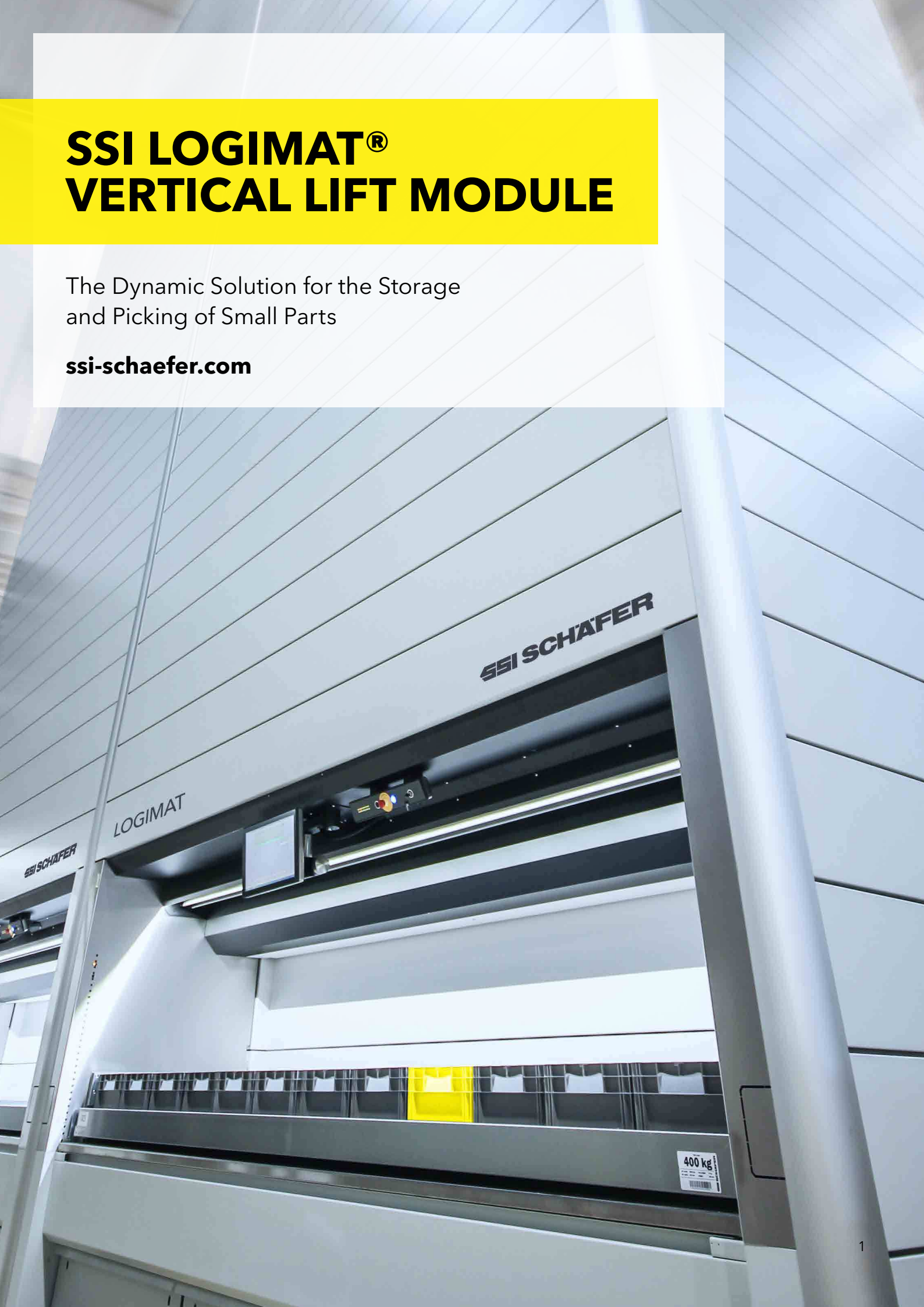


SSI LOGIMAT® VERTICAL LIFT MODULE

The Dynamic Solution for the Storage
and Picking of Small Parts

ssi-schaefer.com





SSI LOGIMAT® IS THE ALL-IN-ONE STORING AND PICKING SOLUTION



SSI LOGIMAT® VLM HIGHLIGHTS

- Highly convenient goods-to-person principle
- Compact design has economical and environmental advantages
- Highest storage density for small parts, up to 90% less floor space
- Automated processes and ergonomic design improve performance by over 20%
- Simple user guidance with minimal training requirements for operation
- Increased performance through automated processes and greater ergonomics

RUNNING OUT OF SPACE OR STRUGGLING WITH PICK RATES?

The SSI LOGIMAT® Vertical Lift Module (VLM) from SSI SCHAEFER is the solution for these challenges and more.

The SSI LOGIMAT® Vertical Lift Module is similar to an oversized drawer cabinet with two stacks of trays, one at the front and one at the back. Between the two rows of trays is a lift. This lift climbs the entire height of the vertical storage machine to remove an individual tray from the respective positions and to deliver them to the access opening.

The unit has an opening at the front and allows users to select a specific tray via a user interface. The unit sends

the tray down to the opening and enables the user to pick their item safely and securely. VLMs save an enormous amount of space, which means items take minimal square footage since everything is stored vertically.

Users incorporate VLMs for various applications to everything from nuts and bolts to high value items or pharmaceuticals. In addition, many VLMs come with options that make picking virtually error-free and provide ergonomic benefits to increase picking speeds.



Space optimization
Utilize ceiling height, save space without cost-intensive structural expansion creates maximum storage space compression



More picking safety
Reduce costs through error-free picking with the assistance of innovative machine functionalities



Higher picking efficiency
Goods-to-person principle creates short distances and increases picking performance



More efficient through cleanliness and tidiness
Reduction of search and transport times, higher work safety, protection of sensitive stored goods inventory differences and incorrect stock values



Safety through ergonomics
Individual working heights and safety systems reduce absences due to illness and increase employee satisfaction



Digitalization creates transparent processes
Quick overview, inventory security and traceability of stock simplify inventory and improve warehouse processes in a sustainable way

UNLIMITED COMBINATION POSSIBILITIES

The SSI LOGIMAT® dynamic system is a future-proof logistical solution.

The path to automation with SSI LOGIMAT® and WEASEL®
 The plastic electroplating specialist C+C Krug GmbH took the path to semi-automation of logistics processes together with SSI SCHAEFER. Three SSI LOGIMAT® Vertical Lift Modules, two automated guided vehicles, type WEASEL® and a short bin conveying system ensure efficient processes between warehouse and production.



Even greater efficiency thanks to conveying systems
 Integrating the SSI LOGIMAT® into ergonomically designed conveying systems is an effective measure for realizing efficient material flow within a facility. The conveying system connects the individual warehouse areas or work stations together. This allows the employees to focus entirely on the picking of goods on the SSI LOGIMAT®.



Intelligent installation
 The SSI LOGIMAT® can also be attached to the outer facade of the warehouse building, if necessary. An installation like this can minimize the construction costs of expanding the warehouse because only the cut-out for the operating opening needs to be taken into consideration in the existing building wall. In addition, the Vertical Lift Module allows for independent planning of the system height. Several SSI LOGIMAT®s can be used for the picking and storage of items, allowing other warehouse areas to be connected.



SMART USE OF WAREHOUSE SPACE WITH LMB CONTAINER

The LMB container series has been specially designed for use in storage lifts. The containers have been optimized as partition to the tray depth of 800 mm and can also be individually subdivided with partition walls. This enables a fast and simple alignment to your stored goods.

YOUR BENEFITS

- Maximize space with the maximum utilization of tray depth
- No mixing with other products
- Available height: 95 and 195 mm
- Available width: 100, 200, 400 mm
- Ergonomic access from above
- Light and solid PP material
- Easily integrated into other storage lifts
- Easy to clean

ADVANTAGES OF LMB CONTAINERS WITH DIVIDERS

- Easy snap in system, very comfortable putting in the divider
- No mixing of your products, they stay safe in their compartments
- Each LMB can take in its lengths of 800 mm
- Six dividers, in a grid of approx. 100 mm = up to max. seven compartments
- Angled surfaces for stickers
- Much more silent and lighter compared with conventional dividers from metal

Container variation

Mix and vary **all five different sized LMB containers** in the storage lift as needed in your specific application



Up to 280 locations possible in one tray



All LMB types are delivered with two dividers



External dimensions (L x W x H)	Internal dimensions (L x W x H)	Capacity	Divides into max.
800 x 100 x 95 mm	774 x 74 x 93 mm	5.2 Litres	7 compartments
800 x 200 x 95 mm	774 x 174 x 93 mm	12.4 Litres	
800 x 200 x 195 mm	774 x 174 x 193 mm	25.7 Litres	
800 x 400 x 95 mm	774 x 374 x 93 mm	26.7 Litres	
800 x 400 x 195 mm	774 x 374 x 193 mm	55.5 Litres	

HARDWARE OPTIONS



LogiTilt

The **LogiTilt** is an incline option that enables the ergonomic removal of goods from the tray. This option reduces the removal depth and gives a better overview of the articles at the far end of the tray. The tilt angle is individually adjustable for each tray - from 10 to 30 degrees, in one degree intervals.



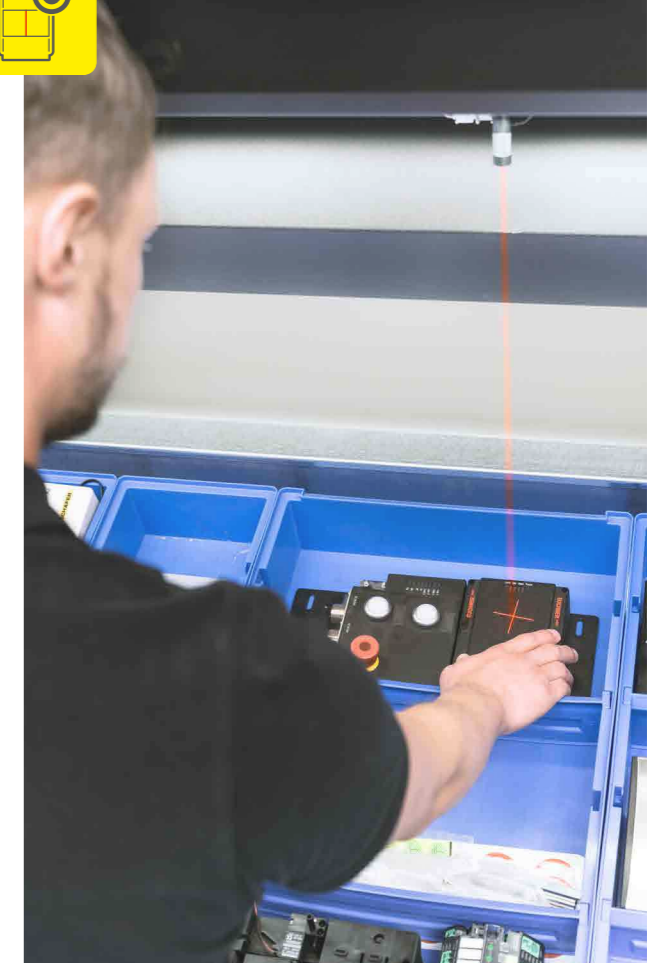
LogiBar

Continuous confirmation light barrier under the operating opening for optimizing the picking performance.



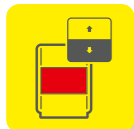
LogiDual

Parallel, time-delayed tray movements for improved performance. While removing goods from the first tray, the next tray is already moving to the operating opening.



LogiPointer

Reduce picking errors by utilizing the **LogiPointer** option for SSI LOGIMAT®. An optical indication of the correct storage position is visible via a laser pointer.



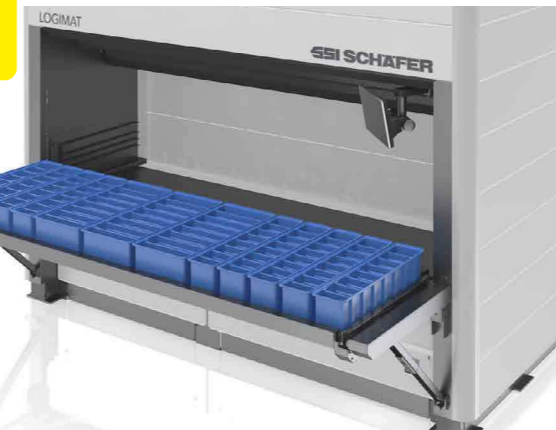
LogiGate

LogiGate is a hub gate that separates the elevator travel shaft and the access opening. The hub gate consists of two parts. The two pieces connect via a chain, and the lower half of the gate acts as a counterweight. This function halves the cycle times and saves energy.



LogiDrive

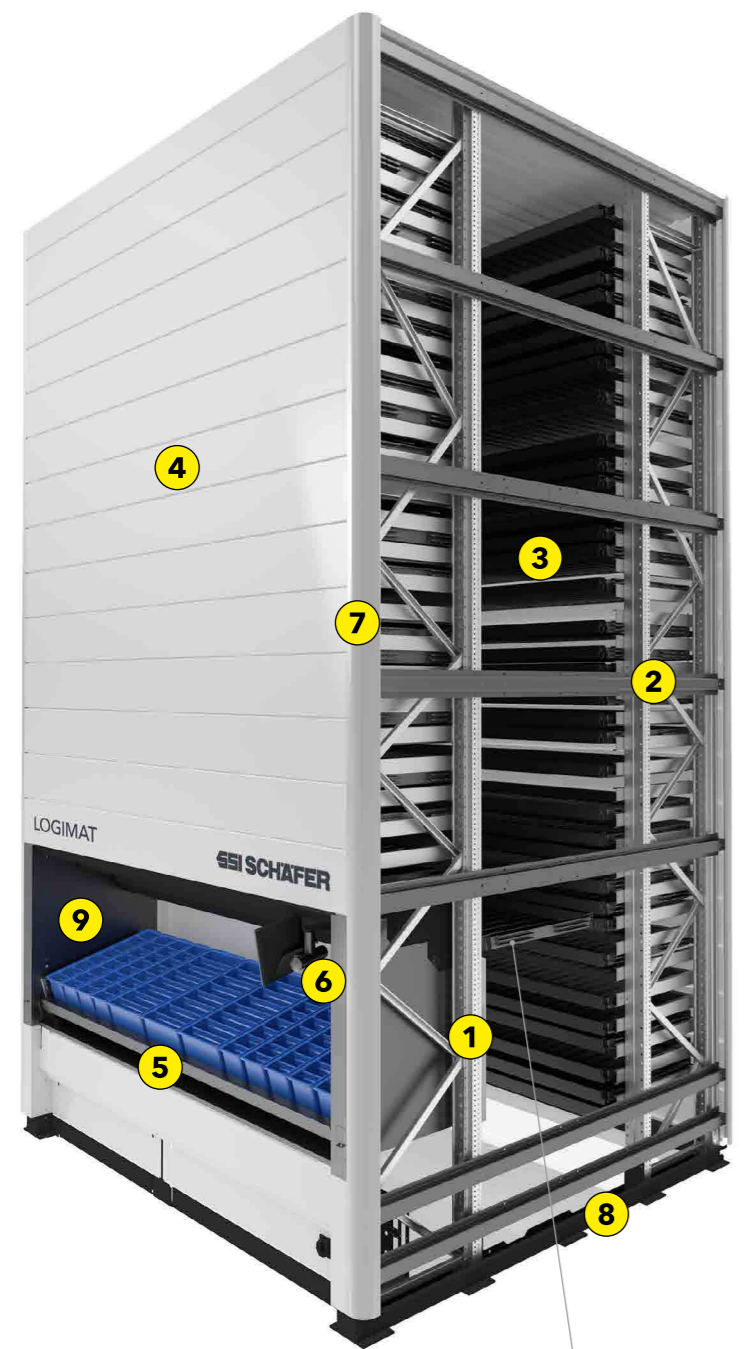
LogiDrive is an automatic feature where the tray extends outwards towards the individual. The roller tracks allow for a smooth and quiet operation. This ergonomic feature is great for heavy goods handled with a crane, for example.



LogiPull

The **LogiPull** is a manual, full pull out tray function with two foldout tray mounts. These mounts fit onto the racking uprights, but fixation to the floor is not necessary. The access opening and the folding handles fit with the roller tracks, which minimizes the manual force of the tray extension.

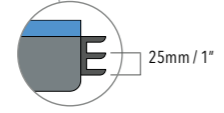
TECHNICAL FEATURES



Minimum height	Maximum height	Tray load capacity	Machine load capacity
2,450 mm	up to 23,850 mm in 100 mm increments	up to 700 kg	up to 80 tons in standard design (higher load capacity)

Usable tray dimensions (mm)	Width (A) incl. paneling (mm)	Depth (B) incl. paneling (mm)
1,825 x 625	2,370	2,712
1,825 x 815	2,370	3,092
1,825 x 1,323	2,370	4,616
2,025 x 625	2,570	2,712
2,025 x 815	2,570	3,092
2,025 x 1,323	2,570	4,616
2,425 x 625	2,970	2,712
2,425 x 815	2,970	3,092
2,425 x 1,323	2,970	4,616
2,825 x 625	3,370	2,712
2,825 x 815	3,370	3,092
2,825 x 1,323	3,370	4,616
3,025 x 625	3,570	2,712
3,025 x 815	3,570	3,092
3,025 x 1,323	3,570	4,616
3,225 x 625	3,770	2,712
3,225 x 815	3,770	3,092
3,225 x 1,323	3,770	4,616
3,625 x 625	4,170	2,712
3,625 x 815	4,170	3,092
3,625 x 1,323	4,170	4,616
4,025 x 625	4,570	2,712
4,025 x 815	4,570	3,092
4,025 x 1,323	4,570	4,616

Height-adjustable tray in 25 mm / 1" increments



1. Heights measurement light grid
2. Stable frame construction
3. Flexible tray concept
4. Variable sheet metal cladding
5. Ergonomic operating opening
6. Intuitive touch screen
7. Aluminum corner profiles
8. Double sided shaft monitoring
9. Safety light grid

Standard paneling colors

RAL 5014 (Pigeon blue)	RAL 9010 (Pure white)	RAL 7024 (Graphite gray)	RAL 7035 (Light gray)

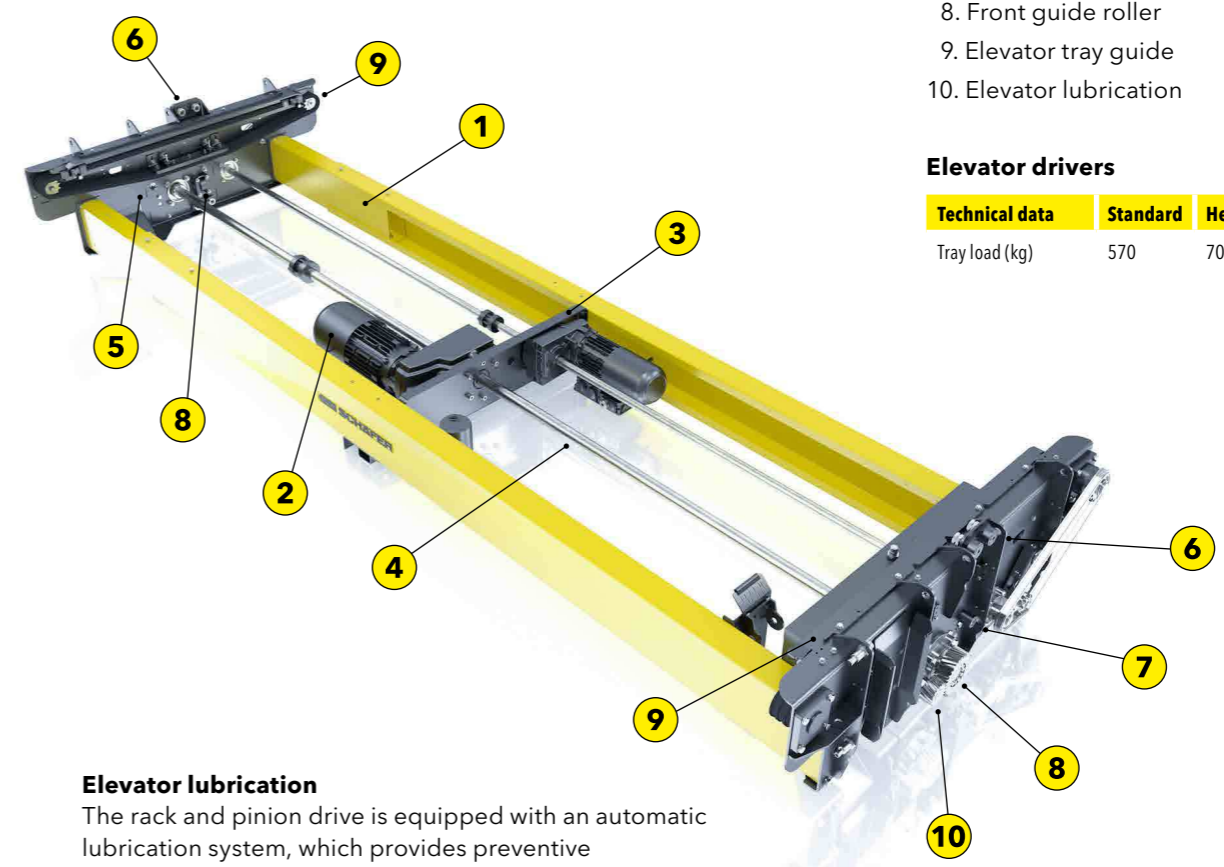
Other colors available on request. Color deviations may occur due to monitor or printer settings.

Power supply

Lenze asynchronous motor with 4 KW up to 11 KW depending on the drive chosen. There are four different drives to choose from:

- Standard
- LogiHeavy
- LogiPower
- LogiFast

Technical data	
Power supply	480 V +/- 10% 60Hz, 3I / PE
Electrical protection	25 A - 40 A
Max. power	12kva - 21kva
Control voltage	24VDC



Elevator lubrication

The rack and pinion drive is equipped with an automatic lubrication system, which provides preventive maintenance every time the elevator moves.



Elevator parts

The elevator is moved by a flat geared motor, which transfers the force directly to the shaft and pinion onto the gear rack. Two different gear drives are used to form variants for a solid performance every time a user selects a tray.

1. Telescopic crossbeams
2. Elevator motor
3. Motor carrier
4. Elevator shaft
5. Flange-bearing elevator
6. Elevator guide mechanism
7. Locking pin
8. Front guide roller
9. Elevator tray guide
10. Elevator lubrication

Elevator drivers

Technical data	Standard	Heavy	Power	Fast
Tray load (kg)	570	700	320	700

ADVANTAGES

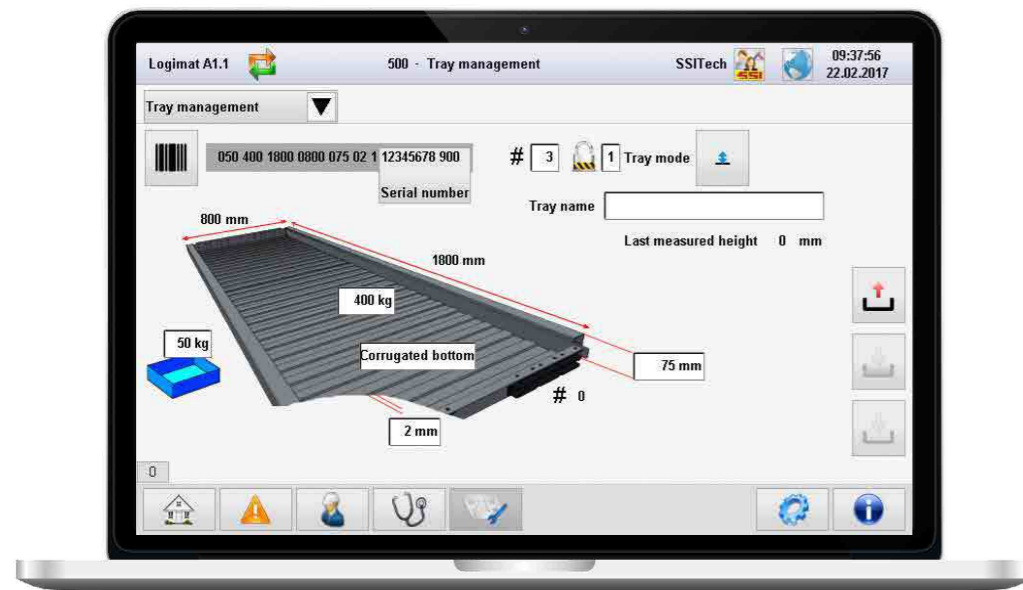
- Maximum availability due to robust technology
- Minimal maintenance due to automatic lubrication
- High positioning accuracy without sensor technology that is susceptible to faults

INTEGRATED STANDARD PLC CONTROL

Organization, control and safety thanks to IT support

The SSI LOGIMAT® Vertical Lift Module is equipped with a programmable logic controller (PLC) as standard that represents the first step towards IT-supported warehouse management. This is operated via a graphical user interface.

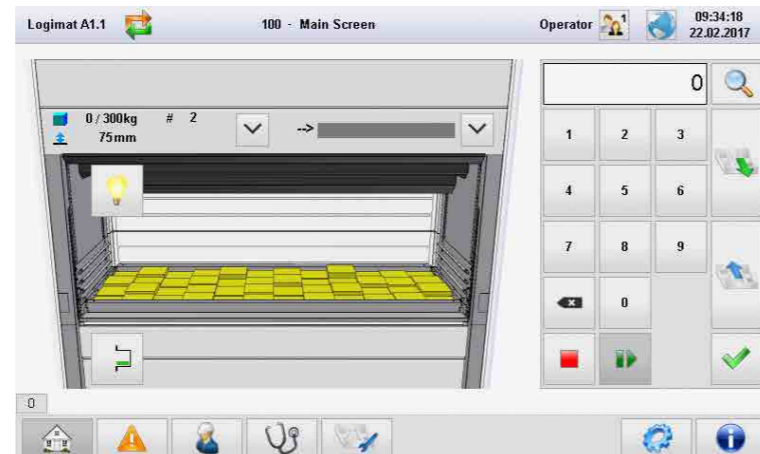
The standard PLC controls all drives via frequency control, monitors the stored items and ensures reliable operation with up to four access openings per Vertical Lift Module.



Visual display of the device status. The functions are depicted language-independently and intuitively using icons.

AT A GLANCE: BASIC FUNCTIONS

- Requesting and returning trays
- Storage strategy with fixed height
- Intelligent height measurement (IHO) with automated consolidation function
- Shaft monitoring
- Safety light grid
- Filling rate display
- Logging and diagnosis
- User management
- Load monitoring, protrusion monitoring, etc.

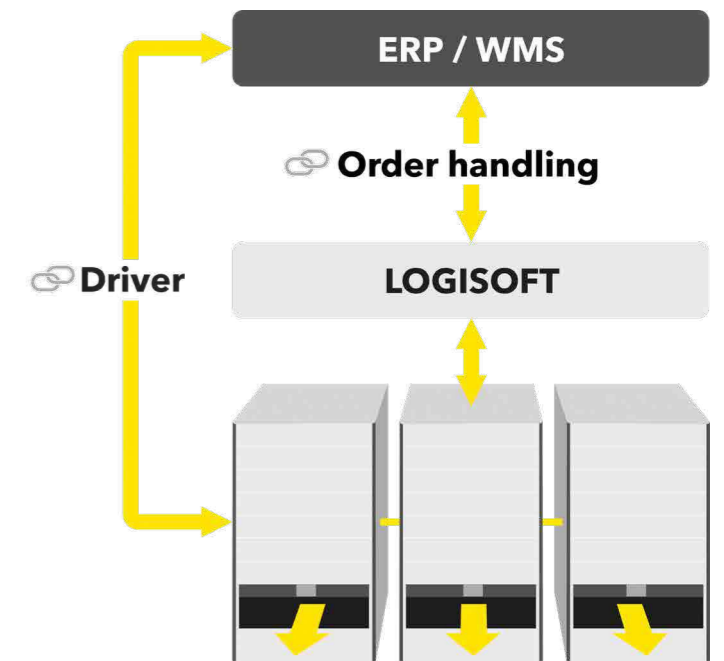


CONTROL & SOFTWARE

From simple applications to complex warehouse management

The SSI LOGIMAT® Vertical Lift Module is equipped with a standard controller (PLC). To connect the Vertical Lift Module to the customer's WMS or ERP system, there is a choice of the required interfaces and proprietary LOGISOFT software.

Every project is based on a straightforward and reliable solution that can be individually tailored to the requirements of your logistical business processes with simple upgrades. Operation is easy with a self-explanatory touch panel user interface.



LOGIDRIVER

Control the SSI LOGIMAT® with your own software

With the Driver interface, the SSI LOGIMAT® trays can be controlled with the customer's own software. The Driver option is an interface based on the TCP/IP protocol. The precise specification can be obtained from our local specialists.

YOUR BENEFITS

- Streamlined warehouse processes
- No unnecessary actions
- Simple integration into existing processes
- Minimization of errors
- Scalability
- Intuitive user interface with touch panel

LOGISOFT WMS

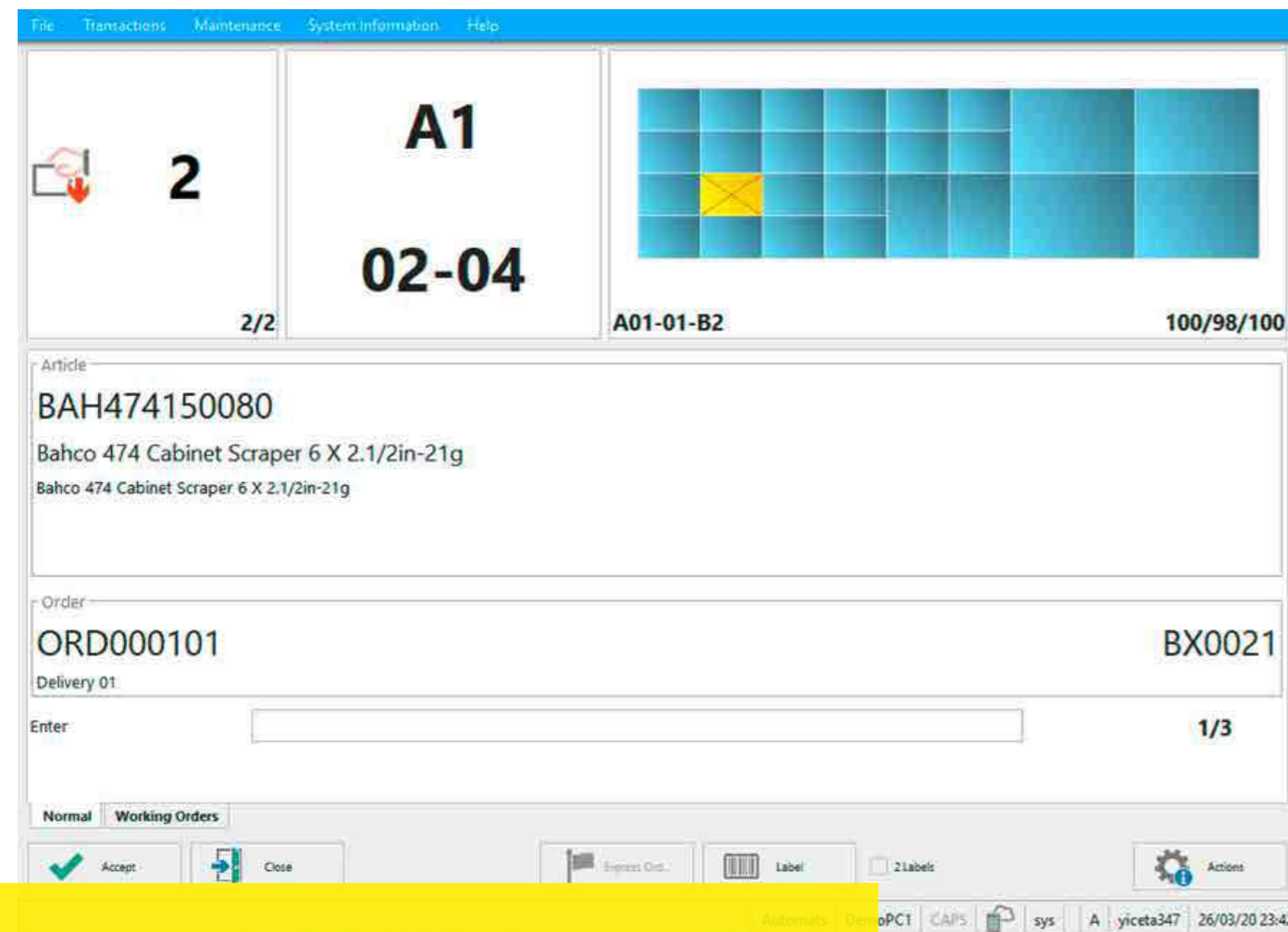
A Warehouse Management System, made for small and medium sized companies

LOGISOFT WMS is a Warehouse Management System, made for small and medium sized companies. It is designed from the idea that huge savings in cost and time can be achieved by optimizing the performance of the warehouse and minimizing the manual work that must be done.

By finding optimal storage locations for each article, by controlling the sequence of orders to be picked and by supporting advanced equipment that improves the speed. To achieve this, LOGISOFT is based on advanced

algorithms that optimize location usages, picking speed and space utilization, all hidden for the normal user, but working underneath to improve the working speed.

Advanced functionality is fine, but not if it requires special training to make use of it. LogiSoft is easy to use for the normal operator, fast to learn and with intuitive functionality, so new operators can be trained to the system just with a short introduction.



Standard work processes in LOGISOFT WMS:

- Goods reception
- Pick and put-away
- Pick and put-away using PDA terminals
- Consolidation and shipment
- Stock counting
- Automatic replenishment
- General administration

Optional work processes in LOGISOFT WMS:

- Host integration
- 3PL handling
- Batch and serial number handling
- Continuous stock counting
- Pick to light
- Event notifications
- Quality inspection
- Internal replenishment

Supported automation hardware:

- SSI LOGIMAT® - standard
- Pick Cart - optional
- Mobile Rack - optional
- AGV - optional
- Conveyor - optional
- Robotic arm - optional

LOGISOFT DRIVER

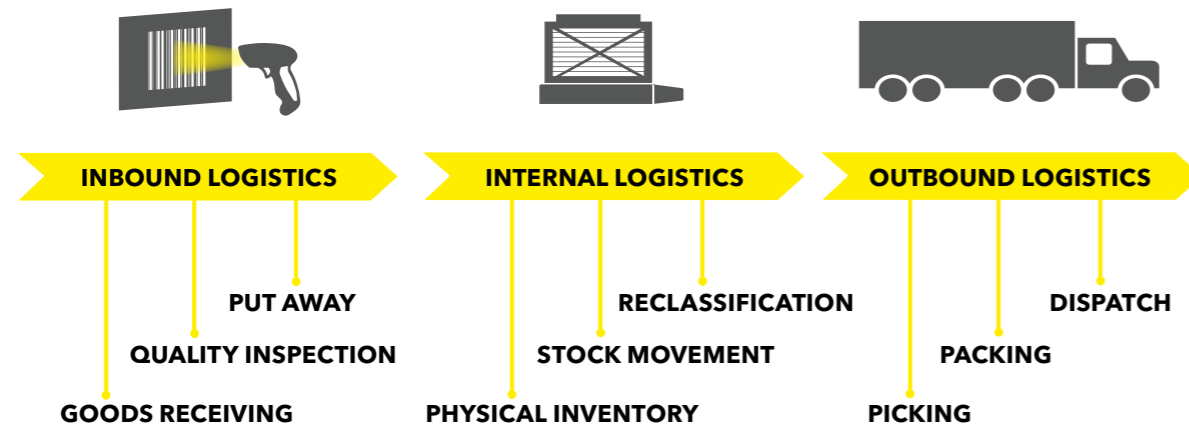
The LOGISOFT Driver software can be used to control the SSI LOGIMAT® reliably and efficiently with third party software.

Intended for one access opening, LOGISOFT Driver provides the option of launching key SSI LOGIMAT® functions using simple HTTP commands:

- Operation of the trays (request and return)
- LOGITILT (a tilting device for the ergonomic retrieval of goods and reduction of the reach depth)
- LOGIPOINTER (laser pointer system for identifying the removal position)
- Status query



FUNCTIONS OVERVIEW



LOGISOFT FEATURE LIST

Features	Standard PLC Control		LOGISOFT Editions		
	LOGIDRIVER	PLC Software	Driver	WMS	Optional
Goods receiving	Goods receiving			✓	
	Scan inbound goods for order activation			✓	
	Mobile app for goods receiving			✓	
Quality inspection	Quality inspection			✓	
	Define a quality inspection process			✓	
Put away	Unloading of articles to quality inspection areas			✓	
	Lot and serial number management			✓	
	Manage production lots			✓	
Security	Manage serial numbers			✓	
	Limited tray access		✓	✓	
	Trays can be locked for users		✓	✓	
	Login to LogiSoft with Smartcards, RFID or other tokens				
Physical inventory	Client management		✓	✓	
	Password protection etc.		✓	✓	
	Package sizes			✓	
	Define quantities of articles that fit in a package			✓	
	Optimize package selection based on picked articles			✓	
	Advanced Inventoring			✓	
Other	Create inventory orders for stock counting			✓	
	Continuous cycle counting				✓
	Create strategies for cycle counting				✓

Features	Standard PLC Control		LOGISOFT Editions		
	LOGIDRIVER	PLC Software	Driver	WMS	Optional
Stock Movement	Automatic replenishment				✓
	For each article the quantity that can fit in a location can be calculated				✓
	Maintain defined stock levels				✓
	Accepts replenishment orders from the host system				✓
Reclassification	Storage manager			✓	
	Optimized storage position based on pick frequency			✓	
	ABC strategy			✓	
	3PL handling				✓
	Multiple article owners				✓
	Batch and serial number management				✓
Picking	Manage production lots/batch				✓
	Manage serial numbers				✓
	Pick-cart support			✓	
	Configuration of locations on pick cart			✓	
	Pick-cart support interface				✓
Packing	Wireless control of the locations on a pick cart				✓
	Put to light and pick to light				✓
	Consolidation and shipment			✓	
	Track the consolidation status			✓	
HOST IT	Track complete and incomplete shipments			✓	
	Space management in the consolidation area			✓	
	Retrieval and return of trays by NGKP2 commands	✓			
Other	Retrieval and return of trays by HTTP commands			✓	
	Standard interface with host system by XML protocol			✓	
Other	Image attachment			✓	
	Articles can be extended with an image			✓	
	Event notifications				✓
	Notifications can be triggered for status changes (based on system and transaction)				✓
	Graphical statistics			✓	
	Tray utilization, picking statistics			✓	
	Competitor control			✓	
LOGISOFT support additional Vertical Lift Automat			✓		
Manual retrieval and return of trays		✓		✓	

NUMEROUS APPLICATIONS

The SSI LOGIMAT® solution scales as your business grows and is the perfect logistics system for small and medium enterprises and global players.

No limits to installation possibilities

With its compact design, the SSI LOGIMAT® vertical lift module fits into virtually any space and meets an array of customer requirements. It accommodates separate storage and retrieval sides, two-sided storage, or retrieval on the floor above, or spanning multiple floors to project through a ceiling, or recessed into the floor.



Even greater efficiency thanks to conveying systems

Integrating the SSI LOGIMAT® into ergonomically designed conveying systems is an effective measure for maximizing efficient material flow within a facility. The conveying system connects individual warehouse areas or workstations. This allows employees to focus entirely on picking goods from the VLM.



Several SSI LOGIMAT®s can be used for picking and storing items, which allows connectivity of several warehouses



This application depicts the operating opening of the SSI LOGIMAT® located on the “main level” of the warehouse, which allows the vertical lift module to be built from the basement and span upwards reaching multiple levels

The SSI SCHAEFER advantage means higher productivity, reliable technologies, flexible applications, and a single source for all components.



FREJA is a full-service provider of transportation and logistical services. With comprehensive global transport alliances, storage facilities and bonded warehouses in the Nordic region, the company offers transport, order booking, packing and packaging jobs and end-recipient deliveries for their customers in all business areas.

For one of the company's customers, the shoe retailer Deichmann, FREJA handles all e-commerce orders for the Danish and Swedish markets. The agreement includes a storage of shoes, an order picking and fulfillment service as well as shipping of all e-commerce orders for both countries. All the orders are handled and shipped from FREJA's office and warehouse in Skanderborg, Denmark.

Prior to the new picking and storage solution all the shoes were stored on shelves in an external warehouse, taking up more than 1,000 m² of shelving storage space, where employees had to walk a lot to pick every order. After careful evaluation of several suppliers FREJA chose 10 SSI LOGIMAT[®] vertical lift modules from SSI SCHAEFER as their new picking and storage solution for the fulfilment of all Deichmann's e-commerce orders.

After only ten days of installation the lifts were ready to be filled. Each SSI LOGIMAT[®] includes 37 trays, allowing more than 40,000 pairs of shoes to be stored in total. The SSI LOGIMAT[®] vertical lifts are equipped with LOGITILT function which gives the employee a good overview of each tray and makes the picking from the lifts very ergonomic.

THE CHALLENGE IN BRIEF

- Centralization of several warehouse locations
- Picking of up to 1,000 orders each day
- Secure and ergonomic workplace
- Future ready solution suitable for growth plans

With the SSI LOGIMAT[®] FREJA is now able to store and pick the same number of shoes in only 350 m² instead of 1,000 m² - and they are ready for the future growth.

The space saving solution even made it possible for FREJA to combine several warehouses into one, and thereby terminate an external lease and gather all warehousing activities on one location. Furthermore, the speed of the order fulfillment has increased.

FREJA now have faster and more efficient picks and the travel in the warehouse was reduced to a minimum, saving many steps for the employees every day.

"SSI SCHAEFER did a good job trying to understand what our needs were and that gave us confidence and combined with the fact that we they had an economically sound solution, a good quality and good references, the choice was easy to make."



Marina Steensen
Group Healthcare
Logistics Director at
FREJA



System Key Figures

Storage space	1,000 m ² in total (SSI SCHAEFER LOGIMAT warehouse area = 350 m ²)
Stock keeping units (SKUs)	Approx. 70,000
Activity peaks	Approx. 400-500 order per day - up to 1,000 orders at peak times.

TOOLS: FINNISH SUPPLIER OF INDUSTRIAL COMPONENTS RELIES SSI LOGIMAT® FROM SSI SCHAEFER

TOOLS Finland Oy has been using four SSI LOGIMAT® Vertical Lift Modules from SSI SCHAEFER for storing and picking small items for the industrial sector. The stated aim of increasing the picking performance by approximately 40 percent was achieved only a few weeks after the automated machines were commissioned.

The integrated vertical lift modules at TOOLS Finland are approximately 9.8 meters high, 4.5 meters wide and 3 meters deep. They contain a total of roughly 6,800 small parts, such as hand tools, nuts, and bolts, which are distributed over 70 trays each with a maximum load of up to 450 kilograms. This stock now stored over only 54 square meters of horizontal space

makes up about 30 percent of the total range of items available in the company's distribution center in Kotka.

Thanks to the compact design of SSI LOGIMAT® vertical lift, the full height of the room is now being used as efficiently as possible.



"These lifts were absolutely necessary so that we can continue to be the number one choice for our customers going forward. In March, we already achieved a new record for the total number of lines, with a figure of 48,000 order lines. We also found it impressive that SSI SCHAEFER is a large, globally active company with a local presence, and which is also backed up by outstanding references from around the world."

Semi Hurttu,
Warehouse Manager at TOOLS Finland Oy



The vertical lift modules are controlled using a touch screen with a user-friendly and language-independent user interface that visualizes the information using icons, meaning no costly training period is necessary. Information displayed includes the device status and the items required for picking.

TOOLS Finland Oy is also using one of the three pre-configured option packages on offer, which allows SSI SCHAEFER's vertical lift modules to be easily adapted to individual requirements. These expand the basic functions and focus on aspects such as ergonomics, performance, and maintenance. The selected package, which focuses on speed and efficiency, includes the "LOGIPOWER", a laser-pointer system for indicating the pick compartment.

With the aid of "LOGIBAR", travel times can be reduced by confirming removal of the goods via a continuous light barrier fitted underneath the service hatch. This also has a positive effect on the productive performance. Another option used is "LOGIPOWER": a motor that allows for increased travel speeds, meaning access times during picking are reduced even further.

Last but not least, future viability is guaranteed. If, as the company develops and grows, further performance increases are required in its intralogistics operations, the number of SSI LOGIMAT® machines can easily be raised. Additionally or alternatively, other options packages for functional enhancements can be procured, or conveying sections can be connected.



SERVICE & MAINTENANCE

Making sure everything runs smoothly.


If you choose SSI SCHAEFER, you can also rely on our strengths in the servicing sector that have made us a market leader: A range of services that is unique in this sector and the certainty that all services and site visits will be carried out by our own specialized service technicians. Thanks to its robust design and high-quality components, the SSI LOGIMAT® is extremely low-maintenance.

With customer-specific servicing and maintenance models, as well as innovative spare parts concepts, our global Customer Service & Support team ensures the optimal availability of your system, maximum operational reliability, and complete customer satisfaction.



OUR SERVICES

- On-site troubleshooting
- Preventative maintenance
- Constant system monitoring
- Regular inspections and safety checks
- Global spare parts service
- Full documentation
- Analysis capability
- Targeted training courses and certification
- Individually tailored modernization measures



SSI SCHAEFER

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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