

# Hänel Storage Systems

## Automated storage in air-controlled environments

**ClimateStore**

Hänel ROTOMAT

**DryStore**

**CleanStore**

Innovative ideas. Sound technology. Flexible systems



## Security for products that are sensitive to humidity and corrosion

Hänel's **DryStore** storage units are the optimal solution for storing hygroscopic components under conditions of very low humidity.

This includes pharmaceutical raw materials and sensitive electronic components that have to be protected additionally from corrosion and aging.

The Hänel Rotomat<sup>®</sup> and Lean-Lift<sup>®</sup> technology enables parts to be stored centrally in the production setting and guarantees rapid access to the items.



### The pluses

- ▶ Space-saving storage in a dry environment
- ▶ Simple operation
- ▶ Short storage and retrieval times
- ▶ All parts are protected
- ▶ High economic efficiency and cost savings
- ▶ Traceability guaranteed
- ▶ Constant atmosphere > 5% relative humidity
- ▶ Recording of measured values with data loggers optional



## Cost-efficient storage at controlled temperatures

Storage at controlled temperatures with the Hänel Rotomat® and Lean-Lift® technology. The Hänel ClimateStore technology allows Hänel storage units to be used

either as cold stores or as heated storage systems, e.g. for drying components. Ideal for the chemical industry, pharmacies and even for companies in mechanical

engineering and the motor manufacturing industry. This means maximum security for your products.



### The pluses

- ▶ Space-saving storage in a temperature-controlled environment
- ▶ Optimum use of floor space while ensuring constant temperatures
- ▶ Simple operation
- ▶ Short storage and retrieval times
- ▶ All parts are protected during storage
- ▶ High economic efficiency and cost savings
- ▶ Can be used in different temperature ranges depending on the device type:  
Rotomat® from -4° to +140° F  
Lean-Lift® from 32° to +140° F
- ▶ Reliable temperature constancy to  $\pm 33.8^\circ\text{F}$
- ▶ Recording of measured values with data loggers optional

## Clean solutions for storage systems in the clean-room environment

The effective, space-saving storage concept in low-particle clean-rooms with time-proven Hänel Rotomat® or Lean-Lift® technology.

The Hänel **CleanStore** principle is based on a sophisticated double-wall technology combined with ventilation systems. Air-conditioning can be added as an option.

The **CleanStore** technology in the Hänel storage systems is used primarily in the electronics and semiconductor industry as well as in medical engineering –

wherever a high level of air cleanliness is required for production.



### The pluses

- ▶ Temperature-controlled storage even in the clean-room
- ▶ Simple operation
- ▶ Short storage and retrieval times
- ▶ All parts are protected and stored according to defined clean-room guidelines
- ▶ High economic efficiency and cost savings
- ▶ Maximum flexibility since there are no structural limitations
- ▶ Ideal for contamination-sensitive products
- ▶ Clean-room class 5 compliant with DIN EN ISO 14644-1
- ▶ Filter class HEPA H14
- ▶ Recording of measured values with data loggers optional

Reinraumklassen nach ISO 14644-1 - Partikel / m<sup>3</sup>

| Kategorie | 0,1 µm    | 0,2 µm  | 0,5 µm  |
|-----------|-----------|---------|---------|
| ISO 1     | 10        | 2       | 10      |
| ISO 2     | 100       | 24      | 75      |
| ISO 3     | 1.000     | 237     | 735     |
| ISO 4     | 10.000    | 2.370   | 7.350   |
| ISO 5     | 100.000   | 23.700  | 73.500  |
| ISO 6     | 1.000.000 | 237.000 | 735.000 |
| ISO 7     |           |         |         |
| ISO 8     |           |         |         |
| ISO 9     |           |         |         |

1/m<sup>3</sup>

# Optimum solutions for storage in clean-room, temperature-controlled and dry-air environments!

Reinraumklassen

| ISO   | Partikelzahl | ISO   | Partikelzahl |
|-------|--------------|-------|--------------|
| ISO 1 | 10           | ISO 5 | 23.700       |
| ISO 2 | 100          | ISO 6 | 237.000      |
| ISO 3 | 1.000        | ISO 7 | 2.370.000    |
| ISO 4 | 10.000       |       |              |

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 delicate surfaces of semiconductor products) to sensitive substances in the chemical and pharmaceutical industries, need to be stored under very specific, defined conditions.

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

The systems are flexible and can be free-standing or installed so that they dock into existing rooms.



## DryStore

### humidity-controlled:

For articles that need to be stored in humidity- and corrosion-protected conditions.

## ClimateStore

### temperature-controlled:

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

## CleanStore

### particle-controlled:

Low-particle storage of components in clean-rooms.

# Operating principle of Hänel storage systems

## Hänel Rotomat® principle

The principle is simple. Its applications are brilliant! 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:

### This saves time!

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:

### This saves costs!



## Hänel Lean-Lift® principle

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. It stores or retrieves the requested container. The operator works comfortably in the ergonomically positioned retrieval area.



## Technical data

| Model  | DryStore               | ClimateStore        | CleanStore         |
|--|------------------------|---------------------|--------------------|
| Atmosphere   | > 5% relative humidity |                     |                    |
| Temperature range Rotomat®                         |                        | from -4° to +140° F |                    |
| Temperature range Lean-Lift®                       |                        | from 32° to +140° F |                    |
| Temperature constancy                              |                        | ± 33.8° F           |                    |
| Measured-value recording                           | with data loggers*     | with data loggers*  | with data loggers* |
| Clean-room class compliant with DIN EN ISO 14644-1 |                        |                     | Class 5            |
| Filter class                                       |                        |                     | HEPA H 14          |

\*available as an option



Experience Hänel live with the new Hänel Double-CD. Simply request!

## Hänel Storage Systems

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