

SCS HIGH-PERFORMANCE ORDER-PICKING SYSTEM

The scalable and modular
construction kit



High dynamics in the most confined space

With regard to piece picking in the high-speed range, the Schaefer Carousel System (SCS) has established itself as a system module on the market. Numerous market leaders have trusted in the innovative system solution.

1,000 picks per hour, 50 percent more storage compaction, and a modular system design make SCS an adaptable and intelligent system solution for dynamic order-picking processes with a high performance level and maximum economic efficiency.

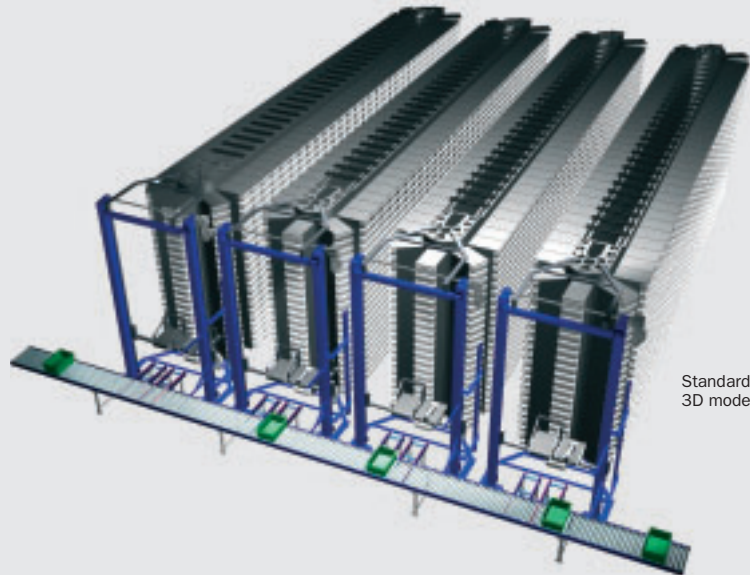
In combination with high-performance conveying systems and the most modern control technology, up to 1,000 storage and retrieval operations per hour can be carried out.

The efficient and ergonomic implementation of the "Goods-to-Man" principle is a vital factor for high continuous throughput and non-fatiguing working.

Clear operator guidance confirms, manages, and controls each procedure, which enables the implementation of zero defect order picking.



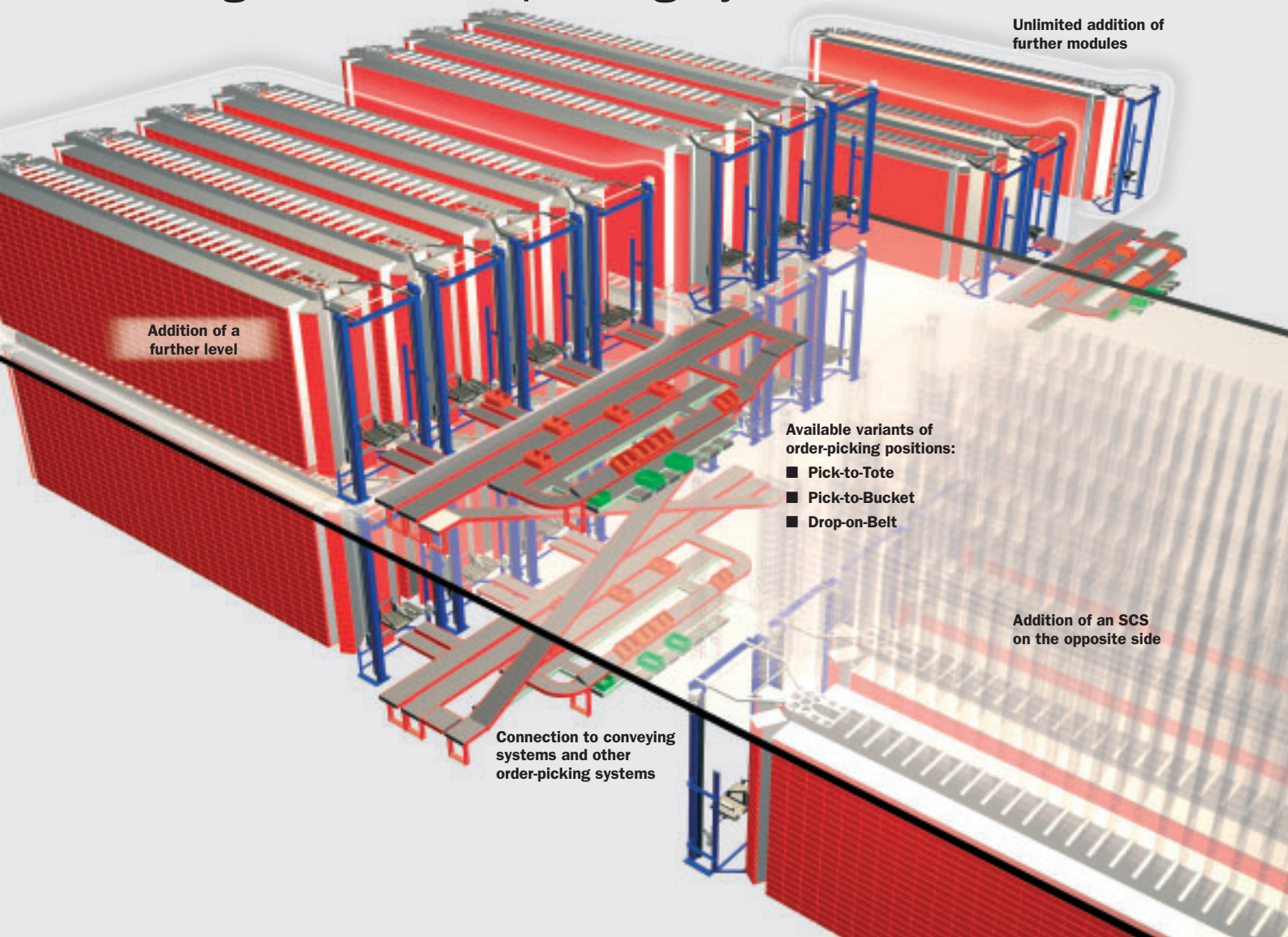
Bin retrieval and vertical transportation using stationary lifting systems. Without the use of storage and retrieval machines, small clearances between the carousels can be achieved. In this way, a lot of space can be saved.



Standard SCS
3D model



Modular construction kit for individual storage and order-picking systems

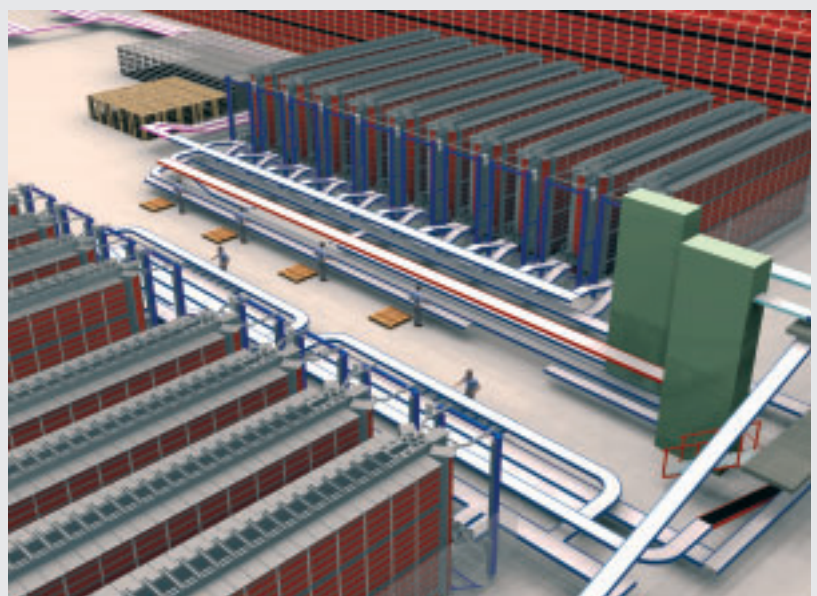


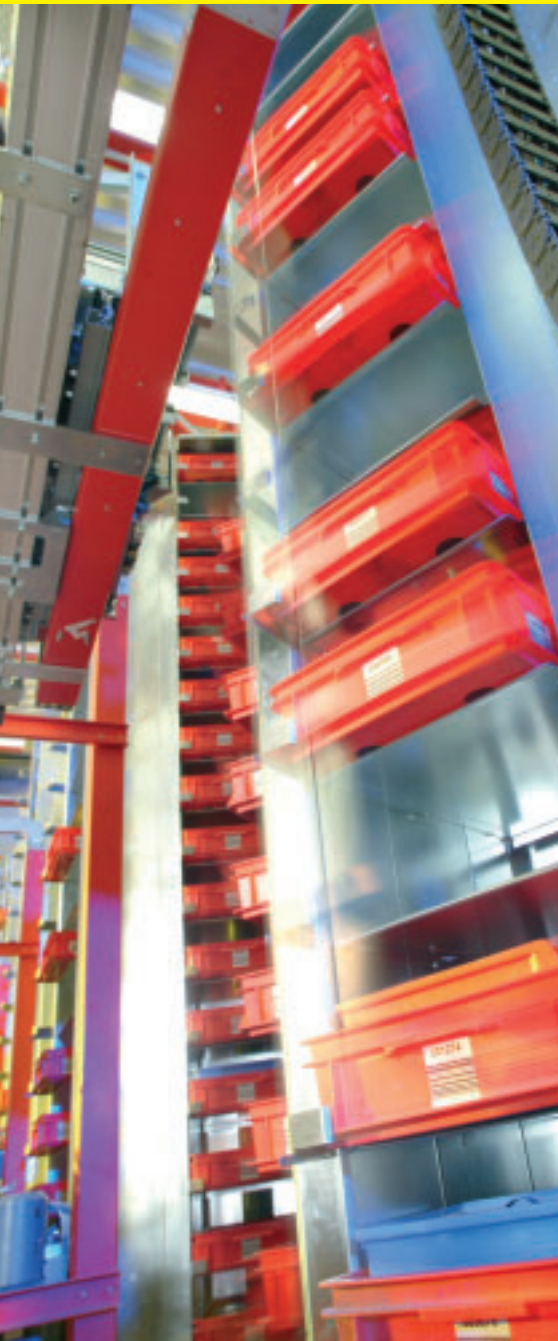
The system design combines the advantages of compact carousel systems with an innovative further development of conventional storage and retrieval machines.

As a scalable and modularly designed standard system, the SCS is immediately available, quickly adapted to individual requirements, and promptly ready for operation. This ensures short implementation periods and lasting investment protection.

When capacity requirements rise or when order volume, ABC distribution or throughput increase, the modular SCS can easily be adapted by installing further modules or individual aisles.

Thanks to its space and resource saving installation, the SCS economically adjusts imbalances in utilization and low throughput.

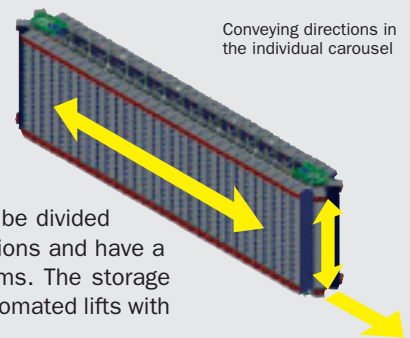




What makes the SCS so unique?

The “Goods-to-Man” principle, which is consistently implemented, eliminates unproductive time. The standard SCS consists of four rotating carousels, each with a decoupled and an automatic loading/unloading unit. The dense and thus space saving stocking of the shelves allows for a capacity of up to 6,000 bins. This is completed by an almost unlimited flexibility with regard to the variety of items and the enormous economic efficiency of the system. **With 4 kW, the SCS needs only 15 percent of the energy of conventional storage systems (SRM).**

The standard bin forms the basis of each system module, which in its basic design corresponds to an automatic small parts storage system (miniload®). The SCS standard bins offered from SSI SCHAEFER’s own production can be divided into a maximum of 16 different partitions and have a carrying capacity of up to 25 kilograms. The storage bins are handled by novel and fully automated lifts with load carrying devices.



In vertical and/or horizontal conveying directions, they retrieve the bins from their storage locations in four aisles and transfer them to the integrated conveyor system (loop) of the carousel system, which takes the bins to the order-picking positions.

The decoupling of movements achieved in this way enables – compared to other conventional systems on the market – double the performance solely with regard to the storage cycles of the lifts. Moreover, replenishment processes can be seamlessly integrated into the order-picking operations without any deterioration in performance.

Standard SCS equipment

- Control and warehouse software
- Up to 6,000 storage locations
- Four lifts
- Four carousels
- Order-picking position

Performance

- Up to 1,000 double cycles or storage/retrieval operations per hour
- Real time inventory management

Arrangements / Layout

- Modules also possible in two levels
- Front zone: Front side or lateral arrangement possible

Performance data

■ System height	max. of 4.9 m
■ System width	10.5 m
■ System length (including spur track and lift)	10.4 m – 15.9 m
■ Area (6,000 bins)	166 m ²
■ Velocity aisle	max. of 0.6 m/s
■ Acceleration aisle	max. of 0.2 m/s ²
■ Performance aisle*	250 double cycles/h
■ System performance*	1,000 double cycles/h
■ Bin size	max. of 600 x 400 mm, various heights
■ Bin weight	max. of 25 kg
■ Area load	approximately 1,000 kg/m ²
■ Drive power, carousel	4 KW

*depending on the length of the aisle

Implemented projects

Industrial parts supplier, Germany:

The system, which consists of four carousels, is integrated into the existing material flow process as a sequencing buffer for the shipping area.

In more than 3,800 storage locations, the orders accumulated throughout the day are buffered as order picking bins before they are retrieved route-specifically.



Leading U.S. retail business, USA:

16 carousels on two levels are provided with 1,000 bins each. Each of the four workplaces is supplied from a cluster consisting of four carousels. The conveying system leads the goods from both levels to the order-picking positions.



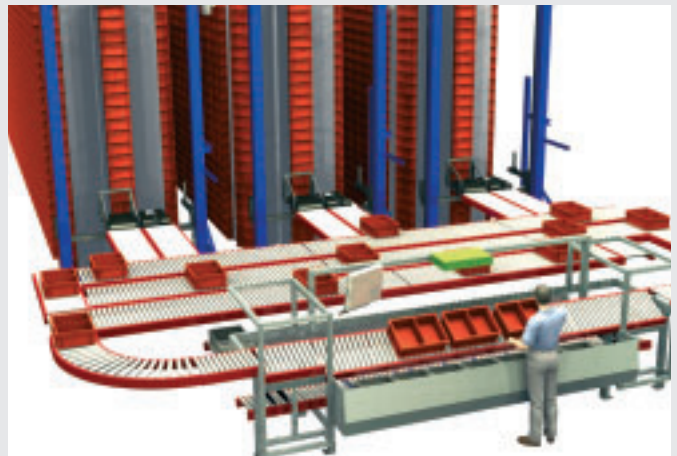
Pharmaceutical wholesaler, Spain:

As a combined solution of Pick-to-Tote and Pick-to-Bucket, the SCS is integrated into the order-picking loop with fast mover system.



Mail order business, Germany:

Returns buffer with order picking consisting of ten carousels and four workplaces.

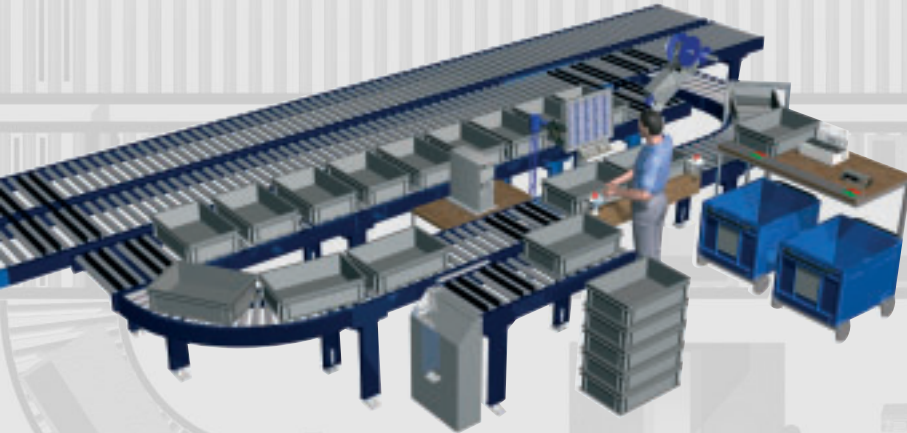


Logistics service provider for media products, Germany:

Storage and order-picking system with a total of 18 carousels and six workplaces. More than 10,000 items are picked per hour.

Consistently ergonomically designed order-picking

The consistent ergonomic implementation of the “Goods-to-Man” principle is a vital factor for high continuous throughput and non-fatiguing working. Clear operator guidance confirms, manages, and controls each order-picking procedure with Pick-by-Light and Put-to-Light systems.



Advantages:

- Shorter order cycle time
- Increase in order-picking performance by a factor of 6 – 10 with the picking error rate simultaneously being reduced towards zero
- Recording, precise management, and control of a wide product range
- Significant storage compaction
- Monitoring of expiration dates
- Batch tracing

Application:

- Medium and slow moving items for piece picking, and any product geometry (pharmaceutical products, cosmetics, electronic components, media, food, standard and small parts)

Thanks to these optimized work processes, the pick rate per worker can be increased to a maximum of 1,000 picks per hour and the error rate can be reduced towards zero.

The workplace is able to meet all warehousing functionalities: order picking, goods receiving, returns handling, physical inventory, and other inventory maintenance.



Pick-by-Light



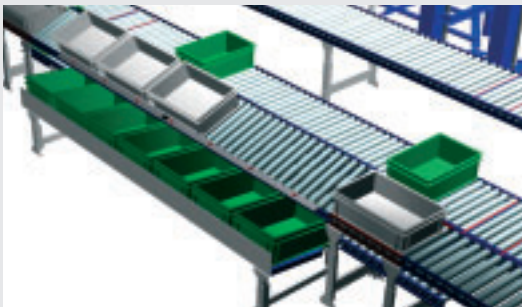
In accordance with the shipping requirements, completed order bins are immediately prepared for shipping and then positioned in the shipping area. Process control is ideally carried out using “ant”, the warehouse management system from SSI SCHAEFER.



workplaces for your staff

Pick-to-Tote:

Particularly suitable for big, heavy or fragile items, which – with this order-picking variant – are directly put into the order bin.



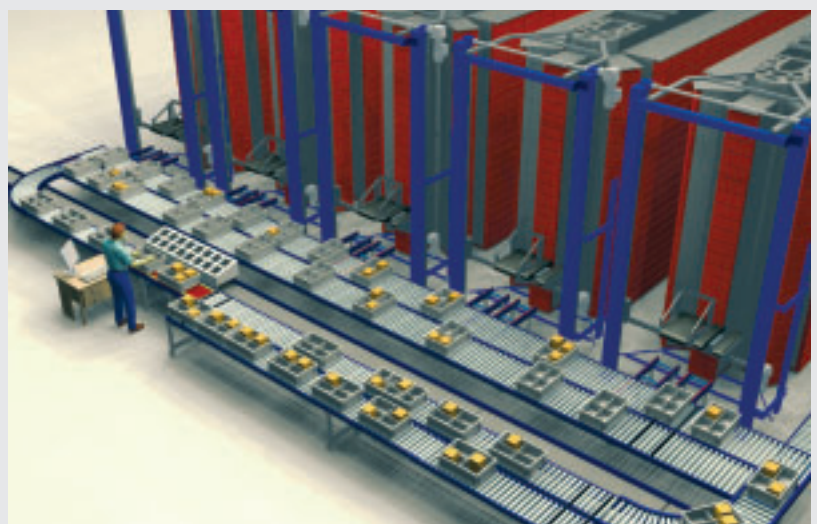
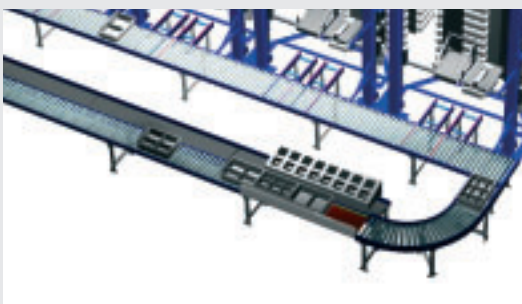
Pick-to-Bucket:

Order picking, which is decoupled from the order bin, into a collecting bucket for light and droppable items.



Drop-on-Belt:

Derived from the Pick-to-Bucket concept, picked items are transported to a central filling point using a conveyor belt.



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