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High density storage.



Satellite systems



*High density inside,
high access outside.*

Satellite systems.

Your business:

You have a low SKU count and large batches of raw materials or finished goods. Stock can be either highly active or static, but storage density is a major feature you require. You typically dispatch by batch and use either First In First Out or Last In First Out.

Our solution:

Manual satellite systems offer high-density pallet storage without the use of forklifts. It makes the most of limited space and forklift truck fleets. The satellite unit deposits and retrieves pallets within the system. A satellite solution is applicable for 'pack and hold' operations where pre-picking and staging is possible, 'dock split' and 'hold' operations, and the staging of outbound pallets by route or truckloads in lieu of conventional floor staging.

The vital statistics:

- Average locations used _____ 100%
- Immediate accessibility _____ up to 100%
- Stock rotation _____ Excellent
- Average floor area by pallet position (sqm) _____ 0.49





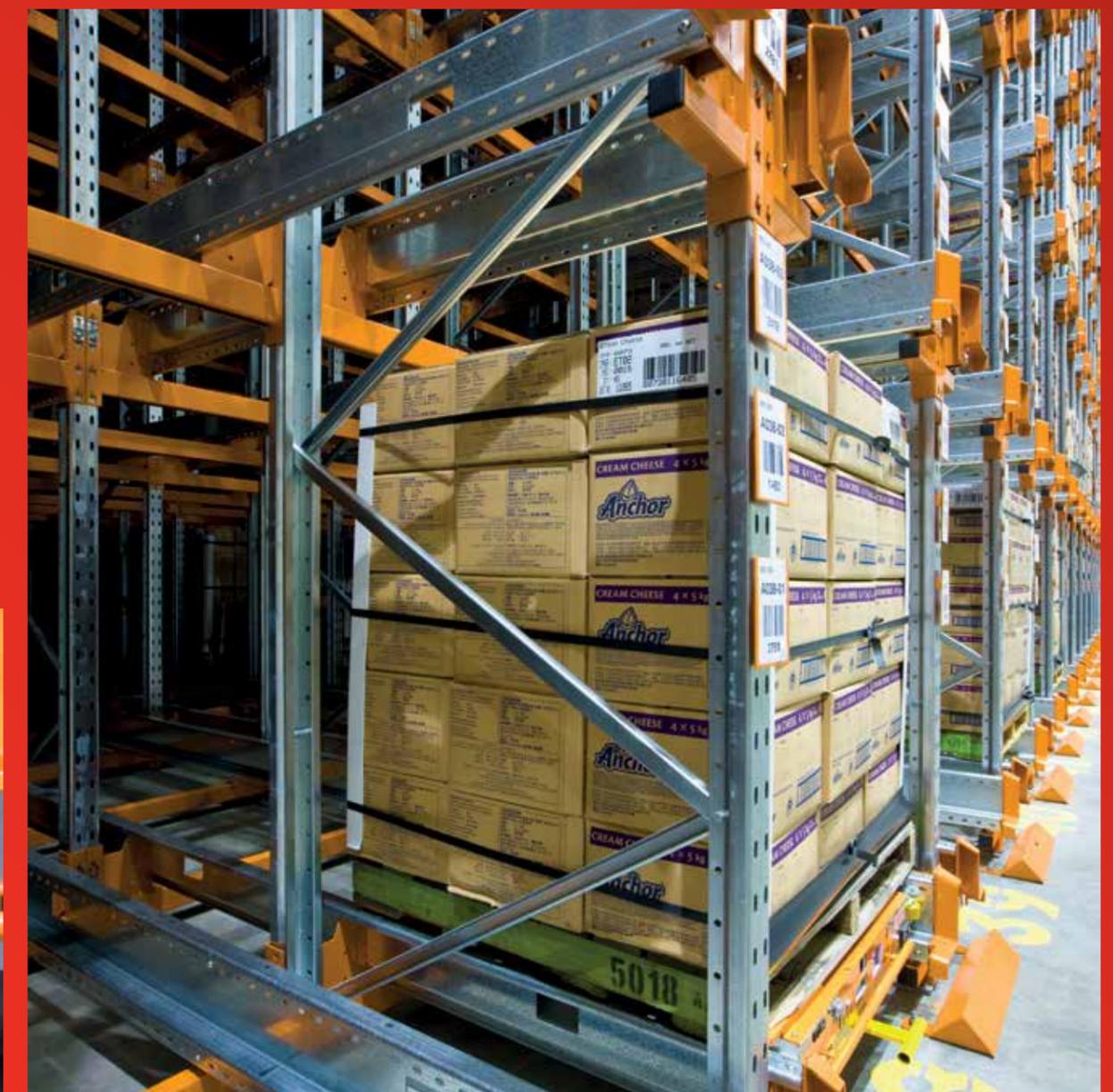
*Shuttle stock
back and forth.*

The satellite unit travels below the pallets then elevates the pallet from the support rails and carries it back and forth within the system as required. The satellite unit is mechanically propelled ensuring high reliability and low energy consumption.

Best in breed
equipment.



Best in breed equipment, patented mechanical lifting motion, means no hydraulics and few moving parts, ensuring low noise during operations. If an error is detected, the satellite unit will return to the home position for easy retrieval and repair.



The satellite unit incorporates a range of features, such as collision protection for the front and rear pallets to ensure safe handling and consideration for pallets with overhang. A status indicator on the front face provides vital information to the operator, and a unique lifting function allows pallets to be densely packed along the rail. Distance between pallets is adjustable between 0mm to 200mm. The satellite unit also has the ability to count pallets in a lane.



At your fingertips.

Control via
handheld
remote or
automatically
via RDS.



Dexion's Real-time Distribution System (RDS).



Scanning with RF device, the screen tells the operator the destination of the pallet within the rack. The satellite unit is controlled via the hand held remote, or automatically via Dexion's Real-time Distribution System (RDS).



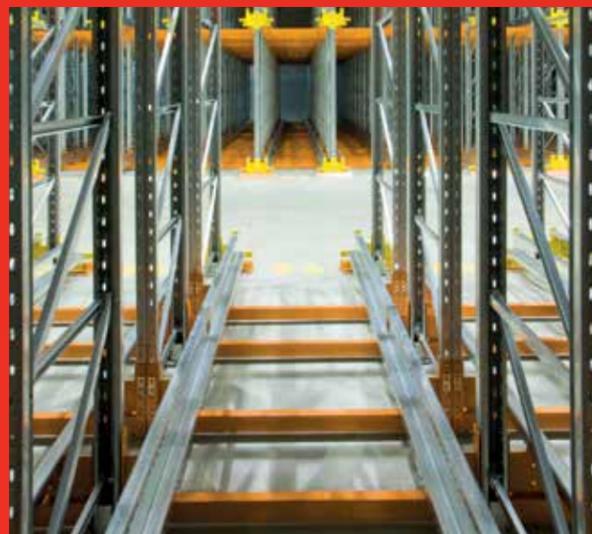
Lead in guides act as a visual and physical aid for the forklift operator to assist with the placing of the satellite unit and pallets.

Positions pallets perfectly.

High density with operational safety.



The satellite unit deposits and retrieves pallets within the high density core of the satellite system.



The rails support and guide the satellite unit in operation. The rails provide detection holes which are aligned with the satellite unit sensors for satellite unit operation. High tolerance rail joints allow for smooth running of the satellite unit in deeper storage applications.



A conventional forklift truck places the pallet on the rails ready for the satellite unit to move the pallet into position. Similarly it collects the pallet from the front of the rack once retrieved by the satellite unit. Pallets sit on their own rails, facilitating access of pallets on each level. The forklift does not enter the racking structure. This ensures the safety of the forklift driver, and prevents damage of the rack.

Satellite unit features.

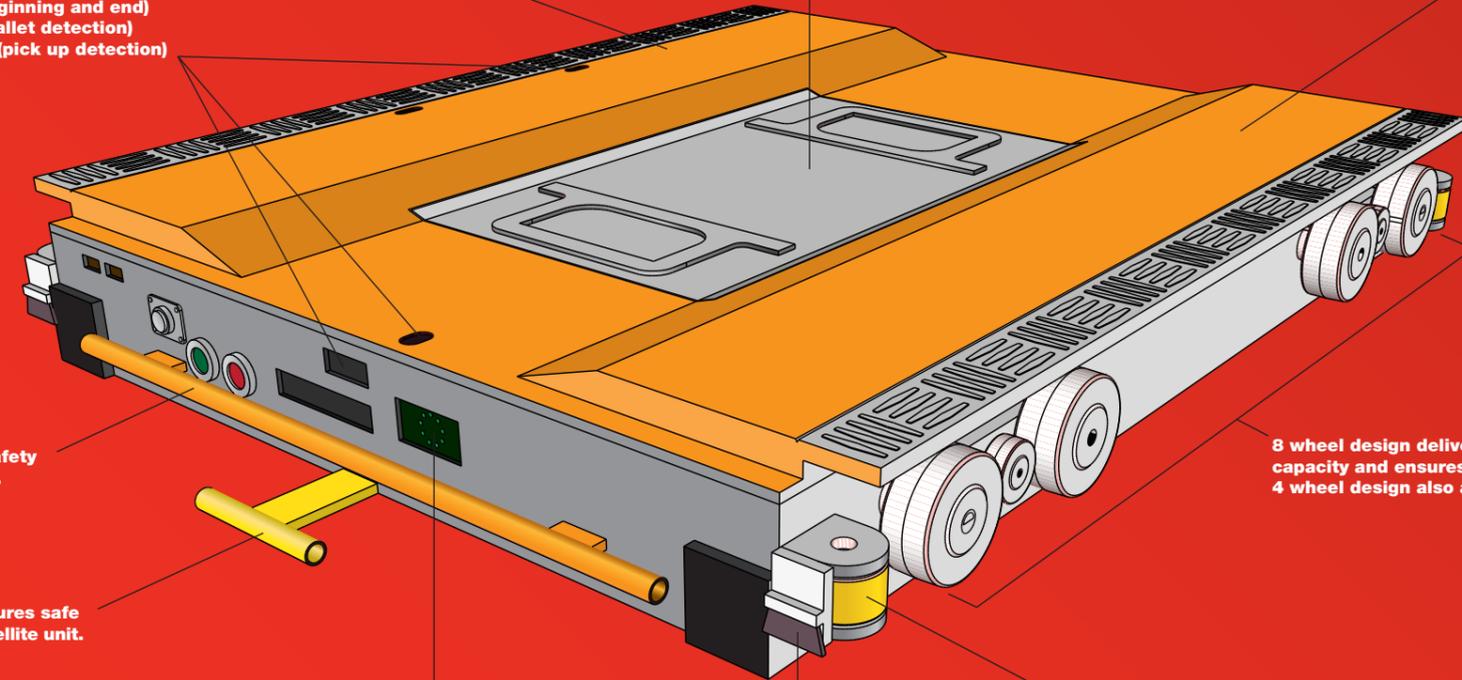
- Satellite unit weight 250kg
- Maximum load weight 2000kg
- Typically capable of moving up to 70 pallets/hour
- Operating temperature -30°C to +40°C

3 to 4 hour recharge time, automatic battery recharging solution available
OR

- Variety of battery change over options including:
- In-rack battery change over option
 - Traditional battery charging rooms
 - Battery changeover process

Eccentric drive lifting process enables unit to lift half of the load at a time to prolong battery life.

- Cart operation controlled by sensors:
- Side sensors (beginning and end)
 - Front sensors (pallet detection)
 - Top sensors x 4 (pick up detection)



Emergency stop safety bar, front and rear.

Optional T-bar ensures safe handling of the satellite unit.

LED display provides the operator with visual confirmation of the satellite unit status.

Brushes are located in front of the guide wheels or along the side of the satellite unit. They sweep the surface of the rail to ensure a clean running surface for the wheels.

Guide wheels for increased stability.

8 wheel design delivers greater carrying capacity and ensures longer rail life. 4 wheel design also available.

Illustrative purposes only.

How Satellite compares with other forms of warehouse storage.

The satellite storage solution provides significant productivity and storage advantages compared to typical 'block stack' and 'drive-in' storage applications.

The advantages of satellite storage over other typical forms of warehouse storage are as follows:

	Satellite	Block Stack	Drive-In	Pallet Flo
Solution Suitability	Storage solution is scalable to both capacity and task activity.	Stack suitability subject to product stackability, pallet quality and operator placement.	Risk of operator damage is high.	Risk of "jams" subject to pallet quality and pallet weight variability.
Stack height	Up to the limit of the MHE reach	Normally 3-4 pallet equivalent. Stack height subject to product rigidity and stack stability.	Up to the limit of the MHE reach	Up to the limit of the MHE reach
Stack depth	Typically 10-15 deep, but can be deeper if product profile permits	Dependent on available floor space and MHE access	Typically up to 3 deep. Task productivity can slow and racking susceptible to operator damage with deeper designs.	Up to 10 deep, however pallets are subject to "jams" where pallet quality is questionable and/or there are differing pallet weights.
Selectivity	Channel	Stack	Channel	Channel
Task travel	Possible dual face put-away and retrieval. Depth travel not required.	Subject to stack depth and height for put-away and retrieval.	Single front face put-away and retrieval. Depth travel required.	Single front face put-away and retrieval. Depth travel not required.
Storage queuing	FIFO - Yes LIFO - Yes	FIFO - No LIFO - Yes	FIFO - No LIFO - Yes	FIFO - Yes LIFO - No
Product crush risk	No risk	High Risk. Lower pallets susceptible to crushing. Suitability of storage method highly dependent on product strength and rigidity.	No risk	No risk

Note: Table is for a typical 1165 x 1165 pallet that is 1000-1200 high in a typical warehouse environment using standard MHE.