

# Kardex Remstar Shuttle® XP Vertical Lift System

High Density Storage in a compact footprint.



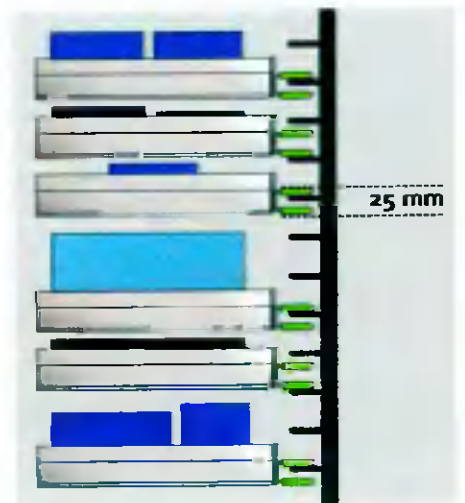
# Kardex Remstar Shuttle XP: Store virtually anything – cost effectively and with quick access.



**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 storage density, flexibility, effectiveness and security that it provides makes it a unique storage solution.**

#### **The principle**

The Shuttle XP Vertical Lift Module is an enclosed system of vertically arranged trays stored on both sides of the unit with an extractor device placed in the centre. This automatically delivers trays with the stored items to the access opening at the push of a button or a 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 least possible amount of space.



Further Information:  
[www.kardex-remstar.com](http://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, 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:

- Increased storage capacity in a smaller footprint area
- Faster access times
- Improved precision in inventory levels through integration with internal ERP systems
- Enhanced safety for operator and stored items
- Increased goods handling

... für den Einsatz in der Logistik  
 ... für den Einsatz in der Produktion  
 ... für den Einsatz in der Montage

# Kardex Remstar Shuttle XP: Eight features of the Shuttle XP made for excellence.

1

#### **Future Proof Construction**

Possibility to change the height quickly and easily to meet future needs.

2

#### **Tooth Belt Drive**

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

3

#### **Multiple Capacity Trays**

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

4

#### **Fire Protection (optional)**

Fire protection system with the use of water, gas or aerosol to protect your investment.

5

#### **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.

6

#### **Internal Weight Management System**

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

7

#### **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 his work with the current tray.

8

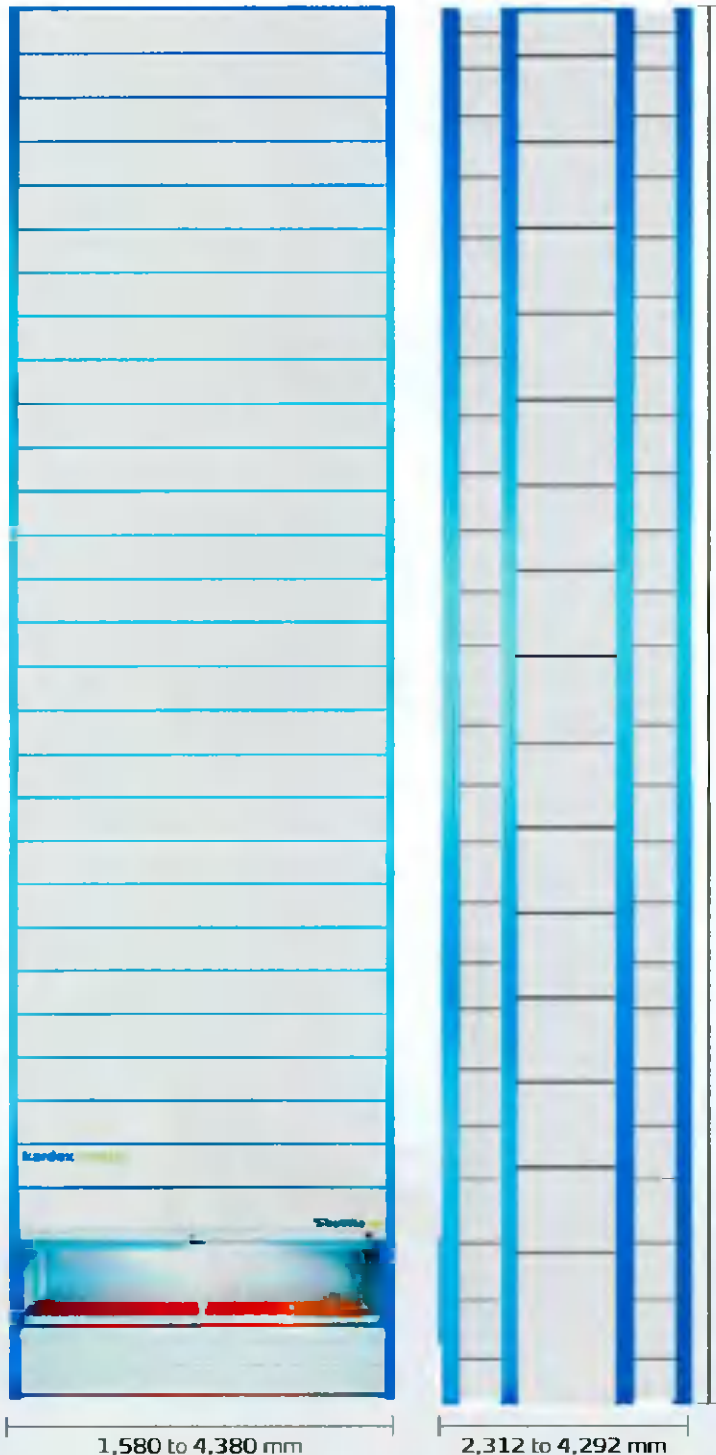
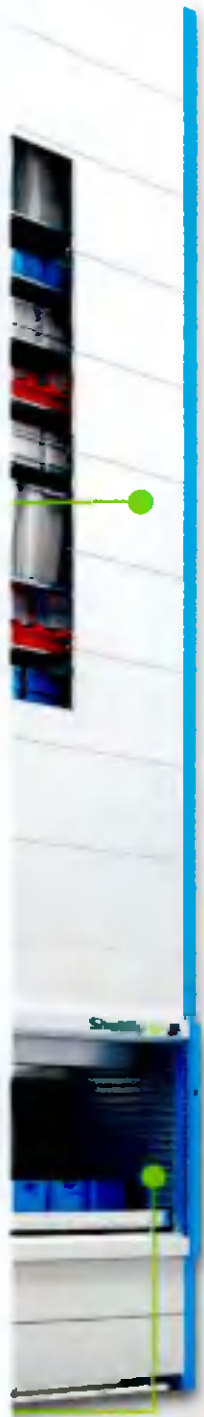
#### **Shelf Rail Modules In The Access Opening**

Enable delivery of the trays at the user's specified height. Possibility to place two trays in the access opening.





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



## 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  
 Adjustment pitch 25 mm  
 Tray pitch 75 mm  
 Maximum load up to 560 kg

### Options

- LED/Laser Pointer
- Alpha Numeric or Matrix Position Indicator
- Confirmation Bar
- ESD
- Automatic Full Tray Extraction
- Manual Full Tray Extraction
- Transport Cart
- Swivel for Operating Unit
- Dual/Multiple Access Opening
- Tray Locking Mechanism
- User Management

### Special Options

Cooler/Freezer Configurations to -25 °C

Class 1, 000 - 100,000 / ISO Class 6 - 8 Clean Room Applications

Heated units to +60 °C

Controlled atmosphere (5% relative humidity / 10% relative humidity)

# Kardex Remstar Shuttle XP: High density and secure storage.

**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



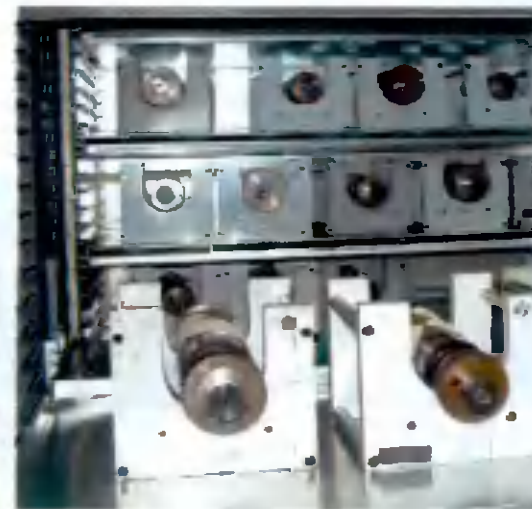
Vertical Lift Modules can go through several floors with up to 6 access openings placed on the front or rear side of the unit. A mezzanine floor can be installed to enable operation on several levels at the same time (with loading at one level or side and retrieval at the other).

## 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. Fitting your stored goods perfectly into the Shuttle tray provides maximum storage density, greater organisation and faster retrieval times.**

### Bins And Containers

Totes, bins and containers are custom made to fit the exact dimensions of the Shuttle tray, ensuring every millimetre of 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 immediate overview 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 specialty 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: Floor Space Savings

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. 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 "Goods to Person" principle: delivering items automatically to an ergonomically positioned access opening. Trays can also be delivered to each users 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, bar code 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 to meet operator needs; slower speeds for sensitive items, positioning the trays in the "Golden Zone" around the access opening for fast retrieval, restricted access to individual trays, mixing variable weight capacity trays in one Shuttle XP device and many others...



7

### Benefit: Modularity

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



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 minimum footprint thank to its full usage of 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.

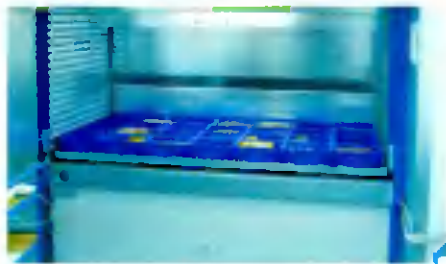
For maximum protection of the stored goods and operators, each device is equipped with a number of security elements such as shutter doors in the access opening or a safety light curtain located in front of the access opening monitoring the entire operating area and protecting the operators.

## Extractor



The extractor device delivering 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



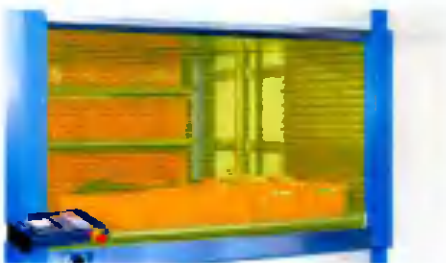
For increased safety and protection of stock plus decreased noise levels shutter doors are installed as standard.

## 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 individual 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 turn-key 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, weight scales, Pick-To-Light Technologies, other ASRS Systems, AGVs (Automated Guided Vehicles), RFID and more.

## Bar Code 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.

## 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 XP's can be equipped with position indicators, light pointers and confirmation bars in the access opening

### Usual Applications:

- Picking Items
- Batch Picking
- Consolidation
- Sortation
- Replenishment

- Integration

# Kardex Remstar Shuttle XP 700: Perfect solution for heavy and bulky stock items.

The Shuttle XP 700 is a vertical lift system constructed to store bulky storage items up to 725 kg and 4.05 m in length. This modular system can go up to more than 20 metres in height and provide great storage capacity and thanks to the integrated Optiflex system, it enables the best possible space utilisation in steps of 50 mm. The system can be enhanced with automatic or manual tray extraction or forklift access. It also enables easy integration of manipulations techniques like cranes or pneumatic lifts in order to reduce operators' fatigue by handling the bulky and heavy items.

## 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

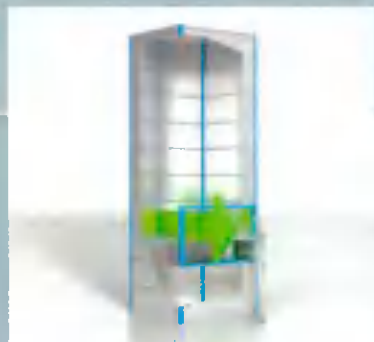
Vertical speed adjustable up to 1.2 m/s

### Trays

Width 1,250 to 4,050 mm  
Depth 610 to 1,270 mm  
Adjustment pitch 50 mm  
Tray pitch 100 mm  
Maximum load per tray 725 kg

### Options

- Automatic Full Tray Extraction
- Manual Full Tray Extraction
- Transport Cart





# Kardex Remstar Shuttle XPlus: Connection of up to four Shuttle modules for high storage capacity.



## Technical Data

### Unit dimensions

Width 4,450 to 7,040 mm  
Depth 2,921 to 3,074 mm  
Height 3,050 to 20,050 mm

### Unit height pitch

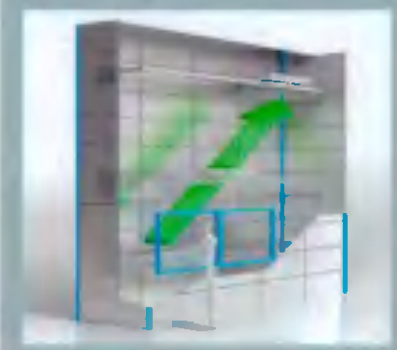
100 mm steps

### Performance Data

Drive speed 250 kg/200 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  
50 tons per segment

### Trays

Width 1,250 to 2,450 mm  
Depth 813/804 mm  
Adjustment pitch 25 mm  
Tray pitch 75 mm  
Payload up to 545 kg



The Shuttle XPlus is an ideal large-capacity store which can provide up to 2,300 m<sup>2</sup> storage space on a footprint of only 20 m<sup>2</sup>. 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 systems 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





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

The Shuttle XPmultiple consists of two 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.

## 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



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.

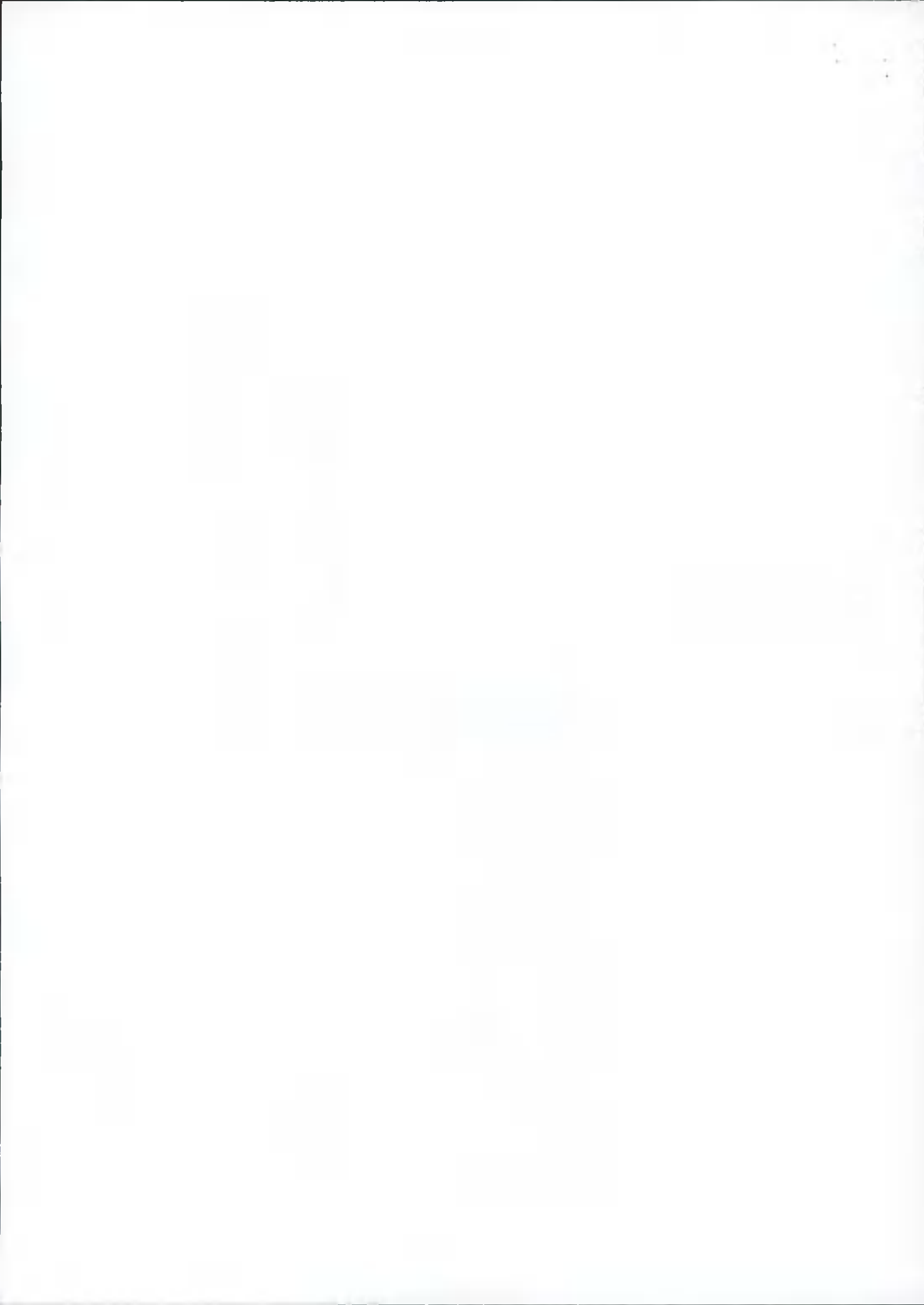
The Shuttle XPmultiple is ideal where it is impossible to install two separate systems. Deep, narrow spaces can be used to their full extent. Routes are reduced by only having one access opening.

## Benefits at a glance:

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

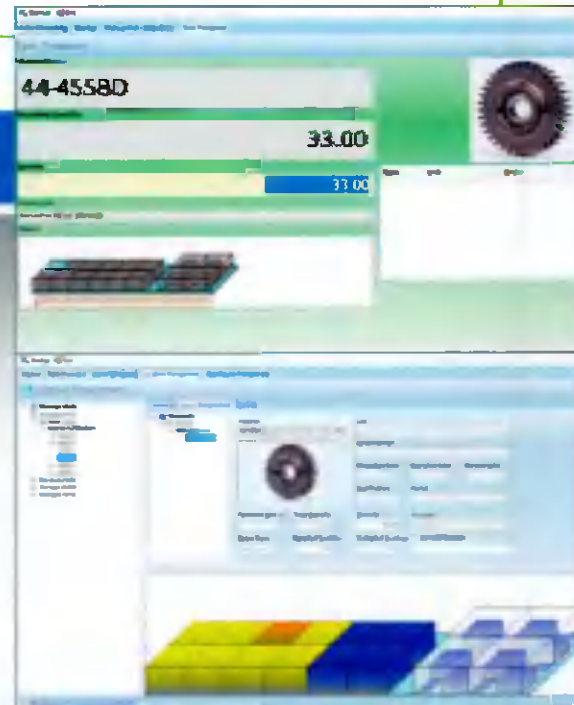
- Increased warehouse capacity
- Parallel operation for pre-picking: the operator is working on one tray, the system prepares the next ordered tray
- Solution for special situations in buildings, such as corners & niches when installation into the depth of a room is needed (e.g. buffer in production 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 software innovation for controlling storage and retrieval solutions.

## Functional principle of Power Pick Global



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

### Enhance your 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 software assists the operator in working with greater accuracy.

### Achieve greater efficiency of your warehouse processes

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 (HoriOpt) to maximise up time and increase throughput.

### When security matters

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

### Wide range of software interfaces

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.

### Kardex Remstar offers a wide portfolio of software packages

#### Small Business Package

Software solution for small and medium sized enterprises.

#### Order Processor

Software package for medium sized warehouses.

#### Communicator Pro

Solution for warehouses operating under ERP or WMS.

#### Warehouse Edition

The modern functional and easy-to-implement warehouse management solution "Made in Kardex Remstar".

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





# **Kardex Remstar:** Always close to you. Worldwide.



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