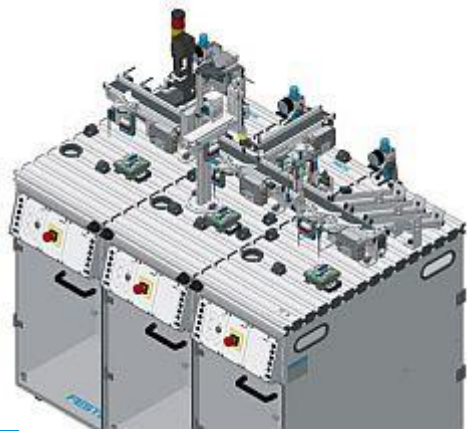# MPS® System 203 Basic – From the fundamentals of automation to network technology

Function
The Stacking magazine module separates workpieces. The Conveyor module brings the individual workpieces to the Joining station. The analog sensor at the stopper above the belt detects the position of the workpiece. If the workpiece is located with the opening facing up, an end cap can be attached with the Pick&Place module. If not, then it cannot. Transport continues to the Sorting station. An optical and an inductive sensor in the Detecting module differentiate the workpieces based on material and color. Electric deflectors then sort the workpieces onto three different slides.

Communication
A station can only pass on a workpiece to the next station if it is ready to process it. In MPS®, this OK signal is received via an I/O interface. That makes it very easy to combine stations and expand them via industrial network technology.

Decentralized participants
Decentralized units are increasingly important in the age of Industry 4.0. The modular approach in MPS® makes this easy to implement in projects. Network nodes or intelligent controls make the system even more flexible.

Controlling and operating
By breaking down the operation and control to individual stations, an individual workstation is created for a project team. The basic operating functions like start, stop, alignment, and a selector switch are available for programming with various controls. LEDs display the status.

Expandable
Extensions for vision systems, touch panels and data acquisition offer even more training content. Even extensions with additional stations are no obstacle and permit extension to larger production plant for training purposes.

PLC control package includes:
SIMATIC® S7-1500
3x EduTrainer® Universal with SIMATIC® S7-1512 including power supply unit
Allen-Bradley CompactLogix
3x EduTrainer® Universal with CompactLogix 1769 including power supply unit

The MPS 203 Basic system includes the following products:
Stations
Distributing/Conveyor, joining, sorting
Accessories
3x height-adjustable trolleys, 3x control console, 1x workpiece set PA (body with end cap), 1x simulation box, 1x signaling column, 3 emergency stop mushroom actuators
Control technology

1x PLC control package, 1x EasyPort
Software
FluidSim E 1L, FluidSim P 1L

Training content

- Structure of a PLC program
- Programming alternative branches
- Programming an operating mode section and signals
- Set-up and optimization of material flow
- Optimization of setup times
- Linking of stations
- Simple communication
- Material flow control
- Enhanced I/O communication
- Commissioning of complex systems
- Teamwork and coordination
- Optional: HMI, RFID, Vision
  Technical data

- Operating pressure: 600 kPa (6 bar)
- Power supply: 24 V DC/4.5 A
- Square/round workpiece dimensions: max. 40 mm
- Dimensions (W x D x H): approx. 1050 x 700 x 1000 mm
  Recommended training media

- CIROS®
- WBT: Electropneumatics
- WBT: GRAFCET
- WBT: PLC programming in accordance with IEC 61131
- WBT: Pneumatics
- Design and simulation using FluidSIM®
- Textbook: Fundamentals of pneumatics and electropneumatics
- Textbooks MPS® conveyor module, PLC programming, basic level and advanced level
- Textbooks MPS® Pick&Place module, PLC programming, basic level and advanced level

Order additional equipment at the same time:

- Programming software
- Programming cable
- Training media
- Simulation software
  Optional

- HMI Siemens
- HMI Allen-Bradley

- A4 frame for HMI (order no. 8059208)
- Cable for HMI Siemens
- Cable for HMI Allen-Bradley
- RFID module (order no. 8063388)
- Vision System
- Central connection box for power supply