

The Hänel Eco-Concept

Bringing sustainability to automated storage and retrieval

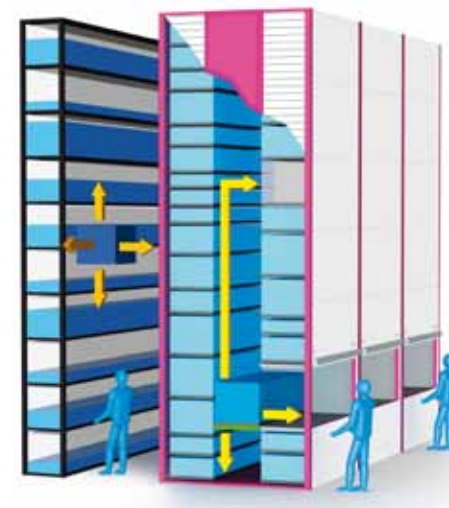


Energy-efficient systems are the key to lowering energy consumption in your warehouse, office, or factory. The actual energy consumption of automated material and file handling systems has a major impact on operating costs, amortization and not least, on protecting our environment.

For this reason we have always placed great emphasis on continually optimizing the energy efficiency of our storage systems. This brings our customers many benefits, both from an economic and an ecological perspective!

The efficient design principle: Hänel Lean-Lift®

The Hänel Lean-Lift® stores all items in height optimized positions, which ensures extremely compact storage in a minimum of space. This optimal use of storage area results in energy savings.



High-density storage eliminates wasted space between shelves.

Hänel Rotomat®

The vertical carousel principle of the Hänel Rotomat® is energy-efficient in its very design. Using the Hänel load imbalance indicator makes sure the weight distribution inside the Rotomat® is balanced out.

As a result of this, very little energy is required for a rotation or travel movement. And of course the unit always picks the shortest route automatically.



Load balance indicator ensures even loads and minimal energy use.

Design optimization

Careful selection of high-quality components and technologies brings more energy savings.

Energy-efficient drive systems

Motors controlled by a frequency converter use up to 50% less energy than drives powered directly from the main power supply and running at full load.

Optimizing the energy balance with intelligent concepts

The goal of continually optimizing the energy balance of the Hänel storage systems is a challenge we embrace every day. It is of importance to our customers and our environment.

Under the heading Hänel EcoConcept we constantly develop components that contribute to improving energy efficiency. The latest developments in this effort are embodied in three new technologies profiled in this issue:

- Eco-Drive®
- Eco-Load®
- Eco-Mode®



High density storage saves space and reduces energy consumption.

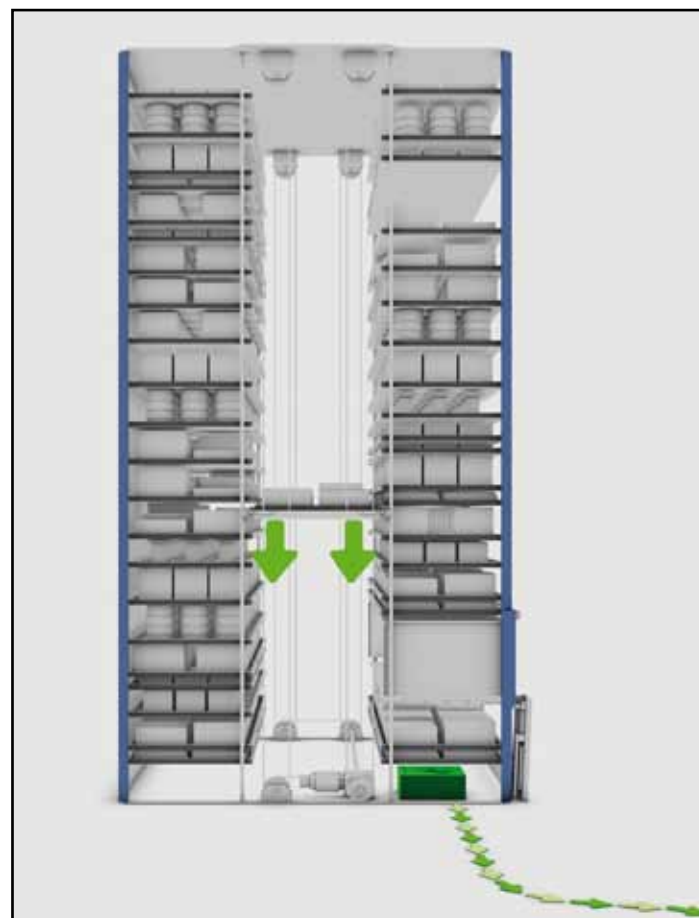


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Eco-Drive®

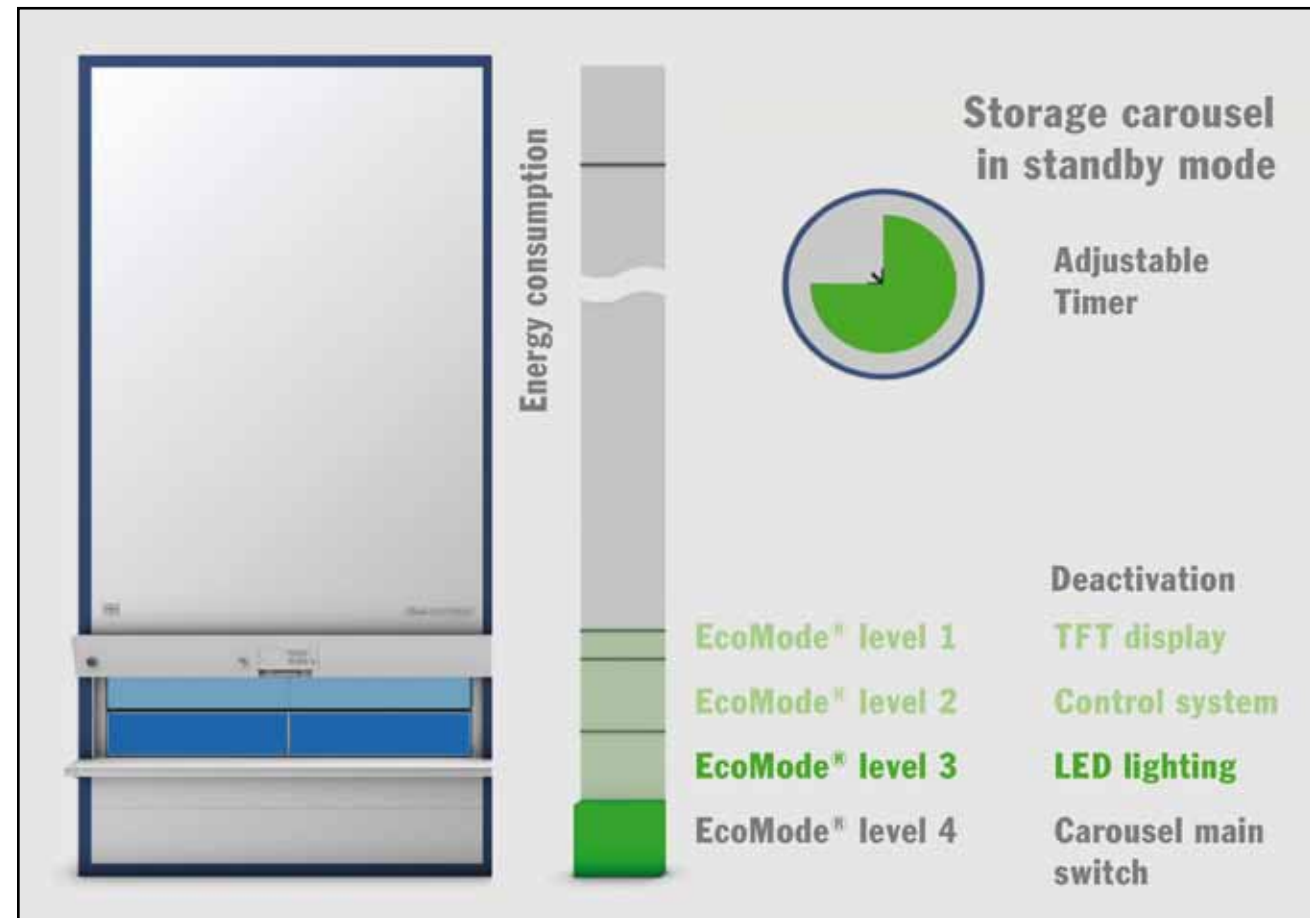


Energy recovery during operation.

The Hänel Eco-Drive® helps to save energy and consequently to reduce costs. The frequency converter uses the energy of the descending extractor and converts it back into electrical energy. This is then fed back into the supply system and can be used elsewhere, for example on other Lean-Lifts®.

Depending on the rate of travel, up to 40 % of the energy fed in previously for the upward run can be returned to the supply network.

Eco-Mode®



Intelligent energy management.

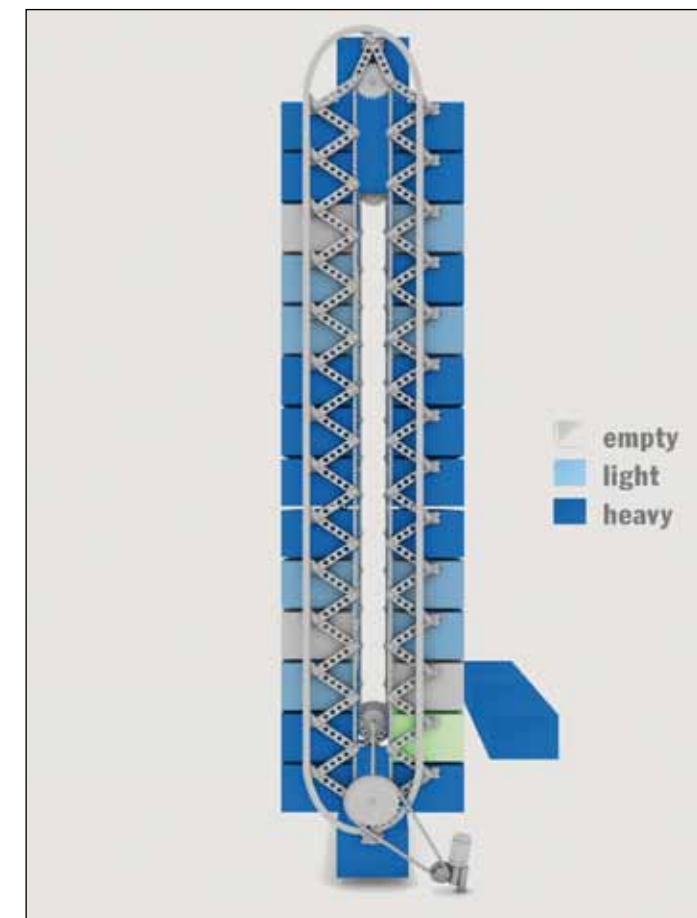
A vertical carousel that remains at standstill for long periods can be automatically switched to pre-set levels of standby mode at intervals chosen by the user.

All systems that consume energy even when at standstill are progressively closed down by the control system in four Eco-Mode® levels. This reduces energy usage to a minimum when the unit is not in operation.

The Hänel Eco-Mode® Levels:

1. The background lighting of the TFT display is switched off.
2. Components of the electrical control system are switched off.
3. The access opening lighting is dimmed.
4. The entire carousel is turned off at the main switch.

Eco-Load®



Energy efficient loading and operation.

The Hänel Eco-Load® monitors the load status of the Rotomat® continuously. As the Rotomat® works on the principle of rotation, a lot of energy can be saved by ensuring even load distribution.

With Eco-Load® the Hänel microprocessor control system gives loading recommendations to the user. If these are followed by the operating personnel, the distribution of the storage goods is always evenly balanced. As a result, only minimal energy is needed to start the carousel rotating.