

# SHUTTLE SYSTEMS

Outstanding solutions to increase warehouse performance.

[ssi-schaefer.com](http://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.



Schaefer Lift & Run (SLR)

Cuby

Navette

Schaefer Tray System (STS)

## OVERVIEW OF THE SSI SCHAEFER SHUTTLE FAMILY

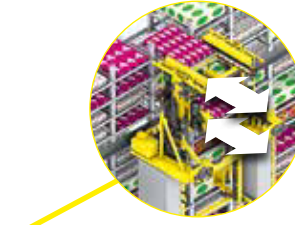
Consisting of a transfer carriage and lifting device for the Orbiter, an extremely flexible load handling device

Orbiter shuttle travels from SLR into storage channel

Shuttle transports front pallet from storage channel to SLR

<b>1 Schaefer Lift &amp; Run</b>	
Storage:	multi-deep
Load handling:	single-deep
Aisle height:	8 m
Stackable:	up to 24 m
Aisle length:	up to 160 m

Storage of entire pallet layers on trays



Two load handling devices with a pulling device are installed on each vehicle

Flexible multi-level shuttle system for trays, bins or cartons



<b>2 Schaefer Tray System (STS)</b>	
Storage:	single-deep
Load handling:	single-deep
Aisle height:	4 m
Stackable:	up to 24 m
Aisle length:	up to 150 m

<b>3 Navette</b>	
Storage:	single- or double-deep
Load handling:	single- or double-deep
Aisle height:	2-3 m
Stackable:	up to 24 m
Aisle length:	up to 150 m

<b>4 Cuby</b>	
Storage:	multi-deep
Load handling:	single-deep
Aisle height:	5 m
Stackable:	up to 15 m
Aisle length:	up to 100 m

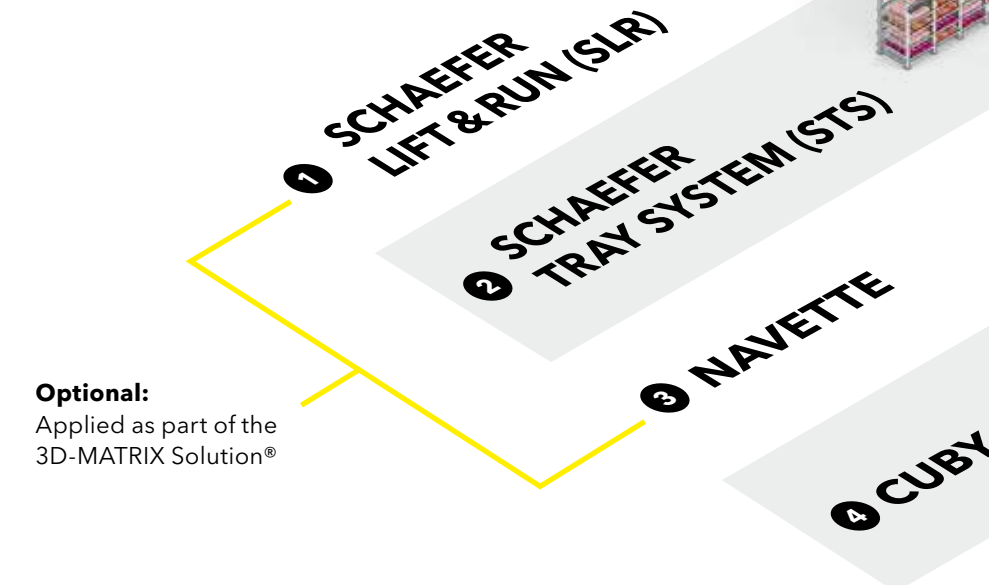
Maintenance levels can be switched off individually – the rest of the system remains in operation

Possibility to increase performance by installing a second lift

Excellent space utilization by double-deep storage in a single-deep shuttle aisle

Two load handling devices above one another increase performance

Gain in efficiency by double cycles of the lift for storage and retrieval



**Optional:**  
Applied as part of the 3D-MATRIX Solution®

## THE SHUTTLE PORTFOLIO

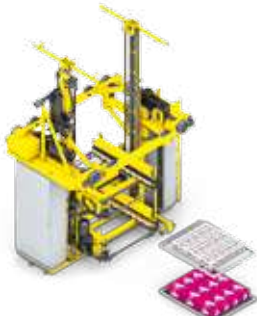
Comprehensive shuttle portfolio for all storage requirements – from large load carriers to pallet layers and trays to bins and cartons.

**SCHAEFER LIFT & RUN (SLR)**  
Multi-level shuttle system  
Storage system of pallets



6 | 7

**SCHAEFER TRAY SYSTEM (STS)**  
Multi-level shuttle system  
Storage system of pallet layers



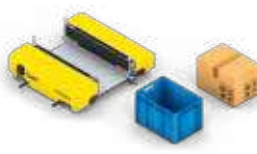
8 | 9

**NAVETTE**  
Multi-level shuttle system  
Storage system of small loading aids  
Single or double-deep storage  
Single or double-deep load handling device



10 | 11

**CUBY**  
Single-level shuttle system  
Storage system of small loading aids  
Double-deep storage  
Single-deep load handling device



12 | 13





## Technical data

### Schaefer Lift & Run (SLR)

Speed	up to 240 m/min
Acceleration on level 0	up to 0.8 m/s <sup>2</sup>
Acceleration on higher levels	up to 0.5 m/s <sup>2</sup>
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



# SCHÄFER TRAY SYSTEM (STS)

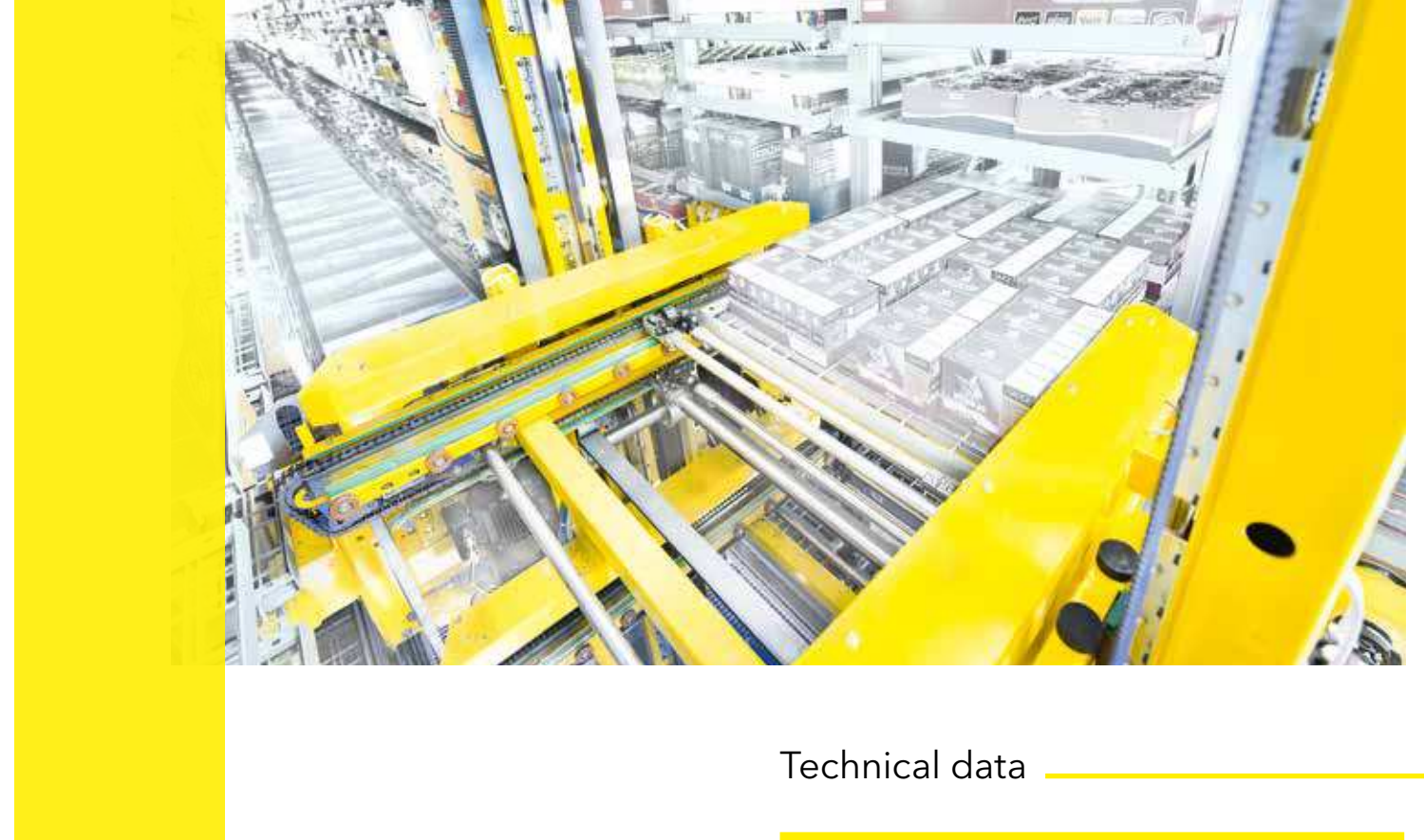
The multi-level shuttle system for optimum storage of pallet layers in racks with minimal free space.

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 <sup>2</sup>
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



# 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 <sup>2</sup>
Loads	max. 4 x 35 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 <sup>2</sup>

### 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





# CUBY

The 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 <sup>2</sup>
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 <sup>2</sup>
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 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





## SIX REASONS WHY YOU SHOULD CHOOSE SSI SCHAEFER:

- **Security:**

As a financially independent family business we are committed to long-term solutions. You can trust that we will be there for you tomorrow and in the years to come.

- **Efficiency:**

Our solutions are scalable and grow with your business. An SSI SCHAEFER solution is a future-oriented investment.

- **Quality:**

As a specialist in automation, we provide a single-source solution. As an original equipment manufacturer we guarantee quality and the right solutions for your needs.

- **Reliability:**

Thanks to our worldwide Customer Service & Support network we ensure a smooth operation of your system.

- **Know-how:**

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

- **Internationality:**

As a globally acting company we have local offices worldwide and our team of experts speaks your language.



[ssi-schaefer.com](http://ssi-schaefer.com)

0089\_022017\_EN\_sch © SSI SCHÄFER  
Printed in Germany.  
No liability for misprints.

**SSI SCHÄFER**