

MANITOU
GROUP

ES Novice Presentation

Industry - 12/2019





1 ES range

2 Exploded view

3 Machine features

1

ES range

Exploded view

Machine
features

Glossary

 ES range



STACKER

Pedestrian

Standard

Electrical 24V

ES 4

ES 410 ET

ES 412 ET

ES 410

ES 412

ES 414

ES 6

ES 612

ES 614

ES 616

ES 8

ES 820

ES 7

ES 720

ES 725

ES 730





Handling machine most commonly used in the warehouses, the stacker is a machine equipped with a mast for stacking loads or storing at height.

There is **20** models which can lift **1** to **2.5** tons pallets.



ES 4:

- ES 410 FR / FR SL
- ES 410 LE 850/1050/1250
- ES 412 FR / FR SL
- ES 412 LE 850/1050/1250
- ES 414 FR

ES 420 DL FR

Capacity

DL: Double lift

FR: Wrapover forks
LI: Initial lift
LE: Straddle legs
SL: Lateral exchange (battery)

ES 6:

- ES 612
- ES 614
- ES 616

ES 7:

- ES 720 FR
- ES 725 FR

ES 8:

- ES 820
- ES 820 LI



Electric stacker

- Pedestrian driving type
- Zapi controller
- Battery: 24V



- Easy to use
- Low maintenance
- Precise handling (high precision control)
- High level of stability on high lift

ES - Product range

ES 4

- Pedestrian
- 6km/h
- 160-250Ah
- 4,5m max lift height
- Tiller on left
- 4 points configuration



ES 6

- Pedestrian
- 6km/h
- 180-375Ah
- 5,4m max lift height
- Tiller centered
- 4 points configuration



ES 6 PFR

- Ride on
- 7,5km/h
- 180-375Ah
- 5,4m max lift height
- Tiller centered
- 4 points configuration



ES 7

- Pedestrian
- 6km/h
- 240-355Ah
- 3,7m max lift height
- Tiller centered
- 4 points configuration



ES 8

- Pedestrian
- 6km/h
- 270-375Ah
- 5,4m max lift height
- Tiller centered
- 5 points configuration



Best seller
No initial lift
No electric steering

2

ES range

Exploded view

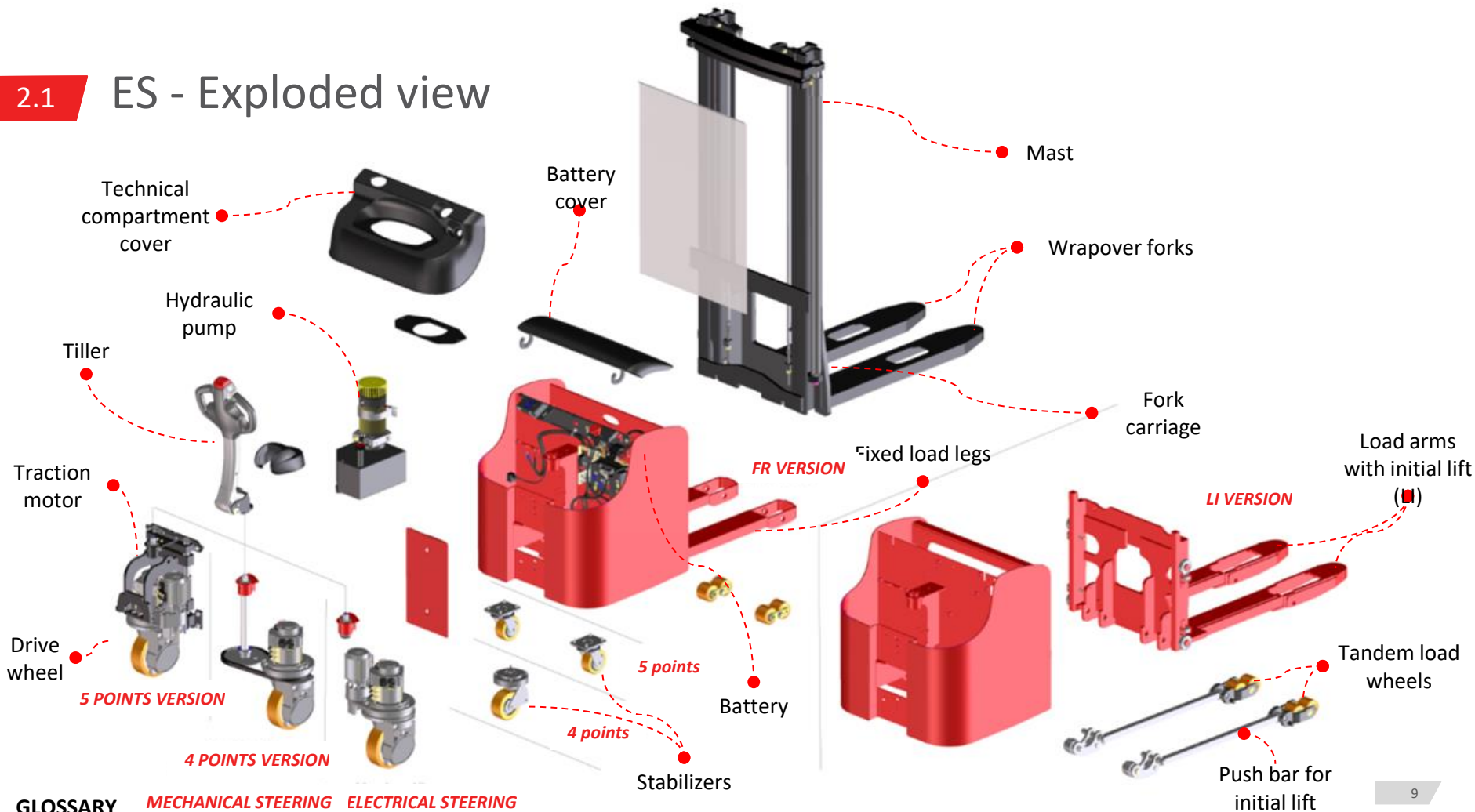
Machine
features

Glossary

/ Exploded view



ES - Exploded view



3 Machine features

ES range

Exploded view

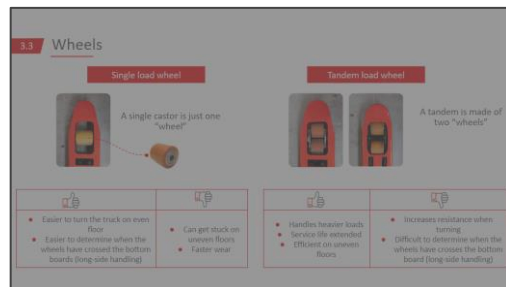
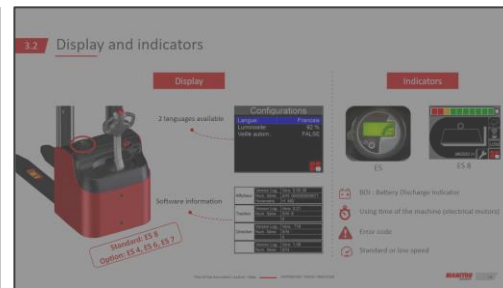
Machine
features

Glossary

Tiller arm



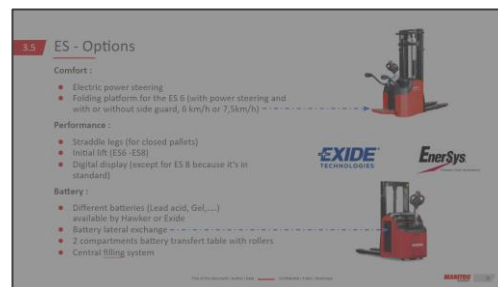
Display



Wheels



Masts



Options

Turtle button



Forward / Backward
function

Belly switch

Klaxon

Lift / Low
function



- **Turtle Button**

- Reduces temporarily the speed of the machine to 3km/h
- Allows driving the pallet truck with the tiller arm in vertical position
- Creep speed



- Useful when the driver moves in a storage with many people
- Essential function for handling fragile goods
- Convenient in confined spaces (e.g. : in a lorry)

- **Ergonomic tiller arm**

- Centered: better in the axis, better driving position
- On the side: cheaper, directly on the drive head, attached to the engine

- **Belly Switch**

- This red button guaranties a safer use of the machine
- Avoids being caught between the machine and an obstacle

3 Machine features

ES range

Exploded view

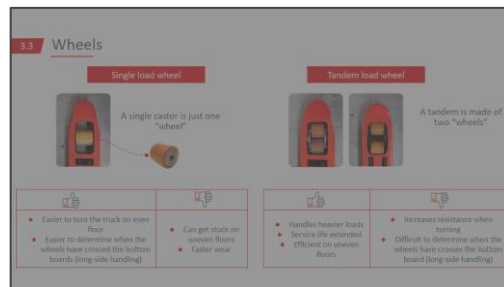
Machine features

Glossary

Tiller arm



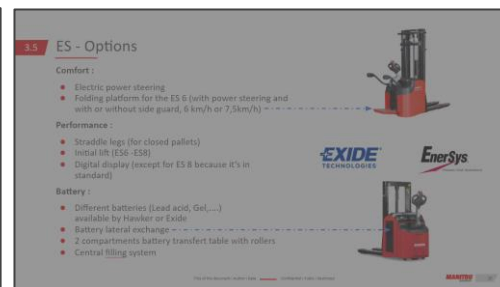
Display



Wheels



Masts



Options

Display



2 languages available

Configurations	
Langue:	Francais
Luminosite:	92 %
Veille autom.:	FALSE

Software information

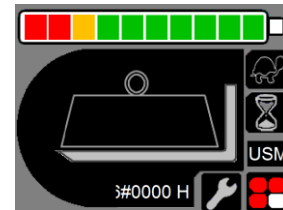
Afficheur	Version Log.	Vers: 0.00.36
	Num. Série	S/N: 000000659071
	Horametre	H: 482
Traction	Version Log.	Vers: 0.21
	Num. Série	S/N: 8
		0
Direction	Version Log.	Vers: 718
	Num. Série	S/N: -
		0
	Version Log.	Vers: 1.08
	Num. Série	S/N: -

Standard: ES 8
Option: ES 4, ES 6, ES 7

Indicators



ES



ES 8



BDI : Battery Discharge Indicator



Using time of the machine (electrical motors)



Error code



Standard or low speed

3.2

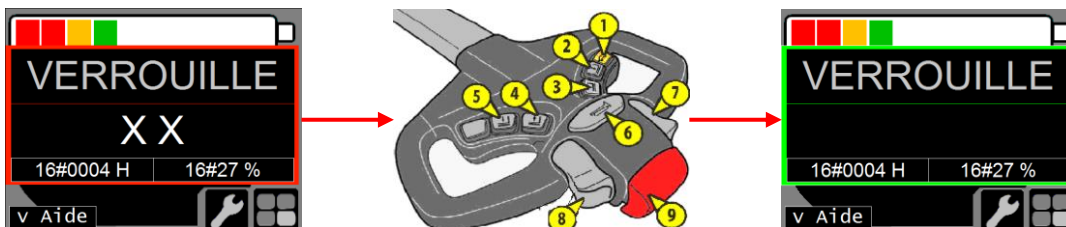
New Digital Display



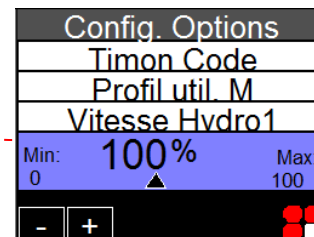
Color screen with the new weight indicator functionality (2 languages)

Digital Display: the PIN Code Access

Standard: ES 8
Option: ES 4 and ES 6



- New functionality
- 3 different user profiles (Master, User1, User2)
- Locking with code on the tiller arm head
- Adjustable according to the type of operators
- **No keys on the machine!**



3 Machine features

ES range

Exploded view

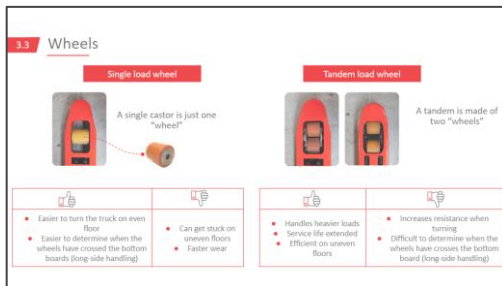
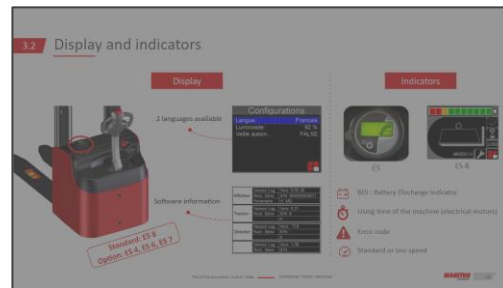
Machine features

Glossary

Tiller arm



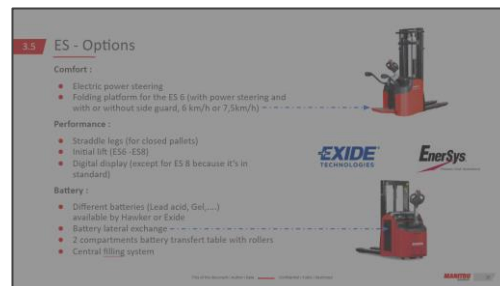
Display



Wheels

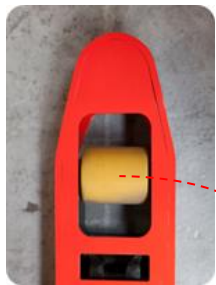


Masts



Options

Single load wheel



A single castor is just one “wheel”



Tandem load wheel



A tandem is made of two “wheels”



- Easier to turn the truck on even floor
- Easier to determine when the wheels have crossed the bottom boards (long-side handling)



- Can get stuck on uneven floors
- Faster wear



- Handles heavier loads
- Service life extended
- Efficient on uneven floors



- Increases resistance when turning
- Difficult to determine when the wheels have crossed the bottom board (long-side handling)

- Single and tandem load wheel exist in different material in order to be adapted to the customer's floor
 - Polyurethane
 - No marking solid tyres (treated, smooth)
 - Cushion tyres (rubber smooth)
 - Anti-static belt
- Shore: wheel hardness measure unit

Polyurethane driving wheel - Std



Hardness 92 shore

- Heavy load
- Intensive use

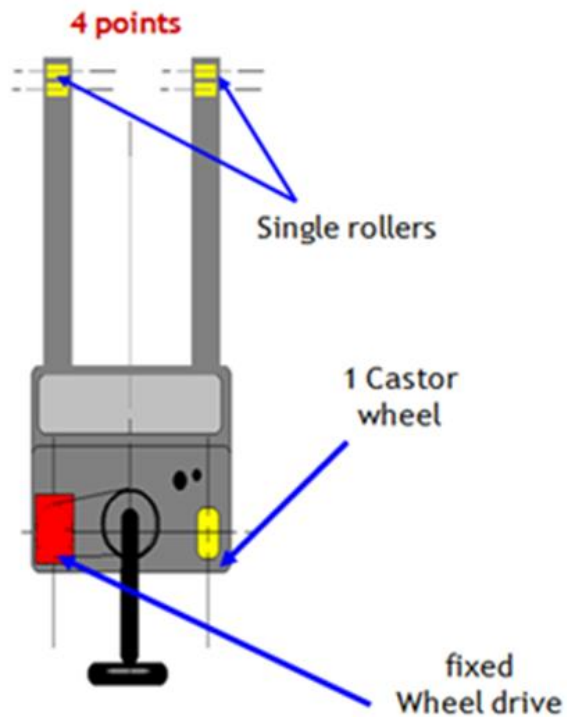


Hardness 75 shore

- Soft wheel
- Less noise
- Better grip
- Shorter lifetime

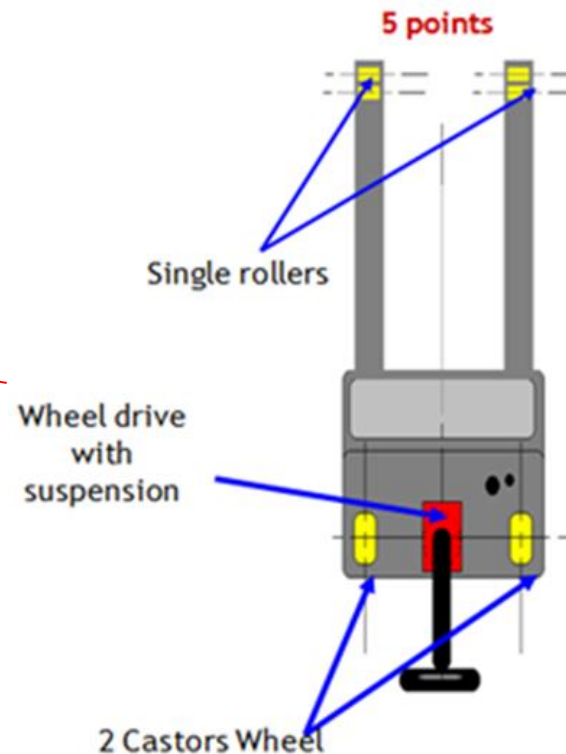
ES - Options

If you need, you can choose a 5 points machine to get a better adhesion and traction :



ES 4 (option)
ES 6 (std)

ES 420 (std)
ES 6 (option)
ES 8 (std)



3 Machine features

ES range

Exploded view

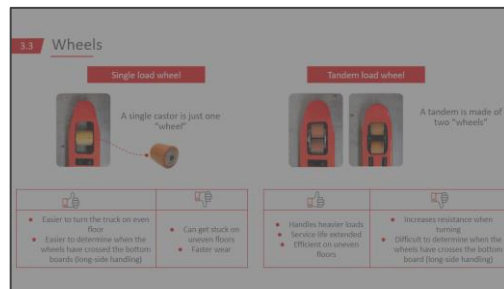
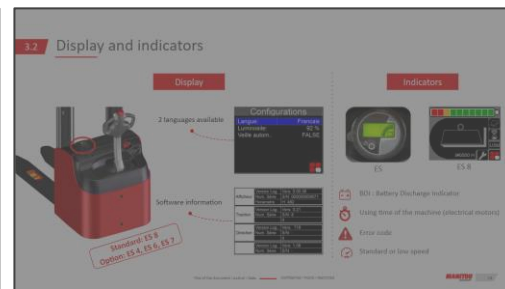
Machine features

Glossary

Tiller arm



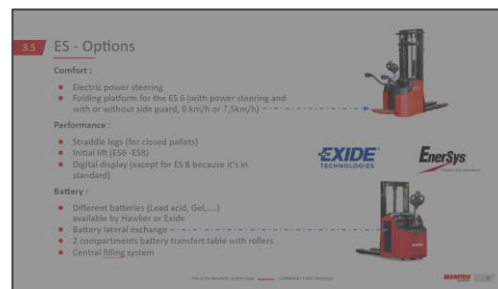
Display



Wheels



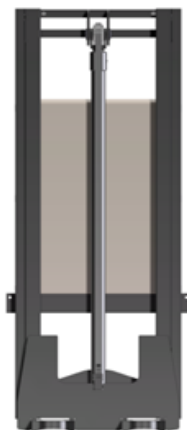
Masts



Options



↪ **CCS**



↪ **CCD**



↪ **FVD**



↪ **FLD**



↪ **FLT**

CCS (SVC)	CCD (DVC)	FVD (DVL)	FLD (DLL)	FLT (TLL)
Simplex mast with Central Cylinder	Duplex mast with Central Cylinder	Full Visibility Duplex	Free Lifting Duplex mast	Free Lifting Triplex mast

Height: from 1 500 to 5 400 mm



Full visibility

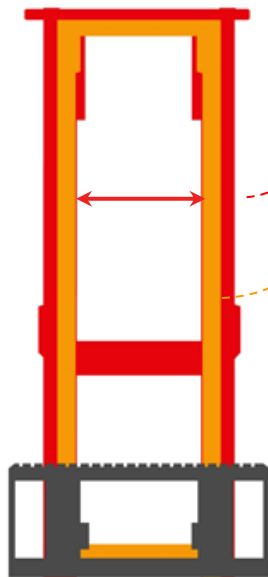
Masts : Difference between Full visibility and Free Lift

Full Visibility Duplex (FVD) mast

- Two elements
- One fixed and one mobile located inside the first one

- Good visibility
- Low expense

- Important mast lowered height



1st element

2nd element

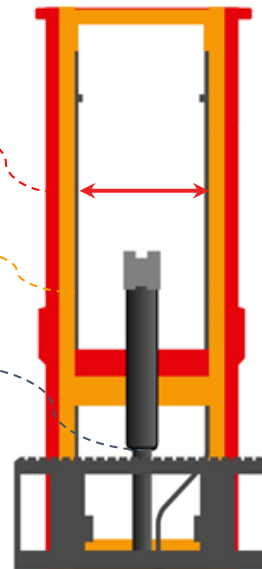
Cylinder

Free Lift Duplex (FLD) Mast

- Two elements + Central cylinder (free lift)
- Lift loads up to an height of half of the truck lift height without increasing the overall height of the mast, thanks to the central cylinder (free lift)

- Good visibility
- Useful in buildings with low roof

- Important mast lowered height



When the operator uses the lever to rise, the second element is set quickly into motion. The free lift is very small (100 to 400mm)

How to choose the right mast?

It's important to take into account 3 elements:

- The last pose height (add 200mm for the pallet height)
- The door passage/crossing
- The roof height



3 Machine features

ES range

Exploded view

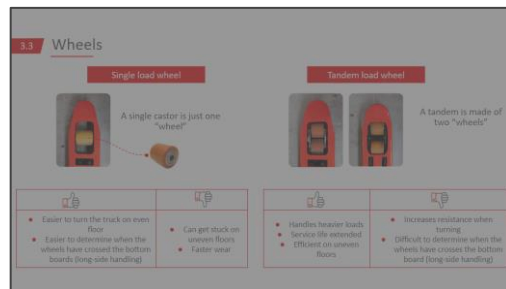
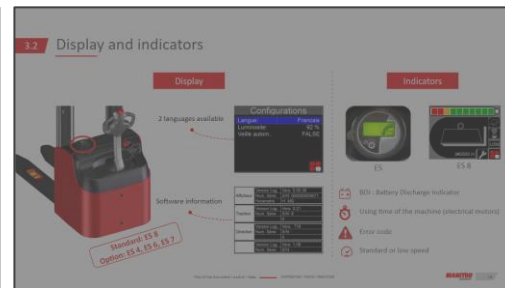
Machine features

Glossary

Tiller arm



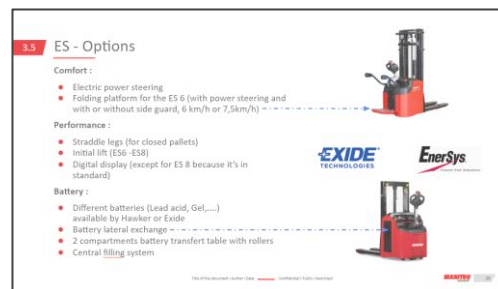
Display



Wheels



Masts



Options

ES - Options

Comfort :

- Electric power steering
- Folding platform for the ES 6 (with power steering and with or without side guard, 6 km/h or 7,5km/h)

Performance :

- Straddle legs (for closed pallets)
- Initial lift (ES6 -ES8)
- Digital display (except for ES 8 because it's in standard)

Battery :

- Different batteries (Lead acid, Gel,...) available by Hawker or Exide
- Battery lateral exchange
- 2 compartments battery transfert table with rollers
- Central filling system



EXIDE
TECHNOLOGIES

EnerSys
Power/Full Solutions



- LI: Initial Lift (Levée Initiale)



Initial lift is when you have an lifting system on the load arm.

- Give a better ground clearance
(useful for slope and not evenfloor)

Wrape over fork, it's the lifting fork, which will come to cover the load arm when they are on bottom position.

Keep less than 90mm height to be able to take the pallet.

- FR : Wrapover Forks (Fourches Recouvrantes)



Load arm without initial lift

ES - Battery

It's important to make sure that you have the right battery depending of different criteria :

	Lead acid	Gel	Lithium
Maintenance	★ ★	★ ★	★ ★ ★
Lifetime	★	★ ★ ★	★ ★ ★
Number of charges	★	★ ★ ★	★ ★ ★
Price	★ ★ ★	★ ★	★



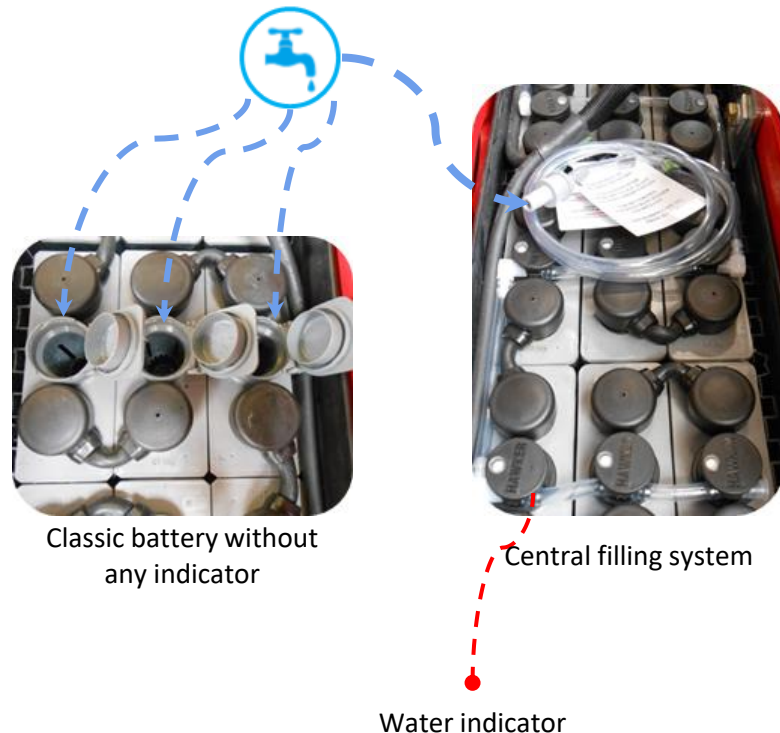
(The most used)



3.5 Battery: central filling system

Central filling system for battery with tank:

- **Characteristics :**
 - To recharge battery with only one point of refill (with water)
 - Indicator on the top of every battery plug
- **Benefits:**
 - Faster & easier refill
 - Very simple to check the water situation in the battery
 - Maintenance uncomplicated and without confusion



4 General glossary

- AC: Alternating Current
- BDI: Battery Discharge Indicator
- CACES: Certificat d'Aptitude à la Conduite En Sécurité
- CoG: Center of Gravity
- DC: Direct Current
- DL: Double Lift
- EL: Ergonomic Lift
- FLD: Free Lift Duplex
- FLQ: Free Lift Quadruplex
- FLT: Free Lift Triplex
- FR : Wrapover Forks (Fourches Recouvrantes)
- FVD: Full Visibility Duplex
- FVT: Full Visibility Triplex
- GPF: Counterbalanced stacker (Gerbeur porte-à-faux)
- HD: Heavy Duty
- HL: High Lift
- HF: High Frequency
- LI: Initial Lift (Levée Initiale)
- LE: Straddle Legs (Longerons Encadrants)
- PPS: Pneus Plein Souple
- PU: Polyurethane
- SL: Lateral Battery Exchange (Sortie Latérale)
- VNA: Very Narrow Aisle

