Salt City Records

Kardex Vertical Lift Storage Systems

...the difference between materials handling and materials managing.

Materials *Managing*

Kardex vertical lift...the storage system that pays its own way.

In thousands of installations throughout the world, the difference between materials handling and materials managing starts with the Kardex INDUSTRIEVER® vertical lift storage system... the most productive, most space-efficient storage system ever designed for small parts.

It uses vertical space instead of expensive floor space.

By utilizing vertical space up to 31 feet, the Kardex vertical lift storage system packs more high density storage capacity per cubic foot than any other type of system on the market.

It works like an elevator to deliver parts to your operators.

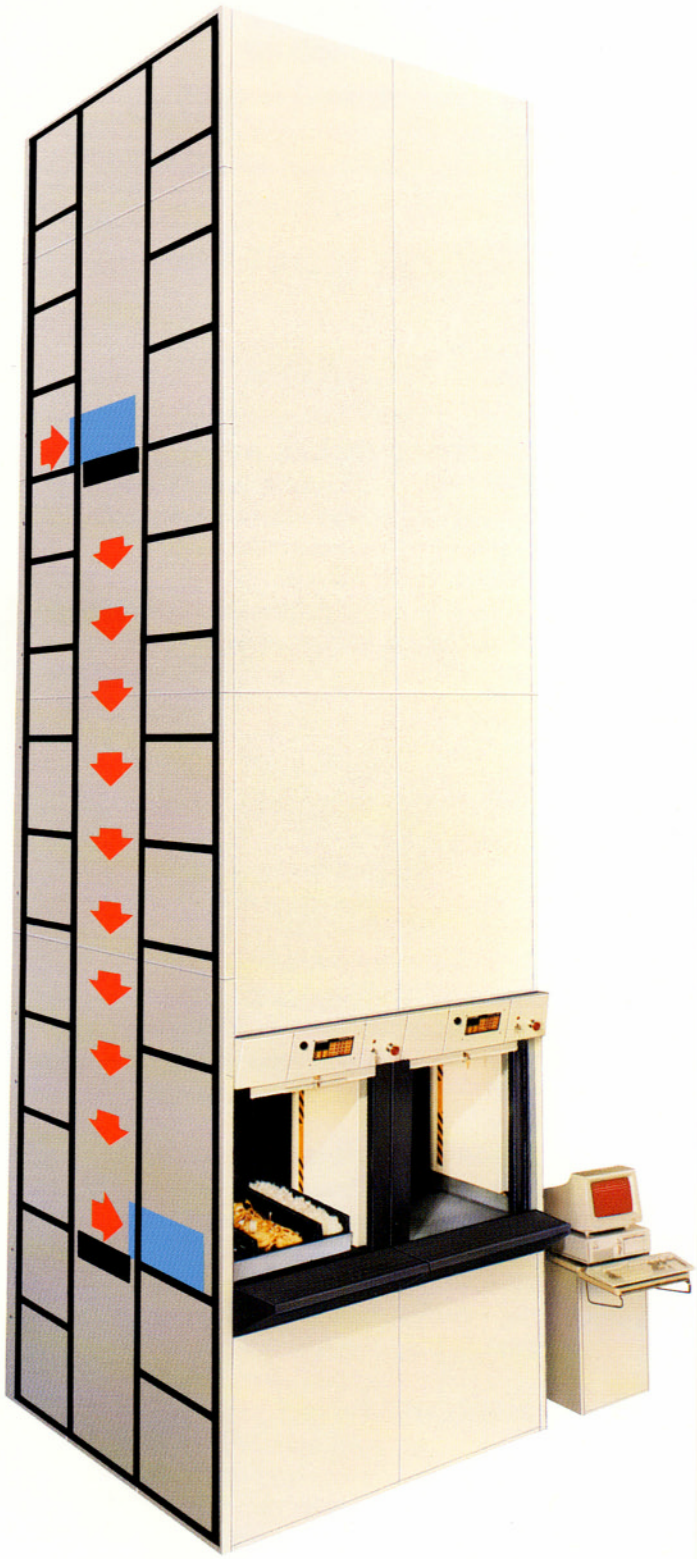
Picture two 31-foot stacks of tool cabinets facing each other with a small elevator between them. On the elevator, mount an automated extractor which rides up and down, removing drawers from the cabinets and delivering them to an operator through an access opening. Install an on-line microprocessor to control the automated extractor, and you have a Kardex vertical lift storage module. Put together as many modules as you need, and you have the hardest working storage system in the business.

It's computer driven to work hard and smart.

The Kardex vertical lift storage system offers you a wide range of software and control options from the built-in microprocessor to a fully interfaced and integrated inventory management system. All are designed to help you manage materials, not just handle them.

It pays its own way day after day for company after company.

To prove our point, we'll show you how 24 American companies have turned materials handling problems into materials managing solutions with Kardex vertical lift...the storage system that pays its own way.



Kardex Vertical Lift Storage System

Three payload capacities: choose the most cost-effective of three models

	INDUSTRIEVER 8000T	INDUSTRIEVER 12000T	INDUSTRIEVER 16000
Maximum payload per pan	200 lbs / 90.7 kg	300 lbs / 136.0 kg	500 lbs / 226.5 kg
Maximum payload per module	16000 lbs / 7257 kg	24000 lbs / 10884 kg	25000 lbs / 1133 kg
Power requirements	208 / 220 VAC	208 / 220 VAC	208 / 220 VAC
Motor size/type	2.25 HP DC	2.25 HP DC	2.25 HP DC
Vertical travel speed	132 ft / min	132 ft / min	65 ft / min

Pre-formed upper skins with canopy top
Keeps stored material protected and dust-free.

Height flexibility
Module heights in one foot increments from 10 feet to 31 feet. Existing installations are expandable with retrofit kit.

Interior service ladder
Solid steel ladder between modules allows safe access to module interior for routine service and maintenance.

Adjustable pan spacing
Media heights from three inches to 32 inches in one-inch increments. Easy to reconfigure as inventory sizes change.

Sliding door and security lock
Optional. Limits access to authorized personnel.

Height sensor
Optional. Verifies proper height of media for assigned storage location. Prevents placement of oversized media.

Curtain of light
Optional. Safety blanket with eight photoeyes in two inch increments. Shuts down module and provides audible warning if photobeam is broken by media or operator.

Ergonomic access opening
Standard 40.5-inch posting board height. Specify other heights (optional) for special applications.

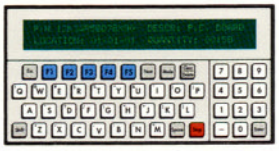
Free standing base
No need for grouting or permanent mounting to floor.

Number of modules recommended
Minimum of two modules for systems up to 26 feet and three modules for systems above 26 feet. Single-module installations quoted on request. Expandability is unlimited.

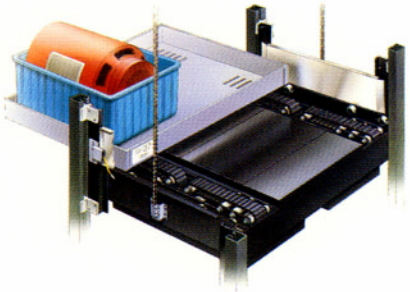
Options

Kardex Integrated Control System (KICS)
Material Control System (MCS) software
Height sensor
Sliding door with security lock
Multiple access windows
Access window relocation
Curtain of light safety system
Ergonomic work station
Push-cart interface
Bi-directional stub conveyor
Extended stub conveyor
Keyboard lockout
Digital weigh scale
Burn-in capability
Fluorescent light
Relocated or remote keypad
Tool drawer insert

Integrated microprocessor controls
Mounted above access opening (standard). Also available in other ergonomic positions, including remote keypad.



Kardex Integrated Control System (KICS)
Optional. Two-line, 40-character digital readout definable by customer. Displays all critical part information for paperless picking. Part location identified by module, pan and part location within the pan.



Dual-belt tractor drive extractor
Unique microprocessor-driven extractor retrieves one pan at a time rather than moving the entire payload. Dual-belt tractor drive design eliminates the need to evenly distribute payload in the pan.

Material Control System software
Optional. From simple part locator program to fully integrated inventory management system. Choose from these features...

- Automatic updating of inventory
- Automatic reorder/backorder generation
- Transaction history and audit trail
- F.I.F.O. order picking
- Computer-assigned parts locations
- Off-site storage tracking
- Password protection and user I.D. codes
- Kitting, barcoding and cycle counting
- Management reports and customized "ad hoc" report writing capability
- Networking of multiple work stations
- Interface automatic internal updating to and from mainframe

UL LISTED
Made in U.S.A.

Managing Capacity

Greenlee Textron
Genoa, IL

Choose the most cost-effective of three payload capacities.

Because company managers at Greenlee Textron believe you shouldn't pay for more payload capacity than you need, they chose a Kardex vertical lift storage system with payload choices of 200, 300 and 500 pounds per pan. Heavy fixtures and gauges are stored in 300-pound capacity modules, while small parts and commodities are maintained in more cost-efficient 200-pound modules.

Ford Motor Company
Stamping Plant
Wayne, MI

Combine modules to satisfy your own specs and dimensions.

Ford Motor Company used the Kardex system's modular design and height flexibility to accommodate an overhead sprinkler system, resulting in a higher storage density than any other type of system.

Procter & Gamble
Mehoopany, PA

Expand the system as your storage needs change.

Two months after installing a Kardex vertical lift storage system in their general stores department, Procter & Gamble needed to replace an adjoining mezzanine with a more efficient storage system. Because the Kardex system offers unlimited expansion capability, they were able to add three additional modules to the initial three-module system and link all six modules via Material Control System (MCS) software.

Unisys Corporation
Plymouth, MI

Adjust pan spacing to changing inventory requirements.

After Unisys Corporation's software inventory shifted from 5.25-inch diskettes to 3.5-inch diskettes and CD-ROMs, the company completely reconfigured the pan heights of their four-module Kardex system to maintain the highest possible storage density.

BASF Corporation
Livonia, MI

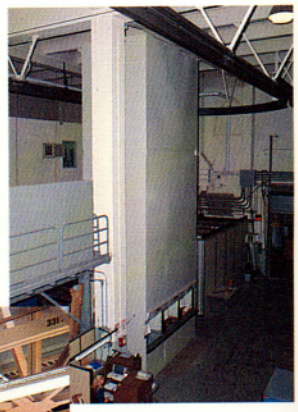
Relocate and change module heights as needed.

When BASF Corporation consolidated small parts storage into a central warehouse, they relocated two 14 foot Kardex vertical lift storage modules and expanded them to 22 feet – at a fraction of the cost of purchasing a new storage system.

Managing Space

Use inexpensive vertical space instead of expensive floor space.

At Wright-Patterson Air Force Base, storage of small parts and precision instruments in 50 standard tool drawer cabinets was occupying hundreds of square feet of prime laboratory space. By taking advantage of the high bay area in the lab, the air base was able to replace all 50 tool cabinets with just three 30-foot Kardex modules and simultaneously improve their inventory flow with Material Control System (MCS) software.



Wright-Patterson Air Force Base Dayton, OH

Store 200 percent more parts in 50 percent less space.

After AT&T's storage needs outgrew a 48-foot long horizontal carousel on their circuit board assembly line, the company replaced the carousel with an 18-foot, eight-module Kardex vertical lift storage system – and achieved the capacity of <u>two</u> horizontal carousels in less than half the floor space which had been required by one carousel.

AT&T Columbus, OH

Expand your capacity without expanding your facility.

When Ford Motor Company geared up for production of a new mini-van, they used a Kardex vertical lift storage system to triple storage capacity from 7,000 parts to 21,000 parts while simultaneously reducing storage space by 6,500 square feet.

Ford Motor Company Avon Lake, OH

Convert non-productive storage space into production space.

Aircraft Products Company converted more than 1,000 square feet of storage space into profit-generating manufacturing space by moving small parts storage from pallet rack and shelving to a six-module Kardex vertical lift storage system. The division of B/E Aerospace also reduced their average pick time from six minutes to two.

Aircraft Products Delray Beach, FL

Eliminate wasted aisles and access areas.

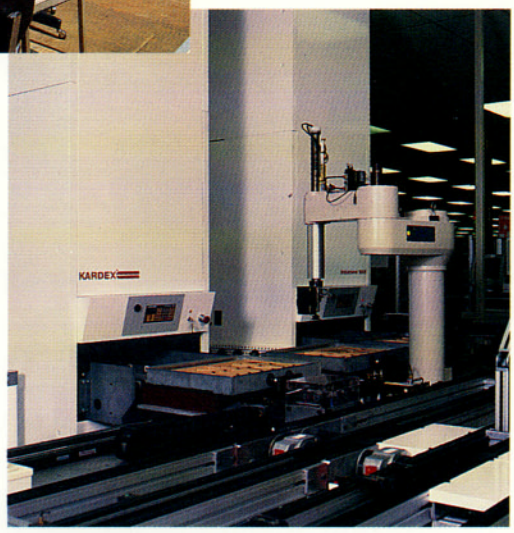
Metropolitan Edison eliminated hundreds of square feet of wasted aisle space when they converted small parts and tools storage from open shelving into facing rows of Kardex modules with a single access aisle.

Metropolitan Edison Birdsboro, PA

Midway Ford
Kansas City, MO

AT&T
Atlanta Works
Atlanta, GA

Parker Hannifin
Corporation
Cleveland, OH



Motorola
Plantation, FL

Allied Signal Aerospace
Teterboro, NJ

Managing Time

Eliminate walking and search time.

Because the Kardex vertical lift storage system virtually eliminates walking and search time, Midway Ford reduced the number of man-hours required for small parts picking and stocking by almost 75 percent after moving parts from a mezzanine to a four-module Kardex system. Instead of climbing the mezzanine to retrieve parts, employees of the Ford truck dealership use the Kardex system to automatically deliver parts to them within seconds.

Increase your productivity and throughput.

After installing a Kardex vertical lift storage system driven by Material Control System software, AT&T's Atlanta Works increased their average pick time from ten minutes to approximately ten seconds — a staggering 6,000 percent increase in productivity.

Reduce your non-production man-hours.

When Parker Hannifin Corporation converted storage of production tooling from open shelving to a Kardex vertical lift system, they cut the number of hours spent pulling tools from 20 hours per day to just six — a 70 percent decrease in non-production man-hours.

Take automation to its most productive level.

By interfacing a Kardex vertical lift storage system with robotics, Motorola increased its two-way radio packing rate by 200 percent. Scanning a single bar code triggers the Kardex system to deliver the appropriate radio accessories to the robot for assembly and packaging.

Increase kitting speed and accuracy.

When workers at Allied Signal Aerospace scan a bar code for a test equipment kit, the six-module Kardex vertical lift storage system automatically delivers parts to the workers in the most time-efficient sequence. All critical information — including location within the pan and, if out of stock, alternate part suggestions — is displayed via Material Control System (MCS) software to make the picking process faster and more accurate.

Managing Inventory

Computerize every aspect of inventory handling.

By using Kardex Material Control System software to drive four point-of-use Kardex vertical lift storage systems, Dell Computer manages inventory flow of small parts and option cards in four separate manufacturing areas. MCS software provides automatic updating of inventory, automatic reorder flagging, computer-assigned part locations, a complete transaction history/audit trail and a wide range of other management reports including aged inventory and operator activity. Each module also uses a Kardex Integrated Control System (KICS) with bar code capability, resulting in a "paperless" picking process and less possibility of operator errors.

Dell Computer
Austin, TX

Interface your mainframe to the Kardex vertical lift storage system.

Tennant Trend, the commercial floor care equipment division of Tennant Company, uses Kardex K-trieve software to interface their mainframe computer to a Kardex vertical lift storage system. Manufacturing orders for parts and kits are downloaded from the mainframe to K-trieve. As requests are entered, K-trieve activates the system to deliver parts in the most time-efficient order.

Tennant Trend
Niagara Falls, NY

Improve inventory flow by picking and stocking simultaneously.

Aerojet Electronic Systems uses a 14-module Kardex system with optional dual access to pick and stock simultaneously, resulting in a steady J.I.T. inventory flow to a critical production and kitting area. The system allows the government contractor to allocate inventory by contract number and pull stock on a F.I.F.O. basis.

Aerojet Electronics Systems
Azusa, CA

Protect delicate parts from dust and unnecessary movement.

ABB Robotics takes advantage of the Kardex system's enclosed modules to protect sensitive electronic components from dust and ensure that the electronics are moved only when necessary. Unlike other vertical systems, the Kardex vertical lift storage system delivers one pan at a time rather than rotating the entire payload.

ABB Robotics
New Berlin, WI

Managing Ergonomics

Caterpillar
York, PA

Eliminate stooping, bending and stretching.

Because the Kardex vertical lift storage system delivers parts to the operator, employee morale at Caterpillar increased dramatically after the company converted storage of finished goods from shelving to a four-module Kardex system. Workers no longer have to stoop to lift parts from floor-level shelving or reach overhead to access top shelves.

AAI Corporation
Hunt Valley, MD

Provide ergonomic "golden zone" working conditions.

AAI Corporation took advantage of the Kardex system's designed-in flexibility to accommodate the needs of a predominantly female work force in the company's inventory contol department. Company managers specified that the Kardex system's posting board be lowered from the standard 40.5 inches to 30 inches -- the ergonomic "golden zone" for workers ranging in height from five feet to five feet, four inches.

Burroughs Wellcome
Greenville, NC

Protect your workers from lost-time injuries.

Burroughs Wellcome installed a 10-module Kardex system to eliminate the possibility of back injuries caused by lifting heavy rolls of pharmaceutical labels from shelving. Now workers can easily pull labels from the pans onto a cart, allowing them to transport the labels with minimal lifting and straining.

Bush Boake Allen
Norwood, NJ

Make lifting safer and easier.

Bush Boake Allen equipped their Kardex vertical lift storage system with ergonomic work stations to help operators handle flavor and fragrance containers weighing up to 40 pounds. Operators can easily pull pans from the access opening onto the work station, making all containers in the pan easier to access and safer to lift without reaching or stretching.

Norton
Construction
Flowery Branch, GA

Let automation handle the heavy loads.

By equipping their Kardex vertical lift storage system with an extended stub conveyor, Norton Construction made it possible for workers to lift 50- to 100-pound. containers of metal powders with an overhead crane instead of their backs.

Vertical Lift Storage System
Burroughs Wellcome
Greenville, NC

Vertical Carousels
Beech Aerospace Services, Inc.
Madison, MS

Movable Rack
Ford Motor Company
Avon Lake, OH

Movable Shelving
Pittsburgh International Airport
Pittsburgh, PA

MCS Software
Tennant Trend
Niagara Falls, NY

Automated Storage Systems That Pay Their Own Way

Kardex Vertical Lift Storage System
The most advanced storage/retrieval system for small parts on the market today...manages capacity, space, time and inventory.

Kardex Vertical Carousels
The industry work horse...expertly engineered by the company that invented vertical carousel technology more than 40 years ago.

Kardex Movable Rack
Heavy-duty movable carriages accommodate loads up to 60,000 pounds per double-rack bay...saves space by eliminating wasted aisles.

Kardex Movable Shelving
Industrial grade movable shelving for high density storage of small parts and commodities...handles payload up to 1,000 pounds per linear foot.

Kardex MCS Software
The difference between materials handling and materials management...as simple or as sophisticated as your application demands.

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Marietta, OH 45750
1-800-234-3654
www.kardex.com
sales@kardex.com

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