

Phoenix BS-1,0 Lr

DRIVERLESS



Type of vehicle

- High-lift fork truck
- High-shift stacker
- Straddle truck
- Telescoping mast stacker
- Spreader stacker
- Drawbar stacker
- Teleskoping fork stacker
- Side shift stacker
- Narrow-aisle stacker
- High-rack stacker
- Tractor
- Drive-under tractor
- Platform truck
- Other

Special equipment

- RFID-/barcode reader
- Weighing function
- Metering function
- Roll conveyor
- Belt conveyor
- Chain conveyor
- Flexible load handling
- Cover lift
- Dual operation
- Stainless steel vehicle
- Clean room vehicle
- Outdoor vehicle
- Heavy-duty vehicle
- Other

Application example Deutz

In 2010, the inductively guided automated transport system at engine manufacturer Deutz's Köln-Porz location, which dated from 1992, was replaced. MLR System GmbH shipped 43 Phoenix BS-1,0 Lr model free-ranging fork trucks, which are now running on a route totaling about 6,800 meters at speeds up to 1.6 m/s (forward and reverse) in a three-shift operation, up to six days a week.

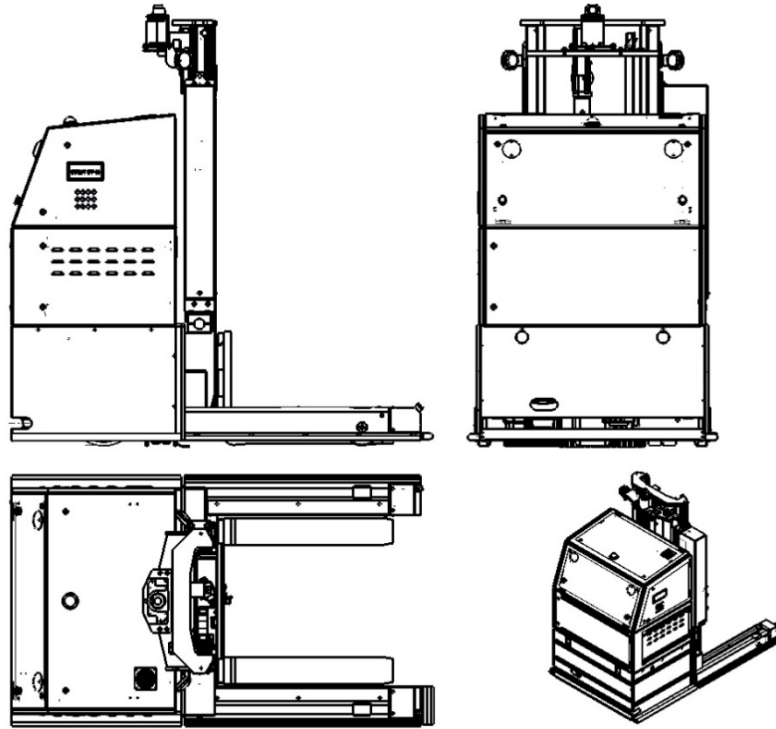
The vehicles used in this system are equipped with four different lifting forks, some with load centering. They are used to transport a great variety of loading units, which can weigh up to 1,000 kg. Transport boxes, lattice boxes, pallets in longitudinal and transverse orientation, large and small engines, and special racks.

The lifting forks can also reach a height of 3,500 mm in order to service the rack system.

Control and coordination of the automated guided vehicles are handled by MLR's own management and control software, LogOS. LogOS also controls the numerous interfaces, such as around 1,600 transfer points, and peripheral equipment, such as conveyor systems, transfer tables, graphic interface systems, and terminals.

With the new vehicles and the above measures, the performance of the entire system was increased by 30% from 5,800 transport moves per day.

Technical data



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Dimensions (L x W x H)	Type 1 = 2,332 x 1,383 x 2,434 mm; Type 2 and 4 = 2,541.5 x 1,383 x 2,434 mm
Weight with battery	2,450 kg
Load capacity	1,000 kg
Ground clearance	28 mm beneath the vehicle frame
Speed	1.6 m/s forward and backward
Power and steering drives	Wheel hub drive with steering system Drive motor: 48 V/4.0 kW Steering motor: 48 V/1.46 kW AC
Battery	NiCd battery 48 V/130 Ah
Protective devices	Emergency stop buttons: two on front structure, two at the rear on the support legs, front laser scanner, rear laser scanner on support leg, strip sensors on the sides and left rear.
Appropriate loads	Type 1 and 2: Wood pallet: (L x W x H) 800 x 1,200 x 1,520 mm; KOM box, mesh box: (L x W x H) 1,240 x 835 x 970 mm; Type 4: Motors: (L x W x H) 1,315 x 800 x 1,350 mm; MUL: (L x W x H) 1,290 x 800 x 1,940 mm