



GEBHARDT StoreBiter[®] MLS

Efficiency at All Levels



FOR MORE EFFICIENCY IN THE WAREHOUSE

Multi-channel distribution and inventory reduction, along with the supply chain, leads to a large, constantly changing variety of articles in storage. In addition, the trend towards smaller order quantities leads to numerous individual orders and picking orders. At the same time, advancing digitalisation and the desire to customise structure, throughput, and item size are increasing the pressure on intralogistics. These challenges make an automated warehouse that optimally organises and controls internal material and goods flow and the increasingly complex and small-scale order picking indispensable.

FLEXIBLE ACCESS ON MULTIPLE LEVELS

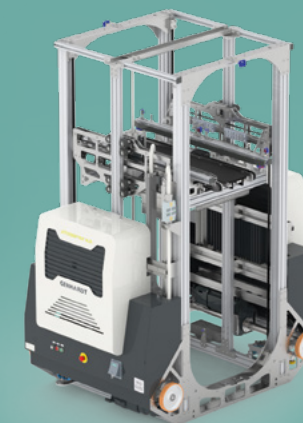
The GEBHARDT StoreBiter® Multi-Level Shuttle (MLS) is a highly dynamic shuttle system and serves multiple storage levels. It is suitable for single and multi-deep storage and retrieval and horizontal and vertical conveying of containers, trays, cartons, and other load carriers on several storage levels. It realises effective storage and retrieval of your goods according to the goods-to-person principle. Depending on the load handling device (LHD), the shuttle system transports load carriers to a maximum payload of 120 kg.

With the StoreBiter® MLS, MLS high and MLS ultrahigh, we offer three versions that can be applied for most applications. All versions have an all-wheel drive. The power is transmitted via a conductor rail system, and an optical laser measuring system carries out the positioning. Furthermore, data transmission takes place with the help of a data photocell. All electrical elements are quickly and easily replaced, reducing maintenance time and costs.



Technical Data

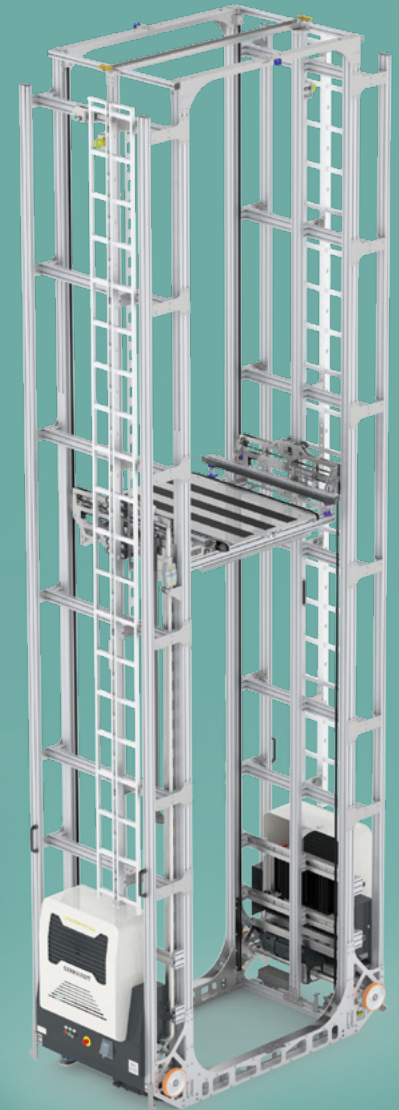
	MLS	MLS high	MLS ultrahigh
Max. height	3 m	5 m	7,5 m
Max. payload	1 x 120 / 2 x 60 / 3 x 35 / 4 x 25 kg	1 x 120 / 2 x 60 / 3 x 35 / 4 x 25 kg	1 x 120 / 2 x 60 / 3 x 35 / 4 x 25 kg
Max. horizontal travel speed	4 m/s	3 m/s	3 m/s
Max. horizontal travel acceleration	1,5 m/s ²	1,2 m/s ²	1,2 m/s ²
Max. lifting speed	0,8 m/s	0,8 m/s	0,8 m/s
Max. lifting acceleration	2 m/s ²	2 m/s ²	2 m/s ²
Conveyed goods	Containers, cartons, trays and load carriers in various lengths, widths and heights		



StoreBiter® MLS



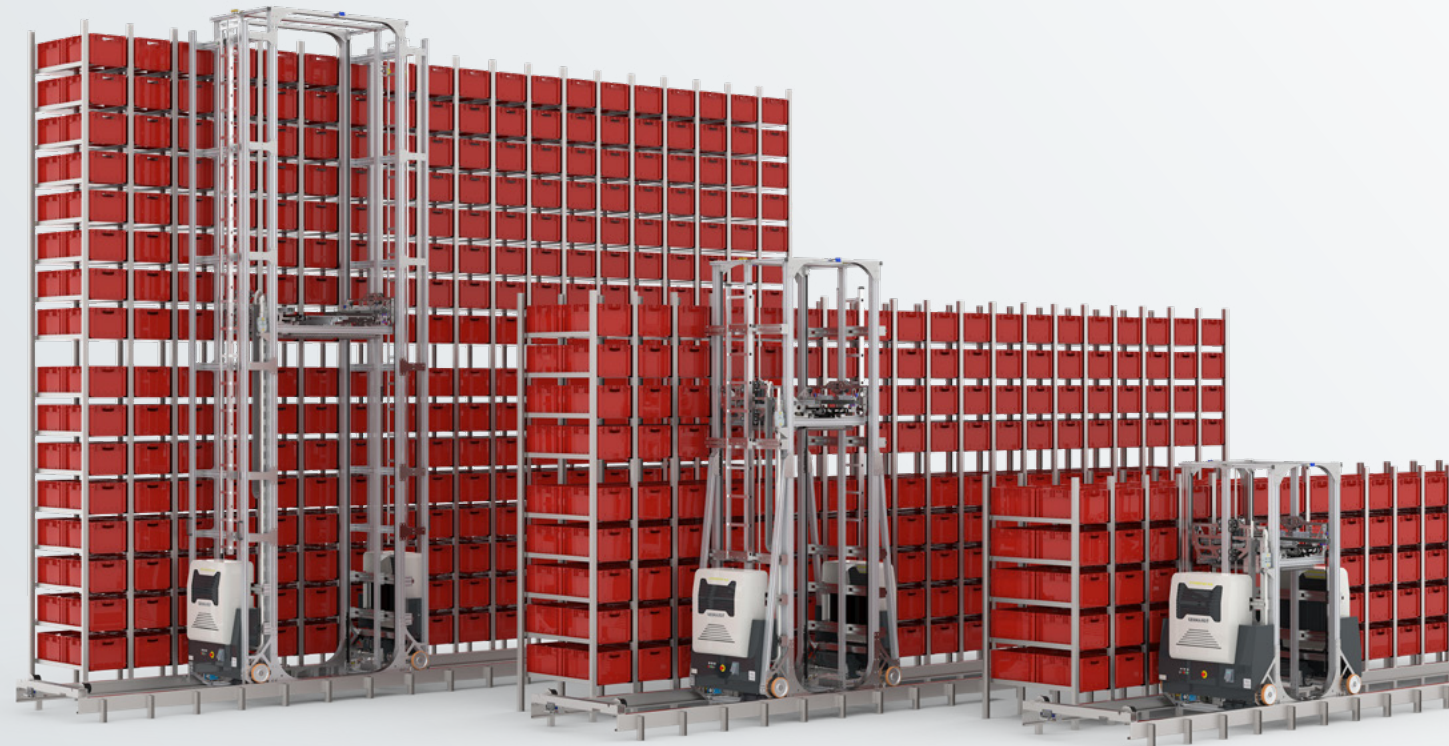
StoreBiter® MLS high



StoreBiter® MLS ultrahigh

SIMPLY MORE BENEFITS

- Higher throughput than classic miniload solutions
- Effective access to goods to be stored and retrieved
- Modular design for flexible expansion
- Optimum storage density due to double- or quadruple-deep storage
- Less maintenance than single-level shuttles
- Perfectly suited for retrofitting SRM warehouses
- Goods-to-person principle directly to picking workstations
- High quality and robust performance



Max. horizontal travel speed

4 m/s

Ambient temperature range

5-40 °C

Max. humidity (non-condensing)

80 %

Max. length of conveyed material

1,450 mm

Max. width of conveyed material

850 mm

Max. payload

120 kg

THE RIGHT SYSTEM FOR YOUR APPLICATION

The StoreBiter® MLS system can be used in various ways, such as a consolidation buffer with sequenced container delivery or in combination with the GEBHARDT KARIS® automated guided vehicle system for production supply. Thanks to its modularity, the MLS is easily adapted to your warehouse; it's possible to implement the system as throughput channels or use it in dispatch warehouses.

SHUTTLE WAREHOUSE CONSOLIDATES ORDERS AT GOODS ISSUE

At Avnet Inc, one of the world's largest distributors of electronic components and computer products, a three-aisled shuttle warehouse with twelve StoreBiter® Multi-Level Shuttles (MLS) is in use for efficient and space-saving order processing and consolidation.

The shuttle warehouse achieves over 400 double cycles per aisle, ensuring efficient and fast order consolidation. Containers and cartons are buffered until all products belonging to an order have arrived. Only then will they be retrieved sequentially, saving freight costs, and increasing customer satisfaction.



MODULAR DESIGN FOR MAXIMUM FLEXIBILITY

You gain incredible flexibility with the three StoreBiter versions and the system's modularity. Regardless of the requirements you have for your warehouse, the MLS system meets them with efficiency and reliability.

The complete storage system consists of the rail-mounted StoreBiter® MLS, the single-aisle or multi-aisle shelving system with lifters and rails, and the control system. Compared to classic miniload solutions, the system offers significantly higher storage and retrieval performance. Each aisle of the StoreBiter® MLS can access several storage levels, making it suitable for the cost-effective storage of a wide range of goods.

Using different load handling devices (LHD), the MLS gently transports various of goods and stores them at one or more depths. Three different LHD are available depending on the requirements:



BIG, EVEN ON A SMALL SCALE – GEBHARDT AND ZIEHM IMAGING

Shuttle systems have proven valuable even in smaller warehouses, as demonstrated at the medical technology company ZIEHM Imaging. ZIEHM specialises in the development, production, and worldwide marketing of C-arms. Here, the StoreBiter® MLS is the ideal alternative to a classic storage and retrieval machine (SRM) due to its low building height and only one device per building floor.

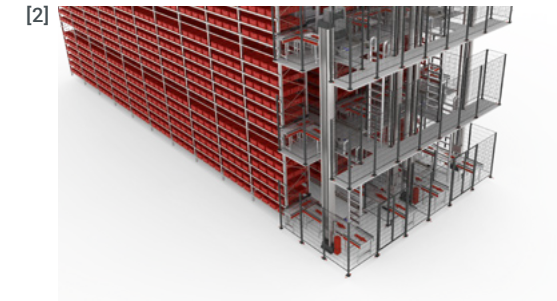
The realised automatic miniload warehouse has one aisle on the ground floor and one on the upper floor. The warehouse is double- or quadruple-deep and is operated with one StoreBiter® MLS per floor. The shuttle warehouse on the upper floor is connected to the basement via a lifter. In total, the miniload warehouse has a storage capacity of 6,440 storage bays and stocks approx. 12,000 items ranging from series parts to all available spare parts. The GEBHARDT material-flow computer controls storage management, monitors the warehouse, and assigns containers to their storage spaces. The software considers that the storage locations are evenly loaded and that the maximum ground load is not exceeded. In addition to a guaranteed high throughput, the shuttle system minimises the floor load. A real advantage over the classic solution.

A System with One MLS

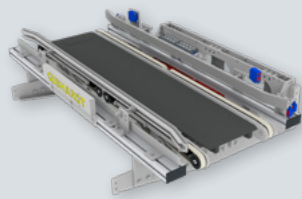
In this application [1], the MLS travels through the centre aisle of the shelving warehouse like a storage and retrieval machine and transfers the goods to a transfer conveyor. The advantage over a classic SRM is that even at very low heights of two metres, for example, it can be realised. This means that even shallow warehouses can be used efficiently.

A System with Several MLS

In this variant [2], several MLSs are arranged on top of each other and connected via a lift. Using several units results in higher performance, meaning the performance is scaled by the number and height of the MLS.



Telescopic fork with belt conveyor



- Single bay shelving with feed angle
- Containers, trays

Multiform gripper with roller conveyor



- Shelving system
- Cardboard boxes and different sized bins

Extractor technology



- Single bay shelving with support angle
- Trays



Learn more:
bit.ly/gebhardt-dr-schwabe-en
Or at [gebhardt.com](https://www.gebhardt.com)

NEXT GENERATION INTRALOGISTICS

Already in its third generation, the name GEBHARDT is closely associated with innovative intralogistics solutions. The company has always developed, manufactured and installed individual products as well as complete turnkey solutions. The portfolio includes storage systems, conveyor systems, sorting and order picking systems as well as goods lifts, automated guided vehicles and software applications.

The complete range of solutions, intelligent software and life-cycle services enables the most reliable and efficient automation technology for retail & e-commerce, food & beverages, automotive, healthcare, contract logistics, fashion & consumer goods and industry.



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