





## The Lean-Lift® from Hanel: an efficient solution that speaks for itself

The most pressing demands of industry today include: streamlining operating procedures, increasing flexibility and ultimately lowering costs



Comparison of storage capacities, MLS v Lean-Lift

Comparison of storage capacity of MLS v Lean-Lift

Comparison of storage capacity of MLS (Minilaad System)

Storage capacity of Lean-Lift

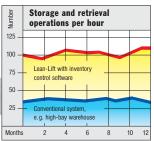
The Lean-Lift from Hanel creates considerably more storage capacity on the same footprint with its compact design and height-optimized storage concept.

The advantage: Cube utilization is optimized. Costly floor-space is reduced!

#### Save time

The fully-automated Lean-Lift from Hanel brings the required articles to the retrieval zone in seconds.

In other words: Goods to user is the motto, not user to goods. This reduces cycle times substantially.

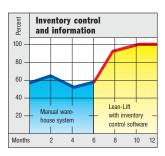


The comparison illustrates clearly that Hanel's Lean-Lift can more than double the number of operations per hour.

The result: Operating times are slashed!

### Optimize parts management

The state-of-the-art microprocessor control systems from Hanel can communicate with your host computer on a real time basis installation or be used as a standalone warehouse management system. An overview of the inventory status is available at all times, shortages of parts are eliminated



and the inventory can be reduced. Use of the Lean-Lift from Hanel ensures a constant overview of inventory status at all times.

This means: efficient and accurate inventory control!

#### Make the right decision

If you want to improve your throughputs and save costs, talk to the specialists from Hanel first – in consultation with you they can develop your 'optimum systems solution'.



### Simple yet powerful: Vertical lift technology with the Lean-Lift® from Hanel



- The 'Extractor' stores and retrieves the articles
- **4-chain-system** for optimum guidance of the extractor
- Storage locations with stored articles
- Container for holding and transporting the articles
- Integrated frame profile for height-optimized placement of the containers
- Soft start control with frequency converter
- Self-monitoring light barriers in BWS-S design
- Lockable sliding doors for article protection

- Environmentally friendly powder-based finish ensures 50 % higher scuff resistance
- Hanel microprocessor control unit on movable Vario-arm
- Wiring cabinet the electronics are easy to access
- Photo-sensors for height detection to measure article heights and safety
- Service door conveniently positioned at the side

This is why the Lean-Lift from Hanel is the logical complement to the triedand-tested Hanel Rotomat principle

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

The Lean-Lift from Hanel is both storage efficiency and goods protection in one: at the center of the 'cabinet' is a computerized lift – called the 'extractor'.

In front and behind it are the storage shelves. This is where the articles are stored in containers.

The storage locations are accessed through electronic control by the extractor. It stores or retrieves the container requested. The system is operated comfortably at the optimum ergonomic height at the retrieval zone.

#### The pluses

- ► Fast storage and retrieval times!
- ► Protection of stored articles!
- ► Storage and handling of bulky, and heavy parts, or dissimilar sized parts!
- ► Load-carrying capacity per container up to 1,000 kg/2,208 lbs!
- ► Load-carrying capacity per Lean-Lift up to 60,000 kg/ 132,450 lbs (tested statics)!
- ► Material to operator, not operator to material: this saves time!
- ► High efficiency and cost savings!



### The vertical transporter (extractor) has a 4-point suspension system...

This offers enormous advantages:

- ► Extractor does not tilt!
- ► No problem with load imbalance, not even with heavy loads, which means longer service life!
- ► Easy maintenance access from the side!

#### ... and the tried-andtested, low-noise 4-chain technology!

- ► Roller chains are durable, no fatique failures occur!
- ► Long service life!
- ► No replacement necessary after fixed maintenance intervals!
- ► Roller chains have a higher rate of efficiency (98%)!
- ► More accurate positioning because of higher rigidity!
- Non-slip hold in the event of emergency stops!

#### New generation of the Hanel Lean-Lift in a high-speed version

Lean-Lifts with a container load capacity of up to 500 kg/1,104 lbs, now in a high-speed version.

#### Vertical speed:

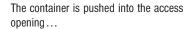
with empty extractor 2.3 m/sec, with loaded extractor 1 m/sec!

#### **Horizontal speed:**

jolt-free 0.5 m/sec!

Each Hanel Lean-Lift is also fitted with a soft-start control with frequency converter. The advantage: optimum acceleration and deceleration.

High payload containers (load capacity up to 1,000 kg/2,208 lbs) are brought effortlessly to the Lean-Lift on the Hanel trolley...









View into the interior of the Lean-Lift: A code is entered at the MP control unit, then the container is picked up automatically by the extractor...



The extractor travels to the closest available storage position...



... and stores the container using minimum space. It couldn't be easier!



## The Lean-Lift® from Hanel gives flexibility new dimensions

#### Hanel's Lean-Lift system offers unlimited options

With Hanel's Lean-Lift system you can expand or modify your storage capacity at any time without difficulty.

### Maximum utilization of the available space

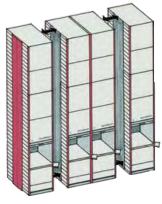
Lean-Lifts from Hanel can be situated side-by-side or over several floors – like a high-bay storage system. This creates maximum storage capacity on a minimal footprint.

#### Open to all

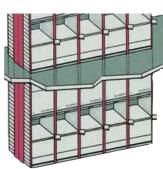
Retrieval points can be installed on more than one floor, depending on the height of the Hanel Lean-Lift. Several users can operate the Lean-Lift at the same time from different positions and levels.

#### The pluses

- ► Every cubic foot is optimally used this is total efficiency!
- ► Problem-free adaptation to work requirements!
- ► More than one person can operate the lift and process goods at the same time!
- ► Improvement in storage management!
- ► More flexibility offered through step-by-step expansion!
- ► Visible investment returns!



Every Lean-Lift from Hanel can be used as a 'stand-alone system'. By adding additional Lean-Lifts storage capacity can be expanded gradually as needed.



And the sky is the limit as far as the Lean-Lift's 'upward mobility' is concerned. The Lean-Lifts from Hanel can be combined over several floors – like a high-bay storage system.

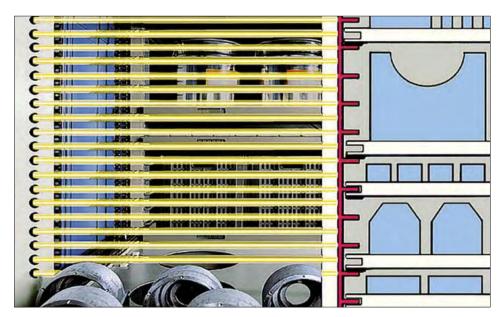
Levels can be added by way of solid butt joints with plug welding.



Lean-Lift system with retrieval points on several floors

# A wide range of varied storage articles demands a variable system: the Lean-Lift® from Hanel

High flexibility guaranteed by the integrated frame profile for precise placement of the containers



## Hanel's height sensors in 25 mm/0.98", 37.5 mm/1.47", 75 mm/2.95", 90 mm/3.54" and 125 mm/4.92" steps

Different height-measuring light barriers, designed to fit the pitch profile exactly, measure the storage items and store the containers according to their individual height without any loss of space!

A priority system allows the storage locations closest to the retrieval point to be allocated manually or automatically – time-consuming relocation operations are no longer necessary. Only the Lean-Lift from Hanel offers you this!

#### An ingenious design: The Hanel frame profile in 75 mm/2.95", 90 mm/ 3.54" or 125 mm/4.92" steps offers a multiplicity of options:

The frame profile is built in as a fixed wall with integrated slots in 75 mm/2.95", 90 mm/3.45" or 125 mm/4.92" steps and enables optimum space-saving storage in the extreme.

Smooth design on the outside – storage slots on the inside!

#### Highly impressive, Hanel's ultra-stable profile wall!

Hanel invented the profile wall – and has over 10 years of experience in this technology!

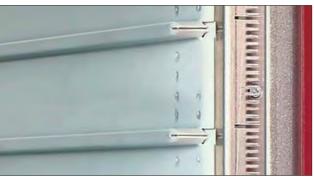
The ultra-stable, high-precision profile wall is firmly fixed to the bearing columns.

#### The pluses

- ➤ Optimum, compact storage even when articles are of different heights!
- ► The Lean-Lift always offers compact and variable storage – without the need for any mechanical or electronic adjustment!

### Hanel's multifunction containers!

- ► Full-length, integrated supports offer optimum utilization of the storage height with maximum rigidity!
- ► Containers with 75 mm/2.95", single pitch or with multiple pitch at 37.5 mm/1.47" and 25 mm/0.98" height in conjunction with the Hanel profile wall offer numerous possible combinations!
- Punched holes for individualized dividers!



The profile wall in the Hanel Multi-Space offers compact and variable storage – without any mechanical or electronic alteration



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### The load-carrying capacity

of automated storage and materials handling systems is determined by the weight and dimensions of the stored articles.

This is where the Lean-Lift from Hanel performs the extraordinary: load capacity per container  $250\,kg/552\,lbs$   $500\,kg/1,104\,lbs$  or  $1,000\,kg/2,208\,lbs$  total load capacity  $20,000\,kg/44,150\,lbs$   $30,000\,kg/66,225\,lbs$   $40,000\,kg/88,300\,lbs$  or  $60,000\,kg/132,450\,lbs$  full use of the feed/retrieval opening  $740\,mm/29.10''$  high and more.



Even highly varied and bulky articles such as pallets, engine blocks, tools, paint buckets, crates or cable drums are no problem for the Lean-Lift from







### A clever solution:

### Hanel's multifunction containers for maximum load capacity

A variety of storage articles places a variety of demands on the containers



This is where the Hanel multifunction container does the remarkable!

The containers are designed to suit the size and weight of the articles they are to hold.

#### The capacity of each container is up to 1,000 kg/2,208 lbs! A feat of strength from

The wide range of accessories, such as tool inserts, small parts trays, cutting tool holders and dividers contribute to making the Lean-Lift from Hanel into a complete logistics systems that cuts costs, makes optimum use of space, eases workload and minimizes allocation times.

#### Different dimensions of the Hanel multifunction containers

Hanel offers different container widths and depths. This allows the containers to be adapted individually to the storage articles! Width 840 mm/33.00" 1.300 mm/51.10"

1,640 mm/64.43" 1,860 mm/73.23"

2,060 mm/80.93"

2,300 mm/90.38"

2,460 mm/96.64" 2,860 mm/112.60" or

3,260 mm/128.34"

Depth 635 mm/25.00" 825 mm/32.48" or 1.270 mm/50.00"

#### **Containers with power** supply

Hanel's Lean-Lift offers vet another benefit for the electronics industry. Burn-in containers with power supply and an electronic plug contact at the rear of the container.

#### The pluses

- ► Hanel's multifunction containers are absolutely stable and distortion-free!
- ► No limitations to usability!
- ► Smooth running thanks to modern plastic skids!
- ► Integrated hand-holds!
- ► Optional punched slots around the inside edge for customized dividing materials!
- ► Variable attachments of different heights!
- ► Different container dimensions according to requirements!
- ► Load capacity per container up to 1,000 kg/2,208 lbs!
- ► Galvanized or with environmentally-friendly powder coating on request!







## Hanel's Lean-Lift® control concept: a resourceful system

Our strength lies in our know-how because only object-related, practiceoriented microprocessor control systems can offer you a complete storage management system



The variable control keyboard of the Hanel Lean-Lift is positioned at the side of the access opening for ergonomic convenience. No more strenuous overheadreaching.

#### MP12D-S

High-performance compact control unit with numerous functions. Control and inventory management in one unit. The article number, storage location, quantity, minimum inventory and storage location size can be programmed. Job management and parts list management are also integrated. Four serial RS 232 interfaces enable a computer, printer and other peripheral devices to be connected.

#### MP12N-S

TFT touch-screen technology makes it even easier to use. The integrated Ethernet interface allows quick and easy incorporation in the customer's computer network. Users are given direct access to the web page of the MP 12 N-S via the web server with Internet Explorer. The optional shelf camera takes a new picture of the shelf after every storage or retrieval operation.

## MP 100 D - Powerful storage management intelligently implemented!

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

#### The pluses

- ► Hardware and software are integrated in the Lean-Lift, so no additional PC required!
- ► No complicated software installation on PC!
- Direct hook-up to corporate network via Ethernet!
- ► MP 100 D data can be viewed by browser – ensuring constant transparency in the storeroom!
- ► No additional communication software needed!
- Automatic processing of jobs according to priority!

#### Hanel software made-tomeasure

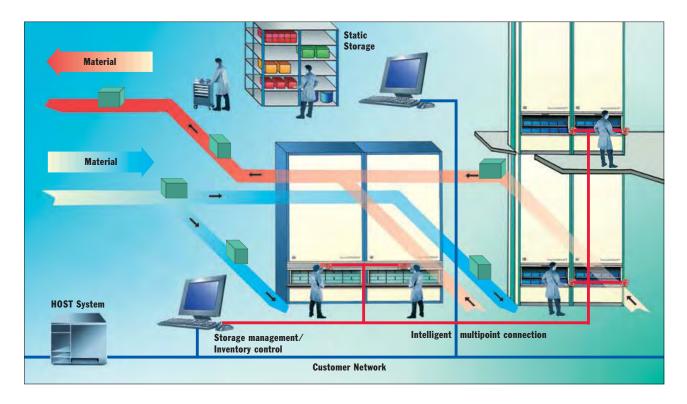
At your request the Hanel specialists will develop with you a tailored software concept that meets your precise requirements. We offer Windows-based PC software!





## Fast and easy connection to different software products

Existing inventory management software can be adapted easily to handle Hanel storage systems



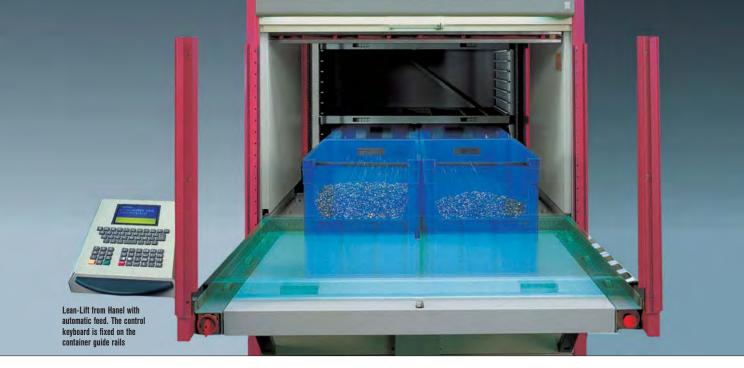
Existing programs administer the storage locations and the entire data related to the different articles. The open RS 232 interface of the Hanel control unit allows any software to be adapted without difficulty.

This enables the inventory management software to rationalize warehousing operations in conjunction with the intelligent Hanel control units. It offers an optimum overview of inventory movements and provides crucial data for materials planning and ordering.

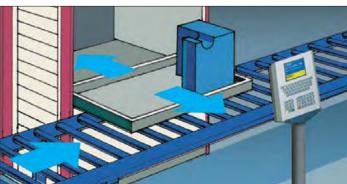
Hanel storage systems with adapted inventory control software guarantee major rationalization advantages in the handling of goods for production and dispatch, and for space parts and tool storage.

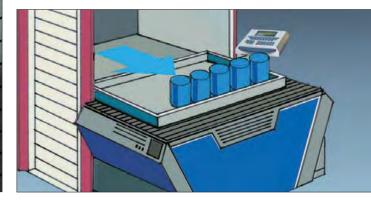
#### The pluses

- ► Optimization of capacity usage!
- ► Faster and more reliable access for storage and retrieval operations!
- Reduction of inventory as a result of precise accounting!
- Up-to-the-minute overview of inventory situation!
- Reduction of inventory costs due to accurate evaluation capabilities!
- ► Materials planning support!









The Lean-Lift from Hanel is easy to incorporate into a complete MRP system

Unmanned conveyor systems can be integrated without difficulty and handled conveniently by means of the Hanel lift control unit.

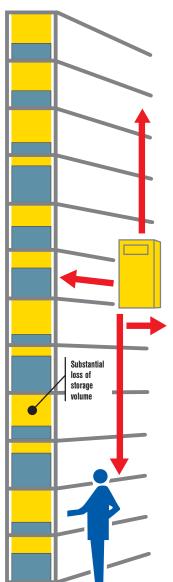
User-friendly entry of the article number when storing

Roller beds and conveyor systems ensure efficient, fully-automated transport of the stored articles. It couldn't be easier

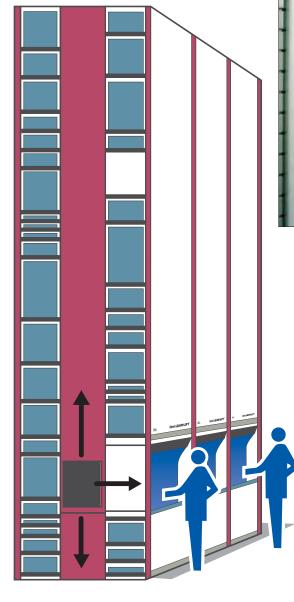


## The Lean-Lift® from Hanel: decisive advantages over miniload systems

The Lean-Lift from Hanel offers over 60% more storage capacity on the same floorspace than automated small parts stores known as miniload systems



Automated miniload system



**Lean-Lift from Hanel** 



One glance into the Lean-Lift from Hanel shows the advantages clearly: optimum storage of different article sizes without loss of space!

#### The pluses

Decisive factors speak for the Lean-Lift from Hanel:

- ➤ Over 60 % more storage capacity!
- ► Storage capacity can be adapted in stages!
- ► Several users can operate it at the same time!
- Access times are considerably shorter!
- ► Units can be separated at a later date!
- ► Better utilization of storage volume due to height-optimized storage!
- ► Decentralized storage directly on the production floor!

## And part of Hanel Quality is being there whenever you need us

We see customer service as our obligation



The people working in our dealers are trained at our plants and approach their jobs in a highly motivated fashion – whether a storage management concept needs to be developed, operating personnel need to be trained or maintenance and repair work needs to be done.

In recognition of their quality management system, Hanel Germany and Hanel Switzerland have been awarded the ISO 9001 quality certificate for production, design, development, assembly, sales and service.

It's good to know there are people who know their trade and who perform their work with integrity.

### Maintenance access from the side

Maintenance or repair work is easy to carry out on the Lean-Lift from Hanel – no need for timeconsuming dismantling of equipment!



## We never compromise on quality

#### **Technical Data**

Model	Dimensions in mm/inches		Container dimensions in mm/inches		Useful load in	
	Depth	Width	Width	Depth	kg	lbs
840-635	2,240/ 88.19	1,165/ 45,90	840/ 33.00	635/25.00	280/500	618/1,100
1300 - 635	2,240/ 88.19	1,625/ 63.98	1,300/ 51.18	635/25.00	280/500/1,000	618/1,100/2,210
1640-635	2,240/ 88.19	1,965/ 77.40	1,640/ 64.57	635/25.00	250/500/900	550/1,100/1,984
1860-635	2,240/ 88.19	2,185/ 86.00	1,860/ 73.23	635/25.00	250/500/900	550/1,100/1,984
2060-635	2,240/ 88.19	2,385/ 93.90	2,060/ 81.10	635/25.00	250/500/850	550/1,100/1,873
2300-635	2,240/ 88.19	2,625/103.35	2,300/ 90.55	635/25.00	250/400/450/800	550/880/990/1,763
2460-635	2,240/ 88.19	2,785/109.65	2,460/ 96.85	635/25.00	250/400/450/800	550/880/990/1,763
2860-635	2,240/ 88.19	3,185/125.39	2,860/112.59	635/25.00	190/250/400/650	420/550/880/1,433
3060-635	2,240/ 88.19	3,385/133.27	3,060/120.47	635/25.00	195/300/425/625	430/660/940/1,378
3260-635	2,240/ 88.19	3,585/141.14	3,260/128.34	635/25.00	190/250/400/600	420/550/880/1,323
840-825	2,810/110.60	1,165/ 45.90	840/ 33.00	825/32.50	280/500/1,000	618/1,100/2,210
1300-825	2,810/110.60	1,625/ 63.98	1,300/ 51.18	825/32.50	280/500/1,000	618/1,100/2,210
1640-825	2,810/110.60	1,965/ 77.40	1,640/ 64.57	825/32.50	250/500/900	550/1,100/1,984
1860-825	2,810/110.60	2,185/ 86.00	1,860/ 73.23	825/32.50	250/500/900	550/1,100/1,984
2060-825	2,810/110.60	2,385/ 93.90	2,060/ 81.10	825/32.50	250/500/850	550/1,100/1,873
2300-825	2,810/110.60	2,625/103.35	2,300/ 90.55	825/32.50	250/400/800	550/880/1,763
2460-825	2,810/110.60	2,785/109.65	2,460/ 96.85	825/32.50	250/400/800	550/880/1,763
2860-825	2,810/110.60	3,185/125.39	2,860/112.59	825/32.50	180/250/400/650	400/550/880/1,433
3060-825	2,810/110.60	3,385/133.27	3,060/120.47	825/32.50	180/250/400/625	400/550/880/1,378
3260-825	2,810/110.60	3,585/141.14	3,260/128.34	825/32.50	160/250/400/600	355/550/880/1,323
840-1047	3,475/136.80	1,165/ 45.90	840/ 33.00	1,047/41.20	250/500	550/1,100
1300-1047	3,475/136.80	1,625/ 63.98	1,300/ 51.18	1,047/41.20	250/500	550/1,100
1640-1047	3,475/136.80	1,965/ 77.40	1,640/ 64.57	1,047/41.20	250/500	550/1,100
1860-1047	3,475/136.80	2,185/ 86.00	1,860/ 73.23	1,047/41.20	250/450	550/990
2060-1047	3,475/136.80	2,385/ 93.90	2,060/ 81.10	1,047/41.20	250/450	550/990
2460-1047	3,475/136.80	2,785/109.65	2,460/ 96.85	1,047/41.20	250/400	550/880
2860-1047	3,475/136.80	3,185/125.39	2,860/112.59	1,047/41.20	250/450/700	550/990/1,543
3060-1047	3,475/136.80	3,385/133.27	3,060/120.47	1,047/41.20	200/250/450/600	440/550/990/1,322
3260 – 1047	3,475/136.80	3,585/141.14	3,260/128.34	1,047/41.20	150/220/525	330/485/1,158
840-1270	4,150/163.40	1,165/ 45.90	840/ 33.00	1,270/50.00	250/500/1,000	550/1,100/2,210
1300-1270	4,150/163.40	1,625/ 63.98	1,300/ 51.18	1,270/50.00	250/500/900	550/1,100/1,984
1640-1270	4,150/163.40	1,965/ 77.40	1,640/ 64.57	1,270/50.00	250/500/800	550/1,100/1,763
1860-1270	4,150/163.40	2,185/ 86.00	1,860/ 73.23	1,270/50.00	250/450/800	550/990/1,763
2060-1270	4,150/163.40	2,385/ 93.90	2,060/ 81.10	1,270/50.00	250/400/750	550/880/1,653
2460-1270	4,150/163.40	2,785/109.65	2,460/ 96.85	1,270/50.00	250/400/700	550/880/1,543
2860-1270	4,150/163.40	3,185/125.39	2,860/112.60	1,270/50.00	150/200/700	330/440/1,543
3060-1270	4,150/163.40	3,385/133.27	3,060/120.47	1,270/50.00	125/200/575	275/440/1,267
3260-1270	4,150/163.40	3,585/141.14	3,260/128.35	1,270/50.00	100/200/450	200/440/990

Max. useful load up to 60,000 kg/132,280 lbs Examples from a wide range of possibilities



















## CERTIFICATE

The Certification Body of TÜV Management Service GmbH

certifies that

Hänel GmbH & Co. KG Büro- und Lagersysteme

Kocherwaldstraße 25 • D-74177 Bad Friedrichshall Am Zollwasen 3 • D-97353 Wiesentheid

Hänel Co. Büro- und Lagersysteme Bafflesstraße 21 • CH-9450 Altstätten/SG

has established and applies a Quality Management System for

Design, Conception, Production, Distribution and Maintenance of Office and Storage Systems.

An audit was performed, Report No. 70032353 Proof has been furnished that the requirements according to

ISO 9001: 2000

are fulfilled. The certificate is valid until 2008-09-13 Certificate Registration No. 12 100 26185 TMS







ZERTIFIKAT ◆ GERTIFICATE ◆ 認証証書 ◆ CEPTUФИКАT ◆ CERTIFICADO ◆ CERTIFICAT

Hanel - a company that is

committed to top quality

Our quality management system

has passed the scrutiny of inde-

pendent judges: Hanel Germany

is the first company in the world in this industry to be awarded the

DQS seal attesting to compliance

with ISO 9001 - the highest international quality standard.

No two Lean-Lifts are the same.

Simply because each task is indi-

vidual. This is why at Hanel high

quality consulting takes first

place alongside product quality.

Commitment to the envi-

It goes without saying that pro-

the latest environmental guidelines, and even surpasses them. We use only environmentally friendly and recyclable

duction in our three plants follows

No two the same

ronment

materials.

TÜV Management Service GmbH · TÜV SÜD Gruppe · Zertifizierstelle · Ridlerstrasse 65 · 80339 München · Germany





# Successful companies worldwide opt for quality and first-rate technology 'made by Hanel'

We see worldwide customer service as our obligation: Hanel is represented in over 40 countries in the world



Hanel carousels are exported to almost every country in the world through some 40 foreign agencies.

Throughout the world renowned companies have opted for Hanel products. Throughout the world our solutions have made a decisive contribution to the success of our customers!

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Australia
Austria
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Brazil
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Chile
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Denmark
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Slovakia Slovenia South Africa Spain Sweden Switzerland Syria Taiwan Tunisia Turkey United Arab Emirates USA



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#### Hänel

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