We Optimize Your Supply Chain

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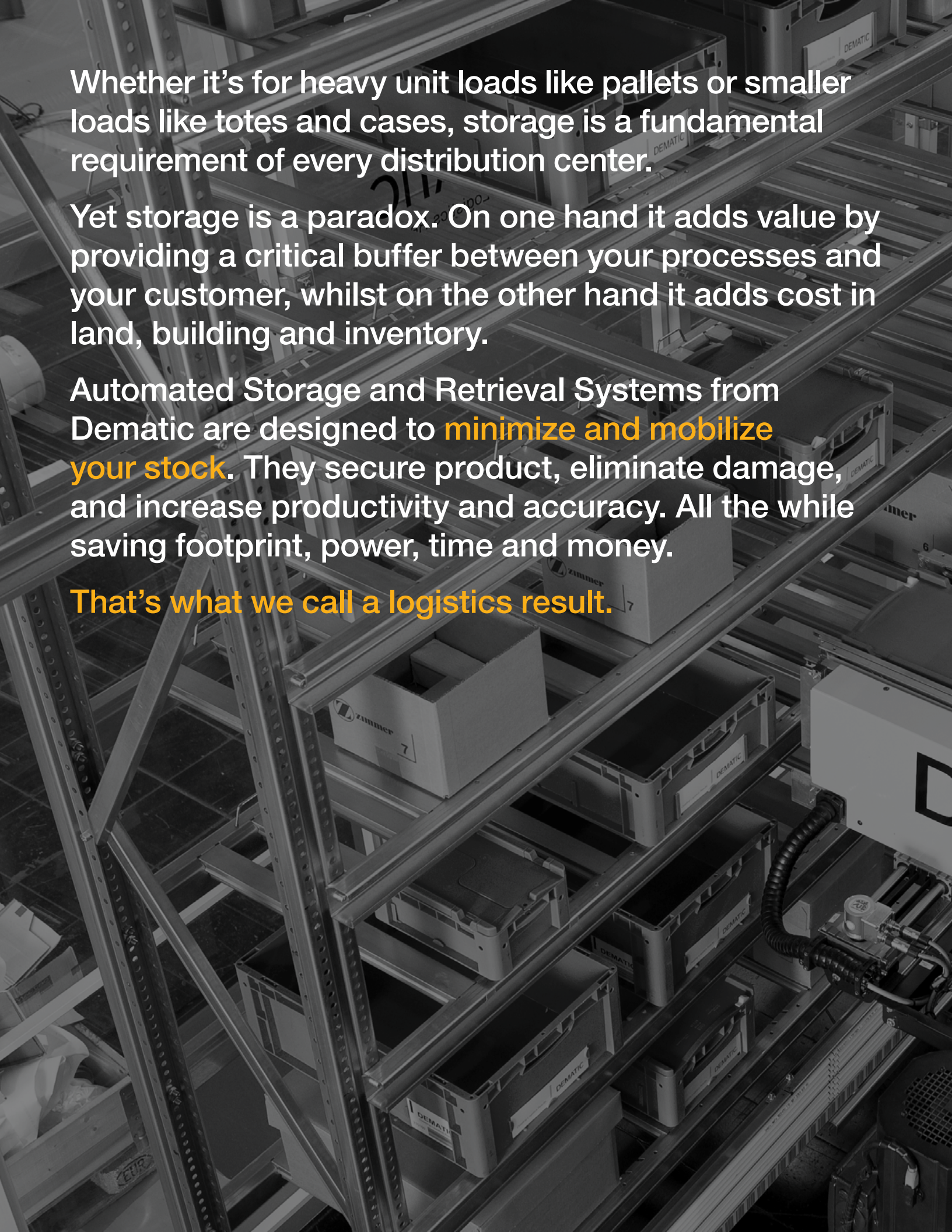
Dematic RapidStore ASRS

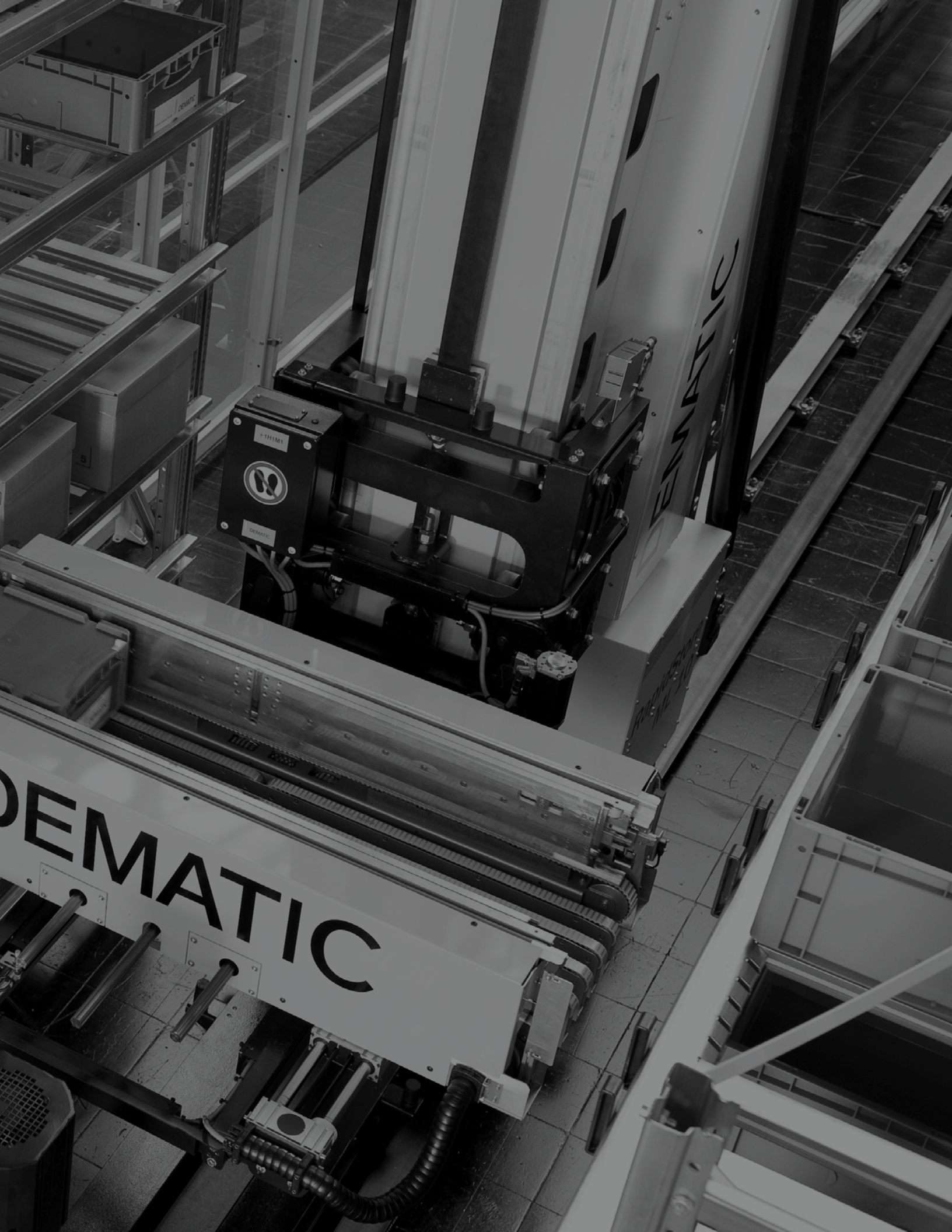


Whether it's for heavy unit loads like pallets or smaller loads like totes and cases, storage is a fundamental requirement of every distribution center.

Yet storage is a paradox. On one hand it adds value by providing a critical buffer between your processes and your customer, whilst on the other hand it adds cost in land, building and inventory.

Automated Storage and Retrieval Systems from Dematic are designed to minimize and mobilize your stock. They secure product, eliminate damage, and increase productivity and accuracy. All the while saving footprint, power, time and money.

That's what we call a logistics result.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The Advantages of RapidStore ASRS

Automatically Linking Processes in Manufacturing and Distribution

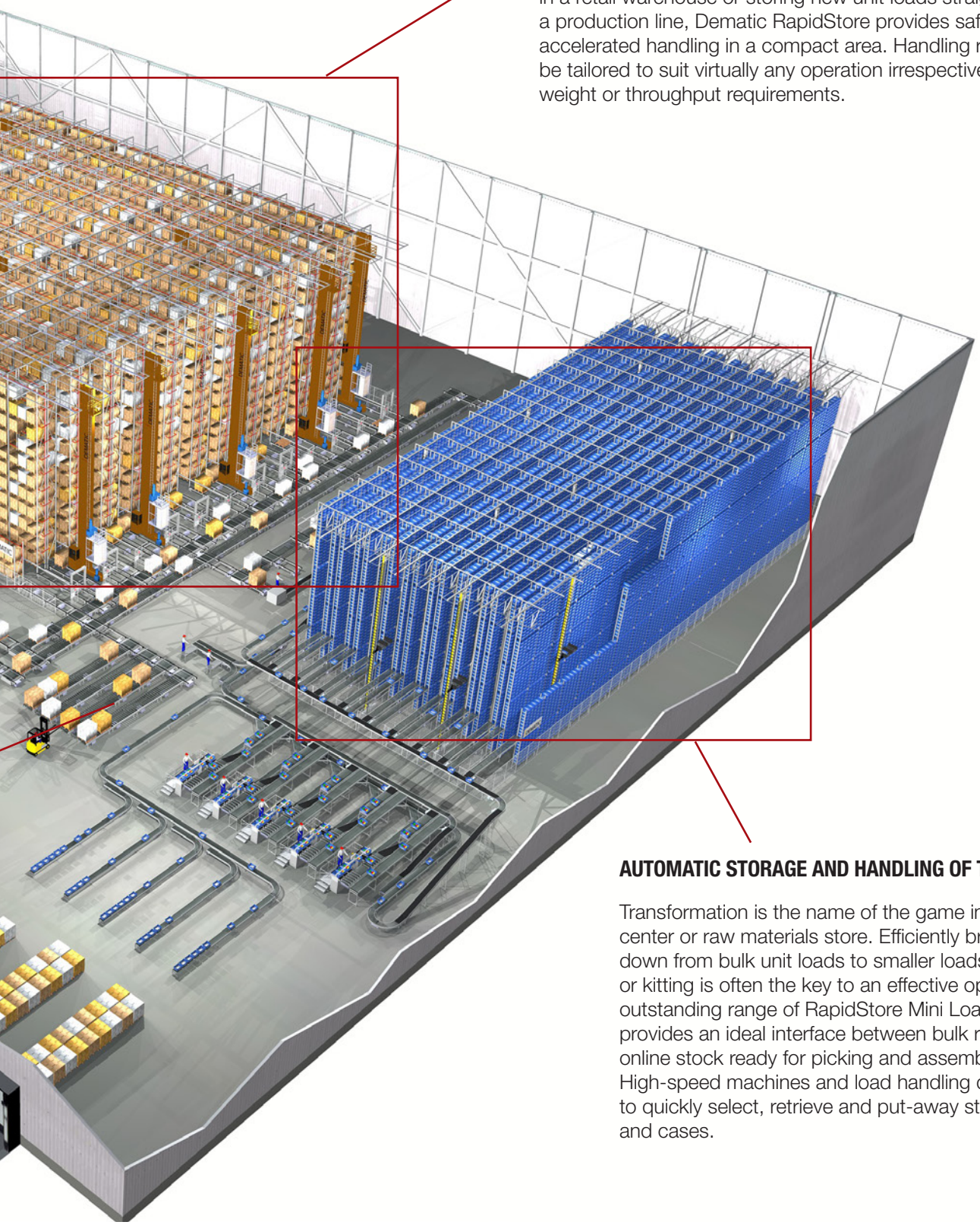
Dematic RapidStore solutions are an impressive addition to modern materials handling systems. Automatically receiving, putting away and retrieving your stock means the link between bulk reserve storage and online buffer storage is fast, efficient and cost effective. Compact in design and free from the burden of rising labor costs, RapidStore delivers productivity and throughput gains whilst dramatically reducing your land and building footprint by maximizing density.

INTEGRATION MANAGEMENT

Dematic's Director Suite of Warehouse Management and Control Software seamlessly integrates distribution functions such as receiving, put-away, location control, replenishment and dispatch. It manages all automatic storage and retrieval functions facilitating smooth material flow, kitting, or order assembly and provides efficient interfaces between bulk and online storage buffers. Inventory control and order management ensure real-time operational visibility and detailed management information.

AUTOMATIC STORAGE AND RETRIEVAL OF PALLETS AND UNIT LOADS

Ideal for bulk reserve storage in fast moving pallet handling operations Dematic's impressive range of RapidStore UL (Unit Load) machines can be tailored to your precise storage and handling requirements. Whether it's putting away pallet load deliveries from suppliers in a retail warehouse or storing new unit loads straight off the end of a production line, Dematic RapidStore provides safe, accurate and accelerated handling in a compact area. Handling requirements can be tailored to suit virtually any operation irrespective of load type, weight or throughput requirements.



AUTOMATIC STORAGE AND HANDLING OF TOTES AND CASES

Transformation is the name of the game in any distribution center or raw materials store. Efficiently breaking goods down from bulk unit loads to smaller loads ready for picking or kitting is often the key to an effective operation. Dematic's outstanding range of RapidStore Mini Load (ML) machines provides an ideal interface between bulk reserve stock and online stock ready for picking and assembly operations. High-speed machines and load handling devices combine to quickly select, retrieve and put-away stock stored in totes and cases.

The Dematic RapidStore Family

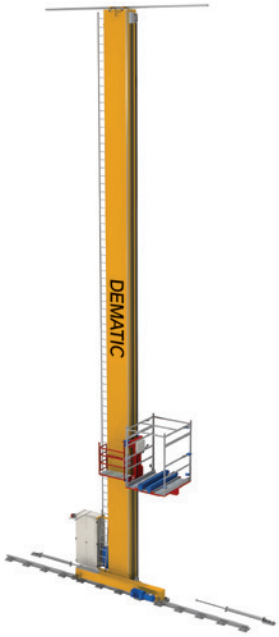
Your Comprehensive Range of ASRS for Unit Loads and Mini Loads

The complete range of Dematic RapidStore machines have been designed with efficiency in mind. Covering the great majority of unit load (palletized) and mini load (totes, cartons and cases) requirements, RapidStore machines are fast, reliable, accurate storage and retrieval machines, purpose designed to optimize your cube utilization and reduce your materials handling costs.

DEMATIC RAPIDSTORE UNIT LOAD MACHINES

UL1000 & UL1200

UL1400 RF



UL1500

UL1800

THE DEMATIC DIFFERENCE

OUR REPUTATION

Our reputation for understanding integrated system design is second to none in the industry. With an installed base of more than 10,000 machines and over 3500 systems, Dematic is a leader in Automatic Storage and Retrieval Systems.

EXPERIENCE

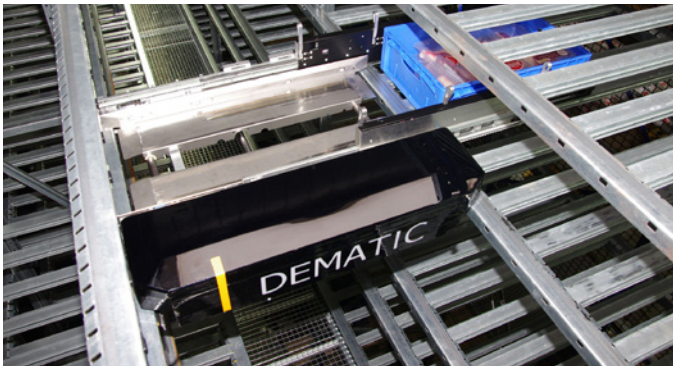
Unique application knowledge and machine design skills makes Dematic the ideal choice to deliver you a reliable, safe, efficient, long lasting automated storage solution.

PERFORMANCE

RapidStore solutions are designed with your throughput requirements in mind. Travel, hoisting, fork speed, acceleration/deceleration, and positioning accuracy have been carefully considered to provide an optimal integrated solution. Machines are selected to match application requirements, providing the perfect recipe of performance and economy.

LONG LIFE

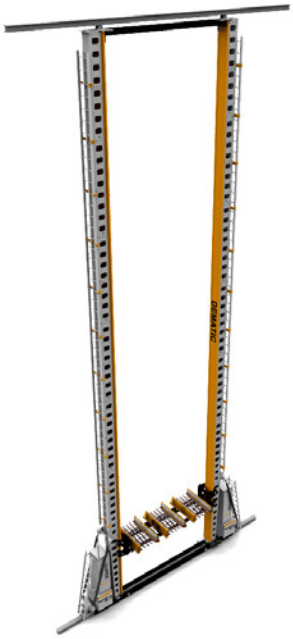
Many original Dematic machines, designed and built in the 1960s, are still in active operation today. Machine design has been optimized with a limited number of moving parts. In today's demanding business environment, maximum machine uptime is critical and this is where Dematic's design stands above the competition.



One further addition to the Dematic range of ASRS is the Dematic Multishuttle®. Ask your Dematic advisor for a copy of the latest Multishuttle brochure.

DEMATIC RAPIDSTORE MINI LOAD MACHINES

ML10 & ML14



ML20

ML+300

ML+350 & ML+450

SAFETY

The machine has many sensor points to ensure the operational safety of the system is never compromised, including unit load checks for stability, dimensions and weight. Dematic catching devices and hydraulic buffers are incorporated into designs to ensure the highest standards of safety. RapidStore Complies with regional government and industrial requirements.

EASY MAINTENANCE

Dematic solutions are not only engineered for outstanding performance, they are also designed for ease of servicing and long lasting, reliable performance. And they are backed by the industry's largest service and support teams.

SPECIAL REQUIREMENTS

RapidStore can be specially equipped to meet a range of applications such as cold storage and freezers. Load handling devices are selected and configured to match customer requirements and product range.

SUSTAINABLE AUTOMATED STORAGE

All RapidStore machines are designed with low energy consumption and line regeneration techniques in mind. Additionally, the use of proven components ensures low maintenance, minimum spare parts, long life and lowest overall lifecycle cost.

Unit Load Solutions

Cost Effective Bulk Reserve Storage

RapidStore Unit Load (UL) systems provide automated bulk reserve storage facilities in a range of warehouse applications. Ideal for storing pallet loads of raw materials or finished goods, RapidStore UL solutions are designed to deliver a compact building footprint while providing rapid, secure storage and retrieval.

RAPIDSTORE UL

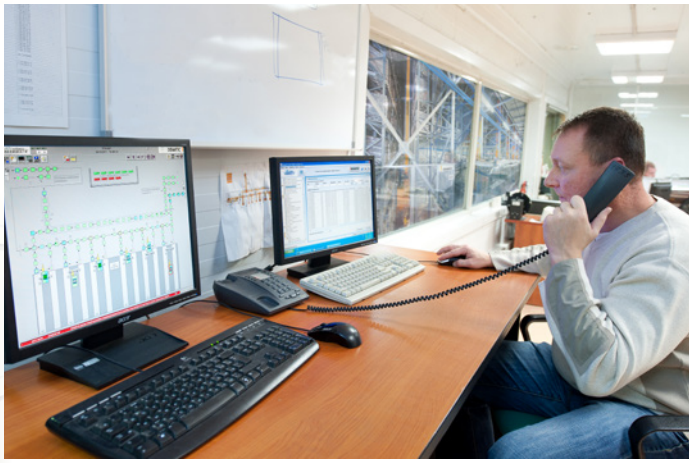
Faster than narrow aisle forklift trucks, RapidStore machines economically handle your throughput requirements in aisles only 200 mm wider than the load. Dematic's comprehensive range of Storage Retrieval Machines (SRM's) can be designed to handle loads of up to 1,800 kg in DC's up to 45 m tall, achieving throughput rates of 60 double cycles per hour depending on load weight, system height and aisle length.

RAILS

Dematic uses rails with a patented rail clamping system. All floor rails are from a single production batch from verifiable suppliers with reputations for high quality, ensuring consistency of performance throughout your system. In most instances Dematic's design positions the bottom rail to one side of the aisle providing a safe pathway should you need to operate the SRM in manual mode or gain access for maintenance.

RACKS

Integrated high-bay racking systems are designed to exacting tolerance for high-performance operation. While most racks are sourced locally for cost effectiveness, all racks are surveyed and verified by experienced Dematic engineers ensuring that they meet the latest FEM and RMI standards for design and installation tolerances. Dematic takes full responsibility that racks and machines are integrated to ensure incident free operation.



CONTROLS & SOFTWARE

Intuitive Location Control Software (LCS) interfaces with your WMS or ERP ensuring full system accountability and a high degree of management control. Controls provide visualization capability with user-friendly interface showing order status as well as providing service diagnostics.

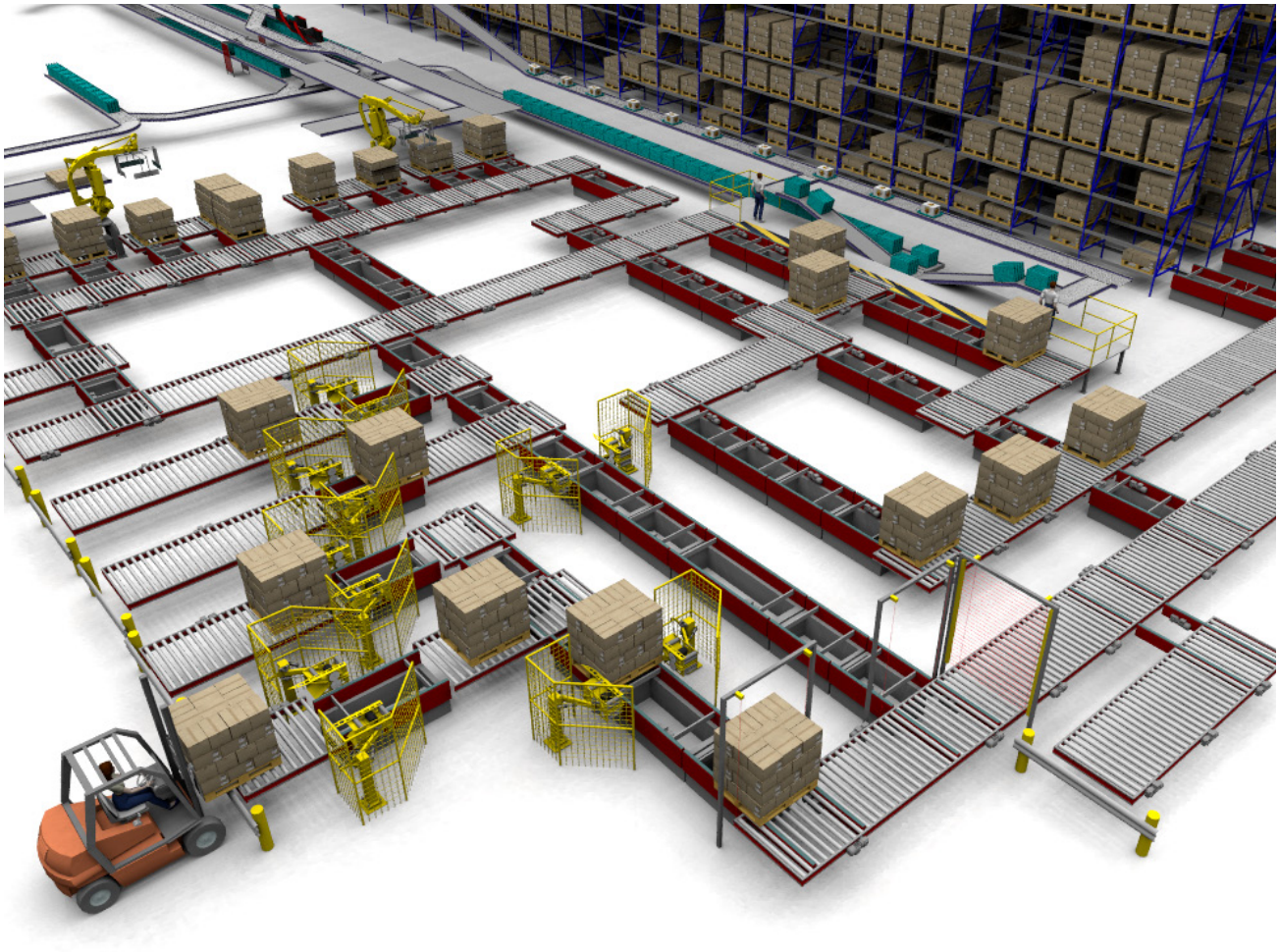
IN-FEED / OUT-FEED STATIONS

Dematic manufactures a comprehensive range of pallet conveyors and transfer cars. To accommodate differing throughput requirements, we have an impressive range of in-feed out-feed solutions from low-cost fixed-position P&D stations through to fully automated solutions that seamlessly link receiving, manufacturing, put-away, palletizing and dispatch.

Unit Load Solutions

Cost Effective Bulk Reserve Storage

RapidStore Unit Load (UL) systems provide automated bulk reserve storage facilities in a range of warehouse applications. Ideal for storing pallet loads of raw materials or finished goods, RapidStore UL solutions are designed to deliver a compact building footprint while providing rapid, secure storage and retrieval.



Sophisticated pallet conveyor in-feed/out-feed solutions are developed to directly interface with Dematic ASRS solutions, ensuring seamless material flow.

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RapidStore UL1000 & UL1200

Fast, Efficient, Cost Effective Light Load Storage and Handling

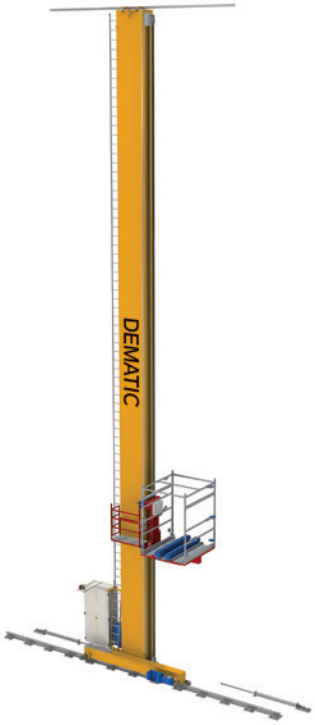
The RapidStore UL1000 & UL1200 provide high-speed handling of unit loads up to 1,200 kg in distribution centers up to 30 meters in height. Its single mast design means a lightweight machine which in turn allows faster acceleration and higher operational speed. RapidStore UL1000 & UL1200 provide safe and secure operation, 24/7, ensuring reliable performance and impressive ROI.

Specifications

▪ Maximum load:	1,200 kg (1,500 kg option)
▪ Machine height:	30 m
▪ Aisle width:	Load + 200 mm (min 1,200 mm)
▪ Travel speed:	4.0 m s-1
▪ Travel acceleration:	0.78 m s-2
▪ Hoist speed:	1.4 m s-1
▪ Hoist acceleration:	1.3 m s-2
▪ LHD speed:	1.5 m s-1

Features

- Optional dual wheel drive for optimal performance
- Vertical double chain hoist requires less frequent replacement and can be gaged for stretch and safety redundancy
- Commercially available, state-of-the-art control components include the latest in laser and barcode closed loop position technologies



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RapidStore UL1400 RF

Retrofit to a New Automated Distribution Center

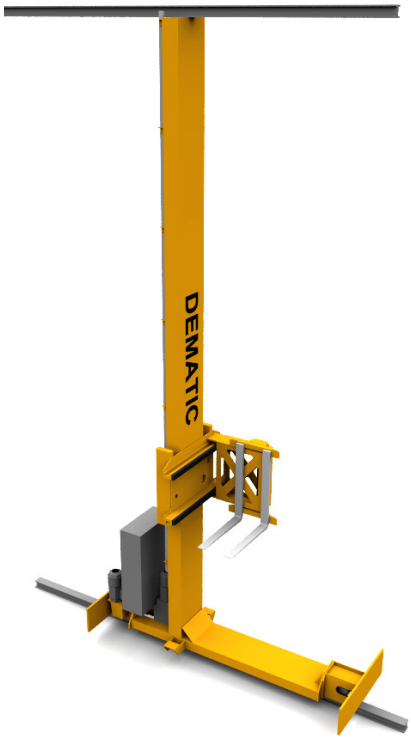
Designed to be implemented in a conventional warehouse with existing rack, the unique Dematic RapidStore UL1400 RF is a highly impressive addition to the Dematic ASRS range. Cleverly engineered forks with patented rotating geometry allow pallets to be fully turned in the aisle making for faster handling and simpler pick up and delivery station design. This cost-effective ASRS machine from Dematic is ideal for businesses seeking to replace labor intensive forklift fleets with automated handling of heavy loads up to 1,360 kg.

Specifications

Maximum load:	1,360 kg
Machine height:	18 m
Aisle width:	1,626 mm depending on load
Travel speed:	1.8 m s-1
Travel acceleration:	0.23 m s-2
Hoist speed:	0.45 m s-1
Hoist acceleration:	0.23 m s-2

Features

- Low beam position of 200 mm is ideal for auto replenishment of floor level walk pick solutions, without requiring pits in existing facilities
- Can be easily retrofitted into existing conventional beam and frame pallet racking
- All serviceable parts are located at the base of the machine for easy maintenance



RapidStore UL1500

High-Speed Handling of Heavy Loads in Manufacturing and Distribution

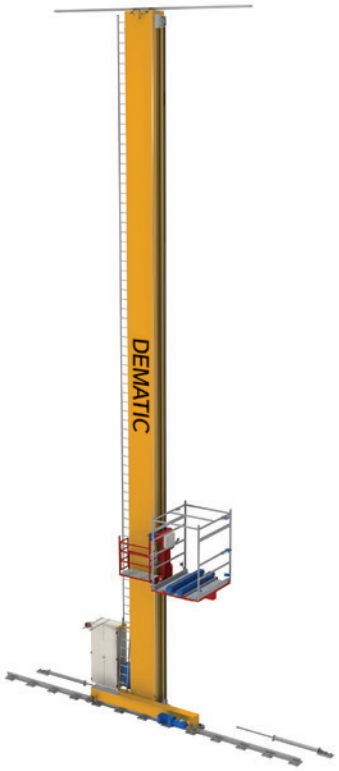
The RapidStore UL1500 is a versatile and highly efficient ASRS solution designed to handle loads up to 1,500 kg in DC's up to 46 meters in height. Impressive acceleration and travel speed combine to ensure high throughput is achieved safely and reliably. Adaptable to chiller and freezer operations, the RapidStore UL1500 provides outstanding performance and impressive ROI in a range of retail, cold storage, food and beverage manufacturing, and distribution operations.

Specifications

Maximum load:	1,500 kg (2,000 kg option)
Machine height:	46 m
Aisle width:	Load + 200 mm (min 1,550 mm)
Travel speed:	4.0 m s-1
Travel acceleration:	0.52 m s-2
Hoist speed:	1.5 m s-1
Hoist acceleration:	1.3 m s-2
LHD speed:	1.5 m s-1

Features

- Available with two load handling devices for increased throughput
- Optional person aboard cabin can be added for improved performance and easy maintenance
- Commercially available, state-of-the-art control components include the latest in laser and barcode closed loop position technologies



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RapidStore UL1800

Automated Heavy-Duty Storage and Handling

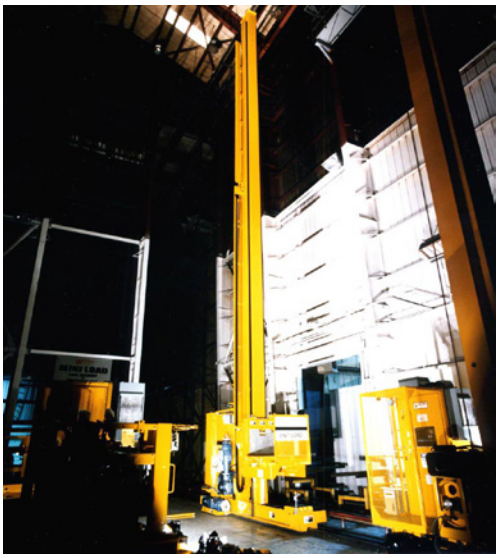
Ideal for dense storage of large or heavy loads, the RapidStore UL1800 provides the backbone of your automated distribution center. Capable of handling loads of 1,800 kg up to 33.5 meters in height, this exceptional machine is remarkably strong and efficient. Typical applications include archives, automotive and operations requiring the handling of heavy loads. Like all RapidStore machines the UL1800 has low maintenance requirements with all serviceable parts located conveniently in the base for easy access.

Specifications

Maximum load:	1,360 kg or 2,270 kg
Machine height:	33.5 m
Aisle width:	1,207 mm depending on load
Travel speed:	3.6 m s-1
Travel acceleration:	0.7 m s-2
Hoist speed:	1.3 m s-1
Hoist acceleration:	0.7 m s-2
LHD speed:	0.8 m s-1

Features

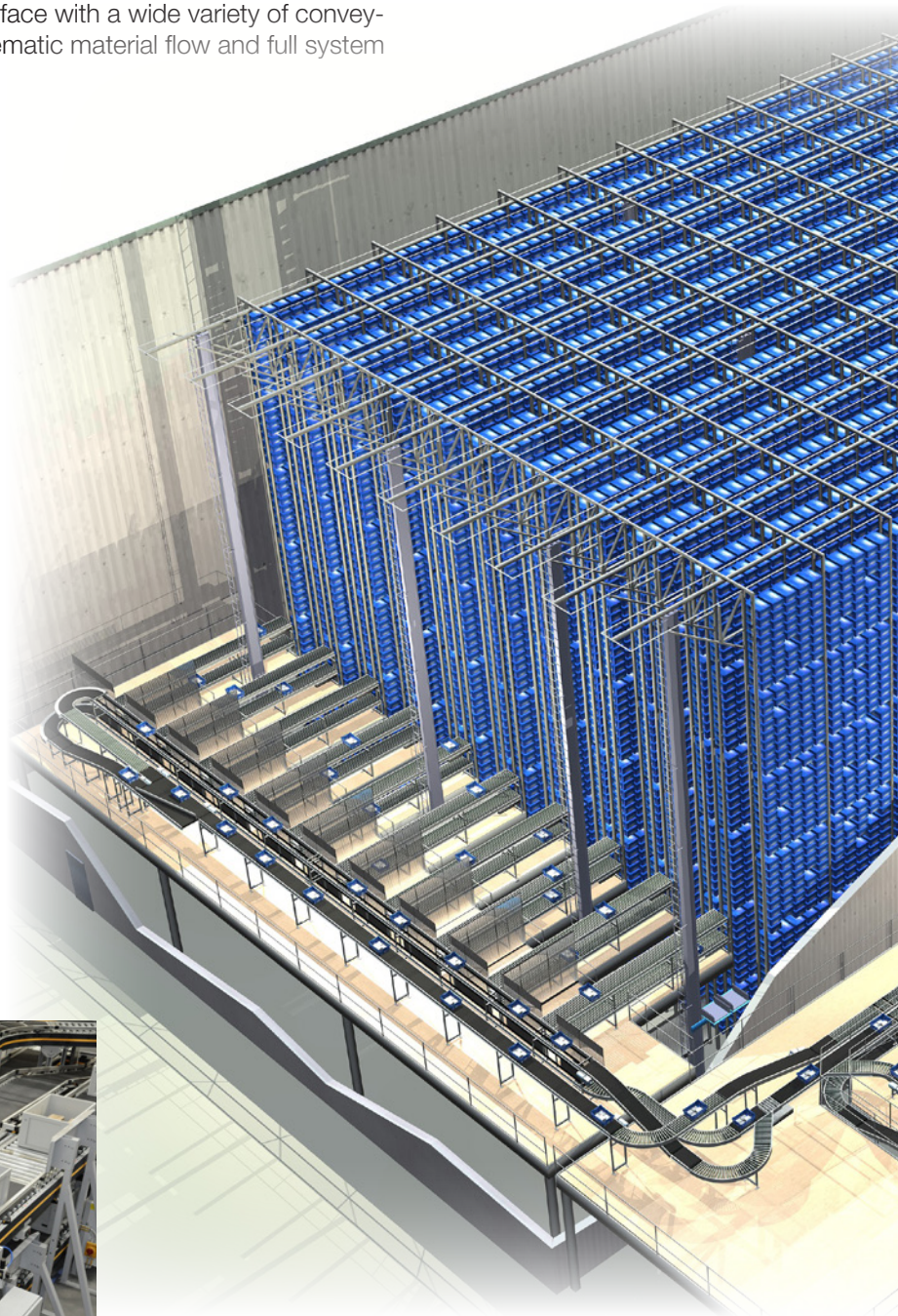
- Stores pallets up to three deep for high-density storage
- Ideal for pick face replenishment
- Allows pallets to be stored above pick tunnels utilizing wasted space



Automated Storage for Mini Loads

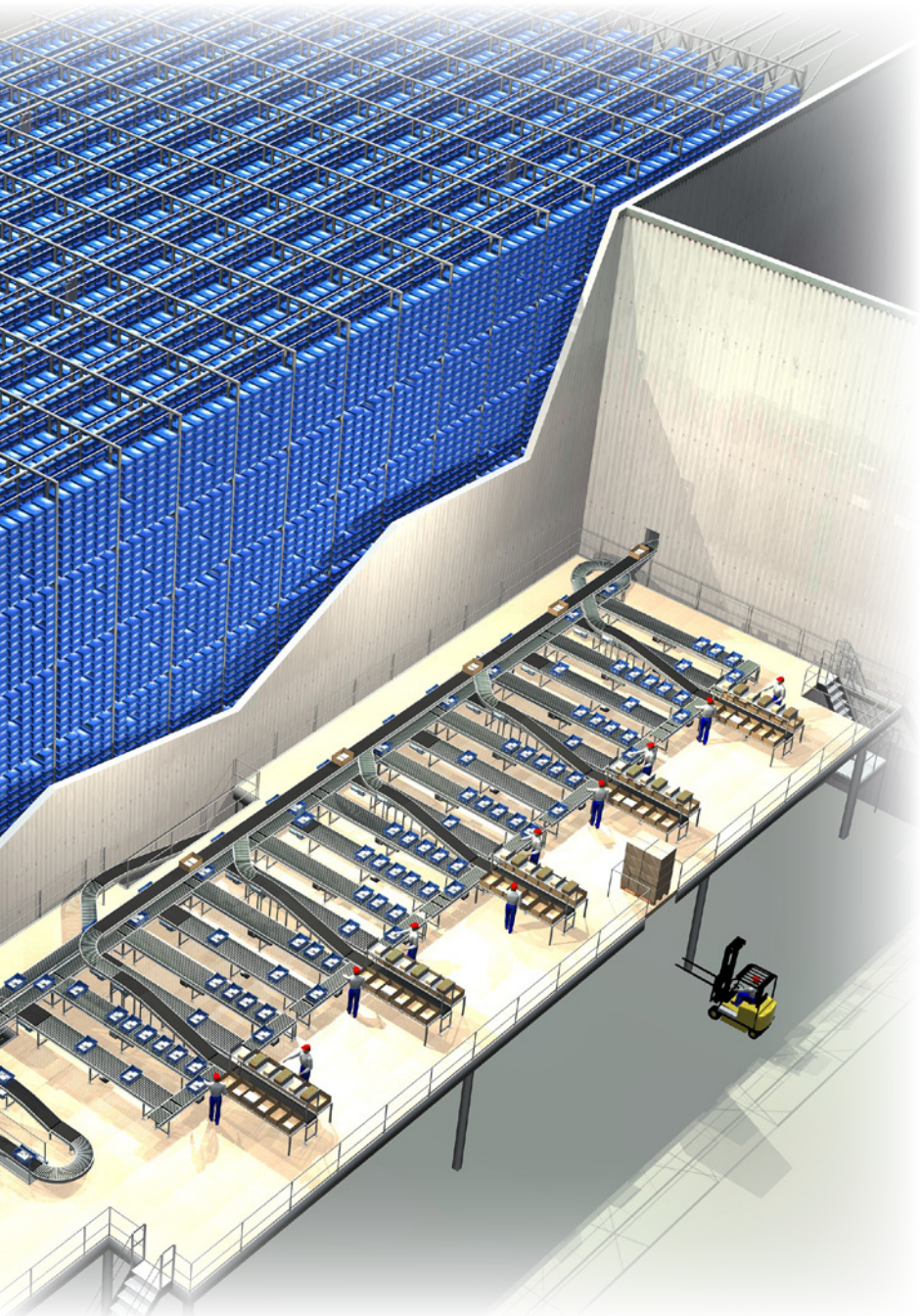
Rapid Handing of Online Stock for Manufacturing and Order Fulfillment

Choosing the ideal Mini Load system is easy with the Dematic RapidStore range. Machines are designed to meet your height and throughput constraints and can be perfectly tailored to your modern storage requirements. Dematic RapidStore ML and ML+ machines are highly efficient ASRS solutions for cartons, cases, trays and totes. Typical applications include kitting, buffering, staging and sequencing stock in manufacturing and distribution. Dematic Mini Load operations interface with a wide variety of conveyors, lifts and other transport devices to ensure systematic material flow and full system integration.



INTEGRATED CONVEYOR SYSTEMS

Dematic manufactures a comprehensive range of case conveyors, diverts, merges and accumulation conveyor as well as a full range of sorters. These conveyor solutions deliver stock to and from the mini load ASRS system in precisely the right sequence to meet the exacting needs of high speed kitting and order fulfillment operations.



RACKS

Precision racking and shelving systems are designed to exacting tolerance for high performance operation. All racks are surveyed and verified by experienced Dematic engineers ensuring that they meet the latest European and FEM standards. Dematic takes full responsibility that racks and machines are integrated to ensure incident free operation.

CONTROLS & SOFTWARE

Intuitive Location Control Software (LCS) interfaces with your WMS or ERP ensuring full system accountability and a high degree of management control. Controls provide visualization capability with user-friendly interface showing order status as well as providing service diagnostics.

Dematic RapidStore Load Handling Devices

Fast and Flexible Load Handling for Mini Loads

Dematic has developed a next generation load handling device (LHD) that can be implemented on all RapidStore ML machines. Designed for ultra high-speed load handling, Dematic RapidStore LHD's use precision telescoping arms with additional belt drives to handle goods quickly and effectively. Dematic RapidStore LHDs are available in fixed or flexible variants allowing the handling of multiple load sizes. Clever design improves shelf and load interface, minimizing the distance between shelf and load and providing overall better space utilization.

Multiple Dematic RapidStore load handling devices have been developed to enable efficient handling of single, double, or triple loads in side-by-side or stacked configurations, depending on SKU and customer throughput requirements.

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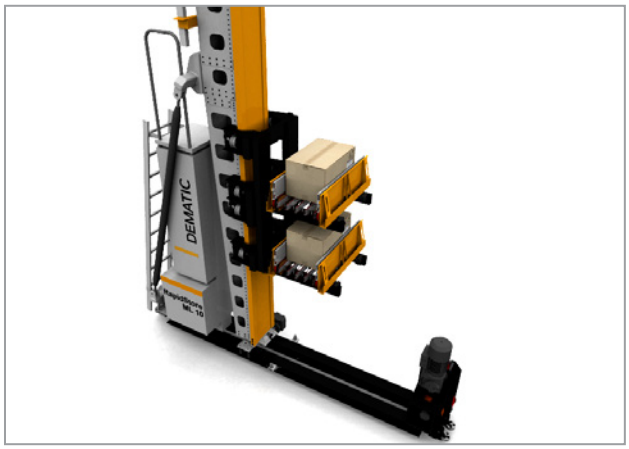
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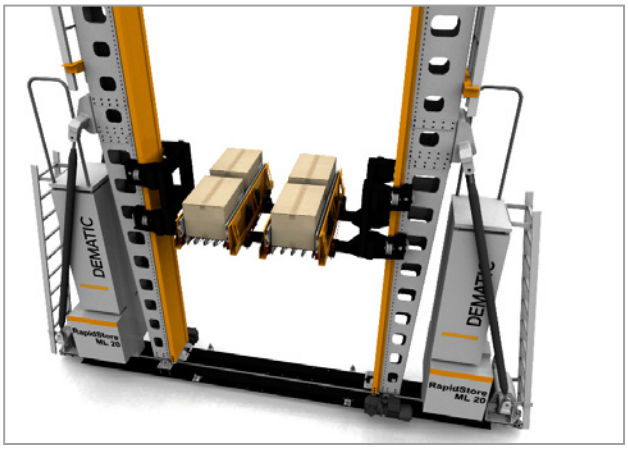
RapidStore ML 20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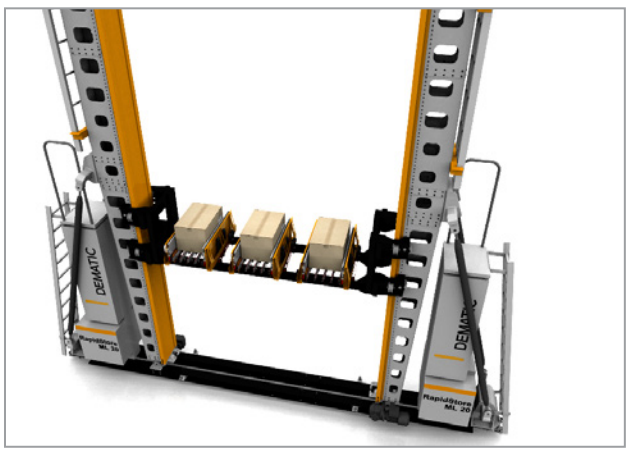
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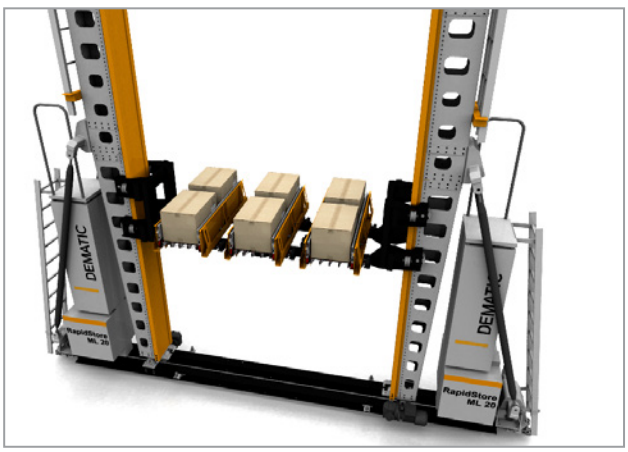
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RapidStore ML 20

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RapidStore ML10 & ML14

Exceptional Performance in Class Leading Mini Load Operations

The new RapidStore ML10 & ML14 mini load machines are the latest high performance solutions for handling totes, trays, cartons and cases. Lightweight, single-masted, aluminum construction ensures slick acceleration and high travel speed, essential in any picking or fulfillment operation. RapidStore ML10 & ML14 has been designed for high-end performance whilst at the same time delivering highly energy-efficient operation.

Specifications

Maximum load:	2 x 50 kg (per LHD type)
Machine height:	10 m (ML10) / 14 m (ML14)
Aisle width:	1,060 mm (950 mm option)
Travel speed:	6.0 m s-1
Travel acceleration:	5.2 m s-2 / 4.6 m s-2
Hoist speed:	3.0 m s-1
Hoist acceleration:	3.9 m s-2

Features

- Dual element braced mast design reduces weight and maximizes performance
- High performance horizontal and vertical belt drives provide industry-leading acceleration and precise positioning

RapidStore ML20

Higher Reach, Speed and Energy Efficiency

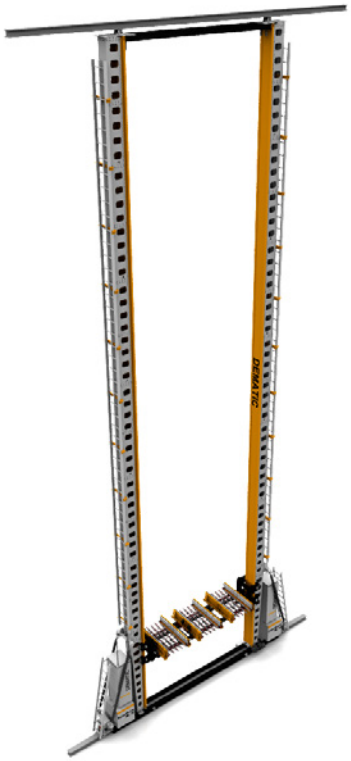
The new RapidStore ML20's double masted configuration ensures stability and safe operation up to 20 meters at high speed. The lightweight aluminum construction enables the machine to carry one, two or three load handling devices in single or double deep configurations. With rapid acceleration, high-speed operation and the ability to carry multiple LHDs, the RapidStore ML20 is the ultimate Mini Load ASRS for flexible, scalable, and precision performance.

Specifications

Maximum load:	2 x 50 kg (per LHD type)
Machine height:	20 m
Aisle width:	1,060 mm (950 mm option)
Travel speed:	5.0 m s-1
Travel acceleration:	3.9 m s-2
Hoist speed:	3.0 m s-1 (1 LHD)

Features

- Dual mast design allows up to three LHDs on a single machine, capable of handling and transferring six loads simultaneously for optimum performance
- Dual element braced mast reduces weight and energy consumption
- Dual wheel drive maximizes performance and facilitates long travel distance



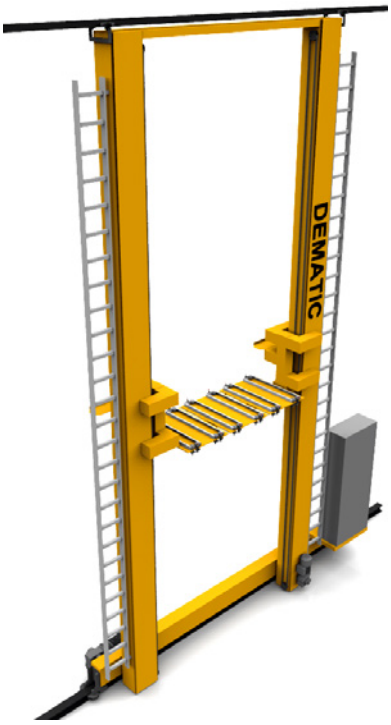
RapidStore ML+300

Durable, Reliable, High Speed Storage and Retrieval

The RapidStore ML+300 is a heavy-duty, double-masted ASRS capable of handling loads of 340 kg to heights up to 20 meters. Lightweight, high-strength steel profile construction ensures effective handling of mid-range loads in manufacturing and distribution operations. The RapidStore ML+300 can be used in combination with a tried and true range of single and double deep telescopic tables with grippers and pneumatic extractors.

Specifications

▪ Maximum load:	340 kg
▪ Machine height:	20 m
▪ Aisle width:	850 mm SD / 1,400 mm DD
▪ Travel speed:	4.0 m s-1
▪ Travel acceleration:	2.0 m s-2
▪ Hoist speed:	3.0 m s-1
▪ Hoist acceleration:	3.0 m s-



Features

- Can be configured with up to four LHDs
- Dual wheel drive provides maximum performance
- Commercially available control components include the latest laser and barcode closed loop position technologies

RapidStore ML+350 & ML+450

Heavier Mini Loads Handled with Ease

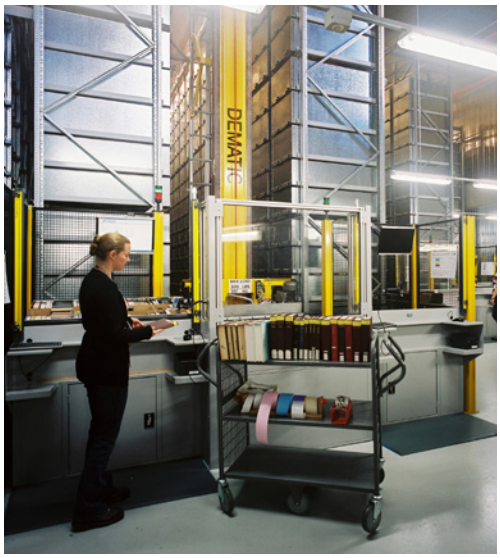
In a range of applications as diverse as spare parts stores, machine assembly centers and libraries, there is a common theme. Loads are heavy and they are carried in a range of steel bins or crates. In these mid-throughput operations, loads up to 350 kg and 450 kg are common and it is in these applications that the RapidStore ML+350 & ML+450 excel. Storing, retrieving and handling these loads is made easier by impressive single masted machines along with a range of specialized handling devices unique to Dematic.

Specifications

Maximum load:	340 kg / 455 kg
Machine height:	15 m
Aisle width:	1,060 mm
Travel speed:	2.0 m s-1
Hoist speed:	0.8 m s-1)

Features

- High density storage of trays and bins
- Lost space above and below the load minimized to ensure efficient use of build space
- High speed extractor maximizes throughput



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