



# Innovations in intralogistics: Experiences of small and medium-sized enterprises



Ideas that move the world...



# Hänel storage systems: A cost-efficient solution that will convince you too!

**Tightening up operating procedures,  
increasing flexibility and lowering costs – these  
are the objectives of small and medium-sized  
enterprises if they are to be successful.**

With Hänel storage systems, we offer you first-class high-tech systems for storage organization and materials handling that save time, storage space and costs and result in substantially improved workflow.

Hänel storage systems make optimal use of the available room heights. This produces maximum storage capacity on a minimal footprint. Costly warehousing space can therefore be saved.

Goods to man is the motto instead of man to goods. Hänel storage systems bring the requested items automatically to the retrieval area in record time. This means access times are radically reduced.

## **Energy-efficient systems are the key to lowering energy consumption in your warehouse**

Under the heading **EcoConcept**, Hänel Office and Industrial Storage Systems are constantly developing components that contribute to improving energy efficiency. The **EcoConcept** contains three resource-saving systems:

**EcoDrive®** Energy recovery thanks to frequency converter with integrated feedback unit on the Hänel Lean-Lift®

**EcoMode®** Intelligent energy management

**EcoLoad®** When the load is evenly distributed in the Hänel Rotomat® very little energy is required for the rotation movement

## **The Intelligent Hänel Control and Software Technology**

The state-of-the-art Hänel microprocessor control systems are already equipped with the complete integrated storage management package – no additional PC is required. Of course, Hänel microprocessor controllers can be integrated into existing corporate networks and thus communicate with in-house computer systems.

Hänel also offers software solutions for individual requirements.

**For over 60 years the name Hänel has  
stood for high-quality products in the storage  
technology sector.**

## **The Hänel Rotomat® Principle**



## **'Vertical carousel technology' – simply ingenious!**

Each Hänel Rotomat® is designed according to the tried-and-tested Ferris wheel model (vertical carousel principle), which means goods to user and not user to goods.

## **This saves time!**

The compact design provides **up to 60 % more storage capacity** within a minimal footprint **by utilizing the available room height**:

## **This reduces costs!**

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## The Hänel Lean-Lift® Principle



### The automated 'high-bay warehouse in a cabinet'

The Hänel Lean-Lift® is both storage rationalization and goods protection in one: At the center of the 'cabinet' is a computer-controlled positioning lift – called the 'extractor.'

In front of it and behind it are the storage shelves. This is where the articles are stored in containers in height-optimized positions.

The storage locations are accessed automatically under electronic control by means of the extractor, which stores or retrieves the requested container. Employees conveniently put or pick items at the ergonomically designed access point.

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If you want to improve your intralogistics concept and save expense, you should first talk to the specialists from Hänel – with your cooperation they will develop your 'made-to-measure intralogistics concept', specially designed for small and medium-sized enterprises.

# Space-saving storage and high-speed access to stored items!



Company:	<b>Eberlein Apparatebau GmbH</b>
Location:	<b>90579 Langenzenn, Germany</b>
Employees:	<b>approx. 90</b>
Industry:	<b>Metalworking, toolmaking, component assembly</b>
Storage systems:	<b>2 Hänel Rotomat® systems 2 Hänel Lean-Lifts® 1 Hänel Multi-Space®</b>
Items stored:	<b>Tools, DIN standard parts, customer and assembly parts</b>

## Hänel Rotomat®, Lean-Lift® or Multi-Space® – Hänel has just the right system for every job

Eberlein Apparatebau GmbH is a small family-owned company based in the heart of Franconia, Germany. Its core competence is metalworking with aluminum and steel materials.

It is a reliable partner for innovative companies, supplying high-spec products to the aircraft, automotive, medical and electrical engineering industries.

The storage solutions at Eberlein demonstrate the versatility of the Hänel industrial storage carousels very well. Two Rotomat® industrial systems are located in the assembly area and store components that can be fed directly to the assembly lines.

Two Hänel Lean-Lifts® are installed in the production hall. Extremely heavy tools weighing up to 900 kg are stored here and retrieved with a hoist when needed.

A Hänel Multi-Space® system is at the heart of buffer storage. Standard parts, customized parts and assembly components are kept here. Its proximity to the production machines means that the required parts can be provisioned quickly.

The Multi-Space® is the ideal solution, as the focus is on maximum utilization of floor space.

With only one access point and three storage units, it ensures that the storage area is fully utilized.



The Hänel Rotomat® for industrial storage of production parts



Folding rails bear the weight of extremely heavy items, thus making retrieval or replenishment much easier



Storage in the production area with the Hänel Multi-Space®

# High pick rates with simultaneous inventory access



Company:	<b>Productivity Inc.</b>
Location:	<b>Minneapolis, MN 55447, USA</b>
Employees:	<b>approx. 200</b>
Industry:	<b>Parts distribution / shipping</b>
Storage systems:	<b>4 Hänel Lean-Lifts®</b>
Items stored:	<b>Spare parts and tools per mail order</b>

## The Hänel Lean-Lift® as a high-speed shipping system

Fast shipping from the company's site in Minneapolis is supported by three Hänel Lean-Lifts® that are used to store more than 10,000 items.

The Hänel vertical lifts are equipped with multifunction containers, making them ideal for automated small

parts storage. Job orders are displayed directly on the terminal and can be processed there.

The high-speed version of the Hänel Lean-Lift® quickly brings stored items to the retrieval area on request. If the items needed for an

order are located in different lift systems, picking performance can be boosted even more through parallel system operation.

Thanks to digital compartment and sub-level indicators, even storage positions having very small compartments can be identified easily. The combination of all these features ensures that orders are filled and shipped in record time – without errors. Orders are filled directly

opposite the system access points, where they are also packed for shipping. Barcode scanners are used to confirm orders. Another Hänel Lean-Lift® located in a different area of the warehouse is also integrated in the storage solution.

Productivity Inc. quickly recognized the high quality of Hänel technology through the reliable performance delivered by the storage systems.



High pick rates thanks to parallel operations using several Hänel Lean-Lift® high-speed systems



An additional Hänel Lean-Lift® enhances the storage concept at Productivity Inc.

# Price and performance made the difference!



**Mr. Christian Adam**  
**Production Planning Manager**

Company: **Pister Kugelhähne GmbH**  
Location: **76461 Muggensturm, Germany**  
Employees: **220**  
Industry: **Industrial valves and fittings**  
Storage systems: **8 Hänel Lean-Lifts®**  
Items stored: **Finished parts for production**

## Four Hänel Lean-Lifts® as a central storage solution for finished parts needed in final assembly

Since 1970, Pister Kugelhähne GmbH has been one of the most productive and innovative manufacturers of valves for all sectors of industry (high-pressure, shut-off and control valves as well as plate and solenoid valves).

Eight Hänel Lean-Lifts® serve as the backbone of central storage. Finished parts from the production department are buffered and then retrieved for final assembly on a job-by-job basis.

Work orders are recorded and archived using barcode scanners.

The high-speed storage lifts are networked with the customer's own computer system, and the Lean-Lifts are also networked with each other to enable fast access to all the required parts under constant inventory control. The storage lifts at Pister were painted in the

company's colors to perfectly match existing corporate identity and design.



Fast access to finished parts buffered for final assembly



Optimal integration of the Hänel Lean-Lifts® in the IT system



Eight Hänel Lean-Lifts® for central storage

# In buffer storage or in archives – Hänel systems do a great job!



Company:	<b>Soplar SA Kunststoffmaschinen</b>
Location:	<b>9450 Altstätten, Switzerland</b>
Employees:	<b>approx. 150</b>
Industry:	<b>Production of plastic bottles</b>
Storage systems:	<b>7 Hänel Lean-Lifts®</b>
Items stored:	<b>Components and spare parts</b>

## IT-supported buffer storage in the production area

Soplar SA is known worldwide for its expertise and innovation based on more than 30 years of experience in the production of machinery for manufacturing plastic bottles.

At its site in Altstätten, Switzerland, the company has a total of seven Hänel Lean-Lifts® in operation to support intralogistics processes. Five of the systems are installed in an enclosed shaft located at the center of the warehouse. The Hänel systems are about 11 meters in height and thus fully utilize the vertical space available in the building. This results in a storage area capacity of 1,000 m<sup>2</sup> within a footprint of just 60 m<sup>2</sup>.

Soplar SA uses the Hänel Lean-Lifts® for the buffer storage of manufacturing components and spare parts. More than 7,000 different items are kept in the automated systems.

## Integration in the ERP system

The easy integration of the Hänel control system in the Soplar host ERP system supports direct communication between both systems. Inventories and storage positions anywhere in the company are thus monitored and tracked.

Perfect storage for tools of various sizes



Error-free processing of order lists using barcode scanners



Storage of tools for CNC processing right in the tool preparation section

# Efficient order picking spanning seven floors with the Hänel Multi-Space®!



**Manfred Vogel and Jürgen Vogel  
Managing Directors**

Company: vogel-hemer  
Location: 58675 Hemer, Germany  
Employees: approx. 150  
Industry: Electrical engineering, mechatronics, control technology  
Storage systems: 1 Hänel Multi-Space®  
Items stored: Electric motors, hoists, pumps, frequency converters and electronic components

## Thanks to its modular design, the Hänel Multi-Space® can adapt to any situation

Vogel is a leading electrical engineering company in Hemer, near Dortmund, Germany, specializing in the maintenance and modernization of industrial systems.

It also supplies well-known business enterprises with new electronic components, such as pumps, drive units and electric motors.

A tower-like shaft with a height of more than 25 meters is located at the center of the newly constructed vogel-hemer building. The Hänel Multi-Space® is completely integrated in the shaft through all seven floors in the building.

The solution is about 25 meters in height and fully utilizes the vertical

space available. Being nearly six meters wide, the Hänel Multi-Space® provides a remarkable storage area of some 550 m<sup>2</sup> – with a footprint that is just 24 m<sup>2</sup>.

The storage system, with a total of six retrieval points, is located in the center of the building and serves several different floors, so

that employees in the receiving area, as well as those in the supervisory and administrative offices, have direct access to the total volume of stored items.

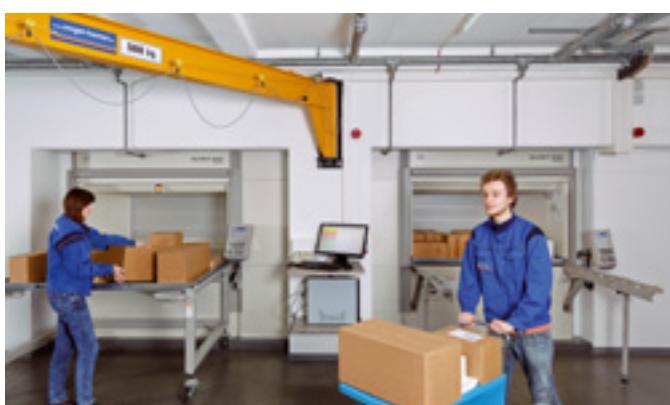
**The Hänel Multi-Space® combines all of the advantages of Hänel industrial lift technology in one system.**



The Hänel Multi-Space® is integrated in a 25-meter vertical shaft extending through seven floors



Safe and secure access for the administrative office. Documents and office supplies are also kept in the same Hänel Multi-Space® system. PIN codes restrict access to authorized persons only



Several retrieval points distributed across five floors ensure fast and direct access to stored items

# Hänel Lean-Lifts® provide a safe environment for storing sensitive items and devices!



**Mr. Paul Davies**  
**Operations Manager**

Company: **Magstim Company Limited**  
Location: **Whitland Industrial Estate/UK**  
Employees: **106**  
Industry: **Distribution of medical instruments**  
Storage systems: **4 Hänel Lean-Lifts®**  
Items stored: **Components for medical devices plus sterile consumables**

## Error-free order picking with the Hänel Lean-Lift® and Hänel Pick-o-Light®

Magstim offers hospital physicians and researchers ultra-modern stimulation and monitoring devices that help protect and improve the functions of the human nervous system.

Three Hänel Lean-Lifts® are installed in a bright and very neat warehouse, fully integrated in the efficient and precise processes followed by Magstim.

The MP 12 N controller, together with the MP 100 D central control system, ensures that employees can quickly locate inventory items via computer.

Both parts and finished components are kept in the storage systems. The Hänel Lean-Lifts® provide the best environment for storing and safeguarding sensitive items and devices. A second access point on one of the lifts connects the warehouse with the shipping department for optimized order routing and item retrieval.

Instead of walking, employees now have direct access to items ready for shipment.

Error-free retrieval is supported with Hänel Pick-o-Light® along with compartment and sub-level indicators.

A fourth lift in the workshop serves as a universal storage depot for administration, electronic spare parts and technical drawings. Passwords are allocated to authorized employees who have been granted access to specific system containers.

Three Hänel Lean-Lifts® support fast order picking at Magstim



The back of one Lean-Lift® has an extra access point for the shipping department



Even the smallest items are neatly stored on height-optimized containers in the Hänel Lean-Lift®

# Tight delivery schedules demand reliable and efficient storage!



**Mr. Harald Bierth**  
**Production Manager**

Company: Müller Präzisionsteile GmbH  
Location: 90602 Pyrbaum, Germany  
Employees: 125  
Industry: Automotive and racing supplier, mechanical engineering  
Storage systems: 7 Hänel Lean-Lifts®  
Items stored: Tools for CNC machines

## The Hänel Lean-Lift® – a high-tech tool depot for the production of precision components

Müller Präzisionsteile GmbH manufactures precision parts, components and prototypes for the automotive industry, auto racing teams and the aerospace industry.

Tool preparation is the central

department that provides the company's respective CNC machines with the tools needed for production.

Six Hänel Lean-Lifts are installed centrally in the production area,

as well as an additional Hänel Lean-Lift® in a nearby hall where jigs and clamps are stored for the CNC equipment.

Cutters, lathe heads and small tools – all these components are stored in a protected environment. Quick and convenient access to

the tools was one of the criteria for purchasing the Lean-Lifts®.

The minimal footprint of the vertical storage systems was the key factor for the central tool depot concept.



Ergonomic retrieval of the requested parts



Optimal storage of tools in widely varying sizes



Storage of tools for CNC processing right in the tool preparation section

# In buffer storage or in archives – Hänel systems do a great job!



## Mr. Andreas Schlüter, CEO

Company: **SCHLÜTER**  
Print Pharma Packaging GmbH  
Location: 39218 Schönebeck-Elbe, Germany  
Employees: 170  
Industry: Printing (secondary and primary medical packaging)  
Storage systems: 3 Hänel Lean-Lifts®  
6 Hänel Rotomat® office systems  
Items stored: Instruction sheets for the pharmaceutical industry

## Printing companies benefit from the vast and versatile storage capacity of the Hänel storage systems

For eight decades the Schlüter printing company in Schönebeck, Saxony-Anhalt, has been the expert to contact when it comes to printing.

The company specializes in the production of pharmaceutical packaging. There are various applications for Hänel storage

systems in the company. One Lean-Lift® is used to store the printing plates for flexographic printing machines, right in the printing room where they are needed. The plates are safeguarded and kept close to the printing presses.

An additional Lean-Lift® installed in the production area stores spare parts for the printing presses. Close proximity, quick access and space-saving storage right in the production area deliver business benefits.

Job orders and files are archived in six Hänel Rotomat® systems in

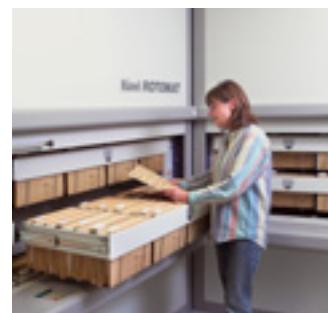
the Schlüter administration building. These documents can be retrieved and rushed to the production planning department at any time thanks to the Hänel microprocessor controller. Time-consuming document searches are a thing of the past.



Safe and secure storage of film rolls for flexographic printing



Fast set-up with storage systems directly in the printing room



Document archive in the Hänel Rotomat®



Spare parts storage right next to the printing presses

# Maximum storage capacity and payloads of up to 1,000 kg per container



**Mr. Jochen Niedermeyer**  
**Process Engineer**

Company: **Foddis Technische Kunststoffteile GmbH & Co. KG**  
Location: **89281 Altenstadt, Germany**  
Employees: **18**  
Industry: **Injection-molded plastic parts**  
Storage systems: **1 Hänel Lean-Lift®**  
Items stored: **Injection molding equipment**

## The Hänel Lean-Lift® – the perfect storage system for heavy tools

Foddis specializes in plastics and injection molding, offering special-purpose solutions with all the advantages of a modern service enterprise.

The state-of-the-art machinery needs to be set up with injection

molding tools. Previously these were stored in long rows of racks.

Now a Hänel Lean-Lift® is used to store this equipment. The tools, which weigh up to a ton, are stored not side by side, but rather

vertically above each other, and are brought to the access point automatically when needed.

During retrieval they are placed on a Hänel transport cart and brought to the machines by crane. The Hänel Lean-Lift® has

a total capacity of 60 tons, thus making it ideal for this job.



Enormous space savings thanks to vertical storage



1,000 kg payload per container



Retrieval of tools via crane

# There was only one obvious choice for us – Hänel automated storage systems!



**Mr. Andreas Lebrecht**  
**Production Manager**

Company: **mikrolab GmbH**  
Location: **90766 Fürth, Germany**  
Employees: **70**  
Industry: **Electronics**  
Storage systems: **2 Hänel Rotomat® systems**  
**3 Hänel Lean-Lifts®**  
Items stored: **SMD components**

## Storage of sensitive electronic components in Hänel systems with ESD protection

mikrolab in Fürth (near Nuremberg, Germany) develops and manufactures electronic components for applications in the medical, navigation, metrology and control technology sectors.

Three Hänel Lean-Lifts® and two Rotomat® systems serve as a central warehouse right next to the production areas.

Thanks to a second access point on another floor of the building, electronic components and circuit boards can be stored in one Hänel Lean-Lift® and automatically made available to the areas where they are needed. Thus production com-

ponents can be put into the storage systems or retrieved at two different floor levels in the building.

The storage systems provide ESD protection so that stored components are not damaged by potential overvoltage arising in the production environment.

The Hänel storage solution significantly optimizes the speed and flow of material to the manufacturing lines.

Thanks to Hänel technology, mikrolab can respond to customer demands quickly and efficiently.



ESD-compliant storage of electronic SMD components in the Hänel Rotomat®



The first of three Hänel Lean-Lifts® on the ground floor also has an additional access point on the top floor to ensure fast provisioning of electronic components

# The Hänel controller concept ensures the highest level of flexibility!



**Mr. Jürgen Thelen**  
**Head of Sales and Service Europe**

Company: **ROMI Europa GmbH**  
Location: **64521 Groß-Gerau, Germany**  
Employees: **10**  
Industry: **Capital goods, machine tools**  
Storage systems: **2 Hänel Lean-Lifts®**  
Items stored: **Spare parts for machine tools**

## Optimal supply of spare parts to ROMI dealers thanks to neat storage in two Hänel Lean-Lifts®

The Brazilian parent company of ROMI Europa holds a leading position in its business segments: machine tools, injection molding machines, ultra-fine boring tools, plus semifinished and processed cast parts.

ROMI Europa GmbH in Germany supplies dealers with spare parts such as spindles, belts, sensors and many other items. Two Hänel Lean-Lifts® are integrated in the presentation center of the German subsidiary. The design of the Hänel Lean-Lifts® fits seamlessly into the

modern image projected by ROMI Europa.

All the storage locations are defined in the ERP system. This ensures that every stored item can be picked quickly and without error.

Orders are processed directly in the packing department so that they can be shipped to customers at top speed.



Clearly arranged, protected spare parts storage



Two Hänel Lean-Lifts® in the presentation center

Storage right at the packing station minimizes legwork

# Variable configurations for the Hänel Rotomat® are perfect for our storage concept!



**Mr. Andreas Müller**  
**Director**

Company: **Andreas Müller Electronic GmbH**  
Location: **41849 Wassenberg-Birgelen, Germany**  
Employees: **20**  
Industry: **Electronics Manufacturing Services (EMS)**  
Storage systems: **2 Hänel Rotomat® storage systems**  
Items stored: **Electronic components and tools**

## The wide range of Hänel Rotomat® configurations includes solutions for every business

Andreas Müller Electronic GmbH is a small company that has been developing and manufacturing electronic components for industrial applications for over twenty years.

The company is mainly an EMS contractor and service provider. Two Hänel Rotomat® industrial

systems installed in the production area are used to store a wide and diverse range of components.

The variable dividers and inserts for the shelves are ideal for this application. Sensitive electronic assemblies can be kept in buffer storage providing a dust-free environment protected by lockable

sliding doors. The locations of the stored items are defined in the ERP system to make retrieval quick and accurate.

Like other companies, Andreas Müller was able to gain more space for production by installing this compact solution. This is a good example proving that Hänel

storage systems can be used efficiently in small manufacturing environments.



Protected storage of electronic components



Items are found quickly and easily



Expansion of the production area by saving space

# For both tools and Euro pallets – Hänel has the optimal storage solution!



**Mr. Stefan Kempf**  
Director

Company: **Norbert Kempf**  
CNC-Technik GmbH  
Location: **66386 St. Ingbert, Germany**  
Employees: **85**  
Industry: **Precision component manufacturing**  
Storage systems: **1 Hänel Lean-Lift®**  
**1 Hänel Lean-Lift® pallet system**  
Items stored: **CNC tools and products**

## Two Hänel Lean-Lifts® with multiple-floor access for pallet and material storage

The Norbert Kempf company in St. Ingbert specializes in the production of customized, high-precision one-off and serial parts using state-of-the-art techniques and processing equipment.

The workpieces range from simple turned parts to sophisticated components that are processed on multiple axes and supplied to the hydraulic, pneumatic, construction machinery and automotive industries.

Two Hänel Lean-Lifts® are in operation at Kempf. One of these Lean-Lifts® is used for storing tools and consumables.

There is a retrieval point on each of the two floors. This guarantees access to the stored items on each level.

The second Lean-Lift® pallet system is also integrated over two floors and has two access points. Euro pallets loaded with components are kept in buffer storage here before being sent to the quality control department on the first floor prior to shipping. Thus the Lean-Lift® pallet system serves not only as a storage solution, but also as a means of transport.

The lift systems were delivered in Kempf company colors. They blend into the customer's modern building perfectly.



Replenishing the Hänel Lean-Lift® pallet system on the ground floor



Perfect integration in the company's modern building on the second floor



Requesting articles via the Hänel microprocessor controller

# Hänel's market position was the decisive factor!



**Mr. Alberto Petrella**  
Managing Director

Company: **Tontarra Medizintechnik GmbH**  
Location: **78573 Wurmlingen, Germany**  
Employees: **120**  
Industry: **Medical technology**  
Storage systems: **3 Hänel Lean-Lifts®**  
Items stored: **Surgical instruments**

## Space-saving and efficient protected storage of surgical instruments in the Hänel Lean-Lift®

Tontarra Medizintechnik GmbH has been producing and marketing surgical and medical instruments since 1963.

The business operates a modern production plant near Tuttlingen, Germany.

The conventional rack storage formerly used for surgical instruments was replaced by three Hänel Lean-Lifts®.

The Lean-Lifts® provide for neat and transparent storage, and they also protect the instruments as

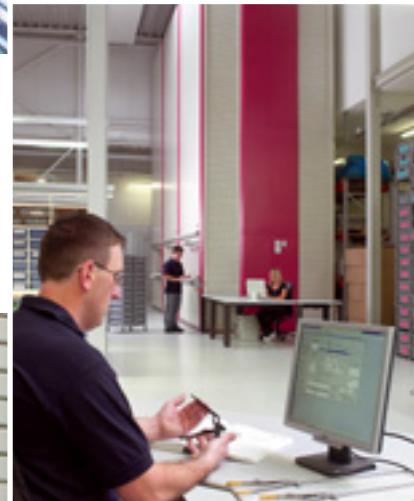
well. Items are retrieved conveniently, quickly and ergonomically before being sent to the shipping department.

All storage and retrieval operations are logged directly at the control units and are compared with the data in the ERP system. Hänel's market position was the key factor in the decision to develop this space-saving storage solution in collaboration with Hänel specialists.



Transparent storage of surgical instruments

Compatibility with the ERP system



Perfect integration of the Hänel Lean-Lifts® in the intralogistics concept

# We studied the market carefully – Hänel was the best choice for us!



**Mr. Thomas Ernst (Dipl.-Ing.)  
Head of Design**

Company: Ernst + Landerer Leichtmetallgießerei GmbH & Co. KG  
Location: 86483 Balzhausen, Germany  
Employees: 90  
Industry: Casting and machining  
Storage systems: 1 Hänel Lean-Lift®, 1 Hänel Lockomat®, 1 Hänel Rotomat®  
Items stored: Tools and equipment

## The Hänel Lockomat® and the Hänel Lean-Lift® – two systems for optimized and secure tool storage

Ernst + Landerer in Balzhausen has been producing cast parts since 1968 and finishes these parts using state-of-the-art CNC equipment.

The company specializes in precision aluminum die casting and the machining of cast parts.

The tools needed for cutting and machining are stored in a Hänel Lean-Lift®. If several tools are required, they can be taken to the CNC machines together with the storage container on the Hänel transport cart. Small tools are stored in the Hänel Lockomat®

in a protected environment. They are kept safe behind mechanically locking compartment doors. When the tool number is entered, the LED display integrated in the work counter indicates the exact storage location. Only this compartment door can be opened.

The Hänel Lockomat® guarantees error-free and secure access!



Storage location defined in the ERP system



Optimal protection with mechanically locking compartment doors in the Hänel Lockomat®



Retrieval of tools using the Hänel transport cart



# The Hänel product portfolio – the right solution for every need!



## Hänel Rotomat® office carousel

The Hänel Rotomat® is the optimal filing system for office and administration.

Folders, index cards or files – the Hänel Rotomat® keeps them all in order. It finds the right file from among thousands of hanging folders and retrieves it in seconds. The powerful Hänel microprocessor control systems enable the Rotomat® to be networked directly with a PC.

All Rotomat® office carousels are also available in a version suitable for disabled operators.



## Hänel Rotomat® storage carousel

Each Hänel Rotomat® is designed according to the tried-and-tested Ferris wheel model (vertical carousel principle) which means: goods to man and not man to goods.

The compact construction enables up to 60 % more storage capacity to be created on a minimal footprint by making use of the available room height. No two Hänel Rotomats® are the same, because each task demands a precisely defined solution.



## Hänel Lean-Lift®

The Hänel Lean-Lift® is both storage rationalization and goods protection in one. At the center of the 'cabinet' is a computer-controlled positioning lift – called the 'extractor'. In front of it and behind it are the storage shelves. This is where the articles are kept in containers.

The storage locations are accessed automatically under electronic control by means of the extractor, which stores or retrieves the requested container. The goods are then delivered to the retrieval area at the correct ergonomic height.

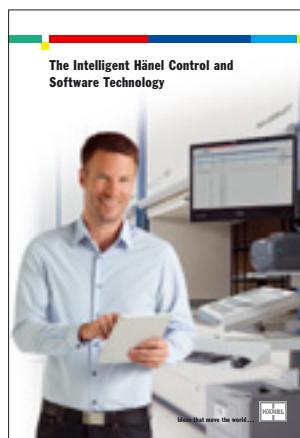


## Hänel Multi-Space®

Hänel has optimized the principle of three-axis storage systems with the Hänel Multi-Space®. In addition to the many advantages of the Hänel Lean-Lift® technology, the Hänel Multi-Space® offers maximum flexibility, speed and use of space.

With its advanced technology, Hänel is able to offer a three-axis storage system over 9 m wide. The Hänel Multi-Space® can even be varied in width and height once installed – an innovation from Hänel!

Even the number of retrieval points is variable and can be changed at any time.



## The intelligent Hänel control and software technology

Our strength lies in our knowledge. Because only object-related, practice-oriented microprocessor control units can offer you a complete storage management system. Hänel storage systems can also be controlled via computer interface, of course. Interface with enterprise resource planning systems is no problem.

Hänel also offers software solutions for individual requirements.



## Efficient tool storage with Hänel industrial lift systems

Products such as the Lean-Lift®, the Multi-Space®, the Lockomat® and the Rotomat® are high-tech systems for automated tool storage.

Alongside ergonomic design, inventory protection and many system innovations, we assign top priority to the cost-efficiency of these solutions.

Hänel storage systems are compatible with nearly every tool management system now available.