Safety
Thanks to its smart safety management, the L-MATIC anticipates and reacts autonomously to its direct environment. Advanced obstacles’ detection provides real-time speed adjustment to enhance productivity while offering the utmost safety.

Performance
The unique infrastructure-free geoguidance system makes the solution flexible and scalable. Stand alone or within larger fleets of robotic trucks, the L-MATIC can easily interact with the customer’s environment (doors, conveyors...) and even interface with WMS/ERP. The L-MATIC will always deliver the optimal drive speed to achieve the maximum throughput.

Reliability
Fully integrated in the warehouse product range, the L-MATIC benefits from all Linde quality standards, and the robust “DRIVEN BY BALYO” navigation technology. Always available, the L-MATIC will support your business 24/7 while offering significant cost-savings.

Comfort
The L-MATIC is natively designed to work in a shared environment with people. The user-friendly interface provides all needed controls & information at a glance. Moreover, the dual driving mode makes the L-MATIC intuitive to switch automatic/manual.

Productivity
Efficiency at work, efficiency in servicing.
With a computerized & remote diagnostic system, combined with predictive maintenance program, the L-MATIC remains available at any time.

Features
Driving system
→ Standard truck converted into a robotic truck
→ Dual driving mode - automatic/manual
→ Navigation laser, safety front & rear scanner, 3D camera, embedded computer, emergency stop buttons, light and sound warning indicators

Geoguidance navigation
→ Innovative infrastructure-free technology (no reflector)
→ Real-time mapping and localization
→ Seamless integration in existing layouts, gradual extension or global deployment

Smart safety
→ Real-time speed-adaptive detection fields
→ Dynamic cornering detection fields
→ Autonomous decision-making capability with 3D camera
→ Natural cohabitation with operators and other trucks
→ Pallets or obstacles detection thanks to the rear laser scanner

User interface
→ 7” LCD touch screen
→ Robotic truck, battery and system status
→ Real-time task management and report
→ Intuitive path localization
→ Service mode with PIN access
→ Log extraction via USB

Operations management
→ Stock line management (using front scanner)
→ Stand-alone or WMS/ERP directed
→ Supervisor software for task and smart traffic management
→ Various task triggers: call buttons, sensors, PLCs, Supervisor software

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Geoguidance navigation
→ Innovative infrastructure-free technology (no reflector)
→ Real-time mapping and localization
→ Seamless integration in existing layouts, gradual extension or global deployment
### Technical Data according to VDI 2198

#### Characteristics
1. **Manufacturer**
   - LINDE/BALYO
2. **Model designation**
   - L-MATIC
3. **Series**
   - 133
4. **Operation**
   - Robotic/manual
5. **Power unit**
   - Battery
6. **Load capacity/Load Q (t)**
   - 1.2 / 2.0
7. **Load centre c (mm)**
   - 600
8. **Axle centre to fork face x (mm)**
   - 948 (833)
9. **Wheelbase y (mm)**
   - 1625 (1510)
10. **Service weight (kg)**
    - 1415
11. **Axle load with load, front/rear (kg)**
    - 1367/1248 (1419/1996)
12. **Axle load without load, front/rear (kg)**
    - 1110/305
13. **Tyres rubber, SE, pneumatic, polyurethane**
14. **Tyre size, front**
    - Ø 254 x 102
15. **Tyre size, rear**
    - 2x Ø 85 x 85
16. **Auxiliary wheels (dimensions)**
    - Ø 125 x 60
17. **Wheels, number front/rear (x = driven)**
    - 1x + 2 / 2
18. **Height of mast, lowered h1 (mm)**
    - 1490
19. **Free lift h2 (mm)**
    - 150
20. **Lift h3 (mm)**
    - 150
21. **Height of tilt arm in operating position, min/max h4 (mm)**
    - 1440 / 1550
22. **Height, lowered h5 (mm)**
    - 86
23. **Overall length l1 (mm)**
    - 2285
24. **Height, lowered h13 (mm)**
    - 86
25. **Overall width b1/b2 (mm)**
    - 804
26. **Fork dimensions s/e/l (mm)**
    - 55 x 180 x 1150
27. **Width of fork carriage b3 (mm)**
    - 780
28. **Ground clearance, center of wheelbase m2 (mm)**
    - 20
29. **Aisle width with pallet 1000 x 1200 across forks Ast (mm)**
    - 2868 (2774)
30. **Aisle width with pallet 800 x 1200 along forks Ast (mm)**
    - 2739 (2694)
31. **Turning radius Wa (mm)**
    - 2066 (1951)
32. **Travel speed, with/without load (km/h)**
    - 6/6 (max. 7.2/2.9)
33. **Lifting speed, with/without load (m/s)**
    - 0.11 / 0.22 (0.06 / 0.06)
34. **Lowering speed, with/without load (m/s)**
    - 0.3 / 0.1 (0.0 / 0.1)
35. **Maximum climbing ability, with/without load (%)**
    - 5.0 / 5.0
36. **Service brake**
   - Electro-magnetic
37. **Drive motor, 60 minute rating (kW)**
   - 3
38. **Lift motor, rating at S1 15% (kW)**
   - 1.7
39. **Battery according to DIN 41531/35/36 A,B,C, no**
40. **Battery voltage/rated capacity (5h) (V/Ah)**
    - 24 / 175
41. **Battery weight (± 5%) (kg)**
    - 295
42. **Type of drive control LAC
43. **Noise level at operator’s ear (dB(A))**
    - < 70

1) Load distribution e.g. 1000 kg on the forks, 1000 kg on the fork arms. Total load max. 2000 kg. Including 30% safety margin.
2) Figures in parentheses with initial lift.
3) (± 5 mm)
4) ± 0 mm = 3 PzS lateral; + 100 mm = 3 PzS vertical and 4PzS lateral; + 150 mm = 4 PzS vertical; + 225 mm = 4 PzS vertical
5) Figures with battery, see line 6.4/6.5.
6) (± 10%)
7) Load arms 60x125x1119
8) Including a 200 mm (min.) operating aisle clearance.
9) Includes a 100mm clearance in front of front safety laser.
10) Figures in parentheses in automatic operation, forwards/backwards.

### Standard Equipment/Optional Equipment

#### Standard Equipment
- Navigation module on a robust frame with lighting signals, control panel, touch screen, communication module, navigation laser, front & rear safety scanner, traction/steering & lifting software management
- Drive wheel and tandem load wheels polyurethane
- Lateral change 3PzS
- Standard mast 1924 mm
- Fork carriage 560/1150/55 mm built out
- Pre-setting for wet battery
- Key switch truck access
- 2D curtain laser
- Polycarbonate mast protection
- Mobile load perception mounted on carriage (application shelves)
- 3D camera for volume perception (technical conditions apply)

#### Optional Equipment
- Load backrest h=1000mm
- Tandem load wheels greasable
- Mesh protection
- Pre-setting for gel battery
- Mobile battery trolley 1 battery
- Cable/connector Flex
- Cable/connector Perfect
- 3 m cable extension
- Blue spots single
- Additional louder horn
- Bar code reader, call button (COMBOX), various sensors...