Dematic RapidStore ASRS

Creating Logistics Results

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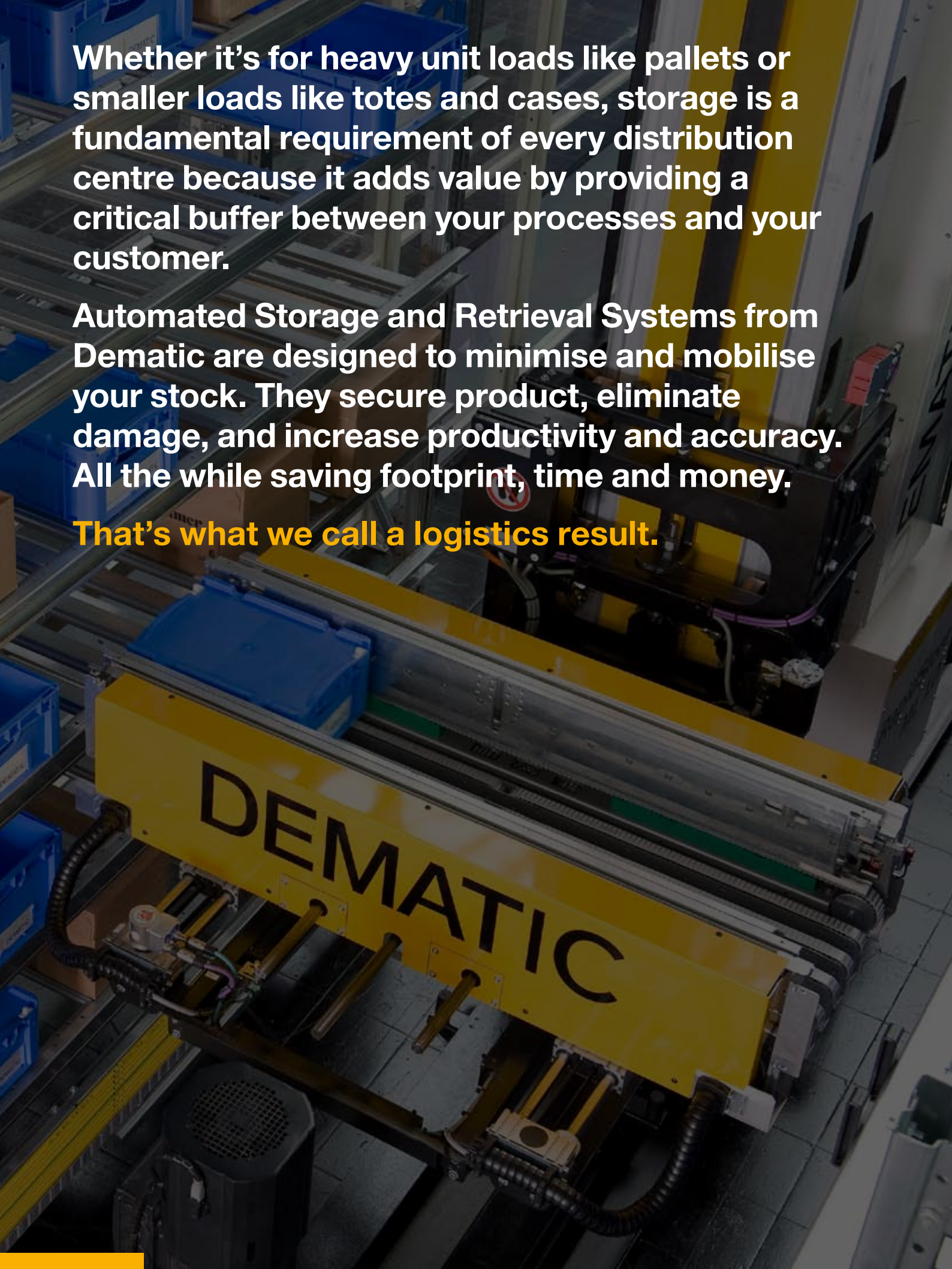


Whether it's for heavy unit loads like pallets or smaller loads like totes and cases, storage is a fundamental requirement of every distribution centre because it adds value by providing a critical buffer between your processes and your customer.

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

That's what we call a logistics result.

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 (palletised) and mini load (totes, cartons and cases) requirements, RapidStore machines are fast, reliable, accurate storage and retrieval machines, purpose designed to optimise your cube utilisation and reduce your materials handling costs.

Dematic RapidStore ASRS for pallets (UL-series)

UL1000 & UL1200

UL1500

Dematic RapidStore ASRS for small parts (ML-series)

ML10 & ML14

ML20

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 5,000 systems, Dematic is a leader in automated installations.

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.

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.

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.

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.

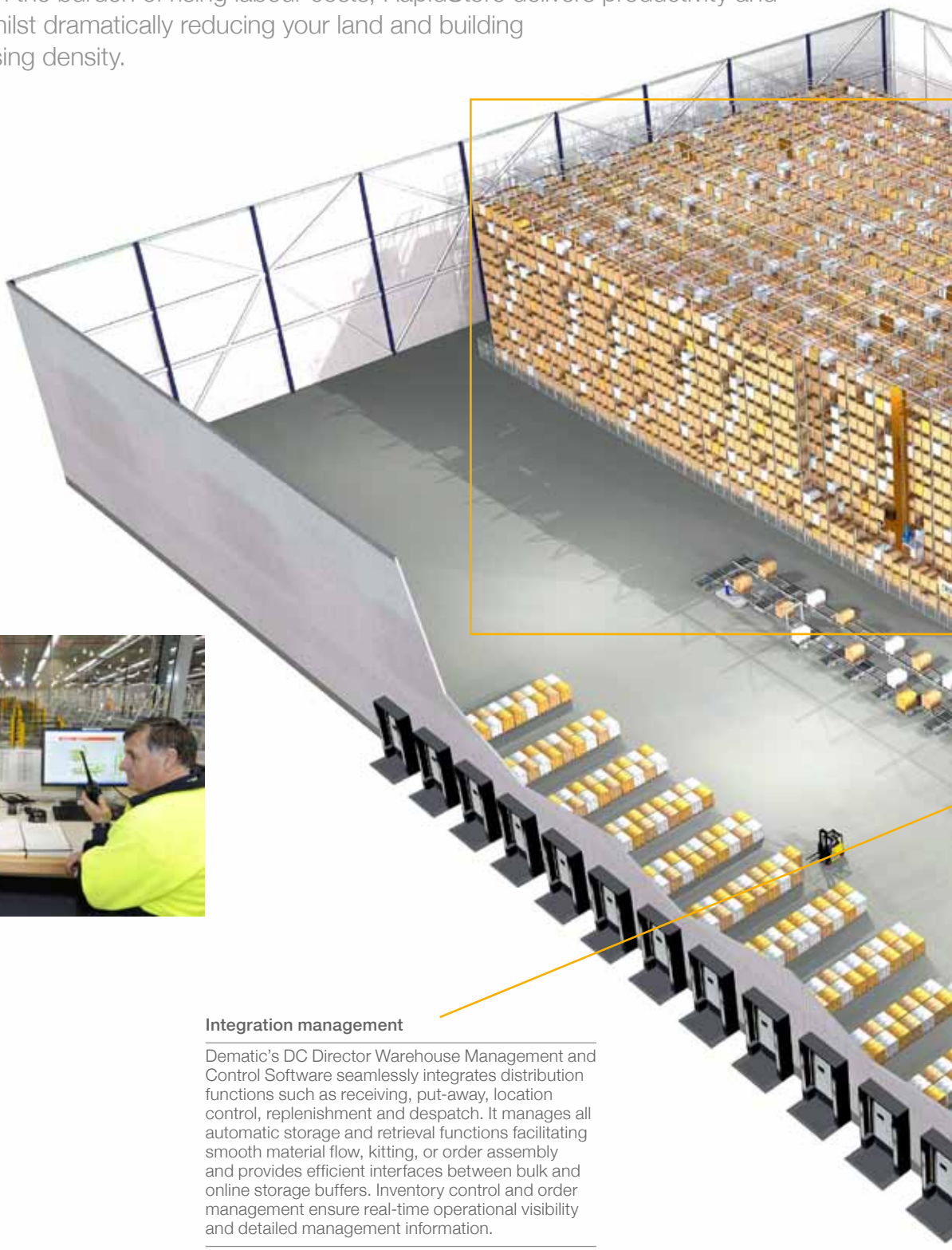
Sustainable automated storage

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

The advantages of RapidStore ASRS

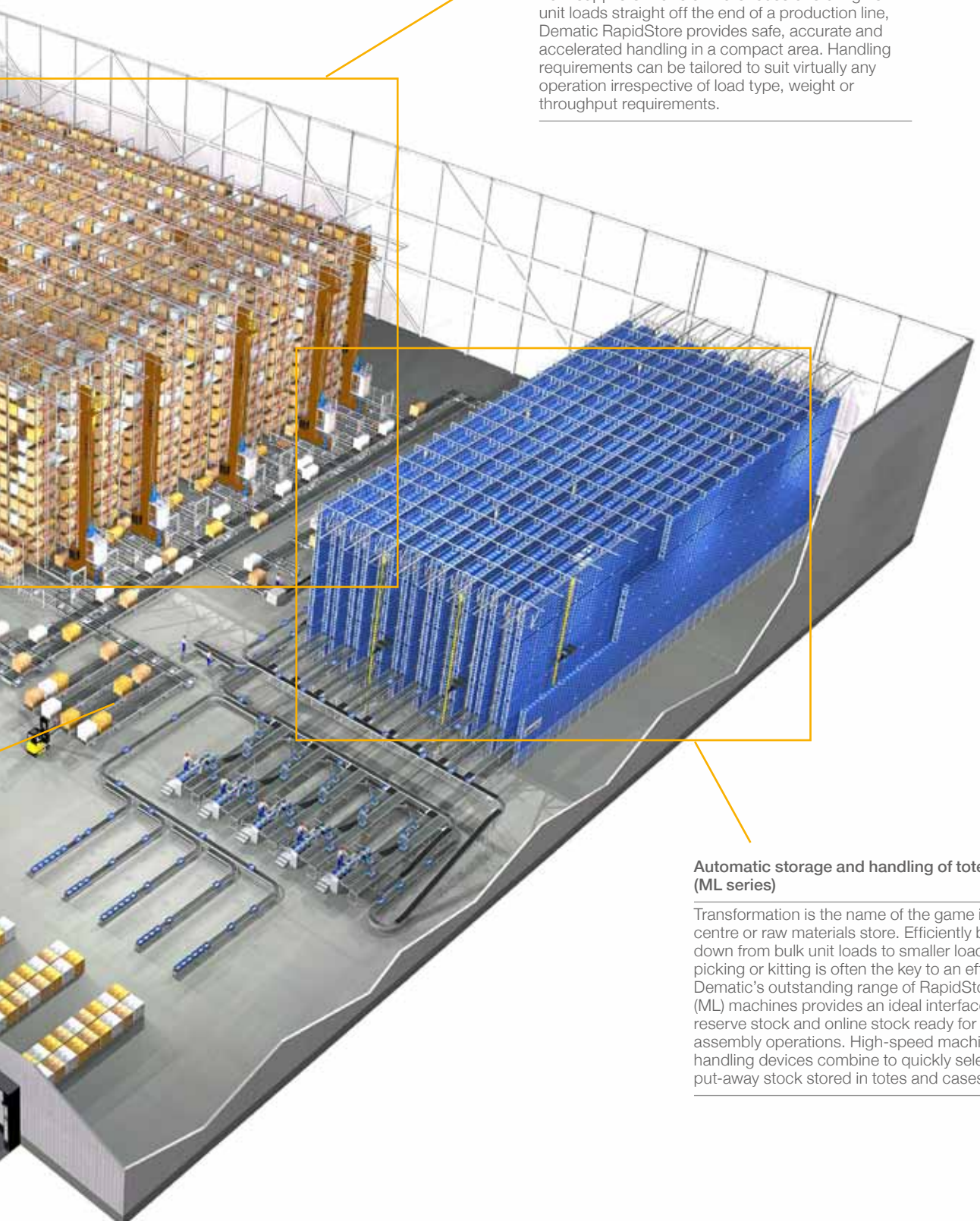
Automatically linking processes in manufacturing and distribution

Dematic RapidStore solutions are a useful 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 labour costs, RapidStore delivers productivity and throughput gains whilst dramatically reducing your land and building footprint by maximising density.



Integration management

Dematic's DC Director Warehouse Management and Control Software seamlessly integrates distribution functions such as receiving, put-away, location control, replenishment and despatch. 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 (UL series)

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 (ML series)

Transformation is the name of the game in any distribution centre 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.

Unit load solutions

Cost effective bulk reserve storage

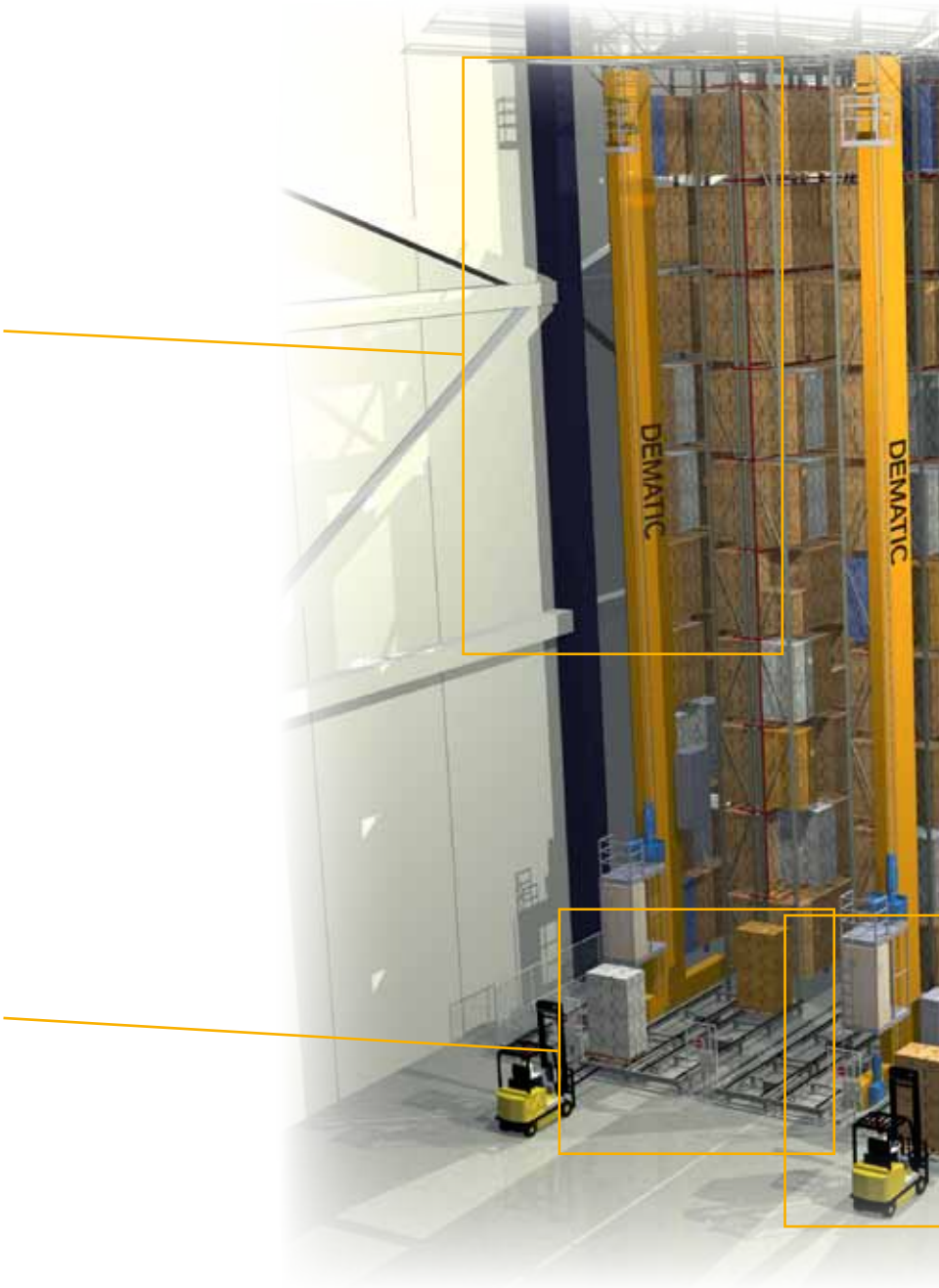
RapidStore Unit Load (UL) systems provide automated bulk reserve storage facilities in a range of warehouse applications. Ideal for storing pallet loads of raw materials or finished goods, RapidStore UL solutions are designed to deliver a compact building footprint while providing rapid, secure storage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

RapidStore UL1000 & UL1200

Fast, efficient, cost effective pallet storage and handling

The RapidStore UL1000 & UL1200 provide high-speed handling of unit loads up to 1,200 kg in distribution centres up to 30 metres 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.

Specifications

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

Features

→ Optional dual wheel drive for optimal performance.

→ Vertical double chain hoist requires less frequent replacement and can be gauged 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 UL1500

High-speed handling of heavy loads in manufacturing and distribution

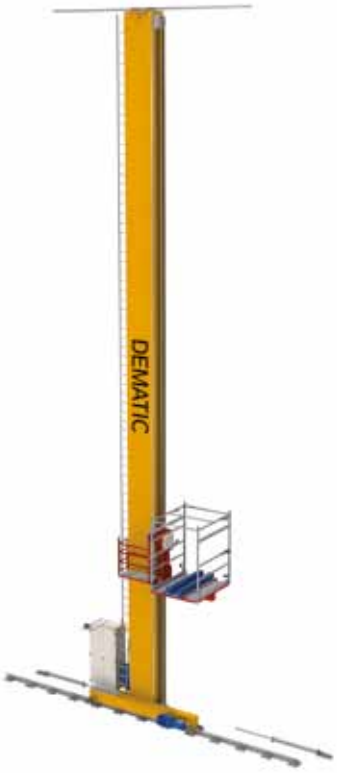
The RapidStore UL1500 is a versatile and highly efficient ASRS solution designed to handle loads up to 1,500 kg in DC's up to 46 metres in height. Impressive acceleration and travel speed combine to ensure high throughput is achieved safely and reliably. Adaptable to chiller and freezer operations, the 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 optional)
Machine height:	46 m
Aisle width:	Load + 200 mm (min. 1,550 mm)
Travel speed:	4.0 m/s
Travel acceleration:	0.52 m/s^2
Hoist speed:	1.5 m/s
Hoist acceleration:	1.3 m/s^2
LHD speed:	1.5 m/s

Features

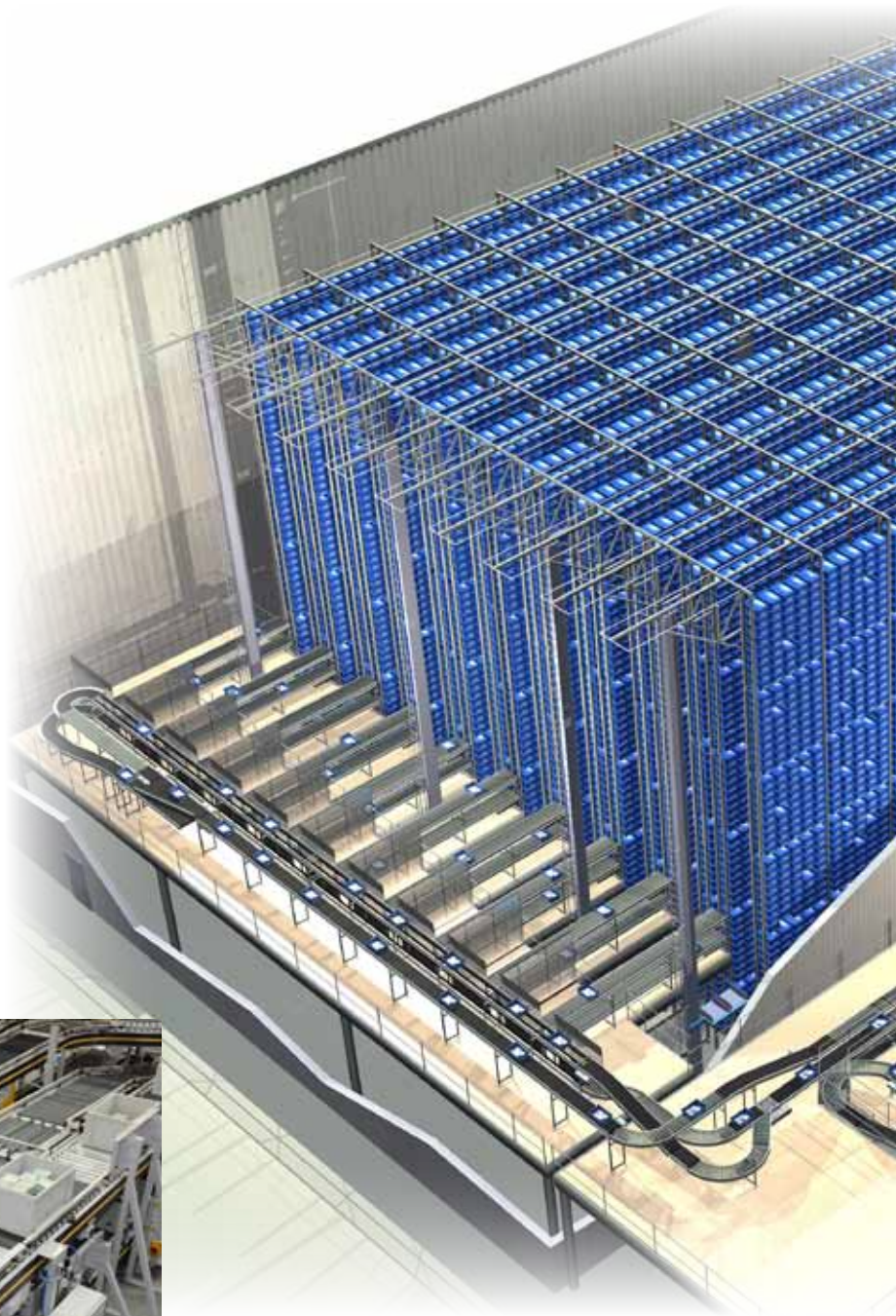
- → Available with two load handling devices for increased throughput.
- → Optional person aboard cabin can be added for easy maintenance.
- → Commercially available, state-of-the-art control components include the latest in laser and barcode closed loop position technologies.



Automated storage for mini loads

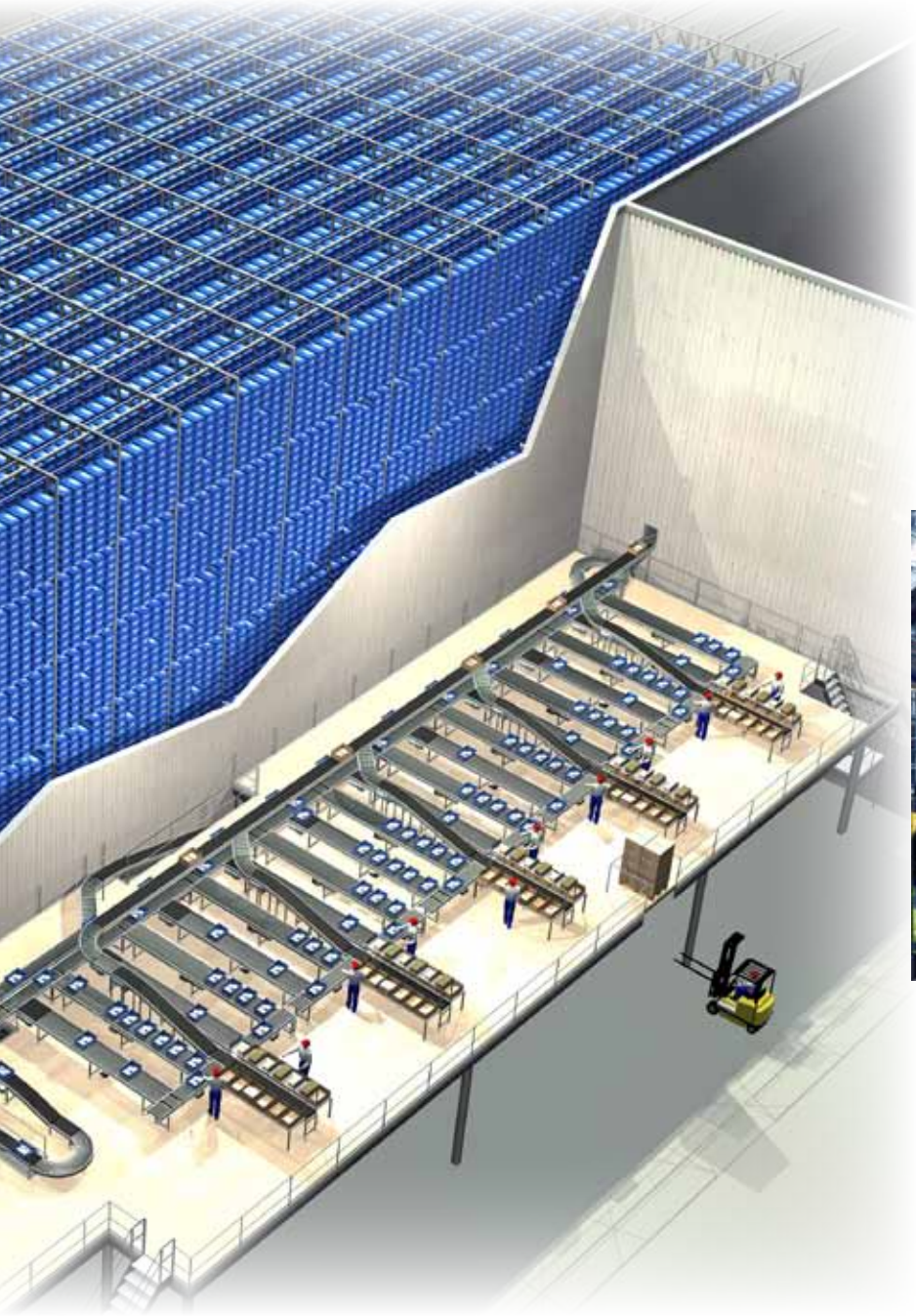
Rapid handing of online stock for manufacturing and order fulfilment

The Dematic RapidStore Mini Load (ML) product family is designed to meet 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.



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 fulfilment 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 visualisation 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 Fevice (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, minimising the distance between shelf and load and providing overall better space utilisation.

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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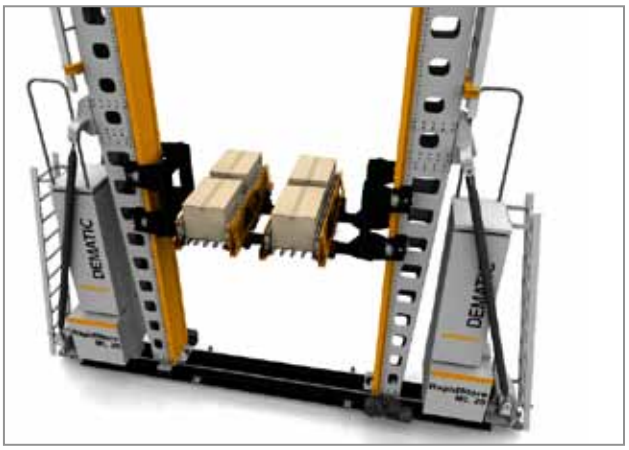
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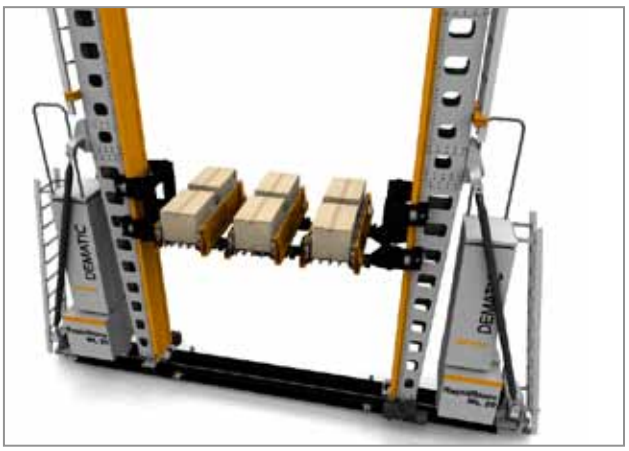
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RapidStore ML10 & ML14

Exceptional performance in class leading mini load operation

The new RapidStore ML10 & ML14 mini load machines are the latest high performance solutions for handling totes, trays, cartons and cases. Lightweight, single-masted, aluminium construction ensures slick acceleration and high travel speed, essential in any picking or fulfilment 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 optional)
Travel speed:	6.0 m/s
Travel acceleration:	5.2 m/s^2 (ML10) / 4.6 m/s^2 (ML14)
Hoist speed:	3.0 m/s
Hoist acceleration:	3.9 m/s^2

Features

→ Dual element braced mast design maximises performance.

→ High performance horizontal and vertical belt drives provide industry-leading acceleration and precise positioning.

RapidStore ML20

Exceptional performance in class leading mini load operation

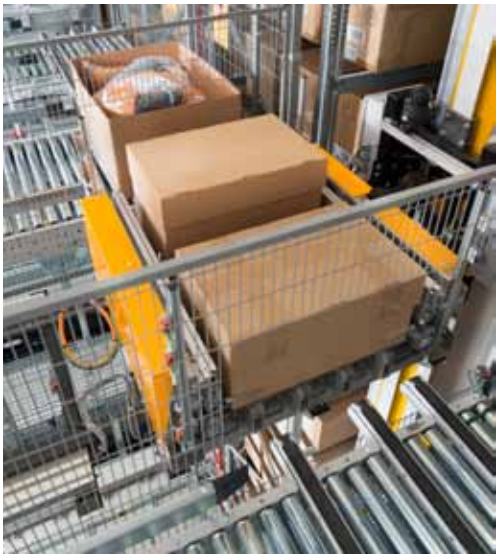
The new RapidStore ML20's double masted configuration ensures stability and safe operation up to 20 metres at high speed. The lightweight aluminium construction enables the machine to carry one, two or three load handling devices in single, double or multi deep configurations. With rapid acceleration, 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.

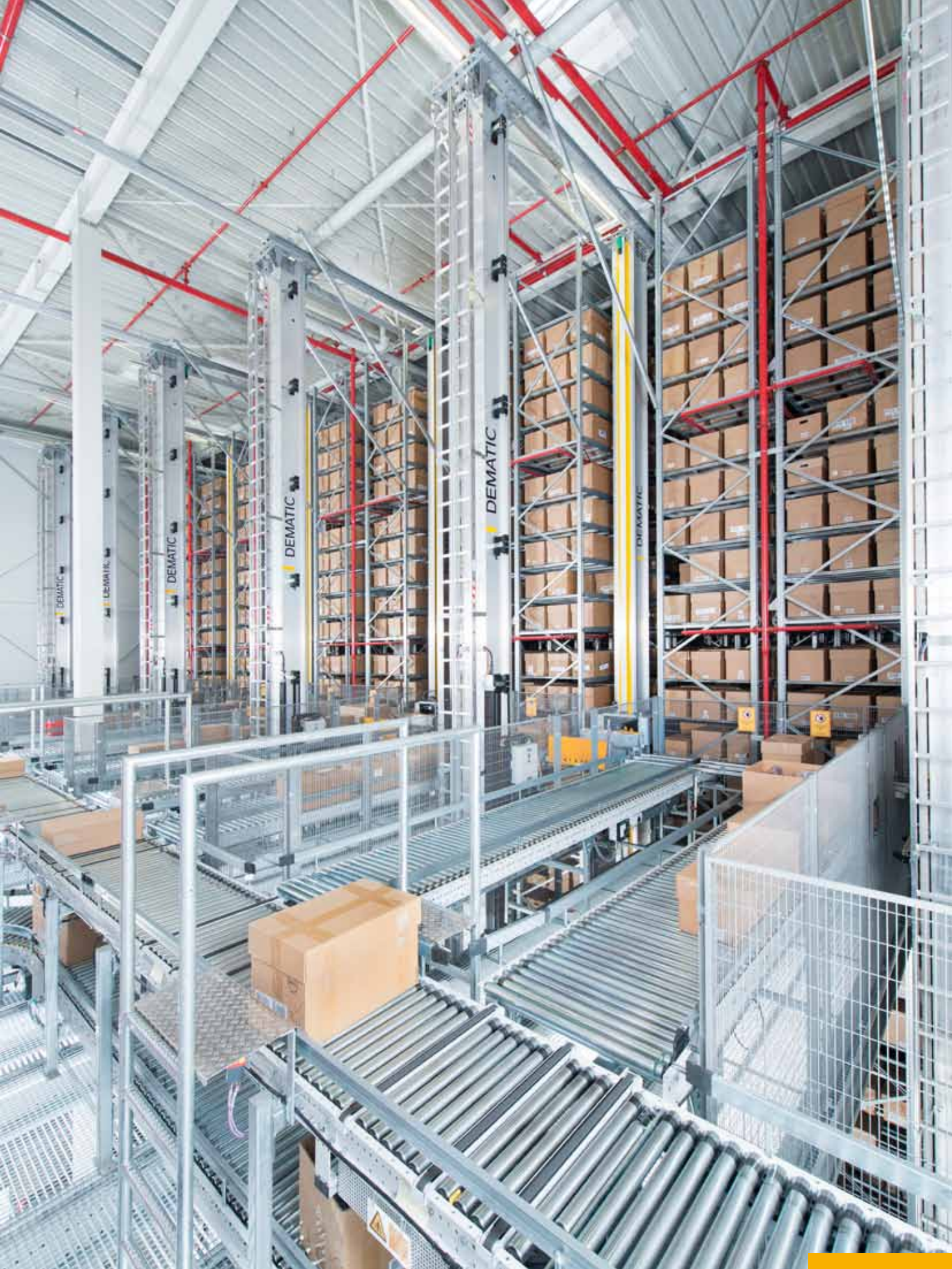
Specifications

Maximum load:	2 x 50 kg (per LHD type)
Machine height:	20 m
Aisle width:	1,060 mm (950 mm optional)
Travel speed:	5.0 m/s
Travel acceleration:	3.3 m/s^2 (with one or two LHD)
Hoist speed:	3.0 m/s
Hoist acceleration:	3.9 m/s^2

Features

- → Dual mast design allows up to three LHDs on a single machine, capable of handling and transferring six loads simultaneously for optimimum performance.
- → Dual wheel drive maximises performance.
- → The friction-drive concept allows long travel distances.

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