

DEMATIC

Dematic Multishuttle[®] 2

Staging Buffer Subsystem



BROCHURE



FLEXIBLE LOAD HANDLING TECHNOLOGY, ENABLING HIGH PERFORMANCE STORAGE AND RETRIEVAL

Multishuttle 2

Scalable, Modular, High Density Staging Buffer: Operational Flexibility for Distribution and Production Logistics

As business has long known, the only future certainty is change. New products, new customers, tight deadlines, changing order profiles, high labor costs, and controlling growth are just some of the daily challenges facing logistics professionals.

You need is a logistics system capable of optimizing performance that is also sufficiently flexible, modular, and adaptable to deal with changing demands.

The Dematic Multishuttle 2 prepares your business for change and ensures your logistic and distribution systems will exceed competitive demands today and into the future.

Applications

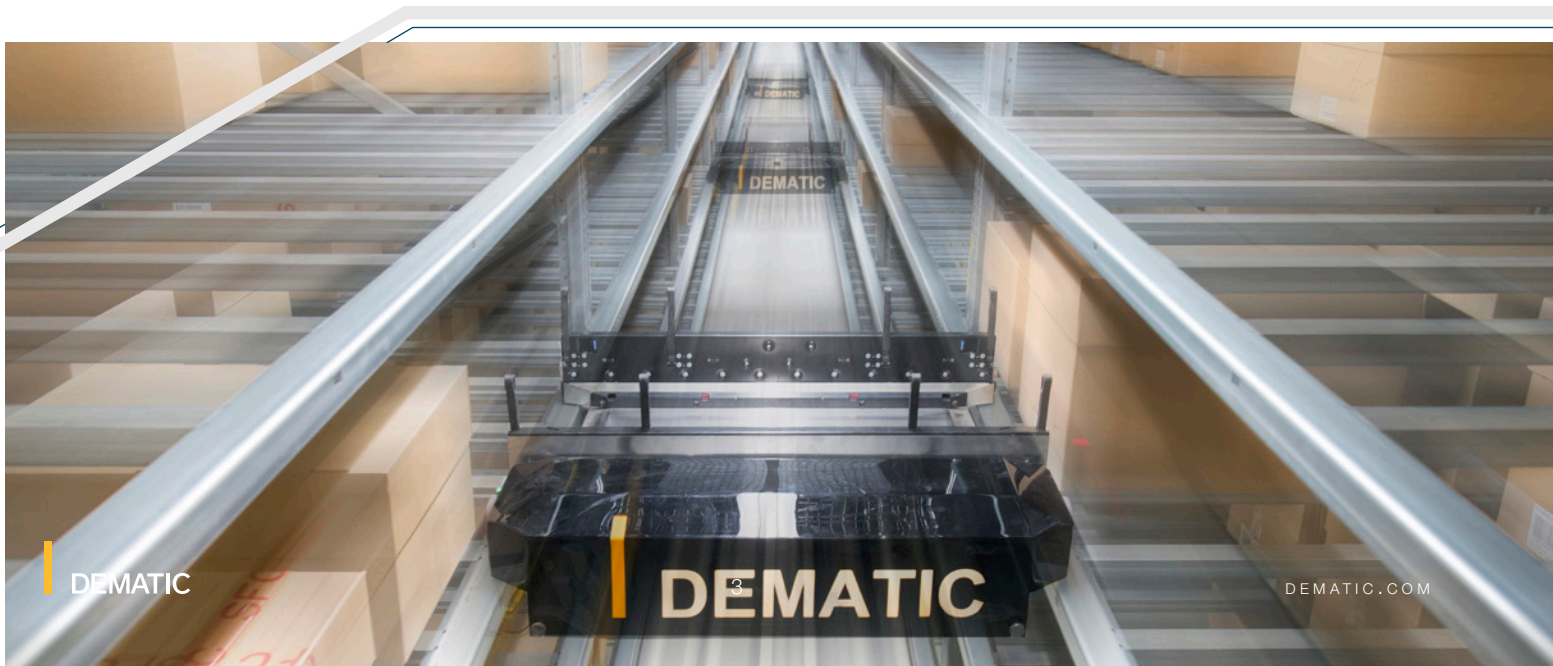
- Goods-to-person order fulfillment
- Pick face replenishment
- Mixed case palletizing
- Order consolidation buffer
- Storage to support production

Components

- Shuttles with extractor
- Rack structure with vertical lift
- Buffer conveyor
- Software

Features

- Shuttles travel in rack
- Access load on either side (single, double, triple deep)
- Loads in/out with vertical lift & buffer conveyor



More Throughput in Less Space

Multishuttle 2: Compact, High Rate Capacity

Dematic Multishuttle 2 is a highly effective system for buffering totes, cartons, or trays. It is an efficient staging solution that provides precise load sequencing at high rates, in less space, with more operational flexibility.

TYPICAL APPLICATIONS

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

NEXT GENERATION

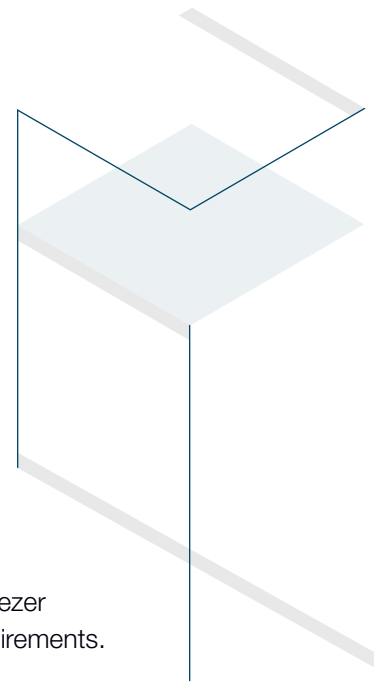
The Dematic Multishuttle 2 is the 2nd generation of shuttle technology. The design incorporates advanced engineering, aluminum construction, and a new load extractor to create a lighter weight device, faster operating speeds, higher payload capacity, and multi-deep storage capability. Static, Flex, Belted, and Freezer models allow the solution to match the customer's unique product handling requirements.

The Multishuttle 2 Flex option incorporates flexible load handling technology, enabling high performance storage and retrieval of variable load size 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 RACK

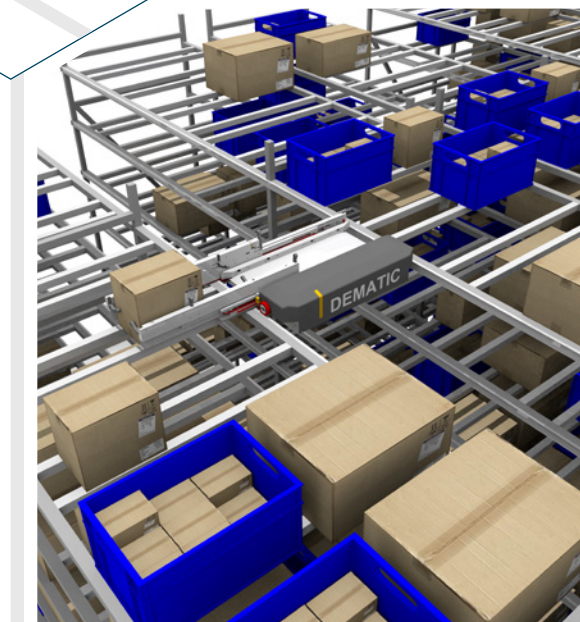
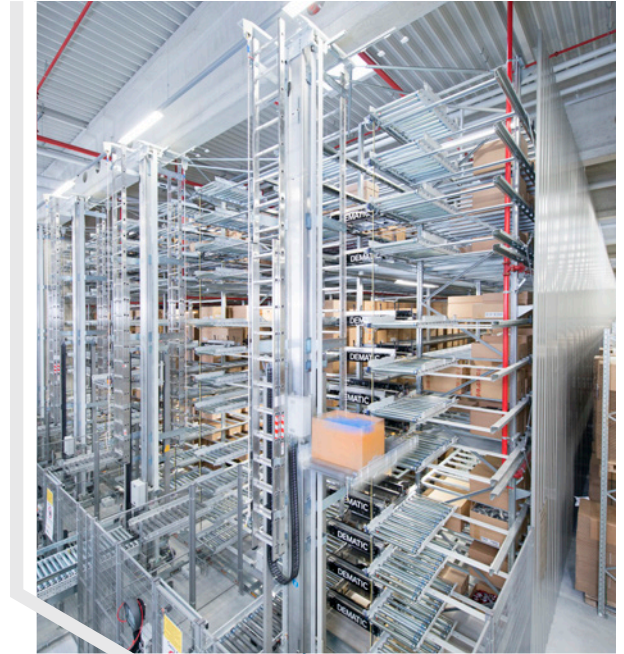
The innovative eight finger design of the load extractor and overlapping telescope arms allow for the use of only two telescopic sections to store products single, double, or multi-deep. The load capture fingers are plastic cast, carbon fiber reinforced for robust long term performance.

This load extractor design minimizes space between products and maximizes storage density. As an option, the load extractor can be configured to accommodate varying load widths and lengths — see load range in specification section of this brochure.



Dematic Multishuttle 2 Redefines Warehouse Logistics 10 Ways:

- **Increased throughput:** 4–7 times greater than conventional storage systems
- **High usage:** Feeds workstations with high rates to keep workers fully engaged
- **Smaller footprint:** Fewer aisles required to obtain same rate
- **More layout options:** Fits into overhead spaces, under/over obstructions, best cube use
- **Precise sequencing:** Presents loads to pick stations or palletizers in exact sequence
- **Range of load types:** Flex option accommodates various load sizes
- **Energy efficient:** Low voltage DC onboard each carrier uses less energy, quiet operating
- **Redundancy with back-up:** Identical carriers provide duplicate service; carriers are interchangeable
- **Access to stock:** Work platforms in the rack aisles allows manual access to inventory & service to shuttles
- **Scalability:** Add more carriers in future to provide more throughput



KEY ATTRIBUTES

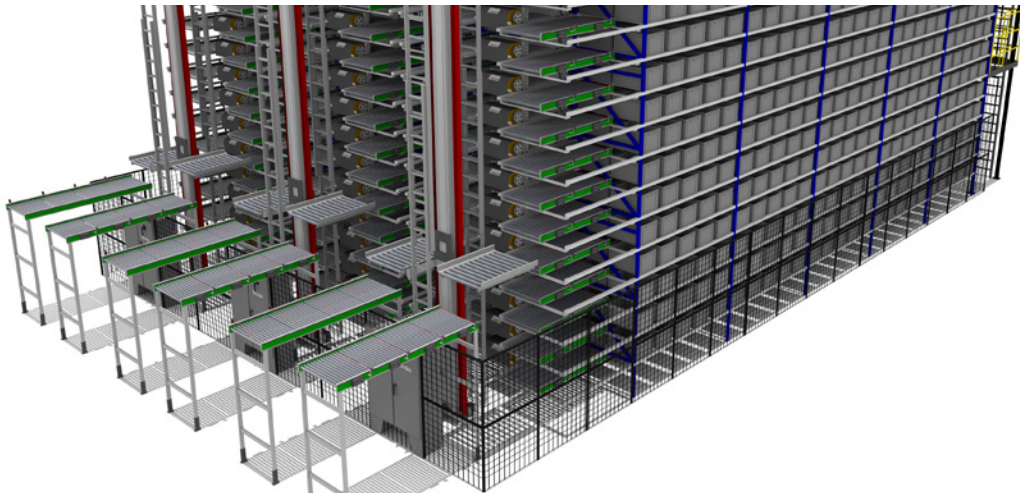
- **Throughput:** 3–4 times conventional
- **Scalability:** Start small, add shuttles
- **Layout:** Fits into more spaces
- **Flow:** Precise load sequencing
- **Path to use point:** Less complex
- **Racking:** Simple & cost effective
- **Energy:** 24 volts DC = less energy use
- **Resilient:** Multiple shuttles per aisle
- **Operator walkway:** Manual access to inventory
- **Configuration:** Captive, single/double deep

Flexible, Scalable, Modular

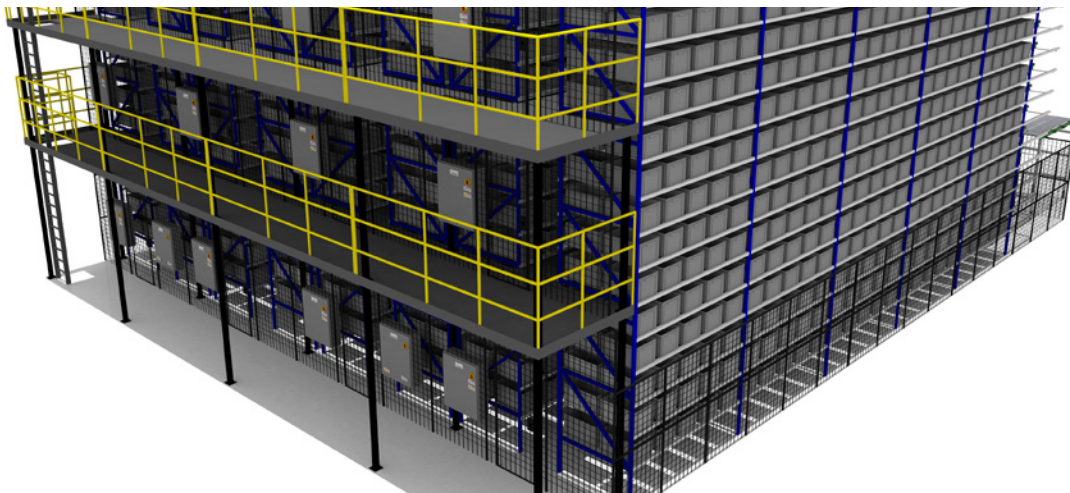
Designed with simplicity in mind, the Dematic Multishuttle 2 offers standard modular components and the flexibility to be scalable, especially for companies experiencing rapid growth and change in product demand profiles.

The Dematic Multishuttle 2 System consists of multiple levels of racking, shuttles, buffer conveyors, and software. Each level includes input/output conveyor and a shuttle that travels horizontally to access loads stored in the rack structure — typically totes, cartons, or trays.

An extraction device on each shuttle accesses the loads in the rack. A shuttle captive in each aisle and on each level allow for ultra high throughput. At the end of each aisle, a vertical lift brings the load to the input/output conveyor. Loads are sequenced as they are retrieved in the order required for order fulfillment.



Front view of a typical three aisle Multishuttle subsystem with double-deep rack. A dedicated dual lift module provides flow into and out of each of the rack levels.



Rear view of a typical four aisle Multishuttle subsystem with double-deep rack. Service platforms allow access to inventory and for service to each shuttle.

Specifications

Configurations

- Multishuttle 2 Static: Telescopic load extractor (fixed length & width)
- Multishuttle 2 Belted: Belt conveyor load deck
- Multishuttle 2 Flex: Telescopic load extractor (expands/contracts to accommodate a range of load sizes)
- Multishuttle 2 Freezer: Operates at temperatures as low as -30°C, fully-automated solution for refrigerated and freezer environments

Load Types

- Plastic tote box
- Cardboard carton
- Trays

Load Weight Capacity

- Static, Belted, Freezer: 50 kg 110 pounds
- Flex: 40 kg 88 pounds

Operating Temperature

- Static, Belted, Flex: 0 °C to 40 °C 32 °F to 104 °F
- Freezer: -30 °C to 40 °C -22 °F to 104 °F

Load Storage Density

- Standard: Single or double deep
- Optional: Multiple deep

Multishuttle Flex Load Range

- Tote Box mm inches
- Length 200 – 875 7.9 – 34.4
- Width 150 – 650 5.9 – 25.6
- Height 50 – 600 1.9 – 23.6
- Cartons mm inches
- Length 200 – 850 7.9 – 33.4
- Width 150 – 625 5.9 – 24.6
- Height 50 – 600 1.9 – 23.6

General

- Shuttle electrical system: Low voltage DC
- Load extractor: Telescopic, two sided
- Load capture fingers: Plastic cast, carbon fiber reinforced
- Relative air humidity: 5% - 90%, no condensation
- Shuttle communication: DPC (Dematic Power-rail)
- Velocity driving axis: Up to 4 m/s
- Acceleration: Up to 2 m/s² (average)



About Dematic

Dematic is an intralogistics innovator that designs, builds and supports intelligent, automated solutions for manufacturing, warehouse and distribution environments for customers that are powering the future of commerce. With engineering centers, manufacturing facilities and service centers located around the world, the Dematic global network has commissioned thousands of customer installations for some of the world's leading brands.

Headquartered in Atlanta, Dematic is a member of KION Group, one of the global leaders in industrial trucks and supply chain solutions, and a leading provider of warehouse automation.

Power the Future of Commerce.

▶ If you are interested in learning more about this topic and how we can help, please contact us.

 [Dematic.com](https://www.dematic.com)

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