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Modula FLEXIBOX

Think Vertical, Think Modula

PICK THE BEST

MODULA

MAXIMIZE EFFICIENCY. INCREASE THROUGHPUT. ACCELERATE ROI.

THE FUTURE OF STORAGE IS HERE.

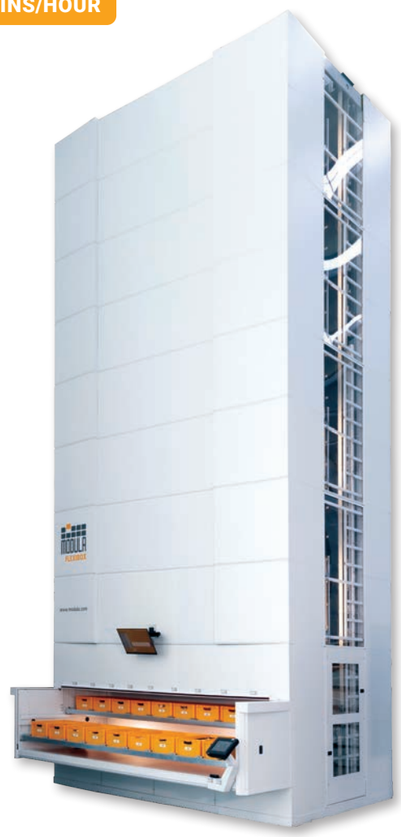
The Flexibox is a next-generation automated bin storage system engineered to provide superior storage density, exceptional operational throughput, and ergonomic advantages, all while lowering the total cost of ownership.
With scalability, flexibility, and the support of over 30 years of global expertise, it combines advanced VLM technology with innovative enhancements.

The system features a central elevator and telescopic fork, capable of retrieving bins from both front and rear columns with outstanding speed and precision.

These bins are delivered to a service tray that accommodates **up to 9 bins,** enabling quick, efficient, and accurate picking operations.



UP TO 180 BINS/HOUR



OPTIMIZED FOR YOUR NEEDS: KEY APPLICATION AREAS

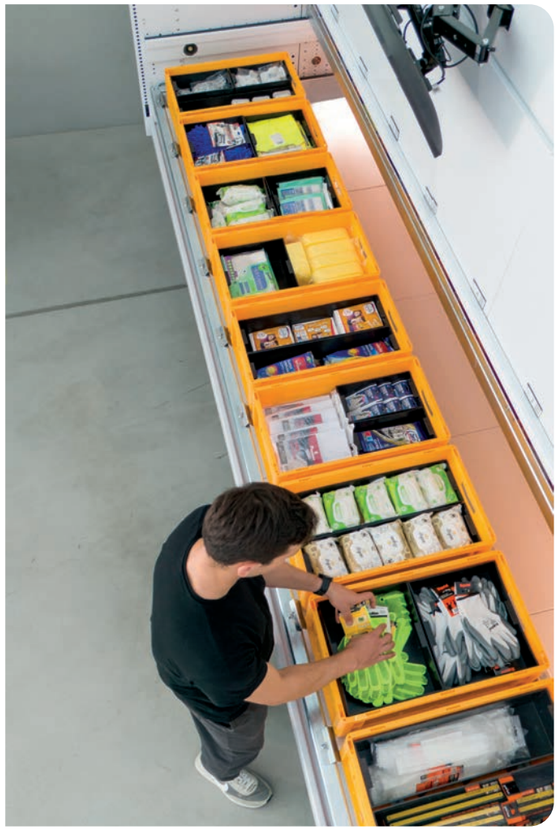
DESIGNED FOR FLEXIBILITY AND SCALABILITY.

Flexibox offers unmatched adaptability to meet diverse storage needs, whether managing lightweight items or heavy products.

Its combination of smart storage solutions and a scalable design ensures your business can grow without outgrowing your equipment.

APPLICATION VERSATILITY

Flexibox is the ideal solution for a wide range of applications, making it suitable for various industries and operational requirements.



STORAGE

Optimize space utilization by storing items in vertically arranged bins, maximizing every inch of available space.

PICKING AND ORDER FULFILLMENT

Flexibox streamlines order picking with batch capabilities and ergonomic operator access, efficiently handling up to 180 bins per hour to meet high-demand needs.
By integrating with other material handling systems, it ensures faster, more accurate deliveries while optimizing overall operational efficiency.

KITTING

Perfect for assembly lines or production environments where multiple components are collected and organized into production kits.

KEY BENEFITS

OPTIMIZED STORAGE DENSITY

With a compact footprint and the ability to reach heights up to 24 meters, Flexibox maximizes vertical storage, accommodating hundreds of bins while freeing up valuable floor space.

UNPARALLELED OPERATIONAL THROUGHPUT

A central elevator with a telescopic fork retrieves up to 9 bins simultaneously, minimizing waiting times and allowing multiple order lines to be fulfilled in a single cycle. Capable of delivering up to 180 bins per hour, it is ideal for managing high order volumes.

QUICK IMPLEMENTATION & SCALABILITY

Flexibox adapts to growing demands with the ability to expand capacity by adding extra trays or increasing the unit's height or additional units as order volumes grow.

CUTTING-EDGE PERFORMANCE LOWER COSTS

High performance while keeping costs low. Its simple, robust design reduces maintenance, downtime, and operational expenses. Unlike other automated solutions that require costly facility modifications, Flexibox is easier to implement, resulting in lower upfront costs and a faster ROI.

LABOR SAVINGS ARE BUILT INTO THE DESIGN

The operator bay is set at a comfortable working height to reduce physical strain and improve safety. Combined with automated retrieval process, it minimizes manual labor and ensures efficient high-volume picking.

FAST TRACK: URGENT SKU RETRIVIAL

Need a specific item quickly? No problem. Flexibox offers single-item retrieval without moving other bins, thanks to its immediate call feature.
This ensures faster, more accurate order picking compared to conventional systems.



ADDITIONAL FEATURES



WORKING SIDE-BY-SIDE WITH OUR VLM SYSTEMS

Flexibox seamlessly operates alongside Modula's proven Vertical Lift Module (VLM) systems, offering a complete storage solution for products of all sizes. Flexibox is ideal for small bins (600 x 400 mm), while VLM systems handle larger items or bulk storage. Together, they create an optimal balance for fast-moving and slow-moving inventory.

DIFFERENT TRAYS AND DIFFERENT PAYLOAD UNIT:

LIFT ↓ TRAYS

FLEXIBOX ↓ BINS



ERGONOMICS AT THE CORE

The operator bay is designed for maximum ease of use, with bins delivered at the optimal working height, reducing strain and repetitive motion injuries for your staff.



ENERGY EFFICIENCY

Designed to optimize space, Flexibox drastically reduces floor space compared to traditional storage systems. Energy consumption is really low and this makes it both energy saving and cost-effective, reducing overall energy use while lowering operating costs.





BAY OPTIONS AND SMART ORDERS PREPARATION



INTERNAL BAY AND EXTERNAL BAY (SINGLE OR DUAL DELIVERY LEVEL)

Flexibox provides the flexibility to operate with either an internal or external bay, offering single or dual load levels to suit different operational needs.
The **internal bay** is ideal for optimizing floor space, making it perfect for compact environments. In contrast, the **external bay** focuses on maximizing picking speed.

With a **single load level,** all picking is performed at an ergonomic height, ensuring operator comfort. The **dual load level** enhances efficiency and is well-suited for workflows with high demand.



BUFFER BAY

The **Buffer Bay** is designed to enhance ergonomics without compromising efficiency. In this setup, trays are delivered one at a time to **Bay Level 1**, ensuring all picking occurs at a comfortable working height.

While the operator is working, the system prepares the next tray with the selected bins, in the rear column, so it's ready to be delivered as soon as needed.
This continuous flow minimizes waiting times, boosts operational efficiency, and maintains optimal performance without sacrificing ergonomics.



SMART ORDERS PREPARATION

Flexibox's **Smart Orders Preparation** mode ensures maximum productivity during idle times by fully automating the preparation of orders.
Controlled by Modula WMS, the system prearranges trays during periods of inactivity. The machine creates **"ready-to-pick" trays** in advance, completed with the selected bins, based on incoming orders.

When operators arrive at the bay to execute their tasks, the pre-arranged trays with bins are instantly presented, eliminating waiting times.
This approach maximizes efficiency and ensures the Flexibox operates at full capacity, delivering optimized combinations of trays for seamless and productive picking operations.

MODULA FLEXIBOX: DESIGNED TO MEET THE NEEDS OF DIVERSE INDUSTRIES

AUTOMOTIVE INDUSTRY

Efficient Organization of High SKU Volumes
It handles a wide range of items, from small to medium-sized components, ensuring all parts are easily accessible.

E-COMMERCE INDUSTRY

Speed and Accuracy in Order Fulfillment
It ensures reliable same-day or next-day delivery, while offering scalability to adapt seamlessly to fluctuating demand and seasonal peaks.

Scalable Operations
It easily expands to accommodate increasing volumes without major reconfigurations.

Compact Footprint
Ideal for urban fulfillment centers where space is limited, providing a high-density storage solution.

ELECTRONICS INDUSTRY

Safe and Secure Storage
It stores fragile items in dedicated trays with dividers to minimize the risk of damage during storage and retrieval, ensuring product integrity.

Static-Free Environment Options
Customizable with anti-static features to protect sensitive electronic components.

RETAIL INDUSTRY

High Picking Speed for Fast Inventory Access
It keeps shelves stocked and fulfills omnichannel orders (ex. in-store pickup or delivery) to support both front-end sales and back-end logistics.

Fast Shelf Restocking
It minimizes downtime, improving customer satisfaction.

Enhanced Customer Experience
It streamlines stock access, allowing retail stores to fulfill online and in-store requests quickly, boosting omnichannel service efficiency.

PHARMACEUTICAL INDUSTRY

Regulatory Compliance
It supports the storage of sensitive pharmaceutical items with full traceability.

Batch and Expiry Tracking
WMS integration ensures precise tracking of lot numbers and expiration dates, reducing waste and maintaining compliance.

Fast Picking for High Demand
It achieves speeds of up to 180 bins/hour, ensuring timely fulfillment of prescriptions and large-scale distribution orders.

WMS INTEGRATION

SMART INTEGRATION WITH WAREHOUSE MANAGEMENT SYSTEMS.

Modula WMS offers a complete end-to-end warehouse management software solution, with options tailored to meet your specific needs.

OPTIMIZING PERFORMANCE WITH OUR WMS SOLUTION

Easy to install and operate, our software seamlessly integrates with any customer's existing ERP, MRP, WMS and DMS platforms, enhancing performance across your operations.

UNIFIED SOFTWARE ENVIRONMENT

Modula's WMS creates a single, cohesive digital ecosystem for all your Modula units, providing:

- **Simplified Operations**
  An intuitive interface that reduces training time and complexity.
- **Consistent Updates**
  Hardware and software updates synchronized for smooth functionality.

AI-DRIVEN OPTIMIZATION

Our WMS incorporates cutting-edge AI features to take automation to the next level, including:

- **Dynamic Storage Optimization**
  Smart algorithms allocate SKUs based on item dimensions, turnover rates, and storage conditions.
- **AI-Driven Batch Picking**
  Faster order processing with reduced labor costs.
- **Fast Implementation and Scalability**
  Rapid deployment and scalability to meet growing demands.

DEDICATED FEATURES FOR SUPERIOR SYSTEM PERFORMANCE

With our WMS software, (proprietary solution), you gain access to:

- **Exclusive System-Specific Features**
  Benefit from functionalities uniquely developed to maximize the capabilities of our equipment, from advanced picking strategies to precise inventory tracking.
- **Optimized Integration**
  Experience seamless communication between hardware and software, enhancing throughput.
- **Comprehensive Support**
  Dedicated technical assistance from our team.
- **Future-Proof Design**
  A WMS that evolves alongside Modula hardware to meet future operational needs.



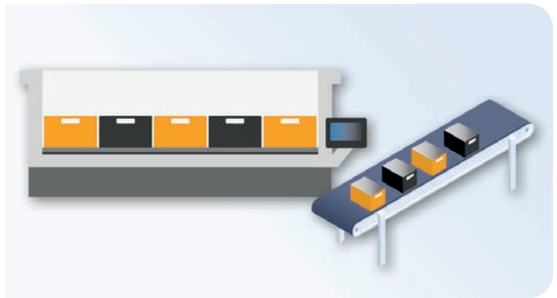
AUTOMATE AT YOUR PACE WITH FLEXIBOX

SCALE YOUR AUTOMATION JOURNEY COMBINING OTHER ADVANCED SOLUTIONS.

Flexibox offers not only flexibility in terms of basic and semi-automated operation but also a clear path toward full automation, making it an adaptable solution for businesses at all stages of their automation journey.

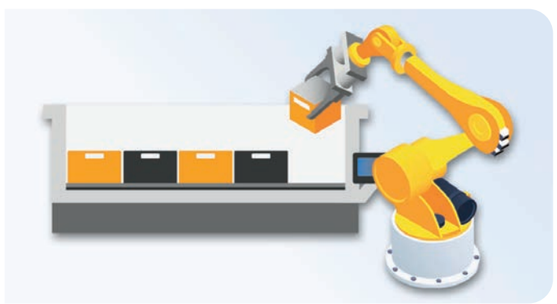
CONVEYORS & AGV/AMR

Flexibox seamlessly connects with conveyors, Cobot, Automated Guided Vehicles (AGVs), and Autonomous Mobile Robot to fully automate the movement of bins across different warehouse areas. This reduces manual tasks and boosts productivity.



PICKING ROBOTS

Flexibox is designed to work seamlessly with robotic picking systems, allowing for fully automated picking operations in high-throughput environments.



PUT TO LIGHT SYSTEMS

Flexibox can be combined with Put to Light systems to guide operators to the correct bin locations, enhancing picking accuracy and speeding up order fulfillment.
Flexibox can also integrate with tools like picking stations, picking carts (with picking lights or color coded) and wearable technologies, such as smart gloves, providing additional support to operators.





FLEXIBOX: MODELS AND TECHNICAL FEATURES



Model	INTERNAL BAY footprint *(mm)*	EXTERNAL BAY footprint *(mm)*	Number of bins per tray
ME - FLEXIBOX	1,917 x 2,556	1,917 x 3,246	3
MA - FLEXIBOX	2,317 x 2,556	2,317 x 3,246	4
MC - FLEXIBOX	2,917 x 2,556	2,917 x 3,246	5
MX - FLEXIBOX	3,517 x 2,556	3,517 x 3,246	6
ML - FLEXIBOX	4,517 x 2,556	4,517 x 3,246	9

MACHINE	BINS
UNIT HEIGHTS 3,300 mm to 24,000 mm	BIN DIMENSION 600 x 400 mm
UNIT HEIGHT INCREMENT 200 mm	BIN PAYLOAD Max 35 kg
NUMBER OF BAYS Up to 3, including above ground level and on the same side	BIN HEIGHT RANGE 120 to 420 mm

ME - 3 BINS



MA - 4 BINS



MC - 5 BINS



MX - 6 BINS



ML - 9 BINS



OPTIONS AVAILABLE

You can find a large number of options visiting: **www.modula.com/options**



MODULA WORLD



3
production plants

14
subsidiaries

100+
dealers

Modula is present in 5 continents with dealers and branches located in over 50 countries

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