MEC-200
Industrial mechanisms

The best way of becoming familiar with the mechanisms used in industry

Why MEC-200?

• With MEC-200, students will be able to observe how basic mechanisms work.
• It is modular and portable.
• Plug & Play design thus making it very easy to create different activities.
• This includes the option of increasing the number of mechanisms and control systems.

Examples

MEC-200 has been designed with a Plug & Play concept, thus making it very easy to create different assembly examples. Some are shown below:

Continuous production process where coins can be picked up using a robot arm.

Rotary table which is moved with a step by step movement.

Production process where the conveyor belt moves using a stepper movement thanks to the slider and the one-way ratchet.
MEC-200 includes a complete set of components

Mechanisms

- **Conveyor belt**
  - SAI7522
  - Linear transport mechanism.

- **Geneva Cross**
  - SAI7516
  - This is a mechanism which converts a continuous circular movement into an intermittent circular movement.

- **Spur gear**
  - SAI7513
  - This mechanism is comprised of a group of gears which decrease or increase speed.

- **Table with guide**
  - SAI7521
  - Guiding mechanism in an axial direction.

- **Rotary table**
  - SAI7523
  - This is a rotating mechanism which transmits the circular movement between perpendicular planes.

- **Rack and pinion mechanism**
  - SAI7510
  - This is a mechanism which converts the circular pinion movement into the continuous linear movement of a rack.

- **Feed screw**
  - SAI7512
  - Rotating mechanism which generates the longitudinal displacement of the carriage.

- **One-way ratchet**
  - SAI7511
  - This rack and pinion mechanism enables rotation in the one direction only.

- **Cam**
  - SAI7515
  - This is a rotating mechanism which pulls a tracker generating a cyclical movement.
Sensors

**SAI7503** Potentiometer

This converts circular movement into an electric signal.

**SAI7502** Two-way photoelectric sensor

This transmits an electric signal upon detection of an object between the transmitter and the receiver.

Handling devices

**SAI7524** "Z" axis robot arm with pneumatic cylinder

This includes a parallel-rod cylinder with flow controllers and initial and final position reed switches. At the end it has a plate which supports the suction pad. The base includes a magnetic holding device which means installation is possible on any metal surface.

Actuators

**SAI7528** Pneumatic cylinder

Dual-acting cylinder with flow controllers and initial and final position reed switches, controlled by solenoid valve.

**SAI7530** DC motor

The DC motor operates in both rotation directions.

List of components

MEC-200 is a modular and extendable system. A list of the various elements available is featured below.

**Mechanisms**
- Rack and pinion
- One-way ratchet
- Feed screw
- Spur gear
- Worm gear with cogwheel
- Cam
- Geneva Cross
- Crankshaft
- Slider
- Switching lever
- Table with guide
- Conveyor belt
- Rotary table

**Sensors**
- Two-way photoelectric sensor
- Potentiometer
- Magnetic detector
- Rotary encoder

**Handling devices**
- "Z" axis robot arm with pneumatic cylinder
- "Z" axis robot arm
- "Z" axis rotary robot arm
- SCARA "Z" axis robot arm with 2 axes

**Actuators**
- Pneumatic cylinder
- Induction motor with speed control
- DC motor with double rotation direction
- Stepper motor
- AC servomotor
- Pneumatic rotary actuator

**Accessories**
- Standard accessories
- Magnetic holding device
- Connection rod