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System development:  Dynamic Logistic Systems b v

DLS B.V. is member of the ROFA Group

DLS Order Release Module Patente (u.A.): US 6186724B1, US 6494306B1, US 6302255B1, US 6450751B1, US 6719125, US 6843632, EP 0965543, EP 1144282, EP 1061017, EP 1035045b01, EP 1189825, EP 1389597



DLS Order Release Module[®]

'full case' order pick system

- high speed, automated order processing
- for cartons, trays and many other types of packaging
- practically unlimited capacity
- sorting option for optimal sequence of delivery

DLS Order Release Module®

Introduction

The 'just in time' replenishment of stores from distribution centres is subject to high demands.

The shortage in the labour market, particularly for heavier shift work, presses for automation. Automation allows cost saving, flawless order handling and sorting.

The current ordinary equipment for automatic order picking cannot cope with the enormous quantities that need to be collected daily, as for instance in the food business.

The many types of packaging, fragility and differences in dimensions and weight also pose a problem in automation.

The new DLS system is the solution for the automation of order picking.

Now it is possible to collect the greatest variety in packaging at great speed, with almost unlimited capacity and sort the cases to the desired sequence.

A new building block in the design of modern distribution centres.



...The many packaging types...

The buffer stock in the order pick system

The system stores a buffer for each item in a special type of flow rack ('first-in / first-out').

Each roller track in the flow rack is reserved for a particular item.

Replenishment of the buffer stock and the delivery of the orders can be executed simultaneously and independently of each other.

When a lane is replenished, contrary to normal gravity based roller tracks, the cases move with an equal, low speed, independent of packaging type or weight differences.

The speed is so finely controlled, that upon accumulation in the lane, even glass packaging connects without damage.

Due to the **Frictiondrive®** system, longer storage lanes, and thus more stock can be kept.

Even small packaging and odd shaped, foil wrapped, clustered items are transported without a hitch due to the **Frictiondrive®** system and the dense 'roller bed'.

The uniform width of the lanes, (based on modular packaging) enables free lane allocation.



Many computer controlled 'dispensers' ensure a rapid delivery of order lines and enormous output capacity.

Order delivery

Every item has its own storage lane reserved in the system. Each storage lane is equipped with a computer controlled dispense mechanism.

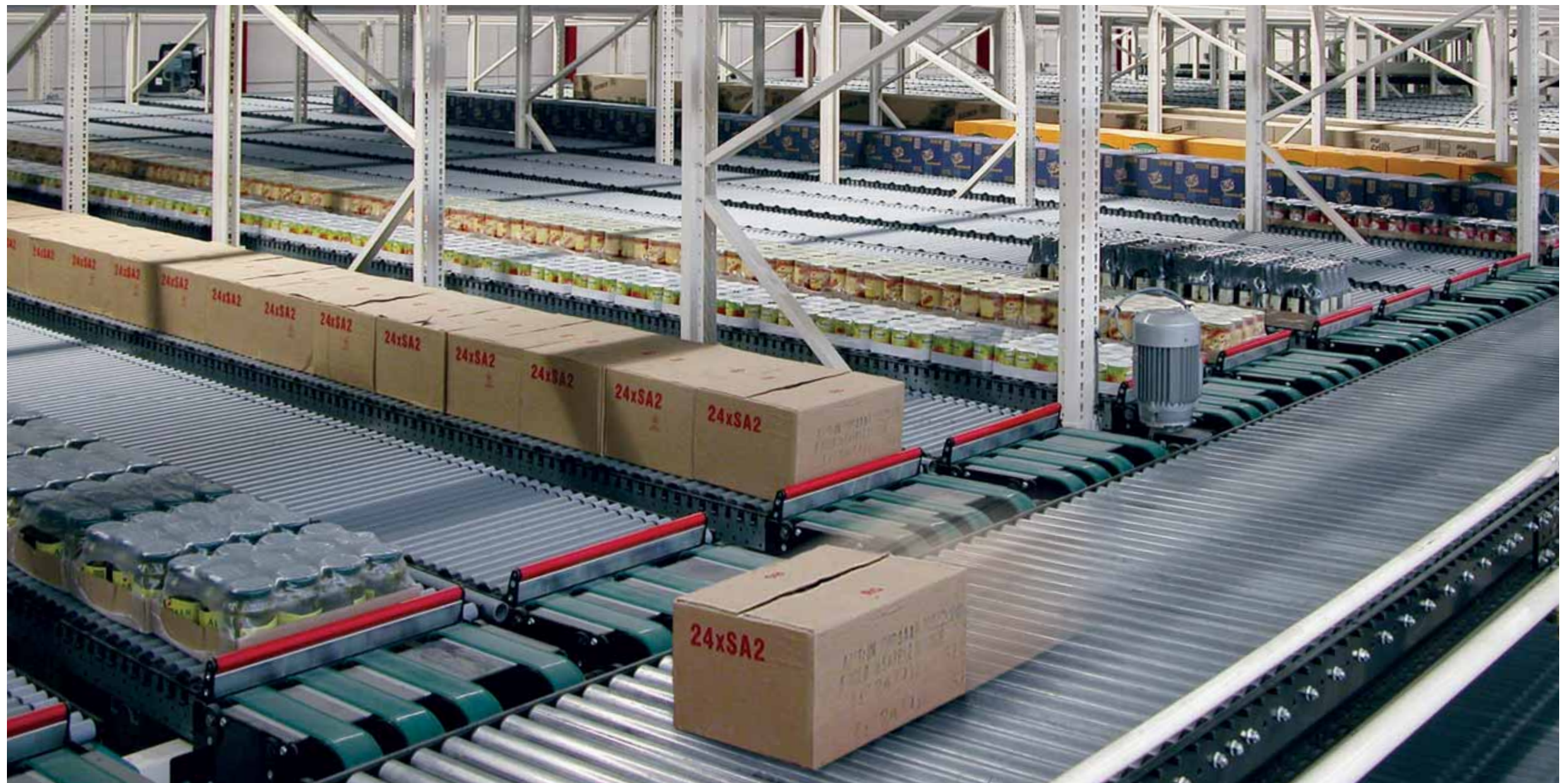
All items in one order can almost simultaneously and with high speed be dispensed on a driven output lane. An enormous output capacity can be achieved this way.

The dispensed quantity is accurate, regardless of packaging shape, dimensions or weight variations.

If desired, the items can be delivered in a predetermined order.

The simplicity of the system and the solid construction guarantee maximum system reliability.

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The picked cases are transported in the desired delivery sequence to the loading stations.



Replenishment of buffer lanes

To replenish a buffer lane, a pallet containing the required item needs to be transported from the AS/RS to a depalletising machine.

The required quantity of cases is then depalletised and delivered to one of the multi-layered infeed lanes of the order pick system.

On every infeed lane a driving pusher (trolley) ensures that the cases are automatically entered into the correct lane.

The system verifies the quantities and the correct input.

Replenishment of the delivery buffer and the delivery of the orders can be executed simultaneously and independently of each other.

Basic modular layout

- 1 Goods reception
- 2 Pallet input, profile control & identification
- 3 Transfer to crane
- 4 Pallet storage
- 5 Transfer to depalletiser
- 6 Depalletiser

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- 7 Infeed lanes (multiple levels)
- 8 Buffer lanes
- 9 Output lanes (multiple levels)

- 10 Shipping

