

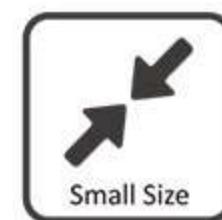


SUPERFORM[®]

EDGE series

Pallet Truck:

Li-ion Powered 1.2T- 1.5T- 2.0T



INTRODUCTION

The EDGE series was created by Superform with the aim to supply product range which is capable to provide **high-efficient substitution** of manual and semi-electric equipment with **affordable cost**.

The family was named "Edge" thanks to new cutting-edge technical solutions which allowed us to create full range of **compact and smart** products.

Clear focus of every employer beside the working efficiency is the **reduction of safety risks and injuries** for employees. Majority of risks related to injuries of backs, caused by demand of high pulling and pushing force to move not powered equipment around, can be easily eliminated with the new EDGE products.

With consideration of performance increase and safety risk reduction, the **cost of ownership** for the products included to the EDGE family is actually lower than the one for manual and semi-electric equipment.

Smart features like speed control in turns, PIN-code or RFID access, function of driving with tiller in its vertical position, fast and opportunity charging for li-ion batteries, which before were not offered for economic material handling powered solutions, are now available for the Edge series products and making the work easier.

The EDGE series products are strictly conform to requirements of **international safety standards**.



The EDGE Smart Design Pallet Trucks Family

Performance



DC 24V

LPPT12 - EDGE

● 1.2T Capacity **Li-ion**

- Perfect for light-duty applications.
- Compact & skeleton design
- Fast-charging Li-ion batteries.
- Ideal for occasional operations
- Easy-battery replacement
- High maneuverability



DC 24V

LPPT15 - EDGE

● 1.5T Capacity **Li-ion**

- Perfect for light-duty applications.
- Compact & sharp design
- Light service weight
- Fast-charging Li-ion batteries.
- Ideal for use on retail stores, lorries.
- Easy-battery replacement

Capacity



BLDC 48V

LPPT20 - EDGE

● 2.0T Capacity **Li-ion**

- Ultimate solution for heavy loads move
- Compact & robust design
- Fast-charging Li-ion batteries
- Easy-battery replacement
- Great grade-ability performance
- Powerful drive & pump system

Smart and Ergonomic Tillers

The Edge series trucks are configured with control tillers adopted to meet with application needs based on trucks designated performance.

Standard For LPPT12 - EDGE



Standard For LPPT15 - EDGE, Optional LPPT12 - EDGE



RFID Card Access is Standard for LPPT20 - EDGE optional for all other models

RFID card provides faster access to equipment and ideal for applications when one truck needs to be used by different operators



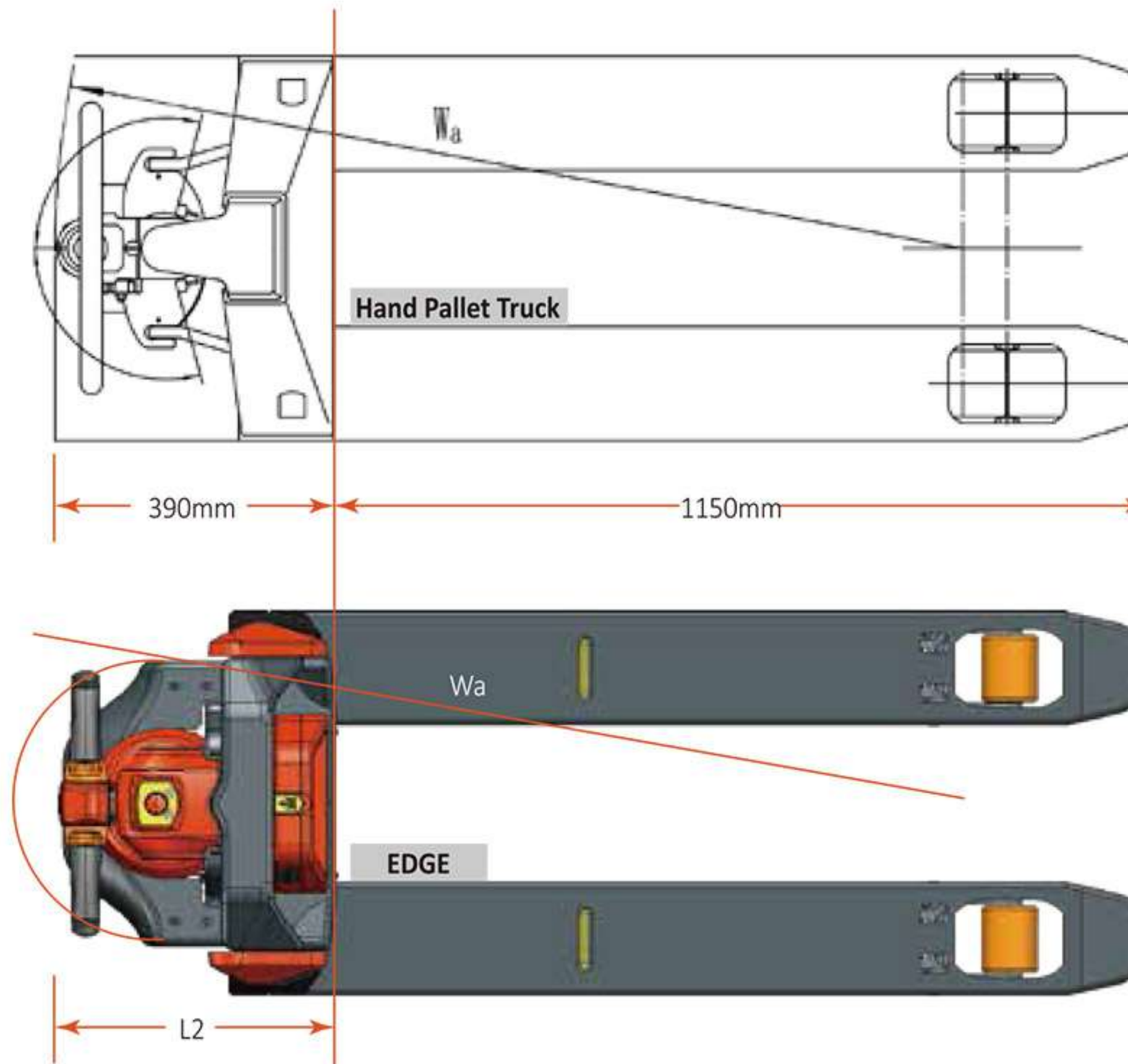
LPPT12 - EDGE

The tiller bar is supported by the air spring which helps to return the tiller to its vertical position without strike in the end point.

For increase of operation comfort and safety the trucks are equipped with speed reduction function in turns. (Optional for LPPT12-EDGE and LPPT15-EDGE, standard for other trucks)

The value of speed reduction is adjustable according to customers' preferences.

Compact Design and Vertical Driving



Model	Body length (L2)	Turning Radius	Weight
LPPT12 - EDGE	387mm	1337mm	124kg
LPPT15 - EDGE	380mm	1330mm	123kg
LPPT20 - EDGE	386mm	1336mm	149kg

Our engineers put a lot of efforts to achieve compactness of the trucks in comparison with traditionally used manual and semi-electric products in order to provide full-electric solutions with high efficiency to replace old-fashioned low productive manual and semi-electric equipment and significantly reduce probability of injuries of operators caused by manual pumping or pushing/ pulling. At the same time, the service weight is minimized without compromising the robustness of the trucks esp. for delivery applications where the self-weight of the trucks is critical.



The function of driving with tiller in the **vertical position** helps with work in confined areas, especially in elevators and lorries without sacrificing of safety.



Smart & Replaceable Batteries for Pallet Trucks

The **LPPT - EDGE** are equipped with maintenance-free Li-ion batteries, optional capacities for various applications are available, with its fast charging and opportunity charging features (charge whenever you want and as long as time allows) the operation time can be extended significantly.

All pallet trucks batteries are located in battery compartments securely, any possibility of movement is excluded, therefore the reliability of power supply is ensured.

Light weight of the battery(max. 8kg) and the easiest way of fast battery replacement allows even a female operator to double the working time within seconds. The light weight of the batteries can be achieved through use of Li-ion battery type with high ratio of energy density to its self-weight.



Manage your working time with selection of batteries and chargers



▲ The positioning of the battery inside the battery compartment is fast and easy thanks to specially designed battery guiding system

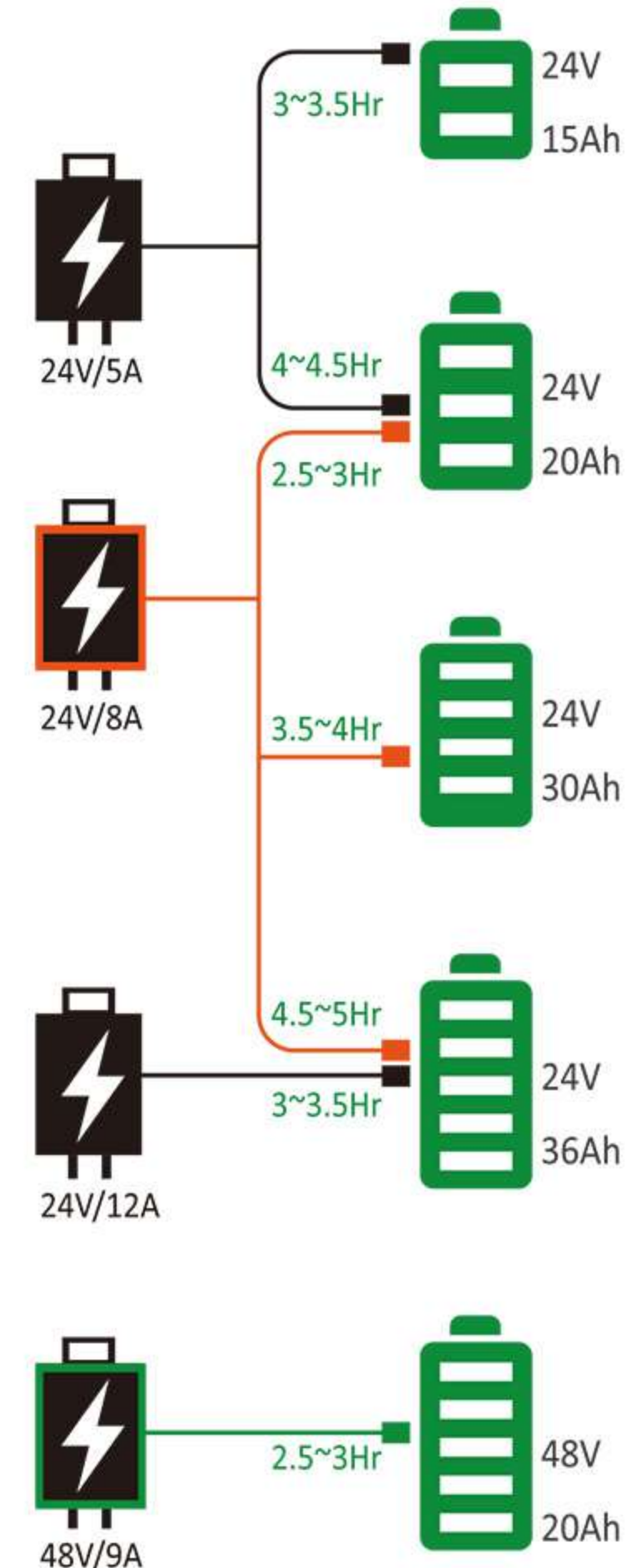
▲ Battery cases for pallet trucks are made out of ABS PC material with **15%** of glass fiber.

▲ Socket on battery case for easy battery charging without necessity to take the battery out

All Li-ion batteries are equipped with on-board Battery Management System (BMS), which provides mandatory control of all important parameters of the battery during charging and operation. With this control, the safety of Li-ion battery during the whole life-cycle is guaranteed. The Li-ion batteries are certified according to international safety transportation (by sea and by air) and operation standards. The BMS communicates with control system of the truck via CAN, the support of the CAN protocols allows to monitor the condition of the battery and make its diagnosis with help of special software which is available for our partners.



Optional different battery capacities from 20Ah to 36Ah for various applications



100% min. **2.5** hours charge | Excellent working time

The **LPPT - EDGE** remains unpowered while charger is connected with the battery charging socket even if the charger is disconnected from the power outlet, therefore, the safety is ensured and the possibility to damage the charger is excluded.



Gradeability Performance & Robustness



The Edge series trucks have great performance on ramps even when they are fully loaded regardless their economic positioning, each truck based on its performance level can climb on sufficient level of ramp, therefore, every customer can select the truck with consideration of particular working environment.

Model	LPPT12 - EDGE	LPPT15 - EDGE	LPPT20 - EDGE
Max. grade ability laden	4%	6%	7%
Max. grade ability unladen	16%	16%	16%

The frame of truck is surrounded by stamped steel elements making the truck looking different and also ensuring the **protection** of components for LPPT15 - EDGE and LPPT20 - EDGE



Forks of the truck with shape for easy entrance and exit from pallets for LPPT15 - EDGE and LPPT20 - EDGE
Full length double sided C-shape **reinforcements** of forks significantly increase strength and **rigidity** of frame.



Strong steel apron **protects** the operator's feet during work and secures the truck's components from collisions with objects.



Maintenance Friendly

Drive motor with intelligent Curtis control



For the pallet trucks there are no hoses or pipes used in the hydraulic lifting circuit which significantly improves **reliability** and reduces the amount of potential problems related to leakages through connectors or their seals.

The trucks are equipped with **Curtis** controllers, **CAN-bus** technology makes the diagnostic and troubleshooting easier. **The use of proved and certified components helps to ensure the conformity to international safety standards with all the supporting documents available as required by law.**



Capacity			
Ready	Min Volt	Max Volt	
17.6%	24.50V	0mV	0mV
0.00A	Avg Volt	Communication	
	0.0mV	Normal	

Realtime			
Rated Capacity	60.0 Ah	Wh(Current)	0.0 Wh
Discharge Cycle	...	Discharge Cycle	...
Times		Times	
			<input type="button" value="Reset"/>

Other		
Name	Value	Units
Cell Temp1	25.3	C
Cell Temp2	25.1	C
SOC	45	1/255
Power Temp	27.1	C
Envir Temp	32.2	C
Cell Volt Alarm	none	
Total Volt Alarm	none	
Current Alarm	none	
Temp Alarm	none	
Balance Alarm	none	

Volt		
Name	Value	Units
Cell	3507	mV
Total	24.5	V
Current	0.0	A
Run(Wh)	0	Wh

Each battery can be diagnosed via CAN connection with help of special software tool, the software can provide information about the battery condition such as balance of cells, amount of charging/discharging cycles, current, energy consumption, temperature, charging/discharging parameters, voltage of every cell, faults and alarms, settings of timing for automatic turn off.