

# PS 12L / PS 16L / PS 20L



## Electric Pedestrian Stacker with capacities of 1200/ 1600/ 2000kg

- Ergonomic, Compact and Safe Long Tiller Design
- Precise Lifting and Lowering with Full Proportional Hydraulic System
- Powerful, Maintenance Free German AC Power Train
- Core Components from Top Quality Brands
- 4 Wheel Structure for Stability

### INTRODUCTION

The PS 12- 20L series is tailored to most pedestrian controlled stacking operations with capacities from 1200kg up to 2000kg.

With the long mounted tiller the operator keeps safe and ergonomic distance to perform his work.

Due to the gentle operating full proportional lifting system stacking operations becomes more safer and quicker.

With the high- quality and state of the art top-brand components and technologies, the truck competes with leading well- known brands in the market.

#### Top brand qualified components

Using high quality core components:

- Reliable multifunctional REMA tiller with ergonomic contact less rocker- switches
- Top quality Schabmueller AC drive motor
- Kordel gearbox
- HPI hydraulic power pack
- Zapi controller
- Intorque brake
- Wicke drive wheel

The used parts reduce high service costs and give you the performance and reliability which is required for the demanding stacking operations.



PS 16L



#### Long tiller design for ergonomics and safety

In particular through the long tiller design the operator can always keep a safe distance to the truck during proceeding the work very ergonomically. The design ensures lower operational forces than trucks with a short tiller. The tillers operating height is naturally positioned to ergonomic, operator friendly controlling positions.

Specifically staking operations becomes more ergonomically and quicker due to the safe distance and better view to the forks. The 4 wheel design with the sideways long mounted tiller gives particular an exact and perfect view to the forks.

#### Electronic proportional lifting and lowering

The electronically controlled proportional lifting system ensures accurate positioning and stacking operations at every lifting height.

In specific with high masts the electronic controlled proportional lifting performs at its best.



### CAN-BUS

#### CANBUS technology

The CANBUS technology is due to less wiring more reliable.

For maintenance the CANBUS technology makes analysis and adjustments easier so that the downtime is lower than for trucks without CANBUS.

Digital signals further makes parts longer lasting than analogue signals.



### Robust and Reliable Design

The robust chassis with the strong 8mm thick apron protects the truck and the components against mechanical impacts from the outside.

In combination with the metal battery cover, the truck is well- equipped to reduce maintenance work and damages to a minimum.

Dirty floor environments have less influence to the vertical AC motor design as the components and the brake are out of the reach of direct impacts.

IP 54 protected controller, safe against dust and splash water.



### German AC drive technology

The powerful German Schabmueller maintenance free AC Drive motor in combination with the German Kordel gearbox, Intorque brake and Wicke drive wheel give best performance, efficiency and reliability to reduce the running costs!

Whether smooth or fast acceleration is applied, the AC Drive gives always the right and direct response.



### Maintenance friendly

The trucks design and the used components are tailored to make service and maintenance easy. All components are easy to reach when removing the main cover only with 2 screws. The drive wheel and the castor wheel are easy to exchange without craning the truck.



### For every application the right battery capacity

With the PS-L series for every truck the right battery:

- PS 12L with 180 Ah 2VBS battery for short truck length, good maneuverability and for operating restricted areas.
- PS 16L with 270 Ah 3VBS battery
- PS 20L with 350 AH DIN 3PzS battery for long operations and multi- shifts.



Optional sideways battery exchange compartment for PT20L with 210 Ah battery.

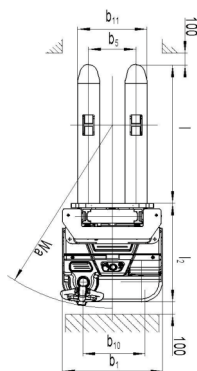
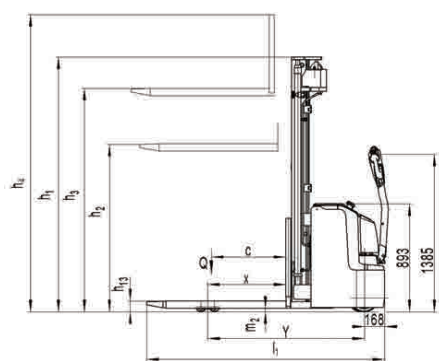
### Options

- Various mast versions
- Load backrest
- Sideways battery exchange for PS 16L and PS 20L

**PS 20L**



| Designation                                  | Lowered mast height h1(mm) | Free Lift height h2(mm) | Lift height h3(mm) | Extended mast height h4(mm) | Lift+fork height h3+h13(mm) |
|--|----------------------------|-------------------------|--------------------|-----------------------------|-----------------------------|
| <b>PS 12L</b>                                |                            |                         |                    |                             |                             |
| <b>Two stage mast</b>                        | 1958                       | --                      | 2830               | 3380                        | 2920                        |
|  | 2108                       | --                      | 3130               | 3680                        | 3220                        |
|  | 2308                       | --                      | 3530               | 4080                        | 3620                        |
| <b>Two stage mast FFL (Full-Free-Lift)</b>   | 1958                       | 1410                    | 2830               | 3380                        | 2920                        |
|  | 2108                       | 1560                    | 3130               | 3680                        | 3220                        |
|  | 2308                       | 1760                    | 3530               | 4080                        | 3620                        |
| <b>PS 16L</b>                                |                            |                         |                    |                             |                             |
| <b>Two stage mast</b>                        | 1958                       | --                      | 2830               | 3380                        | 2920                        |
|  | 2108                       | --                      | 3130               | 3680                        | 3220                        |
|  | 2308                       | --                      | 3530               | 4080                        | 3620                        |
| <b>Two stage mast FFL (Full-Free-Lift)</b>   | 1958                       | 1410                    | 2830               | 3380                        | 2920                        |
|  | 2108                       | 1560                    | 3130               | 3680                        | 3220                        |
|  | 2308                       | 1760                    | 3530               | 4080                        | 3620                        |
| <b>Three stage mast</b>                      | 2008                       | --                      | 4230               | 4780                        | 4320                        |
|  | 2108                       | --                      | 4530               | 5080                        | 4620                        |
| <b>Three stage mast FFL (Full-Free-Lift)</b> | 1908                       | 1320                    | 3930               | 4480                        | 4020                        |
|  | 2008                       | 1420                    | 4230               | 4780                        | 4320                        |
|  | 2108                       | 1520                    | 4530               | 5080                        | 4620                        |
|  | 2343                       | 1756                    | 5230               | 5780                        | 5320                        |
| <b>PS 20L</b>                                |                            |                         |                    |                             |                             |
| <b>Two stage mast</b>                        | 2078                       | --                      | 2830               | 3500                        | 2920                        |
|  | 2228                       | --                      | 3130               | 3800                        | 3220                        |
|  | 2428                       | --                      | 3530               | 4200                        | 3620                        |
| <b>Two stage mast FFL (Full-Free-Lift)</b>   | 1978                       | 1310                    | 2630               | 3300                        | 2720                        |
|  | 2078                       | 1410                    | 2830               | 3500                        | 2920                        |
|  | 2228                       | 1560                    | 3130               | 3800                        | 3220                        |
|  | 2428                       | 1760                    | 3530               | 4200                        | 3620                        |
| <b>Three stage mast</b>                      | 2128                       | --                      | 4230               | 4900                        | 4320                        |
|  | 2228                       | --                      | 4530               | 5200                        | 4620                        |
| <b>Three stage mast FFL (Full-Free-Lift)</b> | 1978                       | 1310                    | 3930               | 4600                        | 4020                        |
|  | 2128                       | 1420                    | 4230               | 4900                        | 4320                        |
|  | 2228                       | 1520                    | 4530               | 5200                        | 4620                        |



| Type sheet for industrial truck acc. to VDI 2198 116G=2.2LB 11NCH=25.4MM |                                  |   |            |                    |              |              |
|--|----------------------------------|---|------------|--------------------|--------------|--------------|
| <b>Distinguishing mark</b>   | 1.2                              | Manufacturer's type designation               |            | PS 12L(3600)       | PS 16L(4600) | PS 20L(4600) |
|  | 1.3                              | Power (battery /diesel, petrol, gas, manual)  |            |                    | Battery      |              |
|  | 1.4                              | Operator type                                 |            |                    | Pedestrian   |              |
|  | 1.5                              | Load Capacity / rated load                    |            | 1.2                | 1.6          | 2.0          |
|  | 1.6                              | Load centre distance                          | Q(t)       |                    | 600          |              |
|  | 1.8                              | Load distance ,centre of drive axle to fork   | c(mm)      |                    | 647          |              |
|  | 1.9                              | Wheelbase                                     | x(mm)      |                    | 1248         | 1429         |
|  | 2.1                              | Service weight                                | Y(mm)      |                    | 1007         | 1340         |
|  | 2.2                              | Axle loading, laden front/rear                | kg         |                    | 684/1523     | 930/2010     |
| 2.3  | Axle loading, unladen front/rear | kg  |            | 610/397            | 850/490      |              |
| <b>Weight</b>  | 3.1                              | Tires   |            | Polyurethane (PU)  |              |              |
|  | 3.2                              | Tire size, front                              | Øx w (mm)  | Ø230×70            |              |              |
|  | 3.3                              | Tire size, rear                               | Øx w (mm)  | Ø85×75             |              |              |
|  | 3.4                              | Additional wheels(dimensions)                 | Øx w (mm)  | Ø150×54            |              |              |
|  | 3.5                              | Wheels, number front/rear(x=driven wheels)    |            | 1x+1/4             |              |              |
|  | 3.6                              | Track, front                                  | b10mm      | 522                |              |              |
|  | 3.7                              | Track, rear                                   | b11 (mm)   | 390/505            |              |              |
| <b>Tires, chassis</b>  | 4.2                              | Lowered mast height                           | h1 (mm)    | 2308               | 2108         | 2228         |
|  | 4.3                              | Free Lift height                              | h2 (mm)    | 1760               | 1520         | 1520         |
|  | 4.4                              | Lift height                                   | h3 (mm)    | 3600               | 4600         | 4600         |
|  | 4.5                              | Extended mast height                          | h4 (mm)    | 4088               | 5088         | 5208         |
|  | 4.9                              | Height of tiller in drive position min./ max. | h14mm      |                    | 850/1385     |              |
|  | 4.15                             | Height, lowered t                             | h13mm      |                    | 90           |              |
|  | 4.19                             | Overall length                                | l1mm       | 1919               | 1964         | 2100         |
|  | 4.20                             | Length to face of forks                       | l2mm       | 769                | 814          | 950          |
|  | 4.21                             | Overall width                                 | b1mm       |                    | 820          |              |
|  | 4.22                             | Fork dimensions                               | s/e/l (mm) |                    | 60/180/1150  |              |
|  | 4.25                             | Distance between fork-arms                    | b5 (mm)    |                    | 570/685      |              |
|  | 4.32                             | Ground clearance, centre of wheelbase         | m2mm       | 28                 | 28           | 23           |
|  | 4.33                             | Aisle width for pallets 1000X1200 crossways   | As1 (mm)   | 2336               | 2406         | 2536         |
|  | 4.34                             | Aisle width for pallets 800X1200 lengthways   | As1 (mm)   | 2456               | 2393         | 2523         |
|  | 4.35                             | Turning radius                                | Wa (mm)    | 1440               | 1510         | 1640         |
| <b>Dimensions</b>  | 5.1                              | Travel speed, laden/unladen                   | km/h       | 6.0/6.0            | 5.7/6.0      | 5.4/6.0      |
|  | 5.2                              | Lift speed, laden/unladen                     | m/s        | 0.10/0.17          | 0.13/0.20    | 0.13/0.20    |
|  | 5.3                              | Lowering speed, laden/unladen                 | m/s        | 0.11/0.11          | 0.20/0.14    | 0.20/0.14    |
|  | 5.8                              | Max. gradeability, laden/unladen              | %          | 6/12               | 6/12         | 6/10         |
|  | 5.10                             | Service brake                                 |            | Electromagnetic    |              |              |
| <b>Performance data</b>  | 6.1                              | Drive motor rating S2 60min                   | kW         | 1.3                | 1.3          | 1.7          |
|  | 6.2                              | Lift motor rating at S3 4.5%                  | kW         | 1.5                | 3.2          | 3.2          |
|  | 6.3                              | Battery acc. to DIN 43531/35/36 A, B, C, no   |            | 2VBS               | 3VBS         | 3PZS         |
|  | 6.4                              | Battery voltage, nominal capacity K5          | V/Ah       | 24/180             | 24/270       | 24/350       |
|  | 6.5                              | Battery weight                                | kWh/h      | 175                | 230          | 288          |
|  | 6.6                              | Energy consumption acc. to VDI cycle          |            | 0.95               | 1.59         | 1.70         |
| <b>Electric-engine</b>   | 8.1                              | Type of drive control                         | dB(A)      | A.C.-speed control |              |              |
|  | 8.4                              | Sound level at driver's ear acc. to EN 12053  |            | <70                |              |              |
| <b>Additional data</b>   |                                  |   |            |                    |              |              |
|  |                                  |   |            |                    |              |              |