

DEMATIC

Dematic Multishuttle® 2

Staging Buffer Sub-System



In intralogistics new cross-industry trends emerge: rapid product growth, small batch sizes, higher performance requirements, sequence-based provision and a wide range of load handling devices – to name the most important.

To respond to these trends and to provide automated logistics solutions largely independent towards changes in the order structure and product diversity, we have followed a top design criterion in the development of Dematic Multishuttle® 2: Flexibility.

Thanks to the redundant and modular design with Dematic Multishuttle® 2, you can look forward to the requirements of the future.



Compact with high rate capacity

Dematic Multishuttle® 2 is a highly effective system for buffering totes, cartons, trays or individual bundles. It is an efficient staging solution that offers space-saving storage and buffering with a high storage density and maximum operational flexibility.

Typical applications

Dematic Multishuttle® 2 is ideal for supplying product to piece pick order fulfilment modules or mixed case pallet building operations. It can also serve as a pick face replenishment solution. In addition, Dematic Multishuttle® 2 can be applied as a short term buffer storage system or as a manufacturing support subsystem for production operations.

The new generation

The Dematic Multishuttle® 2 is the second generation of our shuttle technology. The all new design incorporates outstanding engineering, a flexible load extractor, halving of weight, doubling of speed, higher payload capacity, and multi-deep storage capability. Static, Flex, Flextended, Belted and Narrow models allow the solution to be based on the customer's unique product requirements.

The Dematic Multishuttle® 2 Flex und Flextended option incorporate flexible load handling technology, enabling high performance storage and retrieval of variable cartons, totes, oversizes and package formats – without the use of trays. The load handling device “flexes” its telescopic arms to adjust to the exact width of the load to be handled as “fingers” engage the product for transfer on and off of the shuttle.

Telescopic load extractor reaches both sides of the rack

The innovative eight finger design of the load extractor and overlapping telescope arms allow for the use of only two telescopic sections to store products single, double, or multi-deep. The load capture fingers are plastic cast, carbon fibre reinforced for robust long term performance.

The Flex Shuttle allows flexible storage and retrieval and thus space-saving storage arrangement (dynamic slotting).



Dematic Multishuttle® 2 redefines warehouse logistics:

- **Increased throughput:** Up to 10 times higher than conventional storage systems
- **High utilisation:** Feeds workstations with high rates to keep workers fully utilised.
- **Ultra-high storage density:** Supports multi-depth storage and handling of units of different sizes tightly packed without fixed storage locations. Lifts can connect work stations above and below to ensure maximum density and use of space.
- **More layout options:** Fits into overhead spaces, under/over obstructions, best cube utilisation.
- **Precise sequencing:** Presents loads to pick stations or palletisers in exact sequence.
- **Range of load types:** Flex option accommodates various load sizes
- **Redundancy with back-up:** The rapid interchangeability of the shuttles ensures high system availability.
- **Manual access:** Work platforms in the rack aisles allow manual access to inventory and service to shuttles.
- **Scalability:** Add more aisles, levels and lifts in future to provide more throughput

Specifications

Designed with flexibility and efficiency in mind, the Dematic Multishuttle® 2 offers standard modular components and the flexibility to be scalable, especially for companies experiencing rapid growth and change in product demand profiles.

Specifications

- **Load types:** Plastic tote box, cardboard carton, trays, bundles
- **Load weight:** Up to 50 kg
- **Configuration**

Multishuttle Static:	Telescopic load extractor (fixed length & width)
Multishuttle Belted:	Belt conveyor load deck
Multishuttle Narrow:	Extra narrow body
Multishuttle Flex / Flexextended:	Telescopic load extractor; expands/contracts, accommodates a range of load sizes
- **Load storage density:**

Standard:	Single or double deep
Optional:	Multi-deep
- **Load sizes:**

Tote box/Tray (mm)
Length: 150 - 875
Width: 150 - 850
Height: 50 - 600
Cartons/Packages (mm)
Length: 150 - 850
Width: 150 - 850
Height: 50 - 600
- **Technical specifications:**

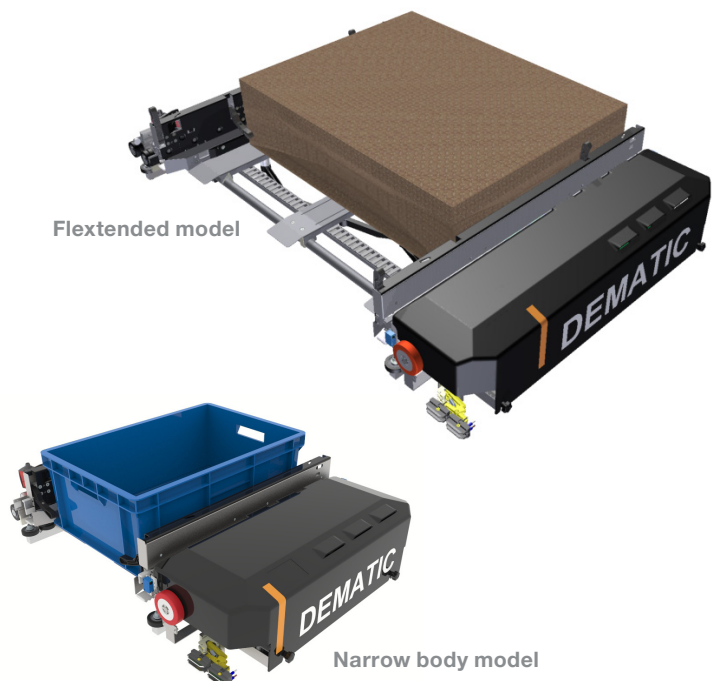
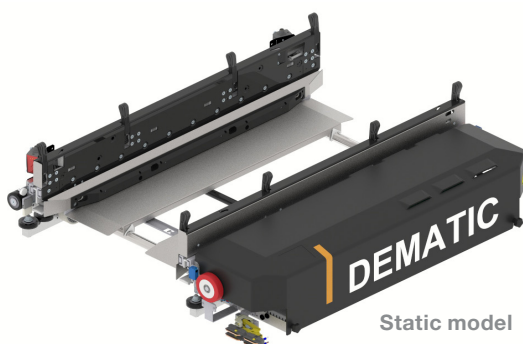
Electrical system:	Low voltage DC
Load extractor:	Telescopic, Conveyor Belt
Velocity driving axis:	4 m/s
Acceleration:	2 m/s ²
Shuttle communication:	DPC (Dematic Powerrail Communication)
- **Operating temperatures:**

Ambient:	2 °C up to 40 °C
Freezer (optional):	-2 °C down to -28 °C
- **Relative air humidity:**

Ambient:	5% - 90%, no condensation
Freezer (optional):	5% - 40%, no condensation

Benefits

- **Throughput:** 10 x higher than conventional stacker cranes
- **Scalability:** Extendable
- **Layout:** Fits into existing building
- **Flow:** Precise load sequencing
- **Racking:** Simple & cost effective, subdivision into maintenance levels
- **Energy:** 48 or 60 volts DC, doubled with low voltage
- **Operator walkway:** Access to all shuttles, lifts and inventory through of maintenance levels and secured access doors.
- **Configuration:** Captive, single/double and multi-deep
- **Lift:** 1, 2 or more lifts per aisle as “End-of-Aisle” or “Drive-through” solution or a combination of both.

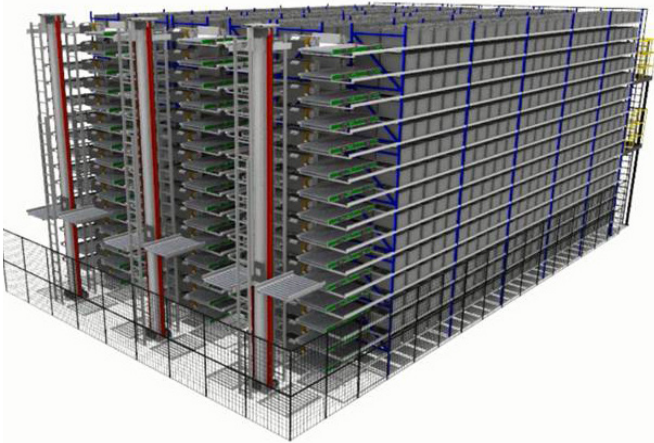
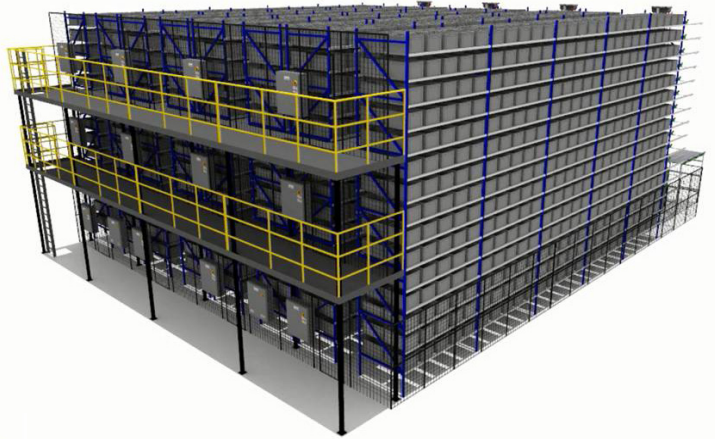


The Dematic Multishuttle® subsystem

Flexible, scalable, modular

The Dematic Multishuttle® 2 System consists of multiple levels of racking, shuttles, lifts, buffer conveyors, controls and Warehouse Control System Software. Shuttles run on each level of the rack to store or retrieve containers, cartons or trays. By using one shuttle per level (captive) no transport of the shuttles between the levels is necessary (roaming) and thus a high throughput can be generated. The items are transported from the connected conveyor system to the storage conveyors on the respective storage levels and returned from the retrieval conveyors by means of lifts. The sequence of stock removal required for order processing is generated directly in the Dematic Multishuttle® 2 system.

Rear view of a typical 4 aisle Dematic Multishuttle® sub-system with double deep rack. Service platforms allow access to inventory and for service to each shuttle. Replacement devices for shuttles are optionally available.



Front view of a typical 3 aisle Dematic Multishuttle® sub-system, with double deep rack. A dedicated dual lift module provides flow into and out of each of the rack levels.





Power the Future of Commerce

Dematic is the global leader in materials handling systems, supply chain technology, and innovation. From intelligent software systems to robotic warehouse automation, we deliver operational efficiency with a suite of intralogistics systems for unparalleled performance. Dematic is here to empower partnerships, advance your supply chain, and revolutionise logistics.

Your Ambition. Our Mission.