

EXCELLENCE IN WAREHOUSE LOGISTICS

Targeted Optimization of Warehouse Processes - Including
Modular Solutions for Manual to Semi- or Fully Automated Systems

ssi-schaefer.com

The SSI SCHAEFER logo is located in the bottom right corner of the page. It features the letters 'SSI' in a bold, red, sans-serif font, followed by 'SCHAEFER' in a bold, black, sans-serif font. The background of the logo is a yellow rectangular block. The overall image is a high-angle, perspective view of a modern warehouse interior, showing a complex system of yellow and grey metal structures, including a large yellow vertical lift or conveyor system with a scale and a 'REVERSE' button. A worker is visible at the bottom of the frame, operating a piece of machinery. The lighting is bright and industrial.

YOUR STRONG PARTNER FOR LOGISTICS

Future-proof logistics solutions must fit seamlessly into your processes, be infinitely expandable, and readily adaptable. Modular solution components are key especially when it comes to warehousing, and SSI SCHAEFER customizes components to fit your needs.

Cost Effective and Efficient Warehousing

The goal of effective warehousing is to maximize available storage space, preferably at minimum cost. One key requirement is having a large portion of stored goods easily accessible at all times.

SSI SCHAEFER offers efficiency-enhancing warehouse systems from a single source. Our products feature pallet racks, container systems, mezzanines, miniload systems along with dynamic storage and retrieval machines and shuttle systems.

Our systems allow you to maximize existing space and provide you with almost unlimited design options.

FEATURES & BENEFITS

- Complete solutions from a single source
- Modular and scalable systems
- Wide range of systems, from manual to semi-automated and fully automated
- High-performance and modular software solutions
- Cost savings from optimized processes
- Many years of experience and comprehensive expertise
- Extensive portfolio of services



Complete Solutions from a Single Source

As a global general contractor, SSI SCHAEFER offers complete logistics solutions, including tailored conveying systems, flexible picking systems, customized service and maintenance packages.

WAMAS® With our in-house developed WAMAS® logistics software, we combine intralogistics components to create an intelligent overall system. Clear visualizations and comprehensive tools manage processes, resources, and stock levels, ensuring efficient warehouse operation.



1 MANUAL SYSTEMS FOR SMALL LOAD CARRIERS



2 SEMI- AND FULLY AUTOMATED MINILOAD SYSTEMS



3 MANUAL AND SEMI-AUTOMATED SYSTEMS FOR LARGE LOAD CARRIERS



4 FULLY AUTOMATED SOLUTIONS FOR LARGE LOAD CARRIERS



1

FLEXIBLE AND ECONOMICAL MANUAL STORAGE OF SMALL PARTS

Regardless of what type of parts you need to store, SSI SCHAEFER can tailor a specific solution to meet your requirements. We offer variable and high-quality rack systems for manual storage options.

Our shelving systems successfully overcome almost all logistic challenges. On the other hand, gravity flow racks optimize your picking processes. With SSI SCHAEFER special warehouse systems, you can solve even the most challenging problems. Our systems include longspan and live racks, mobile racking systems for light to medium weight loads, mobile racks for tires and storage solutions for hanging goods and hazardous materials.

Matching Container Systems

SSI SCHAEFER also offers appropriate container systems for a wide range of applications. Plus, with our large array of engineered packaging solutions, you'll have the best protection for your products.

FEATURES & BENEFITS

- Comprehensive product compatibility
- In-house production - single-source solution
- Highly flexible, superior quality, and durable
- Excellent price/performance ratio
- Wide range of products with custom solutions with a high degree of standardization
- Many years of experience and comprehensive expertise





Shelvings for Variable and Economical Storage

Whether single or multi-story systems, SSI SCHAEFER is able to provide customizable shelving systems for a wide range of potential uses.

Our rack systems offer maximum flexibility. Shelving systems from SSI SCHAEFER feature variable adjustment and meet the highest ergonomic requirements.

From custom project drawings to spare parts and inspection services, SSI SCHAEFER offers all services as a single source provider.

YOU BENEFIT FROM

- ✓ Subsequent expandability and adaptability
- ✓ Quick availability from the SSI SCHAEFER online store
- ✓ Versatile with an extensive selection of accessories
- ✓ Plug-in system for quick assembly
- ✓ High load capacity
- ✓ Comprehensive spare parts and inspection services

Schenker: Warehouse Solution for Spare Parts

To ensure a fast supply chain in the Swiss market, Schenker Schweiz AG built a new distribution center for the automotive industry in Effretikon, Switzerland. The project included a three-story rack platform system fitted with different versions of the shelving system R 3000. Depending on the stored goods, trays of different depths or special hanging devices for long products are utilized.



2

SOLUTIONS FOR SEMI- AND FULLY AUTOMATED MINILOAD SYSTEMS

SSI SCHAEFER is among the few specialists that offer not only rack structures and load carriers, but also matching storage systems. This allows us to implement custom solutions to fit your specific needs.

Semi- and fully automated small parts warehouses enable efficient processes by automating individual work steps and maximizing space. Depending on the selected load carrier and the necessary speed, the storage density can increase further or can reduce rack costs.

FEATURES & BENEFITS

- Zero-error picking
- Modular and scalable solutions
- Short access and delivery times, ideal for e-commerce
- High dynamics and handling capacity even with a large assortment of items
- Single or multi-space storage, single- to multiple-deep, integrated dynamic channels

Achieve Ergonomic Zero-Error Picking with SSI Carousel

The SSI Carousel is a scalable, modular warehouse picking system.

Extremely high storage density and flexible expandability make it an intelligent solution for highly dynamic picking processes that can grow with your needs.

YOU BENEFIT FROM

- ✓ Goods-to-person picking system with low noise emissions
- ✓ Low energy consumption
- ✓ Zero-error picking
- ✓ Optimized material flow and short order lead times
- ✓ Extremely gentle on products





The SSI LOGIMAT® Vertical Lift Module Offers Storage and Picking in One Solution

The SSI LOGIMAT® vertical lift module is a small parts warehousing and picking solution in one systems, which is based on the "goods-to-person" supply chain principle. A space-saving alternative that focuses on ergonomics, safety, and cost-effectiveness.

The storage lift can be used in any industrial sector and supports your internal processes in a particularly efficient and target-oriented way.

YOU BENEFIT FROM

- ✓ Scalable and easy connection to existing processes
- ✓ Reduces storage footprint up to 90% compared to static storage solutions
- ✓ Eliminates unnecessary work steps and reduces travel times by over 70%
- ✓ Ergonomic design features and automated processes improve performance by 20%

TOOLS Finland Oy: Increased Picking Performance by 40%

TOOLS Finland Oy, supplier of industrial consumables, components, and associated services in Northern Europe, made a decision in 2016 to fully reorganize its distribution processes at its location in Kotka, Finland. High-density warehousing and picking of low-volume items in a small space resulted in a sharp increase in picking performance by 40% across all lines with the SSI LOGIMAT® vertical lift module. The customized picking and transport bins were also a part of contract awarded to SSI SCHAEFER.

FULLY AUTOMATED SYSTEMS FOR MAXIMUM GOODS AVAILABILITY

Automated small parts systems from SSI SCHAEFER are scalable systems for dynamic and space-saving storage in bins, cartons, or on trays while utilizing the full room height. Storage and retrieval machines and shuttles ensure that warehouse processes run efficiently.

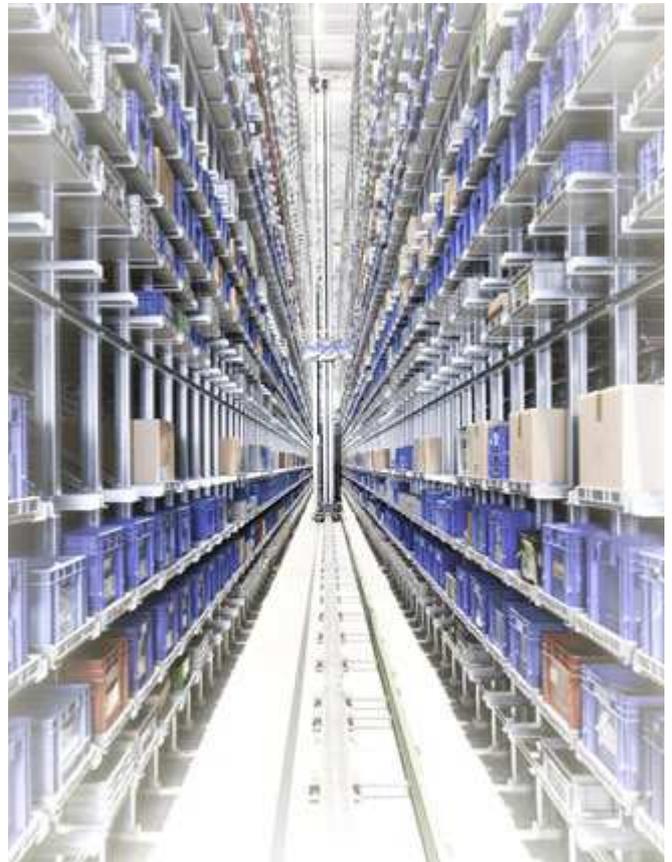
Gain Maximum Use of Space with the SSI Miniload

The SSI Miniload allows storage of bins, cartons, and trays and is the perfect solution for maximum usage of vertical storage while using a minimum amount of floor space. Plus, reach additional performance rates by using a two-story bin design.

SSI SCHAEFER offers a wide range of solutions for integrating storage systems into automatic and manual warehouse equipment, from goods-in to picking points, and ultimately to shipping.

YOU BENEFIT FROM

- ✓ Optimized storage volume
- ✓ Adaptation to the individual warehouse strategy thanks to a modular design
- ✓ Short order lead times
- ✓ Flexible adjustments to incorporate modified logistics parameters and processes
- ✓ Suitable for cold-temperature applications
- ✓ Single- to multi-deep storage



A Scalable Automated Miniload System for Belimo

For Belimo, a global market leader in the development, manufacturing, and distribution of actuator solutions for heating, ventilation, and air conditioning system controls, SSI SCHAEFER implemented an automated warehouse solution at Belimo's facility in Danbury, CT. It includes workstations, a narrow-aisle warehouse, bin systems, the WAMAS® logistics software, and a automated miniload system for 16,320 storage locations with 264 dynamic channels, which can be expanded to match future growth.



Shuttle Systems for all Applications

SSI SCHAEFER offers an extensive portfolio of shuttles for all storage requirements. Whether single-level or multi-level shuttles, bins, cartons, or trays, we offer a broad range of systems that guarantee fast and flexible material transport with short access times.

Combined with the patented 3D-MATRIX Solution®, which features storage, buffering, and sequencing in one system, these shuttle systems can significantly increase performance rates.

FEATURES & BENEFITS

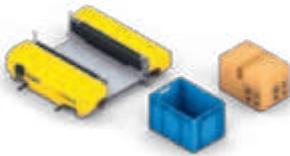
- A dynamic, flexible, and sustainable solution
- Modular and scalable solutions for future growth
- High storage density and fast access
- Excellent use of space
- Low maintenance thanks to high-quality and proven machine elements
- Connection to higher-level ERP systems with in-house developed software solutions

The SSI Flexi Offers a Variety of Intelligent Functional Storage



Thanks to a universal load handling device, the single-level shuttle optimizes storage for a wide variety of transport units up to 50kg. Adjustable storage location sizes make the SSI Flexi the perfect choice for various dimensions--even under freezing conditions.

The SSI Cuby Provides High Availability and Efficiency



The highly standardized single-level shuttle is the ideal solution for fully automated storage of packages of up to 35 kg. A scalable lifting system with a two-story function ensures high performance and optimum material flow in a compact system layout.

The SSI Navette Includes High Performance and Scalability



SSI Navette is a flexible, multi-level shuttle with two load handling devices, one on top of the other for high performance. The shuttle is integrated into the steel framework of the rack aisles and serves up to eight storage levels as an individual component, which two levels work in parallel.

3



MANUAL AND SEMI-AUTOMATED SYSTEMS FOR LARGE LOAD CARRIERS

Customized racking systems, efficient high-bay warehouses, or space-optimized channel storage from SSI SCHAEFER offers an intelligent solution for flexible handling of large load carriers.

To further improve the efficiency of your warehouse processes, SSI SCHAEFER offers one of the most extensive ranges of products in the field of pallet racking systems available. In addition to cantilever, pallet, and pallet dynamic flow racks, our product offering also includes mobile pallet racking and channel storage systems. Mezzanines round off our extensive range of products.

FEATURES & BENEFITS

- Comprehensive product compatibility
- In-house production - single-source vendor
- Highly flexible, superior quality, and durable
- Special requirements relating to heavy weights are easily implemented
- Decades of experience and comprehensive industry knowledge experts

Make Efficient Use of Space with Mezzanines

Quickly multiply available storage space with SSI SCHAEFER mezzanines. These platforms are self-supporting and are built to last. Each platform is individually crafted to meet various load requirement on site. Depending on your application, SSI SCHAEFER can build platforms as a multiple-story system.

A Wide Range of Pallet Racking Systems for Any Application

Choose from our wide portfolio of long, narrow, and wide-aisle warehousing solutions or systems that offer single- or double-deep storage. Choose an extensive range of accessories such as floor gratings, crash protection, rear wall paneling, and support beams.

Additionally, SSI SCHAEFER trains all your warehouse staff in rack safety, teaching them how to properly handle the systems, thus ensuring your investment will last for years to come.

YOU BENEFIT FROM

- ✓ Customized rack systems, ideally suited to your needs
- ✓ Quick availability from our online store
- ✓ Solid and rugged design
- ✓ Simple set-up with very few components using a plug-n-play system
- ✓ Load-bearing capacity of frame up to 30 tons
- ✓ Load bearing capacity of cross-members up to 4.5 tons



RedMart: Intelligent Linkage of Standardized Modules

SSI SCHAEFER set up a warehouse with approximately 10,000 m² for Singapore's leading online food retailer. Different manual solution elements are linked to form an intelligent process including pallet racks with 1,140 spaces, a two-level freestanding mezzanine with 940 m², a long-span shelving with 1,000 rack levels and live storage shelving with approximately 500 shelves for cartons.



EFFICIENCY IN MOTION

Channel storage systems and heavy-load mobile racking systems carry large loads and ensure high surface density. Equipped with intelligent technology, they make quick storage and retrieval processes possible even in low-temperature environments.

Channel Storage Systems for Maximum Use of Space

Channel storage systems are an excellent way to maximize space and save on operations. This technology is especially suitable for handling large quantities of small assorted items or for energy-intensive, temperature regulated environments.

With the intelligent SSI ORBITER®, SSI SCHAEFER offers both semi- as well as fully-automated applications. Thus, in addition to the efficient use of space, it also improves availability, delivery capability, and the quality of service.

YOU BENEFIT FROM

- ✓ Reduced fixed cost due to utilizing a small footprint for storage
- ✓ Suitable for refrigeration and freezing applications down to -30 °C
- ✓ High scalability
- ✓ Handling of both FIFO/FILO operations in one warehouse
- ✓ Unique conveying system (channel shuttles)
- ✓ Wide range of potential applications (beverage or food industry)

Pallet Mobile Racking with High Load-Bearing Capacity

Heavy-load mobile rack systems for pallet and long-goods storage are designed to meet the upmost requirements relating to weight and size of the stored goods. Thanks to a

state-of-the-art control system, this mobile system focuses on personal safety. A modular concept provides the capability of customizing the system according to individual specifications.

YOU BENEFIT FROM

- ✓ 90% higher capacity on the same floor area
- ✓ 60% lower construction volume with 40% space gain
- ✓ Reduced operating and real estate costs due to excellent space utilization
- ✓ Save up to 80% on space
- ✓ Direct access to pallet locations avoids unnecessary and time-intensive relocation
- ✓ High performance thanks to intelligent warehouse strategies
- ✓ Suitable for use in low-temperature applications

Maximum Occupation Density for Kloosterboer Delta Terminal

The Kloosterboer Group is a logistics supplier specializing in temperature-controlled storage and distribution of food products. By making use of mobile racking systems, access to storage spaces is guaranteed at any time, ensuring optimized storage according to the FIFO concept. The plant in Maasvlakte, Netherlands, spans an area of 9,600 m² and features eight cells for cooling and freezing applications with a total warehouse capacity of more than 10,000 pallets.



4

FULLY AUTOMATED SOLUTIONS FOR LARGE LOAD CARRIERS

High-bay warehouses optimize your logistics at great heights by using maximum space, fast and direct access, safe vertical storage greater than 45 m high.

With automated high-bay warehouse systems from SSI SCHAEFER, you benefit from high storage density, high process speed and safety, excellent availability (24/7), and a maximum use of space. Storage and retrieval machines and shuttle systems guarantee fast and flexible material transport with short access times. In addition, SSI SCHAEFER provides solutions for fully automated storage of entire pallet layers on trays.

FEATURES & BENEFITS

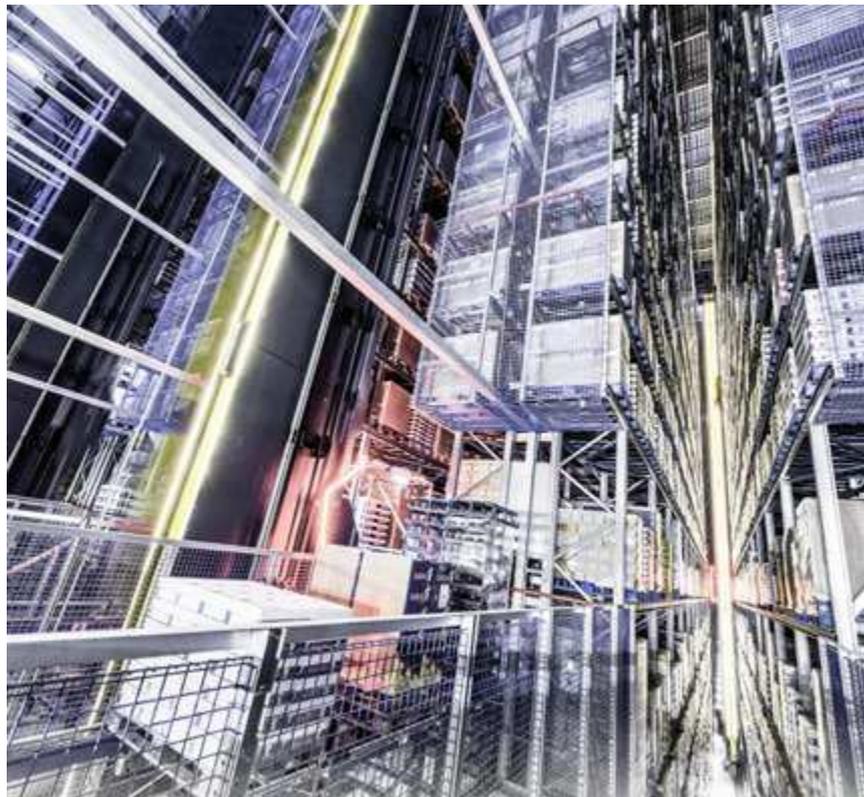
- Unique custom solutions to meet specific requirements
- Choose from a wide variety of options- including size and height preferences
- Solutions for even the most extreme applications, including low-temperature environments
- Reliable delivery thanks to an in-house steel mill
- Systems are expandable and can be modified, even after many years

The SSI Exyz for Maximum Energy and Cost Efficiency

The SSI Exyz pallet storage and retrieval machine is an ideal solution for fully automated pallet storage in high-bay storage systems of 8 to 45 m in height. Its flexibility is incredibly impressive: For example, the storage and retrieval machine can act as a single or double mast system with one or two load handling devices for single-, double-, or multi-deep storage and retrieval, including SSI Orbiter LHD.

YOU BENEFIT FROM

- ✓ Ideal solution for fully automated storage and retrieval of large load carriers
- ✓ A modular design and in-house production
- ✓ Significant reduction in operating costs thanks to efficient energy usage
- ✓ Simple maintenance: The units can be maintained entirely from the floor
- ✓ Reduction of operating and construction costs thanks to highly compact construction





Efficient Pallet Channel Storage with SSI Lift&Run

The SSI Lift&Run multi-level shuttle allows highly dynamic channel storage pallet handling. The SSI Orbiter LHD load handling device performs the storage and retrieval in the rack channel. The design of the patented 3D-MATRIX Solution® allows additional performance increases.

YOU BENEFIT FROM

- ✓ Pallet jack with flexible Orbiter channel shuttle
- ✓ Highly suitable for applications in the beverage industry
- ✓ High density and maximum scalability
- ✓ Multiple turnover performance without loss of storage space by using several devices, one on top of the other
- ✓ Increased throughput thanks to the compatible patented 3D-MATRIX Solution®
- ✓ Integrated lift allows the flow of goods-in and goods-out to become disentangled
- ✓ Energy saving thanks to the low weight and energy-efficient drives

RheinfelsQuellen: The Beginning of a New Logistics Era

SSI SCHAEFER designed a fully automated high bay warehouse for RheinfelsQuellen featuring 53,000 pallet slots and two electric overhead conveyors. The solution interconnects production, warehousing, picking, shipping and the empty goods area. The SSI Lift&Run provides the necessary throughput with 16 devices. The SSI Orbiter LHD shuttles store and remove the pallets in channels with a variable depth of up to 22 units. Four SSI Exyz storage and retrieval machines, also equipped with SSI Orbiter LHD, handle the storage and removal of pallets with empties.





SIX REASONS FOR CHOOSING SSI SCHAEFER

- **Stability**

As a financially independent family business, SSI SCHAEFER is committed to long-term solutions. You can trust that our team of experts will be there for you today, tomorrow and in years to come.

- **Efficiency**

SSI SCHAEFER solutions are scalable and able to grow with your business. You can always upgrade or retrofit.

- **Quality**

As a systems specialist and original equipment manufacturer, SSI SCHAEFER provides tailor-made and high-quality solutions from a single source, specifically designed to meet your challenges.

- **Reliability**

Thanks to our worldwide Customer Service & Support network, SSI SCHAEFER ensures smooth operation of your system, both during and after installation.

- **Know-how**

SSI SCHAEFER solutions are always up-to-date with the latest technological standards and can be easily integrated into an existing (IT) landscape.

- **Internationality**

As a global organization, SSI SCHAEFER has local offices worldwide. With over 70 operative subsidiaries, our team of experts speak your language.

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