

## Standard Equipment/Optional Equipment

### Standard Equipment

Long tiller with low mounting point  
 Fibre-glass reinforced tiller and tiller head (Grivory®)  
 Extral® motor and battery cover  
 Creep speed control (L12, L12i)  
 Proportional speed control (L12, L12i)  
 End-of-stroke resistance  
 Storage compartments  
 OptiLift® proportional lift system (L10, L12, L12i)  
 Hand protection at rear of mast (polycarbonate or steel mesh)  
 Multi-function display with hourmeter including scheduled maintenance, fault code and battery discharge indicator  
 Key switch or LFM Go (PIN-code access)  
 AC motor  
 Linde LAC controller

CAN-bus architecture  
 Electromagnetic brake  
 Automatic parking brake  
 Cushion rubber drive wheel  
 Single polyurethane load wheels  
 Fork length: 1150 mm  
 Width over forks: 560 mm  
 Initial lift (L12i)  
 Built-in or built-out fork carriage  
 Protection to -10°C  
 Vertical 2 PzS-B battery change (L10B, L10, L12)  
 Vertical 3 PzS-B battery change (L12i)  
 Horn  
 Clipboard

### Optional Equipment

Drive wheels: polyurethane, wet grip, non marking cushion, treaded cushion  
 Load wheels: Tandem polyurethane, tandem polyurethane greasable  
 Alternative fork lengths and widths  
 Load backrest  
 Fleet management LFM Access and LFM Basic  
 Basic Module: LFM Access control PIN

Add-on Modules: LFM Usage Analysis, LFM Impact sensor  
 Creep speed control (L10)  
 Proportional speed control (L10)  
 Cold store protection to -35°C  
 Automatic battery watering system  
 Built-in charger  
 High frequency charger

Other options available on request



## Electric Pallet Stackers Capacity 1000 - 1200 kg L10B, L10, L12, L12i

Series 1172

Linde Material Handling



### Safety

The hand guards of the off-centred tiller head effectively shield hands and keep the operator safely within the truck's contours with excellent visibility through the mast. The long tiller mounted low down on the chassis ensures ample safety clearance between operator and truck.

### Performance

The combination of a new AC motor and Linde LAC digital controller makes these pallet stackers highly efficient. Operating parameters can be adjusted to match any application. The OptiLift® mast control assures accurate, fully proportional lifting as well as smooth and quiet operation.

### Comfort

All controls on the ergonomic tiller head can be easily operated by either hand. A Creep speed button offers utmost manoeuvrability in confined areas. Proportional speed automatically alters traction speed in relation to the truck/operator distance. Finished in tactile materials, these stackers deliver accurate load handling for better productivity.

### Reliability

Despite their visual appeal, these pallet stackers are rugged and durable. The mast channels are made from high grade rolled steel sections for strength and durability. Strong and long-lasting Extral® motor and battery cover protect the technical compartment from outside shocks. In addition, a built-out fork carriage with thinner forks is available to protect the mast when handling gitterboxes.

### Service

It is not just about the truck in operation: a maintenance-free AC motor maximises uptime reducing operating costs. All truck data is immediately and easily accessible to the service engineer via CAN-bus architecture. Fast, easy access to all internal components ensures service tasks are completed with a minimum of delay.

## Features

### Steering system

- Proportional speed control varies truck speed automatically in relation to the tiller angle for safe, comfortable and productive operation
- A Creep speed button ensures high manoeuvrability in confined areas when operating at low speeds with tiller in upright position
- End-of-stroke resistance on the tiller avoids accidental, abrupt braking
- Soft tiller fold-back slows down the tiller when returning into upright position, avoiding the tiller snapping on the motor cover

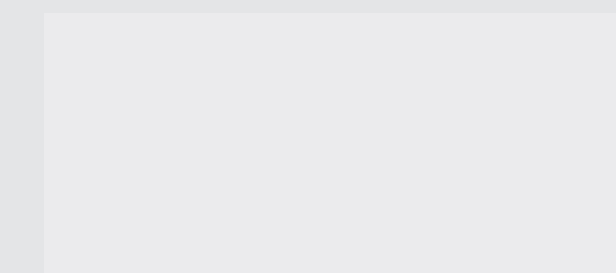
### AC motor & Booster effect

- Powerful, smooth-running 1.2 kW AC motor (at 100% output)
- Traction speed adjustable up to 6 km/h, laden or unladen
- Booster effect provides higher torque when additional power is needed
- No roll-back on hill starts



### Braking system

- Highly efficient electro-magnetic brake applied by moving tiller to fully up or down position
- Automatic braking on releasing traction butterfly or by reversing direction
- Truck slows before coming to a stop, remaining under total control at all times



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### Tiller & Tiller head

- Off-set, ergonomic Grivory® tiller head ensures safety and visibility
- Long tiller with low mounting point provides safety clearance between operator and chassis
- Wrap-around hand protection
- Comfortable controls, operable with either hand and gloves



### Chassis

- Compact, rounded shape avoids snagging
- Highly resistant, robust steel construction
- Low chassis skirt protects operator's feet

### Lifting system

- OptiLift® mast control provides accurate, fully proportional lifting as well as smooth and quiet operation
- Soft landing of the forks protects load when lowering
- Wide range of mast options available
- Choice of standard or built-out carriage depending on application
- Initial lift on L12i ensures easy crossing of ramps and dock levellers

### Working station & Display

- Wide, deep storage compartment for shrink wrap, pens, markers etc.
- Durable and long lasting Extral® motor and battery cover
- Multi-function display as standard with hourmeter including scheduled maintenance, fault code and battery discharge indicator



### Maintenance and CAN-bus architecture

- Zero maintenance, moisture and dust-proof AC motor
- CAN-bus architecture enables fast, easy access to all truck data
- Individually adjustable parameters via diagnostic plug
- Rapid and convenient access to main components via front service panel



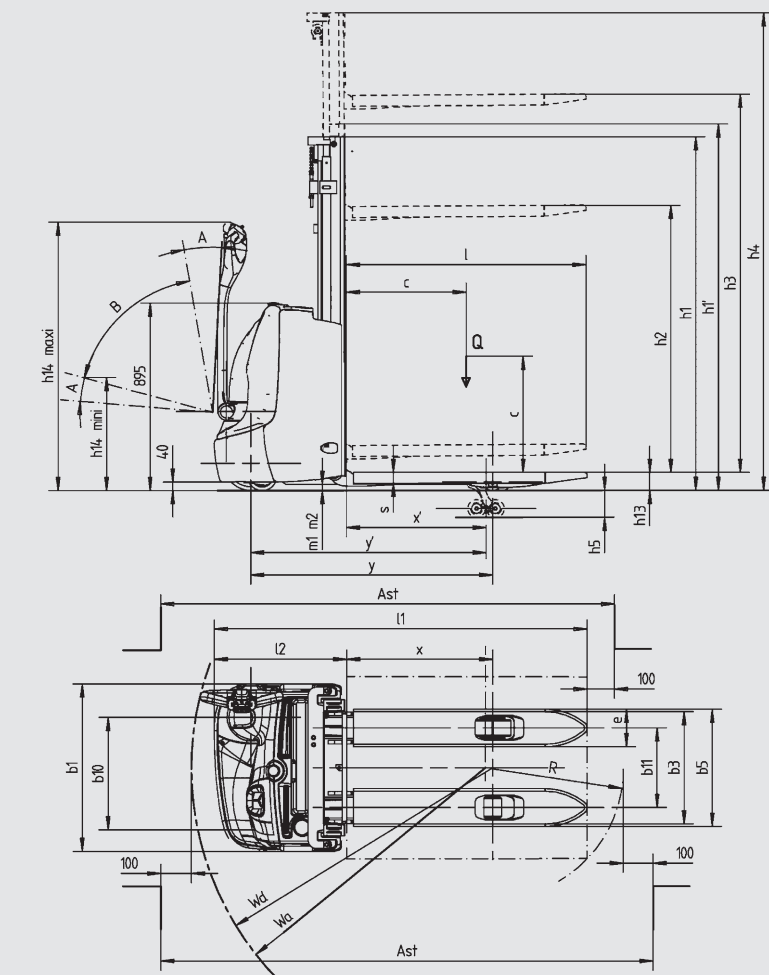
Subject to modification in the interest of progress. Illustrations and technical details could include options and not binding for actual constructions. All dimensions subject to usual tolerances.

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# Technical Data according to VDI 2198

|                 |  | LINDE   |                             |                             |                               |   |                           |
|-----------------|--|---|-----------------------------|-----------------------------|-------------------------------|---|---------------------------|
|                 |  | L10B  | L10                         | L12                         | L12i                          |   |                           |
| Characteristics | 1.1  | Manufacturer  | LINDE                       | LINDE                       | LINDE                         | LINDE                                       |                           |
|                 | 1.2  | Model designation                                   | <b>L10B</b>                 | <b>L10</b>                  | <b>L12</b>                    | <b>L12i</b>                                 |                           |
|                 | 1.2a   | Series  | 1172                        | 1172                        | 1172                          | 1172  |                           |
|                 | 1.3  | Power unit  | Battery                     | Battery                     | Battery                       | Battery                                     |                           |
|                 | 1.4  | Operation   | Pedestrian                  | Pedestrian                  | Pedestrian                    | Pedestrian                                  |                           |
|                 | 1.5  | Load capacity                                       | Q (t)                       | 1.0                         | 1.0                           | 1.2   | 1.2                       |
|                 | 1.6  | Load centre   | c (mm)                      | 600                         | 600                           | 600   | 600                       |
|                 | 1.8  | Axle centre to fork face                            | x (mm)                      | 711                         | 695                           | 695   | 780 / 667 <sup>1)</sup>   |
|                 | 1.9  | Wheelbase   | y (mm)                      | 1157                        | 1157                          | 1157  | 1362 / 1249 <sup>1)</sup> |
| Weights         | 2.1  | Service weight                                      | (kg)                        | 708                         | 788                           | 788   | 909                       |
|                 | 2.2  | Axle load with load, front/rear                     | (kg)                        | 614 / 1094                  | 654 / 1134                    | 671 / 1317                                  | 707 / 1402                |
|                 | 2.3  | Axle load without load, front/rear                  | (kg)                        | 518 / 190                   | 572 / 216                     | 572 / 216                                   | 643 / 266                 |
|                 | 3.1  | Tyres rubber, SE, pneumatic, polyurethane           |                             | V+P/P <sup>2)</sup>         | V+P/P <sup>2)</sup>           | V+P/P <sup>2)</sup>                         | V+P/P <sup>2)</sup>       |
|                 | 3.2  | Tyre size, front                                    |                             | Ø 230 x 75                  | Ø 230 x 75                    | Ø 230 x 75                                  | Ø 230 x 75                |
|                 | 3.3  | Tyre size, rear                                     |                             | 2x Ø 85 x 100               | 2x Ø 85 x 100                 | 2x Ø 85 x 100                               | 2x Ø 85 x 100             |
|                 | 3.4  | Auxiliary wheels (dimensions)                       |                             | Ø 140 x 54                  | Ø 140 x 54                    | Ø 140 x 54                                  | Ø 140 x 54                |
| Wheels/Tyres    | 3.5  | Wheels, number front/rear (x = driven)              |                             | 1x + 1 / 2                  | 1x + 1 / 2                    | 1x + 1 / 2                                  | 1x + 1 / 2                |
|                 | 3.6  | Track width, front                                  | b10 (mm)                    | 518                         | 518                           | 518   | 518                       |
|                 | 3.7  | Track width, rear                                   | b11 (mm)                    | 380                         | 380                           | 380   | 380                       |
|                 | 4.2  | Height of mast, lowered                             | h1 (mm)                     | 2390                        | 1940                          | 1940  | 1940                      |
|                 | 4.3  | Free lift   | h2 (mm)                     | 150 <sup>3)</sup>           | 1462                          | 1462  | 1462                      |
|                 | 4.4  | Lift  | h3 (mm)                     | 1912 <sup>3)</sup>          | 2924                          | 2924  | 4386                      |
|                 | 4.5  | Height of mast, extended                            | h4 (mm)                     | 2393 <sup>3)</sup>          | 3402                          | 3402  | 4868                      |
|                 | 4.6  | Initial lift  | h5 (mm)                     | -                           | -                             | -   | 130                       |
|                 | 4.9  | Height of tiller arm in operating position, min/max | h14 (mm)                    | 650 / 1190                  | 650 / 1190                    | 650 / 1190                                  | 650 / 1190                |
|                 | 4.15   | Height, lowered                                     | h13 (mm)                    | 85                          | 85                            | 85  | 91                        |
|                 | 4.19   | Overall length                                      | l1 (mm)                     | 1772                        | 1788                          | 1788  | 1908                      |
|                 | 4.20   | Length to fork face                                 | l2 (mm)                     | 622                         | 638                           | 638   | 758                       |
|                 | 4.21   | Overall width                                       | b1/b2 (mm)                  | 800                         | 800                           | 800   | 800                       |
|                 | 4.22   | Fork dimensions                                     | s/e/l (mm)                  | 65 x 180 x 1150             | 65 x 180 x 1150               | 65 x 180 x 1150                             | 65 x 180 x 1150           |
|                 | 4.24   | Width of fork carriage                              | b3 (mm)                     | 534                         | 534                           | 534   | 534                       |
| 4.25            | Fork spread, min/max                             | b5 (mm)   | 560                         | 560                         | 560                           | 560   |                           |
| 4.32            | Ground clearance, centre of wheelbase            | m2 (mm)   | 30                          | 30                          | 30                            | 30  |                           |
| 4.33            | Aisle width with pallet 1000 x 1200 across forks | Ast (mm)  | 2326 (1949) <sup>4)5)</sup> | 2333 (1965) <sup>4)5)</sup> | 2305 (1937) <sup>4)5)6)</sup> | 2480 (2061) / 2412 (2059) <sup>4)5)6)</sup> |                           |
| 4.34            | Aisle width with pallet 800 x 1200 along forks   | Ast (mm)  | 2292 (2149) <sup>4)5)</sup> | 2304 (2165) <sup>4)5)</sup> | 2276 (2137) <sup>4)5)</sup>   | 2421 (2261) / 2392 (2259) <sup>4)5)6)</sup> |                           |
| 4.35            | Turning radius                                   | Wa (mm)   | 1460                        | 1460                        | 1432                          | 1641 / 1526 <sup>1)4)</sup>                 |                           |
| Performance     | 5.1  | Travel speed, with/without load                     | (km/h)                      | 6 / 6                       | 6 / 6                         | 6 / 6                                       | 6 / 6                     |
|                 | 5.2  | Lifting speed, with/without load                    | (m/s)                       | 0.09 / 0.2                  | 0.1 / 0.2                     | 0.08 / 0.225                                | 0.08 / 0.225              |
|                 | 5.3  | Lowering speed, with/without load                   | (m/s)                       | 0.23 / 0.23                 | 0.35 / 0.35                   | 0.4 / 0.3                                   | 0.4 / 0.3                 |
|                 | 5.8  | Maximum climbing ability, with/without load         | (%)                         | 5.0 / 10.0                  | 5.0 / 10.0                    | 5.0 / 10.0                                  | 10.0 / 15.0               |
|                 | 5.9  | Acceleration time, with/without load                | (s)                         | 8.0 / 7.0                   | 8.0 / 7.0                     | 8.3 / 7.0                                   | 8.3 / 7.0                 |
|                 | 5.10   | Service brake                                       |                             | Electro-magnetic            | Electro-magnetic              | Electro-magnetic                            | Electro-magnetic          |
| Drive           | 6.1  | Drive motor, 60 minute rating                       | (kW)                        | 1.2                         | 1.2                           | 1.2   | 1.2                       |
|                 | 6.2  | Lift motor, rating at 53 15%                        | (kW)                        | 0.9                         | 1                             | 2.5   | 2.5                       |
|                 | 6.3  | Battery according to DIN 43531/35/36 A,B,C,no       |                             | no                          | no                            | no  | no                        |
|                 | 6.4  | Battery voltage/rated capacity (Sh)                 | (V/Ah)                      | 24 / 180                    | 24 / 180                      | 24 / 180                                    | 24 / 225                  |
|                 | 6.5  | Battery weight (± 5%)                               | (kg)                        | 195                         | 195                           | 195   | 200                       |
|                 | 6.6  | Power consumption according to VDI cycle            | (kWh/h)                     | 0.7                         | 0.8                           | 1   | 1                         |
| Others          | 8.1  | Type of drive control                               |                             | LAC                         | LAC                           | LAC   | LAC                       |
|                 | 8.4  | Noise level at operator's ear                       | (dB(A))                     | 65                          | 65                            | 65  | 65                        |

1) Without/with initial lift  
 2) Solid rubber + polyurethane / polyurethane  
 3) Mast available 1462E, 1912E and 2424S only.  
 4) Calculated with VDI 2198 (VDI 3597)  
 5) Including a 200 mm (min.) operating aisle clearance.  
 6) With creep speed = tiller in vertical position



$$Ast = Wa + \sqrt{(l6 - x)^2 + \left(\frac{b12}{2}\right)^2} + a$$

$$Ast = Wa + R + a$$

Safety clearance a = 200 mm

| Masts (L10/L12) (in mm) | 1462 E         | 1912 E | 2024 S | 2424 S | 2924 S | 3324 S | 3824 S | 4224 S |
|-------------------------|----------------|--------|--------|--------|--------|--------|--------|--------|
| Lift                    | <b>h3</b>      | 1462   | 1912   | 2024   | 2424   | 2924   | 3324   | 3824   |
| Lift + fork height      | <b>h3+h13*</b> | 1547   | 1997   | 2109   | 2509   | 3009   | 4309   | 4309   |
| Height lowered          | <b>h1*</b>     | 1940   | 2390   | 1490   | 1690   | 1940   | 2140   | 2390   |
| Height raised           | <b>h4</b>      | 1943   | 2393   | 2502   | 2902   | 3402   | 3802   | 4302   |
| Free lift               | <b>h2</b>      | 1462   | 1912   | 150    | 150    | 150    | 150    | 150    |

| Masts (L10/L12) (in mm) | 2024 D         | 2424 D | 2924 D | 3324 D | 3824 D | 4224 D | 3636 T | 4386 T |
|-------------------------|----------------|--------|--------|--------|--------|--------|--------|--------|
| Lift                    | <b>h3</b>      | 2024   | 2424   | 2924   | 3324   | 3824   | 4224   | 4386   |
| Lift + fork height      | <b>h3+h13*</b> | 2109   | 2509   | 3009   | 3409   | 3909   | 3409   | 4471   |
| Height lowered          | <b>h1*</b>     | 1490   | 1690   | 1940   | 2140   | 2390   | 1690   | 1940   |
| Height raised           | <b>h4</b>      | 2502   | 2902   | 3402   | 3802   | 4302   | 4702   | 4868   |
| Free lift               | <b>h2</b>      | 1012   | 1212   | 1462   | 1662   | 1912   | 1212   | 1462   |

\* initial Lift h5 = 130 mm  
 E=Simplex mast, S=Standard mast, D=Duplex mast, T=Triplex mast