Bend energy costs with articulated forklifts

UNDER increasing pressure to trim warehousing costs and to achieve maximum efficiency, 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, standard Very Narrow Aisle (VNA) trucks or Reach Trucks operate.

As a rule, warehouses designed for counterbalance or Reach trucks in conjunction with adjustable pallet racking and typical aisle widths from 2.8m to 4m+ are the least efficient. 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 VNA machines achieve the same aisle widths as Bendis but require on average 30% of the warehouse to be dedicated to transfer aisles, P&D stations and marshalling areas. This wasted space costs money to build, heat, light, maintain, pay rent on etc.

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 - distributed in South Africa by Goscor Lift Truck Company (GLTC) - can stack and de-stack pallets and load or unload them to or from trucks in your yard, saving space and time.

The outstanding stability and improved point loading characteristics of Bendi articulated trucks allow their immediate use in all warehouses, including those with standard floor finishes and built-in flatness grades commonly used with counterbalance trucks – even where racking up to 12m high exists. 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 VNA systems.

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

A Bendi truck working in 1800mm aisles will, like a regular VNA truck, also store 7-high but only requires a transfer aisle of 2.7m, which, unlike narrow aisle layouts, can be bridged.

This configuration achieves 50% more pallets than a warehouse design for High Reach Trucks can achieve 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. *Enquiry No: 40*

Get wise about using variable speed drives

THE benefits of variable speed drives (VSDs) are making this technology a popular choice among users of electric motors. But not all standard electric motors are suitable to be used with VSDs, cautions Fanie Steyn, manager rotating machines at Zest WEG Group.

"The motor insulation systems are susceptible to insulation damage caused by the harsh switching frequencies and voltage peaks generated by VSDs."

Steyn explained that VSDs use power transistors – typically insulated-gate bipolar transistors or IGBTs – for the switching process. To achieve the high frequencies necessary for switching, the transistors have to turn 'on' and 'off' to conduct current repeatedly at high speeds. This results in voltage pulses with a high dV/dt, or rate of voltage change over time.

"When squirrel cage electric motors are fed by these high frequencies, the voltage pulses – combined with the cable and motor impedances – may cause

motor insulation. These materials include VSD compatible wire, insulation film, impregnation material and suitable cables.

WEG has also specially developed its LackTherm varnishes for the insulation systems of its electric motors, which are applied to the 99,9% pure copper wire during the enamelling process. These LackTherm varnishes have excellent dielectric strength, flexibility, hardness and chemical resistance, as well as strong adhesion properties.

During the impregnation process, the stator coils receive layers of high solid resins and water based coatings which are environmentally friendly and free from