

Kardex Remstar Shuttle® XP

Vertical lift systems for highly dense storage
on limited floor space



Kardex Remstar Shuttle XP:

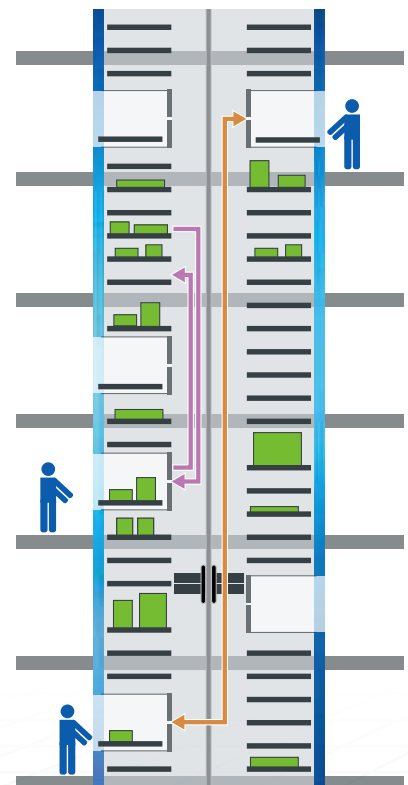
Store virtually anything – cost-effectively and with quick access



The Shuttle XP vertical lift system has been designed to meet a broad range of storage and retrieval applications in manufacturing, distribution, retail and warehouse operations. The combination of optimal storage density, flexible, efficient storage strategies, ergonomics and security makes the Shuttle XP from Kardex Remstar a unique storage solution.

The principle

The modular Shuttle XP vertical lift is an enclosed system on which trays are stored vertically on the front and rear of the unit. There is an extractor device located in the centre, which automatically delivers trays with the stored items to the access opening at the push of a button or the scan of a barcode. The device is modular in its construction with the ability to change its height and number of access openings pre and post construction. Depending on the ceiling height, at least 85% of a conventional storage system's occupied floor space can be recovered. The Shuttle XP automatically scans every tray with the use of Optiflex technology, finding the ideal storage location within the system in increments of 25 mm. Items are stored in the least possible amount of space.



Further information:
www.kardex-remstar.com



Flexible efficient storage strategy

The modular design of the Shuttle XP ensures almost unlimited flexibility in the utilisation of various ceiling heights. The Shuttle XP's height increases in 100 mm steps, making it an extremely versatile solution. If you relocate, the system can relocate with you and be adapted to your new requirements by adding or removing modules.

Adapting to the building situation

When installed through several floors, up to six access openings can be integrated at any point on the front or rear of the Shuttle XP. They can even be changed at a later date. The shutter door in every access opening prevents draughts and protects the operators and stored goods.

Benefits at a glance:

- Faster access times
- Increased turnover of goods
- Larger storage space using significantly less floor space
- Precise inventory levels through integration with internal warehouse management systems
- Greater safety and protection for operators and stored goods
- Improved ergonomics
- Modular expandability
- Improved ergonomics
- Improved ergonomics



Kardex Remstar Shuttle XP:

Seven features of the Shuttle XP made for excellence

1

Access opening with automatic shutter doors

Protection of operator and stored goods. Decreased noise levels. Enables pre-commissioning – operator works with one tray while extractor prepares the next tray for delivery behind the shutter doors. To eliminate waiting time, the trays are exchanged once the operator finishes their work with the current tray.

2

Optiflex technology

Best possible utilisation of the storage space within the device thanks to automatic scanning of the stored item's height. Maximum storage compression.

3

Internal weight management system

Monitors tray and unit load via the resistance in order to prevent overloading of the individual tray or the device.

4

Tooth belt drive

Provides faster travel and access times, lower noise levels and greater longevity of your machine.

5

Trays in different load classes

Variable trays can be stored in the same unit, providing reduced acquisition costs and long-term operation flexibility.

6

Ergonomic access opening

The brackets mounted in the access opening make it possible to adjust the working position individually to the height of the operating personnel. Furthermore, two trays can be retrieved simultaneously in one access opening. The floor-level recess allows the operator to get close to the unit and work ergonomically.

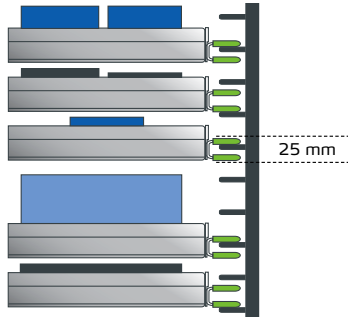
7

Future-proof design

The height of the unit can be modified quickly and easily, and additional access openings can be fitted. As such, it can be optimally adapted to meet future needs.



Each Kardex Remstar Shuttle XP can be tailored to optimise your facility's unique layout.



Shuttle XP 250/500

Technical data

Unit dimensions

Width	1,580	to	4,380	mm
Depth	2,312	to	4,292	mm
Height	2,550	to	30,050	mm

Unit height pitch

100 mm steps

Performance data

Vertical speed adjustable
up to 2.0 m/s

Storage/retrieval speed adjustable
up to 0.7 m/s

Maximum load 67/120 t

Trays

Width	1,250	to	4,050	mm
Depth	610	to	1,270	mm
Storage space pitch	25	mm		
Min. tray spacing	75	mm		
Maximum load	up to	560	kg	

Special options

- Cooler/freezer configurations to -25 °C
- Heated units to +60 °C
- Class 100 - 100,000 / ISO Class 5-8 cleanroom applications
- Controlled atmosphere (5% relative humidity / 10% relative humidity)
- Fire protection (water/gas)
- Automation
- Explosion protection

Shuttle XP 700

Technical data

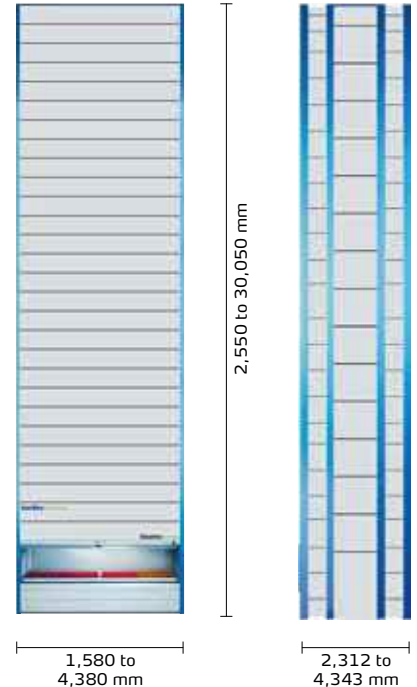
Unit dimensions

Width	1,580	to	4,380	mm
Depth	2,362	to	4,343	mm
Height	2,550	to	20,050	mm

Vertical speed adjustable
up to 2.0 m/s

Trays

Width	1,250	to	4,050	mm
Depth	610	to	1,270	mm
Storage space pitch	50	mm		
Min. tray spacing	100	mm		
Maximum load	up to	725	kg	



Shuttle XP 1000

Technical data

Unit dimensions

Width	1,580	to	4,380	mm
Depth	2,362	to	4,343	mm
Height	2,550	to	20,050	mm

Unit height pitch

100 mm steps

Performance data

Vertical speed individually
adjustable up to 0.75 m/s per tray

Maximum load 67/120 t

Trays

Depth	610	to	1,778	mm
Width				
1,250 mm			Load per tray	
2,450 mm			1,000 kg	
4,050 mm			900 kg	
			800 kg	

All intermediate sizes possible in
50 mm pitch

Options:

- LED/laser pointer
- Alphanumeric or matrix position display
- Confirmation bar
- ESD design
- Automatic tray runner
- Manual tray runner
- Transit trolley
- Swivel arm for control unit
- Double/multiple opening
- Tray locking mechanism
- User administration
- Logicontrol® 200 unit control system
- Factory-fitted crane
- Special trays for pallet storage
- Tray runner for forklift operation
- Up to six access openings per unit
- Forklift operation in front of the unit
- Vertical photo cells for monitoring the shaft
- LED position display
- Vario position display
- TIC matrix
- Auxiliary system
- Weighing system

Kardex Remstar Shuttle XP:

High density and secure storage

The Kardex Remstar Shuttle XP offers even greater flexibility thanks to various options available pre or post installation. It can be resized, moved and altered to meet changing business, facility and application requirements. The system can be installed in the direct vicinity of a production line in order to increase productivity and reduce floor space requirements. It can connect several floors or be installed outside the building with pass-through access.

Installation outside the building



To increase the existing facility capacity, the Shuttle XP devices can be installed outside the building and skilfully walled in with a pass-through access.

Manual/automatic tray extraction



The full tray extraction device was designed to improve the handling of heavy and bulky goods, an operation which requires the aid of a lifting device. With the full tray extraction device, a tray is placed in front of the access opening for loading and unloading purposes. This can be loaded onto the optional transport cart for safe and easy handling.

Installation through several floors



Vertical lift modules can go through several floors with up to six access openings placed on the front or rear side of the unit. A mezzanine floor can be installed to enable operation on several levels at the same time (with loading at one level or side and retrieval at the other).

Double access handling



Thanks to the double-access handling option it is possible to use two work levels in the access opening. A tray is transported into the first work level in the access opening and the shutter door closed. While articles are stored or removed, the next tray is being retrieved and kept in a waiting position behind the access opening.

Organisation for all items – tray accessories.



Every tray can be configured with partitions and dividers, totes, bins and containers or specialty holders to meet your exact storage needs, and delivered as a full-scope delivery. Perfectly matching the dimensions of the stored goods with those of the tray ensures maximum storage density, better organisation and faster retrieval times.

Bins and containers

Totes, bins and containers are custom-made and precisely tailored to conform with the required tray dimensions, ensuring that every millimetre of storage space is utilised! Versatile and easy to handle, they are the perfect solution for automated storage systems. Conveyor performance and safety is enhanced by the containers' lightweight yet robust construction. Totes, bins and containers can be subdivided to create smaller storage locations when necessary. Each storage location can be labelled for quick and easy recognition when picking.

Dividers and partitions

Tray dividers help to streamline your operations, save space and allow an immediate overview of, and fast access to, the stored goods. Using partitions and dividers, you can create the exact number of storage locations you require in each tray. The size of each storage location is up to the user; matching the storage location size to the size of the stored goods maximises storage density. Each location can be labelled with a part number or description, making the retrieval of stored goods faster. Partitions and dividers can be easily reconfigured at any time to accommodate changes in the size or quantity of your stored goods.

Holders and special equipment

All types of speciality holders can be used to organise tools, dies and fixtures for easy and safe storage and retrieval. These holders enable trouble-free access and easy manipulation. Automatic or manual tray extraction also make the use of hoists and cranes trouble-free. For special applications, the access opening can be placed at the floor level for access by forklifts.

Usual applications:

- Spare parts
- Maintenance and repairs
- Tools and dies
- Fixtures
- Fasteners
- Finished goods
- Buffer storage

Kardex Remstar Shuttle XP:

Eight reasons to choose the Kardex Remstar Shuttle XP



Benefit: **Save floor space/utilise the height**

The 25 mm incremental tray storage of all items thanks to Optiflex® technology reclaims up to 85% of otherwise wasted floor space.

1



Benefit: **Reduced labour costs**

Items are automatically delivered to the operator, eliminating wasted walk and search time. The optionally integrated pick-to-light system immediately identifies the item and quantity to be picked, increasing productivity.

2



Benefit: **Ergonomics**

No need for employees to bend, reach or climb for items. The Shuttle XP works on a "good-to-person" principle, delivering items automatically to an ergonomically positioned access opening. Trays can also be delivered to each user's specific working height.

3



Benefit: **Security**

Controlled access to specific trays, or tracking which user accessed which tray, is also achievable. The Shuttle XP is equipped with shutter doors for increased safety of operators and protection of the stored items. Noise levels are also considerably decreased.

4

We provide our customers with dramatically increased levels of employee productivity, reduced floor space requirements and increased inventory visibility and management.



5



Benefit: **Accuracy**

Integrated pick-to-light devices, barcode scanning and software interfaces provide the highest levels of accuracy possible. Connection to conveyors, robotic arms or lifting devices for maximum work comfort is also possible.



6



Benefit: **Flexibility**

Each tray can be programmed according to operating parameters. Further options include slow speeds for fragile goods, storage of frequently required goods close to the "golden zone", access rights for trays, storage of trays with different weight capacities in one single unit, and much more.



7



Benefit: **Modularity**

Modular design allows for heights to be changed quickly and inexpensively to meet changing facilities or workflow.



8

Benefit: **Reliability**

With the great installation base of vertical lift systems, the Shuttle XP provides unsurpassed levels of uptime in the industry. From design to manufacturing, installation and service, the Shuttle XP is one of the leading technologies in the industry.

Kardex Remstar Shuttle XP:

Intelligent storage with the highest standards

The Shuttle XP offers maximum capacity on the minimum footprint thanks to its full use of the available clear height and 25 mm increments storage. Optiflex technology scans every tray using the light barrier to ensure it is stored in the least amount of space.

Thanks to this technology, different height objects can be effectively stored in one device, from the smallest screw to a box to a pallet. For maximum protection of the stored goods and operators, each device is equipped with a number of security elements, such as shutter doors in the access opening or a safety light curtain located in front of the access opening monitoring the entire operating area and protecting the operators.

Extractor



The extractor device delivers the requested tray to the access opening or back to a free storage location within the device at fast speeds. At the push of a button or scan of a barcode.

Shutter doors



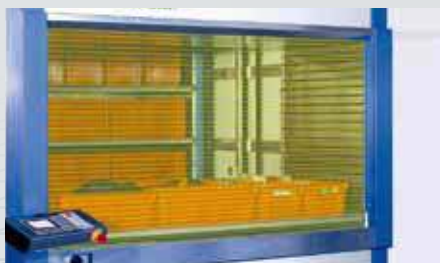
For increased safety and protection of stock plus decreased noise levels, shutter doors are installed as standard.

L-Profiles in access opening



Side walls of the access opening are equipped with L-profiles. These enable the positioning of multiple trays in the access opening (double-access handling) as well as individually adjusted working positions for each operator depending on their physical height.

Light barrier



After the safety light barrier placed in front of the access opening has been activated, all travelling movements of the device are stopped immediately.

Increase your bottom line with integrated technologies. From turnkey stand-alone units to fully integrated systems – Kardex Remstar can provide the systems integration – on time and on budget.

From standard validation via barcode scanners to a wide range of optical guidance systems:

Kardex Remstar vertical lift systems connected to Kardex Remstar Power Pick Global Warehouse Management Software or other ERP systems assist the operator to work with greater accuracy.

The Shuttle XP offers a wide portfolio of hardware interfaces; barcode scanners, printers, pick-to-light technologies, other dynamic storage and retrieval systems, automated guided vehicles (AGV), RFID technologies, and much more.

Barcode scanners



Fast and easy integration of barcode scanners for order identification, picking and confirmation.

Conveyor systems



For quick picking and consolidation of orders, the connection of work zones via conveyor systems is an ideal solution. Items are delivered automatically to the access opening, picked and then placed into shipping containers on the conveyor.

Manipulation and lifting devices



Easy integration of hoists, cranes, grippers and manipulators for additional ergonomic material handling.

Usual applications:

- Picking items
- Batch picking
- Consolidation
- Sortation
- Replenishment

- Replenishment
- Sortation

Pick-to-light



To improve operators' productivity, throughput and accuracy levels Kardex Remstar offers several integrated pick-to-light technologies to match most organisations' needs and applications. Shuttle XPs can be equipped with position indicators, light pointers and confirmation bars in the access opening.

Shuttle XP 1000: Stronger, greater, further



Thanks to three new applications, the Shuttle XP 1000 provides added value in the high load capacity area of up to 1,000 kg in a straightforward manner.

Heavy-duty tray



Uniquely powerful: Our heavy-duty tray can carry 800 kg loads with an effective width of 4,050 mm, making it ideal for picking medium-heavy to heavy parts and setting new standards in terms of load capacity.

Pallet handling



The "pallet handling" application ensures that pallets can be placed directly on the pallet trays by means of forklift or pallet truck and stored in the positioning facility. This saves floor space and reduces the need for high-rack stacker trucks. In addition, stored goods are found much more quickly. In summary, this application effectively helps to cut costs and raise productivity, and is also a plus from a safety perspective.

Crane handling



Heavy goods can be moved incredibly easily with the help of the factory-fitted crane. The constant availability of the integrated crane and the faster throughput of "goods to person" mean that you save time and money. Significantly improved ergonomics and increased safety are further benefits of this application and are important aspects for your staff.

Kardex Remstar Shuttle XPlus:

Connection of up to four Shuttle modules for high storage capacity



The Shuttle XPlus is an ideal large-capacity store which can provide up to 2,300 m² storage space on a footprint of only 20 m². The Shuttle XPlus can take a load of up to 240 t. Several lift modules are connected through a travelling beam to a Shuttle XPlus system. An extractor travels on the beam bringing the required tray with the stored goods either directly to the access opening or back to a free storage place in the system's modules. The extractor travels diagonally through the lift modules for the shortest retrieval times.



Benefits at a glance:

In addition to the advantages of the Shuttle XP, the Shuttle XPlus offers the following further benefits:

- Operation of several lift modules through one extractor platform
- Short distances between access openings for reduced walking times
- The number and position of the retrieval openings are selectable
- Optimal utilisation of previously inaccessible floor area such as corners and niches
- Storage of a larger volume than one single unit, with the same travelling speed as a single unit (technique of lifting beam)
- The combination of Shuttle XPlus with Shuttle XPs offers faster picking scenarios

Technical data

Unit dimensions

Width	4,460	to	7,040	mm
Depth	2,921	to	3,074	mm
Height	3,050	to	20,050	mm

Unit height pitch

100 mm steps

Performance data

Drive speed 250 kg/500 kg

Vertical speed adjustable
up to 1.5 m/s

Storage/retrieval speed 0.62 m/s

Horizontal speed adjustable
up to 1.3 m/s

Gross loading capacity
30 tons per segment

Trays

Width	1,250	to	2,450	mm
Depth			813/864	mm
Adjustment pitch			25	mm
Tray pitch			75	mm
Payload			up to	545 kg

Kardex Remstar Shuttle XPmultiple: Two independent modular high-bay systems in a tandem configuration

The Shuttle XPmultiple is ideal where it is impossible to install two separate systems. Deep, narrow spaces can be used to their full extent. Routes are reduced by only having one access opening.

The Shuttle XPmultiple consists of three independent modular high-bay systems arranged in a tandem configuration. Trays are moved from the rear system to the front one – and vice versa – by transfer units. In the Shuttle XPmultiple, linked system goods from stock can be requested from one access opening only. Delivery of the trays is within the shortest time. Internal pre-order picking cuts waiting time still further.

The system uses the Kardex Remstar Power Pick Global Warehouse Management Software. The retrieval of stored goods is managed and controlled by intelligent software.

Technical data

Unit dimensions

Width	1,580 to 3,980 mm
Depth	4,624 to 12,296 mm
Height	2,550 to 30,050 mm

Unit height pitch

100 mm steps

Performance data

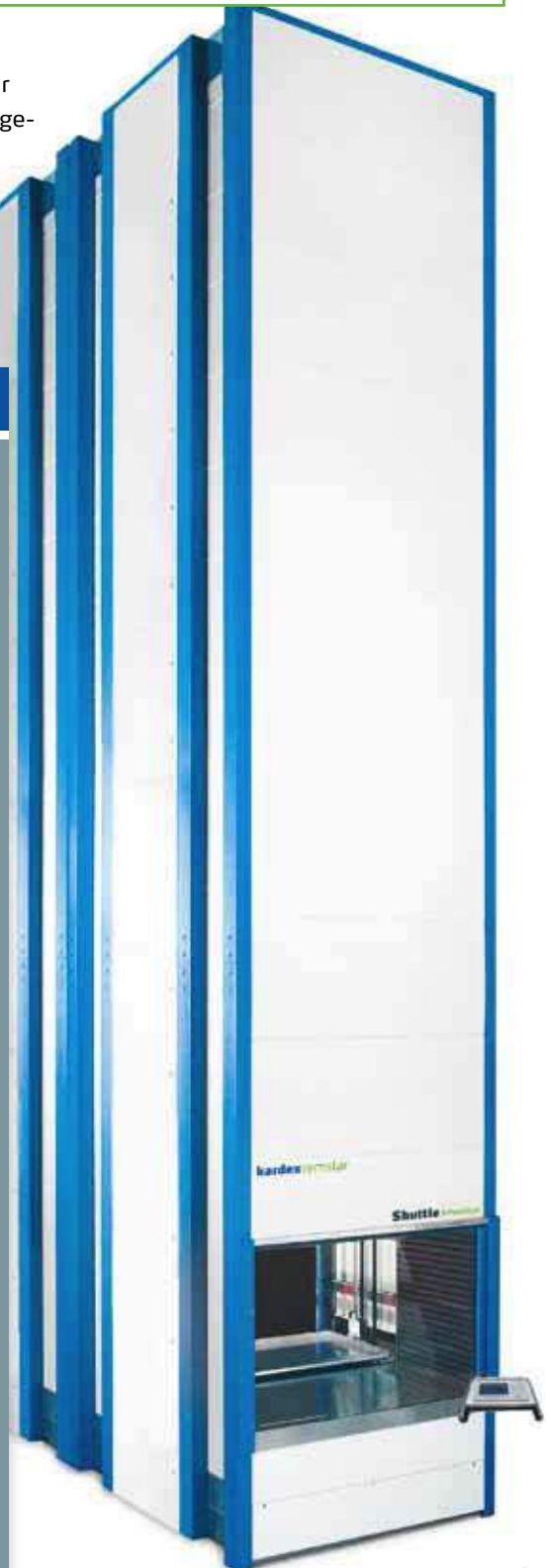
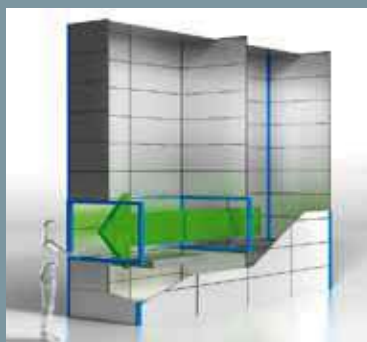
Vertical speed adjustable
up to 2.0 m/s

Storage/retrieval speed adjustable
up to 0.7 m/s

Maximum load 67/120 t per segment

Trays

Width	1,250 to 3,650 mm
Depth	610/813/864 mm
Adjustment pitch	25 mm
Tray pitch	75 mm
Payload	up to 560 kg



Benefits at a glance:

In addition to the advantages of the Shuttle XP, the Shuttle XPmultiple offers the following further benefits:

- Increased warehouse capacity
- Parallel operation for pre-picking: The operator works on one tray, the system prepares the next ordered tray
- Solution for special situations in buildings, such as corners and niches when installation into the depth of a room is needed (e.g. buffer in production area)
- Different modes to suit the optimal access times are possible
- Reduction of space for circulation and picking area
- The Shuttle XPmultiple can be used as a stand-alone unit, but can also be expanded to a connected system

Kardex Remstar Power Pick® Global: The Warehouse Management Software for intralogistic solutions

Functional principle of Power Pick Global



Functional and user-friendly Warehouse Management Software with modular structure.

Efficiency

Integration of the Power Pick Global software into your processes helps you to increase productivity times. It allows you to optimise batch orders, multiple order picking and time-optimised movement of storage systems to maximise uptime and increase throughput.

Accuracy

From the standard validation via barcode, handheld scanner or weight control to a wide range of others such as pick-to-light, put-to-light, laser/LED pointer: Kardex Remstar Power Pick Global reduces operator errors and increases picking accuracy to levels up to 99%.

Security

Thanks to the software integration, user and group rights can be controlled and managed; each access to the system can be tracked.

Integration

From easy "plug and play" and middleware to customised solutions – all Power Pick Global software solutions are based on the latest Windows® technology* and can interface with the majority of tier one and tier two WMS and ERP providers.

Modularity

From the smallest store to a complex distribution centre: Power Pick Global can be perfectly tailored to your requirements – with future security included in the package. This is because we carry out continuous development and expansion of the Power Pick Global system.

* Windows® is a registered trademark of the Microsoft Corporation.

Kardex Remstar offers a wide portfolio of software applications:

- **Cleverstore 1000**
Software solution for simple storage and supply
- **Smartpick 6000**
Software package for professional picking with high pic rate
- **Smartpick 5200**
Professional picking with high pic rates – specially for the electronic industry

electronic industry
pic rates – specially for the
professional picking with high
accuracy 99%

Kardex Remstar:

Always close to you – Worldwide



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Austria
Belgium
China
Cyprus
Czech Republic
Denmark

Finland
France
Germany
Great Britain
Hungary
India
Ireland

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Further information:
www.kardex-remstar.com