



Articulated Efficiency

How Bendi articulated trucks could halve your energy costs

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 these costs and achieve reduced carbon emissions, warehouse operators are recognising that the space-saving abilities of Bendi articulated trucks are also creating opportunities for very significant energy savings compared with premises in which counterbalance, high reach or narrow aisle trucks operate.

As a rule, warehouses designed for counterbalance or High Reach Trucks in conjunction with adjustable pallet racking are the least space efficient, with typical aisle widths from 2.8m to 4m+ in common use. However, 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 narrow aisle machines achieve the same aisle widths as Bendi's but require on average 30% of the warehouse to be dedicated to transfer aisles, marshalling areas and P&D stations (to hold stock going to and from the narrow aisle racking). This wasted space costs money to build, heat, light, maintain and pay rent and business rates on.

Fresh air in your warehouse is costing you!

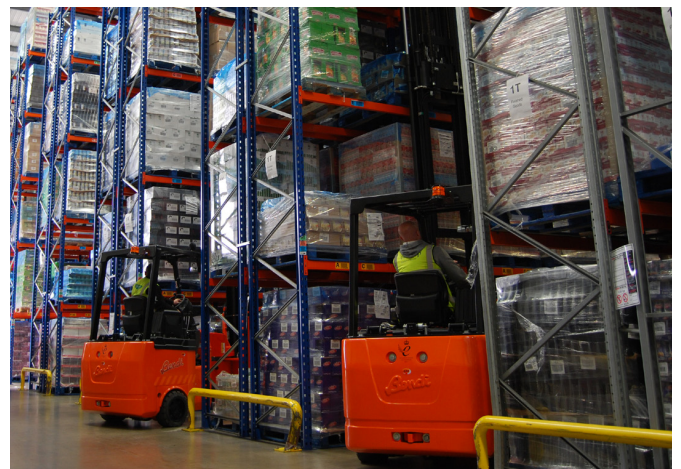
Take a look in your warehouse. How much of it is fresh air? Let us explain

Imagine a 100m x 120m warehouse, 10m high block stacked to the roof with 100,000 1m tall blue Chep pallets stacked floor to ceiling, 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 per month.

This storage method is utopian and rarely suits real life warehousing in terms of stock rotation, accessibility or the ability of products to support themselves whilst stacked this way. More often than not, product has to be 100% accessible. This is why adjustable pallet racking is so prevalent.

Using adjustable pallet racking and a standard counterbalance, the building will only store 10,496 pallets (assuming a 4m aisle and counterbalances being limited to about 6m of lift, so the product can only be stacked 4 high allowing for clearances). In this example, the warehouse is only utilising a miniscule 10% of its total cubic space, leaving 90% as very costly fresh air! The storage cost per pallet is X£/10,496, of which energy for light and heat makes a significant percentage in most premises.

A reach truck, working in a 2.85m aisle but allowing a 15m marshalling/ drop area for the counterbalance, because the reach is unsuitable to go outside, will store 20,720 pallets, if stored 7 high. This is almost twice the 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.



The next step up in efficiency is brought by wire guided narrow aisle trucks working in 1850mm aisles, with a 5m - 6m end of aisle transfer (the space required to move from aisle to aisle). This solution requires an additional 15m marshalling/drop area for the pallet trucks or counterbalance trucks to take pallets to and from the system, so storing 7 high will squeeze in 24,500 racked pallets. This equates to 3780 more pallets or 18% more than the warehouse with High Reach Trucks, with the corresponding improvements in building energy utilisation.

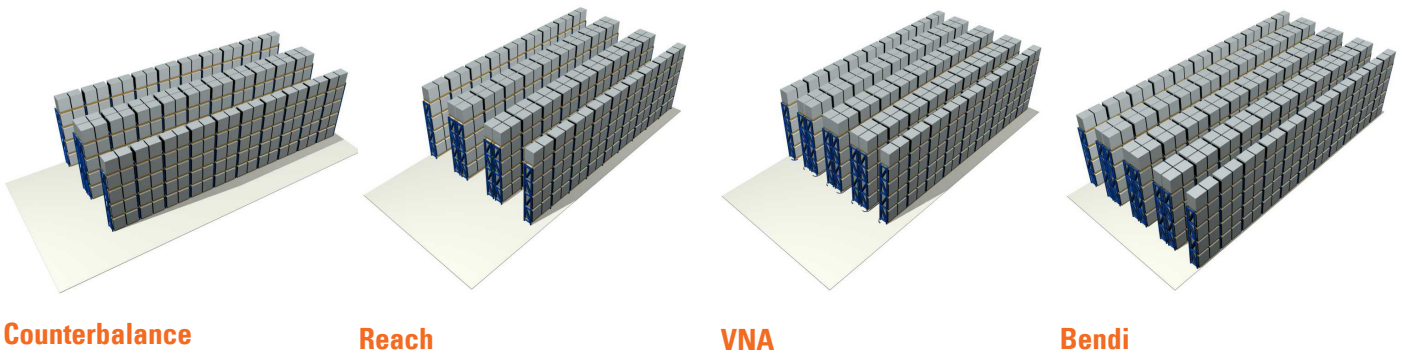
In the 1960s this was the state-of-the art warehouse solution. However, the need for flat floors, guidance systems, slow throughputs and additional equipment adds cost and complexity. These were the factors which inspired Freddy Brown, the pioneer of man-up narrow aisle trucks, to develop a better and more cost-effective solution: the Bendi.

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. This is not only because the trucks are more manoeuvrable, but also because there's no requirement for other types of vehicle within the warehouse, to load and unload alongside the warehouse trucks. Bendi articulated trucks can stack and de-stack pallets and load or unload them to or from trucks in your yard, saving space and time – and further reducing carbon emissions.

Bendi articulated trucks are able to operate in external yards – even where the ground is uneven or broken.

Comparative storage density with different truck types



Bendi saves more space, time and energy

A Bendi truck working in 1800mm aisles (1800mm is the minimum aisle width – building permitting) will also store 7 high but only requires a transfer aisle of 2.7m, which unlike narrow aisle layouts can be bridged.

This configuration achieves 30,680 pallets stored. That's almost 50% more than the High Reach Truck and 25% more than the Narrow Aisle Truck – therefore offering significantly lower costs and a much smaller carbon footprint per pallet stored. In fact the Bendi offers the same storage capacity as a warehouse operating counterbalance trucks in just 33% of the space! That makes the warehouse with Bendi 66% more energy efficient.

No specialist floor requirements

The outstanding stability and improved point loading characteristics of Bendi articulated trucks allows their immediate use in all warehouses, including those with standard floor finishes and speculatively built flatness grades as commonly in use with counterbalance trucks – even where racking up to 12m high is used. This eliminates the requirement for costly specialist flooring or grinding of existing floors. There is also no requirement for guidance rails or wires as is usually the case with narrow aisle systems.

Additionally, Bendi articulated trucks are able to operate in external yards – even where the ground is uneven or broken.

Efficient warehousing? We wrote the book

As the pioneer and World's leading manufacturer and supplier of articulated forklift trucks, Bendi has produced a comprehensive guidebook, covering all aspects of articulated truck theory and practice. Entitled 'The Warehouse Revolution', the book is available from Bendi Australia.



Read The Warehouse Revolution

<http://goo.gl/kKePbq>



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Anything else is a waste of space!