Pallet Transportation System
Automation of end-of-production lines

Automated System
System Components
Supplementary Devices
Automation of palletising process includes: automatic storage and release of empty pallets, transporting loads on pallets and integration with storage processes as well as with end-of-line production equipment – notable business benefits!

SAVINGS
reduction of energy and labour costs.

INCREASE IN SAFETY
reduced accident rate at work connected with fork-lift truck collisions.

INCREASED PRODUCTIVITY
increased production and logistical capacities.

ECOLOGY
reduction of exhaust fumes from fork-lift trucks.

MODULAR CONSTRUCTION
future possibility of expanding pallet transportation line.

FULL CONTROL
thanks to the system’s integration with IT solutions (e.g. with WMS systems).

JUST IN TIME
flow of materials guaranteed just in time.
EUROPA SYSTEMS
THE LEADER IN PALLET TRANSPORTATION TECHNOLOGY

Over 20 years of working with leading companies in various industries. Our automated pallet transportation systems have been used in such sectors as:

- Packing
- Timber industry
- FMCG
- Retail
- Metal industry
- Automotive
- Construction materials

OUR KNOW-HOW

One solution – many possibilities.
We produce systems for various transporting units (different weights, overall dimensions) and various working conditions, under a single transporter line.

Pallets:
- wooden euro also in other sizes, e.g. 1200×1000 mm, 1200×1200 mm,
- plastic,
- chemical,
- steel.

Boxes:
- steel with various substructures,
- box pallets.

DID YOU KNOW THAT ...

The most frequently encountered weight of products transported on pallets is between about 150 kg/pallet and about 1,000 kg/pallet. Europa Systems pallet transporters ensure problem-free transportation of loads with a weight of 2,000 kg.

Pallet transportation lines usually have a working height of about 400 mm – 600 mm and a speed of from about 10 m/min to about 18 m/min. Our solutions reach a speed of up to 30 m/min with the maximum weight.

Europa Systems provides a comprehensive implementation of fully automated pallet transportation systems. We integrate our solutions with our customers’ systems. At the same time, we cooperate with industrial automation integrators as a technological partner. We provide full technical documentation and servicing.

SCOPE OF SERVICES
AUTOMATION OF THE PALLETISING PROCESS IN THE PACKAGING INDUSTRY

The latest technology for transporting pallets with heavy loads used by the American leader in the packaging industry.

A turnkey solution, composed of modules, ensures full end-of-line automation from picking up an empty pallet through positioning and securing a load to the further process of transportation or storage.

Areas covered by the system (full line):

1. **LOADING AND TRANSPORTING GOODS** – CONVEYORS, MANIPULATORS, TRUCKS.
   Over 120 various load settings on a pallet, with washers, cardboard box tops, and also without pallets. Various load-setting options and combinations, i.e. heavy paper rolls, bales of film etc.

2. **SECURING A LOAD** – INTEGRATION WITH DEVICES.
   Automated load transportation for automatic strapping (banding and welding with tape) and wrapping with film with a wrapper.

3. **STORAGE AND RELEASE** – PALLET DEPOT, TOPS DEPOT.
   Automatic storers (dispensers) for releasing and storing, in various dimensions: pallets, cardboard washers, wooden tops.

An American papermaking company – supplying 10 European factories with paper bale technological transportation systems – roller conveyors, tippers, turntables, wrappers, tipper tables, manipulators along with a complete steering system.
LOADING AND TRANSPORTING GOODS

AUTOMATIC TRANSPORTER TRUCK SYSTEM COMPONENTS

USE

Trucks can be used to send out material being transported, to sort or to separate finished products between production lines. The modular construction of transporter trucks makes coupling possible from 1 to 4 loading points on a single truck.

ADVANTAGES

Steering from console

- Safety: an intelligent safety system detecting obstacles while a truck is in motion, light and audio signalling while the truck is working, low noise level during work, increased work ergonomics.
- Adapting power supply to customers’ needs (energy chain, busbar, IPT wireless system).
- Modular construction of conveyors on trucks: roller conveyor, chain conveyor, lifting table with conveyor, turntable with conveyor.
- Working in conjunction with fire-prevention gates.
- Low level of breakdowns.
- Low operation costs.
- Rapid assembly on object.

BENEFITS

Reduced production stoppages connected with manual placement and removal of packages from the transportation system:

- truck’s work operated by a single operator,
- elimination of fork-lift trucks,
- control of flow of materials,
- no damage to materials during transportation.
The transporting system is a collection of modular devices, which can include:

- **Wrappers** | used to wrap goods to preserve and store a given load.
- **Packaging machines** | allow a variety of products to be packaged.
- **Strapping machines** | devices for taping with plastic straps.
- **Labellers** | used to automatically stick self-adhesive labels onto various kinds of packaging.
STORAGE AND RELEASE

AUTOMATIC DEVICES FOR STORING AND RELEASING EMPTY PALLETS, WOODEN TOPS, CARDBOARD WASHERS

PALLETS DEPOT
INDIVIDUAL SOLUTION

See also:
Pallets depot – standard solution

CARDBOARD WASHER DEPOT

TOPS DEPOT

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PALLETS DEPOT

PALLET TRANSPORTATION SYSTEM COMPONENTS – AUTOMATIC STORAGE

BENEFITS FROM USE

Automatic storage of empty pallets improves their storage organisation, increases the efficiency of loading pallets on a pile and unloading them (stacking and unstacking). The device improves work safety by eliminating manual lifting of heavy pallets.

HOW MUCH DOES IT COST?

The standard pallet storer is available in our e-shop – check the current price and availability at: europasystems.pl

ADVANTAGES

▪ Pallets can be loaded using a pallet truck, a fork-lift truck, or automatically collected from a line.
▪ The depot can be installed on the production line.
▪ The height of pallet stacks may be increased by mounting additional modules.
▪ Movable side walls equipped with a two-position bumper allow for adjusting the width of the depot to various types of pallets.

DESCRIPTION OF THE DEVICE

The pallet depot consists of:
▪ A rigid support structure constructed of closed rectangular hollow sections with supports.
▪ Moving grippers.
▪ A pneumatic-powered mechanism.
▪ Adjustable feet.
▪ Pallet depot bumpers.
▪ A two-position bumper.

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Overall dimensions</th>
<th>1520 x 1530 x 2430 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pallet dimensions</td>
<td>1200 x 800 x 150 mm</td>
</tr>
<tr>
<td>Max. load capacity</td>
<td>500 kg</td>
</tr>
<tr>
<td>Max. number of pallets</td>
<td>15 (depending on the customer’s needs)</td>
</tr>
<tr>
<td>Controller</td>
<td>Siemens S7/200</td>
</tr>
<tr>
<td>Power supply</td>
<td>230/50 V/ Hz</td>
</tr>
<tr>
<td>Air consumption</td>
<td>approx. 34/75 litres per cycle at 6-8 bar</td>
</tr>
<tr>
<td>Pneumatic unit</td>
<td>Festo</td>
</tr>
<tr>
<td>Conveyor finish</td>
<td>structure made of RAL7040 or 5010 powder-coated ordinary steel</td>
</tr>
</tbody>
</table>
PALLET LIFT

PALLET TRANSPORTING SYSTEM COMPONENTS VERTICAL CONVEYORS

Safe transporting of loads on pallets with the aid of a vertical conveyor. Stability is maintained by the rigid construction and the truck’s driving system. Tested solutions and high-quality components ensure reliability. The efficiency of our devices allows the transport of as many as 100 pallets / h transporting two pallets simultaneously.

TECHNICAL DATA*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total height of device</td>
<td>10,000 mm (depending on the customer’s needs)</td>
</tr>
<tr>
<td>Pallet dimensions</td>
<td>1200 x 800 x 150 mm</td>
</tr>
<tr>
<td>Dimensions of load / working space</td>
<td>1300 x 1250 x 1800 mm</td>
</tr>
<tr>
<td>Load</td>
<td>2,500 kg</td>
</tr>
<tr>
<td>Loading height</td>
<td>300 mm</td>
</tr>
<tr>
<td>Transport speed</td>
<td>45 m/min</td>
</tr>
</tbody>
</table>

*all parameters concern a model device and are adapted to individual needs

ADDITIONAL ELEMENTS

- Portable frame for the conveyor.
- Cable guide.
- End bumpers.
- Service chain.
- Sensor clamping.
- Counterbalance.
- Full netting.
- Pneumatic blockage of in-run position.
- Powder painting done according to RAL indicated by customer.

MORE INFORMATION
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AUTOMATION OF THE PALLETISING PROCESS IN THE FMCG INDUSTRY

Doubling the productivity of the system of picking up and transporting pallets from all bottling lines to the depot.

CHALLENGES FOR THE PRODUCER
One of the leading mineral water producers in Poland has, as the company has been developing, set up additional production lines. The increase in production capacity meant that the system of picking up and transporting loaded pallets to the depot was creating a bottleneck. The transportation system, based on fork-lift trucks, had become inefficient and was preventing the use of new production capacity.

GOALS TO ACHIEVE
Period of return of investment: **12 MONTHS**

Efficiency of transportation from bottling lines to the depot to up to 200 pallets an hour increased **by 100%**

Possibility of increasing sales by **PLN 100 million**

Cisowianka - the most popular natural mineral water in Poland is bottled at ZL Nałęczów Zdrój - one of the most modern bottling plants in the world.

ZL Nałęczów Zdrój has **for over 35 years** been extracting water from the same source, belonging to Nałęczów water deposits. As a result of this plant’s very narrow specialisation and technical advancement, we speak of bottling water, not the production of it. This means that the entire bottling process is done by respecting what nature has created.

Cisowianka

- **COMPANY / PRODUCT**
  - ZL Nałęczów Zdrój / CISOWIANKA
  - www.cisowianka.pl

- **INDUSTRY**
  - FMCG / FOOD

- **DEDICATED SOLUTION**
  - Pallet transportation system
OUR SOLUTIONS – YOUR BENEFITS

Carrying out pallet transportation in fully automatic lines and integration with existing WMS SYSTEMS.

Europa Systems has designed, produced and implemented a system for picking up and transporting loaded pallets for storage, which is fully automatic and integrated with the customer’s WMS system. The system, which serves all bottling lines, is composed of over 100 devices with a total transporting length of over 320 m. Lift trucks have been installed in places where the transportation line crosses circulation routes. Europa Systems also drew up a detailed design for the steering system, wrote software for the PLC controller and the entire steering panel along with the steering cabinet, thus ensuring an easy and friendly service.

BENEFITS

INCREASE IN POTENTIAL SALES

Europa Systems allows the customer to remove bottlenecks. Maximum efficiency increased to 200 pallets an hour, which made it possible to increase channel capacity by over 100% in relation to the state before the system’s implementation, and to increase potential sales by PLN 100 million. Since implementing the system, the customer has increased revenues from sales by 65%.

REDUCTION OF COSTS

Thanks to Europa Systems, at this stage of production all fork-lift trucks and their associated costs have been eliminated.

SAFETY

The system implemented is fully automatic and therefore very safe. Truck routes are monitored with the aid of laser safety scanners scanning the surroundings and measuring distances with time-of-light technology. The simple and friendly steering system ensures that employees can work in safety and comfort.
HOW IT WORKS

AUTOMATED PALLET TRANSPORTATION SYSTEM

Packaging machine
Strapping machine
Wooden top storage depot

Scan the code and watch a video showing the pallet transportation system in action.

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