

Warehouse Systems Limited

Industrial Innovation since 1989

Pallet Racking

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What is pallet racking?

Pallet racking is an independent structure designed to facilitate the storage and handling of palletised goods within a warehouse and is available in several different formats to suit different warehouse operations.

Pallet racking systems maximise vertical storage space, enabling warehouses to store more goods without expanding their footprint. This efficient use of space improves inventory management and accessibility, boosting overall productivity and efficiency.

There are various types of pallet racking, including standard wise aisle, drive-in, and push-back racking. Each type is designed to meet specific needs, such as optimising space, enhancing accessibility, or supporting high-density storage. Customisation is key.

Pallet racking systems differ in terms of selectivity, automation, and space utilization. Some operate on a First-In-Last-Out (FILO) basis, ideal for high-turnover goods, while others use First-In-First-Out (FIFO) for easier stock rotation.

Systems for every inventory challenge



Pallet racking can support a warehouse operation in various ways, addressing different needs:

- Maximising Storage Space: Utilises vertical space, allowing for more goods to be stored without expanding the warehouse footprint.
- Improving Accessibility: Different racking types, like wide ailse racking, ensure easy access to individual pallets.
- Enhancing Inventory Management: Systems like FIFO and FILO streamline stock rotation and retrieval processes.
- Supporting High-Density Storage: Options such as drive-in and push-back racking are ideal for high-volume, low-variety goods.
- Customising Solutions: Various racking formats can be tailored to specific warehouse requirements, from product types to operational workflows.

Pallet Racking Type	Flow Method	Storage Density	Energy Efficient	Accessibility
Wide Aisle Racking/ Standard APR		■		⊕ ⊕ ⊕
Pallet Live Racking	FIFO	■ ■ ■	✹	⊕
Push Back Racking	FILO	■ ■ ■	✹	⊕
Narrow Aisle Racking		■ ■	✹	⊕ ⊕ ⊕
Double Deep Racking		■ ■ ■	✹	⊕ ⊕
Drive-in/Drive-through Racking	FIFO & FILO	■ ■ ■	✹	⊕
Mobile Racking		■ ■ ■ ■	✹	⊕ ⊕
Shuttle Racking	Switch between FIFO & FILO	■ ■ ■ ■	✹	⊕ ⊕

■ Four symbols = Extremely high Three symbols = Very high Two symbols = High One symbol =Moderate

⊕ Three symbols = Very easy Two symbols = Easy One symbol =Moderately easy

FILO = First-in Last-out FIFO = First-in First-out

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Wide Aisle Racking

The Universal Fit

- **Description:** Standard warehouse racking system with aisles wide enough to accommodate standard forklifts.
- **Space Efficiency:** Provides moderate storage density compared to more compact racking systems.
- **Accessibility:** Allows straightforward access for forklifts to each pallet position.
- **Versatility:** Handles various pallet sizes and shapes with ease.
- **Applications:** Commonly used in general warehousing where flexibility and accessibility are priorities.







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Double Deep Racking







The Space Maximiser

- **Description:** Stores pallets two deep, to add more rows by reducing aisle quantities
- **Space Efficiency:** Maximises storage density compared to wide aisle racking.
- **Handling:** Requires specialised forklift attachments for accessing rear pallets.
- **Selectivity:** Reduced compared to single-deep racks but more than other dense storage systems.
- **Applications:** Suitable for storing large quantities of the same SKU.

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Pallet Live Racking

The Dynamic Storage Solution

- **Functionality:** Gravity-fed system where pallets move forward as others are removed.
- **First-In, First-Out (FIFO):** Ensures efficient stock rotation.
- **Efficiency:** Maximises space utilisation and picking efficiency.
- **Maintenance:** Regular checks needed to ensure smooth pallet flow.
- **Suitability:** Ideal for perishable goods or high-volume distribution centres.







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Push Back Racking

The Efficient Flow System

- **Concept:** Pallets stored on nested rollers allowing them to push back existing pallets so they sit deeper into the lane.
- **Density:** Offers greater storage density than selective racking.
- **Loading and Unloading:** FILO system where first pallet in is the last out.
- **Benefits:** Reduces aisles needed, enhances storage capacity.
- **Versatility:** Suitable for bulk storage without the need to rotate

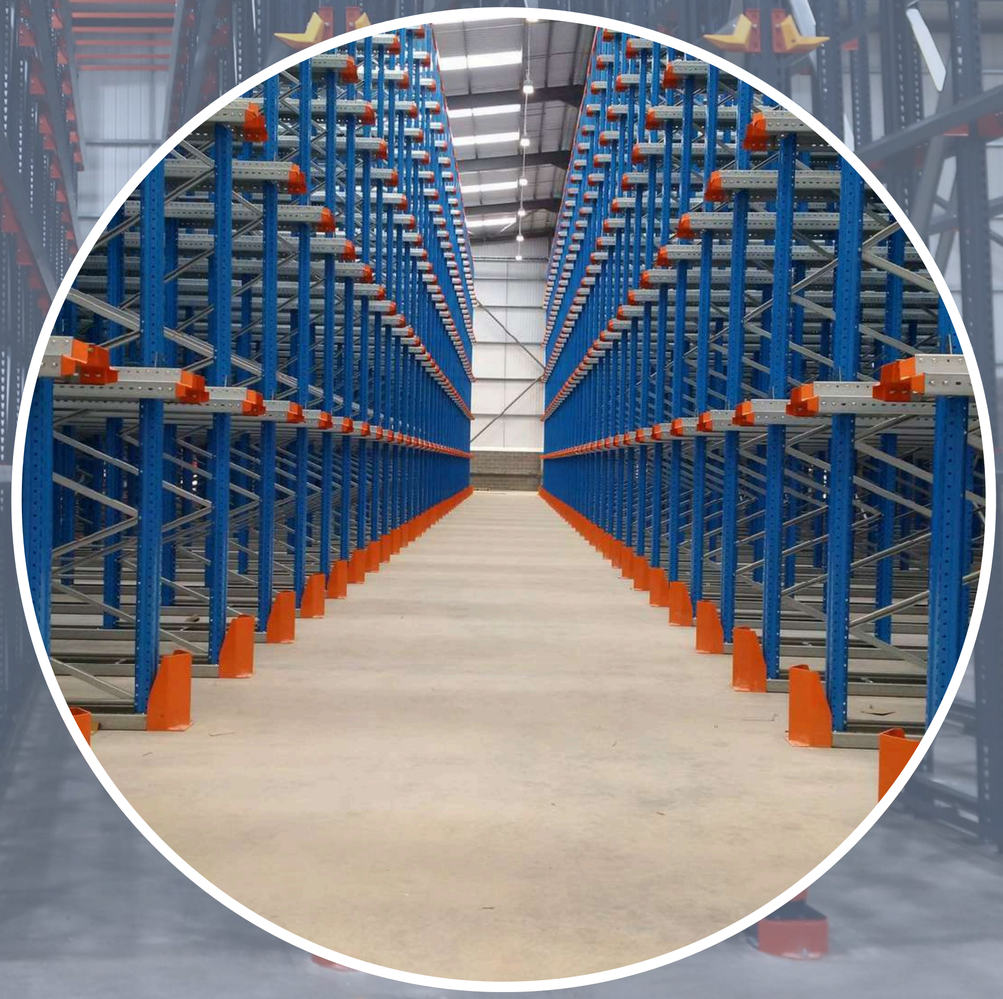
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Drive-in/Drive Through Racking

The High Density Access Solution

- **Design:** Allows forklifts to enter the rack structure to retrieve or deposit pallets.
- **Configuration:** Drive-In (FILO) and Drive-Through (FIFO) options.
- **High Density:** Maximises storage space with minimal aisles.
- **Limitations:** Requires careful forklift operation to prevent damage.
- **Usage:** Ideal for warehouses looking to increase capacity with limited space.







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Narrow Aisle Racking (NAR)







The Precision Space Saver

- **Spacing:** Aisles are narrower than wide aisle racking but wider than very narrow aisle racking.
- **Accessibility:** Allows for faster retrieval than wide aisle with specialised narrow aisle forklifts.
- **Space Utilisation:** Efficient use of vertical space due to higher racks.
- **Cost Consideration:** Balances cost-effectiveness with accessibility.
- **Suitability:** Common in warehouses and distribution centres with moderate to high turnover.

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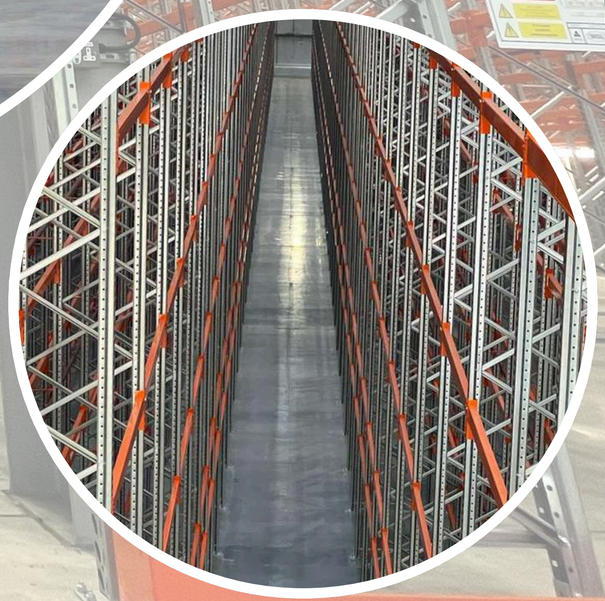
Very Narrow Aisle Racking (VNA)

The Vertical Storage Specialist

- **Layout:** Aisles are very narrow, optimised for maximum space utilisation and narrow aisle forklifts
- **Precision:** Requires precise forklift operation with wired guidance.
- **Storage Density:** Highest among direct access picking systems.
- **Mechanical Integration:** Often combined with Pick and Deposit Stations (P&Ds) for efficiency.
- **Implementation:** Higher initial investment but significant long-term savings.







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The Space Transforming System

- **Mechanism**: Racks mounted on mobile bases that move along tracks installed into the floor.
- **Accessibility:** Creates aisles only where needed, maximising floor space utilisation.
- **Efficiency:** Allows for selective, dense storage with reduced aisle space.
- **Flexibility:** Can be manual or powered, adapting to various warehouse needs.
- **Applications:** Ideal for cold storage or environments with fluctuating inventory levels.

Mobile Racking

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Shuttle Racking

The Automated Storage System

- **Automation:** Utilises shuttles that operate within the rack to handle pallets.
- **Efficiency:** Speeds up pallet placement and retrieval processes compared to manual systems.
- **Space Optimisation:** Maximises storage density through automated operations.
- **Cost Considerations:** Initial investment higher due to automation, offset by efficiency gains.
- **Suitability:** Best for high-density storage with limited access requirements.



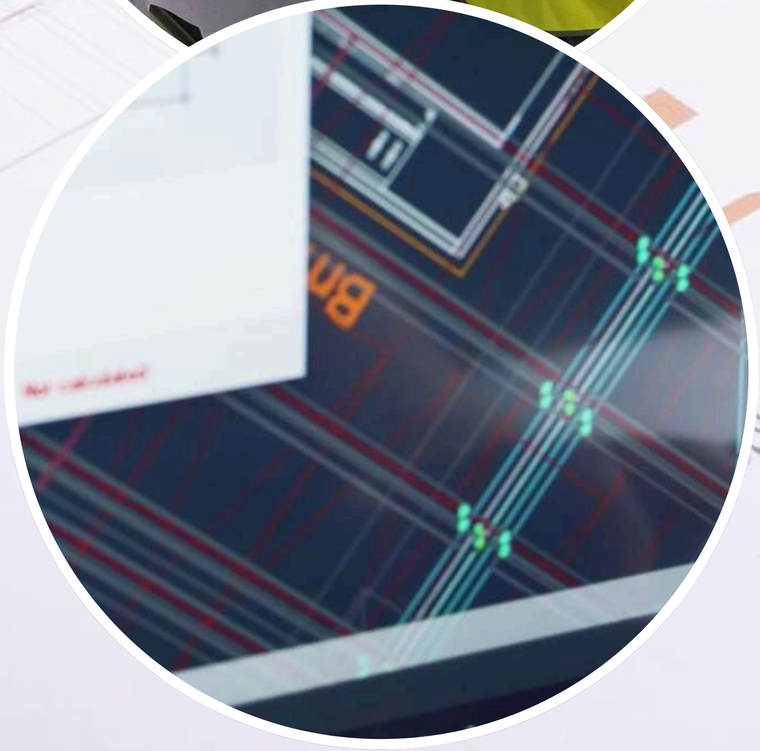




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Customisation & Design





Because every warehouse operation is different.....

Discover our bespoke pallet racking solutions tailored to your unique needs. From design to installation, we offer a range of customisable options to optimise your storage space.
Our expert team collaborates with you to create efficient, safe, and scalable systems, ensuring your warehouse operates at peak performance.
Transform your storage with our innovative designs.





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Installation and Maintenance

Professional Installation

Ensure a no-fuss configuration with our professional installation services. Our skilled technicians guarantee precise, efficient setup of your pallet racking system, adhering to the highest safety standards. From start to finish, we manage every detail, minimising downtime and maximising productivity. Trust us for a hassle-free, expert installation that meets your operational needs.

Professional Inspections

Maintain optimal safety and efficiency with our professional racking inspections. Our expert inspectors thoroughly evaluate your pallet racking systems, identifying potential hazards and ensuring compliance with industry standards. Regular inspections prevent costly repairs and downtime, guaranteeing your warehouse operations remain safe and efficient. Rely on us to keep your racking in top condition.

Inspection Training

Empower your team with our rack inspection training services. Our professional inspectors train your staff to perform regular safety inspections between annual professional assessments. This hands-on training ensures your team can identify and address potential issues promptly, maintaining a safe and efficient warehouse environment year-round. Invest in knowledge and safety with our expert training programs.









Safety Standards & Compliance

Rest Assured....

Ensure your warehouse meets the highest safety standards and compliance requirements with our expert services. As an Approved Manufacturer Full SEMA Member with UKCA accreditation, we guarantee adherence to rigorous industry standards. Our comprehensive solutions include design, installation, and regular inspections, all focused on maintaining a safe, compliant, and efficient storage environment. Trust us to keep your operations running smoothly and safely.

Accessories & Safety Ancillaries









Maximise Safety and Efficiency

Enhance your pallet racking system with our customised accessories and safety ancillaries. We manufacture end-of-rack barriers, corner guards, upright protectors, and cantilever P&Ds, tailored to your specific needs. Additionally, we offer a variety of decking options, including wire mesh, timber, steel, and chipboard. Our high-quality accessories ensure maximum safety and efficiency for your storage environment.





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