Techwagonmash

COMPREHENSIVE SOLUTIONS

Sheet Metal Storage Systems

Sheet Metal Storage Systems

Sheet metal storage system is a modern solution for the storage of a wide range of rolled metal products, its control and identification.
Storage of sheet metal is carried out in special trays, which, after loading, are automatically transferred to the storage location. This is a fundamentally new way of storage; it allows to create significant stocks of raw materials for production in the immediate vicinity of the processing equipment.

In any production, sheet metal storage systems allow using the existing storage areas to the full.

Benefits

Save time

Automated storage systems significantly reduce the time for supplying sheet metal to production.

Integration with WMS & ERP systems

Automated storage systems are easily integrated with top-level enterprise management systems WMS and ERP.

Save space

Placing sheet metal in automated storage systems can significantly reduce storage space.

Reduce staff

Automated storage systems allow to reduce the number of service personnel, mistakes by workers and the impact of the human factor.

Safety

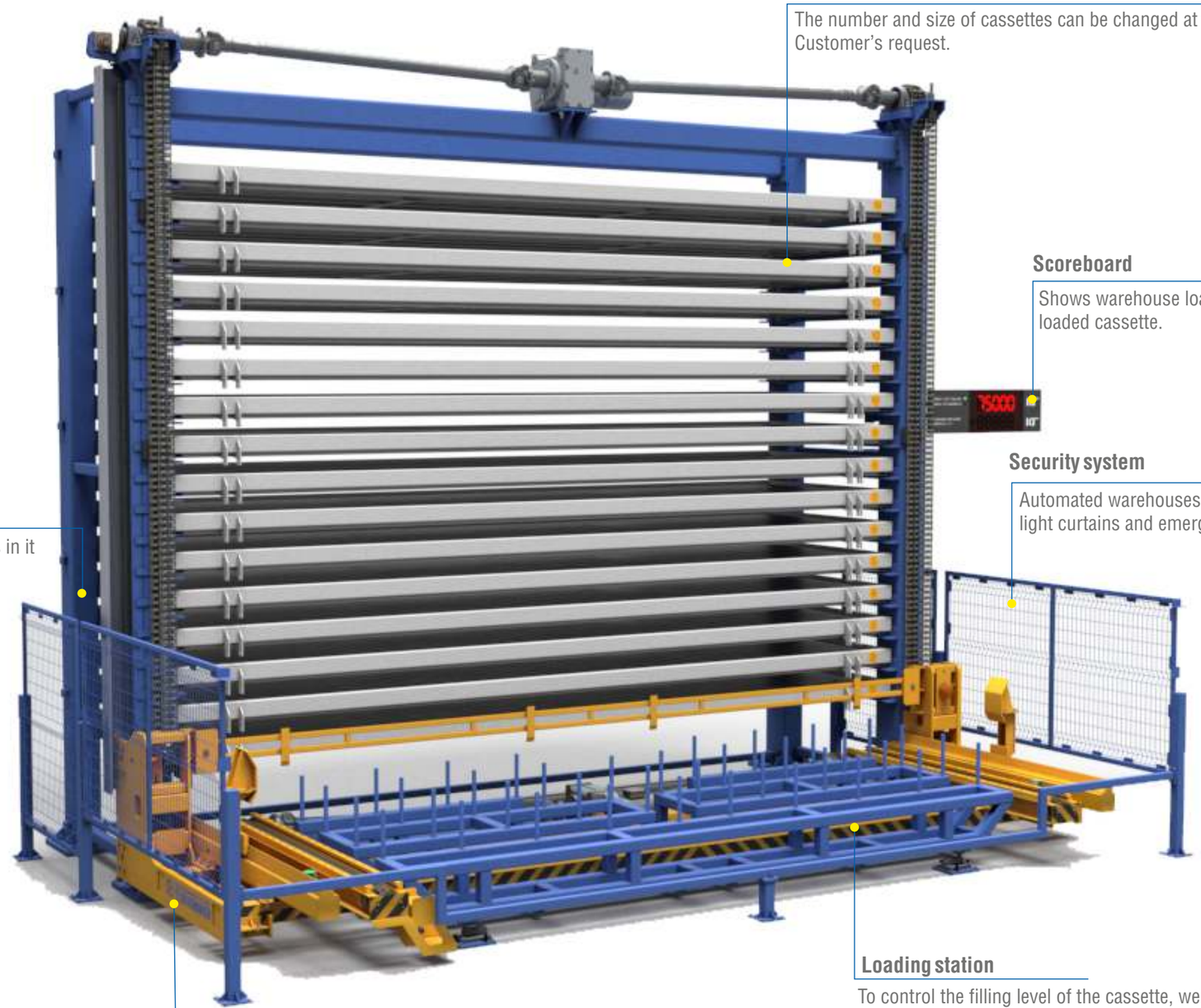
Automated storage systems ensure a high level of safety in the storage process.

Storage control

StoreMet software provides information on the availability of materials in the storage system and generates reporting documentation.

Description

An automated warehouse for storing rolled metal products is a complex system consisting of several key components.



Cassettes

The number and size of cassettes can be changed at the Customer's request.

Scoreboard

Shows warehouse loading, weight of metal in the loaded cassette.

Security system

Automated warehouses are equipped with fences, light curtains and emergency buttons.

Power frame

Metal structure for placing cassettes in it

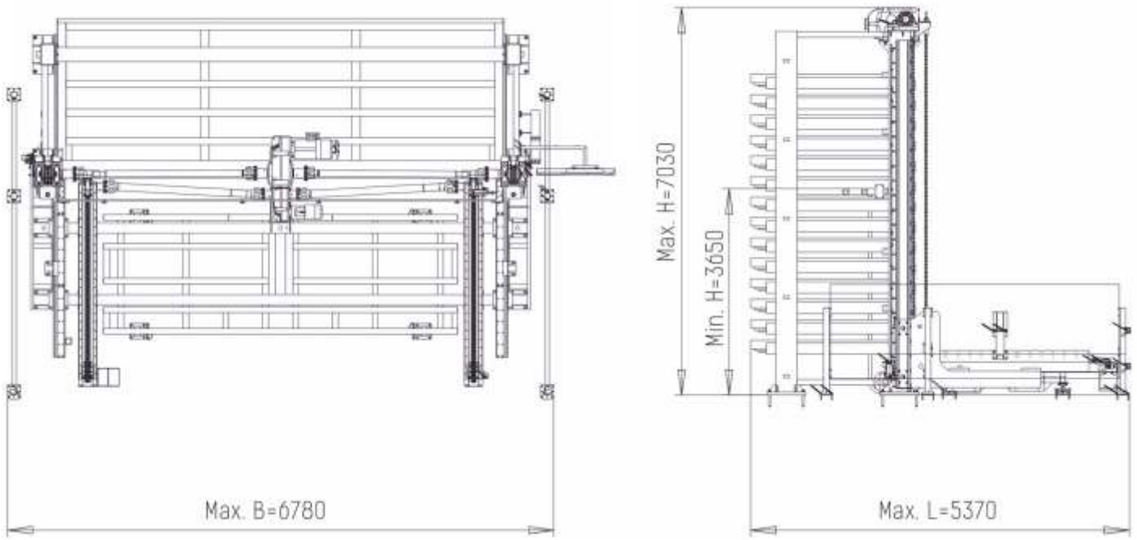
Traverse

Traverse with horizontal and vertical movement mechanisms

Loading station

To control the filling level of the cassette, weight sensors and fill level sensors are installed.

Technical data



Number of cassettes	Height of the storage system (cassette 3200x1500)	Height of the storage system (cassette 4200x1700)	Height of the storage system (cassette 6200x2100)
8	4000 mm	3650 mm	3790 mm
9	4300 mm	3900 mm	4060 mm
10	4600 mm	4150 mm	4330 mm
11	4900 mm	4400 mm	4600 mm
12	5200 mm	4650 mm	4870 mm
13	5500 mm	4900 mm	5140 mm
14	5800 mm	5150 mm	5410 mm
15	6100 mm	5400 mm	5680 mm
16	6400 mm	5650 mm	5950 mm
17	6700 mm	5900 mm	6220 mm
18	7000 mm	6150 mm	6490 mm
19		6400 mm	6760 mm
20		6650 mm	7030 mm
21		6900 mm	

Description

Lifting devices

Equipping an automated warehouse with lifting equipment allows for a reduction in the time it takes to deliver metal for processing.

Weighing system

To control the filling level of the cassette, weight sensors and fill level sensors are installed.

Siemens touch panel

The warehouse management system has a simple and user-friendly interface and allows any employee to master warehouse management after a short training session.

Safety

Automated warehouses are equipped with warning light and sound signals.

Laying with a forklift

Possibility of stacking using a forklift.

Design versions

Sheet metall storage systems (base model)

Sheet metal storage system with double-sided loading

Sheet metal storage system with unit loads storage capacity

Sheet metall storage systems (double-turret layout)

Plasma or laser integrated version

Warehouse management system and software

Modern microprocessors in the warehouse management system allow for quick cassette requests and support flexible and fast integration with ERP/WMS enterprise management software systems.

Control system

The warehouse management system is based on a Siemens controller, a Siemens touch panel, SEW-Eurodrive frequency converters, and a weighing module. The controller communicates with the actuators and peripheral devices via the PROFINET network and discrete signals.

Software

For warehouse management, the StoreMet software package includes:

- Manage inventory balances, identifying their exact location (warehouse cell);
- Control inventory receipt/write-off procedures using automated warehouse controller data;
- Generate necessary reporting documentation;
- Ensure access rights to data using authentication mode.

Case Studies

About the enterprise

With four decades of expertise, Research-and-production enterprise «Techwagonmash» specializes in the design and manufacture of cutting-edge equipment tailored for the transport engineering sector. As the proud successor of VNIIPTivagon —the prestigious All-Union Scientific Research Institute of Railcar Engineering —Techwagonmash continues to lead innovation and set industry standards in the development of transport engineering enterprises.

Our core areas of expertise include:

- comprehensive design and outfitting of transport engineering enterprises;
- design and manufacture of specialized technological equipment for railcar production;
- technological equipment for railcar repair;
- robotic welding complexes;
- shot blasting and abrasive blasting equipment;
- paint spraying and drying booths;
- filtration and ventilation systems.

Fields of activity

Painting and drying booths

Design and manufacture of paint spraying and drying booths for coating rolling stock, heavy-duty trucks, and large welded metal structures.

Shot blasting and abrasive blasting equipment

Equipment for cleaning sheet and profile metal, pipes, welded metal structures, and large-scale castings.

Automated drilling complexes

Equipment designed for high-efficiency coordinate machining of parts without the need for preliminary marking or the use of jigs.

Operations performed include drilling, reaming, countersinking, and threading.

Robotics and automation of welding production

Design and manufacture of specialized technological equipment for the automation and robotic integration of welding processes.

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