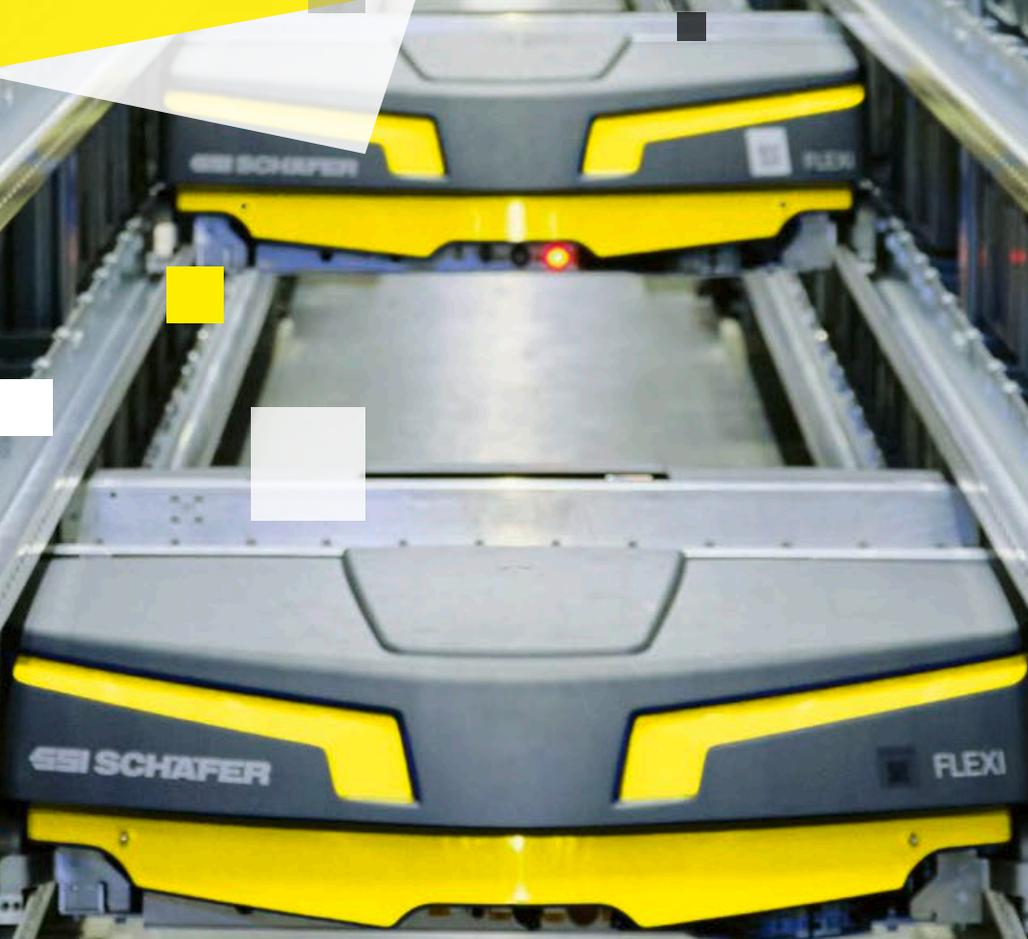


Storage-Retrieval Machines and Shuttles

Pure Dynamic, Flexibility, and
Efficiency in the Warehouse

[ssi-schaefer.com](https://www.ssi-schaefer.com)



SSI SCHAEFER

Indispensable Partners in Modern Warehouses

Storage systems such as storage-retrieval machines (SRMs) and shuttle systems from SSI SCHAEFER are crucial building blocks in a cost-optimized logistics chain.

We offer innovative storage-retrieval machines and shuttle systems that are flexible, economical, and perfectly tailored to your needs for all applications requiring optimized warehousing with fast material transport and short access times. With our solutions for heavy and compact load carriers, you benefit from better turnover performance and a significant increase in efficiency.

While the production of our solutions is based on standardized components, it is still customer-specific. In-house manufacturing ensures consistent quality and maximum reliability of the end products. With engineering services, machine technology, steel construction, and control technology all from a single source, as well as our own customer service and software expertise, we ensure that all components work together perfectly. In addition, SSI SCHAEFER offers a wide range of solutions for connecting the storage systems to automatic and manual storage equipment, from incoming goods, to picking workstations, and to shipping.



Benefits for You

- Application-optimized load handling devices adapt to any load carrier
- Low approach heights ensure excellent space utilization
- Optimized turnover performance through tailored dynamics and a variety of different drive units
- Low maintenance thanks to high-quality, tried-and-tested machine elements and ease of access
- Compact assembly groups and storage-retrieval machines that have already been commissioned at the factory ensure smooth transport and short installation times
- Control via WAMAS® logistics software or SAP EWM

Our Solutions for

Heavy Load Carriers:

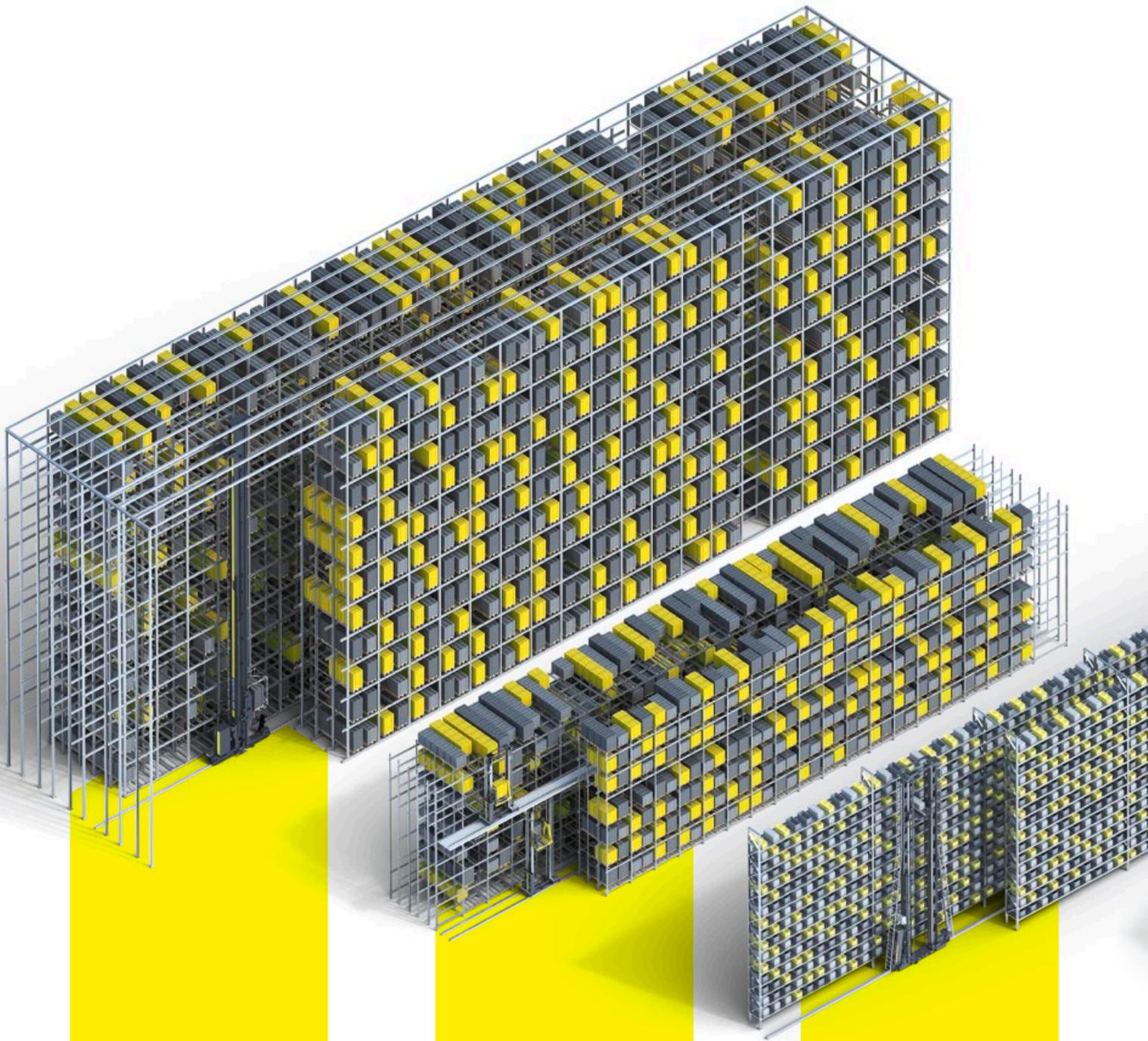
- SSI Exyz: Storage-retrieval machine for energy-efficient storage of heavy load carriers
- SSI Lift&Run: Multi-level pallet shuttle for channel storage systems

Compact Load Carriers:

- SSI Miniload: Storage-retrieval machine to store and pick bins, cartons, and trays
- SSI Cuby: Standardized one-level shuttle system for bins and cartons
- SSI Flexi: Highly flexible one-level shuttle system for cartons, trays, and bins of different sizes



Pure Dynamic in the Warehouse



SSI Exyz

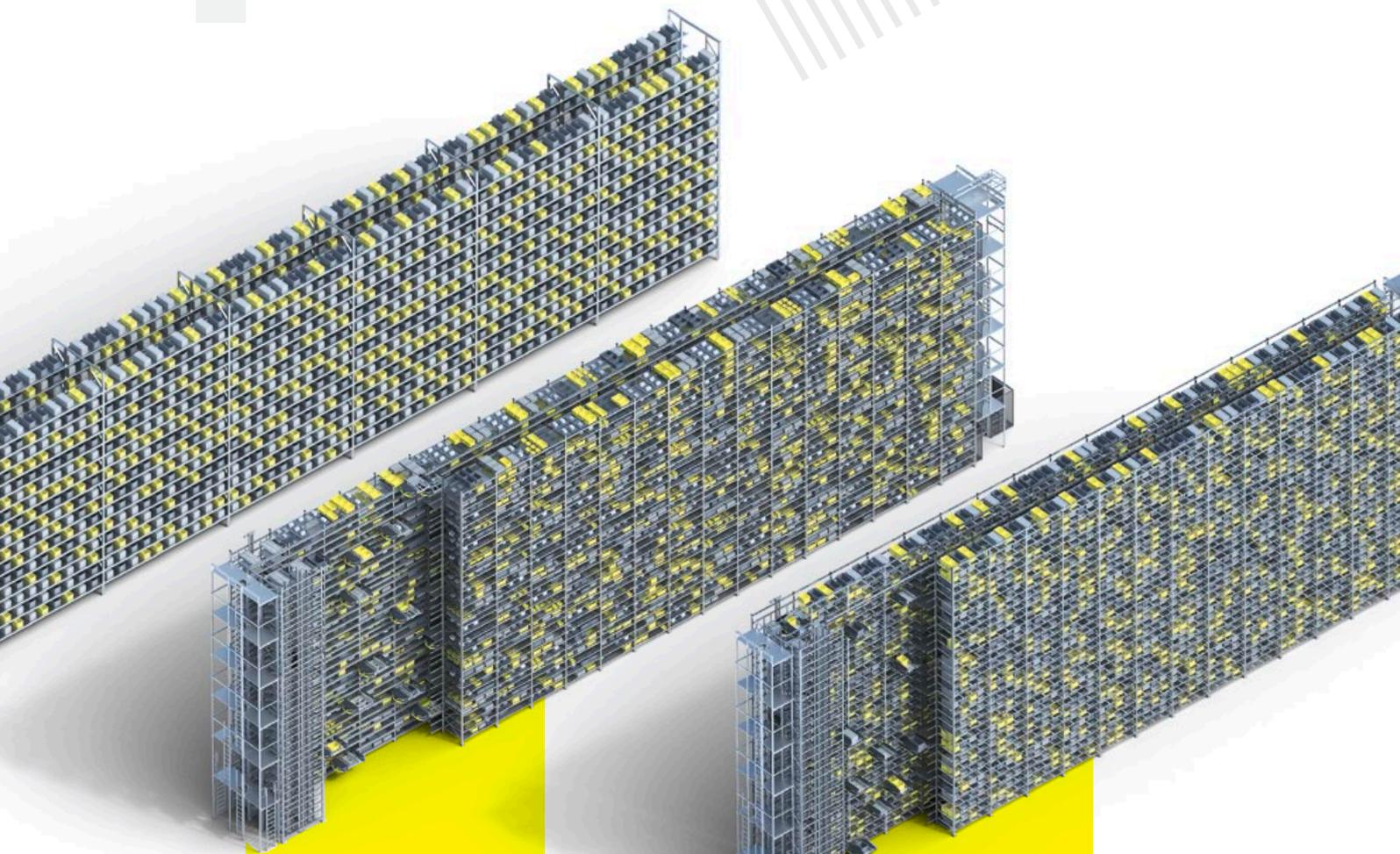
Storage-retrieval
machine for pallets

SSI Lift& Run

Multi-level shuttle
system for pallets

SSI Miniload

Storage-retrieval machine
for small parts logistics



SSI Flexi

Flexible one-level shuttle system for compact load carriers



SSI Cuby

Highly standardized one-level shuttle system for compact load carriers



SSI Exyz

For Maximum Energy and
Cost Efficiency in Pallet Storage



The SSI Exyz from SSI SCHAEFER is the ideal solution for fully automated storage of pallets in high-bay warehouses. The SRM can be used under tropical conditions as well as in deep-freeze warehouses as low as -28 °C, and its extremely compact design allows efficient high-bay warehouse storage at heights from 5 to 45 meters.

The SSI Exyz boasts maximum flexibility. For example, our storage-retrieval machine can be used as a single- or double-mast system with one or two load handling devices for single-, double- or multiple-deep storage and retrieval, including the SSI Orbiter LHD. The SRM configuration is based on an efficient modular principle: The SSI Exyz components are mass-produced and pre-assembled at the factory, allowing them to be put into operation in a short time.

Thanks to consistent use of the latest control technologies, the SRM requires only a minimum of safety distances, supported by a compact interlocking design of the floor beam, pallet truck, and mast. The cleverly nested and extremely compact design, in combination with optimized control, significantly reduces the space needed, allowing space savings of up to 5% over conventional high-bay warehouses. These savings translate to many cubic feet that do not have to be built, heated, or air conditioned.

SSI Exyz is the most innovative device on the market and takes into account the critical contribution that the lifting gear makes to the energy consumption of heavy load carrier storage. Energy savings in this area can be achieved from the start through use of a counterweight integrated into the mast. These savings are significantly higher than any gains from energy recovery. SSI Exyz offers both together - an absolutely unique selling point from SSI SCHAEFER.



Technical Data

Height	5 to 45 m
Aisle length	Up to 160 m (longer aisles optional)
Load	1,500 kg
Storage	Single-, double-, multiple-deep
Traveling speed	Up to 4 m/s
Lifting speed	Up to 1.5 m/s
Temperature range	-30 °C to +50 °C (non-condensing)

Benefits for You

- The ideal solution for fully automated storage and retrieval of heavy load carriers
- Modular design: Maximum reliability thanks to serial production
- Significant reduction of operating costs thanks to efficient energy usage
- Simple maintenance: The units can be maintained entirely from the ground
- Highly compact design reduces operating and construction costs

SSI Lift&Run

The SSI SCHAEFER Lift & Run (SLR) pallet shuttle system combines a highly dynamic design and storage density with maximum flexibility and efficiency.



With the SSI Lift & Run system, SSI SCHAEFER offers a very special shuttle system solution for highly dynamic pallet handling with multiple-deep storage. Special features: The SLR can be customized to your specific needs depending on the required turnover performance, storage capacity, product range, and the available floor space and geometry. This allows creation of logistics systems optimized for your needs. For instance, multiple shuttles can be arranged one above the other; these can directly access a configurable number of storage levels that are all connected via lifts. The operation of multiple shuttles within one aisle has already been implemented. With the SSI Lift & Run, even matrix concepts for handling pallets can be implemented consistently.

Depending on the number of items, the variety of batches and the range of storage, almost any channel depth can be selected. The special highlight is that, through our warehouse management system, dynamic adjustment of the channel depths is easy, even after several years. At the same time, all channels can continue to operate even when neighboring aisles are being accessed - an invaluable advantage for system availability.

High dynamics, a small footprint, and low operating costs make the SSI Lift & Run a promising alternative to conventional high-bay pallet warehouses for many applications.

With our SLR, buildings for outgoing goods, shipping, and preparation can also be integrated into the system, allowing additional significant space reduction. This could be the decisive advantage for integration at your location.



Technical Data

Speed	Up to 240 m/min
Acceleration	Up to 0.8 m/s ²
Lifting speed	Up to 0.6 m/s
Aisle height	Up to about 9.2 m
Y levels served per SLR	Typically 2-4 levels per platform
Height	Up to 45 m
Temperature range	-30 °C to +50 °C

Benefits for You

- Maximum flexibility for storage configuration
- Possibility of integrating shipping preparation and loading within the storage cube
- Any conveyor connection possible, from conventional pre-zone to high-performance matrix
- Implemented as in-house system and SILO high-bay warehouse up to a height of 45 m
- Low operating costs
- Maximum redundancy through integration of the channel rail design into the safety concept
- Brake energy recovery and intelligent drive control reduce energy consumption
- Very low maintenance thanks to ease of access

SSI Miniload

Optimal space utilization in small parts warehouses with high availability and minimum energy consumption

The SSI Miniload is the ideal storage-retrieval machine in fully automated small parts logistics. It allows storage and picking of bins, cartons, and trays. The SRM makes optimum use of space - even in smaller warehouses - and allows safe storage of sensitive or valuable goods, even under freezing conditions.

The large variety of load handling devices means there are almost no limitations on the shape or surface characteristics of the parts to be stored or buffered. Thanks to the SSI Miniload's different variant options as a single- or double-mast device, the load handling devices can be tailored to your requirements. The modular design principle allows you to customize the system to your individual needs and achieve an optimal price-performance ratio. The storage-retrieval machine is designed for quality down to the smallest screw.

The further technical development of the SSI Miniload focused on low energy consumption and maintenance-friendly individual components in particular. The highly dynamic drives required for the operation of a small parts warehouse are specifically designed for a positive fit and slip-free operation to achieve full conversion of drive power into motion. The drive control as a central component for energy efficiency compensates for energy as a result of the intelligently combined control of drive and lifting motors. This ensures optimum travel and lifting times and allows an intelligent energy utilization and savings concept. Thus, energy that is generated on one axis is used directly for the operational processes of the second axis.



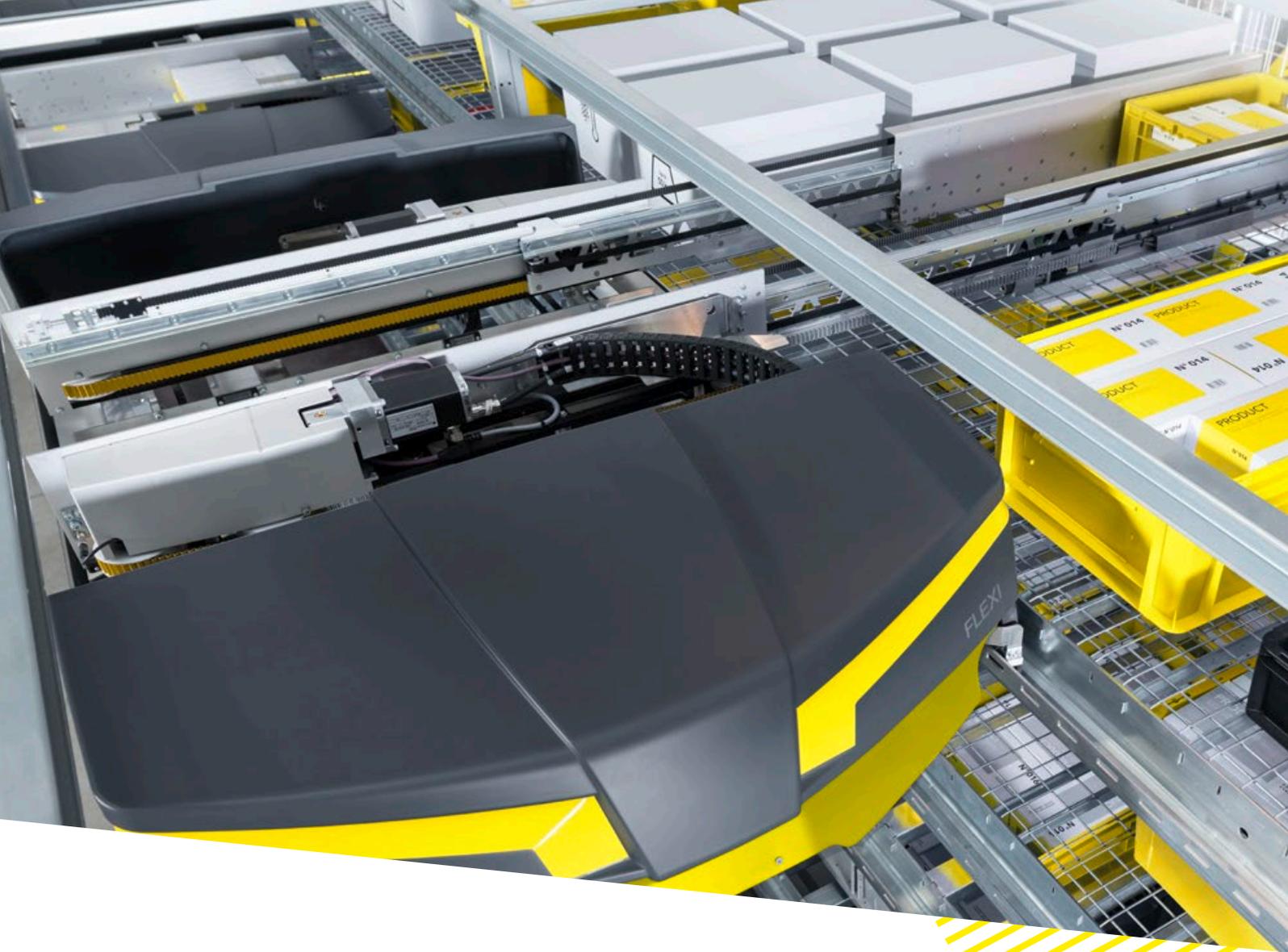
Benefits for You

- Maximum utilization of the vertical storage direction along with a small footprint
- A large variety of load handling devices for a high degree of flexibility in handling various loading aids
- Diagonal mast bracing reduces weight
- High throughput due to fast travel and short load changeover times
- A wide range of solutions for connection to manual and automatic storage equipment
- Available as single- or double-mast device

Technical Data

Height	Up to 24 m
Load	Up to 100 kg
Storage	Single-, double-, multiple-deep
Traveling speed	Up to 5 m/s
Lifting speed	Up to 4 m/s
Acceleration	Up to 3 m/s ²
Temperature range	-28 °C to +35 °C (non-condensing)





SSI Flexi

The scalable one-level shuttle for use in highly dynamic automated small parts warehouses with a large variety of transport units up to 50 kg and dynamically adaptable storage location sizes

The SSI Flexi is the trend-setting solution for fully space-optimized storage of a mix of cartons, trays, and cubic bins. While conical bin handling is also possible, there are limitations on combining these with other transport units. The modular design, consisting of a shuttle, lift, and rack system, allows tailored system concepts with excellent space utilization, maximum throughput, and a high degree of flexibility.

Thanks to the universal load handling device with width adjustment, the Flexi shuttle allows single-, double-, and multiple-deep storage of a wide range of transport units and dimensions, even under freezing conditions.

Unique feature: the rack concept with dynamically adjustable storage location sizes. Forgoing fixed assignment of x-storage locations allows space-optimized shelf allocation with maximum storage density, even with heterogeneous transport units and a wide range of transport dimensions.

In combination with the patented 3D-MATRIX Solution®, it significantly increases throughput: In addition to high-performance lifts installed at the beginning of the aisles, this solution also allows installation of any number of integrated lifts anywhere in the storage aisles. This allows a combination of highly dynamic solutions with automated storage, buffering, and integrated sequencing in a single system.



Technical Data

Speed	Up to 4 m/s
Load capacity	Up to 50 kg
Max. dimensions (L×W)	860 × 680 mm (including tolerances)
Transport units	Cubic/conical bins, cartons, trays
Length	Up to 150 m
Height	Up to 30 m
Storage	Single-, double-, and multiple-deep
Temperature range	-30 °C to +45 °C

Benefits for You

- Tailored, expandable system concepts with excellent space utilization and performance
- Safe handling of various transport units with a maximum load of 50 kg
- Dynamically adjustable storage location sizes allow flexibility throughout the life of the system coupled with maximum storage density
- Suitable for use in freezing environments
- Maximized throughput and integration through 3D-MATRIX Solution®
- Innovative shuttle power supply with supercapacitors for maximum energy efficiency
- Secure, high-performance communication via Industrial Wireless LAN (IWLAN) from Siemens

SSI Cuby

The highly standardized one-level shuttle system for high availability at attractive costs.

The SSI Cuby one-level shuttle allows fully automatic, high-density storage of compact load carriers weighing up to 35 kg. The system consists of a rack, at least one lift, one Cuby shuttle per storage level, a shuttle crane at the back, a maintenance platform, and the corresponding control system. A scalable lifting system with two-story functionality ensures high performance alongside compact system layouts. Thanks to attractive purchase and operating costs, the SSI Cuby is one of the most economical shuttle solutions on the market.



It was designed for load carriers with dimensions from 600 x 400 mm to 640 x 440 mm and can be extended at a later time. Narrow shuttle vehicle travel paths and low level heights ensure a compact system layout that saves space. The combination of double-deep storage in the rack and a single-deep shuttle aisle leads to excellent space utilization and very high storage density. Thanks to these advantages, the SSI Cuby achieves low storage location costs.



Technical Data

Speed	Up to 4 m/s
Load capacity	Up to 35 kg
Max. dimensions (L×W×H)	Bin system: 600 x 400 x 460 mm Carton system: 640 x 440 x 460 mm (carton, excluding tolerance/deformation)
Transport units	Cubic/conical bins, cartons, trays
Length	Up to 100 m
Height	Up to 24 m
Storage	Single-, double-deep

Benefits for You

- Customized system concepts with excellent space utilization and optimal performance characteristics for bins and/or cartons
- Safe handling of transport units with a load of up to 35 kg
- High availability and attractive performance, as well as energy efficiency and cost effectiveness
- Excellent space utilization through double-deep storage in a single-deep shuttle aisle
- Very solid, modular kit construction
- Optimized connection to the pre-zone through two-story load handling device on the lift
- Simple, ergonomic shuttle maintenance

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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