



DiTwin – Digital Twin for VET school

DiTwin Modules

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Project website: <https://www.ditwin.eu/>

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Module - Automation technician for Industry 4.0

Lesson 1 - Introducing mechatronics, automated machines and plants work in industry 4.0

Setup 1 and 2

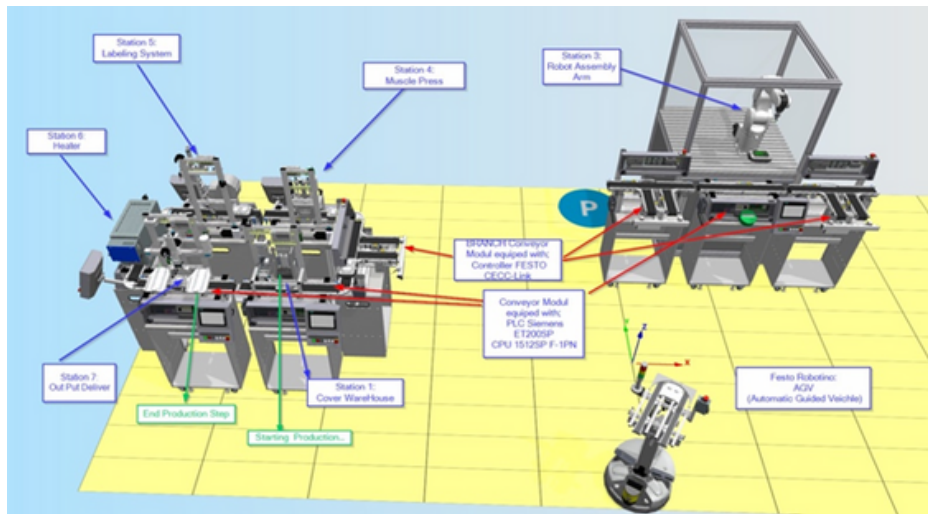


Figure 3.1. Setup 1 - CPC Factory

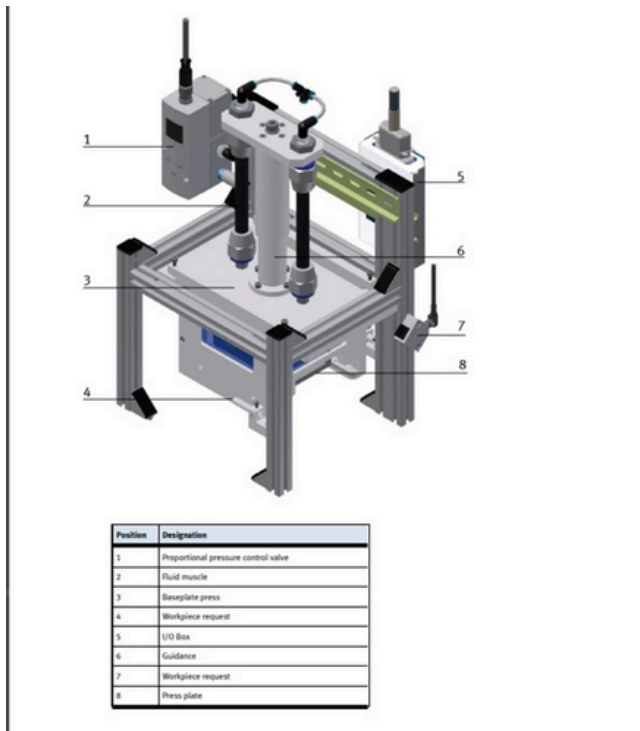


Figure 3.2. Setup 2 - Press

Requirements

Basic knowledge of mechanics, electronics and microcontrollers.

Learning Outcomes acquired

K4.1 To understand how automated machines and plants work in industry 4.0

K4.2 To understand fundamentals of mechatronics

K4.3 To understand fundamentals of automation and robotics

Duration of the lesson

8 hours

Activities and steps to be implemented

SETUP 1

Use the Digital Twin to observe the operation of the CP Factory, how the mechanical systems interact through the input signals managed by the microcontroller.

The CP Factory is a professional and compact Industry 4.0 learning system. It includes all the technologies and components needed for communicating an in-depth knowledge of Industry 4.0. The modular and flexible design has a range of learning scenarios, from individual pallet transfer systems with integrated controller right up to a connected production system with cloud services.

In this activity, participants will launch a production order through the Factory Digital Twin and observe the entire process connected to it.

SETUP 2

Use the digital twin to observe the operation of the robotic components in the CP Factory, how they interact with process programming.

In this activity, participants will interact through the Factory's Digital Twin with an automatic component, the press module and its operating parameters, and will observe the device in its operations.

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