



Hänel Lean-Lift[®] : Standards in automated materials handling and warehousing



Innovative ideas. Sound technology. Flexible systems



Legend

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The pluses

- ▶ Fast storage and retrieval times.
- ▶ High storage density, even when articles have different heights.
- ▶ Goods to man is the motto instead of man to goods: this saves time.
- ▶ Improved order-picking performance.
- ▶ High economic efficiency and cost savings.
- ▶ Protection of inventory.
- ▶ Storage and handling of bulky and heavy parts.
- ▶ Load-bearing capacity of up to 1,000 kg per tray.
- ▶ Load-bearing capacity of up to 60,000 kg per Lean-Lift® (higher payloads on request).
- ▶ Integrated storage management.



Lean-Lift® buffer store right in the production hall

Complete sub-assemblies and delivered components are buffered in 5 Hänel Lean-Lifts® – here in the premium Silver/Anthracite finish.

Appealing form, convincing functionality

Hänel Lean-Lift® – storing with intelligence

It was 15 years ago that Hänel revolutionized vertical lift technology by inventing the profile wall. Precision hold for the containers and maximum compaction of the storage volume thanks to the integrated slot profile



The storage items are measured in the access point by the height sensors

The spacing of the height sensors corresponds to the slot profile. This enables height-optimized storage to be achieved

The Hänel height sensors in steps of 25, 37.5, 75, 90 and 125 mm

Different height-measuring light barriers, designed to match each model's slot profile exactly, measure the inventory items and store the container according to the respective height without any loss of space!

With the Hänel space-saving pitch, the distortion-free Hänel multifunction containers and the optimization run (page 31) you will achieve maximum compaction of the storage volume.

Let the air out of your store!

An ingenious development! The Hänel slot profile in 75 mm, 90 mm or 125 mm steps offers a multiplicity of options:

The slot profile is a built-in fixed wall with integrated slots in 75 mm, 90 mm or 125 mm steps, and is the ultimate solution for achieving optimal space-saving storage

Convincing simplicity: the high-stability Hänel profile wall!

Hänel is the inventor of the profile wall – with over 15 years of experience!

The profile wall with its high stability and precision is fixed to the tubular supports at the factory.

On the outside the typical Hänel design, on the inside a stable slot system!

The pluses

- ▶ Optimal and compact storage even when articles are of different heights.
- ▶ The Lean-Lift® consistently offers compact and variable storage – without the need for any mechanical or electronic adjustment.

Hänel multifunction containers


- ▶ Full-length, integrated supports offer optimum utilization of the storage height with maximum rigidity.
- ▶ Containers with the 75 mm single pitch or with space-saving 37.5 mm and 25 mm pitches in conjunction with the Hänel profile wall offer numerous possible combinations.



The profile wall in the Hänel Lean-Lift® offers compact and variable storage



The Hänel multifunction containers with space-saving 25 mm pitch and the latest slide technology enable optimal utilization of the storage area



An ingenious invention

On the outside the typical Hänel design, on the inside a stable slot system – the Hänel profile wall.

Less warehouse is more

Distinct advantages over conventional rack storage and MLS

The Hänel Lean-Lift® offers over 60% more storage capacity than a miniload system/rack store on the same footprint



Substantial loss of storage volume

Miniload system/conventional rack storage

Hänel Lean-Lift®

Free/unused storage capacity

Goods stored

One glance in the Hänel Lean-Lift® shows the advantages clearly: Optimum storage of highly varied parts without any loss of space!

Key points speak in favor of the Hänel Lean-Lift®:

The pluses

- ▶ Storage capacity can be adapted step by step.
- ▶ More than one person at a time can operate the lift and process jobs.
- ▶ Retrieval times are considerably shorter.
- ▶ Units can be added, expanded or separated at a later time.
- ▶ Better utilization of storage volume thanks to height-optimized storage.
- ▶ Decentralized storage right in the production hall.

Always well stocked with great ideas

The Hänel Lean-Lift® access point

The access point of the Hänel Lean-Lift® is truly multi-talented

It protects the user and it weighs, measures, photographs and identifies the storage items.

The smooth-action rollers make storage and retrieval operations a breeze. Shelf retrieval and put-away can also be performed automatically.

The interior lighting ensures you can 'keep an eye' on things. A compartment sub-level indicator or the Pick-o-Light® system guarantee error-free retrieval.

Hänel offers individual equipment variants for every need.

All these are ideas the Hänel specialists have developed over their many years of experience – and from which you benefit.

Optimum storage assignment based on precise height measurement of goods

Accurate height measurement for storing containers in the optimal packing density. Height-measuring light barriers spaced at 25 mm, 37.5 mm, 75 mm, 90 mm or 125 mm. When the container is drawn in, the highly accurate light barriers measure the articles, and the Hänel microprocessor control system finds the optimum storage location in the Hänel Lean-Lift®. At the same time a protruding goods check is carried out.

With its height sensors, profile wall and Hänel container technology, the Hänel Lean-Lift® provides vertical optimization and height optimization in one!



Height-measuring sensors

The compartment indicator ensures error-free access and quick storage and retrieval

The LED display can be positioned above or below the access point as required. The compartment and sub-level indicators ensure the right article is accessed.



Error-free access with integrated compartment sub-level indicator

The Hänel Lean-Lift® as a materials handling system

Ergonomic retrieval of heavy loads from the fold-down support rails by crane.



Speed is our driving force

Fast, efficient and quiet

High traversing speeds, low noise levels and accurate positioning are characteristics of the Hänel Lean-Lift®

Hänel Lean-Lift® new generation in a high-speed version

The Hänel Lean-Lift® is available in a high-speed version. The vertical speed of travel, for example for containers with a load capacity of up to 500 kg, is 2.3 m/sec with an empty extractor, and 1 m/sec with a loaded extractor. Horizontally the extractor travels jolt-free at a speed of 0.5 m/sec.

Moreover each Hänel Lean-Lift® is equipped with a soft start control with frequency converter.

**The advantage:
Gentle and rapid acceleration and braking.**

The vertical carriage (extractor) has 4-point suspension ...

This has enormous advantages:

- ▶ No tilting of the extractor.
- ▶ No problem with uneven load distribution, even with heavy weights, and consequently a longer lifecycle.
- ▶ Easy maintenance access from the side.
- ▶ Easy attachment of the arresting device for the extractor.

... and time-proven, low-noise 4-chain technology!

- ▶ Roller chains are durable, so no fatigue failures.
- ▶ Long lifecycle.
- ▶ No replacement necessary at fixed service intervals.
- ▶ Roller chains have a high rate of efficiency (98 %).
- ▶ Accurate positioning because of high rigidity.
- ▶ No slip on emergency stops.

The Hänel EcoDrive – CO₂ reductions thanks to efficient energy recovery

In the Hänel Lean-Lift® EcoDrive, a frequency converter converts the kinetic energy of the descending extractor into electrical energy and feeds it back into the electrical supply system.

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



Highly efficient and powerful motors allow the extractor to achieve travel speeds of up to 2.3 m/sec



Frequency converter in the Hänel Lean-Lift® EcoDrive





Available to multiple users

Depending on the height of the Hänel Lean-Lifts®, access points can be installed on different floors. Several people can use the Hänel Lean-Lift® simultaneously at different positions and levels.

Everything under control

The control concept with brains

Our strength lies in our know-how – the practice-oriented microprocessor control units from Hänel can offer you a complete storage management system



The variable control keyboard for the Hänel Lean-Lift® is placed at the side of the access point – the most ergonomic position for operators. So tiring overhead work is no longer necessary!

MP 12 N-S

A complete storage management package is already integrated. The TFT touchscreen technology makes it easy to use. Quick and easy hook-up to the customer's corporate network is ensured by the integrated Ethernet interface.

With the web server, users can access the web page of the MP 12 N-S directly with Internet Browser. The optional shelf camera takes a current shelf picture after every transaction.

MP 100 D – high-powered storage management intelligently designed!

Up to 99 Lean-Lifts® can be controlled simultaneously with the MP 100 D.

The pluses

- ▶ Hardware and software are integrated in the lift, no additional PC or monitor required.
- ▶ No complex software installation on PC.
- ▶ Direct integration into the corporate network via Ethernet link.
- ▶ Data can be retrieved from the MP 100 D and MP 12 N-S simply by using the browser – continuous transparency in the store-room guaranteed.
- ▶ No additional communication software needed.
- ▶ Customized expansion possible with versatile supplementary modules.

Networking with IT systems

Of course it is possible to hook up the Lean-Lift® to the customer's IT environment. The control systems are easily connected via the integrated Ethernet interface.

Article data, pick lists and booking information are exchanged through the integrated storage management functions.

If required, the lift can be positioned directly via the interface.

Hänel software made-to-measure

If you wish, the Hänel specialists will develop with you a tailor-made storage management concept that meets your requirements exactly!

You can find detailed information about Hänel microprocessor control systems in our brochure 'The intelligent Hänel control and software technology'.

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Subject to revision

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