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*Bendi*



**DREXEL**



*Going "GREEN" with the  
Landoll Storage Solutions  
360" Top Beam Height*

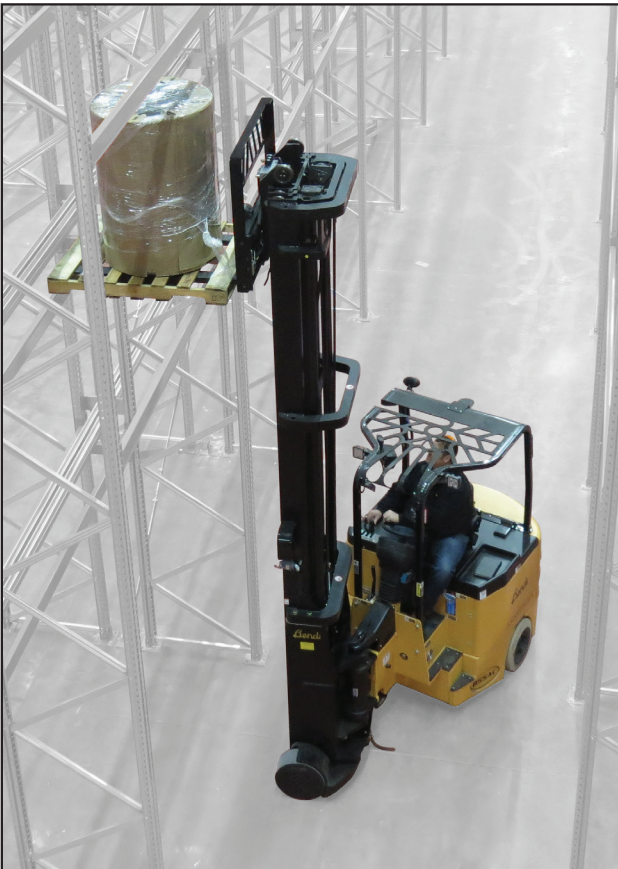


**LANDOLL**  
**Material Handling**

### **Saving space means saving energy**

Heating, lighting and maintenance all play their part in the increasing costs of operating a warehouse, as well as the costs of the property and staffing. Under increasing pressure to trim costs and achieve reduced carbon emissions, warehouse managers are recognizing that the space-saving abilities of the Landoll solutions are also creating opportunities for very significant energy savings compared with operations in which counterbalance forklifts, VNA (Very Narrow Aisle) or reach trucks operate.

As a rule, warehouses designed for counterbalance forklifts or reach trucks in conjunction with single deep selective rack are the least space efficient, with typical aisle widths from 110" to 144"+ in common use. The aisle width is only part of the equation. Turning and loading/unloading space at the ends of the aisles also accounts for 'lost' space. Many VNA (Very Narrow Aisle) machines achieve the same aisle widths as the Landoll Solution but require on average 30% to be dedicated to transfer aisles, staging areas and P&D (pick-up & deposit) stations (to hold stock going to and from the VNA racking). This wasted space costs money to build, heat, light, maintain and pay rent and business rates on.



### **Empty air space in your warehouse is costing you!**

Take a look in your warehouse. How much of it is empty space? Let us explain ....

**Imagine a 250' x 400' warehouse, 360" Top Beam - 60" beam spacing. A staging area of 5,000 sq. ft. Pallets stacked floor to ceiling, (48"D x 40"W x 48"H), back to front.** If the rates, rent, lights, staff and equipment costs etc, come to **x** per month, then the cost per pallet stored is **x / 100,000 sq. ft** per month if storing in bulk. This storage method is aspirational and rarely suits real life warehousing in terms of stock rotation, accessibility or the ability of products to support themselves while stacked this way. More often than not, product has to be 100% accessible. This is why single deep selective rack is so prevalent.

Using a single deep selective rack and a standard counterbalance forklift, the building will only store 10,399 pallets (assuming a 144" aisle and counterbalances being limited to about 20' of lift, so the product can only be stacked 5 high allowing for clearances and a staging area and two intersecting aisles - one at each end). In this example, the warehouse is only utilizing a minuscule

10% of its total cubic space, leaving 90% as very costly empty air space! The storage cost per pallet is **x / 10,399**, of which energy for light and heat makes a significant percentage in most premises. (We are in warehouses all day long where customers are not utilizing the space above!)

A reach truck, working in a 114" aisle but allowing a 5,000 sq. ft staging area for the counterbalance, because the reach is unsuitable to go outside or work trailers, will store 17,206 pallets, if stored 7 high. This is 65% more storage capacity of a standard counterbalance, cutting the storage cost per pallet by almost half – and this is why they are so popular throughout the world. **(Customer is utilizing the space above -adding 2 more levels and reducing aisles.)**

The next step up in efficiency is brought by wire guided VNA's working in 72" aisles, with a 15' at the end of aisle transfer (the space required to move from aisle to aisle). This solution requires an additional 5,000 sq. ft. for the pallet trucks or counterbalance trucks to take pallets to and from the system, so storing 7 high will squeeze in 21,343 racked pallets. This equates to 4,137 more pallets or 24% more than the warehouse with Reach Trucks, with the corresponding improvements in building energy utilization.

In the 1980s this was the state-of-the art warehouse solution. However, the need for super flat floors, guidance systems, slow throughputs and additional equipment and operators adds cost and complexity. These were the factors which inspired Freddy Brown, the pioneer of man-up VNA, to develop a better and more cost-effective solution: the Bendi.

### Bendi saves more space, time and energy

A Bendi (B40AC-HL) truck working in 78" aisles will also store 7 high but only requires a transfer aisle of 108", which unlike VNA's can be bridged\*. This configuration achieves 21,339 pallets stored. That's a 24% more than the reach truck and 4 pallet positions less than the VNA (before bridging\*) – therefore offering significantly lower costs and a much smaller carbon footprint per pallet stored.



Another Bendi Option saves even more space and yields more pallet locations...

A Bendi (B3) working in a 72" aisle, storing 7 high with a 120" intersecting aisle, which can be bridged. This layout achieves 21,953 pallet locations. That is 27% more than a reach truck and 3% more than a VNA.

**In terms of maximizing space, this option is the second best solution in the material handling industry!**

Another solution which maximizes warehouse space and performs multiple functions with the warehouse is the Drexel Swing Mast™. Designed in 1960's, this unit is a front loaded, long-load handler, VNA forklift - ALL IN ONE!

A Drexel forklift working in a 66" aisle (unguided) will also store 7 high but only requires a transfer aisle of 120", which unlike a VNA can be bridged. This layout achieves 22,737 pallet locations. **That is 32% more than a reach truck and almost 7% more than the VNA.** The Drexel Swing Mast™ offers the least lowest operating cost and the smallest carbon footprint per pallet stored. The Drexel Swing Mast™ is the best solution for maximizing your customer's space. **If we went the next step, and wire guided a Drexel in a 60" aisle, storing 7 high, with a 120" intersecting aisle - Our pallet locations increase by 842 locations or almost 4% more than an unguided Drexel. IF THE CUSTOMER IS SERIOUS ABOUT MAXIMIZING THEIR WAREHOUSE SPACE AND REDUCING THEIR CARBON FOOTPRINT- THE Drexel Swing Mast™ is the only solution.**

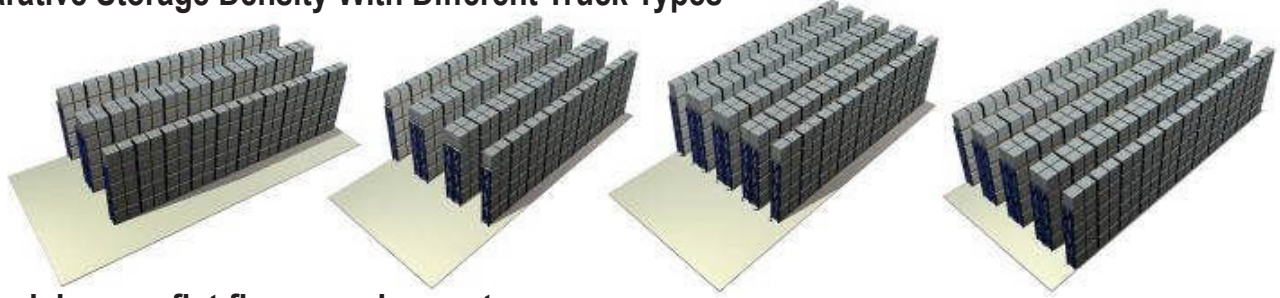
### A more versatile vehicle means a less compromised warehouse

As described previously, 'lost' storage space at the end of aisles can be greatly reduced when operating articulated trucks or the Drexel SwingMast. Based upon a 30' top beam height, the Bendi or Drexel unit can get their own or deposit their own pallet into the staging area - increasing the customer productivity as well as pallet storage.

\* bridging (or often referred to as tunnel) is a term used to describe an area at the end or middle of the racking that allows the truck to drive through the racks while products are stored overhead

# EFFICIENT WAREHOUSING?

## Comparative Storage Density With Different Truck Types



### No special super-flat floor requirements

The outstanding stability and improved point loading characteristics of the Landoll solutions allows their immediate use in all warehouses, including those with standard floor finishes and routine built flatness grades as commonly in use with counterbalance trucks – even where racking up to 492" high is used. This eliminates the requirement for costly super-flat flooring or grinding of existing floors. There is also no requirement for guidance rails or wires as is usually the case with VNA systems.

Additionally, the Landoll solutions are able to operate in external yards – even where the ground is uneven or broken.

*For more information about the current Bendi / Drexel range, visit [www.landoll.com/mhp](http://www.landoll.com/mhp).*



66"  
**DREXEL**



78"  
**Bendi**



156"  
**Front Loader**



**MATERIAL HANDLING**  
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1900 North Street · Marysville, KS 66508 · 800-428-5655 · [forkliftsales@landoll.com](mailto:forkliftsales@landoll.com)

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