



Hänel Rotomat® storage carousels

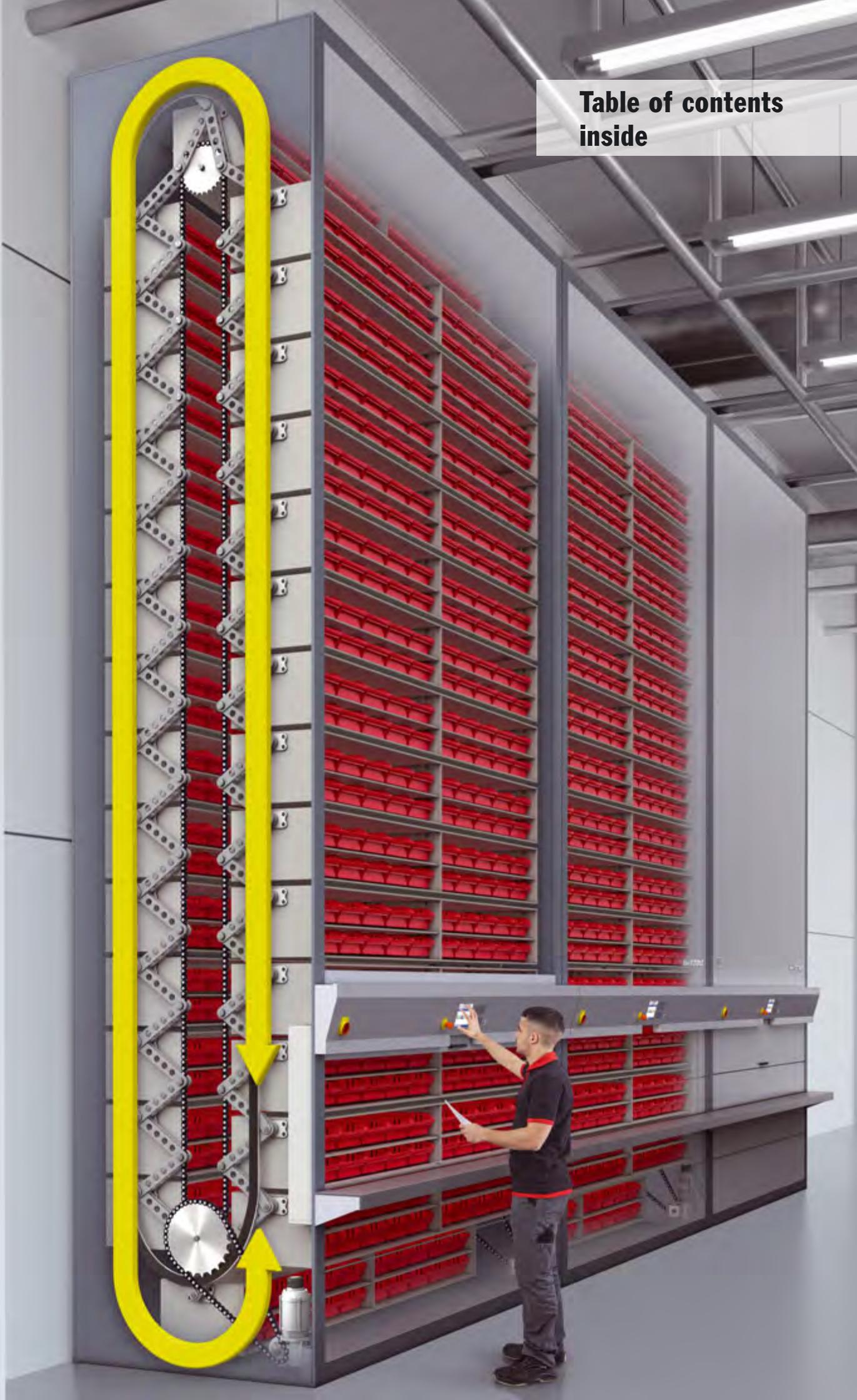
Efficient storage, optimized access times, ergonomic materials handling



Ideas that move the world...



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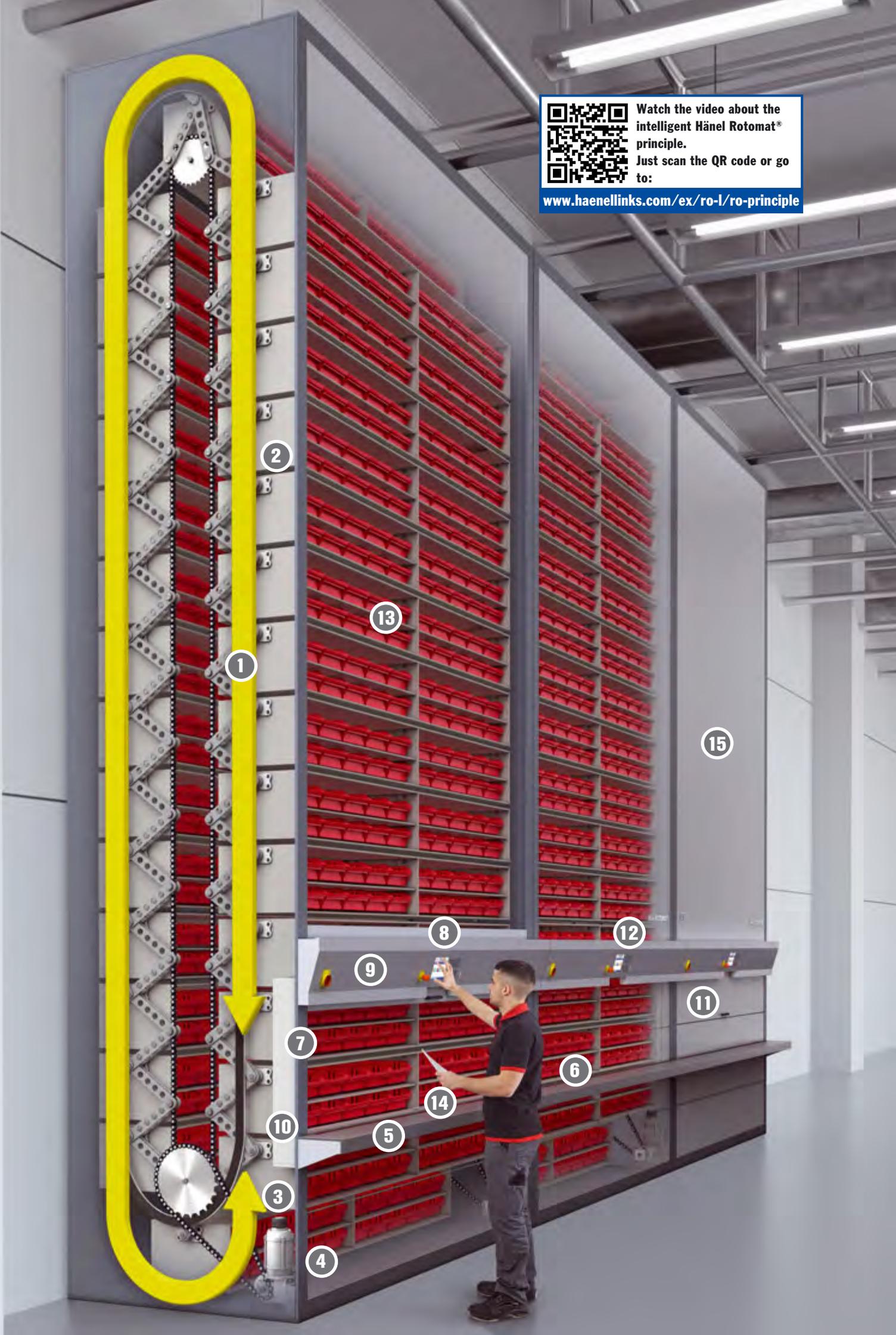
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Watch the video about the intelligent Hänel Rotomat® principle. Just scan the QR code or go to:

www.haenellinks.com/ex/ro-l/ro-principle



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Hänel Rotomat® storage carousels

Optimizing procedures, increasing flexibility, lowering costs

Rationalization, cost-cutting, efficiency: these are all demands that modern-day storage organizations must meet!

Quality and leading-edge technology 'Made by Hänel'

In 1953 Gerhard Hänel founded the office equipment company 'Hänel Bürosysteme'. By 1957 Hänel was series-producing filing carousels based on the Ferris wheel principle – the first manufacturer in Europe to do so.

Today Rotomat® carousels and Hänel Lean-Lifts® are produced in three manufacturing plants – and exported worldwide. Hänel has distributors in over 60 countries across the globe.

Innovation and performance, dynamics and ideas, new technologies and team spirit have made Hänel one of the leading providers of storage and organization systems.

With the Hänel Rotomat® storage carousel, we offer a flexible storage and provisioning system that adapts optimally to your needs.

Up to 60 % more storage capacity

The Hänel Rotomat® storage carousel makes use of the available room height and creates up to 60 % more storage capacity thanks to its compact design. This means costly warehousing space can be used more efficiently.

This saves costs!

Work time slashed

The Hänel Rotomat® storage carousel brings the required parts to the retrieval area in just a few seconds.

Ergonomics

No more bending, ladder-climbing or walking long distances to search for and store parts or articles. The required items are brought automatically to the optimum ergonomic retrieval height.

We are committed to environmental protection

It goes without saying that production at our three plants meets the latest environmental guidelines. Only environmentally friendly, recyclable materials are used.

With the intelligent energy management feature Hänel EcoMode®, the Hänel storage systems can be switched to different standby modes. This allows energy consumption to be reduced to a minimum.

Our specialists will continue to work on the Hänel EcoConcept and develop further energy-efficient solutions for the Hänel storage systems.

The right decision

If you want to improve your intralogistics concept and reduce costs, you should talk to the specialists at Hänel first. They will work with you to develop your own 'tailor-made intralogistics concept'.



The Hänel Rotomat® storage system – Benefits that speak for themselves!

More than 60% savings in existing floor space

Maximum storage volume with a minimal footprint thanks to vertical system design and high storage density.

Enormous time savings

The Hänel Rotomat® enables extremely fast access to stored items – time-consuming retrieval is a thing of the past.

Maximum safety

Innovative features such as the Hänel safety switch and light-barrier curtain guarantee maximum user safety.

Maximized ergonomics

The required items are brought automatically at the optimum ergonomic retrieval height. There is less physical stress and strain for employees.

Maximum order-picking performance

The Hänel Rotomat® is ideal for fast order picking. In some models the speed of rotation can be optionally increased by up to 60% (high-speed version) depending on the application.





Digital solutions that boost the efficiency of Hänel intralogistics

Whether as stand-alone solutions or as genuine “team players” in a holistic production landscape managed by host ERP systems, Hänel offers intelligent control and software options for digital warehouse management.

Optimized energy efficiency

The Hänel Rotomat® is extremely energy efficient thanks to its vertical carousel design and the Hänel EcoLoad® system.

Highest storage density

Hänel multifunction carriers and flexible configuration options can increase storage density even further.

Integrated storage management

Complete warehouse management software for standalone operation is integrated as standard in all Hänel controllers.

Very high availability

The Hänel Rotomat® is tops when it comes to resilience and outage prevention. Redundant systems are available.

High cost-effectiveness

The tried and tested vertical carousel principle of the Hänel Rotomat® keeps lifecycle costs extremely low.





You will find a number of interesting case studies from customers worldwide on our website under the heading "Solutions" – just scan the QR code or go to:

www.haenellinks.com/ex/solutions



Hänel ROTOMAT

Hänel multifunction carriers

Adaptable and versatile



Multifunction carrier with different front edge variants



Multifunction carrier with intermediate shelves slotted into punched holes and with movable dividers



Multifunction carrier with front wall – trough version with movable dividers



Multifunction carrier with lowerable front walls

No two Hänel Rotomats® are the same, because each task demands a precisely defined solution

The task defines the fittings

We provide customized interior fittings, tailored to the individual demands of production systems and storage logistics. The mechanical parts and carrier sets are configured according to the size and weight of the storage goods. It's this flexibility that makes the Hänel Rotomat® so cost-effective.

The Hänel multifunction carriers offer you customized, variable interior fittings that can be adapted effortlessly to your personal needs and the different article heights. This achieves maximum compaction of the storage volume.

And a wide range of accessories are available, such as plastic boxes, tool inserts, molded trays for small parts, holders for milling cutters, etc., which compliment the Hänel Rotomat®, turning it into a complete logistics system that saves costs, makes optimum use of space, makes work easier and minimizes distribution times.

Hänel also offers customized special-purpose holders for SMD reels, cable drums, printing rollers, rods and tubes.

The pluses

- ▶ Hänel multifunction carriers are absolutely stable and distortion-free.
- ▶ Variable fittings can be altered at a later date.
- ▶ Compartment dividers, bins, drawers or loose goods – the possibilities are endless.
- ▶ Long lifecycle and high load-bearing capacity up to 750 kg per carrier, depending on the model.

Our specialists would be happy to develop a tailored solution for your storage requirements.



Multifunction carrier with drawers of different heights slotted into punched holes

Hänel ROTOMAT





Safety light curtain

The Hänel light curtain guarantees maximum safety for the operators as they pick and put.

Always well stocked with great ideas

The Hänel Rotomat® access point

Intelligent features for individual requirements



Durable V2A work counter

The wear-resistant V2A work counter of the Hänel Rotomat® is very durable and not only looks good, but also enables users to pick, put and slide the storage bins with ease.

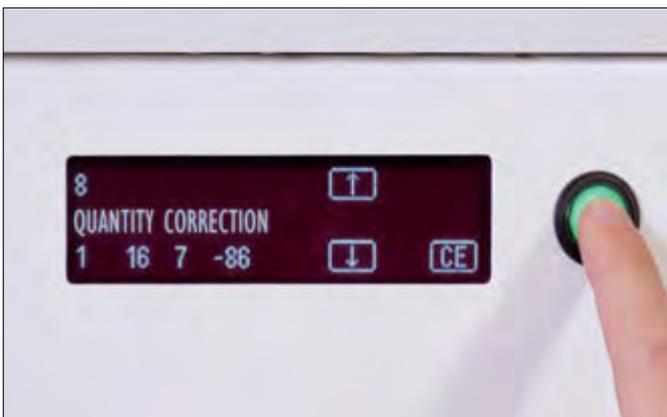
Behind it is the **Hänel safety threshold** which allows level-sweep access to the inventory while ensuring optimal personal protection at the same time.



Lockable sliding doors

The Hänel Rotomat® is fitted with a smooth-action, lockable sliding door. This protects the goods from dust and dirt as well as from unauthorized access. The sliding door is split, with the upper and lower

halves providing a counterbalance to each other. This makes the door easy to open without the need for additional counter-weights.



Digital picking display

With its new digital picking display, Hänel offers yet another system feature for finding stored articles quickly and easily.

The digital picking display shows where the requested article is currently positioned and also provides additional information about the item itself and the storage location in direct proximity to it.

Input can be entered in the digital picking display via the touch-screen. Retrieval is confirmed directly on the location display. This is particularly useful on very wide storage systems as it eliminates long walking distances and saves time. All Hänel systems can be equipped with the digital picking display.



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

The LED display is integrated elegantly into the work counter. The sub-level indicator in front of each storage compartment ensures error-free retrieval. The compart-

ment and sub-level are displayed on the LED strip as either one or two digits.

Everything in balance

High-tech for the storeroom

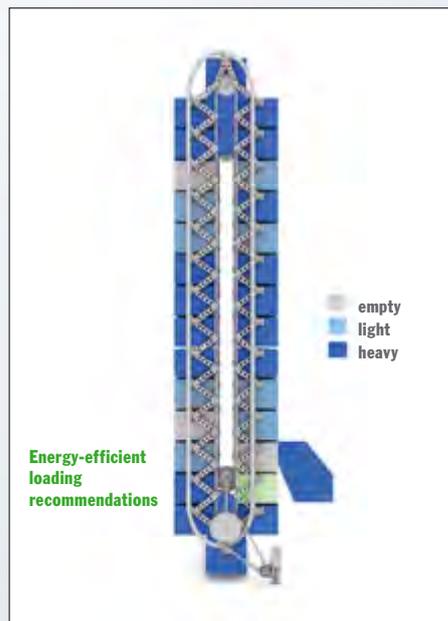
Hänel EcoLoad® Energy-efficient loading

The Hänel Rotomat® also has a smart energy conservation concept – the Hänel EcoLoad®.

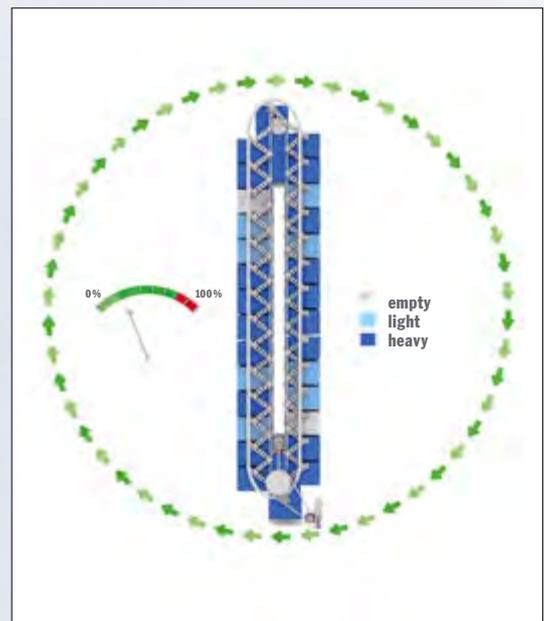
As the Rotomat® works on the principle of rotation, a lot of energy can be saved by ensuring even load distribution. So the load status of the Hänel Rotomat® is continuously monitored.

This enables the Hänel microprocessor controller to achieve optimum distribution of the storage items thanks to loading recommendations. If the recommendations are followed by the operating personnel, the storage goods are always evenly distributed.

As a result, very little energy is required for the rotation movement.



Weight distribution in the Hänel Rotomat® is measured continuously so that if a load becomes uneven, a relocation of goods is recommended by the Hänel EcoLoad® warning device to optimize energy efficiency



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

Accurate positioning of the shelf levels

The Hänel Rotomat® multifunction positioning system MFPS 1 is able to position each level of a carrier with exceptional accuracy when the load is evenly distributed. The intelligent Hänel microprocessor control systems, such as the MP 12N, also have a brake path monitoring and correction system installed which records any push-on effect caused by a high load imbalance and carries out a correction when the carousel starts up again. New stop positions can be programmed easily with the teach-in process.



Each retrieval level is precisely positioned and can be individually adjusted via the control unit

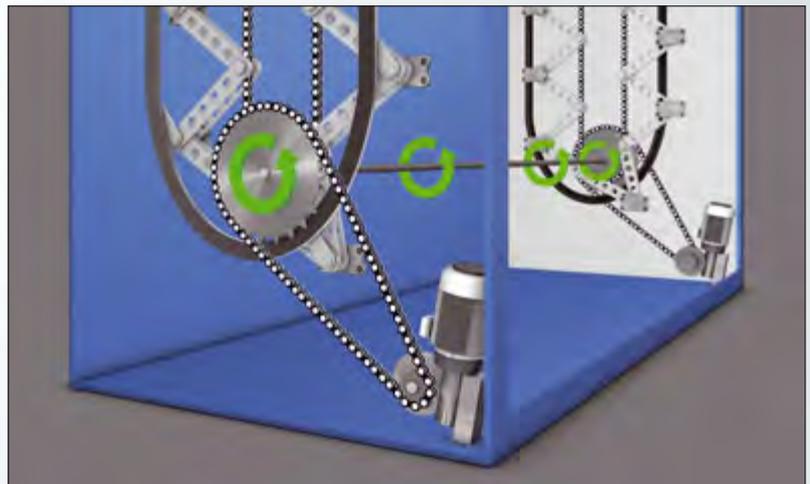
Keeping the wheels of industry turning

The Hänel Rotomat® drive components

Twin-motor design

The drive systems of all Hänel Rotomat® carousels are housed inside the carousel casing. This ensures optimal freedom of movement in front of the carousel.

Almost all Hänel Rotomat® storage carousels are equipped with twin motors. This guarantees less wear and quieter running. The right and left drive motors are controlled in sync. The simultaneous acceleration and braking of the two drives means that the multifunction carriers are moved without distortion. The twin motor design also ensures optimal balance if the load on the carrier is distributed unevenly.



Stable carrier suspension on 4-point sliding carriage principle

The Hänel Rotomat® carrier suspension is designed according to the sliding carriage principle so that the carriers are suspended from 4 levers on 4 rollers on left and right.

Suspension from 4 levers means that transverse forces are safely absorbed, reducing wear substantially and making running quieter.



Safety Bypass System

Hänel Rotomat® storage carousels work reliably and failure-free. If a malfunction should arise, however, Hänel's optional Safety Bypass System comes into effect in certain cases.

If a light barrier curtain or door switch is defective, for example, the user can continue to operate the Hänel Rotomat® until the Hänel service technician arrives by activating the Safety Bypass System and closing the sliding door.





Less warehouse is more

Distinct advantages over conventional rack storage and MLS

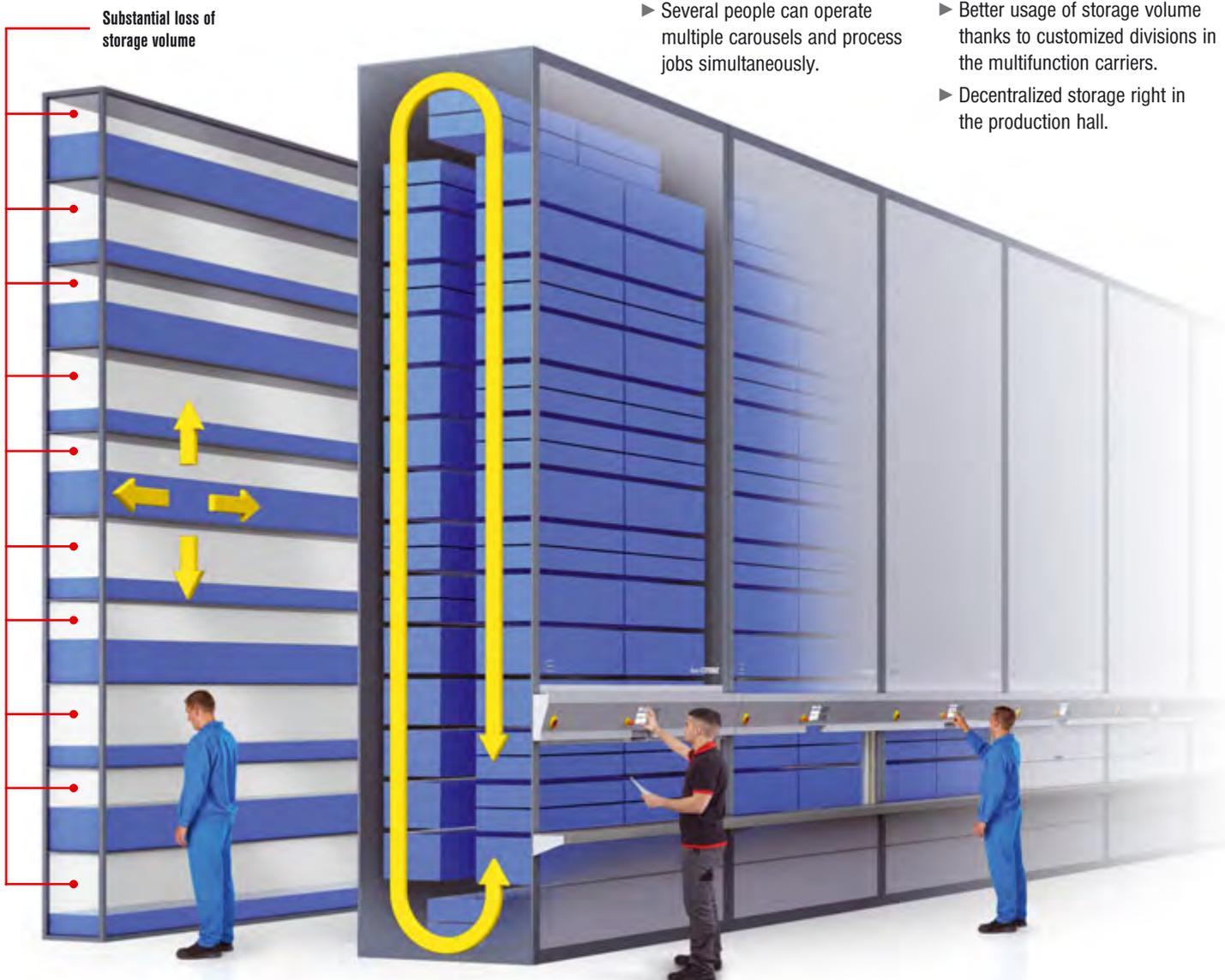
The Hänel Rotomat® offers up to 60% more storage capacity than a miniload system or conventional rack store on the same footprint

One glance in the Hänel Rotomat® shows the advantages clearly: Adapting the multifunction carriers to suit the inventory items means that highly varied parts can be stored optimally without any loss of space!

Key points speak in favor of the Hänel Rotomat® storage carousel:

The pluses

- ▶ Up to 60% more storage capacity.
- ▶ Storage capacity can be adapted step by step.
- ▶ Several people can operate multiple carousels and process jobs simultaneously.
- ▶ Retrieval times are considerably shorter.
- ▶ Units can be added, expanded or separated at a later time.
- ▶ Better usage of storage volume thanks to customized divisions in the multifunction carriers.
- ▶ Decentralized storage right in the production hall.



Miniload system/conventional rack storage

Hänel Rotomat® storage carousel



Free/unused storage capacity



Goods stored



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Hänel ROTOMAT



Buffer store in the production hall

Storage of components and sub-assemblies combined with Hänel Lean-Lifts®.

Maximum efficiency in order picking and shipping

Top order-picking performance due to short travel paths

To meet the demands of a modern dispatch warehouse, a complex intralogistics concept needs to be implemented. The Hänel Rotomat® storage carousel is the ideal automated materials handling system for this purpose.

The vertical carousel with its short travel paths and therefore swift retrieval of requested articles enables top order-picking performance.

An operator can pick, put and fill orders at multiple Hänel Rotomat® storage carousels continuously. As the Hänel microprocessor control systems are linked up to the enterprise resource planning system, the orders are displayed directly at the microprocessor controllers and the Hänel storage carousels are pre-positioned in working groups.

Numerous customers worldwide use Hänel Rotomat® storage carousels, for example in spare parts provisioning, for logistics services and in the mail order business.

Make use of our experience and talk to our specialists.

Optimal utilization of the available storage area on multiple floors

This dispatch warehouse consists of 13 Hänel Rotomat® storage carousels each with an overall height of 9 m.



Even small and medium-sized enterprises rely on Hänel Rotomat® systems to save space and optimize shipping processes





Hänel Rotomat® storage carousels in high-speed version

Boost order picking performance with the Hänel Rotomat® high-speed version

The speed of rotation has been improved by up to 70%, depending on the application. Special multifunction carriers have been developed for this purpose to give the storage goods added security.

Moreover, the user can pick articles from the lower section of the carrier as well as from the upper section. An additional integrated light curtain ensures that Hänel's high security standards are met.

A further storage location display for the upper section of the carrier has also been incorporated.

Barcode scanners are used to identify the items to be picked, and the Rotomat® moves to the storage position without any additional input at the control unit. This eliminates the need to enter a confirmation.

The average access time is consequently reduced by up to 40%, so once again Hänel has succeeded in substantially improving order picking performance.

Customers are already using the high speed version of the Hänel Rotomat® storage carousel for their order picking with great success.



Rapid data entry for articles with the fixed-mount barcode scanner



The double-row compartment indicator reliably shows the correct storage location



Two light-barrier curtains ensure order picking is safe across the entire access area



Hänel *ROTOMAT*

Speed of rotation increased by up to 70 percent



**The Hänel Rotomat®
storage carousel as
a buffer store**

Protected interim storage of sensitive aircraft turbine shafts in the Hänel Rotomat® storage carousel. This buffer store also includes eight Hänel Lean-Lifts®.

Handling heavy parts with ease

Hänel Rotomat® heavy-duty carousels

Hänel has the right solution for heavy-duty requirements

Hänel Rotomat® storage carousels can also cope with heavy and bulky storage items. Offering standard widths up to 3,420 mm (greater widths also possible), standard carrier payloads of up to 750 kg maximum and total payloads of up to 14,000 kg per unit, the Hänel Rotomat® is the ideal heavy-duty automated storage system.

Whether it's handling complete sub-assemblies, bulky components or tools – the Hänel Rotomat® storage carousel brings all the items to the ergonomic retrieval height on request. This means a large number of parts can be stored in a safe and protected environment on a minimal footprint.

The powerful 2-motor drive system and robust design of the multifunction carriers along with the 4-point sliding carriage suspension makes the Hänel Rotomat® the optimal system for the metal-working industry.

The Hänel Rotomat® tackles the really tough jobs!



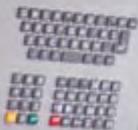
Safe and secure storage of heavy components in the Hänel Rotomat®



Drawers fitted with telescopic runners are also suited for heavy loads



Tool storage in the Rotomat® industrial storage system





All parts safely in hand

Orderly storage of small parts

The Hänel Rotomat® with storage boxes and drawers on telescopic runners

Mail order businesses, production halls and spare parts centers all have one thing in common – they often need to store, retrieve and pick large numbers of highly varied small parts on demand.

Hänel offers different inserts and dividers for its carriers to make the job easier. Plastic boxes of various dimensions, for example, can be stored in the Hänel Rotomat®.

These boxes can be subdivided again, while the compartment sub-level indicator helps the user find and pick the required article quickly and without error.

Small parts can also be kept in drawers with telescopic runners to save space. These drawers are available in different heights, so that the compartment sizes can be adapted precisely to your stock.



Storage of small parts in bins



Small parts stored in drawers on telescopic runners



Loose parts are counted by weight on a scale near the storage system and then delivered to the assembly area



Hänel Rotomat® ESD storage

Protected storage in the electronics industry

With its antistatic coating, the Rotomat® offers optimal protection for electronic components and devices

To avoid damage caused by electrostatic discharge, electronic devices and components must be handled, packaged and stored in an ESD-protected environment. With this in mind, Hänel offers its Rotomat® storage carousels with a conductive work counter, multi-function carriers with an antistatic coating and mechanical systems of special ESD design.

Numerous companies in the electronics industry worldwide use the Hänel Rotomat® storage carousel to store sensitive electronic devices both in the production hall and in the dispatch warehouse.

Pick and put operations can be booked using a barcode scanner. This guarantees continuous inventory control.

If electronic components need to be stored in an antistatic, air-controlled environment, the ESD version of the Hänel Rotomat® storage carousel can be combined with systems like the Hänel ClimateStore® or the Hänel CleanStore (for further information, turn to pages 32–33).



Storage of electronic components in the production hall



ESD buffer store for PC board assembly



Pick and put movements recorded by barcode scanner

Hänel Lockomat®

Safe and secure retrieval

Compartment doors that are closed manually or automatically guarantee error-free retrieval and protect the stored articles from unauthorized access

User authorization

The user proves his authorization by means of an ID card, password or transponder, and the user interface set up for him personally appears on the display. All booking operations can then be traced to a specific user. Multiple users can be set up with different authorizations.

Article management

Articles are requested or put into storage by entering an article number or using a barcode scanner. The digital LED display on the work surface indicates the compartment door behind which the article is stored. All pick and put operations are logged, which makes later verification and tracking easy. Similar-looking articles can't be confused.

Inventory control

Continuous inventory control means that shortages in the supply of materials can be avoided. The intelligent microprocessor control system can be easily integrated into the customer's own IT system. This ensures you have an overview of the stock situation at all times.

Protection of inventory

The closed storage system protects your stock from unauthorized access.

Space and time savings

Optimum use of floor space. There are no upper limits to the Lockomat®. Systems can even span multiple floors.

The Lockomat® is designed according to the tried-and-tested vertical carousel principle. That means:

Goods to man is the motto instead of man to goods. Access times are slashed.

The Hänel Lockomat® is the ideal storage system for safe and secure provisioning of small parts, tools, electronic components, medicines, and much more.



Articles are requested by entering a number on the controller or by using a barcode scanner



The compartment indicator shows where the article can be retrieved. These compartment doors open automatically



The Hänel RFID transponder: one of the many options for user authentication

Hänel LOCKOMAT





2JA

Werkzeugwesen
Lockomat®

2JA

Werkzeugwesen
Lockomat®

Error-free access with article code input via keyboard or barcode scanner

Compartment doors that are closed manually or automatically guarantee reliable access and protect the stored articles from unauthorized retrieval



Only the compartment containing the requested article can be opened

When components that look identical, such as microchips, are to be stored and retrieved in the same system, the danger of mix-ups is high.

With the Hänel Lockomat® there is no need for time-consuming labeling of components. Each chip type is kept in a package marked with a barcode and put into a storage location with the same code in the Lockomat®. When the barcode has been scanned in from the pick list, the required package is brought to the user by a fully automated procedure.

No mix-ups possible

Each package is safely stored behind a specific electromagnetically locked compartment door. And only this door opens.

Only when the retrieval process is completed, the package is back in its storage location and the door is closed, will the next door open.



Precise identification of articles via barcode scanner

Tool storage in the Hänel Lockomat® : Safe, secure, fast and cost-effective!

The Hänel Lockomat® is the ideal storage system for safe and secure provisioning of tools and measuring devices right in the production hall!

Users confirm their authorization by means of an ID card, password or transponder. Then a personalized user interface appears on the display.

This means that all transactions can be traced to a specific user.

Multiple users with various authorizations can also be set up.

Tool management

Tools are retrieved or put into storage by manually entering a

tool number or scanning a barcode. The digital LED indicator on the work counter indicates the compartment in which the tool is stored.

Then the specified compartment door opens automatically.

All pick and put operations are logged, which makes later verification and tracking easy.

There is also no confusion when retrieving similar-looking tools.



User authentication for each transaction – here via transponder



Absolutely no mix-ups!
Only the requested tool can be removed

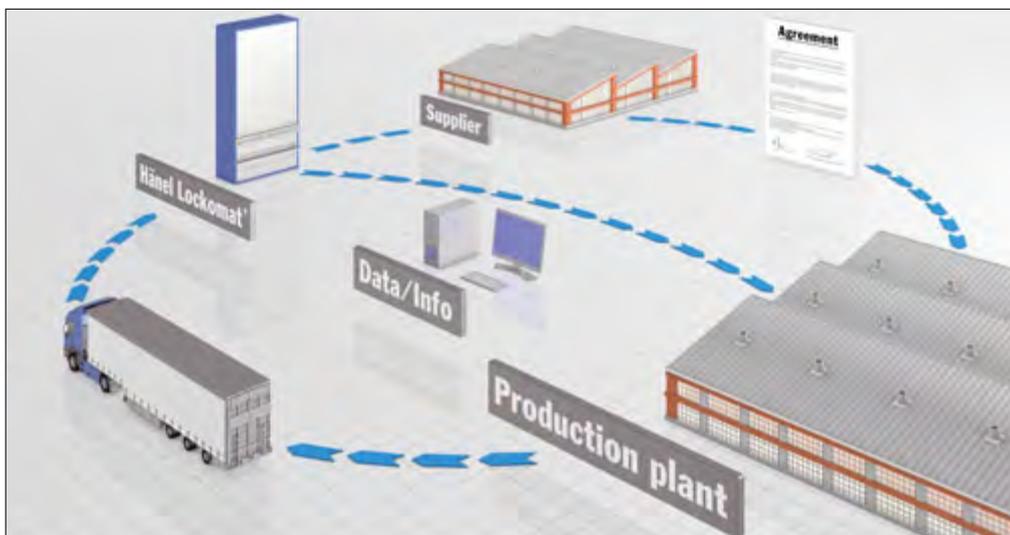
Hänel Management of C items

In recent years the subject of tool management has been a matter of keen interest in all types of industries. And we can expect tool kitting and provisioning “as

a service” to become even more important in the future.

When manufacturing plants need to be supplied with tools around

the clock, the Hänel Lockomat® in conjunction with Hänel TDM software is the ideal tool provisioning system.



Benefits at a glance:

- ▶ 24-hour tool availability.
- ▶ Constant inventory control.
- ▶ No downtime due to missing tools.
- ▶ Secure storage of valuable tools.
- ▶ Transparent cost control.
- ▶ Secure access with employee authorization.
- ▶ Accurate retrieval of similar-looking tools.
- ▶ Fully automated tool provisioning.
- ▶ Convenient handling.

Protect your tools from dirt, damage and unauthorized access!



Fully automatic compartment doors open to enable retrieval of various-sized parts

Automated storage in a controlled atmosphere

Hänel CleanStore
Hänel ClimateStore®



Storage of contamination-sensitive products up to clean-room class 5 according to DIN EN ISO 14644-1

The quality requirements that consumer and industrial goods have to meet are becoming increasingly stringent and far-reaching. Many products today, ranging from highly sensitive components in the electronics industry (such as the surfaces of semiconductor products) to fragile substances in the chemical and pharmaceutical industries or medical supplies in hospitals and pharmacies, need to be stored under very specific, defined conditions.

With its automated **CleanStore** and **ClimateStore**® systems, Hänel offers future-oriented solutions suitable for air-controlled environments.

The systems are flexible, can be free-standing and operate as stand-alone solutions, or be integrated into existing rooms with air-controlled environments.

CleanStore particle-controlled:

Low-particle storage of components in clean-rooms.

ClimateStore® temperature-controlled:

Whether it's in the plus or minus range, goods are stored at a constant temperature.





Hänel *ROTOM*

Intralogistics 4.0 – Digitization and network connectivity with the Hänel Rotomat® system

One control system – four operating modes

Four different modes of operation in one controller make integration in your network easy.

The MP 14 N new control system

New ease of operation and typical Hänel high quality with a 12-inch touch display. The virtual alpha keyboard is displayed clearly on the touchscreen.

Direct integration of Hänel systems in various ERP solutions via SOAP protocol

Hänel has further enhanced its controllers with a SOAP web service interface. Web-based technology enables the implementation of a link between the Hänel controller and many ERP solutions – for example, SAP – without any middleware.

Onboard warehouse management

The MP 12 N-S, MP 14 N and the central MP 100 D controllers all have full-scale integrated warehouse management functionalities – no additional PC is required.

Integrated web server

All warehouse data can be called up via the IT network thanks to the integrated web server and standard browsers.





Storage management

Control software for Hänel storage units networked with host-supported ERP (Enterprise Resource Planning) systems.

Order picking with Augmented Reality

The storage system is operated remotely via AR eyeglasses – no other operator action is necessary. All relevant information is displayed in the data eyeglasses – system operation is initiated through **Pick-by-Voice**.

Hänel Tool Management

The ideal solution for your tool management.

Warehouse Management System WMS

The complete solution for complex warehouse management with Hänel storage systems – from incoming goods to dispatch.

Hänel's digital world offers innovative solutions that address the demands of tomorrow!

Everything under control

The intelligent Hänel concept

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

MP 0 N

Single lift controller for the Hänel Rotomat®

The MP 0 N is designed as a single-lift controller for the Hänel Rotomat® with one access point. It offers three different operating modes:

MP 0 N-StandAlone

MP 0 N-HOST

MP 0 N-BARCODE

The high-resolution TFT display can handle virtually any language. A lift run graphic shows the movements of the lift.

The Hänel EcoLoad® can be integrated into the MP 0 N as an option. It ensures even load distribution in the Hänel Rotomat®.

The pluses

- ▶ TFT color display with 320 x 240 pixels.
- ▶ System control with direct shelf/container selection.
- ▶ Multilingual user interface with Latin, Cyrillic or Greek characters.
- ▶ LED storage location indicators.
- ▶ Hänel EcoLoad® for detecting unbalanced loads in Rotomat®/ Lockomat® systems.
- ▶ RS 232 interface for the connection of peripheral devices.
- ▶ Client control for connectivity with a HOST system via RS 232.



MP 0 N with four-line information display and easy-to-follow operator prompts

MP 12 N

One control system – four operating modes

Whether you use the Hänel storage systems as stand-alone solutions with integrated inventory management or want to integrate the control units into a higher-level ERP system – the top controller MP 12 N from Hänel has everything already built in.

There are four different operating modes available, so you can choose the right one for your storage management:

MP 12 N-StandAlone

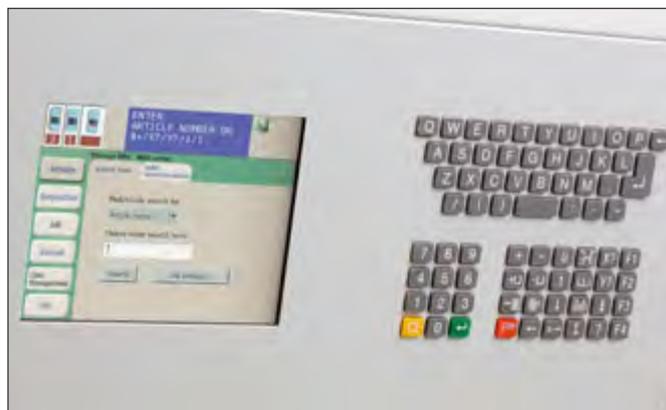
MP 12 N-HostWeb

MP 12 N-HostData

MP 12 N-HostCom

The pluses

- ▶ TFT color display with 800 x 600 pixels and touchscreen technology.
- ▶ Hänel EcoLoad® for detecting unbalanced loads in Rotomat®/ Lockomat® systems.
- ▶ USB and RS 232 interface for the connection of peripheral devices.
- ▶ Ethernet interface for fast and easy integration in existing IT networks.
- ▶ Ethernet connection for networking multiple storage systems.
- ▶ Easy linkup to ERP systems



The Hänel MP 12 N-StandAlone top controller with touchscreen technology

MP 14 N

The new Hänel controller with 12-inch touch display

The MP 14 N uses the latest browser technology to display information. Integrating the MP 14 N in existing networks is completed quickly, just as it is with the MP 12 N.

Hänel has again taken a decisive step forward with the MP 14 N controller when it comes to functionality and ease of system operation.

All article images are displayed in optimized high-resolution and in great detail – better than ever before.

The pluses

- ▶ TFT color display with 1,024 x 768 pixels and touch-screen technology.
- ▶ The overview of the storage situation is outstanding thanks to the graphical presentation of articles and layout inside the system.
- ▶ Presentation of article master data in a lightbox.
- ▶ Overview of all storage positions on the multifunction carriers in the Hänel Rotomat®.
- ▶ Convenient searches via match codes or key words.
- ▶ USB and RS 232 interface for the connection of peripheral devices.



Maximum convenience and ease of use with the 12-inch touch display of the new Hänel MP 14 N controller

MP 100 D

The central controller

Hänel developed the central control system MP 100 D so that a large number of storage units can be managed effortlessly with the integrated storage management packages from Hänel. It manages the data of up to 99 storage units.

The client control system MP 12 N can be used as the control panel for each lift – this means each lift is operated independently of the others.

The pluses

- ▶ Management of data of up to 99 storage units (depending on the version).
- ▶ Route lists can be stored to ensure short walking distances.
- ▶ Integrated web server for data retrieval via the intranet/internet.
- ▶ Data conversion software.
- ▶ File exchange for rapid connection.
- ▶ Ethernet interface for exchanging data with higher-level systems (HOST, ERP systems, etc.).
- ▶ All storage lifts can be operated independently and simultaneously.

Digital Connected Networking with IT systems

Of course it is possible to hook up the Rotomat® 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 via the integrated communication software.

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'.

Digital Connected Interfacing with IT systems and peripheral devices

Integration into IT networks and data exchange with a central host computer are hassle-free!

The modular architecture of the software and use of the latest programming tools guarantee easy adaptation of the software to growing demands. Even the basic versions of the MP 12 N-StandAlone, the MP 14 N-StandAlone and the MP 100 D control units are equipped with a standardized interface for data interchange. The controllers are hooked up to the customer's IT network via Ethernet.

The integrated web server allows all the data for storage management to be displayed conveniently via the intranet using a web browser and also to be printed out.

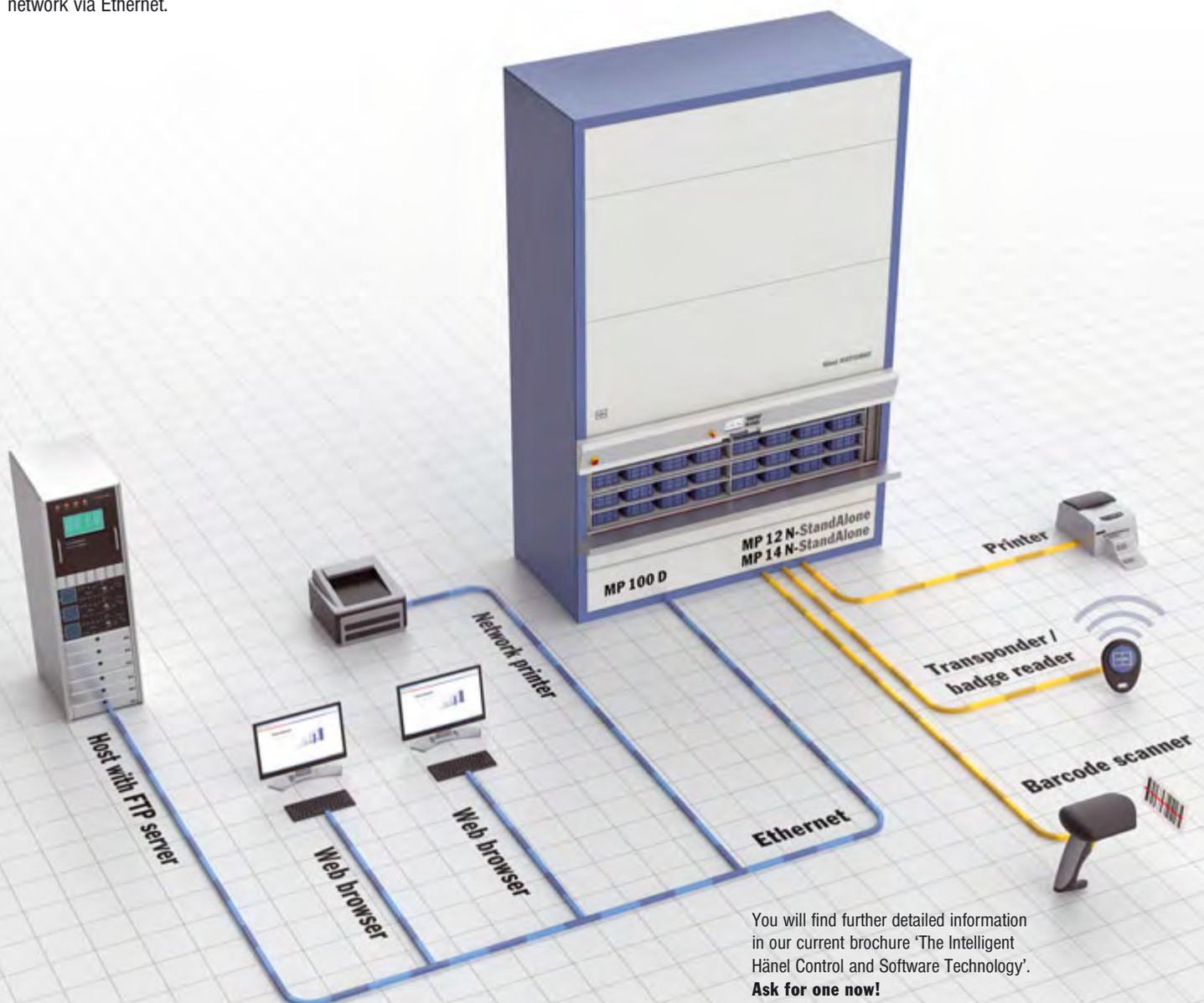
The Hänel control system offers a wide range of options for connecting peripheral devices

Additional interfaces enable peripheral devices such as barcode scanners, badge readers or label printers to be connected effortlessly to the intelligent Hänel microprocessor control units.

The label printer, for example, can be used to print a label with barcode for each newly entered article.

The pluses

- ▶ Quick and easy connection of peripheral devices.
- ▶ Efficient work methods thanks to the ergonomic positioning of the peripheral devices.
- ▶ Smooth workflow resulting in saved time.



You will find further detailed information in our current brochure 'The Intelligent Hänel Control and Software Technology'.
Ask for one now!

Hänel ROTOMAT

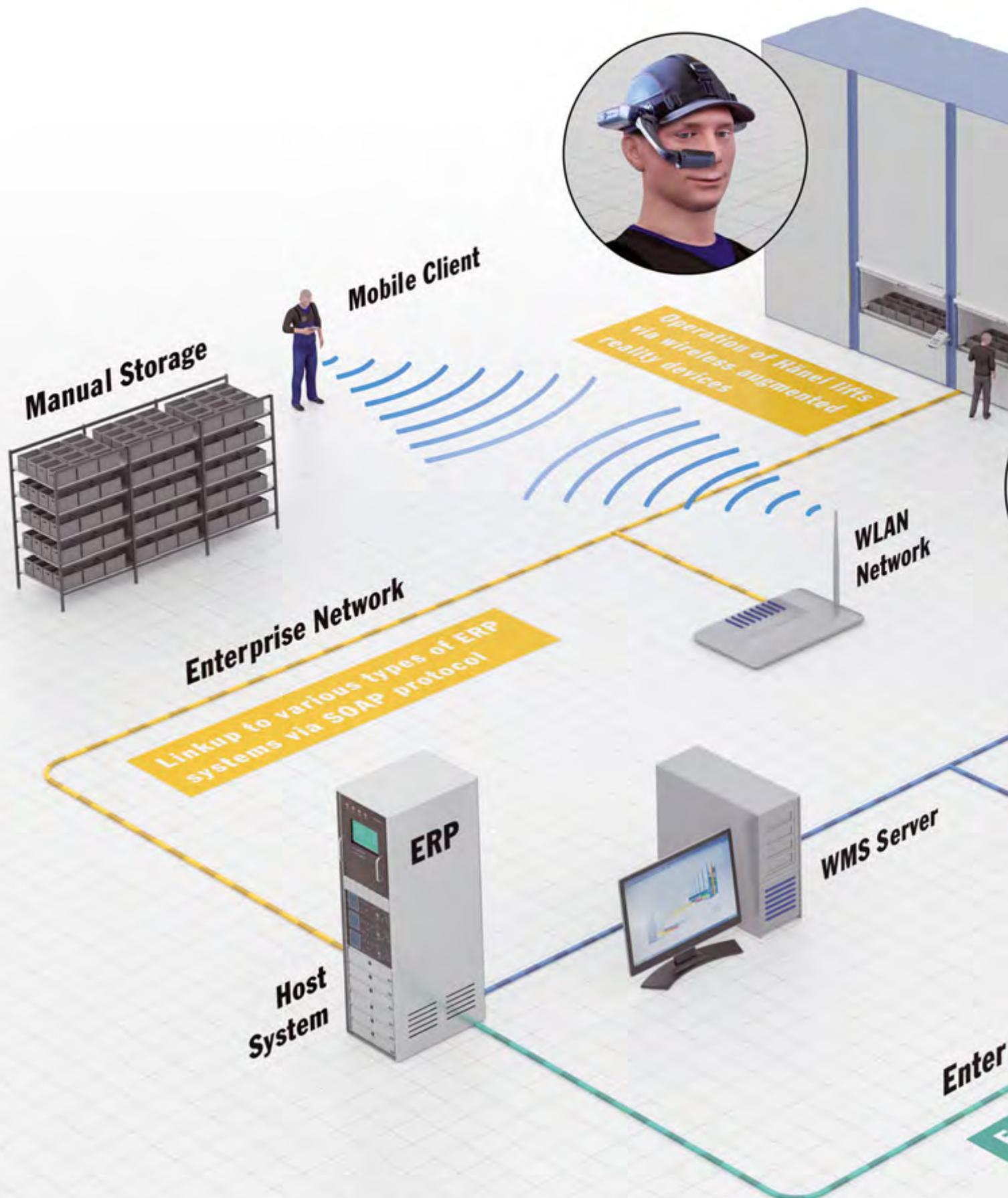
Hänel ROTOMAT

56



E361

Efficient work process with storage management systems



Maximum control over inventory with Hänel storage units

It doesn't matter whether you work with the software solutions from Hänel or other storage management software – Hänel storage units can be integrated effortlessly into the most varied of software environments through the microprocessor control units.

It allows not only Rotomat®, Lockomat®, Lean-Lift® and Multi-Space® units to be managed, but also other types of systems such as rack and pallet stores.

A standardized host interface enables data to be exchanged

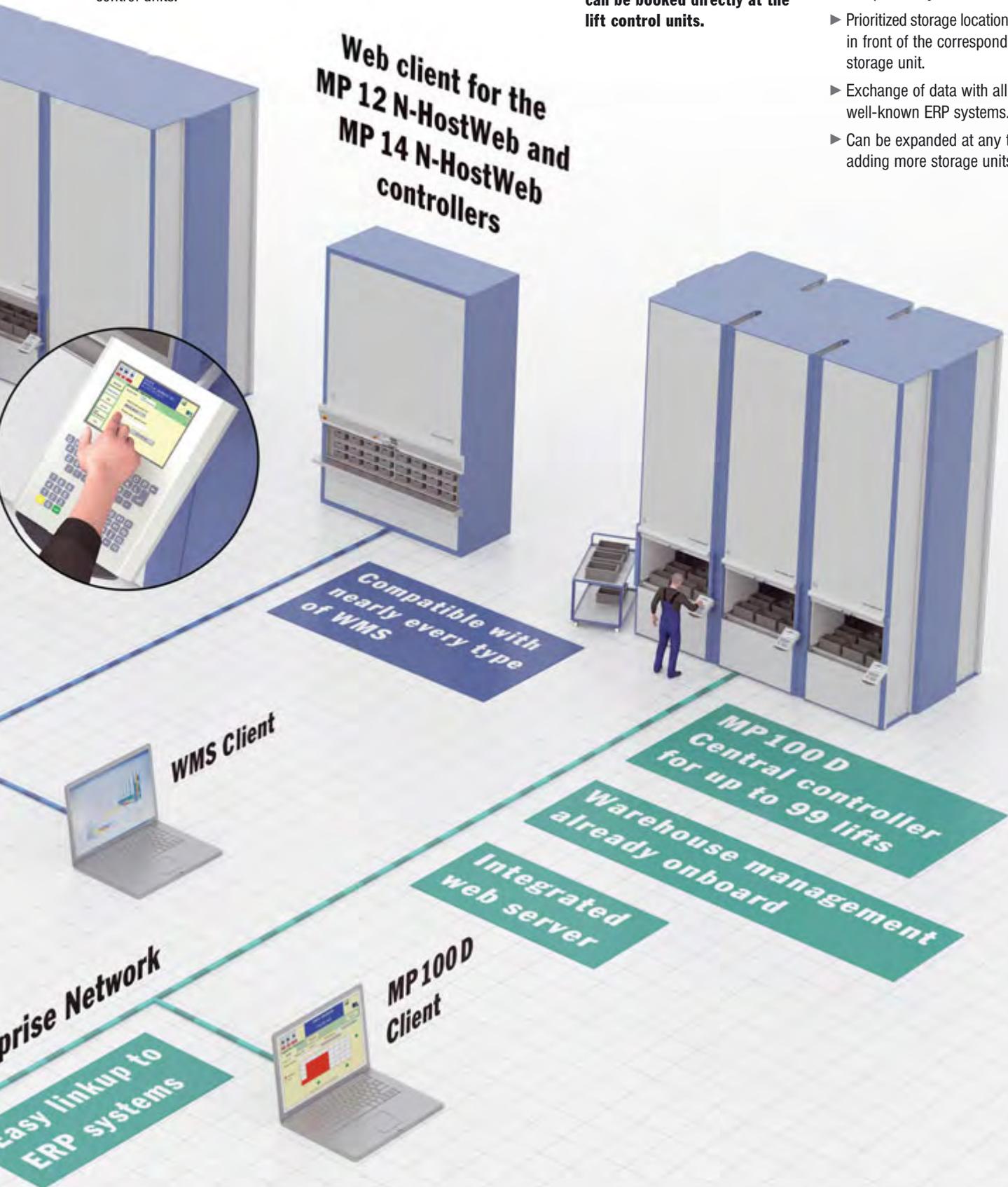
with any type of materials management system.

Please don't hesitate to request detailed information about Hänel software programs.

All pick and put operations can be booked directly at the lift control units.

The pluses

- ▶ Operators work directly at the storage units – which is ergonomic, practical and time-saving.
- ▶ Asynchronous processes at the storage units – each lift works independently.
- ▶ Prioritized storage location search in front of the corresponding storage unit.
- ▶ Exchange of data with all the well-known ERP systems.
- ▶ Can be expanded at any time by adding more storage units.





Patenteur: 19-21



Hänel Rotomat® storage carousels at a glance



Rotomat® model	900/100	900/115	900/125	936
Maximum payload per shelf in kg	150	150	150	250
Maximum payload per carousel in kg	3,000	3,000	3,000	6,000
Shelf depth in mm	370	416	470	630
Shelf width in mm	2,243 2,838	2,243 2,838	2,243 2,847	2,915
Standard carousel width in mm (customized carousel widths possible)	2,600 3,270	2,600 3,270	2,600 3,280	3,420
Carousel depth in mm	1,000	1,155	1,255	1,615

Equipment features (standard)

Twin motor design / Soft start with pole-switching motors	depending on version	depending on version	depending on version	✓
Load imbalance warning device for payloads over 3 tons	✓	✓	✓	✓
Light-barrier curtains compliant with DIN EN 15095	✓	✓	✓	✓
Stable carrier suspension with 4-point sliding carriage principle	✓	✓	✓	✓
Networking with IT systems via the controller	✓	✓	✓	✓
Connection of barcode scanners	✓	✓	✓	✓

Individual features

Integrated storage management (no PC required)	○	○	○	○
Customized finish	○	○	○	○
Multiple access points on different floors	○	○	○	○
2nd safety circuit / Safety Bypass package	○	○	○	○
Frequency converter for gentler, smoother start	○	○	○	○

This is only a sample from our versatile product portfolio of Hänel Rotomat® storage carousels. For special features and customized compartment divisions, speak directly to our specialists.



946	950	956	970	980	985 S	985	990
330	400	340	250	600	750	500	250
6,000	10,000	10,000	6,000	14,000	14,000	14,000	10,000
630	416	640	445	505	505	630	640
2,915	2,870	2,870	2,915	2,750	2,750	2,750	2,870
3,420	3,420	3,420	3,420	3,420	3,420	3,420	3,420
1,615	1,250	1,670	1,250	1,475	1,600	1,720	1,670

✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓

○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○

✓ = Standard

○ = Optional

Quality through competence

The Hänel service team

We see customer support and the legendary Hänel customer service as our obligation



The electrical components are stowed centrally in the wiring cabinet



The Hänel arresting device for safe maintenance of the Hänel Rotomat® storage carousel

The employees in our support centers are factory trained by us to a high standard and approach their jobs in a highly professional manner. This is true whether they are developing a storage management concept, training operators or carrying out maintenance and repair work.

In recognition, the quality management system of Hänel Germany and Hänel Switzerland has been awarded the DIN EN ISO 9001:2015 certificate for production, design, development, installation, sales and service.



It's good to know there are people who understand their trade and who act responsibly.

Play it safe

Only technicians trained and authorized by Hänel have the know-how and the technical resources to maintain Hänel storage systems quickly and safely.



Quality signed and sealed

Innovative developments and state-of-the-art production technology

Hänel – a company committed to top quality

Quality starts with consulting

No two Hänel lifts are the same. Simply because each task requires a unique approach.

That's why, at Hänel, high quality of consultancy takes first place alongside product quality. On the basis of your requirements and our experience we develop a complete solution tailored to your needs.

High-tech production for high-end demands

Highly qualified specialists implement the ideas of the planning engineers using cutting-edge manufacturing techniques. They act in concert to incorporate their know-how and experience.

Despite automation, the focus at Hänel is on people. They are the ones who coordinate the different production steps and monitor quality constantly.

On September 1, 1993, Hänel Germany was awarded the international certificate of quality according to ISO 9001 by the 'German Association for Certification of Quality Management Systems'. It was the first company in its field (vertical lift technology) to achieve this distinction.

And in 2017 once again the process-oriented quality management of Hänel was acknowledged by the technical control board TÜV Hessen with the current DIN EN ISO 9001:2015 Certificate.

We care for the environment

It goes without saying that production at our three plants complies with the latest environmental guidelines. Only eco-friendly and recyclable materials are used.





CERTIFICATE

Management system as per
DIN EN ISO 9001:2015

Evidence of conformity with the above standard(s) has been furnished
and is certified in accordance with TÜV PROFICERT procedures for



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Am Zollwasen 3 - D-97353 Wiesentheid
Hänel & Co. Büro- und Lagersysteme
Bafflesstraße 21 - CH-9450 Altstätten/SG

scope:
Design, Conception, Production, Distribution and
Maintenance of Office and Storage Systems

ation No. **73 100 2545**
1326 8955

Certificate valid from 2017-10-24 to 2020-10-23

DAkks
Deutsche
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D-ZM-14137-01



Ideas that move the world . . .

Cutting-edge technology 'Made by Hänel'

As one of the world's market leaders for vertical carousels and vertical lift modules, Hänel is continuously expanding its network

Hänel already has representatives in over 60 countries so that our customers can be given optimal support and the increasing demand for Hänel products can be met.

Hänel exhibits its innovations in intra-logistics at numerous international trade fairs. For an up-to-date overview of trade fair dates, visit us on the Internet at www.hanelworldwide.com

It's all part of Hänel quality: being there whenever you need us. Worldwide . . .

The Hänel team is at your service!



Australia	Hungary	New Zealand	Spain
Austria	India	Nigeria	Sweden
Bahrain	Irak	Norway	Switzerland
Belgium	Iran	Oman	Syria
Brazil	Ireland	Philippines	Taiwan
Bulgaria	Italy	Poland	Thailand
Canada	Jordan	Portugal	Tunisia
Chile	Kuwait	Qatar	Turkey
China	Latvia	Romania	Ukraine
Czech Republic	Lebanon	Russian Federation	United Arab Emirates
Denmark	Libya	Saudi Arabia	United States of America
Estonia	Lithuania	Serbia	Vietnam
Finland	Luxembourg	Singapore	
France	Malaysia	Slovakia	
Germany	Mexico	Slovenia	
Great Britain	Morocco	South Africa	
Greece	Netherlands	South Korea	



● Hänel distribution partners

We have more in store...



The right file is found among thousands of hanging folders in seconds



Hänel Rotomat® office carousels

The optimal filing systems for office and administration

Hänel started series-producing filing carousels (the first manufacturer in Europe to do so) over 60 years ago – and you reap the benefits of this long experience!

With the Hänel Rotomat® office carousel, we offer a flexible organization and filing system that adapts optimally to your needs.

The pluses

- ▶ Optimum use of floor space. There are no upper limits to the Rotomat®.
- ▶ High-performance controllers and interface with IT systems make the Rotomat® flexible and enable customized applications.
- ▶ The office worker no longer goes to the files, instead the files are brought automatically to the ergonomic retrieval height when requested.
- ▶ The Rotomat® protects all the files from dust, light and unauthorized access.

www.haenellinks.com/ex/ro-l/ro-office



Hänel Lean-Lifts® are easily linked up to most ERP systems



Hänel Lean-Lift®

Vertical technology – simply brilliant

The Hänel Lean-Lift® is both storage rationalization and goods protection in one: At the center of this closed system is a computer-controlled positioning lift – 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 pluses

- ▶ Fast storage and retrieval times.
- ▶ High storage density, even when articles have different heights.
- ▶ Improved order-picking performance.
- ▶ 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).

www.haenellinks.com/ex/ro-l/lean-lift



Zwei Hänel Multi-Space® mit einer Breite von jeweils 9,57 m als zentrales Lager für die Produktion



Hänel Multi-Space®

The new definition of vertical lift technology

The innovative 3-axis storage system from Hänel with the many advantages of time-proven Hänel Lean-Lift® technology. Whether it operates as a stand-alone solution, in a network

with other Multi-Space® units or in combination with Lean-Lifts® and Rotomats® – the Hänel Multi-Space® offers another innovative solution for your intralogistics!

The pluses

- ▶ Unique extractor design in state-of-the-art lightweight construction (as used in bridge engineering) guarantees maximum stability.
- ▶ The Hänel Multi-Space® offers modular scalability in height and width – up to a total width of almost 9 m.
- ▶ Variable container widths, different payload capacities and the Hänel multiple pitch ensure the optimal solution for any challenge to compact storage.

www.haenellinks.com/ex/ro-l/multi-space

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 micro-processor 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.

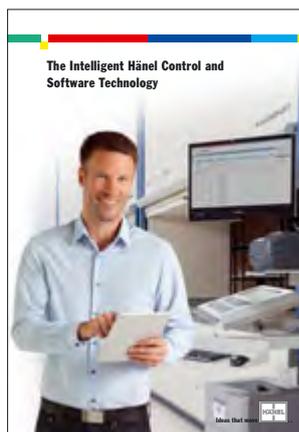


Hänel Multi-Space®

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 almost 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.



Experiences of small and medium-sized enterprises

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.

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