

Kardex Remstar Shuttle[®] XP

Vertical Lift Module for High Density Storage in a Compact Footprint



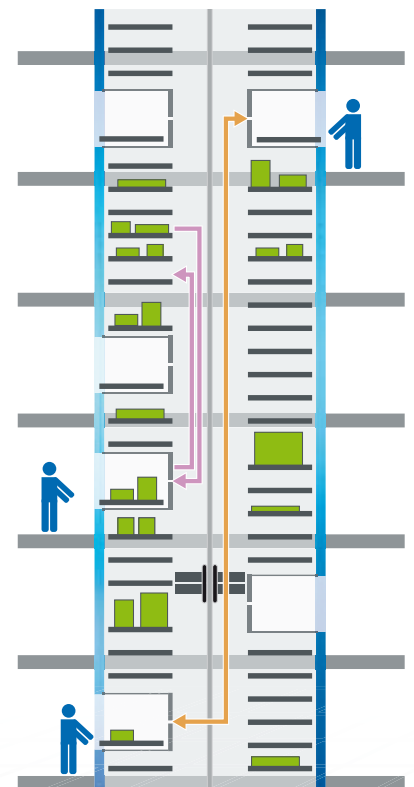
Kardex Remstar Shuttle XP: Store virtually anything – cost-effectively and with quick access



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 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 of vertically arranged trays that are stored in the front and rear of the unit. There is an extractor device located in the center, which automatically delivers trays with the stored items to the access opening at the push of a button or the scan of a bar code. 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 Cubestar technology, finding the ideal storage location within the system in increments of one inch (25 mm). Items are stored in the least possible amount of space.



Further information:
www.kardexremstar.com



Flexible efficient storage strategy

The modular design of the Shuttle XP ensures almost unlimited flexibility in the utilization of various ceiling heights. The Shuttle XP's height increases in 3.9 inch (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 6 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

– Αποδοτική εκμετάλλευση

– Αποδοτική εκμετάλλευση

Kardex Remstar Shuttle XP: Seven features of the Shuttle XP made for excellence

1

Automatic shutter doors

Provides protection of operator and stored goods with decreased noise levels. Enables pre-picking by allowing an operator to work with one tray in the access opening while the extractor prepares the next tray for delivery behind the shutter doors. To reduce wait time, trays are exchanged once the operator finishes work with the current tray.

2

Cubestar technology

Automatically scans the height of the products stored on each tray to maximize storage density within the unit.

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

Multiple capacity trays

Various capacity trays can be stored in the same unit, providing reduced acquisition cost and long-term flexibility.

6

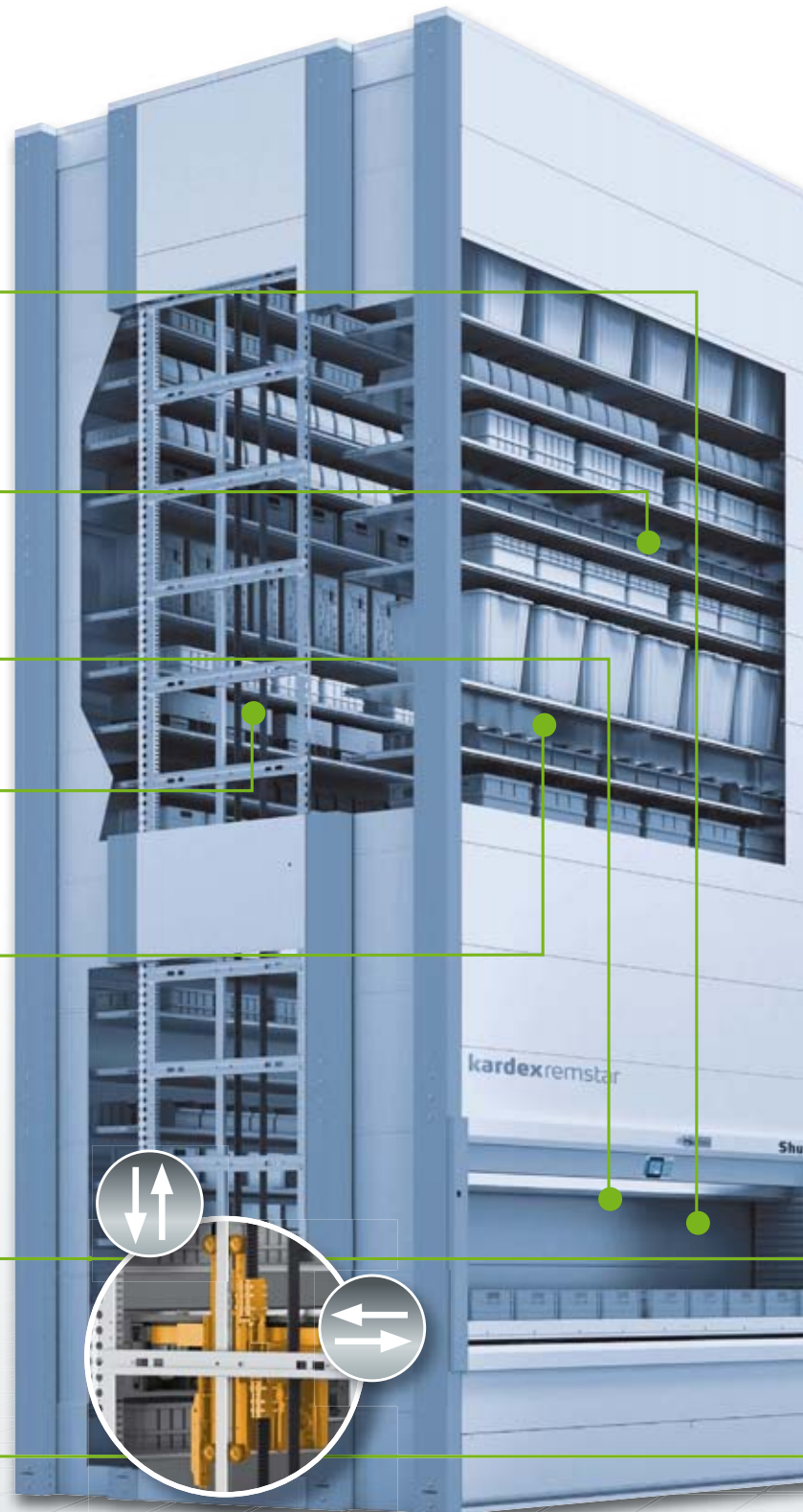
Ergonomic tray delivery

An ergonomic design makes it possible to adjust the tray delivery height to the requirements of the operator. Furthermore, two trays can be delivered simultaneously in one access opening. The floor-level recess allows the operator to get close to the unit and work ergonomically.

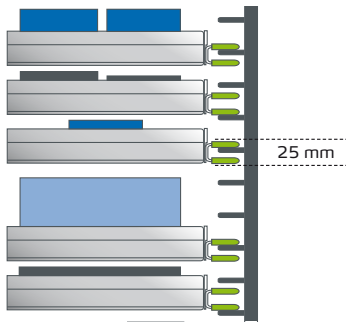
7

Flexible and modular design

The height of the unit can be modified quickly and easily, and additional access openings can be retro-fitted to meet future needs.



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



Shuttle XP 250/500

Technical data

Unit dimensions

Width	from	1,580 mm	62.20 in
	to	4,380 mm	172.44 in
Depth	from	2,312 mm	91.02 in
	to	4,292 mm	168.98 in
Height	from	2,550 mm	100.39 in
	to	30,050 mm	1,183.07 in

Unit height pitch

100 mm steps / 3.94 in

Performance data

Vertical speed individually adjustable up to 2.0 m/s 78.74 in/s

Storage/retrieval speed adjustable up to 0.7 m/s 27.56 in/s

Maximum load 67/120 t

Trays

Width	from	1,250 mm	49.21 in
	to	4,050 mm	159.45 in
Depth	from	610 mm	24.00 in
	to	1,270 mm	50.00 in
Storage space pitch	25 mm	0.98 in	
Min. tray spacing	75 mm	2.95 in	
Maximum load up to	560 kg	1.234 lbs	

Special options

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

Shuttle XP 700

Technical data

Unit dimensions

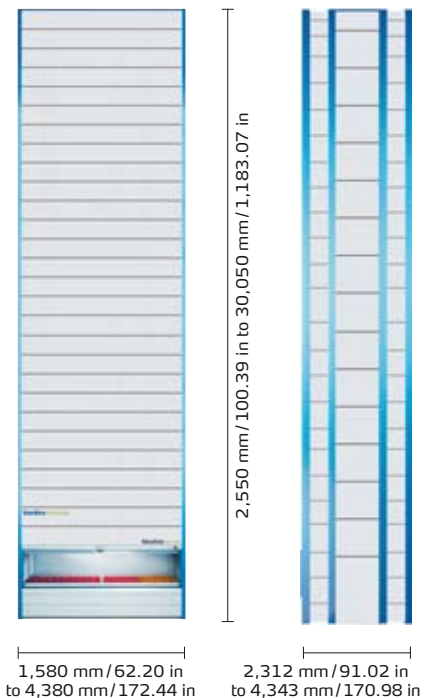
Width	from	1,580 mm	62.20 in
	to	4,380 mm	172.44 in
Depth	from	2,363 mm	93.03 in
	to	4,343 mm	170.98 in
Height	from	2,550 mm	100.39 in
	to	20,050 mm	789.37 in

Vertical speed adjustable

up to 2.0 m/s 78.74 in/s

Trays

Width	from	1,250 mm	49.21 in
	to	4,050 mm	159.45 in
Depth	from	610 mm	24.00 in
	to	1,270 mm	50.00 in
Storage space pitch	50 mm	1.97 in	
Min. tray spacing	100 mm	3.94 in	
Maximum load up to	725 kg	1,598.34 lbs	



Shuttle XP 1000

Technical data

Unit dimensions

Width	from	1,580 mm	62.20 in
	to	4,380 mm	172.44 in
Depth	from	2,363 mm	93.03 in
	to	4,343 mm	170.98 in
Height	from	2,550 mm	100.39 in
	to	20,050 mm	789.37 in

Unit height pitch

100 mm steps / 3.94 in

Performance data

Vertical speed individually adjustable up to 0.75 m/s per tray 29.53 in/s

Max. total load 67/120 t

Trays

Depth	from	610 mm	24.00 in
	to	1,778 mm	70.00 in
	Width	Load per tray	
1,250 mm /	49.21 in	1,000 kg / 2,204.60 lbs	
2,450 mm /	96.46 in	900 kg / 1,984.14 lbs	
4,050 mm /	159.45 in	800 kg / 1,763.68 lbs	

All intermediate sizes possible in 50 mm / 1.97 in pitch

Options:

- LED/laser pointer
- Alphanumeric or matrix position display
- Confirmation bar
- ESD design
- Automatic tray extraction
- Manual tray extraction
- 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 extraction 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
- 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).

Dual tray deliver



A dual tray delivery option makes it possible to use two work levels in the access opening. A tray is delivered into the first work level in the access opening and the shutter door closes. While items are stored or removed, the next tray is being retrieved and kept in a waiting position behind the access opening, decreasing wait times.

Organization 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 XP 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 XP tray, ensuring every millimetre of space is utilized! 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.

For enhanced performance and storage density, RemStore totes have been designed to fit exactly into the tray maximizing storage density within the VLM.

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 organize 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: **Saving floor space**

With heights to meet your exact requirements, the Shuttle XP utilizes overhead space to reclaim up to 85% of otherwise wasted space.

1



Benefit: **Reduced labor 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**

The Shuttle XP works on a good-to-person principle, delivering items automatically to an ergonomically positioned access opening, eliminating bending, reaching and climbing to retrieve items. Trays can also be delivered to each user's specific working height and connection to conveyors and lifting devices is also possible.

3



Benefit: **Security & Safety**

Controlled access to specific trays, or tracking user access is not a problem with the Shuttle XP. Shutter doors provide increased safety and security for operators and stored items.

4

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



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.

5



Benefit: Flexibility

Each tray can be programmed according to meet your needs such as: slower speeds for fragile items, positioning of fast moving trays in the "golden zone" for quick access, user access for individual trays, storage of trays with different weight capacities in one single unit, and much more.

6



Benefit: Modularity

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

7



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.

8

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 one inch (25 mm) increment 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 delivers the requested tray to the access opening or returns a tray to a location within the unit at fast speeds. Both vertical and horizontal travel speeds can be adjusted to accommodate sensitive items.

Shutter doors



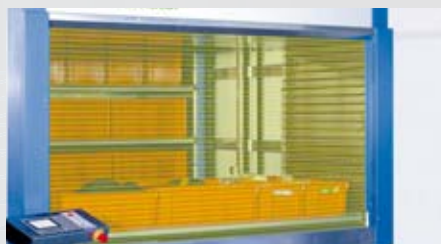
For increased safety and protection of stock plus decreased noise levels, shutter doors are installed as standard.

Access opening shelf rails



Side walls of the access opening are equipped with shelf rails, enabling the positioning of multiple trays in the access opening as well as individually ergonomically adjusted tray delivery heights for each operator depending on their physical height.

Safety light curtain



When the shutter doors open to deliver or retrieve a tray the safety light curtain located at the front of the access opening is activated. If the safety light curtain is interrupted, all movements of the device are stopped immediately for operator safety.

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 bar code scanners to a wide range of picking assistance technologies: 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; bar code scanners, printers, weight scales, 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 bar code 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. The Shuttle XP can be equipped with TIC (transaction information center), position indicators, light pointers and confirmation bars in the access opening.

Usual applications:

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

- Replenishment
- Sortation

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 2,204.6 lbs (1,000 kg) in a straightforward manner

Heavy-duty tray



Uniquely powerful: Our heavy-duty tray can carry 1,763.7 lbs (800 kg) loads with an effective width of 159.4 in (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

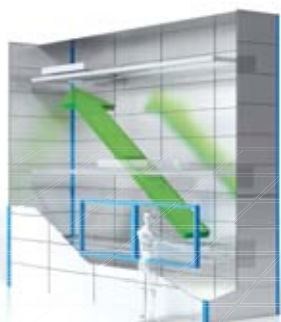


Heavy goods can be moved incredibly easily with the help of the factory-fitted crane. The constant availability of the integrated crane and the faster throughput of “goods to person” mean that you save time and money. Significantly improved ergonomics and increased safety are further benefits of this 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 storage solution, providing up to 2,300 m² storage space on a footprint of only 20 m². The Shuttle XPlus can handle a maximum load of up to 240 t. Several lift modules are connected through a travelling beam to create 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 utilization 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

picking scenarios
with Shuttle XPs offers faster

Technical data

Unit dimensions

Width	from	4,460 mm	175.59 in
	to	7,040 mm	277.17 in
Depth	from	2,921 mm	115.00 in
	to	3,074 mm	121.02 in
Height	from	3,050 mm	120.08 in
	to	20,050 mm	789.37 in

Unit height pitch

100 mm steps / 3.94 in

Performance data

Drive speed	250 kg /	500 kg
	551.15 lbs /	1,102.30 lbs

Vertical speed adjustable
up to 1.5 m/s / 59.06 in/s

Storage/retrieval speed
0.62 m/s / 24.41 in/s

Horizontal speed
adjustable up to 1.3 m/s / 51.18 in/s

Gross loading capacity
30 tons per segment

Trays

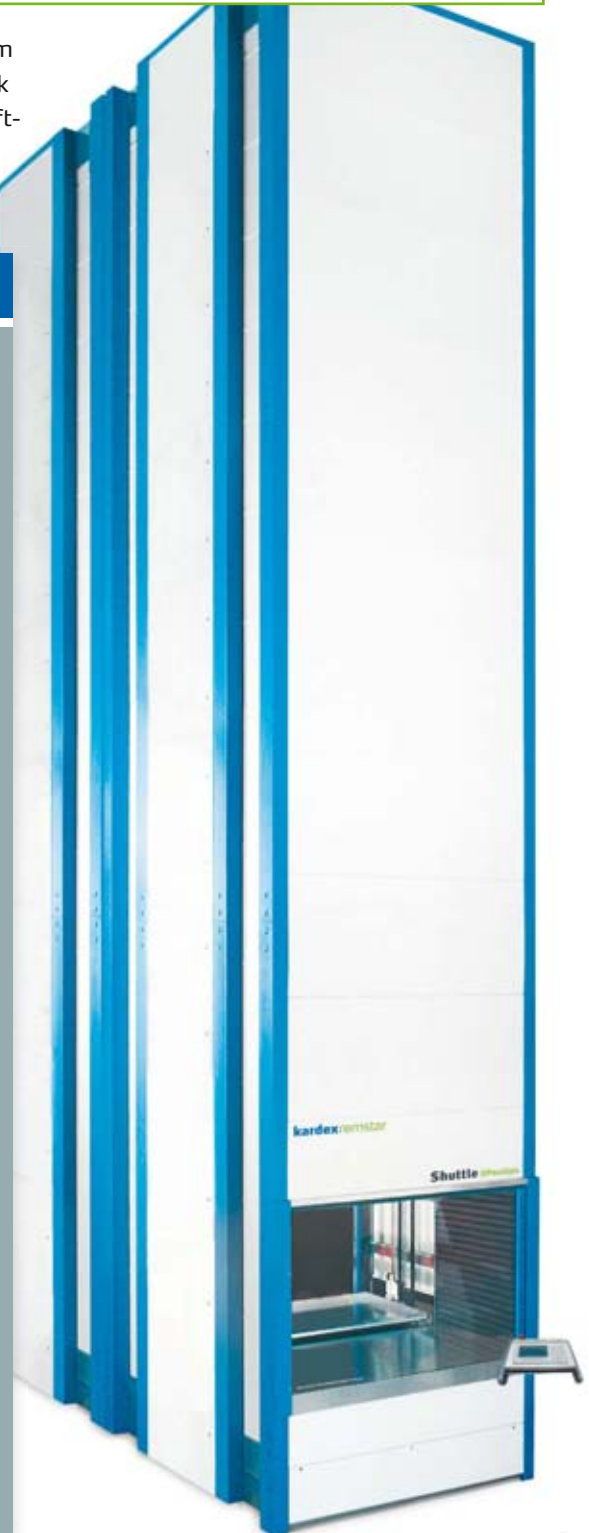
Width	from	1,250 mm	49.21 in
	to	2,450 mm	96.46 in
Depth	813/864 mm /	32.01/34.02 in	
	Adjustment pitch	25 mm / 0.98 in	
Tray pitch	75 mm / 2.95 in		
Payload up to	545 kg /	1,201.51 lbs	

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

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	from	1,580 mm	62.20 in
	to	3,980 mm	156.69 in
Depth	from	4,624 mm	182.05 in
	to	12,296 mm	484.09 in
Height	from	2,550 mm	100.39 in
	to	30,050 mm	1,183.07 in

Unit height pitch

100 mm steps / 3.94 in

Performance data

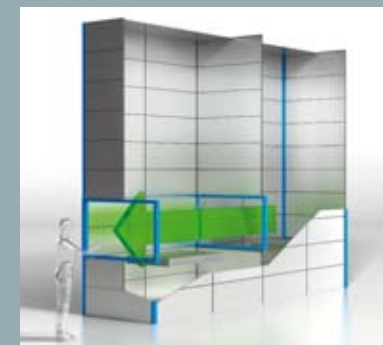
Vertical speed adjustable
up to 2.0 m/s / 78.74 in/s

Storage/retrieval speed adjustable
adjustance up to 0.7 m/s / 27.56 in/s

Maximum load 67/120 t per segment

Trays

Width	from	1,250 mm	49.21 in
	to	3,650 mm	143.70 in
Depth		610/813/864 mm	
		24.02/32.01/34.02 in	
	Adjustment pitch	25 mm / 0.98 in	
Tray pitch		75 mm / 2.95 in	
Payload up to		560 kg / 1,234.58 lbs	



Benefits at a glance:

In addition to the advantages of the Shuttle XP, the ShuttleXP multiple 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 optimize batch orders, multiple order picking and time-optimized movement of storage systems to maximize up time 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 reduce operator errors and increase 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 middle-ware to customized 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 center: 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 for professional picking with high pick rate
- **Smartpick 5200**
Professional picking with high pick rates – specially for electronics industry

electronics industry
high pick rate – specially for
professional picking with
– smartpick 5200

Kardex Remstar: Always close to you – Worldwide



Australia
Austria
Belgium
Canada
China
Cyprus
Czech Republic

Denmark
Finland
France
Germany
Great Britain
Hungary
India

Ireland
Italy
Mexico
Netherlands
Norway
Poland
Russia

Singapore
Slovakia
Spain
Sweden
Switzerland
Turkey
USA



1108C-2014-US-1301-MD

Further information:
www.kardexremstar.com