



TINZY SERIES

Preliminary Specification Sheet

TINZY SERIES

CONTENTS

PBP12E (Ped Pallet Truck)	Page 3 - 4
PBP15E (DC Ped Pallet Truck)	Page 5 - 8
PBP15E2 (DC Ped Pallet Truck)	Page 9 - 12
PBP18E (AC Ped Pallet Truck)	Page 13- 16
SBP12E / SBP12ES (DC Stacker / DC Straddle Stacker)	Page 17 - 21





PBP12E

Electric Hand Pallet Truck 1.2t

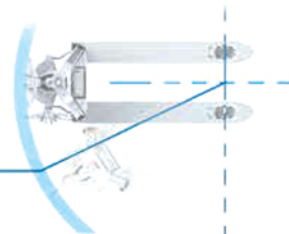
Smart size

Width*Length*Height
560*1540*1170mm

A 20 feet container standard machine
can fit 80 units.
Low transportation costs.

Weight
(include battery) **120kg**
Hand Pallet Truck Weight 85kg

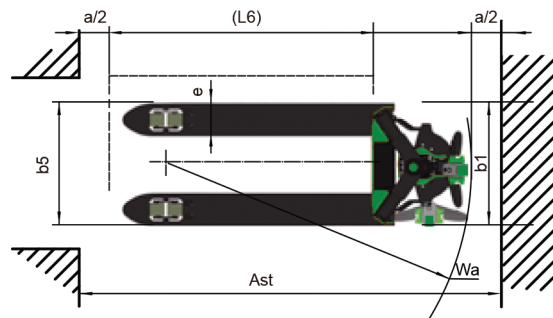
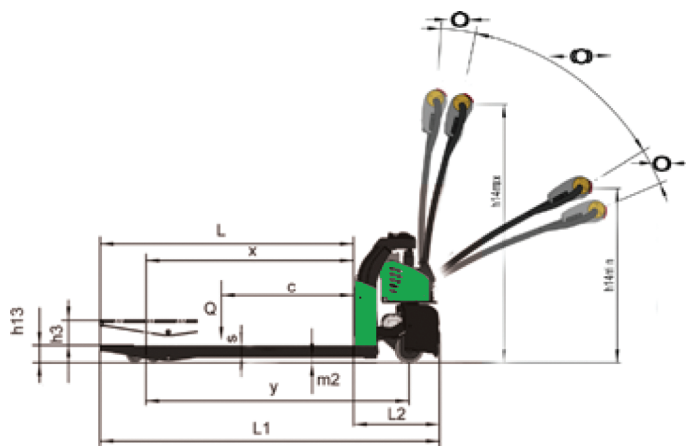
Turning Radius
1390mm



PBP12E Electric Hand Pallet Truck 1.2t

Characteristics				
1.1	Model designation			PBP12E
1.2	Power unit			Battery
1.3	Operator type			Pedestrian
1.4	Lowering type			Manual
1.5	Load capacity	Q	kg	1200
1.6	Load centre	c	mm	600
1.7	Axle centre to fork face	x	mm	950
1.8	Wheelbase	y	mm	1190
Weights				
2.1	Service weight (include battery)		kg	120
2.2	Axle loading with load, driving side/loading side		kg	410/910
2.3	Axle loading without load, driving side/loading side		kg	100/20
wheels/tyres				
3.1	Tyre type driving wheels/loading wheels			PU/PU
3.2	Tyre size, driving wheels (diameter×width)		mm	Φ130×55
3.3	Tyre size, loading wheels (diameter×width)		mm	Φ80×60
3.4	Wheels, number driving/loading (x=drive wheels)		mm	1x+2/4
Dimensions				
4.4	Lift height	h_3	mm	115
4.9	Height of tiller arm in driving position, min./max.	h_{14}	mm	800/1170
4.15	fork height, lowered	h_{13}	mm	80
4.19	Overall length	l_1	mm	1540
4.20	Length to fork face	l_2	mm	390
4.21	Overall width	b_1	mm	560
4.22	Fork dimensions	$s \times e \times l$	mm	53×150×1150
4.25	Distance between fork-arms	b_5	mm	560
4.32	Ground clearance, center of wheelbase	m_2	mm	27
4.33	Aisle width for pallets 1000 × 1200 crossways	A_{st}	mm	1640
4.34	Aisle width for pallets 800 × 1200 lengthways	A_{st}	mm	1840
4.35	Turning radius	W_a	mm	1390
Performance				
5.1	Travel speed, with/ without load		km/h	3.8/4
5.2	Lifting speed, with/ without load		m/ s	0.02/0.025
5.3	Lowering speed, with/ without load		m/ s	0.06/0.03
5.8	Max. gradeability, with/ without load		%	2/8
5.10	service brake			electric
Drive				
6.1	Drive motor rating 60 min		kW	0.45
6.2	Lift motor rating at 15%		kW	0.5
6.3	Battery Type			Li-ion
6.4	Battery voltage/rated capacity(5h)		V/Ah	24/20
6.5	Battery weight		kg	3.7
6.6	power consumption according to VDI cycle		KW/h	0.16
others				
8.1	Type of drive control			DC
8.4	Noise at the driver's ear			<74

- 1.The parameters in the table are of the standard model. For more information please contact us.
2.The parameters are subject to change without notice.



● Standard

Lithium battery
Life cycle around 1000

Brake type
Electric (PBP12E only)

● Option

Lithium battery
Life cycle around 2500

Brake type
Electric with manual release (PBP12E only)



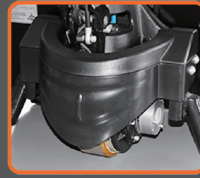
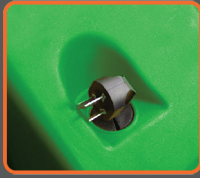
PBP 15E

Electric Hand Pallet Truck 1.5t

- 1st Innovative design ever
- Compact Size and Lightweight, Convenient for Operation
- Energy-Saving and Environment Friendly Maximizes Running Time
- Incredible Market Share Globally

PBP15E

Electric Pallet Truck 1.5t



Innovation

- 1st Innovation Design Ever won the REDDOT award.

Light Weight, Great Capacity, Great Passing Ability

- Light weight & compact size create excellent maneuverability & passing ability.

Anti-vibration Technology for Batteries

- Special anti-vibration technology extend maintenance-free battery life.

Cables

- Robot cables with excellent twist resistance offers longer life span.

Charger

- Charger with temperature indicator protects battery.

Operation

- Ergonomically-designed tiller head helps increase efficiency; Internal Charger for Easy Charging.

Safety

- Handy Emergency Disconnect Button & Durable Driving Unit ensure safety under any situation.

Serviceability

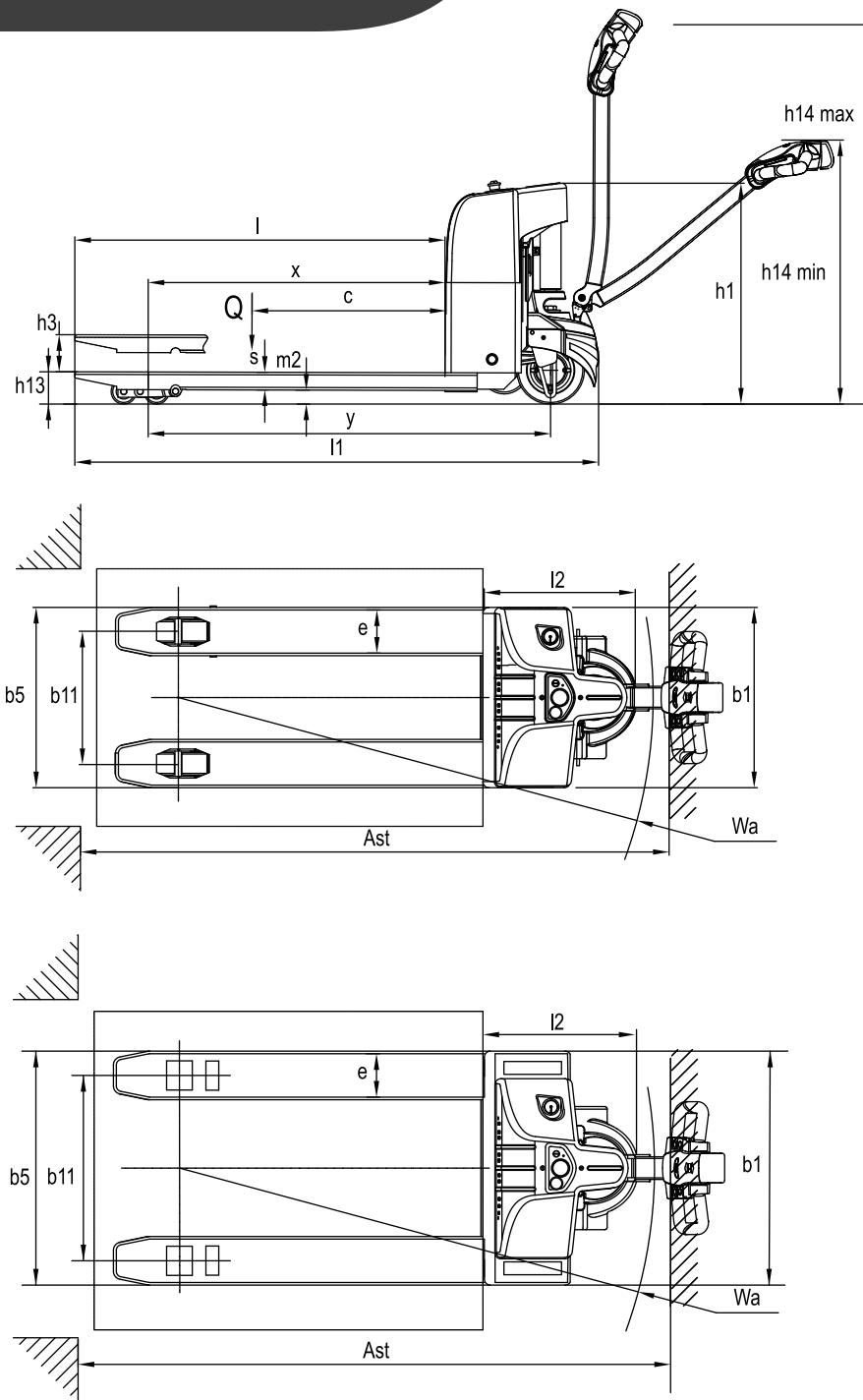
- Assembly Components, Easy for Diagnosis and Replacing.

PBP15E Electric Pallet Truck 1.5t

Distinguishing mark			
1.1	Model designation		PBP15E
1.2	Drive unit		Electric
1.3	Type of operation		pedestrian
1.4	Rated capacity	Q	kg 1500
1.5	Load center distance	c	mm 600
1.7	Load distance	x	mm 889/946
1.8	Wheelbase	y	mm 1268/1231
Weight			
2.1	Service weight (include battery)	kg	205
2.2	Axle loading, laden driving side/loading side	kg	550/1155
2.3	Axle loading, unladen driving side/loading side	kg	180/25
Types,Chassis			
3.1	Tyre type driving wheels/loading wheels		PU/ PU
3.2	Tyre size, driving wheels (diameter×width)	mm	Φ210x70
3.3	Tyre size, loading wheels (diameter×width)	mm	2x Φ80x60 (Φ74x88)
3.4	Tyre size, caster wheels (diameter×width)	mm	/
3.5	Wheels, number driving , caster/loading (x=drive wheels)	mm	1x /4 (1x /2)
3.6	Track width, front,driving side	b ₁₀	mm /
3.7	Track width,rear,loading side	b ₁₁	mm 410 (535)
Dimensions			
4.4	Lift height	h ₃	mm 115
4.9	Height drawbar in driving position min./max.	h ₁₄	mm 750/1170
4.15	Lowered height	h ₁₃	mm 85 (75)
4.19	Overall length	l ₁	mm 1632
4.20	Length to face of forks	l ₂	mm 482
4.21	Overall width	b ₁ / b ₂	mm 560 (685)
4.22	Fork dimensions	s/ e/ l	mm 50/150/1150
4.25	Distance between fork-arms	b ₅	mm 560 (685)
4.32	Ground clearance, center of wheelbase	m ₂	mm 35
4.34.1	Aisle width for pallets 1000 × 1200 crossways	Ast	mm 1739
4.34.2	Aisle width for pallets 800 × 1200 lengthways	Ast	mm 1939
4.35	Turning radius	Wa	mm 1485
Performance data			
5.1	Travel speed, laden/ unladen	km/ h	km/h 4/4.5
5.2	Lifting speed, laden/ unladen	m/ s	0.026/0.031
5.3	Lowering speed, laden/ unladen	m/ s	0.029/0.021
5.8	Max. gradeability, laden/unladen		2/6
5.10	Service brake type		Electromagnetic
Electric-engine			
6.1	Drive motor rating S2 60 min	kW	0.65
6.2	Lift motor rating at S3 15%	kW	0.84
6.3	The maximum allowed size battery	mm	265*185*215
6.4	Battery voltage/nominal capacity K20		24/85
6.5	Battery weight	kg	25.5x2
Addition data			
8.1	Type of drive control		DC
10.5	Steering type		Mechanical
10.7	Sound pressure level at the driver's ear		74

- 1.The parameters in the table are of the standard model. For more information, please contact us.
- 2.The parameters are subject to change without notice.

PBP15E Electric Pallet Truck 1.5t



Options

PBP15E	
Fork length	●800/915/1000/1070/1100/1300/1400mm
Fork width	●460/520/600mm
Single load wheel	●
Fork lowered height	●75mm (Capacity <=1000kg)
Driving wheel	PU wheel with Pattern
Balance wheel	●
Battery capacity	●65AH
Lateral change battery	●
battery indicator with hour meter	●
half speed function in turning	●
Backrest height	●1220mm (48in)/1520mm (60in)
Water proof	●
Scale	



PBP 15E2

Electric Pallet Truck 1.5t

- Perfect Upgrade of Reliability and Easy-Maintenance

PBP15E2

Electric Pallet Truck 1.5t



Patented Design

- Ergonomic tiller bounded with key switch, BDI and troubleshooting indicator enhance easy and accurate operation.

Anti-vibration Technology for Batteries

- Patent designed external control system not only protects controller in place but also provides easy access for maintenance.

Optimized Harness Layout

- Optimized wire harness layout lowers twist failure rate.

Front Detachable Battery Cover

- Innovative Design, Easy for Battery Replacement.

Emergency Switch

- Upgraded emergency switch ensures safety.

Cover for Driving Wheel

- Strong cover for driving wheel ensures the safety of the operator.

Charger

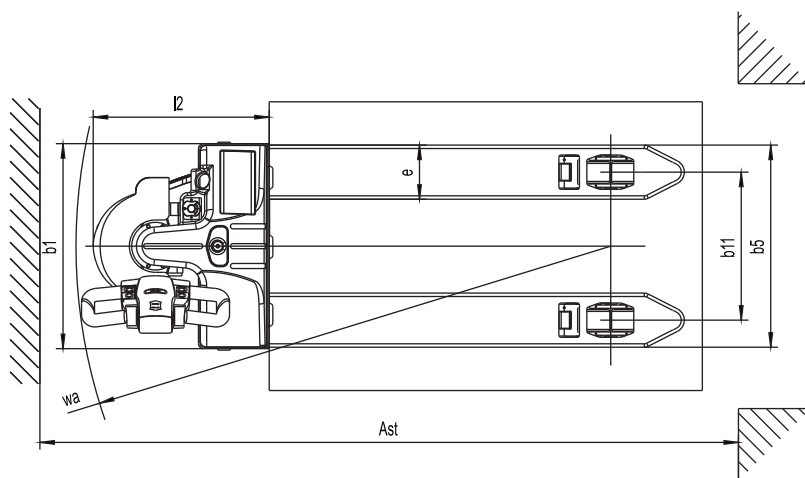
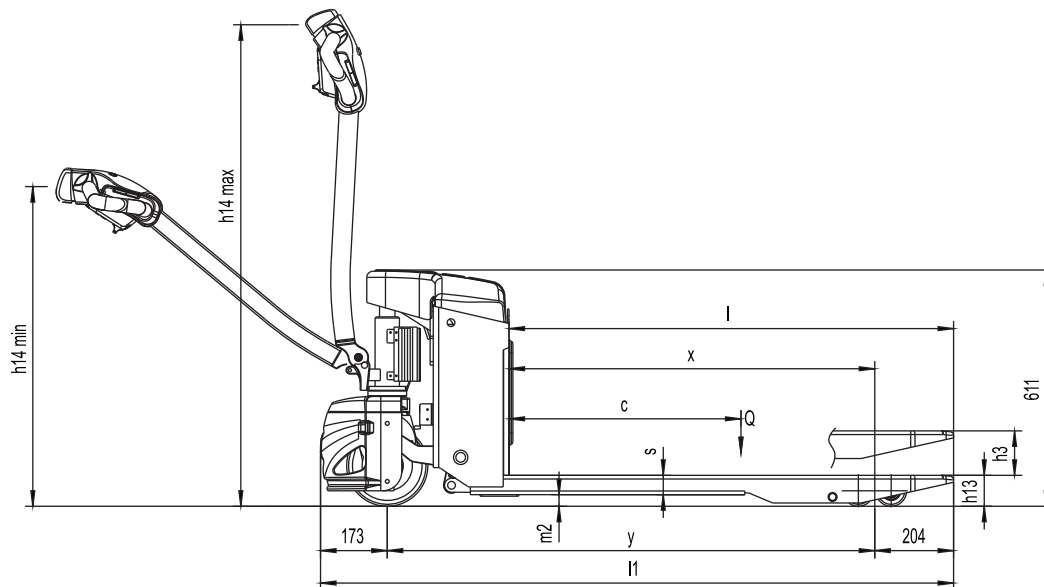
- Upper-Installed Charger, Better heat-dissipation, Higher Charging Efficiency.

PBP15E2 Electric Pallet Truck 1.5t

Distinguishing mark			
1.1	Model designation		PBP15E2
1.2	Drive unit		Electric
1.3	Operator type		pedestrian
1.4	rated capacity	Q	kg
1.5	Load center distance	c	mm
1.6	Load distance	x	mm
1.8	Wheelbase	y	mm
Weight			
2.1	Service weight (include battery)		kg
2.2	Axle loading, laden driving side/loading side		kg
2.3	Axle loading, unladen driving side/loading side		kg
Types,Chassis			
3.1	Tyre type driving wheels/loading wheels		PU/ PU
3.2	Tyre size, driving wheels (diameter×width)	mm	Φ210×70
3.3	Tyre size, loading wheels (diameter×width)	mm	2x Φ78×60 (Φ78×88)
3.4	Tyre size, caster wheels (diameter×width)	mm	
3.5	Wheels, number driving, caster/loading (x=drive wheels)	mm	1x /4 (1x /2)
3.6	Track width, front,driving side	b ₁₀	mm
3.7	Track width,rear,loading side	b ₁₁	mm
Dimensions			
4.4	Lift height	h ₃	mm
4.9	Height drawbar in driving position min./max.	h ₁₄	mm
4.15	Lowered height	h ₁₃	mm
4.19	Overall length	l ₁	mm
4.20	Length to face of forks	l ₂	mm
4.21	Overall width	b ₁ / b ₂	mm
4.22	Fork dimensions	s/ e/ l	mm
4.25	Distance between fork-arms	b ₅	mm
4.32	Ground clearance, center of wheelbase	m ₂	mm
4.34.1	Aisle width for pallets 1000 × 1200 crossways	Ast	mm
4.34.2	Aisle width for pallets 800 × 1200 lengthways	Ast	mm
4.35	Turning radius	Wa	mm
Performance data			
5.1	Travel speed, laden/ unladen	km/ h	km/h
5.2	Lifting speed, laden/ unladen		m/ s
5.3	Lowering speed, laden/ unladen		m/ s
5.8	Max. gradeability, laden/unladen		
5.10	Service brake type		Electromagnetic
Electric-engine			
6.1	Drive motor rating S2 60 min	kW	0.65
6.2	Lift motor rating at S3 15%	kW	0.84
6.3	The maximum allowed size battery	mm	
6.4	Battery voltage/nominal capacity K20		24/65
6.5	Battery weight	kg	22.5x2
Addition data			
8.1	Type of drive control		DC
10.5	Steering type		
10.7	Sound pressure level at the driver's ear		74

- 1.The parameters in the table are of the standard model. For more information, please contact us.
- 2.The parameters are subject to change without notice.

PBP15E2 Electric Pallet Truck 1.5t



Options

	PBP15E2
Fork length	<ul style="list-style-type: none"> 800/915/1000/1070/1100/1300/1400mm
Fork width	<ul style="list-style-type: none"> 520/600mm
Single load wheel	<ul style="list-style-type: none"> •
Driving wheel	<ul style="list-style-type: none"> •PU wheel with Pattern
Battery capacity	<ul style="list-style-type: none"> •85AH
Backrest height	<ul style="list-style-type: none"> •1220mm (48in)/1520mm (60in)



PBP18E

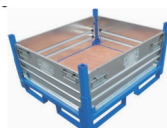
Electric Pallet Truck 1.8t

- **Delivery Truck:** The Last Mile Solution Truck Customised for Half Pallet Handling, Dock Tail Trailer
- **Applicable Industry:** Mailing, Beverage, Food, Retail, Convenient Stores, etc.

PBP18E Electric Pallet Truck 1.8t

Distinguishing mark					
1.1	Model designation				PBP18E
1.2	Drive unit				Electrics
1.3	Operator type				pedestrian
1.4	rated capacity	Q	lb.	kg	1800
1.5	Load center distance	c	in.	mm	600
1.6	Load distance	x	in.	mm	945
1.7	Wheelbase	y	in.	mm	1270
Weight					
2.1	Service weight (include battery)		lb.	kg	285
2.2	Axle loading, laden driving side/loading side		lb.	kg	770/1315
2.3	Axle loading, unladen driving side/loading side		lb.	kg	230/55
Types,Chassis					
3.1	Tyre type driving wheels/loading wheels				polyurethane/ polyurethane
3.2	Tyre size, driving wheels (diameter×width)		in.	mm	Φ230×75
3.3	Tyre size, loading wheels (diameter×width)		in.	mm	Φ74×88 / Φ80×60
3.4	Tyre size, caster wheels (diameter×width)		in.	mm	Φ85×48
3.5	Wheels, number driving, caster/loading (x=drive wheels)		in.	mm	1x+2/2 / 1x+2/4
3.6	Track width, front,driving side	b ₁₀	in.	mm	435
3.7	Track width,rear,loading side	b ₁₁	in.	mm	390/495/535
Dimensions					
4.4	Lift height	h ₃	in.	mm	115
4.9	Height drawbar in driving position min./max.	h ₁₄	in.	mm	715 / 1200
4.15	Lowered height	h ₁₃	in.	mm	85
4.19	Overall length	l ₁	in.	mm	1625
4.20	Length to face of forks	l ₂	in.	mm	475
4.21	Overall width	b ₁ / b ₂	in.	mm	645
4.22	Fork dimensions	s/ e/ l	in.	mm	50x150x1150
4.25	Distance between fork-arms	b ₅	in.	mm	540/645/685
4.32	Ground clearance, center of wheelbase	m ₂	in.	mm	35
4.34.1	Aisle width for pallets 1000 × 1200 crossways	Ast	in.	mm	1720
4.34.2	Aisle width for pallets 800 × 1200 lengthways	Ast	in.	mm	1920
4.35	Turning radius	Wa	in.	mm	1465
Performance data					
5.1	Travel speed, laden/ unladen	km/ h	mph	km/h	5.5/6
5.2	Lifting speed, laden/ unladen		fpm	m/ s	0.051/ 0.060
5.3	Lowering speed, laden/ unladen		fpm	m/ s	0.032/ 0.039
5.8	Max. gradeability, laden/unladen			%	6/16
5.10	Service brake type				Electromagnetic
Electric-engine					
6.1	Drive motor rating S2 60 min		hp	kW	1.1
6.2	Lift motor rating at S3 15%		hp	kW	0.84
6.3	The maximum allowed size battery		in.	mm	269x182x300
6.4	Battery voltage/nominal capacity K20			V/ Ah	2x 12/85
6.5	Battery weight		lb.	kg	25 x2
Addition data					
8.1	Type of drive control				AC
10.5	Steering type				Mechanical
10.7	Sound pressure level at the driver's ear			dB (A)	74

Solution Packages



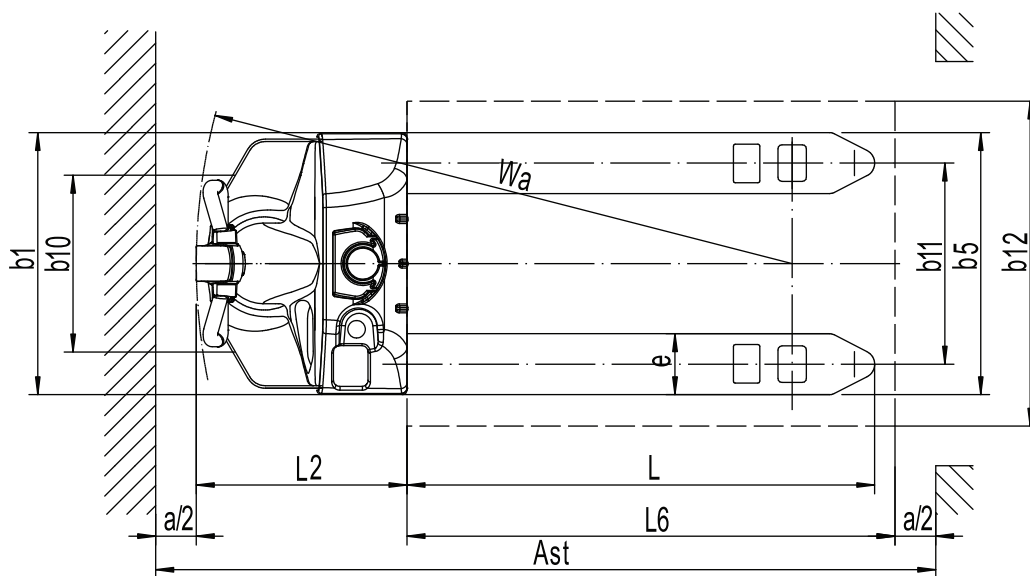
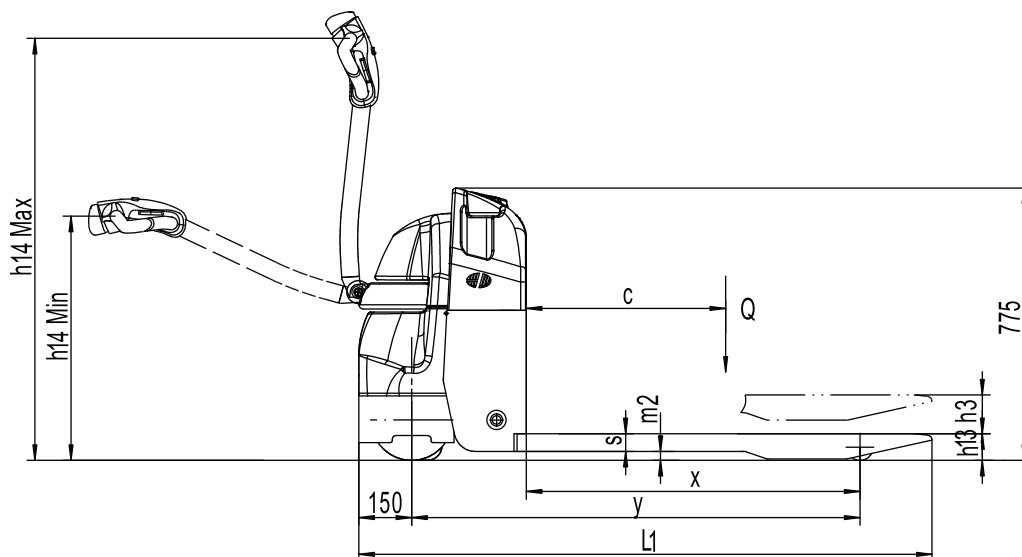
PBP18E

Electric Pallet Truck 1.8t



- World's 1st Half Pallet Truck
- Height Traction, Indoor, and Outdoor Perfect Handling
- Long Battery Running Time, Larger Battery Installment Option, Full day Job handling
- Small Turning Radius, Excellent Maneuverability Inside Trailer
- On-board Charger, Easy to Charge
- Customized Solution Available

PBP18E Electric Pallet Truck 1.8t



Options

	PBP18E
Fork length	<ul style="list-style-type: none"> 850/915/1000/1150/1185/1220/1300/1450mm
Fork lowered height	<ul style="list-style-type: none"> 85mm
Driving wheel	<ul style="list-style-type: none"> Rubber
Balance wheel	<ul style="list-style-type: none">
high capacity battery	<ul style="list-style-type: none"> 60AH/85AH/120AH
Cold storage	<ul style="list-style-type: none">
battery indicator with hour meter	<ul style="list-style-type: none">
water auto-filling system	<ul style="list-style-type: none">
Special backrest	<ul style="list-style-type: none"> 1220mm (48in)/1520mm (60in)



SBP 12E / SBP 12ES

Electric Stacker 1.0/1.2t

- Electric Stacker With Smaller Working Space Needed
- Innovative Design of Low Energy Consumption and High Reliability
- Long and & Aside Tiller Design Makes Operations Safe and Convenient

SBP12E / SBP12ES

Electric Stacker 1.2t



Performance

- Robust Structure;
- Highly specialized drive and hydraulic system ensure excellent driving performance and high reliability.
- Low-noise and durable hydraulic unit, high quality cylinder as well as hose ensure high reliability of hydraulic system.
- AMP connector and durable electric wires greatly reduce malfunctions of components
- Straddle Chassis option offers stability of high stack operation.

Safety

- Safe hydraulic system design prevents mast from falling down abruptly when oil pipes cuts off.
- Belly button prevents truck from hitting operator.
- By simply pressing emergency disconnecter, power supply will be immediately interrupted.
- Multi lifting limited switch ensures travel safety.
- Truck automatically switches to low speed mode, when lifting height is higher than setting height
- Anti-rolling back braking device ensures trucks do not roll back on ramps.

Operation

- Ergonomic tiller head for effortless and comfortable operations.
- Tiller with long arm for smooth steering.
- Compact chassis design offers smallest turning radius needed.
- Side operating ensures excellent visibility.
- On-board Charger.

Maintenance

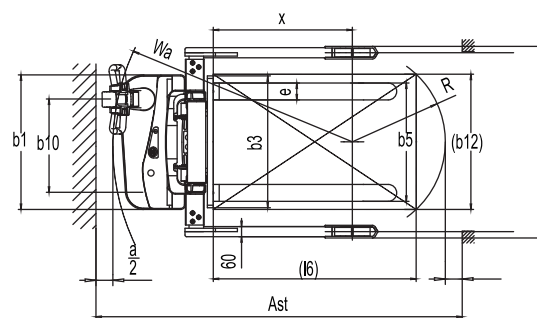
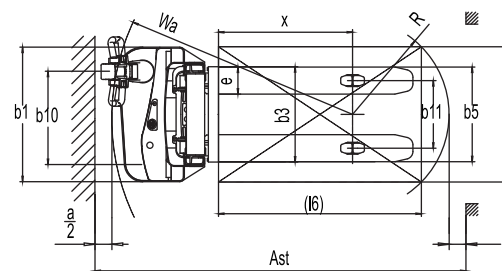
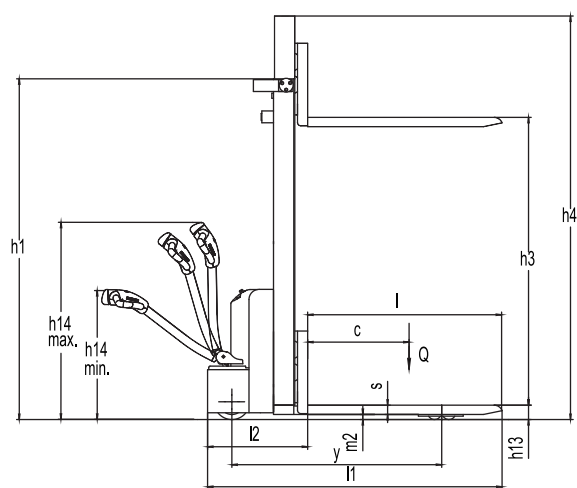
- Maintenance-free Battery.
- Battery display indicator with hour meter reminds operator of charging on time (optional).
- Easy Maintenance - detachable rear panel.
- Self-Diagnostics signal on the digital display allows easy trouble-shooting.
- Easy Access of Hand Set.
- Low-voltage Cut-off Protection

SBP12E / SBP12ES Electric Saticker 1.0t / 1.2t

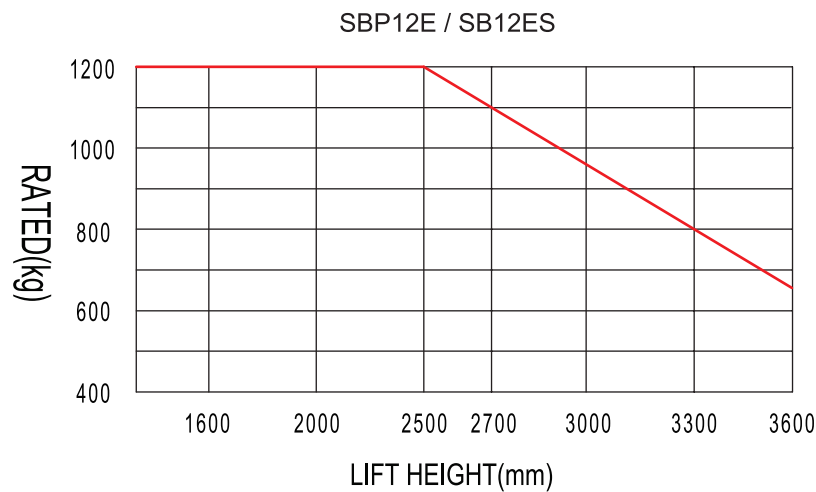
Distinguishing mark					
1.1	Model designation		SBP12E	SBP12ES	
1.2	Drive unit		Electric	Electric	
1.3	Type of operation		pedestrian	pedestrian	
1.4	Rated capacity	Q	kg	1200	1200
1.5	Load center distance	c	mm	600	600
1.7	Load distance, centre of drive axle to fork	x	mm	795	845
1.8	Wheelbase	y	mm	1240	1290
Weight					
2.1	Service weight (include battery)		kg	661	676
2.2	Axle loading, laden driving side/loading side		kg	845/1016	837/1039
2.3	Axle loading, unladen driving side/loading side		kg	536/125	549 / 127
Types,Chassis					
3.1	Tyre type Driving wheels/Loading wheels			PU/PU	PU/PU
3.2	Tyre size, driving wheels (diameter×width)		mm	Ø210×70	Ø210×70
3.3	Tyre size, loading wheels (diameter×width)		mm	Ø80×60	Ø100×50
3.4	Tyre size, caster wheels (diameter×width)		mm	Ø130×55	Ø100×50
3.5	Wheels, number driving, caster/loading (x=drive wheels)		mm	1x +1/4	1x +1/4
3.6	Track width, front,driving side	b ₁₀	mm	533	533
3.7	Track width,rear,loading side	b ₁₁	mm	400	1060/1160/ 1260 /1360
Dimensions					
4.1	Tilt of mast/fork carriage forward/backward	α/ β	°	/	/
4.2	Height, mast lowered	h ₁	mm	2052	2083
4.3	Free lift	h ₂	mm	/	/
4.4	Lift height	h ₃	mm	2930	2930
4.5	Height, mast extended	h ₄	mm	3487	3895
4.6	Initial lift	h ₅	mm	/	/
4.9	Height drawbar in driving position min./max.	h ₁₄	mm	860/ 1200	860/ 1200
4.10	Height of wheel arms	h ₈	mm	/	/
4.15	Lowered height	h ₁₃	mm	88	60
4.19	Overall length	l ₁	mm	1740	1650
4.20	Length to face of forks	l ₂	mm	590	580
4.21	Overall width	b ₁	mm	800	1135/1235/ 1335 /1435
4.22	Fork dimensions	s/ e/ l	mm	60/ 170/ 1150	35/ 100/ 1070
4.24	Fork carriage width	b ₃	mm	680	800
4.25	Distance between fork-arms	b ₅	mm	570	200~765
4.26	Distance between wheel arms	b ₄	mm	/	100
4.31	Ground clearance, laden, below mast	m ₁	mm	/	/
4.32	Ground clearance, center of wheelbase	m ₂	mm	30	40
4.34.1	Aisle width for pallets 1000 × 1200 crossways	Ast	mm	2225	2255
4.34.2	Aisle width for pallets 800 × 1200 lengthways	Ast	mm	2150	2180
4.35	Turning radius	Wa	mm	1408	1404
Performance data					
5.1	Travel speed, laden/ unladen		km/ h	3.5/4	3.5/4
5.2	Lifting speed, laden/ unladen		m/ s	0.12/0.22	0.12/0.22
5.3	Lowering speed, laden/ unladen		m/ s	0.12/0.11	0.12/0.11
5.8	Max. gradeability, laden/unladen		%	3/10	3/10
5.10	Service brake type			Electromagnetic	Electromagnetic
Electric-engine					
6.1	Drive motor rating S2 60 min		kW	0.65	0.65
6.2	Lift motor rating at S3 15%		kW	2.2	2.2
6.3	The maximum allowed size battery		mm	325x180x230	325x180x230
6.4	Battery voltage/nominal capacity K20		V/ Ah	2x12/105	2x12/105
6.5	Battery weight		kg	2x30	2x30
8.1	Type of drive unit			DC	DC
10.5	Steering type			Mechanical	Mechanical
10.7	Sound pressure level at the driver's ear			74	74

- 1.The parameters in the table are of the standard model. For more information, please contact us.
- 2.The parameters are subject to change without notice.

SBP12E / SB12ES



RATED CAPACITIES GRAPH



SBP12E / SBP12ES Electric Saticker 1.0t / 1.2t

mast types	Lift h3+h13 (mm)	Lowered mast height h1 (mm)	Free lift h2 (mm)	Extended mast height h4 (mm)
SBP12E	1205	1575	1120	1575
	1405	1775	1320	1775
	1605	1975	1520	1975
	1705	2075	1705	2075
	2515	1802	—	2987
	2715	1902	—	3187
	3015	2052	—	3487
	3315	2202	—	3787
	3615	2352	—	4087
SBP12ES	1160	1600	1110	1600
	1360	1800	1310	1800
	1560	2000	1510	2000
	1660	2100	1610	2100
	2470	1833	—	3395
	2670	1933	—	3595
	2970	2083	—	3895
	3270	2233	—	4195
	3570	2383	—	4495

Options

	SBP12E	SBP12ES
Fork outer width	●685mm/600mm	—
Battery	●85AH/120AH	●85AH/120AH
Backrest	—	○
battery indicator with hour meter	●	●
Driving wheel	●PU wheel with Pattern	●PU wheel with Pattern
Height limitation	●	●

● Options ○ Standard



© 2017 by MNA, All right Reserved.
All trademarks are the property of their respective owners.
Printed in Singapore.
SML00001 (05/17)