MOBILE RACKING SYSTEMS

Storage systems for more product on less surface area
The product range of SSI SCHAEFER / FRITZ SCHAEFER GMBH – also the headquarters of the SSI SCHAEFER Group – comprises the core business of storage technology (rack steel construction for automated small part storage systems AKL and rack supported structures) as well as storage and transport containers, modular shelving systems, pallet and cantilever racking.

SSI SCHAEFER AG plans and implements conventional and fully automated mobile racking systems for the whole of the SSI SCHAEFER Group. The competence centre of the SSI SCHAEFER Group has implemented more than 2,500 mobile racking systems internationally. The range of products and services reaches from system planning and consultation through the installation of systems to custom-designed service packages.

SSI SCHAEFER S.R.O. production site Hranice in Czechia: in this production plant, the main products for automation such as mobile racking systems, storage and retrieval machines, pallet conveying systems and the SCS (Schaefer Carousel System) are made, pretested and shipped to the installation sites on time.
Hans Ingold from Switzerland obtained the patent rights for the idea of “better space utilisation by means of mobile frames for racking and cupboards, to either reduce the required area by 40 % or to allow 85 % more storage capacity on such area”.

The traversing process was significantly improved thanks to the single-wheel drive unit. The previous operating principle using the tow principle with drawbar or chain was structurally more complex.

The mobile racking storage system begins a triumphant progress: The extensive capacity increase is particularly profitable in the food industry and provides a welcome compensation for the rapidly rising energy costs of cold and freezer storage.

A reorientation of the product ‘mobile racking system’ is initiated at SSI SCHAEFER: logistics services companies start operating extremely complex installations with 20 – 30,000 pallet locations. The experts assess that “mobile racking systems are the ideal storage concept for the dynamic changes in clients storage requirements”.

An important innovation phase at the competence centre of the SSI SCHAEFER Group was concluded successfully. Mobile racking systems are now also available as fully automated systems in combination with laser navigated high-bay stackers without operators. Due to the emerging synergism of efficient storage densification, high goods handling capacity 24 hours per day and minimised staff costs, the automated mobile racking system allows the highest possible economic efficiency.

SSI SCHAEFER sets new milestones with a new generation of mobile bases with unique benefits to the end user.
Efficient space utilisation for optimum warehouse logistics thanks to mobile racking systems

**Pallet racking in conventional configuration**

- Total area used: 625 m²
- Proportion for racking: 223 m²
- Proportion for aisles: 402 m²
- Floor space utilisation: 36%
- Pallet locations: 1.152

**Lost area** 64%

**Mobile racking to gain in area utilisation**

- Total area used: 353 m²
- Proportion for racking: 223 m²
- Proportion for aisles: 130 m²
- Floor space utilisation: 63%
- Pallet locations: 1.152

**Area gained** 44%

**Mobile racking system for increased storage capacity**

- Total area used: 625 m²
- Proportion for racking: 463 m²
- Proportion for aisles: 162 m²
- Floor space utilisation: 74%
- Pallet locations: 2.304

**Capacity gained** 100%
SSI SCHAEFER mobile racking systems
An unbeatable complete system

Designed according to standards and regulations for maximum safety and operating comfort

Automatic forklift release
Switchgear cabinet
Plain text display
Modern innovative rail construction

For installation in multi-layer floors
- For existing floors
- For load-bearing ceiling constructions
- In cut-outs

For installation in single-layer floors
- For new buildings, both ambient and cold storage
- For single layer industrial floors

Precision work during installation
- Levelling mounting brackets every 600 / 1,000 mm
- Installation supervised by experienced supervisors worldwide
- Installation reports for customers safety and sub-contractors
Quality characteristics
Shape and quality of the rail system for mobile racking systems are the distinguishing features of durability & safety

Guide rail A45
- Round edges, harmless to forklift wheels
- Guideway for wheel with double flange
- Floor connection profile
- Rail profile A45 made from high strength steel with high inherent stiffness
- Large supporting surface provides minimum ground pressure
- Anchoring of the floor connection profile in distances of 300 mm
- Massive levelling mounting brackets in distances of 1.000 mm

Running rail A45
- 125 mm wide running surface
- Vertical floor connection
- Rail profile A45 made from high strength steel with high inherent stiffness
- Continuous anchoring due to the profile shape
- Massive levelling mounting brackets in distances of 1.000 mm
Ahead of the times – Innovation and engineering of a new construction method

A concept from practical long term experience with technology of the future

**The four-wheel travelling mechanism**

Advantage for supporting structure planning:
Loads affecting the floor are reduced due to the four wheels.

**The bearing design**

Total wear reduction:
Four raceways of the groove ball bearings (closed version) avoid one-sided loading.

**Covering for mobile bases**

Individual coverings available as option

**Guide wheel:**
Safe double wheel flange

**Running wheel:**
Cambered running wheels
Perfect in every detail – for increased operational safety and durability
The new generation, based on four decades of experience in mobile racking system building

**Rack fastening**
Integrated rack fastening

**Component protection**
Effective protection of components: Light barriers and distance sensors protected under robust covers.

**Sensor adjustment from the outside**

**The centre beam**
Robust, welded centre beam: Complete torsional stiffness and dimensional stability.

**The electric drive**
High performance drive concept: Two gear stages in direct gearing with matched motor control.

**Robust**
Hot-rolled IPE beams: Guaranteed stability also under heavy forklift operation!

Excellent quality due to laser accuracy and state of the art machining
Intelligent system control – more performance through modular design

**Standard operational functions**
- Global system positioning protected by photoelectric access barrier (type tested photoelectric safety barrier)
- Local system positioning protected by base-mounted photoelectric barriers on both sides of each rack (type tested photoelectric safety barrier)
- Emergency off switch on every operating panel
- Manual release system with release storage
- Rack movement control via the operating panel on each rack
- Manual emergency operation system
- Permanent system status display in plain text
- Movement time control
- Drive unit control
- Display element control
- Operation time counter

**Customised drive control system**
- Drive control via intelligent terminal with motor power monitoring
  - or
- Frequency-controlled drive control (soft start / soft stop) to protect goods in storage

Every SSI SCHAEFER racking system is equipped with a modern Siemens S7-300 SPC control system. A modular design concept enables customised systems built around client requirements.
Options

Remote control for rack aisles
- By pressing a button on the remote control unit, which can be mobile or fixed to the forklift, the aisle to be opened is selected by radio frequency
- Integrated automatic forklift release

Control options distance controls
- For the creation of order picking aisles
- As night park facility in cold and freezer storage areas
- As access for fire prevention

Control option aisle lighting
- Reduced energy consumption due to pre-activated lighting (supply of potential-free contacts through SSI SCHAEFER)
- The lights have to be placed parallel to the mobile rack lines for this to be achieved

Coverings for mobile bases
- Chipboard
- Steel or mesh decks

Additional options
- Forklift identification
- System operation from rear
- Interface for WMS
- Modem
- Optical warning
- Acoustic pre-warning
The storage goods determine the racking system

Strong and flexible racking systems for pallets and long goods storage as essential components in economical mobile racking systems

**Pallet racking**
for example, to store
- Pallets
- Bins
- Containers
- Furniture trolleys
- Octabins
- Coils
- Reels
- Barrels

**Cantilever racking**
for example, to store
- Bar steel
- Storage trays
- Sheet metal
- Bodywork parts
- Plate goods
- Long material
- Bulky material
- Structural profiles
Pallet conveying systems – essential link between components of a modern and efficient intralogistics.

The entire component range of the SSI SCHAEFER pallet conveyors is available for optimum planning and structuring of functional ranges and their linking through transport technology.

All components – such as chain conveyors, roller conveyors, 90-deg turning units, turntables, vertical conveyors, transfer vehicles, pallet dispenser, etc. – are standardised at the highest level, however, can be adapted fast and individually to customer demands.

The modular design of the SSI SCHAEFER conveyor components ensure variable system designs, short production and delivery times, high reliability and ruggedness, easy maintainability and complete compatibility between components.

Combined with in-house production we can achieve fast manufacturing and delivery times, perfect quality assurance and continuous product development.

State-of-the-art logistics… from SSI SCHAEFER just right for your requirements!
Fire Protection
Equipment with moveable sprinkler systems

▲ Sprinkler feed with scissor feed

◆ Flexible sprinkler feed
Customer Service & Support
24 hours a day. 365 days every year. Worldwide.

High availability and long service life, economical operation and fast assistance in the event of a failure – customer oriented after-sales service and regular maintenance work are the most important approaches in optimising the operating times and operational reliability of equipment and systems.

SSI SCHAEFER has followed these principles with the creation of a service and maintenance network that is available worldwide. Continuous accessibility, fault clearance via modem or on location and preventative maintenance for mechanical equipment and control systems are part of the range of services offered by SSI SCHAEFER.

With customer specific service and maintenance models as well as innovative spare part concepts, our service team takes care of highest operational safety, minimum down times and maximum customer satisfaction.

SSI SCHAEFER Hotline – your direct link, 24 hours per day, every day.

Our range of services
- 24 hour hotline
- Global spare parts management
- Planning and execution of service contracts
- User training on location
- Preventive maintenance
- Service contracts
Fully automated mobile racking systems

The combination of optical vehicle navigation with the tried and tested technology of mobile racking systems makes it possible:

**The fully automated mobile racking system!**

A brief summary of the essential strengths of the integrated fully automated system:

- Maximum storage capacity within a given space
- Minimum space requirement for a specified storage capacity
- Floor space utilisation up to about 80%
- Direct access to all pallet locations
- **Considerable reduction in staff costs**
- High goods handling capacity due to intelligent storage strategies
- Optimum adaptation to logistic procedures
- **Highest economic efficiency**
- Highest system availability
- Easily expandable due to enlargement of the vehicle fleet
- Can be adapted flexibly to current handling rate and storage capacity requirements
INTERNATIONAL APPLICATIONS

Furniture industry

Food industry
INTERNATIONAL APPLICATIONS

Logistics services companies

Coil and special load carriers