

Pallet racking

and other racking systems



About Dexion

In 2018, Gonvarri Steel Services acquired the Constructor Group comprising of Dexion, Constructor and Kasten and Gonvarri Material Handling was formed to become the new group parent.

Dexion is a prominent member of Gonvarri Material Handling, a family of brands which can trace its origins back to 1856.

Dexion's Audacious Beginnings

The Dexion company (from the Ancient Greek meaning 'Right') was originally forged from Comino's hunger for efficiency gains across his printing business. Namely, the need for paper and type storage racks that could quickly and easily be dismantled and reused.

Comino's persistence and tenacity paid off. By 1947 he had developed the 'Dexion Slotted-Angle', a framing material that was, weight-for-weight, stronger than wood, and that could be stored in a fraction of the space needed for wooden timbers.

The first adjustable storage system had arrived, and blazed the trail for Dexion's purpose-built pallet racking and shelving systems.

Dexion quickly became the benchmark for innovation with a number of outstanding milestones:

- 1956** Slotted-Angle used to build Olympic Stadium
- 1957** 1st Mobile Pallet Racking installation
- 1963** 'Dexiongrad' built to support the Yugoslavia earthquake relief
- 1970** Production of Steel Shelving begins
- 1980** 1st Paternoster installed
- 1999** Dexion is acquired by Constructor Group and P90 system launched
- 2000** Hi280 system launched
- 2003** 1st Tornado automatic storage installed
- 2011** Cantilever range launched
- 2014** P90+ system launched

It is testament to those early pioneers that these systems are still much in demand today.



Introduction to pallet racking

Storing goods on pallets is the most common method to manage warehouse stock. Pallet racking is the most effective method of storing pallets, but understanding what type of structure is needed can sometimes be confusing.

Pallet racking is manufactured from steel, which can be a costly commodity. Having an extensive range of products to choose from, means that we can achieve the loading capacity you require, with a pallet racking structure that suits your operation, in a cost effective way.

Our systems can be easily configured in a variety of ways based on your needs and pallet load, to ensure a functional and logical warehouse storage solution for you.

Whatever the industry, there's a range of storage systems that can provide optimal storage economics. From Drive-in Racking or Mobile Racking (MOVO) for frozen and cold-store goods; to First-in, First-out (FIFO) Pallet-flow systems for bulk goods such as those with a "best before date".

System comparison and distinguishing characteristics

	Low investment	High floor utilisation	High volume utilisation	Easy to adjust and adapt	Good for individual pallet access	FIFO can be obtained	Good for handling large product range
Wide aisle (standard) pallet racking	●			●	●	●	●
Narrow aisle	●			●	●	●	●
Deepstore/Drive-in	●	●	●				
Pallet shuttle system	●	●	●			●	
Pallet flow FIFO		●	●			●	
Push back		●	●				●
Mobile pallet racking (MOVO)	●	●	●	●	●	●	●
Crane racking			●		●	●	●

● Best option ● A good option

See next pages to find out more about other racking systems and accessories we offer.

Wide aisle pallet racking

Core features

- Free and unrestricted access at all times
- Optimum adaption for the full range of pallets
- Rack heights of up to 15m and maximum bay loads of up to 30 tons
- P90 components are permanently protected against corrosion

Why wide aisle?

- It's suitable for bulky mixed pallet goods
- Our most popular racking solution has been sold for over 50 years
- It's suited to standard counter balance forklift trucks
- Fully integrates with a picking operation



P90 Wide Aisle Pallet Racking provides your warehousing teams with unrestricted access to all your pallets at all times. The system delivers versatility and assembly as single- or double-depth racks.

P90 Pallet Racking easily adapts to your specific warehouse and storage requirements, thanks to a variety of widths, depths and heights. In fact, P90 Racking will fit into any space available, and is suited to all kinds of pallets – whether they be Euro, Chep, disposable or captive pallets, mesh boxes or bins.

The modular, future-proof system adapts perfectly to your particular needs – thanks to different beams, angle supports and shelves and extensive accessories range.



Narrow aisle

Core features

- Total and unrestricted accessibility to individual pallets
- Makes optimum use of any given floor area, storage space and warehouse height (up to 20m high)
- Any additional costs offset by added value of improved space
- Used in conjunction with very narrow aisle (VNA) trucks

Why narrow aisle?

- Holds more pallets in comparison to wide aisle
- You already have VNA trucks
- Improved throughput speeds compared to wide aisle



Narrow Aisle Pallet Racking is your ultimate space-saving option if your warehousing or storage floor space is limited. It gives your teams maximum storage capacity, and allows for quick order-picking and fast accessibility to every pallet.

Narrow Aisle Pallet Racking combines a wealth of features to enable the best possible use of space, and fast order-picking. Compact and efficient, it's a construction set-up used in a wide variety of industries where warehousing space is limited.

Varying system heights and depths, together with height-adjustable supporting beams assure maximum flexibility with man-down, high-lift stackers, or man-up-order-picking stackers. It's a system perfectly suited for convenient pallet storage and retrieval or for fast order-picking straight from the pallet. Handling equipment is often highly automated, and guided by wire or rail.

Mobile pallet racking (MOVO)

Core features

- Save up to 50% of the space required by conventional pallet racking, and increase storage capacity by up to 80%
- Cuts energy, operating and cleaning costs; allowing for a good ROI
- 100% individual pallet access
- Suitable for any kind of warehouse goods
- Guaranteed operational safety of -30° C; ideal for use in cold-storage rooms

Why MOVO?

- Ultra high density storage
- You need to increase your storage, but can't expand your warehouse
- It's great for the food industry, can be used in ambient, cold or freezer store



Mobile Racking (MOVO) is a dynamic solution providing up to double the storage capacity in the same area, of conventional pallet racking. Offering technical superiority and total flexibility, MOVO is suitable for every kind of stored goods, and has a wide range of accessories.

The electronically controlled MOVO high-load racking system runs on in-ground rails and can carry bay loads of up to 24 tons at racking heights of up to 12 meters. While state-of-the-art sensor technology and variable control options ensure ease of operation and absolute safety.

Pallet shuttle

Core features

- Cost effective and time-saving; not requiring the use of special forklifts
- Low level of risks or damage to the equipment and operating staff
- Fast and sustainable; automatically handles pallet picking and retrieval
- Can pick up, deposit and re-organize pallets with great precision
- Operating temperature ST: 0°C to +45°C / BZ: -1°C to -30°C / Hybrid model can be used in both temperature ranges
- CE mark approved
- ATEX versions available

Why pallet shuttle?

- Offers more effective, high-density storage
- Reduces the number of forklift trucks needed
- Long term storage of goods



The Pallet Shuttle system is a semi-automated, high-density storage solution for the handling of goods inside channels similar to a drive-in or pallet-flow setup.

Cost-effective and time-saving, it removes the need for forklift trucks to enter the racks.

The remotely controlled Pallet Shuttle is a highly efficient alternative to live storage and drive-in racking. The Pallet Shuttle system works either as First in, First out (FIFO) or as Last in, First out (LIFO) for operations with a reduced number of product lines stored in high quantities.

Drive-in

Core features

- More storage per cubic metre than any other storage system
- High density storage - maximising floor and storage space
- Accessible by the LIFO principle
- Smooth pallet rails – for safe, snag-free load-bearing

Why drive-in?

- High density, high storage volume
- Limited stock rotation - ideal for seasonal goods and chilled storage
- Eliminates the damage that occurs in a block stack system



If you're storing large quantities of similar or identical goods, the P90 Drive-in Pallet Racking can free-up as much as 90% of existing floor space, compared to conventional pallet storage.

P90 Drive-in Pallet Racking creates efficiencies by reducing aisle loading and unloading times, yet allowing greater access compared to block-stacking. Positioning pallets on front-to-back rails allows rows to be stacked next to each other safely and efficiently; crucial for items regarded as fragile or unstable.

The Last-in, First-out (LIFO) principle means individual pallets can be accessed one-by-one from the front of the rack.

Crane racking

Core features

- High density storage - maximising floor and storage space
- Can be linked to WMS systems
- Accessible by the FIFO and LIFO principle
- Reduced pick and replenishment errors
- Maximise pallet movements per hour due to speed of cranes

Why crane racking?

- Very dense storage
- Ambient and freeze versions are available
- Big savings on labour costs
- Improved productivity and reduction in errors



Crane racking is a dynamic, semi or fully automated warehouse solution. Its high density, high throughput is suitable for all storage types.

The cranes are integrated with your warehouse management system and the racking can be configured as a single, double or multi deep system. The stacker crane runs on rails at heights up to 25m and can move up to 200 pallets per hour.

Multi-tier

Core features

- Combines wooden, mesh, grating or steel shelves depending on requirements
- Increased number of picking levels
- Can combine pallet storage and small goods storage
- Removes the need for a mezzanine floor
- Easily incorporates fire sprinkler and lighting systems

Why multi-tier?

- Maximises use of the full height of the building
- Can't extend the warehouse outwards, but have height available
- Allows order-picking on multiple levels



With Multi-tier Pallet Racking from Dexion, you can create manual pick-lanes for your teams at various levels, by providing walkways built into the pallet racking structure.

Our Multi-tier Pallet Racking offers optimum use of space over that of traditional mezzanine flooring structures and layouts. This type of pallet racking structure creates a number of levels and walkways for storing and collecting goods – everything from cartons and boxes, to garment storage on hangers.

Multi-tier structures can either be installed directly from the floor or alternatively on top of a specially designed mezzanine structure – allowing for a multi-functional storage area below.

Pallet flow

Core features

- Dedicated load and retrieval means only two forklift truck aisles are required
- Uses up to 60% less floor space than conventional pallet racking
- FIFO operation – for automatic stock rotation
- Faster, more efficient warehouse picking speeds

Why pallet flow?

- Bulk/high density storage
- More efficient alternative to block stack
- Ideal for logistics flow in a warehouse or production facility
- Can be used for dispatch lanes



Pallet Flow Racking, or 'Pallet Live Storage' is ideal if you operate a First-in, First-out (FIFO) goods storage setup. With this system you can use up to 60% less space than if you were to use conventional pallet racking.

Our Pallet Flow system offers a dynamic storage solution with integrated conveyor modules to suit most pallet types and sizes. It's well-suited for the drinks industry or as a buffer storage facility in manufacturing.

Pallets travel smoothly on full-width or twin-track rollers. While the front pallet is removed on the front side of the rack, the rear pallet is held back. Pallet movement is always safe and smooth thanks to automatic braking, along with a combined load guide and end stop unit.

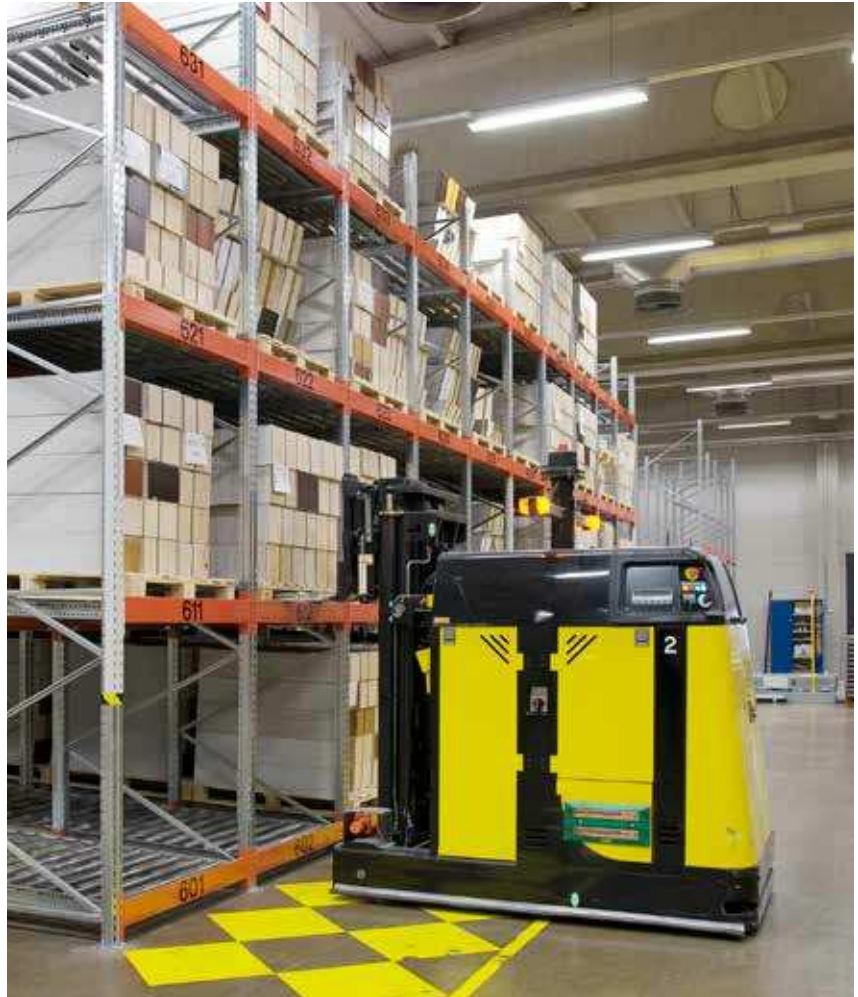
Push back rollers

Core features

- Up to 75% increase in storage capacity compared to conventional storage
- Operations reduced to a minimum
- Quick and easy access to all channels
- Ideal for bulk storage and cold store
- Accessible by LIFO principle
- Very high occupancy rates compared to Drive-in Racking or Block-stacking

Why push back rollers?

- High density, high storage volume



Push-back Rollers – a dynamic storage solution based on the P90 Pallet Racking System and including wheel/roller conveyors. Ideal if you're storing bulk goods on pallets according to the Last-in, First-out (LIFO) principle.

Once a pallet is picked from the pick-face, the rest roll forward automatically under a controlled speed. Up to 9 pallets can be stacked in this way.

Push-back Rollers can also be used to provide additional storage space in otherwise unusable areas, such as above cross-aisles or around dock-levellers.