



High Efficiency in Low Temperatures

Safety, speed make automated cold storage a hot commodity



The refrigerated logistics sector is increasingly looking for ways to optimize industrial freezer storage units. The ideal solution for these storage units would be to fully automate them, an expensive short-term option, but one likely to produce high long-term dividends. Designing or maximizing a refrigeration storage space relies heavily on the type of goods being stored, the weight that will go on the shelves, input/output flows and equipment already used in the facility. Once such factors are determined, other factors can be addressed to ensure the full optimization of any refrigerated storage space.

Goods Accessibility. A single-mast AS/RS is an appropriate way to increase the height of your storage capacity and direct access to any pallet, but an easier way to remain agile and maintain easy accessibility with most product rotations is to minimize handling times when loading orders into transport trucks. The ability to move products waiting to be loaded instead of having trucks load in a different location is important to maintaining an efficient turnover rate, which can be of particular importance for frozen goods reliant upon consistent temperatures. Having preloading areas where orders are held and moved according to the period in which they are to be delivered is also important.

To do this, rollers or chain conveyors best facilitate moving goods in or out of the industrial freezer units.

Personnel Reductions. In many cases, cold storage facilities expend equal energy refrigerating and freezing goods as they would heating personnel-filled warehouse space. The difference is that energy used for refrigeration is unconditionally necessary, whereas maintaining workable environments can be avoided or minimized with automation. This way, warehouse personnel are no longer needed to operate within the cold temperature areas.

COLD COMFORT: Fully automated cold storage facilities require fewer employees to brave inclement conditions.

Comfort & Safety. Even if personnel are required inside the warehouse, radio shuttles may relocate freezer pallets to a warmer space that is more inhabitable for employees, while reducing – if not eliminating – the risk of accident and the need for trucks to enter storage aisles.

Personnel operating in a frozen picking environment would benefit greatly from voice synthesizing equipment. Use of voice picking in freezing temperatures increases efficiency by leaving employee's hands free to handle goods while issuing instructions and confirmations of accepted orders and, in some cases, decreasing the time necessary to remain in such an environment.

Additionally, double-mast AS/RS units yield a 60 percent higher capacity than the single-mast, a preferable option in refrigerated storage spaces in which most of the pallets carry identical stock and may be automatically relocated and stored elsewhere if necessary.

Integration. Many frozen warehouses are not used solely as freezer storage, and as such, it is important to maintain flexibility by mingling other systems into more complex warehouse operations. The Mecalux Group's EasyWMS software can not only accommodate this integration, but also adapts to a warehouse system that requires the software to operate independently of other WMS.

With interest in increased cold storage installations growing, the ways in which opportunities present themselves to maximize efficiencies are both vast and varied. Better to be ahead of those opportunities than behind. 

