

SHUTTLE SYSTEMS

Outstanding solutions to increase warehouse performance.

ssi-schaefer.com



INDISPENSABLE PARTNERS FOR A MODERN WAREHOUSE

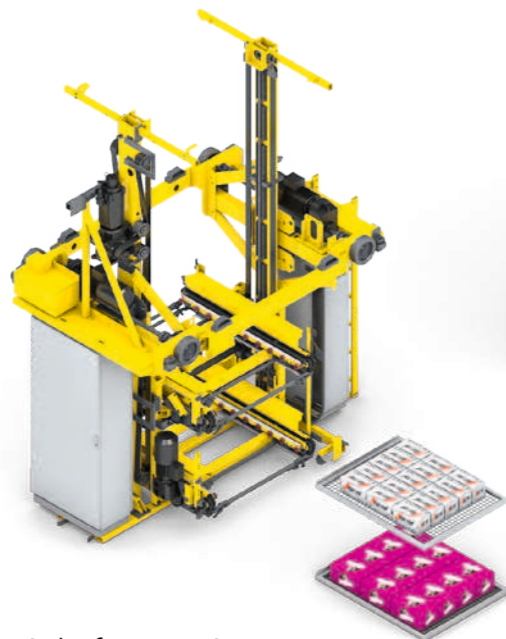
Whether you need a shuttle system for one or more levels utilizing pallets, trays, cartons or bins - the comprehensive SSI SCHAEFER shuttle portfolio has a solution for your warehouse. With our international knowledge and global presence, SSI SCHAEFER is your ideal intralogistic partner.

SSI SCHAEFER shuttle systems are a crucial component of a cost-optimized logistics chain. We offer customized shuttle systems to optimize your warehouse with faster material transport and shorter access times to produce the most cost-effective storage solution.

Our shuttle portfolio provides flexibility for your capacity and performance requirements. In-house manufacturing ensures our products are delivered to you with the utmost quality and reliability.



Schäfer Lift & Run (SLR)



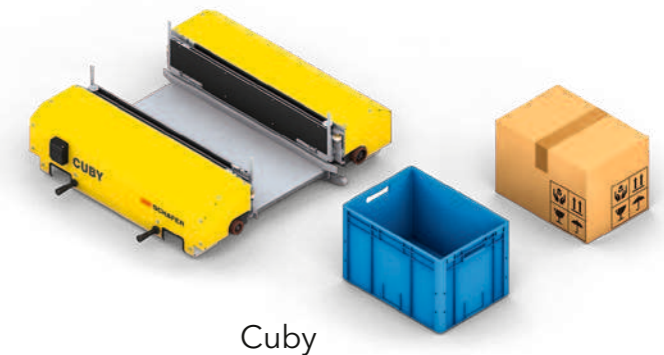
Schäfer Tray System (STS)



Navette

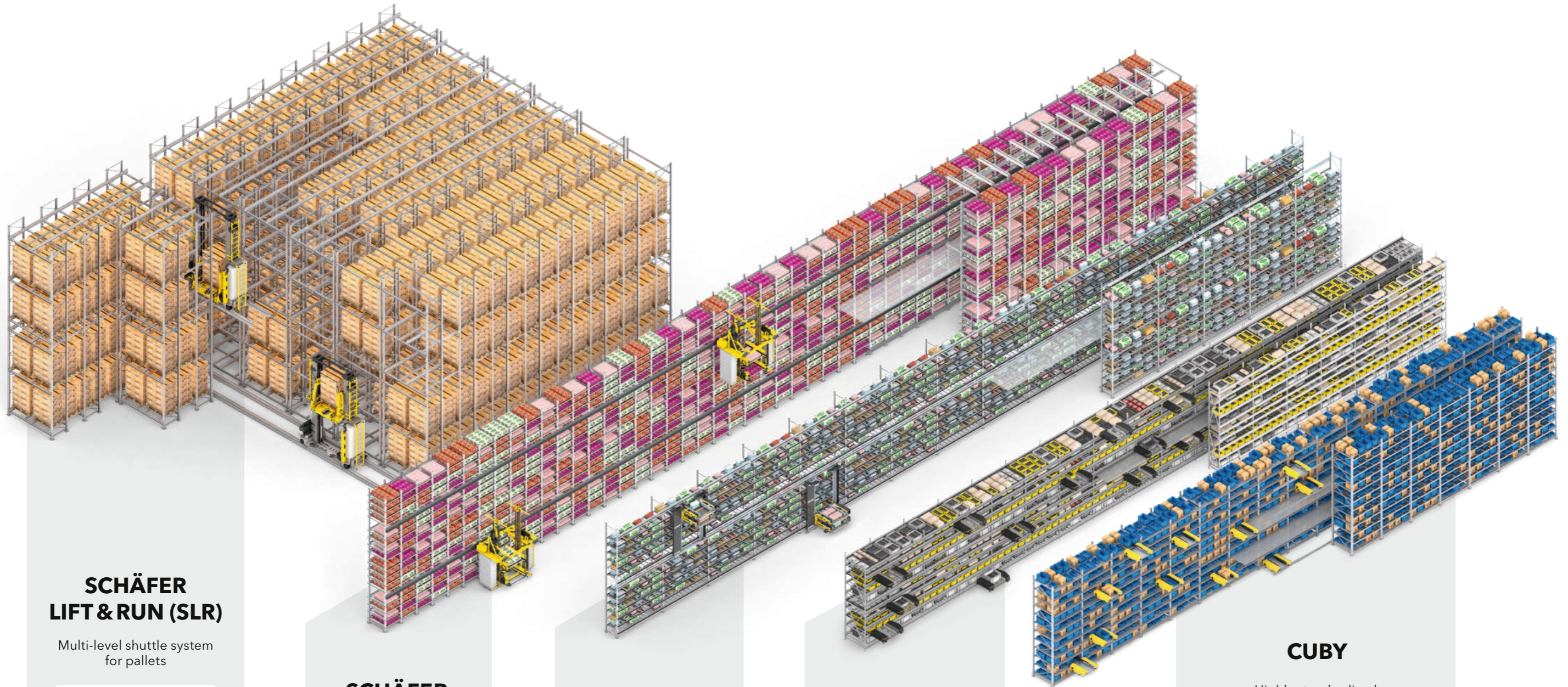


SSI Flexi Shuttle



Cuby

OVERVIEW OF THE SSI SCHAEFER SHUTTLE FAMILY



SCHÄFER LIFT & RUN (SLR)

Multi-level shuttle system for pallets

SCHÄFER TRAY SYSTEM (STS)

Multi-level shuttle system for pallet layers

NAVETTE

Multi-level shuttle system for small load carriers

SSI FLEXI SHUTTLE

Flexible single-level shuttle system for small load carriers

CUBY

Highly standardized single-level shuttle system for small load carriers

SSI FLEXI SHUTTLE

The scalable single-level shuttle designed for use in highly dynamic automated miniload systems with dynamically adaptable storage location sizes to store a wide variety of transport units of up to 50 kg.



Technical Data

SSI Flexi Shuttle	
Speed	up to 4 m/s
Loads	up to 50 kg
Max. dimensions (LxW)	860 x 680 mm (incl. tolerances)
Loading units	Cubic/conical bins, cartons, trays
Length	up to 150 m
Height	up to 30 m
Storage	single-, double- and multiple-deep

The SSI Flexi Shuttle is an innovative solution for space-optimized storage of cartons, trays, and cubic and conical bins. The modular concept, which combines shuttles, lifts, and a racking system, allows tailored and highly flexible system concepts with excellent use of space and high levels of technical performance.

Thanks to the universal load handling device with adjustable width, the Flexi Shuttle can adapt to single-, double-, and multiple-deep storage of a broad spectrum of loading units and dimensions, even in deep-freeze conditions.

Unique: The rack conception with dynamically adjustable storage location sizes. Omitting

permanently allocated x-storage positions, the rack conception facilitates space-optimized shelf occupancy with maximum storage density. This can even be achieved with a high diversity of loading units and a broad spectrum of transport dimensions.

Considerable increases in performance can be achieved in conjunction with the patented 3D-MATRIX Solution®. As well as having high-performance lifts installed at the end of the aisles this solution also allows any number of integrated lifts to be installed in any position throughout the storage aisles. It is therefore possible to combine highly dynamic solutions with automated storage, buffering, and integrated sequencing in just one system.

AT A GLANCE

- Tailored and expandable system concepts with excellent use of space and performance
- Secure handling of a wide variety of loading units, each of which can have a load capacity of up to 50 kg
- Dynamically adjustable storage location sizes allow flexibility and maximized storage density over the whole service life of the system
- Suitable for use in deep-freeze environments
- Maximization of technical performance and option to integrate with 3D-MATRIX Solution®
- The innovative energy supply for the shuttle uses supercapacitors to ensure the highest energy efficiency
- Secure and high-performance communication using Siemens Industrial Wireless LAN (IWLAN)

CUBY

The highly standardized single-level shuttle system for high availability and energy efficiency with attractive costs.



Technical data

Cuby-Shuttle			
Speed	2.5 m/s	Acceleration	1 m/s ²
Loads	35 kg		
Cuby-Lift			
Performance	Approx. 400 double cycles/h per lift	Lift per aisle	1 or 2
		Speed	5 m/s
		Acceleration	7 m/s ²
Loads	max. 2 x 35 kg		
Rack			
Length	up to 100 m	Height	max. 15 m
Width	3.680-3.950 m per aisle	Aisle distance	0.190 m
Storage	double-deep	Temperature range	4°C to 40°C

The Cuby is the highly standardized single-level shuttle system from the SSI SCHAEFER shuttle family. It consists of a rack, a lift, one Cuby shuttle per storage level, a shuttle crane at the back, maintenance platform and the control and warehouse management software. The Cuby provides high availability by intelligent and efficient system components. The patent-pending and ingenious use of the support beam as a guide for the shuttle's load handling device is one of a kind. A scalable lifting system with double-story function ensures high performance and compact system layouts.

AT A GLANCE

- Fast, scalable storage system for bins and/or cartons
- High availability as well as attractive performance, energy efficiency and cost effectiveness
- Wide range of application options in different areas (fashion, pharma, e-commerce, etc.)
- Excellent space utilization by double-deep storage in a single-deep shuttle aisle
- Very solid construction as modular kit
- Optimized connection to the pre-zone by load handling device on the lift
- Scalable lift performance
- Easy and ergonomic maintenance of the shuttles



NAVETTE

The flexible multi-level shuttle system for high performance and exact scalability.



The Navette increases efficiency in storing and picking trays, bins or cartons in fully automatic warehouses. The Navette Shuttle, which can be scaled precisely to the customer's requirements, and the respective overall system, represents an innovative leap in design and technology.



In this case, the matrix concept in logistics is applied to handling individual packages. As part of the **3D-MATRIX Solution**® previously unachievable

performance rates are possible. In this solution, the Navette lifts connect the conveying system and individual Navette levels. The position and the number of lifts in the storage aisle can be freely chosen. The Navette can be integrated into the steel framework of the miniload rack aisles and can serve up to eight storage levels (two even in parallel) as individual component.

A distinctive construction feature is the installation of two load handling devices one above the other, such as carton grippers. In one load cycle, the Navette moves a total of four transport units simultaneously, serving

storage locations on two storage levels in a single operating sequence.

Unlike single-level shuttles, the Navette is able to operate in genuine double cycles. This minimizes travel times and doubles process efficiency.

Technical data

Navette-Shuttle

Speed	up to 2.5 m/s	Acceleration	1.8 m/s ²
Loads	max. 4 x 35 kg or max. 2 x 50 kg	Aisle height	2 - 3 m

Navette-Lift

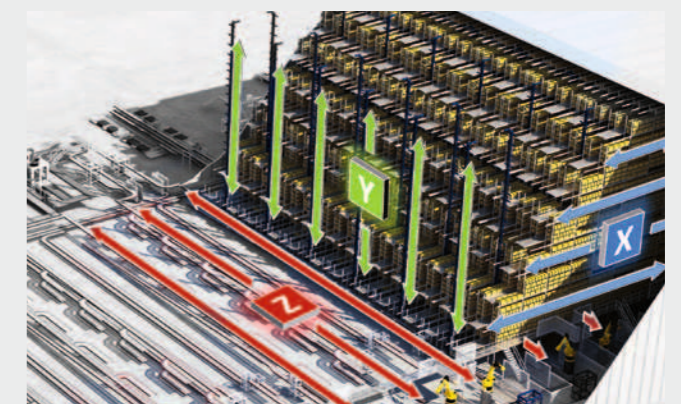
Speed	2.5 m/s	Lift per aisle	user-defined
Loads	max. 2 x 35 kg	Acceleration	2.5 m/s ²

Rack

Length	up to 150 m	Height	up to 24 m
Storage	single-deep and double-deep	Temperature range	4°C to 40°C

AT A GLANCE

- Multi-level technology for trays, bins and cartons
- Flexible number of storage levels per aisle
- Access to a wide product range in the aisle
- Minimizing travel times by two load handling devices
- Decoupled transfer between vehicle and lift
- Lifts can be added at any time
- Stackable up to a height of 24 m: flexible configuration
- High performance due to integration of transfer locations



SCHÄFER TRAY SYSTEM (STS)

The multi-level shuttle system for optimum storage of pallet layers in racks with minimal free space.

The STS is a system that is used to store entire pallet layers on trays and pick single packaging units. By grouping several STS vehicles on top of each other, the warehouse can be used very efficiently and high throughputs can be achieved.

Two load handling devices with a pulling device are installed on each vehicle. This results in very short load cycles and minimal free space is

required in the rack. Typically the trays are allocated at transfer positions via STS lifts in the rack. Through the strategic arrangement of individual components which is reflected in the high performance, the warehousing system is dynamic, readily available and efficient.

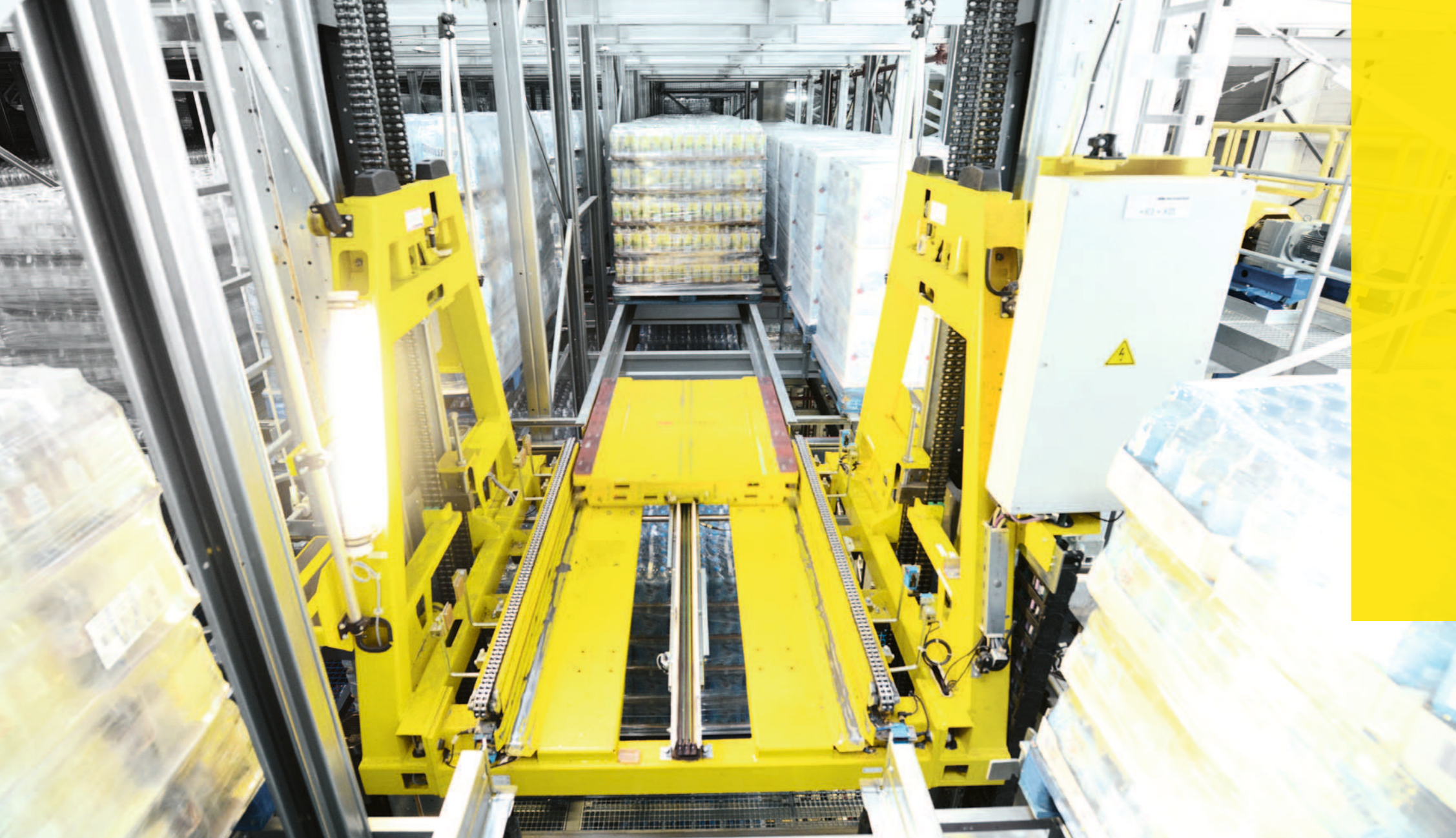
The effective concept of pallet layer storage makes innovative logistics solutions possible.



Technical data

Schaefer Tray System (STS)	
Speed	up to 4.5 m/s
Acceleration	up to 4.5 m/s ²
Hoisting speed	up to 1.25 m/s
Loads	max. 200 kg/tray
Aisle height	4 m
Aisle length	up to 150 m
System height	up to 24 m
Temperature range	-28°C to 35°C

- ### AT A GLANCE
- Maximum dynamics achieved by leaving out telescopic movements
 - Modular and scalable system, optimal space utilization
 - Best possible use of volume
 - Two load handling devices with high-performance pulling technology
 - Decoupled exchange with transfer locations
 - Flexible application of up to six levels above each other
 - Transfer locations facilitate high performance
 - Additional sorting (sequencing) possible by means of lifts



Technical data

Schaefer Lift & Run (SLR)

Speed	up to 240 m/min
Acceleration on level 0	up to 0.8 m/s ²
Acceleration on higher levels	up to 0.5 m/s ²
Hoisting speed	up to 0.6 m/s
Aisle height	up to approx. 8 m
Served Y levels per SLR	typically 2-4 levels per platform
Overall height of the high bay warehouse	up to 45 m
Temperature range	-28 °C to 35 °C

SCHAEFER LIFT & RUN (SLR)

The multi-level shuttle system for high dynamics and efficient pallet storage.

The Lift&Run shuttle system (SLR) by SSI SCHAEFER is an especially economic solution for highly dynamic pallet handling in a channel storage system. The speciality of the system: an SLR storage device consisting of a transfer carriage and lifting device for the Schaefer Orbiter, an extremely flexible load handling device.

Since the SLR runs on two rails, it does not require any upper guide rails. It is also possible to use many such devices on top of each other in order to scale the SLR to customer-specific requirements. When stacked,

the feed-in and retrieval of the pallets is done via vertical lifts. The SLR and lifts work together to form a system where the storage capacity can be effectively heightened and the efficiency of the logistic solution can be increased.

The Schaefer Lift&Run System applies the logistics matrix principle in pallet handling. Thanks to high dynamics, small space requirements and efficient use of energy, it is an interesting alternative to the common pallet SRM for many applications.

AT A GLANCE

- Low weight
- Energy-efficient drives
- Economic design of lift drive with multiple levels
- Lifting carriage with flexible Orbiter channel vehicle, especially suitable for the beverage sector
- High machine safety thanks to integrated hydraulics buffer for lifting movements
- Hydraulic buffer for travel
- Separated pallet conveying system levels for storage and retrieval possible
- Modular principle, compact and scalable
- Highly effective vertical dynamics despite moderate drive performance



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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