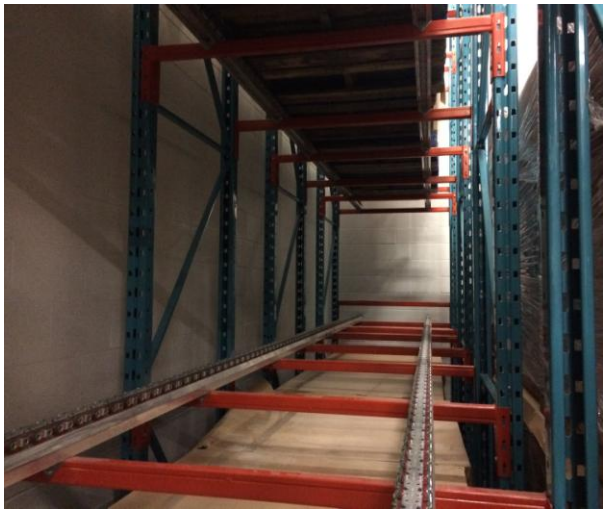
EXGLOBE
Manufacturer of FLOW RAIL®

Flow-Rail Pallet Storage System

Flow-Rail is a high-density pallet storage system operated using conventional fork-lift trucks.

It is a non-motorized, last-in/first-out system that can hold from 3 up to **10** pallets deep with **rails that are not inclined.**

Flow-Rail can be retrofitted inside existing drive-in racks.



Flow-Rail offers great benefits:

3.5’’H rails are horizontal, not angled

Easy to load / unload pallets

System does not derail or block

No parts to replace, minimal maintenance

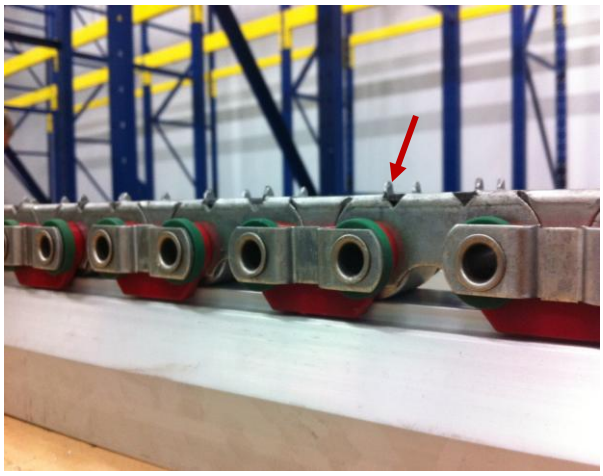
Can be installed in coolers & freezers / rust-proof

Each lane can hold a different product SKU

Track length easy to modify

How the system works:

Flow-Rail is a chain system that slides on aluminum tracks.



First pallet is loaded onto the tracks. Second pallet pushes against the first one which makes the chains turn. Subsequent pallets loaded same way.

When pallets are unloaded, chains slide in the opposite direction. Driver uses forks to tilt front pallet. (see photo) In back, pallet still sits on the chains - notice the small, sharp teeth.

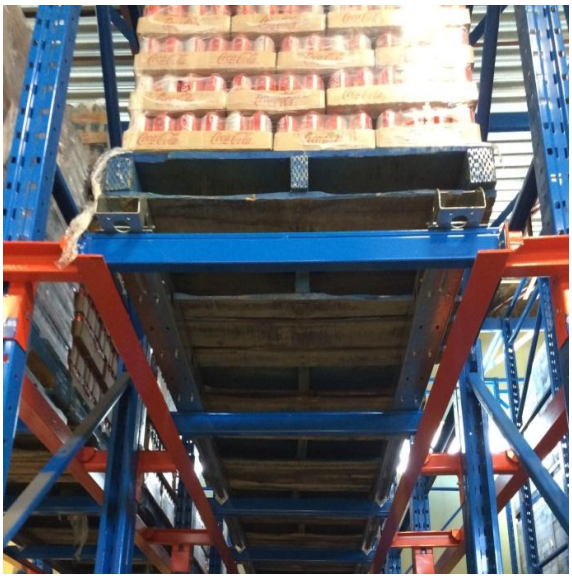
When driver backs-up, weight of the pallet being pulled + force of the lift makes chains turn. As front pallet exits the system, pallets in back automatically come forward.

Drive-in retrofit dramatically improves operational efficiency, selectivity & storage capacity.

Before

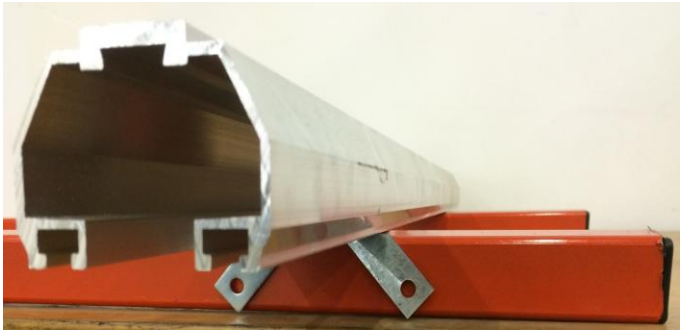
Traditional drive-in arms (rails) are removed and replaced with beams to support Flow-Rail tracks.

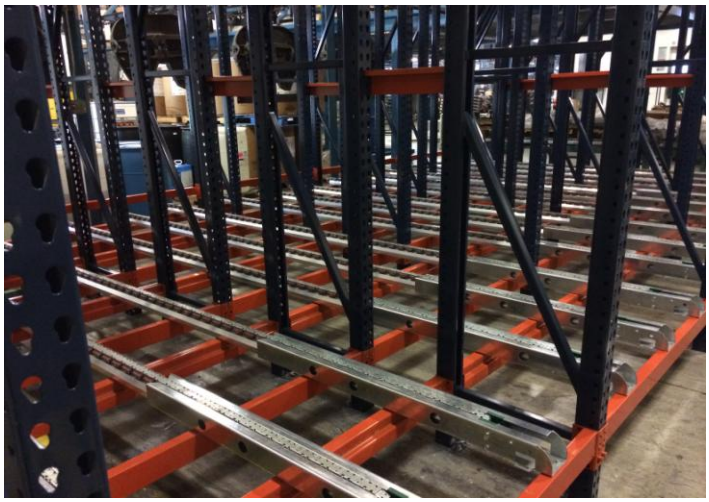
After



Shorter beams can also be installed between drive-in rails.

At floor level, tracks are placed on 2 to 3’’H beams hooked to upright posts or free-standing 1.5’’H tube anchored to the concrete slab.





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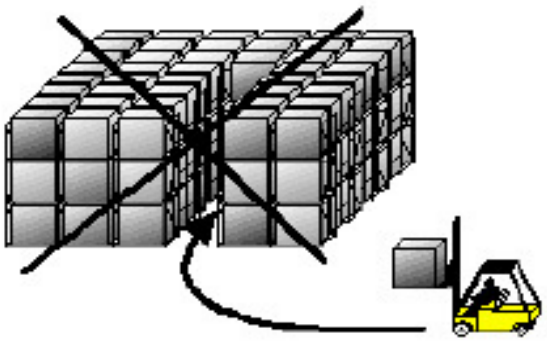
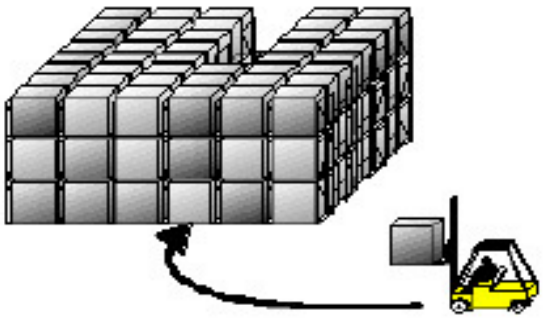
Flow-Rail benefits:

Save time

Lift operator no longer needs to circulate inside bays to load / unload pallets.



Drive-in



Flow-Rail

Example:

Total distance travelled inside rack structure to fully load / unload 1 bay (Based on pallets 48'' deep)

(Linear feet)

3 high 7 deep: 1,008	75 bays = 75,600	20x each bay = **1,512,000**
4 high 7 deep: 1,393	75 bays = 104,475	20x each bay = **2,089,500**
5 high 7 deep: 1,778	75 bays = 133,350	20x each bay = **2,667,000**

Flow-Rail eliminates all this: if average speed of lift in drive-in is 3 to 5 mph, pallets can be loaded / unloaded in approximately **75%** less time.

before / after

Increase selectivity

Contrary to Drive-in where same product must be stored from top to bottom each individual Flow-Rail lane can be used to store a different product SKU.

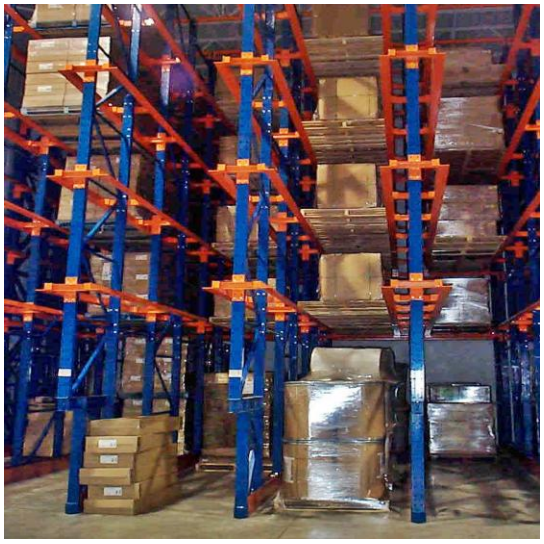
Example:

Drive-in rack	# of SKU's per bay	total SKU's 75 bays	Flow-Rail	# of SKU's per bay	total SKU's 75 bays	
3 high	1	75	3 high	3	225	(+150)
4 high	1	75	4 high	4	300	(+225)
5 high	1	75	5 high	5	375	(+300)

Drive-In **Flow-Rail**

Increase storage capacity (1 of 3)

Drive–in systems are often 30 to 40% empty: bays need to be fully emptied to effectively perform stock-rotation**.**



Since Flow-Rail makes each lane independent ratio drops to approximately **15%**.

Example:

Drive-in system 4 high 5 deep * 100 bays = 2000 pallet positions
If always ± 35% empty = 1300 actual pallet positions

Flow-Rail system 4 high 5 deep * 100 bays = 2000 pallet positions
If always ± 15% empty = 1700 actual pallet positions **(+30%)**

Increase storage capacity (2 of 3)

Tunnels can be narrower with Flow-Rail: lift-truck no longer enters inside. As a result, may be possible to add extra bays without taking-up additional new floor-space.

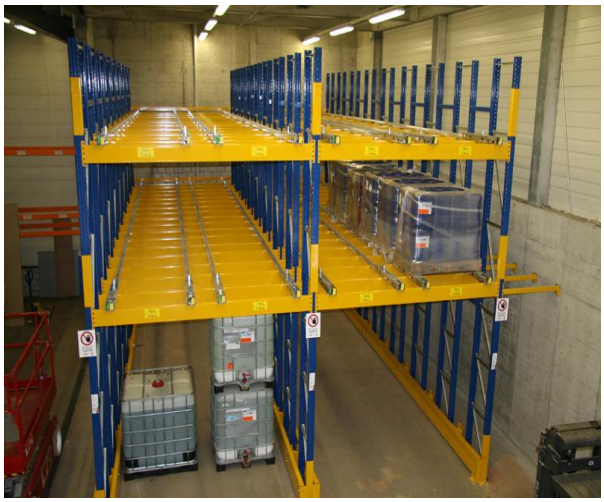
Example:

4 high 7 deep drive-in = 28 pallets per bay
Approximate space in-between posts for pallets 40'' wide = 52''

With Flow-Rail, distance reduced to 48'' → 4'' * 75 bays = 300''
Taking into account post width allows for 5 additional bays **(+ 140 pallets)**

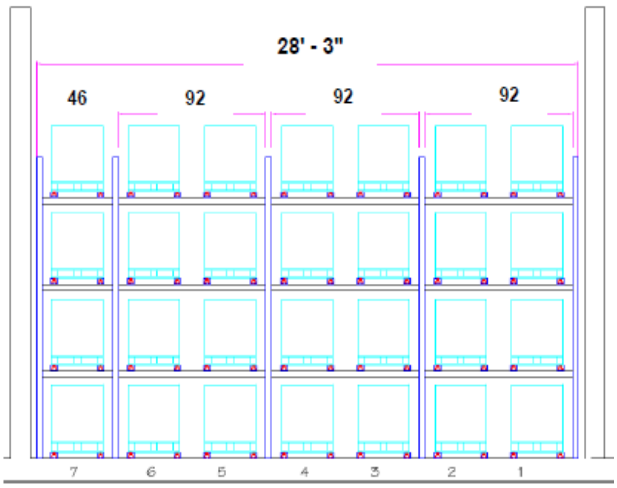
Increase storage capacity (3 of 3)

If extra vertical space is available taller beams can be used to convert single bays into double-bays: eliminates entire rows of uprights and creates space for new pallet positions.



Example:

4 high 7 deep drive-in = 28 pallets per bay
6 bays (40'' wide pallets with 52'' openings in-between posts) = 28'- 3'' total width
168 pallet positions
With Flow-Rail, additional single-bay could be fit within the same floor space
192 pallet positions **(+14%)**



Eliminate rack damage & repairs

Since drivers no longer circulate inside the structure none of the racks behind are exposed to damage. For new projects, less costly roll-form racking can be considered instead of structural steel.

Improve health & safety

Risk of accident resulting in injury or death is greatly reduced by having drivers perform their work in front of the rack structure versus inside.

Reduce lift-truck operating costs

By eliminating in & out displacements wear & tear on lift trucks can be reduced by up to **30%**.

Increase lift-truck flexibility

Lift-trucks dimensions are very specific to the Drive-in tunnels. Flow-Rail eliminates this constraint: client no longer limited to a certain model.

Flow-Rail above / drive-in below

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