

Industry: Machine building /// Others
Products Used: Inverter

Smart intralogistics

Modern lift systems for intralogistic tasks are powerful machines with lots of storage capacity. It may only take the press of a button to scan a barcode and then, after a brief whirring, the operator receives the desired article from a drawer. The so-called extractor inside the system moves back and forth within a matter of seconds, without being seen.



Hänel from Bad Friedrichshall, Germany, specialises in storage solutions for intralogistics and office organisation which supports ergonomic operation, and are a global leader within the industry. Hänel provides special solutions for its customers which support sustainable management using natural resources. Within the Hänel Lean-Lift® EcoDrive®, the Mitsubishi Electric FR-A741 frequency inverter with integrated energy recovery function converts the kinetic energy from the extractor as it moves downwards into electrical energy which is fed back into the grid.

What makes this technology so special is that thanks to the FR-A741, this principle is already suitable for use in low power ranges. Depending on the traversing rate of the lift in each case, up to 40 per cent of the energy required for upward travel can be recovered. That efficient energy recovery reduces costs as well as CO₂ emissions.

As the frequency inverter and energy recovery unit are installed in the same housing, this enables smaller, more cost-effective drive systems to be used, resulting in a simplified, space-saving switching cabinet design. There are no additional wiring costs: compared with the use of an external energy recovery unit, the cabling on the power supply side is reduced by up to 60 per cent. The space required for the installation is also reduced by up to 40 per cent, depending on the performance class in each case.

Meanwhile, the EcoDrive® has been installed in almost every large Hänel Lean-Lift® and is being used successfully all over the world in many hundreds of systems within industries such as medical technology, electrical engineering, the automotive, aviation and pharmaceutical industries, machine building and mail order and wholesale trading.

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Energy recovery in high power applications using inverters has been around for a long time. When the EcoDrive® was introduced in 2008, Mitsubishi Electric was the only company offering an integrated energy recovery unit in inverters as standard for low power range applications too. Today, we are still impressed by the longevity of the power electronics in the inverters.

Reiner Raddatz, Manager Purchasing and Human Resources, Hänel GmbH & Co. KG

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Hänel switched to using Mitsubishi products for the majority of its frequency inverters back in 2002. Since then, the Lean-Lift® has been fitted with a Mitsubishi inverter as standard. Today, around 80 per cent of all Hänel's lift models and sizes are equipped with Mitsubishi Electric frequency inverters.

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