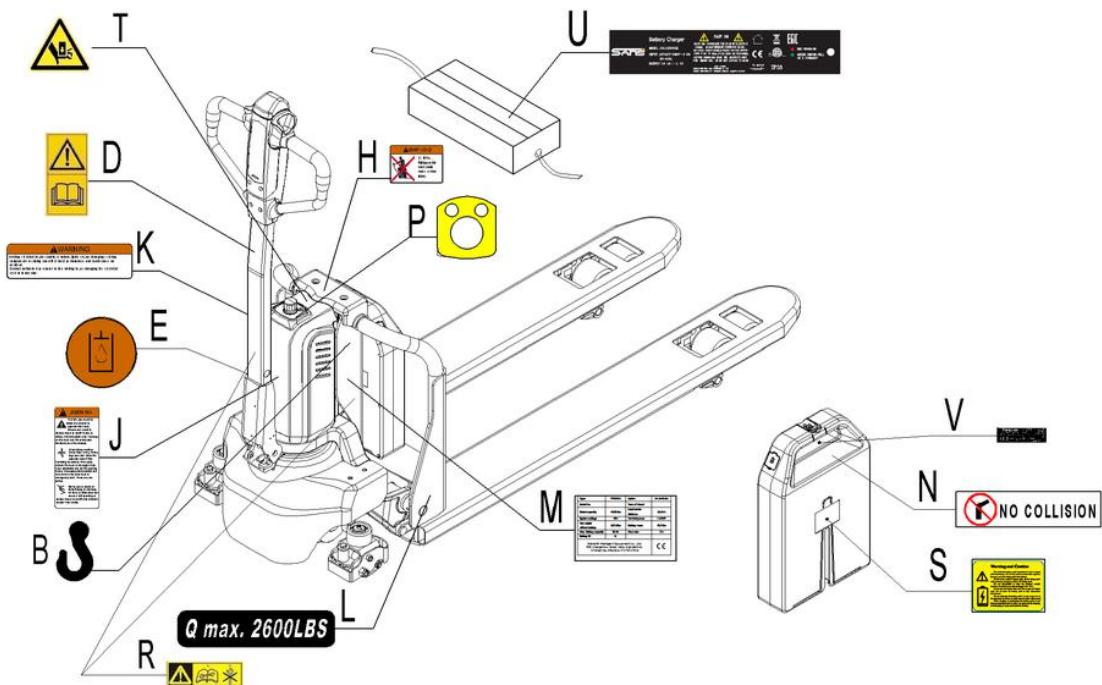
**Fig. 18 Sticker (EU)**



**Fig. 18 Sticker (EU)**

No.	Art No.	Description	Qty.	Note
A	941200100003	"No passengers" decal	1	
B	941200300001	Crane hook label	1	
C	507947520000	CE sticker	1	
D	941200300002	Sticker to read and follow these instructions	1	
E	941200300003	Filling sticker	1	
F	941200200019	Capacity sticker	2	
N	508047020002	Warning sticker	1	
P	508047020000	Emergency button sticker	1	
R	508047020004	Sticker to read and follow service manual	2	
S	508098520025	Warning sticker	1	
T	508047020007	Warning sticker	1	
U	508047520005	Warning sticker	1	
V	508047020009	Battery name plate	1	

**Fig. 19 Sticker (US)**



**Fig. 19 Sticker (US)**

No.	Art No.	Description	Qty.	Note
B	941200300001	Crane hook label	1	
D	941200300002	Sticker to read and follow these instructions	1	
E	941200300003	Filling sticker	1	
H	941200100011	"No passengers" decal	1	
J	941200100009	Warning sticker	1	
K	941200100010	Warning sticker	1	
L	941200200034	Capacity sticker	2	
M	507947520002	CE sticker	1	
N	508047020002	Warning sticker	1	
P	508047020000	Emergency button sticker	1	
R	508047020004	Sticker to read and follow service manual	2	
S	508098520025	Warning sticker	1	
T	508047020007	Warning sticker	1	
U	508047520005	Warning sticker	1	
V	508047020009	Battery name plate	1	

## Easy worn parts list

No.	Art No.	Description	Qty.	Fig. /Position	Note
1	940500100097	Bushing $\Phi 24.6 \times \Phi 29 \times 25$ -SF-1(With grease storage holes)	2	Fig. 1/4	
2	940500100083	Bushing $\Phi 16 \times \Phi 18 \times 15$ -SF-1(With grease storage holes)	8	Fig. 1/9	
3	508098510000	Push rod components (1150)	2	Fig. 1/16	1150
4	508098510001	Rock arm components (540)	1	Fig. 1/17	
5	508098510002	Push rod kits (1150)	2	Fig. 1/18	1150
6	508098510004	Push rod fork components	2	Fig. 1/19	
7	940500100097	Bushing $\Phi 24.6 \times \Phi 29 \times 25$ -SF-1(With grease storage holes)	4	Fig. 2/4	
8	940500100083	Bushing $\Phi 16 \times \Phi 18 \times 15$ -SF-1(With grease storage holes)	8	Fig. 2/8	
9	508098510003	Rock arm components (685)	1	Fig. 2/16	
10	508098510000	Push rod components (1150)	2	Fig. 2/17	1150
11	508098510002	Push rod kits (1150)	2	Fig. 2/18	1150
12	508098510004	Push rod fork components	2	Fig. 2/19	
13	910700200019	Bearing GB276-6204-2RS	8/4(Tandem/ Single)	Fig. 3/4	
14	940300300005	Roller $\Phi 80 \times 70$ (Steel core PU)	4(Tandem)	Fig. 3/5	
15	940300300023	Roller $\Phi 80 \times 93$ (Steel core PU)	2(Single)	Fig. 3/10	
16	940500200038	Bushing (With shoulder) $\Phi 18 \times \Phi 20 \times 12$ -SF-1 (With grease storage holes)	4 (Tandem)	Fig. 3/11	
17	940500100088	Bushing $\Phi 20 \times \Phi 22 \times 12$ -SF-1 (With grease storage holes)	4	Fig. 3/12	

18	502398510014	Wheel set kits (Single)	2	Fig. 3/13	
19	502398510003	Entry roller kits	2	Fig. 3/14	
20	508098510049	Roller kits (Tandem)	2	Fig. 3/15	
21	508098510050	Roller kits (Single)	2	Fig. 3/16	
22	508098510051	Frame of roller components (Tandem)	2	Fig. 3/17	
23	502398510002	Wheel set kits (Tandem)	4	Fig. 3/18	
24	910700200058	Bearing GB276-6013-2RS	1	Fig. 4/4	
25	910700600044	Bearing GB297-32913	1	Fig. 4/6	
26	910800100098	O ring	1	Fig. 6/2	13.5x1.8
27	910800800003	Circlip 12.7x9.8x1.25	1	Fig. 6/7	
28	910800100001	O ring -inner 9.5x1.8	1	Fig. 6/8	
29	508598510004	Sealing components	1	Fig. 6/9	
30	508598510004	Sealing components	1	Fig. 8/9	
31	508098510054	Hydraulic components	1	Fig. 8/10	
32	910700200018	Bearing GB276-6203-2RS	2	Fig. 9/3	
33	940300300017	Roller $\Phi$ 80x30 (Steel core PU)	1	Fig. 9/4	
34	508016510005	Side roller components $\Phi$ 80x30(PU/Right )	1	Fig. 9/5	
35	502398510015	Roller components	1	Fig. 9/6	
36	508098510047	Spring components	1	Fig. 9/7	
37	508016510002	Side roller components $\Phi$ 80x30(PU/Left )	1	Fig. 9/10	
38	940500200001	Bushing (With shoulder) $\Phi$ 15x $\Phi$ 17x9-SF-1	2	Fig. 12/12	
39	920100200002	Fuse 10A	1	Fig. 13/13	
40	920100200006	70AFuse	1	Fig. 14/2	

## Directive 2006/42/EC



**(DK) El hydraulisk Palleløfter,  
MODEL SKP1200E**

er i overensstemmelse med Maskindirektivets bestemmelser (Direktiv DS/EN ISO 3691-5:2015)

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Viborg 10.01.2020