



Pressing unit for sawing wooden planks

The task

Wooden planks of different thicknesses are sawn into slats of different widths using high-speed saws. During the sawing process, each plank is pressed down by three rollers ($m = 80 \text{ kg}$) and moves at 3 m/s . The contact pressure can be adjusted according to the type of wood.

Once the plank has gone through the machine, the contact rollers must return to their initial position without coming into contact with the conveyor.

The data for the plank that is being fed into the machine are transmitted to the system by the fieldbus.

The solution

A proportional directional control valve VPWP-6 on each standard cylinder DNCI-100-100 controls the movement of the contact rollers. The core of the control unit is made up of a CPX terminal with a local CPX-FEC, a Profibus interface, three CMAX modules and an I/O module.

New for CMAX: the combinable record switch unit. This ensures reliable switching through different operating statuses. The unit switches between position control and force control on an event-controlled basis. The CPX-FEC controls the CMAX modules via I/O and fieldbus.

The advantages

- The stand-alone solution independently controls the pressing process
- Fast and flexible
- A system for position and force control, freely programmable
- Safety functions integrated into the system: emergency off and "Board fed in" signal for locking the system
- Clear error diagnostics



Areas of application

The full potential of servopneumatics comes to the fore in the following fields:

- Production engineering, e.g. flexible and controlled pressing of workpieces with a defined force
- Packaging technology, e.g. repositioning goods from a conveyor belt to a packaging unit
- Conveying technology, e.g. in pushing and sorting functions
- Dosing technology, e.g. in volume filler systems
- Test engineering, e.g. for positioning the test equipment

