How to automate your warehouse in a fast and economical way

Automatic Trilateral Stacker Crane

MECALUX
Automatic trilateral stacker cranes make it very easy to automate warehouses with conventional racks where a man-operated elevator truck is used, both in pre-existing warehouses and in new facilities.

The stacker cranes move the pallets to the extremes of the passageway leaving the load on a rack or automatic transport system. This is possible since it has a rotating head enabling you to pick-up and leave pallets in three positions: one frontal and two lateral.

The automatic trilateral stacker cranes, guided on three rails, only has four supporting points on the ground. It has no top guide making it easier to install in any warehouse where elevator trucks are usually used. It also adapts to virtually all spaces for direct access to the pallets.

It is totally automatic and all the movements of the stacker cranes respond to storage and extraction orders sent by a control system that optimizes these movements.

Replacing a trilateral forklift with an automatic trilateral stacker crane is very simple. The aisle dimensions remain the same.
Why an automatic trilateral stacker crane?

» **Adapts** to all pallet warehouses with man-operated elevator trucks.

» **Economical automation.** The return of investment is quick.

» **Easy to implement,** both in new and pre-existing warehouses, since it doesn’t require any changes to the warehouse structure.

» **Reduction in personnel costs.** It allows you to manage all the pallet movements without a man on board.

» **Using all available space** since it does not have a top guide and it can pick up pallets from level 0.

» **Reduces errors** since it is an automatic system.

» **Improves safety** in the facility. Operators do not work in the passageways meaning the system is safer and reduces the risk of accidents.

» **Low maintenance costs.**

» **Easy to integrate** the automatic system connecting it to a warehouse management system like Easy WMS.
Automatic trilateral stacker crane structure

It consists mainly of three parts:

- **Bottom guide base.** This supports the whole structure and moves it longitudinally.
- **Column.** This element makes it easy to reach all different heights.
- **Extractor element.** Trilateral fork moved using a head that can travel left, right and forward to access the load.

### Basic components:
1. Column
2. Bottom guide base
3. Lifting cable
4. Trilateral extractor
5. Cable carrier
6. Cross bracing
7. Electricalcabinet
8. Gearmotor for lifting
9. Gearmotor for traveling
10. Gearmotor for extraction

<table>
<thead>
<tr>
<th>Features</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Minimum machine height</td>
<td>4,670 mm</td>
</tr>
<tr>
<td>Maximum machine height</td>
<td>14,840 mm</td>
</tr>
<tr>
<td>Maximum height of the last load level</td>
<td>12,930 mm</td>
</tr>
<tr>
<td>Extraction system</td>
<td>Trilateral fork system</td>
</tr>
<tr>
<td>Maximum permissible load</td>
<td>1,200 kg</td>
</tr>
<tr>
<td>Maximum travel speed</td>
<td>100 m/min</td>
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<tr>
<td>Lifting acceleration</td>
<td>0.3 m/s²</td>
</tr>
<tr>
<td>Maximum lifting speed</td>
<td>30 m/min</td>
</tr>
<tr>
<td>Maximum Lifting acceleration</td>
<td>0.3 m/s²</td>
</tr>
</tbody>
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**Aisles equipment**
- System of bumpers in the aisles: Hydraulic buffer on a stacker crane
- Data communication system: Infrared optical system
- Position establishing system: Laser radar

**Rolling systems**
- Rolling surface: Rail

**Colors**
- Structure: Orange RAL 2001
- Lifting truck and control cabin: Yellow RAL 1033

**Working conditions**
- Room temperature: Between 0°C and 40°C
- Maximum humidity: 70%

**Return system of energy to the network**
- Energy retrieval system: Optional

**Safety systems**
- Safety systems in accordance with EN-528: Security category 3 for the means of access / Hydraulic buffer with 100% of absorption / Anti-tilt system along the route / Accurate positioning due to beam detectors / Pallet fall protection system with laser detectors.

Contact us for special projects of this product.
Disalfarm, S.A. is a company created by Bayer Laboratories, Boehringer Ingelheim and Novartis for all their storage and distribution operations in Spain from a single logistic center to cut costs. It started its activities in the middle of the year 2000 aiming to become a leader in the pharmaceutical product distribution sector. This is why Disalfarm has pushed for efficiency in all its procedures and has always shown its strong commitment to excellence towards its clients.

For this reason, in the year 2000, a conventional pallet warehouse was built with 15 aisles, served by five manned trilateral forklifts.

One stacker crane was installed in each of the 15 aisles to replace the 5 trilateral forklifts. This has allowed for the system to be automated and has also reduced the workforce used in shelving the pallets. As a result, it was possible to cut costs and at the same time allowing more agility and safety on the premises.

With the implementation of this system, the company increased its productivity and managed to improve its warehousing costs.

Disalfarm is an example of how a warehouse using trilateral elevator trucks can be automated without making any changes in their structure and also providing a very fast return on investment.
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Enter in our website www.mecalux.com

The added value of Mecalux:

Maximum safety
- Mecalux has the most advanced calculation and warehouse implementation programs on the market.
- Certifications: ISO 9001 / 14001 / OHSAS 18001 - TÜV-GS

Technology
- Mecalux uses the most advanced calculation and warehouse implementation programs on the market.

Quality
- Mecalux has been reevaluating the materials used and cataloging the performance of the materials used.
- Certification (TUV): 11861 - 14001

After-sales service
- Mecalux will provide all its clients with a post-sale service to review the installation, and offers advice whenever there are any changes, damages caused or warehouse extensions.
- Low maintenance costs.
- Easy to integrate the automatic system connecting it to a warehouse management system like Easy WMS.

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MeCAlux has a presence in more than 70 countries worldwide
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