



ErmaSmart #B

Star conveyor for 90° connection

Ermasmart pot direction change system.

Description of the system

The **Star Conveyor** system is a **stand-alone system** that **creates** a 90° link to reduce the linear footprint of the Ermasmart line. It incorporates a **rotating star system** often used in industrial packaging operations. The functions and components are based on real industrial components used in the food, pharmaceutical or cosmetic industry (jars/vials),

This **90° star link conveyor** system (ref **CE41**), designed with the **packaging industry** in mind, meets the main requirements for intelligence and evolution of production methods:

- ✓ **Flexibility & Customisation** with the possibility of packaging customised items to the customer's order.
- ✓ **Multi-format tooling**.

This **automated** system can be **used on the Ermasmart line** with different pots, but can also be **integrated with other conveyors**.

The **main functions of the Star Conveyor** are:

- ✓ **Convey** the made objects (different sizes of pots) on a 90° trajectory
- ✓ **Carry out** maintenance activities on mechanical parts.
- ✓ **Accepting a change of pot size**.

This training system is mainly intended for **system control, industrial maintenance, electrical engineering, automation and mechanical** training.

This product is accompanied by a technical and educational file in digital format.

CAP CIP - Bac PRO PLP / MELEC / MSPC
BTS CRSA / Electrical engineering / MS
IUT - Universities - Engineering schools

Main Themes

Industrial Maintenance
Production Control
Multi-technology Systems Design
Electrical Engineering and Automation

General

The **90° Star Link Conveyor (Ref: CE41)** consists mainly of :

- ✓ A welded frame with epoxy paint on 4 adjustable feet to adapt to different conveyor heights.
- ✓ A different coloured star for each pot size.
- ✓ An electrical cabinet attached to the chassis.
- ✓ A 24/48V stepper motor driven by its controller.
- ✓ 4 knurled screws for quick size change.
- ✓ A torque limiter created with spring washers to ensure safety in case of jamming.
- ✓ A sensor at the entrance to detect the presence of a pot.
- ✓ Mechanical parts (flange bearings, flexible couplings) that will enable maintenance activities to be created.



Educational activities

The **90° star conveyor system** allows for the following **educational activities**, among others:

✓ Electrical engineering

- **Discovery and handling of the system** (functional analysis and study of system technologies)
- **Control of the system's electrical parameters** (network, power supply, drive)
- **Commissioning and validation of system operation**
- **Adjustment and parameterisation of the installation** components (stepper motor with its control board)

✓ Production control

- **Change of production format,**

✓ Industrial maintenance

- **Preventive maintenance:** elastic coupling between the motor and the axis of rotation, applied bearing (change of bearing, greasing and reference search).
- **Improved maintenance** (addition of sensors on the conveyor)

✓ Mechanics

- Assembly of the system in kit form, assembly and disassembly
- Study of a new star to change the speed of the conveyor.