



WE MAKE THE WORLD MOVE



INTERROLL CART PUSHBACK PF 2430

CROSSWAY STORAGE OF PALLETS
AND CONTAINERS IN LIFO CONFIGURATION



INTERROLL – THE MOST GLOBAL CORE PRODUCT PROVIDER FOR MATERIAL HANDLING SOLUTIONS

Interroll is one of the world's leading specialists within the field of materials handling, logistics and automation. Founded in 1959 and listed on the Swiss Stock Exchange SWX, the company currently employs around 1500 people in its global business network.

At the airport you lift your suitcase onto the conveyor belt next to the check-in counter: integrated drum motors and idlers made by Interroll drive the belt and direct your baggage to its destination.

Before soft drinks, packaged foodstuffs and non-food goods can find their way to the supermarket shelves they have to be organised and dispatched by central and regional distribution centres equipped with dynamic pallet or carton flow modules designed by Interroll.

And then there's the new jacket you ordered from a major mail-order company, processed by an Interroll

Crossbelt Sorter at the distribution centre and prepared for immediate dispatch.

The Interroll worldwide group has three Business Units: Drives & Rollers, Dynamic Storage and Automation. This brochure presents the solution Cart Pushback PF 2430 of the Business Unit Dynamic Storage.

Storage facilities are essential when it comes to ensuring the supply of goods. Indeed, the process of storing goods is as old as mankind itself. What is more, it is common to all developed cultures. Modern-day warehouse technology extends to a vast range of activities, from storage to the provision and distribution of finished goods and those products which have yet to be processed by downstream units.

Within this context, the array of weights, shapes, goods carriers and packaging systems poses a considerable logistical challenge to specialists working within

this field. In their quest to meet this challenge, engineers and managers require an appropriate set of tools that provide a reliable basis for day-to-day operations, while at the same time offering sufficient scope for fresh ideas. It is precisely in this niche that we operate.

Interroll Dynamic Storage combines two extensive product families under the same roof.

Pallet Flow for pallets and Carton Flow for totes, cartons, trays and assembly parts. Developed by experienced engineers and produced with the ambition of being "best in class".

More information can be found on www.interroll.com

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Interroll Pallet Flow is the logical choice for the handling of fast moving goods stored on pallets and containers.
The Pallet Flow product group includes Cart Pushback, which is the ideal solution in LIFO configuration.

WELCOME TO THE SLIDE SHOW



Loading



Positioning



Unloading

HOW IT WORKS:

Cart Pushback has been designed as a dedicated LIFO system. The last pallet loaded into the lane is the first pallet available in the front.

Pallets are handled in crossway (e.g. 1,200 mm in the front). Approach the lane at the correct height and push the

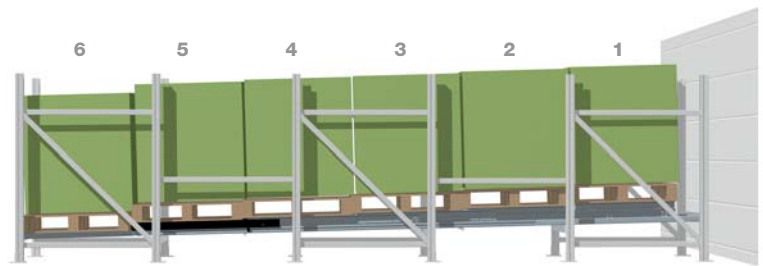
pallets already loaded back to the lane. Pallets are loaded on heavy duty carts equipped with wheels, allowing the storage of any kind of container.

While unloading, the truck driver only picks the pallet from the aisle.

WHY CHOOSE CART PUSHBACK FROM INTERROLL:

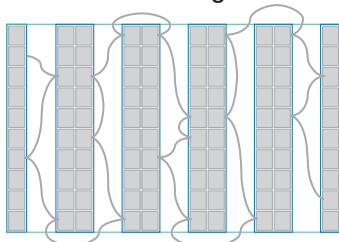
- Considerable space saving
- Strongly increased picking performance
- Absolutely safe working environment

Last-In
First-Out



Each type of storage system has its benefits. In general, the concept chosen for a specific application will depend on the goods to be stored and the overall logistics system in place.

Conventional Storage



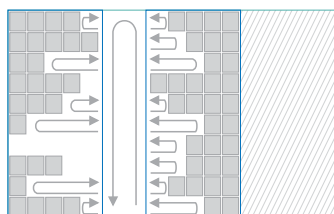
Advantages:

- Easy access to all SKUs at any time
- Inexpensive
- For slow movers

Disadvantages:

- Slow pick and retrieve operations
- High forklift truck activity
- Space waste (50-60 % non-productive aisle space)

Drive-In Storage



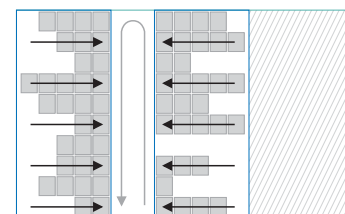
Advantages:

- Space saving
- For slow movers

Disadvantages:

- Only one SKU in each bay
- Rack is subject to forklift damage
- Need special forklift
- Slow pick and retrieve operations
- Low occupancy rate

Cart Pushback Storage



Advantages:

- Space saving
- High occupancy rate (80-95 % utilisation)
- Fast pick and retrieve operations for fast movers
- Product available in front position, the operator never enters the rack (safe solution)

Disadvantages:

- Inappropriate for slow movers

ON YOUR FORKS, GET SET, GO!

The icing on the cake: Pushback combines space-saving design with outstanding durability and operational safety.

Pushback also ensures ultra-fast access to stored goods, as underlined by the following example of a system featuring just four pallets.

LET'S PROVE THE PERFORMANCE:

The task is to load 4 pallets with a standard reach truck. On the left: a LIFO rack using Interroll Cart Pushback. On the right: a conventional Drive-In rack.

Cart Pushback



00:51

Drive-In



00:51

Out of the blocks:

It's still more or less neck and neck after the first pallet.



02:25



02:25

The stopwatch never lies:

After 2 minutes and 25 seconds: the forklift on the left has already loaded three pallets into the Interroll Cart Pushback system – the forklift on the right is only on its second pallet.



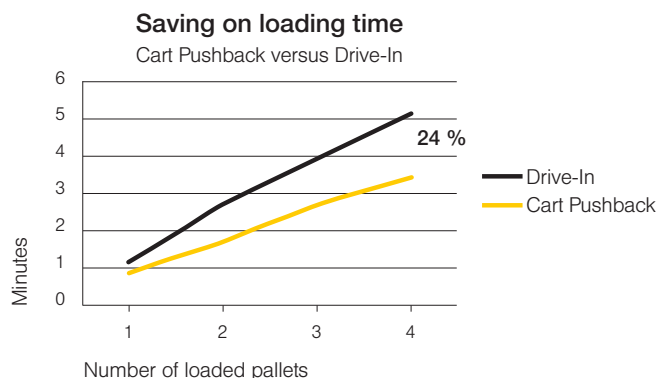
03:24



03:48

From start to finish – a clear win for Pushback:

After 3 minutes and 24 seconds, the forklift on the left has completed the task; the forklift on the right has only managed three pallets (3:48) and needs five minutes to load all four pallets.



Benefits:

- Time saving of 24 %
- Safe working environment

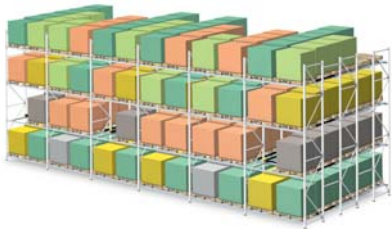


THE BENEFITS ARE PLAIN TO SEE

CART PUSHBACK: HIGH PERFORMANCE FOR LIFO STORAGE CONFIGURATION

- High storage capacity
- Standard installation – compatible with all racking
- Efficient handling – indicator for empty pallet spaces
- Less space needed – 30 % space saving in comparison with conventional racking
- Higher throughput – more than 25 % faster than Drive-In
- Improved safety – no forklift activity within the actual rack storage lane
- No energy consumption – inclined guide rails with slope of 3 %
- Efficient solution – average Return-on-Investment in less than three years

DESIGNED TO MEET YOUR EXPECTATIONS



- High capacity – load of 1,400 kg per pallet space. Possible until 6 pallet places.
- Compact cart design for more storage levels
- Robust design – allowing heavy duty uses
- Compatible with Euro pallets, GKN Chep pallet, Australian pallets, Asian pallets, and any type of low quality pallets and containers
- Premium quality carts and rails – powder coating
- Easy and safe to use
- Proven design thanks to FEA (Finite Element Analysis) calculations and tests



Rigorous conception and tailor made design for high performance

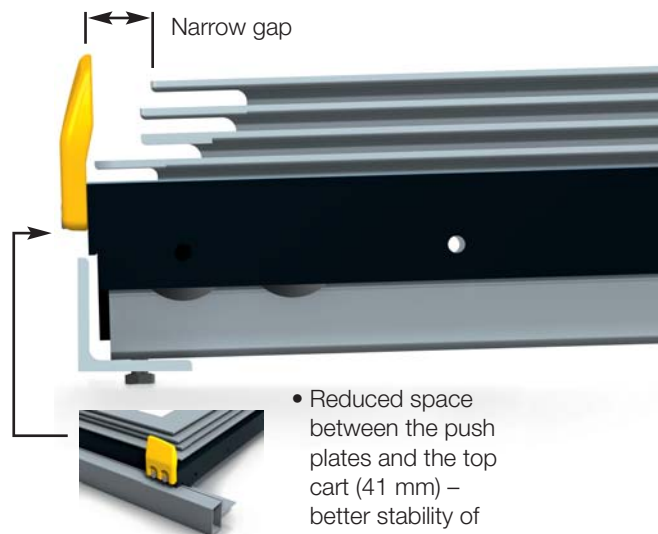
- Good adaptability – existing Drive-In storage can be retrofitted with Interroll Cart Pushback
- Nested carts delivered on site for quick assembly

TECHNOLOGY, SAFETY, MULTI-PURPOSE PLATE



MULTI-PURPOSE PUSH PLATES:

- Two strong moulded metal push plates at the front to ease handling operations
- Fixed with screws for easy change and different painting
- High visibility – thick and painted in yellow for safety reasons
- Rounded shape and big radiuses to not damage the pallet



- Reduced space between the push plates and the top cart (41 mm) – better stability of the loads
- Compatible with angle beams
- Compatible with Australian box beams (double lane)

SAFE LOADING AND EASY OPERATION:



- The 2 push plates help to position properly the last pallet
- Pushing on 2 plates reduces stress on carts

HEIGHT GAUGE:

- The push plates are attached to the lower cart and protrude beyond the highest cart, thus acting as an end stop holding all pallets in position
- While loading, the push plates act as a strip-off stop to prevent the pallet from being dragged off the cart when the forklift drives back



FULL LANE INDICATOR:

- As soon as the last possible pallet has been loaded, the push plates are no longer visible. This indicates a full lane.

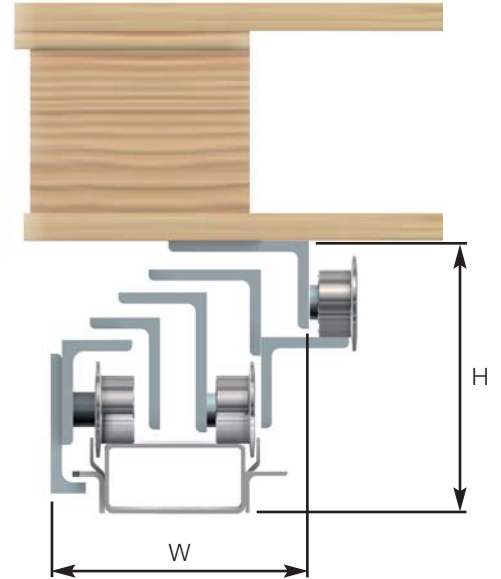


IT'S ALL IN THE DETAIL...



ROBUST CARTS:

- Heavy duty carts of 8 mm thickness perfectly withstand shocks during handling operations
- Carts are welded by automated robots ensuring high welding quality standard
- The upper cart is equipped with one rear plate, to properly position the first pallet onto the cart frame
- Compact cart design offers more space for pallet handling or allows the addition of an extra storage level
- Optimised cart width for better stability of the load



COMPACT DESIGN:

Lane depth	H	W
2 deep	123 mm	50 mm
3 deep	139 mm	99 mm
4 deep	157 mm	119 mm
5 deep	175 mm	150 mm
6 deep	195 mm	170 mm



FLANGED STEEL WHEELS:

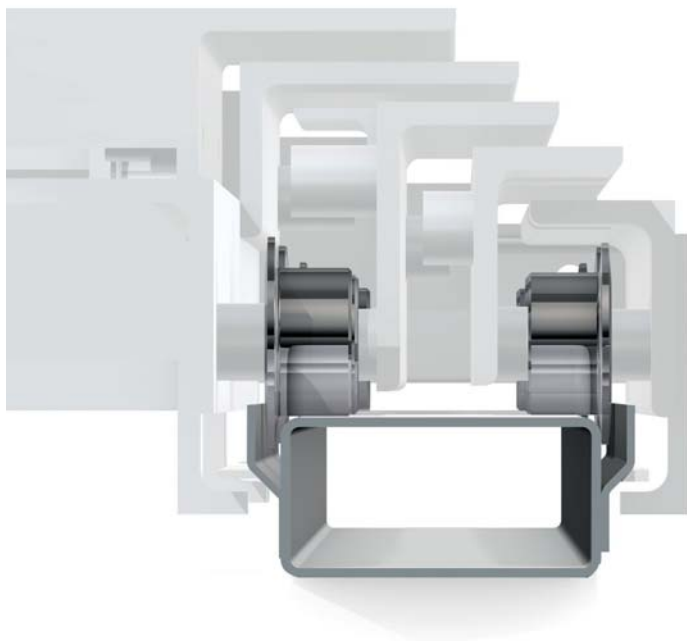
- Diameter 48 mm
- Rolling length 24 mm
- Electro galvanized
- Perfect rolling even in deep freeze application
- Tightened by screw (available in 2010)



LINKED CARTS:

- Carts are linked together to prevent jamming in the storage channel: this ensures better and more secure handling

... AND NOTHING'S LEFT TO CHANCE.



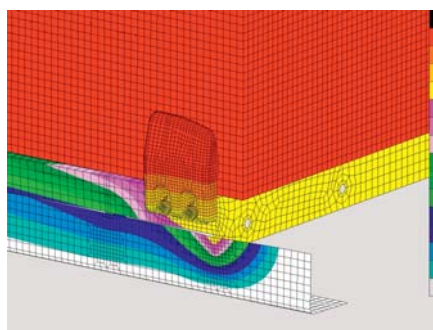
GUIDED CARTS:

- Welded guides on rails to prevent lateral dislodgment of carts

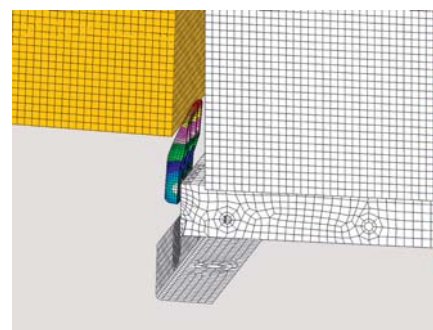
- All carts feature 4 lift-out protectors to prevent accidental dislodgment
- These "hooks" are cut from a rigid angle profile for more resistance
- Continuous angle along the rail

PROVEN CONCEPT:

- Interroll Cart Pushback has undergone the FEA calculations (Finite Element Analysis) and lifetime tests

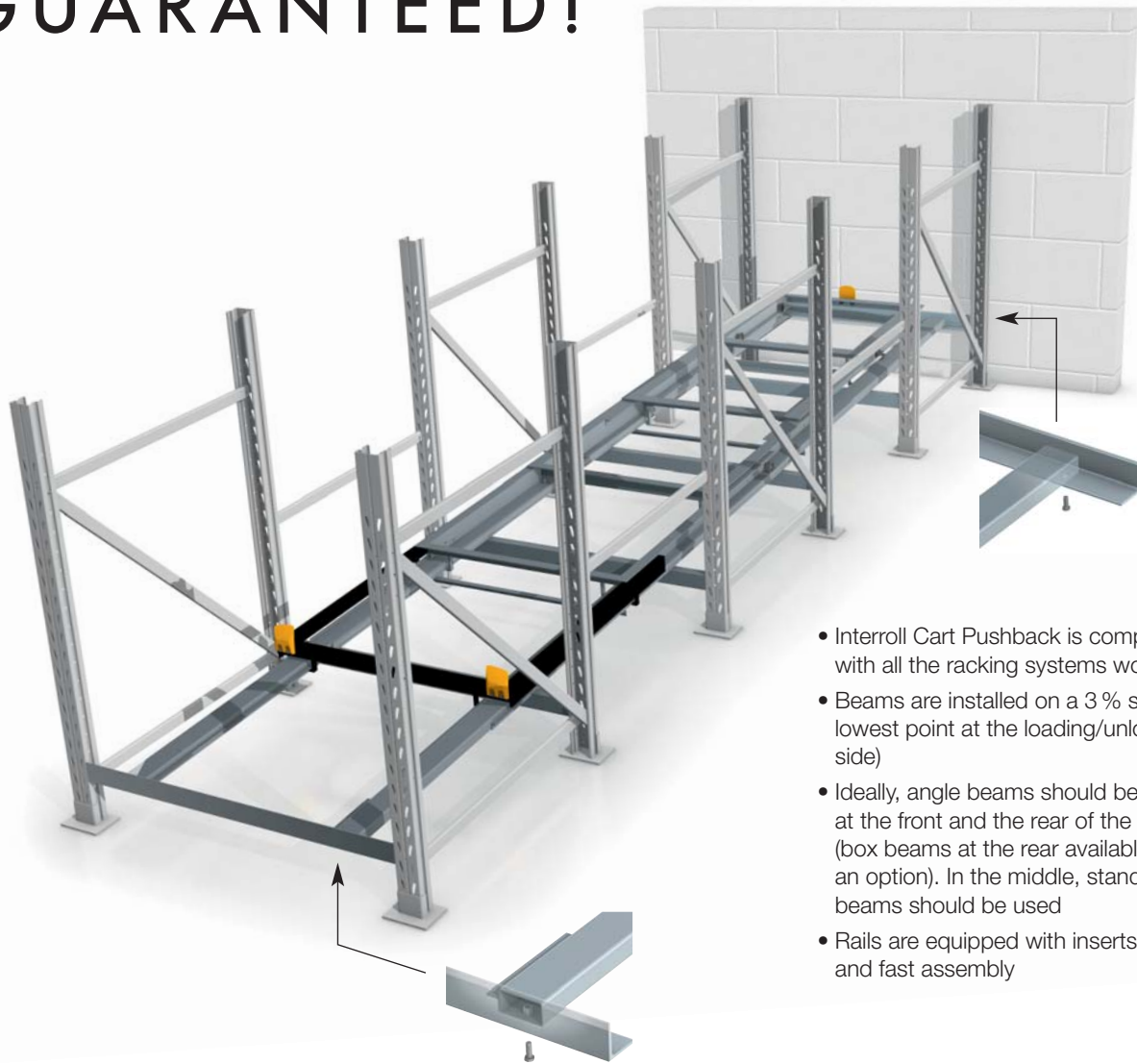


Unloading



Loading

INTERFACE WITH RACKING – EASY INTEGRATION GUARANTEED!



- Interroll Cart Pushback is compatible with all the racking systems worldwide
- Beams are installed on a 3 % slope (the lowest point at the loading/unloading side)
- Ideally, angle beams should be used at the front and the rear of the channel (box beams at the rear available in as an option). In the middle, standard box beams should be used
- Rails are equipped with inserts for easy and fast assembly

ASSEMBLY IN 4 STEPS ONLY

Step 1

Step 2

Step 3

Step 4



Racking assembly



Rails fixation
2 screws per rail



Carts control
Nested carts delivered
on site



Ready for use

CART PUSHBACK IN PRACTICE.



**ABI WADEVILLE,
SOUTH AFRICA**

A combination for success

Amalgamated Beverage Industries (ABI), the soft drink division of The South African Breweries Limited, is one of the leading soft drink businesses in the international SABMiller plc group of companies and remains one of the largest producers

and distributors of The Coca-Cola Company brands in the southern hemisphere. To efficiently distribute the 760,000 hectoliters of Soft Drinks per year to the South Eastern part of Gauteng, ABI built a new 7,600 Square Meter warehouse and came out with clear benefits in terms of picking time, accuracy and stock rotation.

- **Requirements:** delivery of 30,000 cases per day in peak seasons, improvements with regards to stock control and rotation. These soft drinks are stored on a 1,200 x 1,000 Crossway Pallet, with a total weight 1,200 kg's
- **Solution:** combination of Interroll Pallet Flow Picking lanes installed at ground level, with two levels of Interroll Cart Pushback storage above. Cart Pushback lanes (336 pallet places) act as buffer stock holding lanes to the Pallet Flow picking lanes below (168 pallet places)



**HARVEYS,
ENGLAND**

Home and dry

As flagship within the Steinhoff International Group, Harveys is one of the UK's largest retail companies for home furnishings.

180 stores and 15 distribution centres keep things ticking along nicely. Add to that the organisational skills of Pushback, and you have a truly winning combination.

- Pushback configuration replaces six separate distribution units
- Within 132 lanes, each 6 levels high, three pallets can be stored into depth
- Pallet weight of 1,000 kg



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