DYNAMIC STORAGE PRODUCTS
WHAT IS PUSHBACK RACKING?
Pushback racking is a pallet storage method that allows pallets to be stored from 2 to 6 deep on either side of an aisle, thereby giving you higher storage density than other forms of racking. A pushback rack system can double or triple your storage when compared to standard pallet rack or double deep racking systems.

HOW DOES PUSHBACK RACK WORK?
A pushback system contains a pair of inclined rails and a series of nesting carts which ride on these rails. As an example, a 4 deep lane will have 3 nested carts. The first pallet is loaded on the top cart by a forklift. When the operator comes in with the second pallet, he pushes the first pallet back and rests the second pallet on the middle cart. Similarly, the 3rd pallet pushes back the first 2 and rests on the bottom cart. The operator loads the last pallet by pushing back the first 3 and placing the load on the pair of rails.

When unloading, the sequence is reversed. Because the rails are inclined toward the aisle, when the operator picks up the pallet resting on the rails and backs out, the 3 remaining pallets will follow to the front of the lane. He can then remove each pallet in succession, until the lane is empty.

WHO USES PUSHBACK?
Our products are installed in a wide variety of industry types including food distribution, manufacturing, 3rd party logistic facilities, automotive and pharmaceuticals. Almost any warehouse that is looking to increase their storage capacity is a potential candidate for pushback rack. Pushback systems are fully operational in freezers or coolers and no special forklifts are required.

WHY USE PUSHBACK VERSUS DRIVE-IN RACK?
Because the pallets come to the aisle, pushback is much faster to load and unload than any comparable drive-in rack. Additionally, stock rotation and occupancy are greatly improved because each level can store a different product in pushback. Finally, rack damage is significantly reduced because the operator does not have to drive into the rack to remove pallets.

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**STEADIFLO PUSHBACK STORAGE—Using your warehousing space to the maximum.**

**WHAT IS STEADIFLO PUSHBACK STORAGE?**
Steadiflo pushback is a pallet storage method that allows pallets to be stored from 2 to 6 deep on either side of an aisle, thereby giving you higher storage density than other forms of racking. A pushback rack system can double or triple your storage when compared to standard pallet rack or double deep racking systems.

**HOW DOES STEADIFLO PUSHBACK STACK-UP?**

<table>
<thead>
<tr>
<th></th>
<th>Floor Storage or Drive-in</th>
<th>Steadiflo Pushback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical occupancy</td>
<td>50-60%</td>
<td>85-95%</td>
</tr>
<tr>
<td>Handling costs</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Number of pick faces per tower</td>
<td>One</td>
<td># Levels</td>
</tr>
<tr>
<td>Random storage all levels</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Stock rotation</td>
<td>Rotate towers</td>
<td>Rotate lanes</td>
</tr>
<tr>
<td>Rack/Product damage</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Number of products applicable</td>
<td>Few</td>
<td>Many</td>
</tr>
<tr>
<td>Efficient bottom level case pick</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**PUSHBACK ACCESSIBILITY—All 12 lanes and pallets are accessible from the aisle...ALL THE TIME!**

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**12 PICK FACES**

Steadiflo Pushback **90%** Utilization of pallet positions

**4 PICK FACES**

Drive-in Honeycombing **60%** Utilization of pallet positions
Floor storage with pushback above

First level – flowrack / Second level – carton flow / Above – pushback
Most storage facilities have products that range from one pallet per item up to many pallets per item. The average amount of storage per item should be used to select optimum lane length. Table shown will yield occupancy rates of 80% – 90%. The higher the number of lanes per product the higher the occupancy rate.

As a result of rule number 1 there is a minimum of three to five lanes available for any one product. Therefore, when a new lot code is introduced, a new lane (as depicted in Red B) is selected so as to not block access to an existing lot code (as depicted in Red A).

Picking from the oldest part lane, (as shown in Red A) will automatically rotate your stock while freeing up empty lanes for general availability. This will result in no more than one part lane, per lot code and will ensure FIFO stock rotation (First in – First Out).

Random storage in any of the lanes that become available will allow the storage requirement for any item to grow and shrink as necessary. Fixed locations would require storage to be preset for every item at its peak.

Exceptions could be made for bottom level case picking with fixed locations.
Level pushback carts for special applications

5-deep back-to-back pushback

Pushback with end capping standard rack

Level pushback carts for special applications

6-deep pushback, floor mounted to fill in an unused trainwell
STEADIFLO PUSHBACK – Flexible layout options for all of your warehousing needs.

2 DEEP
HEIGHT ABOVE FRONT BEAM – 1\(\frac{3}{4}\)"
RAIL LENGTH – 98"

3 DEEP
HEIGHT ABOVE FRONT BEAM – 2\(\frac{3}{4}\)"
RAIL LENGTH – 148"

4 DEEP
HEIGHT ABOVE FRONT BEAM – 3\(\frac{1}{4}\)"
RAIL LENGTH – 198"

5 DEEP
HEIGHT ABOVE FRONT BEAM – 4"
RAIL LENGTH – 248"

6 DEEP
HEIGHT ABOVE FRONT BEAM – 4\(\frac{3}{4}\)"
RAIL LENGTH – 298"

Standard colors
Stone Grey, Royal Blue, Forest Green

Specifications based on a 40" face by 48" deep GMA or CPC/CHEP type pallet, weighing up to 3,000 lbs. For special size pallets or loads, please contact your local dealer or call 3D.
STEADIFLO PUSHBACK – Features and Benefits.
3D Storage Systems uses a unique design that provides trouble free operation as well as extensive built-in safety features. Structural steel construction ensures long life in tough warehouse environments.

LOW PROFILE – Steadiflo has a lower profile than other cart type systems. This allows for extra lift clearance and may even mean the difference of an extra level.

MULTI PURPOSE PLATE / SAFETY STOP
Height Gauge – When loading a pallet, the operator knows that if the load is high enough to clear the safety stop, then the pallet will not prematurely move the awaiting cart.
Strip-Off Stop – If, after placing a pallet, the operator has his forks in an improper tilt position, the safety stop will catch the bottom of the pallet and “strip” it off his forks.
End Stop – The safety stop, which is situated on the lowest cart and protrudes 3/4” above the highest cart, prevents pallets from shifting beyond the front load beam.
Push Plate – Pushing on the plate with the last pallet being inserted into the lane ensures proper placement on the rails.
Lane Full Indicator – The operator can tell if a lane is full by the absence of the safety stop. If it is not showing at the front, the last cart has been loaded and there is a pallet on the rails – a full lane.

LINKED CARTS – Carts are linked when extended, eliminating the possibility of single pallet hang-ups. Without this feature, it would be possible for a pallet to become temporarily lodged at the back of a lane, release, and travel in an uncontrolled manner to the load end. The result, potential for damage to product and personal injury.

SIMPLE DESIGN AND EASE OF INSTALLATION
The Steadiflo design allows for easy installation with the wheels pre-installed at the factory and simple drop-in rail design that requires rack attachment at the front and rear only.

LIFT-OUT PROTECTORS – Each cart is equipped with lift-out protectors, which prevent accidental dislodgement of a cart by the fork lift operator.

FLANGED STEEL WHEELS – Wheels are manufactured using solid steel and are equipped with heavy duty bearings. Sturdy 5/8” shafts are welded to the carts and are oversized to withstand shock loads of up to 1,400 lbs. per wheel.
PALLET FLOW

▲ Deep lane pallet flow with wheels in a single-double-single configuration for standard GMA/CHEP pallets

▲ Roller flowrack for special pallets and loads

▲ Skatewheel being used for pallet picking and return

▲ Heavy duty deep lane pallet flow with wheels in three double row configurations
**COMPONENTS FOR EVERY FLOW STORAGE APPLICATION**

**SKATEWHEEL TRACKS** – Typically used in two or three deep picking systems either in single runs or double staggered runs as shown here. The steel wheels are constructed of 15 gauge material and are load-rated at 150 pounds. Wheels are mounted at 11½” centers when double staggered, and 2” or greater when used in single lines. Channel supports are constructed of 1”x 3”x 1” 12 gauge galvanized steel channel. Ramp stops and anti-rollback devices are standard.

**STEEL ROLLERS** – Rollers range in size from 1.9” to 2.5” in diameter and 4” to 56” BFR (between frame rails). Rollers ensure stability as well as providing large load bearing capacity and support for special pallets, steel containers or plastic totes. Channel supports are constructed of 1” x 3” x 1” 12 gauge or 1.5” x 4” x 1.5” 10 gauge galvanized steel channel depending on the application.

**POLYCARBONATE TRACKS**

(1) **IMPACT WHEELS** – Cast zinc impact wheels are typically placed in the first 12” of the lane to provide superior resistance to damage from pallet impact.

(2) **POLYCARBONATE WHEELS** – These 2.875” diameter wheels have steel ball bearings and are typically configured on 2” or 3” centers. Wheels are load-rated at 150 pounds. These wheels are most commonly used for GMA or CHEP pallets and are generally mounted in a three track configuration with the center track containing speed controllers. The special polycarbonate formula is suited to wide temperature ranges and is resistant to impact.

(3) **INDIRECT MOUNTED BRAKES** – Our indirect brakes provide a superior braking surface with increased friction, using two rubber coated contact rollers.

(4) **PALLET STOPS** – Our stops are constructed from structural steel, enabling them to withstand impacts from heavy pallets and forklift abuse. The stops are manufactured with a gentle ramp slope that brings the loaded pallet to a stop in a smooth and controlled manner.
CARTON FLOW, CARTON PUSHBACK, TOTE STORAGE

OUR HEAVY DUTY CARTON FLOW SKATEWHEEL BEDS OFFER:

- Reduced pick paths
- Enhanced FIFO
- Improved picking efficiencies
- Retrofitting of existing rack
- Increased pick slot locations

FEATURES AND BENEFITS:

- Superior abuse resistance, virtually impossible to damage
- Carton size and weight flexibility, eliminates the need to re-profile
- Smooth flowing ball bearinged steel wheels means less slope required
- Optional plastic wheels available for lighter product/load applications
- Welded one piece frame, powder coated tough for long lasting life
- Highly durable ¼” diameter steel shafts – provides impact resistance
- An impressive overall load rating of 50 lb. per square foot
- Heavy duty wire dividers aid in product separation and flow control
△ Full wheel bed with plastic wheels

△ Carton pushback with pallet picking below

△ Carton Flow with lane dividers

△ Carton flow with tilt shelf

△ Multi-level Carton Flow showing full width bed using plastic wheels