

# ESA121 Duplex

## ELECTRIC PEDESTRIAN STACKER DUPLEX MAST 1.2T

 1200 kg  4413 mm  24 V Li-Ion/AGM



The ESA121 Duplex is designed for warehouses, retail, and distribution centers requiring medium stacking heights up to 4.1 m. Its compact chassis (826 mm width) and turning radius of 1480 mm make it suitable for use in narrow aisles. With creep speed mode and ergonomic tiller, operators can safely and precisely handle pallets in confined spaces. Its reinforced mast ensures strong residual capacity even at higher lift heights .

| SPECIFICATION                               | REF       | UNIT | VALUE       |
|---|-----------|------|-------------|
| Battery type                                |           |      | Li-Ion/AGM  |
| Battery nominal capacity                    |           | Ah   | 105         |
| Battery voltage                             |           | V    | 24          |
| Load capacity                               | Q         | kg   | 1200        |
| Load centre distance                        | c         | mm   | 600         |
| Service weight                              |           | kg   | 700         |
| Retracted mast height                       | $h_1$     | mm   | 1995        |
| Lift height                                 | $h_3$     | mm   | 2930        |
| Height, mast extended                       | $h_4$     | mm   | 3460        |
| Overall length                              |           | mm   | 1760        |
| Overall width                               | $b_1/b_2$ | mm   | 826         |
| Length to face of forks                     | l2        | mm   | 610         |
| Fork dimensions                             | s/e/l     | mm   | 60/170/1150 |
| Turning radius                              |           | Wa   | 1480        |
| Operator type                               |           |      | Pedestrian  |
| Load distance, centre of drive axle to fork |           | mm   | 808         |

# Features

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## Robust and stable duplex mast

The H-beam duplex mast with two side cylinders provides excellent visibility and high rigidity. This reduces frame torsion when lifting heavy loads and ensures stability, with residual capacity of 800 kg at 3.6 m.



## Fast lifting and lowering performance

Equipped with a powerful 3.0 kW lift motor, the ESA121 Duplex offers faster lifting and lowering speeds compared to earlier models. This improves cycle times and increases overall warehouse productivity.

## Flexible battery solutions

Available with both AGM and Li-ion batteries, the ESA121 Duplex meets different operational needs. The integrated charger simplifies daily charging, while maintenance-free technology reduces downtime and cost.



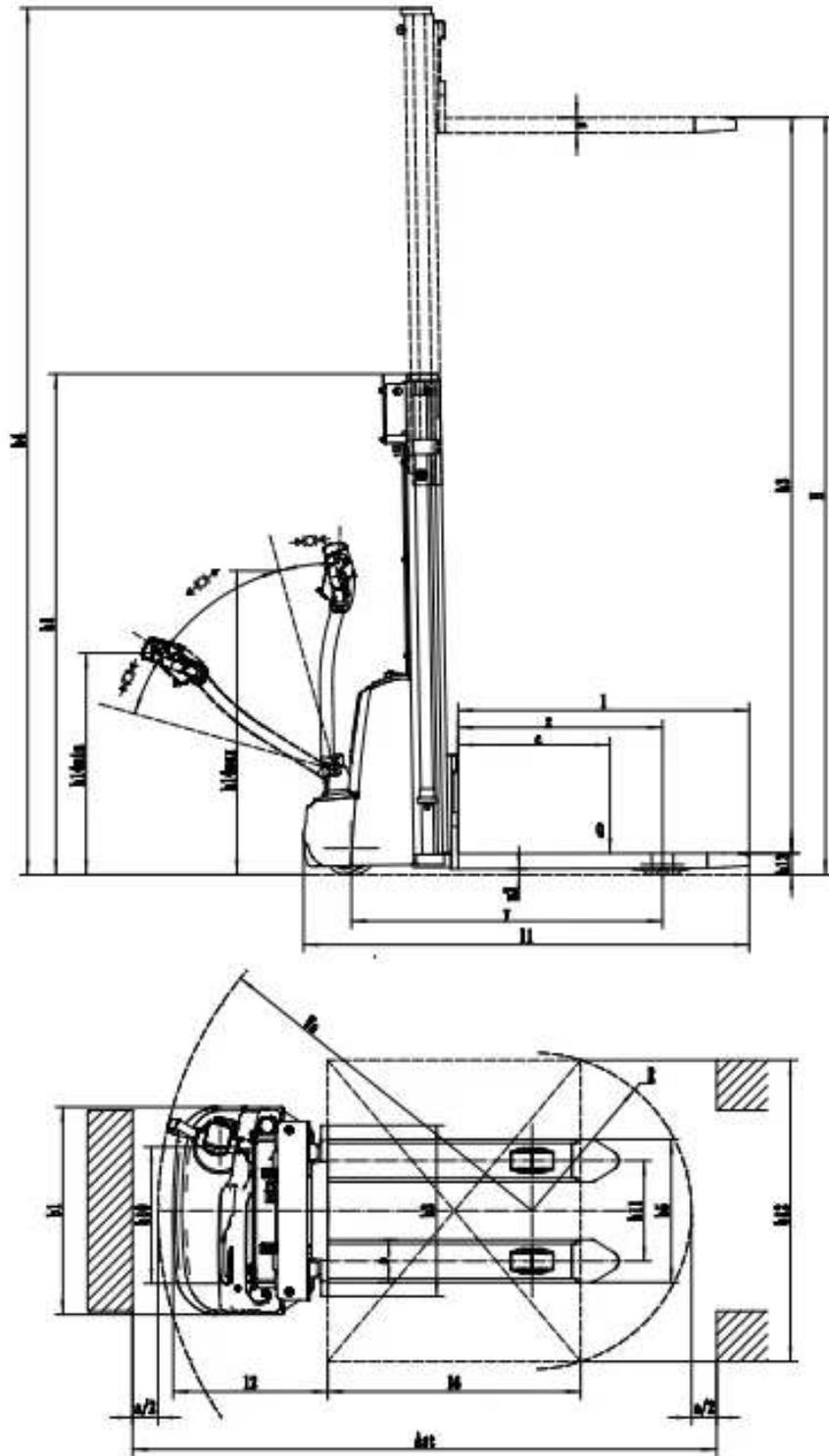
## User-centered design

Featuring a redesigned cover with storage pockets for documents, objects, and even cups, plus an optional USB port, the ESA121 Duplex is built with operator convenience in mind. Ergonomic tiller and turtle speed mode ensure safe and comfortable operation.

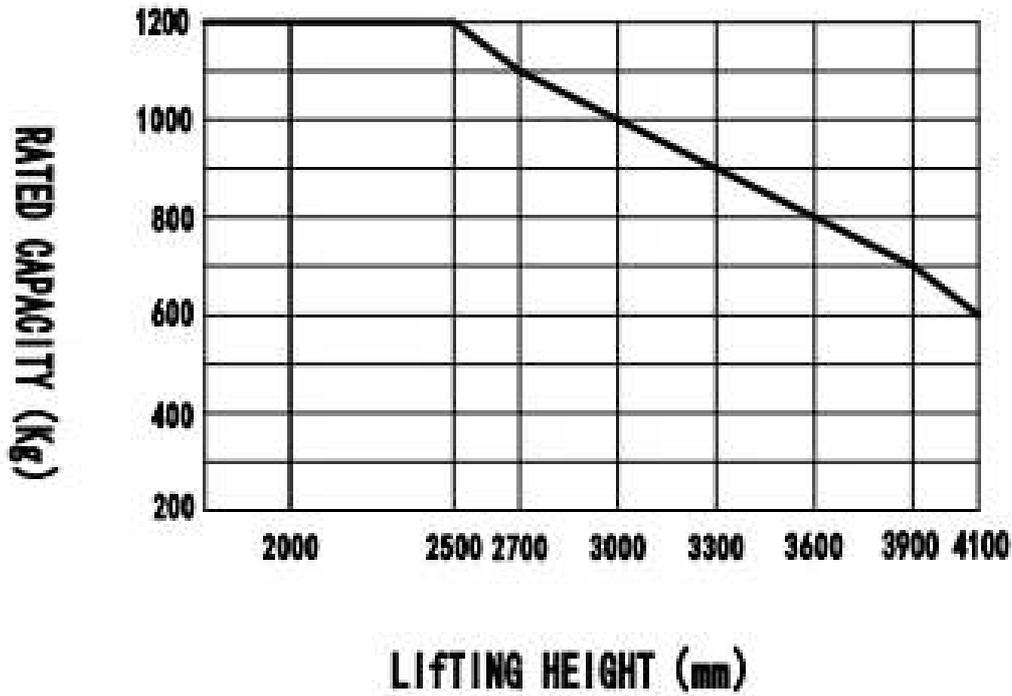
## VDI Chart

| SPECIFICATION | REF   | UNIT                           | VALUE      |              |
|---------------|---|--------------------------------|------------|--------------|
| 1.4           | Operator type                               |                                | Pedestrian |              |
| 1.5           | Load capacity                               | Q                              | kg         | 1200         |
| 1.6           | Load centre distance                        | c                              | mm         | 600          |
| 1.8           | Load distance, centre of drive axle to fork |                                | mm         | 808          |
| 1.9           | Wheelbase                                   |                                | mm         | 1230         |
| 2.1           | Service weight                              |                                | kg         | 700          |
| 2.2           | Axle loading, laden front/rear              |                                | kg         | 720/1180     |
| 2.3           | Axle loading, unladen front/rear            |                                | kg         | 520/180      |
| 3.1           | Tyre type                                   |                                |            | Polyurethane |
| 3.2           | Tyre size, front                            |                                |            | Ø214×70      |
| 3.3           | Tyre size, rear                             |                                |            | Ø80×61       |
| 3.5           | Additional wheels (castor wheels)           |                                |            | Ø130×55      |
| 3.5           | Wheels, number front/rear (x=drive wheels)  |                                |            | 1x , 1/4     |
| 3.6           | Tread width, front                          | b <sub>10</sub>                | mm         | 543          |
| 3.7           | Tread width, rear                           | b <sub>11</sub>                | mm         | 400          |
| 4.1           | Tilt of mast/fork carriage forward/backward |                                | °          | unknown      |
| 4.10          | Height of wheel arms                        |                                | mm         | -            |
| 4.12          | Tow coupling height                         |                                | mm         | unknown      |
| 4.15          | Lowered height                              |                                |            | 90           |
| 4.19          | Overall length                              |                                | mm         | 1760         |
| 4.2           | Retracted mast height                       | h <sub>1</sub>                 | mm         | 1995         |
| 4.20          | Length to face of forks                     | l <sub>2</sub>                 | mm         | 610          |
| 4.21          | Overall width                               | b <sub>1</sub> /b <sub>2</sub> | mm         | 826          |
| 4.22          | Fork dimensions                             | s/e/l                          | mm         | 60/170/1150  |
| 4.24          | Fork carriage width                         |                                | mm         | 680          |

|        | SPECIFICATION                                       | REF            | UNIT  | VALUE           |
|--------|---|----------------|-------|-----------------|
| 4.26   | Distance between wheel arms/loading surfaces        |                |       | -               |
| 4.3    | Free lift   |                | mm    | -               |
| 4.31   | Ground clearance, laden, below mast                 |                | mm    | -               |
| 4.32   | Ground clearance, centre of wheelbase               |                | mm    | 23              |
| 4.34.1 | Aisle width for pallets 1000×1200 crossways         |                | Ast   | 2310            |
| 4.34.2 | Aisle width for pallets 800×1200 lengthways         |                | Ast   | 2240            |
| 4.35   | Turning radius                                      |                | Wa    | 1480            |
| 4.4    | Lift height   | h <sub>3</sub> | mm    | 2930            |
| 4.4.1  | Max lift height                                     |                | mm    | 4413            |
| 4.5    | Height, mast extended                               | h <sub>4</sub> | mm    | 3460            |
| 4.8    | Seat height/standing height                         |                | mm    | unknown         |
| 4.9    | Height of tiller handle in drive position min./max. |                |       | 760/1140        |
| 5.1    | Travel speed, laden/unladen                         |                | km/h  | 4.0/4.5         |
| 5.10   | Service brake                                       |                |       | Electromagnetic |
| 5.11   | Parking brake                                       |                |       | Electromagnetic |
| 5.2    | Lifting speed, laden/unladen                        |                | m/s   | 0.15/0.24       |
| 5.3    | Lowering speed, laden/unladen                       |                | m/s   | 0.21/0.20       |
| 5.8    | Max. gradeability, laden/unladen                    |                | %     | 3/10            |
| 6.1    | Drive motor rating S2 60 min                        |                | kW    | 0.65            |
| 6.2    | Lift motor rating at S3 15%                         |                | kW    | 3.0             |
| 6.4    | Battery nominal capacity                            |                | Ah    | 105             |
| 6.4    | Battery voltage                                     |                | V     | 24              |
| 6.4.1  | Battery type  |                |       | Li-Ion/AGM      |
| 6.5    | Battery weight                                      |                | kg    | 61              |
| 6.5    | Charger output current                              |                | A     | 15              |
| 6.6    | Energy consumption according to DIN EN 16796        |                | kWh/h | - <sup>1)</sup> |
| 6.7    | Turnover output according to VDI 2198               |                |       | -               |
| 6.8    | Turnover efficiency according to VDI 2198           |                |       | -               |
| 8.1    | Type of drive control                               |                |       | DC              |
| 10.5   | Steering design                                     |                |       | Mechanical      |
| 10.7   | Sound pressure level at the drivers ear             |                | dB(A) | 74              |



# RATED CAPACITIES GRAPH



## Mast Options

| MAST TYPE       | LIFT HEIGHT (H3, MM) | MAST LOWERED HEIGHT (H1, MM) | MAST EXTENDED HEIGHT, NO BACKREST (H4, MM) |
|-----------------|----------------------|------------------------------|--|
| 2-Standard Mast | 2513                 | 1745                         | 2960                                       |
| 2-Standard Mast | 2713                 | 1854                         | 3160                                       |
| 2-Standard Mast | 3013                 | 1995                         | 3460                                       |
| 2-Standard Mast | 3313                 | 2145                         | 3760                                       |
| 2-Standard Mast | 3613                 | 2295                         | 4060                                       |
| 2-Standard Mast | 3813                 | 2395                         | 4260                                       |
| 2-Standard Mast | 3913                 | 2445                         | 4360                                       |
| 2-Standard Mast | 4113                 | 2545                         | 4560                                       |

# Options

| ITEM                            | OPTIONS (optional items marked in yellow)                       |
|---------------------------------|---|
| Fork dimension                  | 570*1150   685*1150   570*1000   685*1000   570*1220   685*1220 |
| Fork lowered height             | 90  |
| Fork carriage width option      | 680mm   770mm   |
| Load wheel type                 | Double  |
| Handle head type                | Hands big handle head   |
| Load wheel material             | PU  |
| Drive wheel material            | PU  |
| Battery capacity                | 105Ah(AGM)   125Ah(AGM)   100Ah(Li-ion)                         |
| Charger                         | 24V-15A integrated (AGM)   24V-30A integrated(Li-ion)           |
| Battery display indicator (BDI) | With time   |
| Turtle speed                    | Yes and not customized  |
| USB outlet                      | Yes and not customized   No                                     |
| Castor wheels                   | Yes and not customized  |