HYUNDAI
MATERIAL HANDLING

**Head Office (Sales office)**
First tower, 55, Bundang-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea

**PLEASE CONTACT**

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# Hyundai Warehouse Equipment

Electric Pallet truck, Electric Stacker and Manual Hand Pallet Truck

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■ photo may include optional equipment.

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MATERIAL HANDLING

Electric Pallet truck

# 15/18/20EP




■ photo may include optional equipment.

## Standard Configurations

### 15EP

- Lifting Capacity : 1,500kg
- DC Brushless Drive Motor 0.9kW
- Lifting Motor : 0.8kW
- Drive Wheel : Φ195x70mm
- Double Fork wheel :Φ80x70mm
- Hourmeter, Battery Discharge Indicator (BDI) & lift cut off
- Overall Fork Width x Length : 550mm x 1,150mm
- Turtle mode switch
- Built-in Charger
- Curtis Tiller with Convenient Control buttons
- Emergency switch
- Belly switch

### 18EP

- Lifting Capacity : 1,800kg
- AC Drive Motor 1.2kW
- Lift motor 1.2kW
- Curtis controller
- Drive wheel : Φ250x70mm
- Double Fork wheel :Φ80x70mm
- Hourmeter, Battery Discharge Indicator (BDI) & lift cut off
- Overall Fork Width x Length : 550mm x 1,150mm
- Turtle mode switch
- Curtis Tiller with Convenient Control buttons
- Side Battery Removal
- Emergency switch
- Belly switch

### 20EP

- Lifting Capacity : 2,000kg
- AC Drive Motor 1.2kW
- Lift motor 1.2kW
- Curtis controller
- Drive wheel : Φ250x70mm
- Double Fork wheel :Φ82x98mm
- Hourmeter, Battery Discharge Indicator (BDI) & lift cut off
- Overall Fork Width x Length : 550mm x 1,150mm
- Turtle mode switch
- Curtis Tiller with Convenient Control buttons
- Side Battery Removal
- Emergency switch
- Belly switch

## Advantages

### SAFETY AND PRODUCTIVITY

- Advanced AC control system eliminats directional contactors, which brings minimal maintenance requirements. (18/20EP Only)
- Intelligentized regenerative brake system: increase overall truck performance.
- Side-way battery with roll-out system. (18/20EP Only)
- Emergency switch.
- Turtle mode switch
- Proportional Travel speed control.
- Belly switch.

### STRUCTURAL

- The motor structure is water-proof and dust-proof(IP 44)
- Spring-loaded castors improve lateral stability on uneven floors and enhance truck performance and service life.
- Welded type fork

### SERVICEABILITY

- CANbus technology reduces wiring complexity.
- All pivot points have grease fitting and serviceable to reduce component-wearing

## Tiller Head



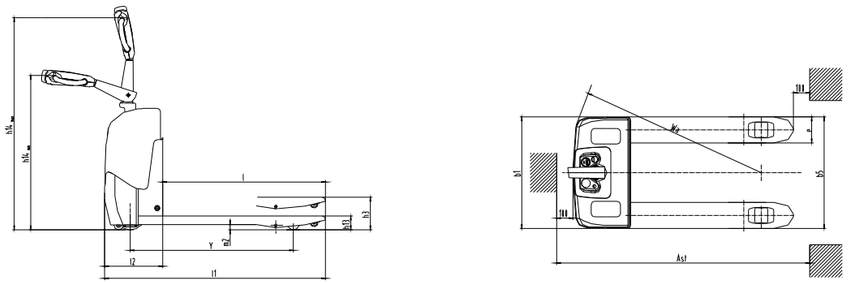
Curtis Tiller with convenient control buttons (standard)



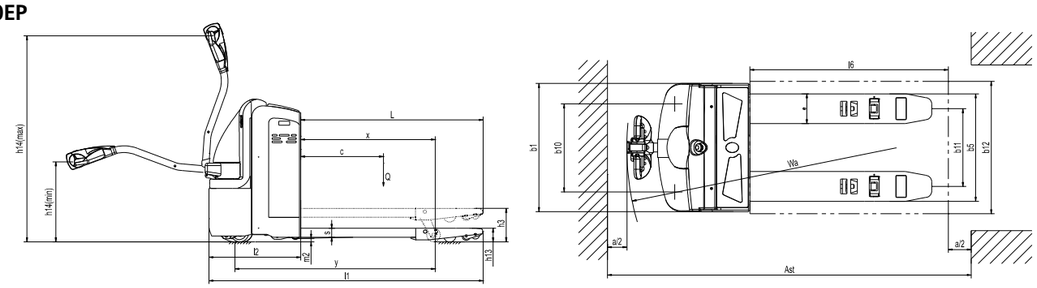
Germany Frei Tiller (option)

## Dimension

**15EP**




**18/20EP**




## Option

**15EP**

- Load backrest 1220mm
- Fork length (mm)
  900,1000,1150
- German Frei Tiller
- Single Fork Wheel (∅80x93mm)
- Overall Fork width x length : 520x1,150mm

**18EP**

- Single Fork Wheel (∅82x98mm)
- Cold Storage Specifications -18℃
- Battery (24V/160Ah)
- Integrated Charger (24V/15A)
- Separate Charger (24V/15A)
- Foot protection strip
- Key pad ignition
- Load backrest 1220mm
- Fork length(mm)
  800, 900, 1000, 1150, 1220, 1600, 1800, 2400mm
  (1800, 2400 : rated load capacity 1.5t )
- German Frei Tiller

**20EP**

- Single Fork Wheel (∅82x126mm)
- Battery (24V/210Ah)
- Battery (24V/240Ah)
- Integrated Charger (24V/20A)
- Separate Charger (24V/30A)
- Battery trolly
- Cold Storage Specifications -18℃
- Foot protection strip
- Key pad ignition
- Load backrest 1220mm
- Fork length(mm)
  800, 900, 1000, 1600, 1800, 2400mm
  (1,800, 2,400 : rated load capacity 1.5t )
- German Frei Tiller
- Overall Fork width x length : 550X1150mm

## Specifications (according to VDI 2198)

| | | | | | | |
|---|---|---|---|---|---|---|
| **Characteristics** | | | | | | |
| 1.1 | Manufacturer(abbreviation) | | | Hyundai | Hyundai | Hyundai |
| 1.2 | Model | | | 15EP | 18EP | 20EP |
| 1.3 | Drive type | | | electric | electric | electric |
| 1.4 | Operator type | | | pedestrian | pedestrian | pedestrian |
| 1.5 | Load capacity/rated load | Q | kg | 1500 | 1800 | 2000 |
| 1.6 | Load center distance | c | mm | 600 | 600 | 600 |
| 1.8 | Load distance | x | mm | 886 | 856 | 865 |
| 1.9 | Wheelbase | y | mm | 1152 | 1200 | 1261 |
| **Weight** | | | | | | |
| 2.1 | Service weight(with battery) | | kg | 230 | 520 | 620 |
| 2.2 | Axle load, front/rear, laden | | kg | 442/1288 | 720/1600 | 1170/1450 |
| 2.3 | Axle load, front/rear, unladen | | kg | 200/30 | 420/100 | 470/150 |
| **Wheels/Chassis** | | | | | | |
| 3.1 | Tyres: solud rubber, superelastic, pneumatic, polyurethane | | | polyurethane | polyurethane | polyurethane |
| 3.2 | Tyre size, front | | | Φ195x70 | Φ250x70 | Φ250x70 |
| 3.3 | Tyre size, rear | | | Φ80x 70 | Φ80x70 | Φ82x98 |
| 3.4 | Additional wheels(dimensions) | | | Φ60x35 | Φ114x60 | Φ127x57 |
| 3.5 | Wheels number, front/rear ( x = driven wheels ) | | | 1x2/4 | 1x+2/4 | 1x+2/4 |
| 3.6 | Tread, front | b10 | mm | 195 | 476 | 510 |
| 3.7 | Tread, rear | b11 | mm | 390 | 400 | 370 |
| **Dimension** | | | | | | |
| 4.4 | Lift height | h3 | mm | 105/115 | 120 | 120 |
| 4.9 | Min. /Max. height of operation handle, in driving position | h14 | mm | 950/1310 | 780/1230 | 780/1230 |
| 4.15 | Height, lowered | h13 | mm | 85/75 | 84 | 82 |
| 4.19 | Overall length | l1 | mm | 1525 | 1651 | 1705 |
| 4.20 | Length to fork face | l2 | mm | 373 | 500 | 555 |
| 4.21 | Overall width of truck body | b1 | mm | 685 | 682 | 775 |
| 4.22 | Fork dimension | s/e/l | mm | 53/160/1150 | 54/150/1150 | 54/180/1150 |
| 4.25 | Overall width of fork | b5 | mm | 550 | 550 | 550 |
| 4.32 | Wheelbase ground distance | m2 | mm | 32/22 | 28 | 28 |
| 4.33 | Aisle width, with pallet 1000x1200 crosswise | Ast | mm | 1725 | 1863 | 2065 |
| 4.34 | Aisle width, with pallet 800x1200 lengthwise | Ast | mm | 1775 | 1913 | 2115 |
| 4.35 | Turning radius | Wa | mm | 1347 | 1367 | 1450 |
| **Performance Data** | | | | | | |
| 5.1 | Traveling speed, laden/unladen | | km/h | 5.8/6.0 | 5.8/6.0 | 5.8/6.0 |
| 5.2 | Lifting speed, laden/unladen | | m/s | 0.035/0.045 | 0.06/0.11 | 0.039/0.056 |
| 5.3 | Lowering speed, laden/unladen | | m/s | 0.08/0.037 | 0.12/0.13 | 0.064/0.050 |
| 5.7 | Gradeability, laden/unladen | | % | 5/15 | 8/20 | 6/12 |
| 5.10 | Traveling brake | | | electromagnetic brake | electromagnetic brake | electromagnetic brake |
| **Motor** | | | | | | |
| 6.1 | Driving motor power | | kW | 0.9 | 1.2 | 1.2 |
| 6.2 | Lifting motor power | | kW | 0.8 | 1.2 | 1.2 |
| 6.4 | Battery voltage/rated capacity | | V/Ah | 24/80 | 24/160 | 24/210 |
| 6.5 | Battery weight | | kg | 49 | 160 | 196 |

Electric Pallet truck(Rider Type)

# 20/25EPR




■ photo may include optional equipment.

## Standard Configurations

### 20EPR

- Lifting Capacity : 2,000kg
- AC Drive Motor : 1.5kW
- Lift motor 1.2kW
- Curtis controller
- Drive wheel : 250x80mm
- Double Fork wheel : Φ82x98mm
- Hourmeter, battery discharge indicator (BDI) & lift cut off
- Overall Fork Width x Length : 550mm x 1,150mm
- Turtle mode switch
- Curtis Tiller with Covenient Control Buttons
- EPS(Electric Power Steering)
- With Platfrom
- Side Battery Removal

### 25EPR

- Lifting Capacity : 2,500kg
- AC Drive Motor : 1.5kW
- Lift motor 1.2kW
- Curtis controller
- Drive wheel : 250x80mm
- Double Fork wheel : Φ82x98mm
- Hourmeter, battery discharge indicator (BDI) & lift cut off
- Overall Fork Width x Length : 550mm x 1,150mm
- Turtle mode switch
- Curtis Tiller with Covenient Control Buttons
- EPS(Electric Power Steering)
- With Platfrom
- Side Battery Removal

## Advantages

### SAFETY AND PRODUCTIVITY

- Advanced AC control system eliminats directional contactors, which makes the minimal maintenance requirements.
- Intelligentized regenerative brake system: increase overall truck performance.
- Side-way battery with roll-out system.
- Belly switch.
- Emergency switch.
- Turtle mode switch
- Proportional Travel speed control.

### STRUCTURAL

- The motor structure is water-proof and dust-proof(IP 44)
- Spring-loaded castors improve lateral stability on uneven floors and enhance truck performance and service life.
- Welded type fork.

### SERVICEABILITY

- CANbus technology reduces wiring complexity.
- All pivot points have grease fitting and serviceable bushing, to reduce component-wearing.

## Tiller Head

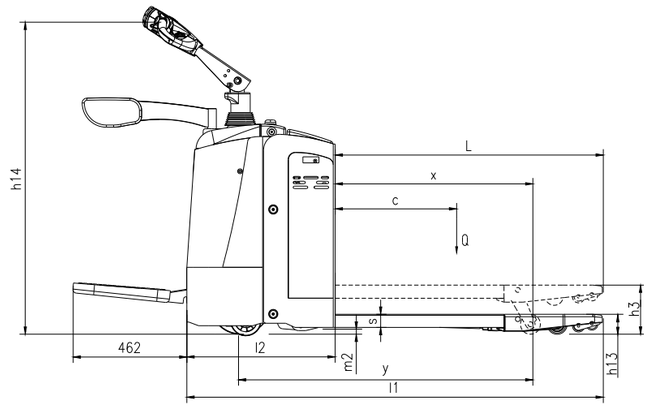


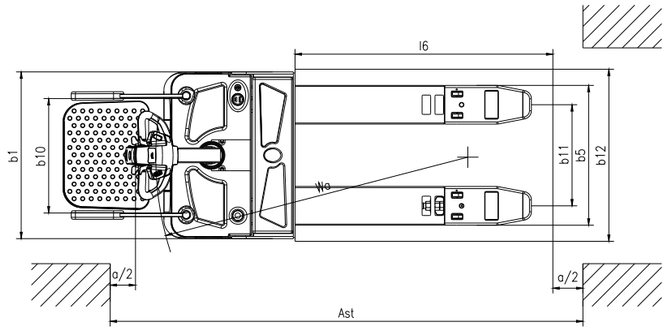
Curtis Tiller with convenient control buttons (standard)



Germany Frei Tiller (option)

## Dimension




## Option

- 7km/h of Drive Speed (1.2kW Drive motor)
- Single Fork Wheel : Φ82×126mm
- Battery (24V/210Ah - 20EPR)
- Battery (24V/240Ah - 20EPR, 25EPR)
- Battery (24V/400Ah - 20EPR, 25EPR)
- Enlarged Battery Compartment for 400Ah Battery
- Integrated charger (24V/20A)
- Separate charger (24V/30A)
- Separate charger (24V/50A for 400Ah Battery)
- Cold storage Specifications -18℃
- Key pad ignition
- German Frei Tiller
- Load backrest 1,220mm
- Without EPS
- Battery trolly
- Fork length(mm)
  800, 900, 1000, 1220(25EPR ONLY), 1600, 1800, 2400
  (1800, 2400 : rated load capacity 1.5t )
- Overall Fork width×length : 550mm×1150mm

## Specifications (according to VDI 2198)

| | | | | | |
|---|---|---|---|---|---|
| **Characteristics** | | | | | |
| 1.1 | Manufacturer(abbreviation) | | | Hyundai | Hyundai |
| 1.2 | Model | | | 20EPR | 25EPR |
| 1.3 | Drive type | | | Electric | Electric |
| 1.4 | Operator type | | | standing | standing |
| 1.5 | Load capacity/rated load | Q | kg | 2000 | 2500 |
| 1.6 | Load center distance | c | mm | 600 | 600 |
| 1.8 | Load distance | x | mm | 865 | 865 |
| 1.9 | Wheelbase | y | mm | 1261 | 1261 |
| **Weight** | | | | | |
| 2.1 | Service weight(with battery) | | kg | 710 | 750 |
| 2.2 | Axle load, front/rear, laden | | kg | 1300/1410 | 1300/1410 |
| 2.3 | Axle load, front/rear, unladen | | kg | 600/110 | 600/110 |
| **Wheels/Chassis** | | | | | |
| 3.1 | Tyres: solud rubber, superelastic, pneumatic, polyurethane | | | polyurethane | polyurethane |
| 3.2 | Tyre size, front | | | Φ250×80 | Φ250×80 |
| 3.3 | Tyre size, rear | | | Φ82×98 | Φ82×98 |
| 3.4 | Additional wheels(dimensions) | | | Φ127×57 | Φ127×57 |
| 3.5 | Wheels number, front/rear ( x = driven wheels ) | | | 1X+2/4 | 1X+2/4 |
| 3.6 | Tread, front | b10 | mm | 490 | 490 |
| 3.7 | Tread, rear | b11 | mm | 370 | 370 |
| **Dimension** | | | | | |
| 4.4 | Lift height | h3 | mm | 120 | 120 |
| 4.9 | Min. /Max. height of operation handle, in driving position | h14 | mm | 1150/1430 | 1150/1430 |
| 4.15 | Height, lowered | h13 | mm | 82 | 82 |
| 4.19 | Overall length | l1 | mm | 1760 | 1760 |
| 4.20 | Length to fork face | l2 | mm | 723 | 723 |
| 4.21 | Overall width of truck body | b1 | mm | 733 | 733 |
| 4.22 | Fork dimension | s/e/l | mm | 1150 | 1150 |
| 4.25 | Overall width of fork | b5 | mm | 550 | 550 |
| 4.32 | Wheelbase ground distance | m2 | mm | 30 | 30 |
| 4.33 | Aisle width, with pallet 1000x1200 crosswise | Ast | mm | 2135/2185/2255 | 2135/2185/2255 |
| 4.34 | Aisle width, with pallet 800x1200 lengthwise | Ast | mm | 2235/2235/2255 | 2235/2235/2255 |
| 4.35 | Turning radius | Wa | mm | 1700/1750/1820 | 1700/1750/1820 |
| **Performance Data** | | | | | |
| 5.1 | Traveling speed, laden/unladen | | km/h | 6.1/9.0 | 6.1/9.0 |
| 5.2 | Lifting speed, laden/unladen | | m/s | 0.03/0.032 | 0.03/0.032 |
| 5.3 | Lowering speed, laden/unladen | | m/s | 0.032/0.03 | 0.032/0.03 |
| 5.7 | Gradeability, laden/unladen | | % | 4/8 | 3/8 |
| 5.8 | Max. gradeability, laden/unladen | | % | 8/20 | 6/20 |
| 5.10 | Traveling brake | | | electromagnetic brake | electromagnetic brake |
| **Motor** | | | | | |
| 6.1 | Driving motor power | | kW | 1.5 | 1.5 |
| 6.2 | Lifting motor power | | kW | 1.5 | 1.5 |
| 6.4 | Battery voltage/rated capacity | | kg | 24/210 | 24/240 |
| 6.5 | Battery weight | | kg | 210 | 240 |

Electric Pallet truck(Rider Type)

# 30EPCR




■ photo may include optional equipment.

## Standard Configurations

### 30EPCR

- Lifting Capacity : 3,000kg
- AC Drive Motor 2.2KW
- Lifting Motor 1.5kW
- Curtis controller 1234
- With DC steering controller CURTIS 1220
- Drive wheel : 250x80mm (With EPS)
- Front wheel size 82x173mm
- Hourmeter, battery discharge indicator (BDI) & Limiter with lift cut off
- Fork Length 1220mm
- German Frei tiller(Normal)
- Side Battery Removal
- Without Battery / Charger
- With EPS(Electric Power Steering, Curtis steering controller)

## Advantages

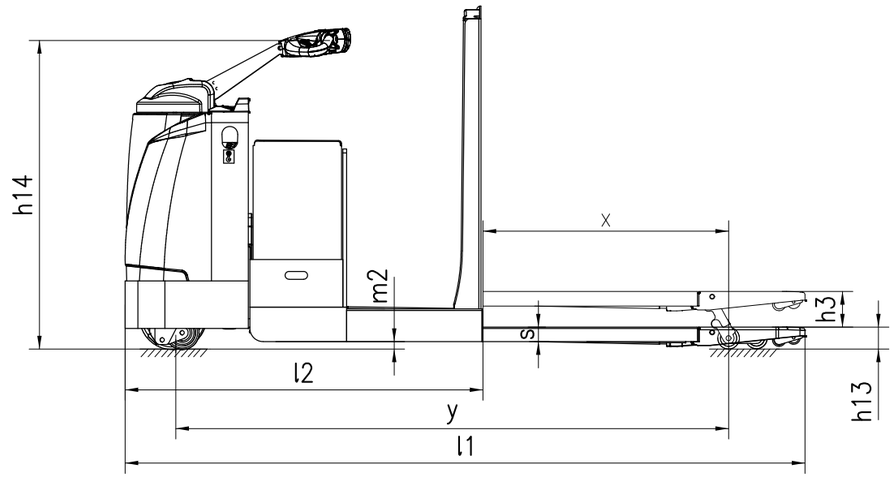
### SAFETY AND PRODUCTIVITY

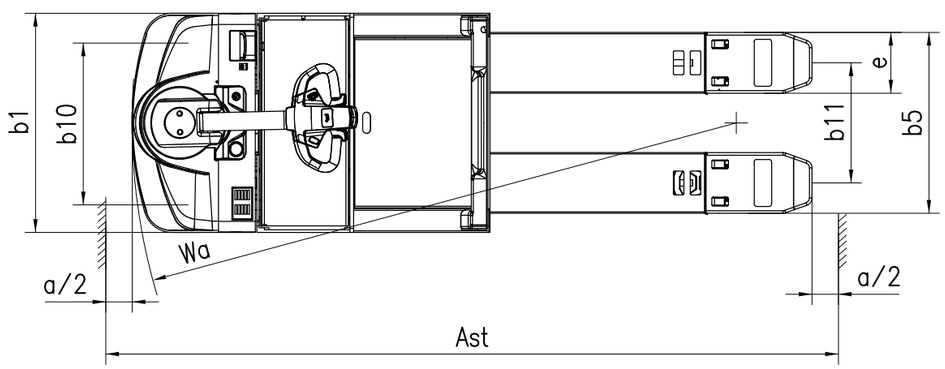
- Warning lights with buzz to increase the safety of operations (Option)
- Advanced electric power steering (EPS), with flexible and comfortable steering, automatic speed reduction function when turning. Comfortable for driving and controlling.
- Buffered stand on platform is with ergonomic backrest and anti-shock function to avoid operator fatigue.
- Easy & simple to operate, making handling operations more easier and efficient.
- Lifting/Lowering buttons are mounted on the backrest, easy for handling operation.
- Has a sliding control function, when the switch is turned on, releasing the accelerator and leave the driving position, the truck can keep driving straight for a distance slowly, easy for picking up goods. This feature can also be turned off by the switch.
- Powerful drive motor and control system making the truck with strong momentum. Fully laden with 9Km/h maximum speed, fully laden with 10% climbing ability.

### SERVICEABILITY

- With large capacity battery, side way battery ensure the battery quick replacement, to meet the high intensity of the handling operations.

## Dimension




## Option

- Battery (24V/560Ah) (Chinese)
- Battery Trolly
- Separate Charger (Outside, 24V/70A)
- Fork length : 1,220(STD)/1,500/2,440/3,660
- Non-Marking Rubber Drive Tire
- Cold Storage specification -18℃
- Without EPS
- Storage Tray for Tools (Battery Compartment Mounted)
- With Beacon Lamp
- With Electronic Travel Alarm (Forward and Reverse "bee")
- Lifting and Lowering Switch on the back side
- With On-Off Sliding Switch
- With Load backrest(mm) : 1,525/1,830

## Specifications (according to VDI 2198)

| | | | | |
|---|---|---|---|---|
| **Characteristics** | | | | |
| 1.1 | Manufacturer(abbreviation) | | | Hyundai |
| 1.2 | Model | | | 30EPCR |
| 1.3 | Drive type | | | Electric |
| 1.4 | Operator type | | | Standing |
| 1.5 | Load capacity/rated load | Q | kg | 3000 |
| 1.6 | Load center distance | c | mm | 600 |
| 1.8 | Load distance | x | mm | 1036/933 |
| 1.9 | Wheelbase | y | mm | 2115 |
| **Weight** | | | | |
| 2.1 | Service weight(with battery) | | kg | 1150 |
| 2.2 | Axle load, front/rear, laden | | kg | 1390/2760 |
| 2.3 | Axle load, front/rear, unladen | | kg | 860/290 |
| **Wheels/Chassis** | | | | |
| 3.1 | Tires | | | PU |
| 3.2 | Tire size, Front | | | φ 250×80 |
| 3.3 | Tire size, Rear | | | φ 82×173 |
| 3.4 | Additional wheel(dimension) | | | φ 127×57 |
| 3.5 | Wheels, number front/rear (x=driving wheel) | | | 1X+2/2 |
| 3.6 | Tread, front | b10 | mm | 620 |
| 3.7 | Tread, rear | b11 | mm | 455 |
| **Dimension** | | | | |
| 4.4 | Lift height | h3 | mm | 135 |
| 4.9 | Height of operation handle, in driving position min./max. | h14 | mm | 1070/1370 |
| 4.15 | Height, lowered | h13 | mm | 82 |
| 4.19 | Overall length | l1 | mm | 2570 |
| 4.20 | Length to fork face | l2 | mm | 1350 |
| 4.21 | Overall width of truck body | b1 | mm | 823 |
| 4.22 | Fork dimension | s/e/l | mm | 55x230x1220 |
| 4.25 | Overall width of fork | b5 | mm | 685 |
| 4.32 | Ground clearance, center of wheelbase | m2 | mm | 27 |
| 4.33 | Aisle width, with pallet 1000x1200 crosswise | Ast | mm | 3093 |
| 4.34 | Aisle width, with pallet 800x1200 lengthwise | Ast | mm | 2970 |
| 4.35 | Turning radius | Wa | mm | 2290 |
| **Performance Data** | | | | |
| 5.1 | Traveling speed, laden/unladen | | km/h | 8/9 |
| 5.2 | Lifting speed, laden/unladen | | m/s | 0.025/0.035 |
| 5.3 | Lowering speed, laden/unladen | | m/s | 0.03/0.03 |
| 5.7 | Gradeability, laden/unladen | | % | 6/8 |
| 5.8 | Max. gradeability, laden/unladen | | % | 8/20 |
| 5.10 | Traveling brake | | | Regenerative brake |
| **Motor** | | | | |
| 6.1 | Driving motor power | | kW | 2.2 |
| 6.2 | Lifting motor power | | kW | 1.5 |
| 6.4 | Battery voltage/rated capacity | | kg | 24/560 |
| 6.5 | Battery weight | | kg | 559 |
| 6.7 | Battery dimension (L x W x H) | | kg | 780x335x625 |
| **Other details** | | | | |
| 8.4 | Noise level at operator's ear, according to DIN12053 | dB | A | 70 |

Electric Pallet Truck with Double Pallet(Rider Type)

# 20EDPR




■ photo may include optional equipment.

## Standard Configurations

### 20EDPR

- Lifting Capacity : 2,000kg
- AC Drive Motor 1.5kW
- Lift motor 2.2kW
- Curtis controller
- Drive wheel : Φ250x80mm
- Double Fork wheel : Φ80x70mm
- Triplex 2.5 m MFH Mast
- Turtle mode switch
- With Platform
- Hourmeter, battery discharge indicator (BDI) with lift cut off
- Overall Fork Width x Length : 570 x 1,150mm
- German Frei tiller
- Side Battery Removal
- EPS (Electric Power Steering)
- German Frei tiller with Covenient control Battons
- Initial Lift (120mm)

## Advantages

### SAFETY AND PRODUCTIVITY

- Advanced AC control system eliminats directional contactors, which makes the minimal maintenance requirements.
- Intelligentized regenerative brake system.
- Platform with sensor + suspension system.
- Emergency switch.
- Belly Switch.
- Multi function display with BDI( battery discharge indicator ) and working hours.
- 20% max gradeability.
- Electric Power Steering system (EPS), makes truck steering very smoothly and light .

### STRUCTURAL

- Hard steel rear cover, anti-collision, easy disassembly, provides convenient access to all component.
- Only 90mm lowered fork height.
- The motor structure is water-proof and dust-proof(IP 44).
- Side-way battery with roll-out system.

### SERVICEABILITY

- Easy replacement and maintenance for the traction wheel.

## Tiller Head

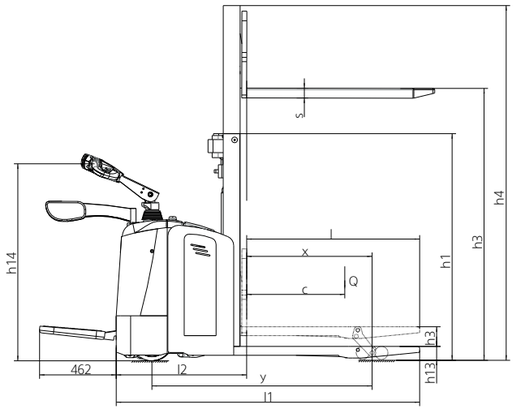


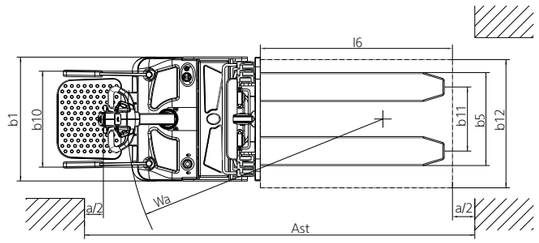
Germany Frei Tiller (Standard)
with convenient contol buttons



Germany Frei Tiller (Option)

## Dimension



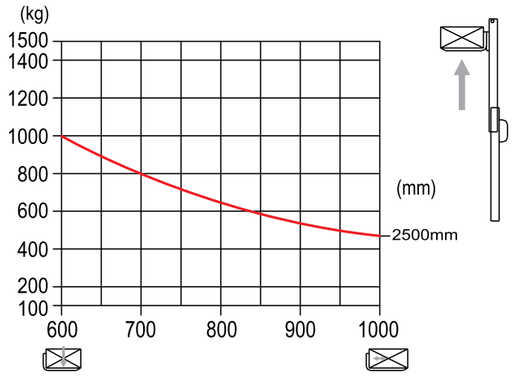

## Option

- Battery (24V/240Ah)
- Separate Charger (24V/30A)
- Cold storage Specifications -18°C
- Key pad ignition
- Battery trolly
- Fork length(mm)
  800, 900, 1,000, 1,220
- Mast : Triplex 1.6m, 2.0m MFH
- German Frei tiller (Normal)
- lifting sensor switch to limit height (1.8m)

## Mast Specifications

| Mast Ref. | Lift Height | | Overall Height | | Service Weight (kg) | Residual Capacity (kg) |
|---|---|---|---|---|---|---|
| | Max. (mm) h3 | Free lift (mm) - | Lowered (mm) h1 | Extended (mm) h4 | | |
| Triplex mast with free lift (1.6m MFH) | 1.6 | N/A | 1082 | 2118 | 1130 | 2000 |
| Triplex mast with free lift (2.0m MFH) | 2 | N/A | 1212 | 2508 | 1130 | 2000 |
| Triplex mast with free lift (2.5m MFH) | 2.5 | N/A | 1382 | 3018 | 1130 | 2000 |

## Lifting Capacity




## Specifications (according to VDI 2198)

| | | | | |
|---|---|---|---|---|
| **Characteristics** | | | | |
| 1.1 | Manufacturer(abbreviation) | | | Hyundai |
| 1.2 | Model | | | 20EDPR |
| 1.3 | Drive type | | | electric |
| 1.4 | Operator type | | | standing |
| 1.5 | Load capacity/rated load | Q | kg | 2000 |
| 1.6 | Load center distance | c | mm | 600 |
| 1.8 | Load distance | x | mm | 767 |
| 1.9 | Wheelbase | y | mm | 1348 |
| **Weight** | | | | |
| 2.1 | Service weight(with battery) | | | 1130 |
| 2.2 | Axle load, front/rear, laden | | | 1090/2040 |
| 2.3 | Axle load, front/rear, unladen | | | 840/290 |
| **Wheels/Chassis** | | | | |
| 3.1 | Tyres: solud rubber, superelastic, pneumatic, polyurethane | | | polyurethane |
| 3.2 | Tyre size, front | | | Φ250×80 |
| 3.3 | Tyre size, rear | | | Φ80×70 |
| 3.4 | Additional wheel(dimension) | | | Φ127×57 |
| 3.5 | Wheels number, front/rear ( x = driven wheels ) | | | 1X+2/4 |
| 3.6 | Tread, front | b10 | mm | 490 |
| 3.7 | Tread, rear | b11 | mm | 400/470 |
| **Dimension** | | | | |
| 4.2 | Height of mast, lowered | h1 | mm | See mast Specifications |
| 4.4 | Lift height | h3 | mm | See mast Specifications |
| 4.5 | Max. height of mast, extended | h4 | mm | See mast Specifications |
| 4.7 | Lifting height for leg | h5 | mm | 120 |
| 4.9 | Min. /Max. height of operation handle, in driving position | h14 | mm | 1150/1430 |
| 4.15 | Height, lowered | h13 | mm | 90 |
| 4.19 | Overall length | l1 | mm | 1948 |
| 4.20 | Length to fork face | l2 | mm | 798 |
| 4.21 | Overall width of truck body | b1 | mm | 775 |
| 4.22 | Fork dimension | s/e/l | mm | 54×180×1150 |
| 4.25 | Overall width of fork | b5 | mm | 580/650 |
| 4.32 | Wheelbase ground distance | m2 | mm | 28 |
| 4.33 | Aisle width, with pallet 1000x1200 crosswise | Ast | mm | 2098/2148 |
| 4.34 | Aisle width, with pallet 800x1200 lengthwise | Ast | mm | 2198 |
| 4.35 | Turning radius | Wa | mm | 1600 |
| **Performance Data** | | | | |
| 5.1 | Traveling speed, laden/unladen | | km/h | 6.2/9.0 |
| 5.2 | Lifting speed, laden/unladen | | m/s | 0.11/0.19 |
| 5.3 | Lowering speed, laden/unladen | | m/s | 0.16/0.11 |
| 5.7 | Gradeability, laden/unladen | | % | 6/12 |
| 5.8 | Max. gradeability, laden/unladen | | % | 8/20 |
| 5.10 | Traveling brake | | | electromagnetic braking |
| **Motor** | | | | |
| 6.1 | Driving motor power | | kW | 1.5 |
| 6.2 | Lifting motor power | | kW | 2.2 |
| 6.4 | Battery voltage/rated capacity | | V/Ah | 24/240 |
| 6.5 | Battery weight | | Kg | 235 |

Electric Stacker

# 10/12/15ES




■ photo may include optional equipment.

## Standard Configurations

### 10ES

- Lifting Capacity : 1,000kg
- AC Drive Motor 1.2kW / Lift motor 2.2kW
- Curtis controller
- Drive wheel : Φ250x70mm
- Double Fork wheel : Φ80x70mm
- Hourmeter, battery discharge indicator(BDI) & lift cut off
- Duplex 3.0m MFH Mast without free lift
- Overall Fork Width x Length : 570mm x 1,150mm
- Turtle mode switch
- Curtis Tiller with Covenient Control Buttons
- Side Battery Removal

### 12ES

- Lifting Capacity : 1,200kg
- AC Drive Motor 1.2kW / Lift motor 2.2kW
- Curtis controller
- Drive wheel : Φ250x70mm
- Double Fork wheel : Φ80x70mm
- Hourmeter, battery discharge indicator(BDI) & lift cut off
- Duplex 3.0m MFH Mast without free lift
- Overall Fork Width x Length : 570mm x 1,150mm
- Turtle mode switch
- Curtis Tiller with Covenient Control Buttons
- Side Battery Removal

### 15ES

- Lifting Capacity : 1,500kg
- AC Drive Motor 1.5kW / Lift motor 3.2kW
- Curtis controller
- Drive wheel : Φ250x70mm
- Double Fork wheel : Φ84x80mm
- Hourmeter, battery discharge indicator(BDI) & lift cut off
- Duplex 3.0m MFH Mast with free lift
- Overall Fork Width x Length : 570mm x 1,150mm
- Turtle mode switch
- German Frei Tiller with Covenient Control Buttons
- Proportional Lifting
- Automatic Drive speed reduction (lifting over 1.8m)
- Side Battery Removal

## Advantages

### SAFETY AND PRODUCTIVITY

- Advanced AC control system eliminats directional contactors, which brings minimal maintenance requirements.
- Intelligentized regenerative brake system.
- Multi-function display with BDI and hour meter etc.
- Belly switch.
- Emergency switch.
- Propotional Travel speed control.
- Lift limit switch to shut off pump motor at the max. lifting height.
- Vertical drive motor has a small turning radius.
- The motor structure is water-proof and dust-proof(IP 44).

### SERVICEABILITY

- CANbus technology reduces wiring complexity and increase reliability.
- Side-way battery with roll-out system.

## Tiller Head



Curtis Tiller with convenient control buttons
(Standard for 10/12ES only)

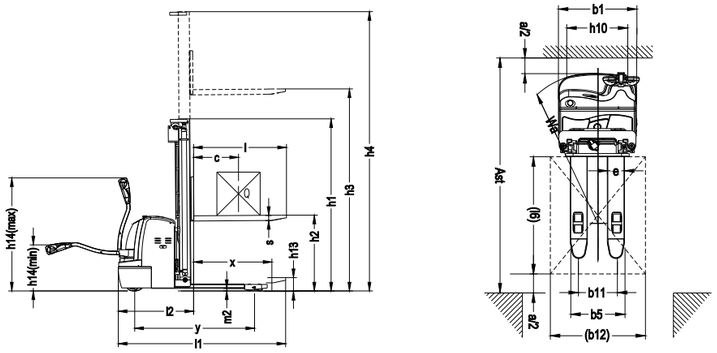


Germany Frei Tiller
with convenient contol buttons
(Standard for 15ES only)



Normal Germany Frei Tiller (option)

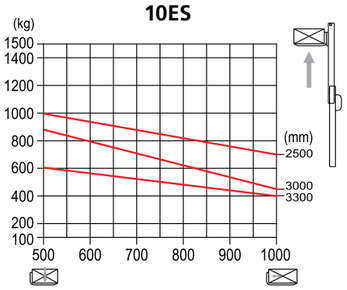
## Dimension

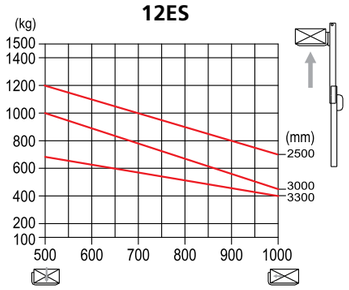


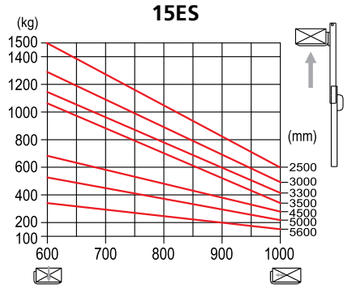




## Lifting capacity




## Option

- Battery
  10/12 ES : (24V/120Ah)
  15 ES : (24V/300Ah)
- Integrated Charger (Built-In)
  10/12 ES : (24V/15A)
  15 ES : (24V/40A)
- Separate Charger
  10/12 ES : (24V/15A)
  15 ES : (24V/40A)
- Key pad ignition
- Battery trolley (15ES only)
- Fork length(mm)
  10/12/15 ES : 800, 900, 1000, 1220
- Germal Feri Tiller (Nomal)
- Germal Feri Tiller with big button (including initial lifting button) (15ES)
- Cold Storage Specifications -18°C
- Initial Lift (15ES)

## Mast Specifications

| Mast Ref. | | Lift Height | | Overall Height | | Service Weight (kg) | Residual Capacity (kg) |
|---|---|---|---|---|---|---|---|
| | | Max. (mm) h3 | Free lift (mm) - | Lowered (mm) h1 | Extended (mm) h4 | | |
| 10ES | Duplex 2.5m MFH Mast without free lift | 2.5 | N/A | 1837 | 3087 | 730 | 1000 |
| | Duplex 3.0m MFH Mast without free lift * | 3.0 | N/A | 2087 | 3587 | 750 | 750 |
| | Duplex 3.3m MFH Mast without free lift | 3.3 | N/A | 2237 | 3887 | 770 | 550 |
| 12ES | Duplex 2.5m MFH Mast without free lift | 2.5 | N/A | 1837 | 3087 | 750 | 1200 |
| | Duplex mast with free lift (2.9m MFH) | 2.9 | N/A | 2000 | 3415 | 790 | 1000 |
| | Duplex 3.0m MFH Mast without free lift * | 3.0 | N/A | 2087 | 3587 | 770 | 1000 |
| | Duplex 3.3m MFH Mast without free lift | 3.3 | N/A | 2237 | 3887 | 790 | 700 |
| 15ES | Duplex mast without free lift (2.5m MFH) | 2.5 | N/A | 1735 | 2955 | 1040 | 1500 |
| | Duplex mast without free lift (3.0m MFH) | 3.0 | N/A | 1985 | 3455 | 1160 | 1300 |
| | Duplex mast without free lift (3.3m MFH) | 3.3 | N/A | 2135 | 3755 | 1180 | 1150 |
| | Duplex mast without free lift (3.5m MFH) | 3.5 | N/A | 2235 | 3955 | 1200 | 1100 |
| | Duplex mast with free lift (2.5m MFH) | 2.5 | 1300 | 1735 | 2955 | 1080 | 1500 |
| | Duplex mast with free lift (3.0m MFH) * | 3.0 | 1550 | 1985 | 3455 | 1200 | 1300 |
| | Duplex mast with free lift (3.3m MFH) | 3.3 | 1700 | 2135 | 3755 | 1220 | 1150 |
| | Duplex mast with free lift (3.5m MFH) | 3.5 | 1800 | 2235 | 3955 | 1240 | 1100 |
| | Triplex mast with free lift (4.3m MFH) | 4.3 | 1500 | 1990 | 4870 | 1370 | 600 |
| | Triflex mast with free lift (4.5m MFH) | 4.5 | 1570 | 2050 | 5070 | 1405 | 700 |
| | Triflex mast with free lift (5.0m MFH) | 5.0 | 1740 | 2210 | 5550 | 1450 | 500 |
| | Triflex mast with free lift (5.6m MFH) | 5.6 | 1940 | 2410 | 6150 | 1490 | 350 |

* : Standard

## Specifications (according to VDI 2198)

| | | | | | | |
|---|---|---|---|---|---|---|
| **Characteristics** | | | | | | |
| 1.1 | Manufacturer(abbreviation) | | | Hyundai | Hyundai | Hyundai |
| 1.2 | Model | | | 10ES | 12ES | 15ES |
| 1.3 | Drive type | | | electric | electric | electric |
| 1.4 | Operator type | | | pedestrian | pedestrian | pedestrian |
| 1.5 | Load capacity/rated load | Q | kg | 1000 | 1200 | 1500 |
| 1.6 | Load center distance | c | mm | 500 | 500 | 600 |
| 1.8 | Load distance | x | mm | 697 | 697 | 697 |
| 1.9 | Wheelbase | y | mm | 1335 | 1335 | 1383 |
| **Weight** | | | | | | |
| 2.1 | Service weight(with battery) | | kg | See mast Specifications | | |
| 2.2 | Axle load, front/rear, laden | | kg | 950/770 | 1060/870 | 1470/1310 |
| 2.3 | Axle load, front/rear, unladen | | kg | 555/165 | 560/170 | 900/380 |
| **Wheels/Chassis** | | | | | | |
| 3.1 | Tyres: solud rubber, superelastic, pneumatic, polyurethane | | | polyurethane | | |
| 3.2 | Tyre size, front | | | Φ250×70 | Φ250×70 | Φ250×70 |
| 3.3 | Tyre size, rear | | | Φ80×70 | Φ80×70 | Φ80×84 |
| 3.4 | Additional wheel(dimension) | | | Φ150×60 | Φ150×60 | Φ150×60 |
| 3.5 | Wheels number, front/rear ( x = driven wheels ) | | | 1x+1/4 | 1x+1/4 | 1x+1/4 |
| 3.6 | Tread, front | b10 | mm | 520 | 520 | 520 |
| 3.7 | Tread, rear | b11 | mm | 410/525 | 410/525 | 404/525 |
| **Dimension** | | | | | | |
| 4.2 | Height of mast, lowered | h1 | mm | See mast Specifications | | |
| 4.3 | Free lift height( optional) | | | See mast Specifications | | |
| 4.4 | Lift height | h3 | mm | See mast Specifications | | |
| 4.5 | Max. height of mast, extended | h4 | mm | See mast Specifications | | |
| 4.9 | Min. /Max. height of operation handle, in driving position | h14 | mm | 670/1300 | 670/1300 | 670/1300 |
| 4.15 | Height, lowered | h13 | mm | 90 | 90 | 90 |
| 4.19 | Overall length | l1 | mm | 1965 | 1965 | 1950 |
| 4.20 | Length to fork face | l2 | mm | 792 | 792 | 878 |
| 4.21 | Overall width of truck body | b1 | mm | 820 | 820 | 820 |
| 4.22 | Fork dimension | s/e/l | mm | 60/170(1220) | 60/170(1220) | 60/180(1220) |
| 4.25 | Overall width of fork | b5 | mm | 580/695 | 580/695 | 570/695 |
| 4.32 | Wheelbase ground distance | m2 | mm | 28 | 28 | 31 |
| 4.33 | Aisle width, with pallet 1000x1200 crosswise | Ast | mm | 2400 | 2400 | 2450 |
| 4.34 | Aisle width, with pallet 800x1200 lengthwise | Ast | mm | 2370 | 2370 | 2420 |
| 4.35 | Turning radius | Wa | mm | 1525 | 1525 | 1575 |
| **Performance Data** | | | | | | |
| 5.1 | Traveling speed, laden/unladen | | km/h | 5.3/6.0 | 5.3/6.0 | 5.8/6.0 |
| 5.2 | Lifting speed, laden/unladen | | m/s | 0.11/0.19 | 0.11/0.19 | 0.15/0.28 |
| 5.3 | Lowering speed, laden/unladen | | m/s | 0.16/0.11 | 0.16/0.11 | 0.41/0.27 |
| 5.8 | Max. gradeability, laden/unladen | | % | 6/15 | 6/15 | 8/15 |
| 5.10 | Traveling brake | | | electromagnetic brake | | |
| **Motor** | | | | | | |
| 6.1 | Driving motor power | | kW | 1.2 | 1.2 | 1.5 |
| 6.2 | Lifting motor power | | kW | 2.2 | 2.2 | 3.2 |
| 6.4 | Battery voltage/rated capacity | | V/Ah | 24/120 | 24/120 | 24/300 |
| 6.5 | Battery weight | | kg | 90 | 90 | 300 |

Electric Stacker

# 15/20ERSP




■ photo may include optional equipment.

## Standard Configurations

### 15ERSP

- Lifting Capacity : 1,500kg
- AC Drive Motor 2.2kW
- DC Lift motor : 4.5KW
- Curtis controller 1234E
- Drive wheel : 250x80mm
- Balance wheel 150x62mm (2pcs)
- Double PU fork wheel 125x82mm
- Hourmeter, battery discharge indicator (BDI) & Limiter with lift cut off
- Duplex 3.0m MFH Mast without free lift (Germany Mast)
- Single Scissors Fork Carriage (Pantograph Type)
- Fork Length : 1070mm
- German Frei tiller
- Automatic speed reduction (>1.8m lift)
- Without Battery / Charger
- Top Removal Battery
- Without Platform / Arm protection
- With EPS (Electric Power Steering, Curtis steering controller)
- With Load Back Rest (Height : 787mm)

### 20ERSP

- Lifting Capacity : 2,000kg
- AC Drive Motor 2.2kW
- DC Lift motor : 4.5KW
- Curtis controller 1234E
- Drive wheel : 250x80mm
- Balance wheel 150x62mm (2pcs)
- Double PU fork wheel 125x82mm
- Hourmeter, battery discharge indicator (BDI) & Limiter with lift cut off
- Duplex 3.0m MFH Mast without free lift (Germany Mast)
- Single Scissors Fork Carriage (Pantograph Type)
- Fork Length:1,070mm
- German Frei tiller
- Automatic speed reduction (〉 1.8m lift)
- Without Battery / Charger
- Top Removal Battery
- Without Platform / Arm protection
- With EPS(Electric Power Steering, Curtis steering controller)
- With Load Back Rest (Height : 787mm)

## Advantages

### SAFETY AND PRODUCTIVITY

- Advanced AC drive motor eliminates replacement of carbon brush, with good ramp starting performance.
- Cylinder have safety explosion proof valve to avoid fork dropping suddenly when oil tube is broken ensure the safety of operator.
- Automatic speed deceleration when lifting height is up 1.8M
- Mast with micro switch limit the cylinder lifting height to avoid mast shock problems.
- Option EPS power steering system makes steering more light and reliable.

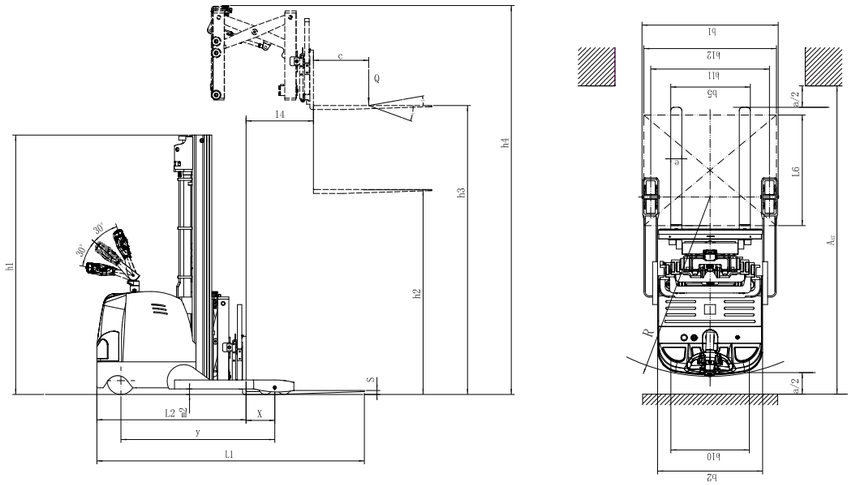
### SERVICEABILITY

- Low voltage protection setting prolongs the battery life. (while battery less 20% only can drive no lifting)

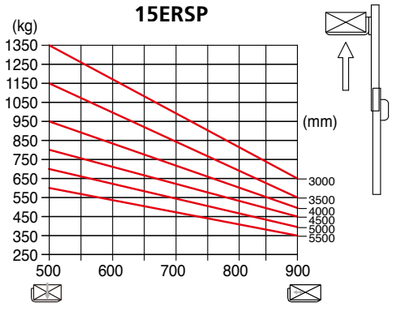
### STRUCTURAL

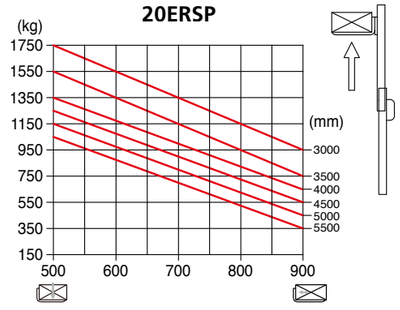
- Reach stacker with very compact design have different option with platform or without platform.
- Low gravity ensure safety operation.
- Water proof and dust proof motor structure keeps the braking and motor more durable and reliable.
- Multi function display with BDI, hour meter and fault code.
- Vertical driving wheel ensures convenient maintenance and small turning radius.
- The mast and frame are dividable and exchangeable.

## Dimension




## Lifting capacity




## Option

- Battery
  15ERSP : 24V/320Ah (Chinese)
  24V/460Ah (Hoppeck)
  20ERSP : 24V/490Ah (Chinese)
  24V/525AH (Hoppeck)
- Auto water battery filling system
- Separate Charger
  15ERSP : Outside, 24V/40A
  Outside, 24V/60A for 460Ah battery
  20ERSP : Outside, 24V/70A
- Sideshift : For 3m/3.5m/4m mast
  For 4.5m/5m/5.5m mast
- Fork length : 1,070(STD)/1,150/1,200
- With proportional lifting
- With protection skirt (Rubber made)
- Double Scissors Fork Carriage (Pantograph Type)

## Mast Specifications

| Mast Ref. | | Lift Height | | Overall Height | | Service Weight (kg) | Residual Capacity (kg) |
|---|---|---|---|---|---|---|---|
| | | Max. (mm) h3 | Free lift (mm) - | Lowered (mm) h1 | Extended (mm) h4 | | |
| 15ERSP | Duplex mast without free lift (3.0m MFH) | 3000 | | 2119 | 3881 | 2250 | 1500 |
| | Duplex mast without free lift (3.5m MFH) | 3500 | | 2369 | 4381 | 2300 | 1300 |
| | Duplex mast without free lift (4.0m MFH) | 4000 | | 2619 | 4881 | 2350 | 1100 |
| | Triflex mast with free lift (4.5m MFH) | 4500 | 1575 | 2179 | 5381 | 2500 | 900 |
| | Triflex mast with free lift (5.0m MFH) | 5000 | 1700 | 2341 | 5881 | 2550 | 800 |
| | Triflex mast with free lift (5.5m MFH) | 5500 | 1825 | 2499 | 6381 | 2600 | 700 |
| 20ERSP | Duplex mast without free lift (3.0m MFH) | 3000 | | 2125 | 3897 | 2500 | 2000 |
| | Duplex mast without free lift (3.5m MFH) | 3500 | | 2375 | 4397 | 2600 | 1800 |
| | Duplex mast without free lift (4.0m MFH) | 4000 | | 2625 | 4897 | 2650 | 1600 |
| | Triflex mast with free lift (4.5m MFH) | 4500 | 1575 | 2185 | 5397 | 2800 | 1400 |
| | Triflex mast with free lift (5.0m MFH) | 5000 | 1700 | 2345 | 5897 | 2850 | 1350 |
| | Triflex mast with free lift (5.5m MFH) | 5500 | 1825 | 2505 | 6397 | 2900 | 1250 |

* : Standard

## Specifications

| | | | | | |
|---|---|---|---|---|---|
| **Characteristics** | | | | | |
| 1.1 | Manufacturer(abbreviation) | | | Hyundai | Hyundai |
| 1.2 | Model | | | 15ERSP | 20ERSP |
| 1.3 | Drive type | | | electric | electric |
| 1.4 | Operator type | | | Pedestrian(EPS) | Pedestrian(EPS) |
| 1.5 | Load capacity/rated load | Q | kg | 1500 | 2000 |
| 1.6 | Load center distance | c | mm | 500 | 500 |
| 1.8 | Load distance | x | mm | 287 | 265 |
| 1.9 | Wheelbase | y | mm | 1319 | 1462 |
| **Weight** | | | | | |
| 2.1 | Service weight(with battery) | | kg | 2250 | 2500 |
| 2.2 | Axle load, front/rear, laden | | kg | 765/2835 | 1505/2795 |
| 2.3 | Axle load, front/rear, unladen | | kg | 1395/855 | 1580/970 |
| **Wheels/Chassis** | | | | | |
| 3.1 | Tires | | | polyurethane | |
| 3.2 | Tire size, Front | | mm | 250x80 | 250x80 |
| 3.3 | Tire size, Rear | | mm | 125x82X2 | 125x82X2 |
| 3.4 | Wheels, number front/rear (x=driving wheel) | | | 1x+2/4 | 1x+2/4 |
| 3.5 | Additional wheel | | | 150×62 X2 | 150×62×2 |
| 3.6 | Tread, Front | b10 | mm | 715 | 710 |
| 3.7 | Tread, Rear | b11 | mm | 1074 | 1074 |
| **Dimension** | | | | | |
| 4.1 | Tilt of mast/fork carriage forward/backward | Gard | | 2/5 | 2/5 |
| 4.2 | Height, mast lowered | h1 | mm | 2119 | 2125 |
| 4.4 | Lift height | h3 | mm | 3000 | 3000 |
| 4.5 | Height, mast extended | h4 | mm | 3881 | 3897 |
| 4.9 | Height of operation handle, in driving position min./max. | h14 | mm | 1150/1469 | 1150/1469 |
| 4.19 | Overall length | l1 | mm | 2359 | 2550 |
| 4.20 | Length to fork face | l2 | mm | 1289 | 1480 |
| 4.21 | Overall width of truck body | b1/b2 | mm | 1220/950 | 1220/950 |
| 4.22 | Fork dimension | s/e/l | mm | 35 x 100 x 1070 | 40 x 100 x 1070 |
| 4.28 | Reach distance | l4 | mm | 500 | 500 |
| 4.32 | Ground clearance, center of wheelbase | m2 | mm | 50 | 50 |
| 4.33 | Aisle width for pallets 1000x1200 crossways | Ast | mm | 2742 | 2928 |
| 4.34 | Aisle width for pallets 800x1200 lengthways | Ast | mm | 2806 | 2996 |
| 4.35 | Turning radius | Wa | mm | 1613 | 1779 |
| **Performance Data** | | | | | |
| 5.1 | Travel speed , laden/unladen | | km/h | 4.8/5 | 4.8/5 |
| 5.2 | Lift speed , laden/unladen | | m/s | 0.095/0.12 | 0.095/0.12 |
| 5.3 | Lowering speed laden/unladen | | m/s | 0.2/0.15 | 0.2/0.15 |
| 5.8 | Max. gradeability, laden/unladen | | % | 5/12 | 5/12 |
| 5.10 | Traveling brake | | | Electromagnetic brake | |
| **Motor** | | | | | |
| 6.1 | Driving motor power | | kW | 2.2 AC | 2.2 AC |
| 6.2 | Lifting motor power | | kW | 4.5/24 | 4.5/24 |
| 6.4 | Battery voltage/rated capacity | | V/Ah | 24/320 (460) | 24/490 (525) |
| 6.5 | Battery weight | | kg | 325 (400) | 380 (410) |
| 6.7 | Battery dimension (L x W x H) | | mm | 812x324x535/812x324x575 | 774x332x580/776x334x580 |
| **Other details** | | | | | |
| 8.4 | Noise level at operator's ear, according to DIN12053 | dB | A | 75 | 75 |

Electric Stacker

# 12ESN




■ photo may include optional equipment.

## Standard Configurations

### 12ESN

- Lifting Capacity : 1,200kg
- AC Drive Motor 1.2kW
- Lift motor : 2.2kW
- Curtis controller
- Drive wheel : Φ250x70mm
- Double Fork wheel : Φ80x70mm
- Hourmeter, battery discharge indicator (BDI) & lift cut off
- Single 1.95m MFH Mast
- Lowered Height : 2.33m
- Overall Fork Width x Length : 570mm x 1,150mm
- Turtle mode switch
- Curtis Tiller with Covenient Control Buttons
- Automatic drive speed reduction (lifting over 1.8m)
- Built-in Battery (24V/80Ah), Chorger (24V/8A)
- Belly Switch
- Side Battery Removal

## Advantages

### SAFETY AND PRODUCTIVITY

- Advanced AC control system
- Intelligentized regenerative brake system.
- Multi-function display with BDI and hour meter etc.
- Belly switch.
- Emergency switch.
- Proportional Travel speed control.
- Lift limit switch to shut off pump motor at the max. lifting height.
- Vertical drive motor has a small turning radius.
- The motor structure is water-proof and dust-proof(IP 44).

### SERVICEABILITY

- CANbus technology reduces wiring complexity and increase reliability.
- Side-way battery with roll-out system.

## Tiller Head

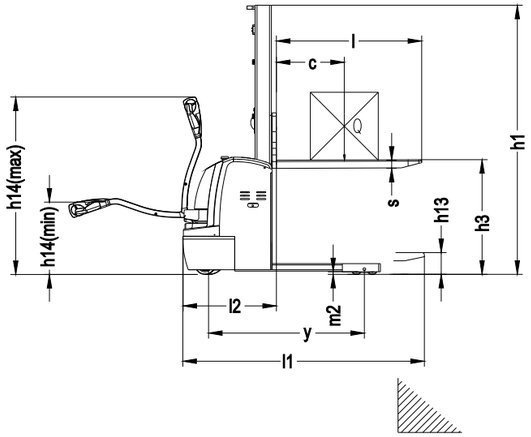


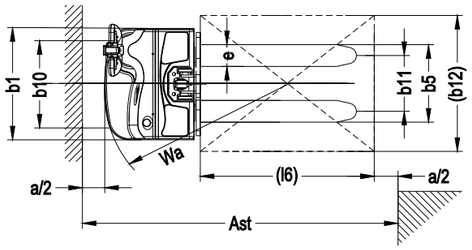
Curtis Tiller with convenient control buttons (standard)



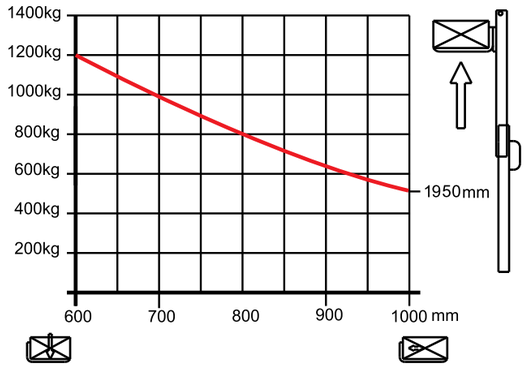
Germany Frei Tiller (option)

## Dimension




## Lifting capacity




## Option

- Single 1.6m MFH Mast
- Fork length(mm)
  800, 900, 1000, 1220
- German Frei Tiller
- Cold Storage Specifications -18°C

## Mast Specifications

| Mast Ref. | Lift Height | | Overall Height | | Service Weight (kg) | Residual Capacity (kg) |
|---|---|---|---|---|---|---|
| | Max. (mm) h3 | Free lift (mm) - | Lowered (mm) h1 | Extended (mm) h4 | | |
| Single 1.6m MFH Mast | 1.6 | 1.6 | 1980 | 1980 | 600 | 1200 |
| Single 1.95m MFH Mast * | 1.95 | 1.95 | 2330 | 2330 | 620 | 1200 |

* : Standard

## Specifications (according to VDI 2198)

| | | | | |
|---|---|---|---|---|
| **Characteristics** | | | | |
| 1.1 | Manufacturer(abbreviation) | | | Hyundai |
| 1.2 | Model | | | 12ESN |
| 1.3 | Drive type | | | electric |
| 1.4 | Operator type | | | walking |
| 1.5 | Load capacity/rated load | Q | kg | 1200 |
| 1.6 | Load center distance | c | mm | 500 |
| 1.8 | Load distance | x | mm | 630 |
| 1.9 | Wheelbase | y | mm | 1146 |
| **Weight** | | | | |
| 2.1 | Service weight(with battery) | | kg | See mast Specifications |
| 2.2 | Axle load, front/rear, laden | | kg | 790/1000 |
| 2.3 | Axle load, front/rear, unladen | | kg | 195/395 |
| **Wheels/Chassis** | | | | |
| 3.1 | Tyres: solud rubber, superelastic, pneumatic, polyurethane | | | polyurethane |
| 3.2 | Tyre size, front | | | Φ250×70 |
| 3.3 | Tyre size, rear | | | Φ80×70 |
| 3.4 | Additional wheel(dimension) | | | Φ150×60 |
| 3.5 | Wheels number, front/rear ( x = driven wheels ) | | | 1x+1/4 |
| 3.6 | Tread, front | b10 | mm | 520 |
| 3.7 | Tread, rear | b11 | mm | 400 |
| **Dimension** | | | | |
| 4.2 | Height of mast, lowered | h1 | mm | See mast Specifications |
| 4.4 | Lift height | h3 | mm | See mast Specifications |
| 4.5 | Max. height of mast, extended | h4 | mm | See mast Specifications |
| 4.9 | Min. /Max. height of operation handle, in driving position | h14 | mm | 670/1300 |
| 4.15 | Height, lowered | h13 | mm | 90 |
| 4.19 | Overall length | l1 | mm | 1860 |
| 4.20 | Length to fork face | l2 | mm | 708 |
| 4.21 | Overall width of truck body | b1 | mm | 820 |
| 4.22 | Fork dimension | s/e/l | mm | 60/170/1220 |
| 4.25 | Overall width of fork | b5 | mm | 570 |
| 4.32 | Wheelbase ground distance | m2 | mm | 30 |
| 4.33 | Aisle width, with pallet 1000x1200 crosswise | Ast | mm | 2180 |
| 4.34 | Aisle width, with pallet 800x1200 lengthwise | Ast | mm | 2220 |
| 4.35 | Turning radius | Wa | mm | 1338 |
| **Performance Data** | | | | |
| 5.1 | Traveling speed, laden/unladen | | km/h | 5.3/5.6 |
| 5.2 | Lifting speed, laden/unladen | | m/s | 0.11/0.19 |
| 5.3 | Lowering speed, laden/unladen | | m/s | 0.16/0.11 |
| 5.8 | Max. gradeability, laden/unladen | | % | 6/15 |
| 5.10 | Traveling brake | | | electromagnetic brake |
| **Motor** | | | | |
| 6.1 | Driving motor power | | kW | 1.2 |
| 6.2 | Lifting motor power | | kW | 2.2 |
| 6.4 | Battery voltage/rated capacity | | V/Ah | 24/80 |
| 6.5 | Battery weight | | kg | 50 |

Electric Stacker(Rider Type)

# 15ESR




■ photo may include optional equipment.

## Standard Configurations

### 15ESR

- Lifting Capacity : 1,500kg
- AC Drive Motor 1.5kW
- Lift motor 3.2kW
- Curtis controller
- Drive wheel : Φ250x80mm
- Double Fork wheel : Φ84x80mm
- Hourmeter, battery discharge indicator (BDI) & Limiter with lift cut off
- Duplex 3.0m MFH Mast with free lift
- Fork Width x Length : 570mm x 1,150mm
- Turtle mode switch
- German Frei tiller with convenient control buttons
- Proportional Lifting
- Automatic speed reduction (lifting over 1.8m)
- Belly switch
- EPS (Electric Power Steering)
- Side Battery Removal

## Advantages

### SAFETY AND PRODUCTIVITY

- Advanced AC control system eliminats directional contactors, which brings minimal maintenance requirements.
- Mast loweing damping cushion for low noise operation.
- Multi-function display with BDI and hour meter etc.
- Side way battery replacement.
- Auto deceleration function.
- Emergency switch.
- Turtle mode switch.
- Proportional Travel speed control.

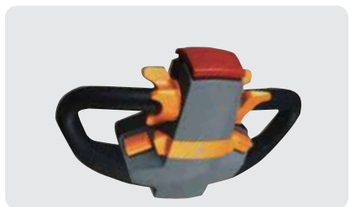
### OPTIMUM STRUCTURAL DESIGN

- Low barycenter ensures the stable operation.
- The motor structure is water-proof and dust-proof(IP 44).
- Mast and frame dividable and exchangeable.
- Full free lifting. (3M lift height truck can enter into a 2M door)

### SERVICEABILITY

- Central positional electronic component simplifies debuging and maintaining.
- CANbus technology reduces wiring complexity and increase reliability.
- User of non-contact type switch in the mast

## Tiller Head

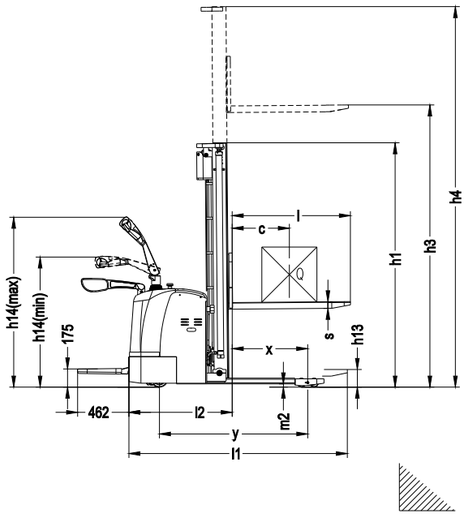


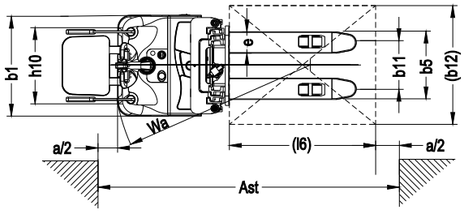
Germany Frei Tiller with convenient control buttons (standard)



Gemany Frei Tiller (option)

## Dimension

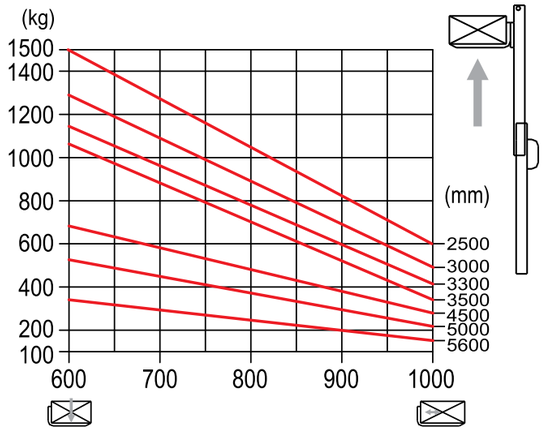



## Option

- 6.7km/h of Drive Speed
- Battery : 24V/300Ah
- Integrated Charger (24V/40A)
- Separate Charger (24V/40A)
- Germany Frei Tiller (Normal)
- Germal Feri Tiller with big button (including initial lifting button)
- Cold storage Specifications -18℃
- Key pad ignition
- Load backrest 1220mm
- Battery trolly
- Initial lift
- Fork length(mm)
  800, 900, 1000, 1220
- Without EPS
- lifting sensor switch to limit the height(1.8m)

## Lifting capacity




## Mast Specifications

| Mast Ref. | Lift Height | | Overall Height | | Service Weight (kg) | Residual Capacity (kg) |
|---|---|---|---|---|---|---|
| | Max. (mm) h3 | Free lift (mm) - | Lowered (mm) h1 | Extended (mm) h4 | | |
| Duplex mast without free lift (2.5m MFH) | 2.5 | N/A | 1735 | 2955 | 1200 | 1500 |
| Duplex mast without free lift (3.0m MFH) | 3.0 | N/A | 1985 | 3455 | 1220 | 1300 |
| Duplex mast without free lift (3.3m MFH) | 3.3 | N/A | 2135 | 3755 | 1240 | 1150 |
| Duplex mast without free lift (3.5m MFH) | 3.5 | N/A | 2235 | 3955 | 1250 | 1100 |
| Duplex mast with free lift (2.5m MFH) | 2.5 | 1300 | 1735 | 2955 | 1240 | 1500 |
| Duplex mast with free lift (3.0m MFH) * | 3.0 | 1550 | 1985 | 3455 | 1265 | 1300 |
| Duplex mast with free lift (3.3m MFH) | 3.3 | 1700 | 2135 | 3755 | 1280 | 1150 |
| Duplex mast with free lift (3.5m MFH) | 3.5 | 1800 | 2235 | 3955 | 1290 | 1100 |
| Triplex mast with free lift (4.3m MFG) | 4.3 | 1500 | 1990 | 4870 | 1370 | 600 |
| Triflex mast with free lift (4.5m MFH) | 4.5 | 1570 | 2050 | 5070 | 1340 | 700 |
| Triflex mast with free lift (5.0m MFH) | 5.0 | 1740 | 2210 | 5550 | 1360 | 500 |
| Triflex mast with free lift (5.6m MFH) | 5.6 | 1940 | 2410 | 6150 | 1380 | 350 |

* : Standard

## Specifications (according to VDI 2198)

| | | | | |
|---|---|---|---|---|
| **Characteristics** | | | | |
| 1.1 | Manufacturer(abbreviation) | | | Hyundai |
| 1.2 | Model | | | 15ESR |
| 1.3 | Drive type | | | electric |
| 1.4 | Operator type | | | standing |
| 1.5 | Load capacity/rated load | Q | kg | 1500 |
| 1.6 | Load center distance | c | mm | 600 |
| 1.8 | Load distance | x | mm | 672 |
| 1.9 | Wheelbase | y | mm | 1378 |
| **Weight** | | | | |
| 2.1 | Service weight(with battery) | | kg | See mast Specifications |
| 2.2 | Axle load, front/rear, laden | | kg | 1470/1310 |
| 2.3 | Axle load, front/rear, unladen | | kg | 900/380 |
| **Wheels/Chassis** | | | | |
| 3.1 | Tyres: solud rubber, superelastic, pneumatic, polyurethane | | | polyurethane |
| 3.2 | Tyre size, front | | | φ 250×80 |
| 3.3 | Tyre size, rear | | | φ 80×84 |
| 3.4 | Additional wheel(dimension) | | | φ 150×60 |
| 3.5 | Wheels number, front/rear ( x = driven wheels ) | | | 1x+2/4 |
| 3.6 | Tread, front | b10 | mm | 580 |
| 3.7 | Tread, rear | b11 | mm | 404/530 |
| **Dimension** | | | | |
| 4.2 | Height of mast, lowered | h1 | mm | See mast Specifications |
| 4.3 | Free lift height( optional) | | | See mast Specifications |
| 4.4 | Lift height | h3 | mm | See mast Specifications |
| 4.5 | Max. height of mast, extended | h4 | mm | See mast Specifications |
| 4.9 | Min. /Max. height of operation handle, in driving position | h14 | mm | 1150/1450 |
| 4.15 | Height, lowered | h13 | mm | 90 |
| 4.19 | Overall length | l1 | mm | 2100 |
| 4.20 | Length to fork face | l2 | mm | 950 |
| 4.21 | Overall width of truck body | b1 | mm | 850 |
| 4.22 | Fork dimension | s/e/l | mm | 60/180/1220 |
| 4.25 | Overall width of fork | b5 | mm | 570 |
| 4.32 | Wheelbase ground distance | m2 | mm | 31 |
| 4.33 | Aisle width, with pallet 1000x1200 crosswise | Ast | mm | 2535 |
| 4.34 | Aisle width, with pallet 800x1200 lengthwise | Ast | mm | 2515 |
| 4.35 | Turning radius | Wa | mm | 1655 |
| **Performance Data** | | | | |
| 5.1 | Traveling speed, laden/unladen | | km/h | 6.5/6.7 |
| 5.2 | Lifting speed, laden/unladen | | m/s | 0.15/0.28 |
| 5.3 | Lowering speed, laden/unladen | | m/s | 0.41/0.27 |
| 5.8 | Max. gradeability, laden/unladen | | % | 8/15 |
| 5.10 | Traveling brake | | | electromagnetic brake |
| **Motor** | | | | |
| 6.1 | Driving motor power | | kW | 1.5 |
| 6.2 | Lifting motor power | | kW | 3 |
| 6.4 | Battery voltage/rated capacity | | V/Ah | 24/300 |
| 6.5 | Battery weight | | kg | 300 |

Electric Stacker

# 15EST




■ photo may include optional equipment.

## Standard Configurations

### 15EST

- Lifting Capacity : 1,500kg
- AC Drive Motor 1.5kW
- Lift motor 3.2kW (HPI)
- Curtis controller 1232
- Drive wheel : 250x70mm
- Single PU fork wheel size 80x84mm
- Hourmeter, battery discharge indicator (BDI) & Limiter with lift cut off
- Duplex 3.0m MFH Mast (German mast) with free lift
- Forged fork length : 1070mm
- Turtle mode activated
- German Frei tiller with convenient control buttons
- Side Battery Removal
- Proportional Lifting
- Automatic speed reduction (›1.8m lift)
- Without Battery / Charger

## Advantages

### SAFETY AND PRODUCTIVITY

- Advanced AC control system intelligentized regenerative brake system.
- Multi-function display with BDI and hour meter.
- Emergency reversing device.
- Auto deceleration system utilizes regenerative braking.

### STRUCTURAL

- Stepless speed control
- With lifting limit switch to shut off pump motor at top Max. lifting height.
- Small turning radius standing drive motor system, water-proof and dust-proof motor structure.
- Built-in pressure relief valve protects the trucks from overloads.

### SERVICEABILITY

- CANbus technology reduces wiring complexity.
- Side-way battery with roll-out system, convenient for replacement.

## Tiller Head

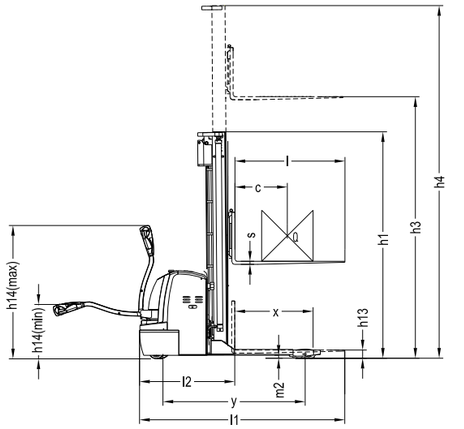


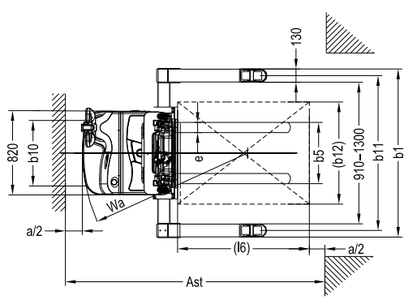
Germany Frei Tiller with convenient control buttons (standard)



Normal Germany Frei Tiller (Option)

## Dimension

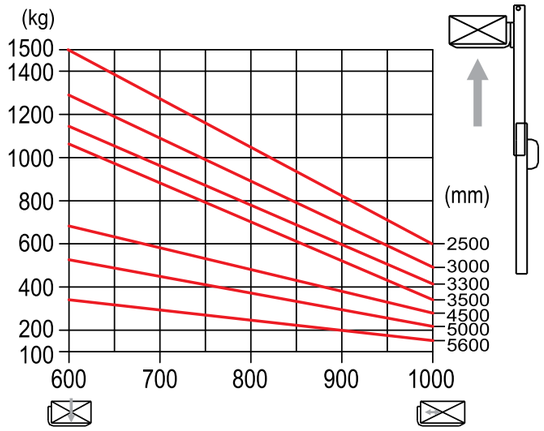



## Option

- Battery : 24V/300Ah
- Battery trolly
- Integrated Charger (24V/30A)
- Separate Charger (24V/40A)
- German Frei Tiller (Normal)
- German Frei Tiller with big button (two lifting button)
- Cold storage Specifications -18℃
- Keypad ignition (KEYA)
- Fork length (mm) : 800 / 900 / 1,070(STD) / 1,220

## Lifting capacity




## Mast Specifications

| Mast Ref. | Lift Height | | Overall Height | | Service Weight (kg) | Residual Capacity (kg) |
|---|---|---|---|---|---|---|
| | Max. (mm) h3 | Free lift (mm) - | Lowered (mm) h1 | Extended (mm) h4 | | |
| Duplex mast without free lift (2.5m MFH) | 2500 | | 1805 | 3025 | 1090 | 1500 |
| Duplex mast without free lift (3.0m MFH) | 3000 | | 2055 | 3525 | 1210 | 1500 |
| Duplex mast without free lift (3.3m MFH) | 3300 | | 2205 | 3825 | 1230 | 1500 |
| Duplex mast without free lift (3.5m MFH) | 3500 | | 2305 | 4025 | 1250 | 1300 |
| Duplex mast with free lift (2.5m MFH) | 2500 | 1300 | 1805 | 3025 | 1090 | 1500 |
| Duplex mast with free lift (3.0m MFH) | 3000 | 1550 | 2055 | 3525 | 1210 | 1500 |
| Duplex mast with free lift (3.3m MFH) | 3300 | 1700 | 2205 | 3825 | 1230 | 1500 |
| Duplex mast with free lift (3.5m MFH) | 3500 | 1800 | 2305 | 4025 | 1250 | 1300 |
| Triflex mast with free lift (4.5m MFH) | 4500 | 1570 | 2120 | 5080 | 1415 | 800 |
| Triflex mast with free lift (5.0m MFH) | 5000 | 1740 | 2280 | 5560 | 1460 | 600 |
| Triflex mast with free lift (5.6m MFH) | 5600 | 1940 | 2480 | 6160 | 1500 | 400 |

* : Standard

## Specifications

| | | | | |
|---|---|---|---|---|
| **Characteristics** | | | | |
| 1.1 | Manufacturer(abbreviation) | | | Hyundai |
| 1.2 | Model | | | 15EST |
| 1.3 | Drive type | | | Electric |
| 1.4 | Operator type | | | Pedestrian |
| 1.5 | Load capacity/rated load | Q | kg | 1500 |
| 1.6 | Load center distance | c | mm | 600 |
| 1.8 | Load distance | x | mm | 677 |
| 1.9 | Wheelbase | y | mm | 1420 |
| **Weight** | | | | |
| 2.1 | Service weight(with battery) | | kg | 1210 |
| 2.2 | Axle load, front/rear, laden | | kg | 1470 / 1310 |
| 2.3 | Axle load, front/rear, unladen | | kg | 910 / 370 |
| **Wheels/Chassis** | | | | |
| 3.1 | Tyres: solud rubber, superelastic, pneumatic, polyurethane | | | Polyurethane |
| 3.2 | Tyre size, front | | | φ 250×70 |
| 3.3 | Tyre size, rear | | | φ 80×84 |
| 3.4 | Additional wheel(dimension) | | | φ 150×60 |
| 3.5 | Wheels number, front/rear ( x = driven wheels ) | | | 1x+2 / 4 |
| 3.6 | Tread, front | b10 | mm | 580 |
| 3.7 | Tread, rear | b11 | mm | 1040 |
| **Dimension** | | | | |
| 4.2 | Height of mast, lowered | h1 | mm | 2055 |
| 4.3 | Free lift height( optional) | | | 1550 |
| 4.4 | Lift height | h3 | mm | 3000 |
| 4.5 | Max. height of mast, extended | h4 | mm | 3525 |
| 4.9 | Min. /Max. height of operation handle, in driving position | h14 | mm | 670 / 1300 |
| 4.15 | Height, lowered | h13 | mm | 70 |
| 4.19 | Overall length | l1 | mm | 1985 |
| 4.20 | Length to fork face | l2 | mm | 915 |
| 4.21 | Overall width of truck body | b1 | mm | 1170 |
| 4.22 | Fork dimension | s/e/l | mm | 40 / 100 / 1070 |
| 4.25 | Overall width of fork | b5 | mm | 200-800 |
| 4.32 | Wheelbase ground distance | m2 | mm | 35 |
| 4.33 | Aisle width, with pallet 1000x1200 crosswise | Ast | mm | 2480 |
| 4.34 | Aisle width, with pallet 800x1200 lengthwise | Ast | mm | 2465 |
| 4.35 | Turning radius | Wa | mm | 1612 |
| **Performance Data** | | | | |
| 5.1 | Traveling speed, laden/unladen | | km/h | 5.8 / 6 |
| 5.2 | Lifting speed, laden/unladen | | m/s | 0.14 / 0.23 |
| 5.3 | Lowering speed, laden/unladen | | m/s | 0.39 / 0.26 |
| 5.8 | Max. gradeability, laden/unladen | | % | 8 / 15 |
| 5.10 | Traveling brake | | | Electromagnetic brake |
| **Motor** | | | | |
| 6.1 | Driving motor power | | kW | 1.5 (AC) |
| 6.2 | Lifting motor power | | kW | 3.2 |
| 6.4 | Battery voltage/rated capacity | | V/Ah | 24 / 300 |
| 6.5 | Battery weight | | kg | 260 |
| 6.7 | Battery dimension (L×W×H) | | mm | 675×254×540 |
| **Other details** | | | | |
| 8.4 | Noise level at operator's ear, according to DIN12053 | dB | A | 70 |

Manual Hand Pallet Truck

# 20HP/25HP/25HPW/30HP

## Standard Configurations

- Polyurethane drive steering wheel
- Double Polyurethane Fork wheels
- Overall Fork Width x Length : 550mm x 1,150mm
- Weighing Scale (25HPW)
- Rubber Wrapped handgrip (25HP/25HPW)

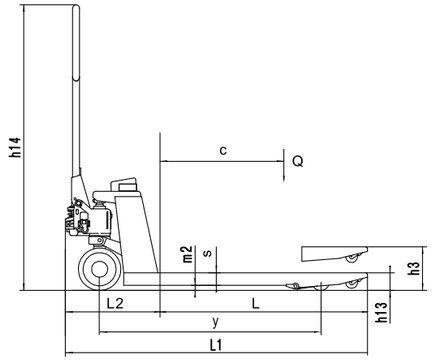
## Option

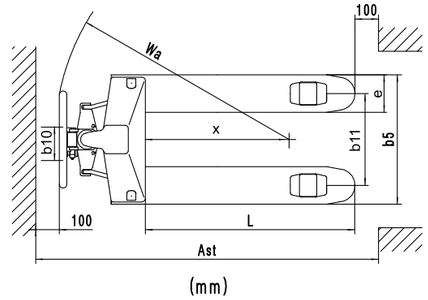
- Nylon drive wheel and double nylon fork wheel
- Rubber drive wheel and double Polyurethane Fork wheel
- Polyurethane drive wheel and single Polyurethane Fork wheel (20HP/25HP/25HPW)
- Nylon drive wheel and single nylon Fork wheel (20HP/25HP/25HPW)
- Extra long foot pedal release (25HP/25HPW/30HP)
- Quick lift (5 strokes to reach max.height) (25HP/25HPW)
- Fork length (mm) 800, 900, 1000, 1100
- Overall Fork width x Length : 685mm x 1,220mm




■ photo may include optional equipment.

## Dimension & Specifications (according to VDI 2198)




(mm)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Characteristics** | | | | | | | |
| 1.1 | Manufacturer(abbreviation) | | | Hyundai | Hyundai | Hyundai | Hyundai |
| 1.2 | Model | | | 20HP | 25HP | 30HP | 25HPW |
| 1.3 | Drive type | | | manual | manual | manual | manual |
| 1.4 | Operator type | | | hand | hand | hand | hand |
| 1.5 | Load capacity/rated load | | kg | 2000 | 2500 | 3000 | 2500 |
| 1.6 | Load center distance | c | mm | 22 | 32 | 40 | 40 |
| 1.8 | Load distance | x | mm | 600 | 600 | 600 | 600 |
| 1.9 | Wheelbase | y | mm | 1136 | 1153 | 1124 | 1124 |
| **Weight** | | | | | | | |
| 2.1 | Service weight | | kg | 55 | 58 | 63 | 60 |
| **Wheels/Chassis** | | | | | | | |
| 3.1 | Tyres: solud rubber, superelastic, pneumatic, polyurethane | | | polyurethane | polyurethane | polyurethane | polyurethane |
| 3.2 | Tyre size, front(Steering wheel) | | mm | Φ160 | Φ200 | Φ200 | Φ200 |
| 3.3 | Tyre size, rear(Fork wheel single) | | mm | Φ70x80 | Φ80x93 | - | Φ80x93 |
| | Tyre size, rear(Fork wheel tandem) | | mm | Φ70x60 | Φ80x70 | Φ80x70 | Φ80x70 |
| 3.5 | Wheels number, front/rear ( x = driven wheels ) | | | 2x+2/4 | 2x+2/4 | 2x+2/4 | 2x+2/4 |
| 3.6 | Tread, front | b10 | mm | 108 | 111 | 120 | 120 |
| 3.7 | Tread, rear | b11 | mm | 400/535 | 390/525 | 390/525 | 390/525 |
| **Dimension** | | | | | | | |
| 4.4 | Max. Lift height | h3 | mm | 190 | 195 | 200 | 200 |
| 4.9 | Min. /Max. height of operation handle, in driving position | h14 | mm | 1176.5 | 1224 | 1224 | 1224 |
| 4.15 | Height, lowered | h13 | mm | 75 | 85 | 85 | 85 |
| 4.19 | Overall length | l1 | mm | 1520 | 1543 | 1533 | 1533 |
| 4.20 | Length to fork face | l2 | mm | 370 | 393.5 | 384 | 384 |
| 4.22 | Fork dimension | s/e/l | mm | 53/150/1150 | 53/160/1150 | 45/160/1150 | 45/160/1150 |
| 4.25 | Overall width of fork | b5 | mm | 550/685 | 550/685 | 550/685 | 550/685 |
| 4.32 | Wheelbase ground distance | m2 | mm | 22 | 32 | 32 | 32 |
| 4.33 | Aisle width, with pallet 1000x1200 crosswise | Ast | mm | 1720 | 1743 | 1733 | 1733 |
| 4.34 | Aisle width, with pallet 800x1200 lengthwise | Ast | mm | 1770 | 1793 | 1783 | 1783 |
| 4.35 | Turning radius | Wa | mm | 1265 | 1276 | 1266 | 1266 |