# AUTOMATE-200

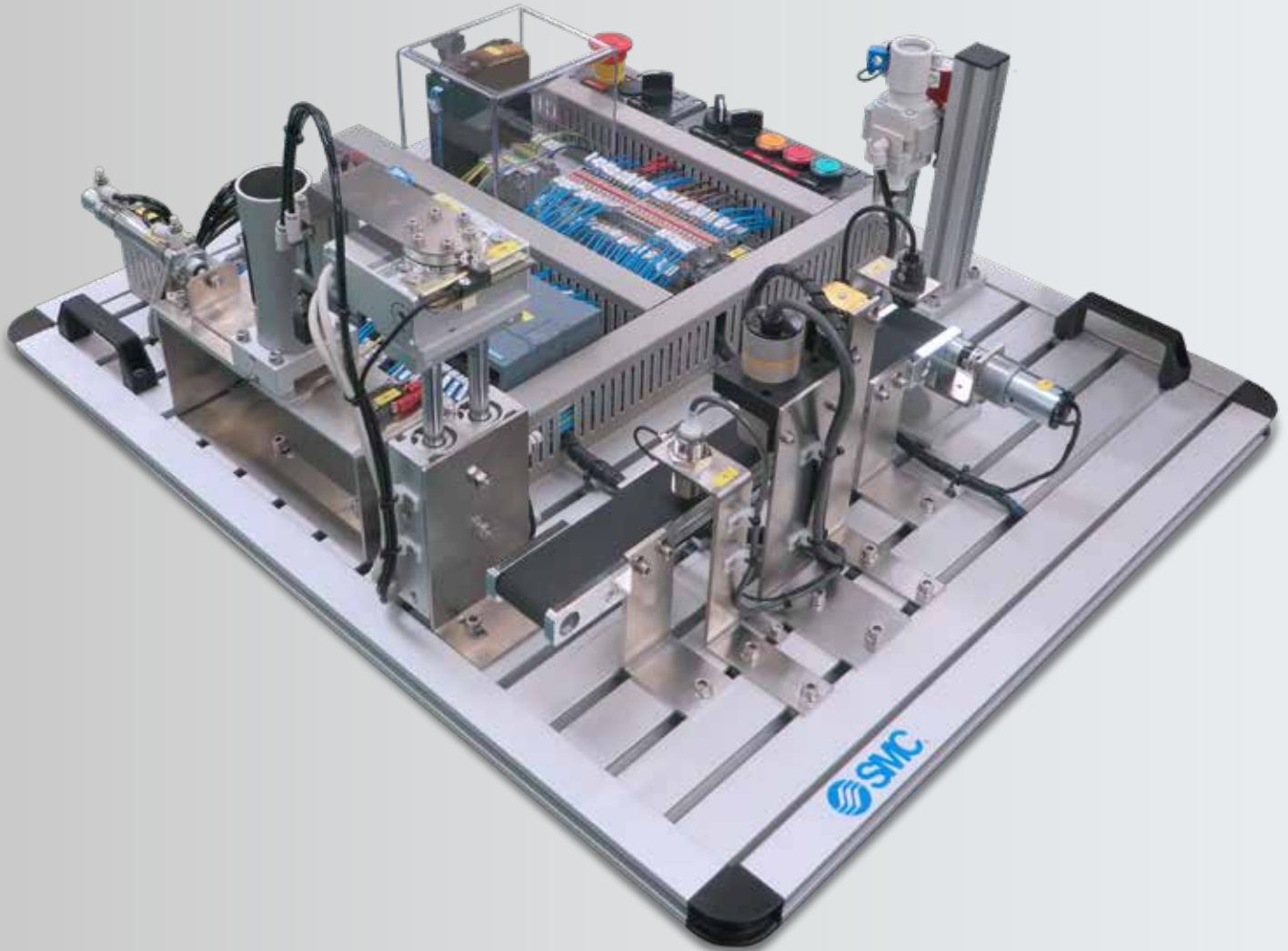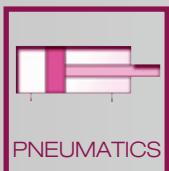## Welcome to the world of automation

### Automation within your reach

### Easy and intuitive learning of the basic principles of automation
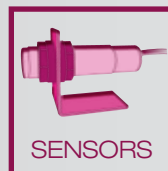
In the following TECHNOLOGIES...
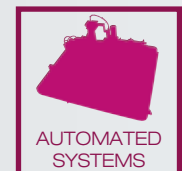
| PNEUMATICS | VACUUM | ELECTRIC MOTORS | SENSORS | PROGRAMM. CONTROLLERS | MANIPULATORS | AUTOMATED SYSTEMS |
|---|---|---|---|---|---|---|

Two different versions adapted to the user's different needs

ANALYSIS

TROUBLESHOOTING

DESIGNING

TECH DOCUM. CREATION

INSTALLATION AND ASSEMBLY

TECH DOCUM. UNDERSTANDING

OPERATION

PROGRAMMING
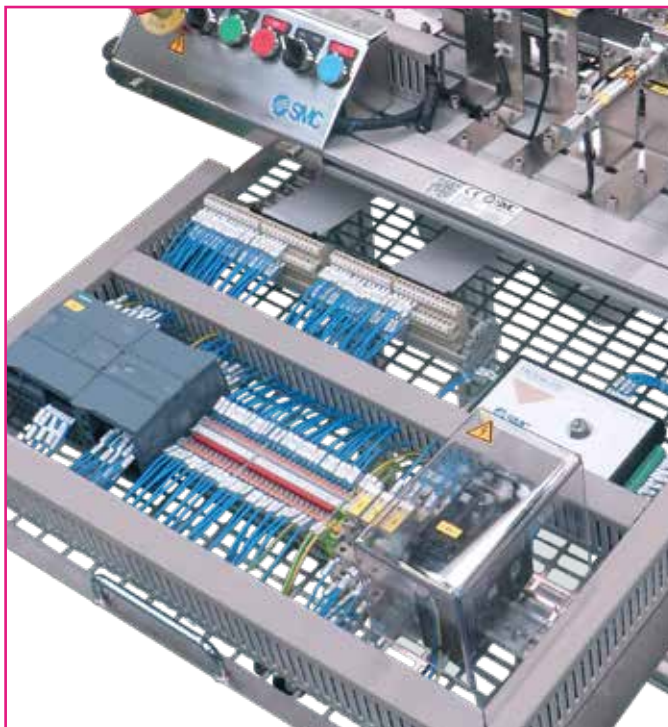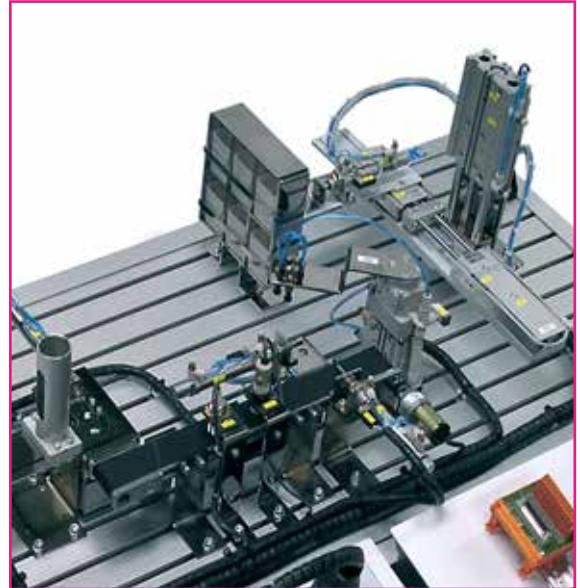
AUTOMATE - 200

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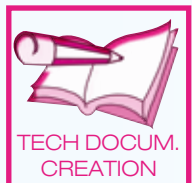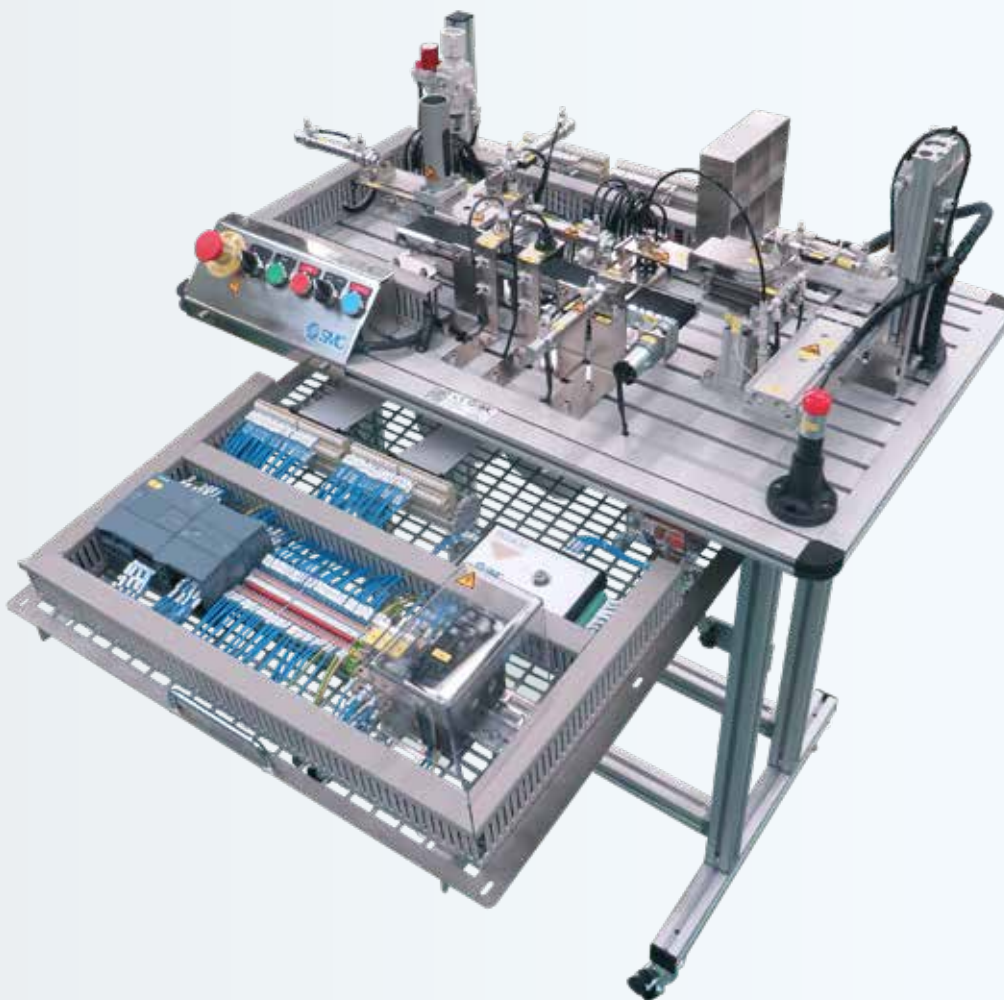
# AUTOMATE-200 - Welcome to the world of automation

AUTOMATE-200 is SMC International Training's response to the increasing demand for the introduction of a technological culture in training centers.

Using a recycling plant for solid urban waste as a reference, a fully modular design system has been developed for a training environment. The integration of the technologies in automated processes brings familiarization to the user of this fascinating world.

With this system, the student uses an integrated and motivating context to become familiar with technologies such as pneumatics, sensors, electric motors, PLCs, etc., in an enjoyable and intuitive way. Using completely industrial components we develop skills in analysis, troubleshooting, designing, creating technical documentation, setting up/commissioning, understanding technical documentation, operation and programming.

AUTOMATE-200 includes up to ten functional blocks that can produce an infinite number of configurations, emulating different processes and making it possible to perform an endless number of activities with different levels of difficulty.

The raw material used in the process includes parts with different colours (light/dark), materials (plastic/ metal) and shapes (with or without hole). During the last phase of the process, the parts are sorted and stored in containers.

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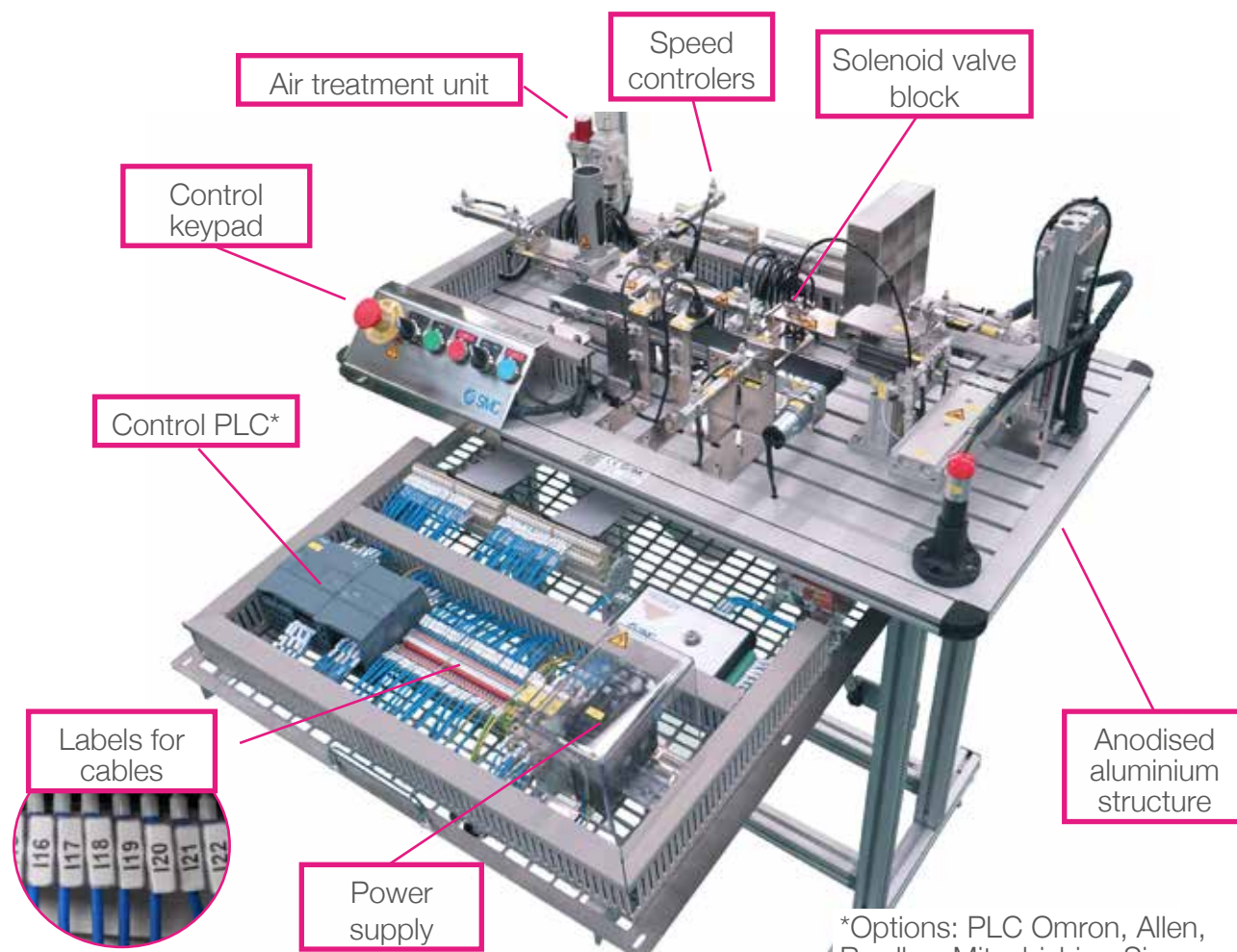AUTOMATE-200 is available in 3 different versions:

**• AUTOMATE-200B**
**Take it wherever you want!**

This version, in addition to including the functional modules of the 200A version, is mounted on a trolley base with a fold-away control panel for the PLC and all electrical connections.

**• AUTOMATE-200C**
**The most compact in the range!**

Where space is at a premium,the compact version of AUTOMATE-200, includes all the essential AUTOMATE-200 features in a small footprint.

Air treatment unit

Speed controlers

Solenoid valve block

Control keypad

Control PLC*

Labels for cables

Power supply

Anodised aluminium structure

*Options: PLC Omron, Allen, Bradley, Mitsubishi or Siemens

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AUTOMATE - 200

## AUTOMATE-200B

As this version is mobile, it can be transported effortlessly round the classroom.

In addition to the functional modules included in the AUTOMATE-200A version, it incorporates a control panel with a fold-away PLC and coded electrical connections on a terminal board.
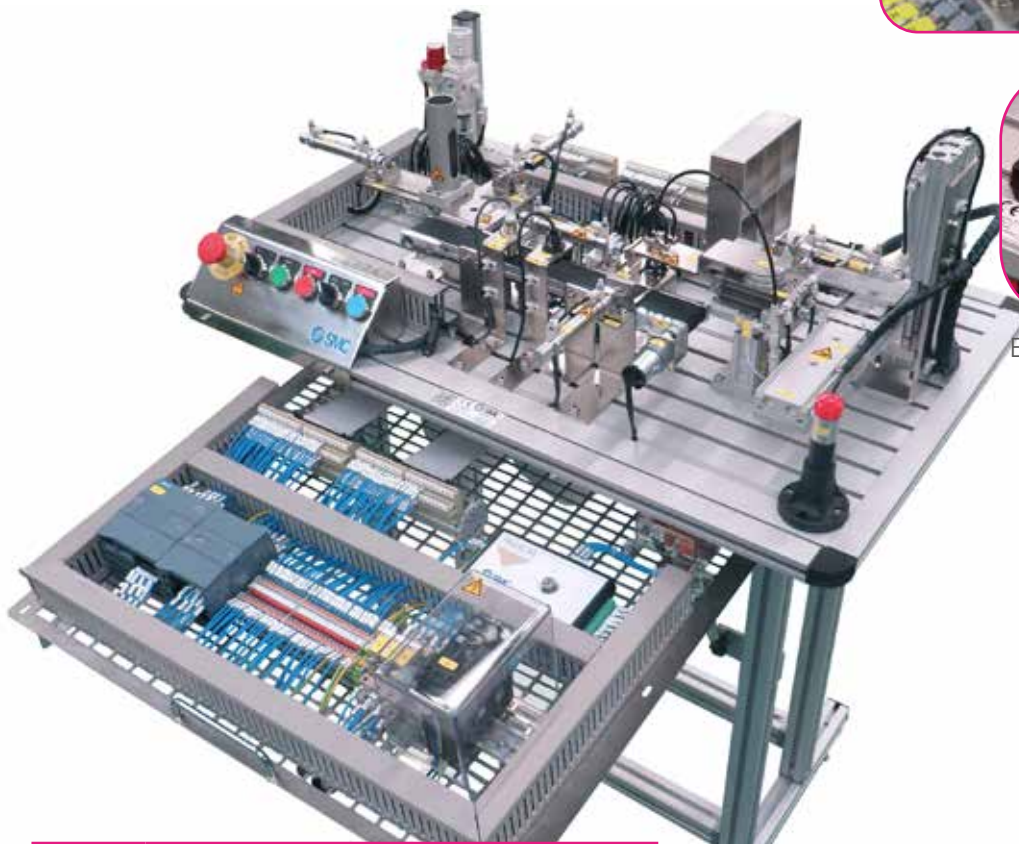
The troubleshooting simulation system TROUB-200 can be included, which generates up to 16 different breakdowns to be diagnosed by the user.

Rolling frame!

Breakdown simulation system option

• SAI2914   AUTOMATE with Allen Bradley PLC rolling version
• SAI2915   AUTOMATE with Siemens PLC rolling version
• SAI2916   AUTOMATE with Omron PLC rolling version
• SAI2917   AUTOMATE with Mitsubishi PLC rolling version

# AUTOMATE-200C

AUTOMATE-200C is the compact version of AUTOMATE-200.

It includes all the essential parts of the AUTOMATE-200 family on a single, smaller base directly connected to the control PLC.
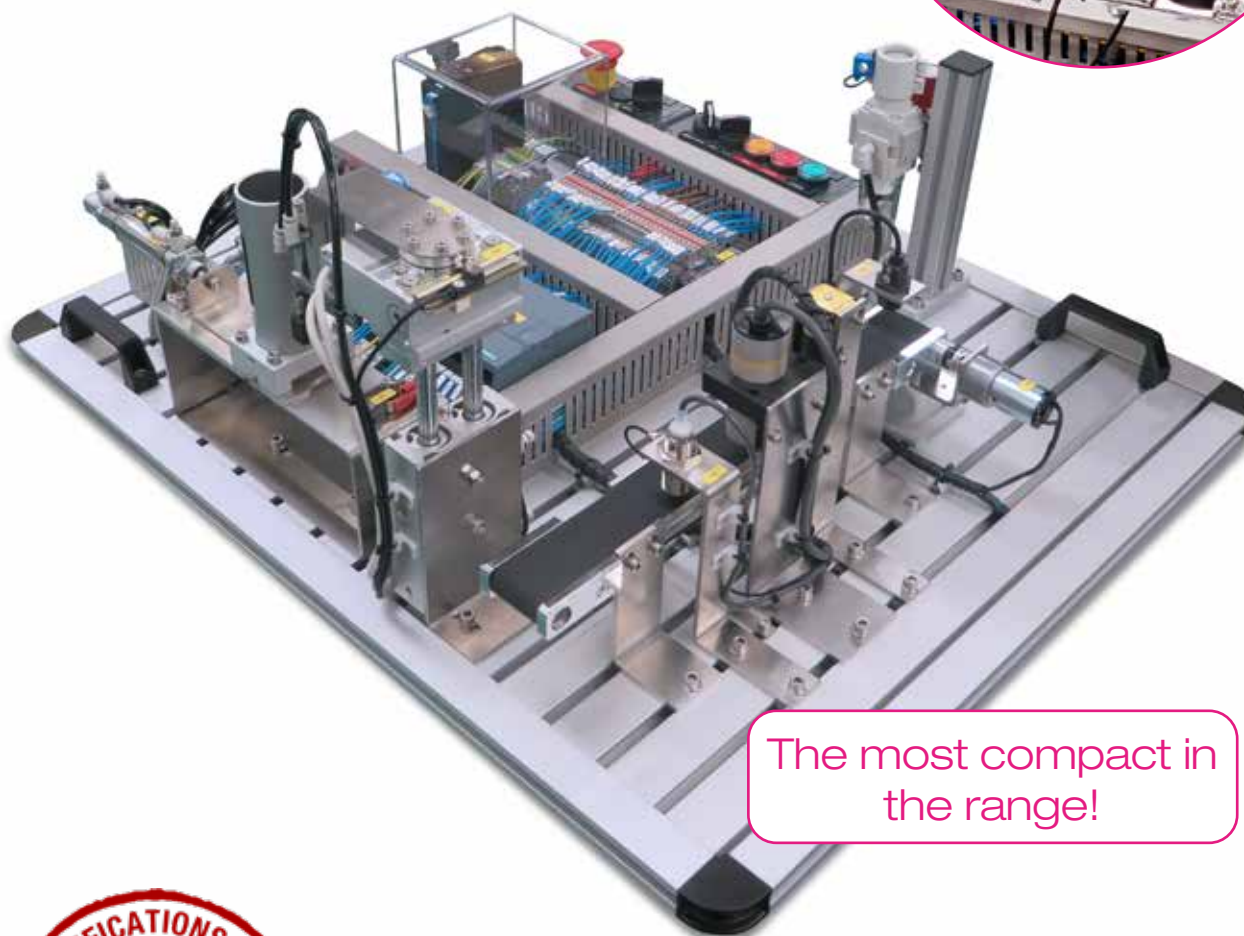


### The most compact in the range!
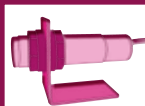
| | | |
|---|---|---|
| • SAI2918 | AUTOMATE compact with Allen Bradley PLC |
| • SAI2919 | AUTOMATE compact with Siemens PLC |
| • SAI2920 | AUTOMATE compact with Omron PLC |
| • SAI2921 | AUTOMATE compact with Mitsubishi PLC |

*"Sierra College Mechatronics Trainer"*

SPECIFICATIONS
DOWNLOAD
www.smctraining.com
TECHNICAL DESCRIPTIONS

## ● AUTOMATE-200 - With this system you could...

AUTOMATE-200 comes up with different practical activities targeting skills in the technologies featuring in the table (below).

**TECHNOLOGIES**

**SKILLS**

| SKILLS \ TECHNOLOGIES | PNEUMATICS | VACUUM | ELECTRIC MOTORS | SENSORS | PROGRAMM. CONTROLLERS | MANIPULATORS | AUTOMATED SYSTEMS |
|---|---|---|---|---|---|---|---|
| ANALYSIS | light | light | light | dark | dark | dark | light |
| TROUBLESHOOT. | | | | | light | | light |
| DESIGNING | light | light | light | dark | dark | dark | light |
| TECH DOCUM. CREATION | light | light | light | dark | dark | dark | light |
| INSTALLATION AND ASSEMBLY | light | | | | | | |
| TECH DOCUM. UNDERSTANDING | light | light | light | dark | dark | dark | light |
| OPERATION | dark | | | light | dark | dark | light |
| PROGRAMMING | | | | | dark | | light |

■ This shows how the AUTOMATE-200 is suitable to develop skills in the specific technology.

□ This shows that AUTOMATE-200 can help develop skills in the specific technology even though there are other more appropriate products in the range.

INTERNATIONAL TRAINING

# @ eLEARNING-200

Find out more about the theory behind the technologies developed in AUTOMATE-200 with our eLEARNING-200 courses.

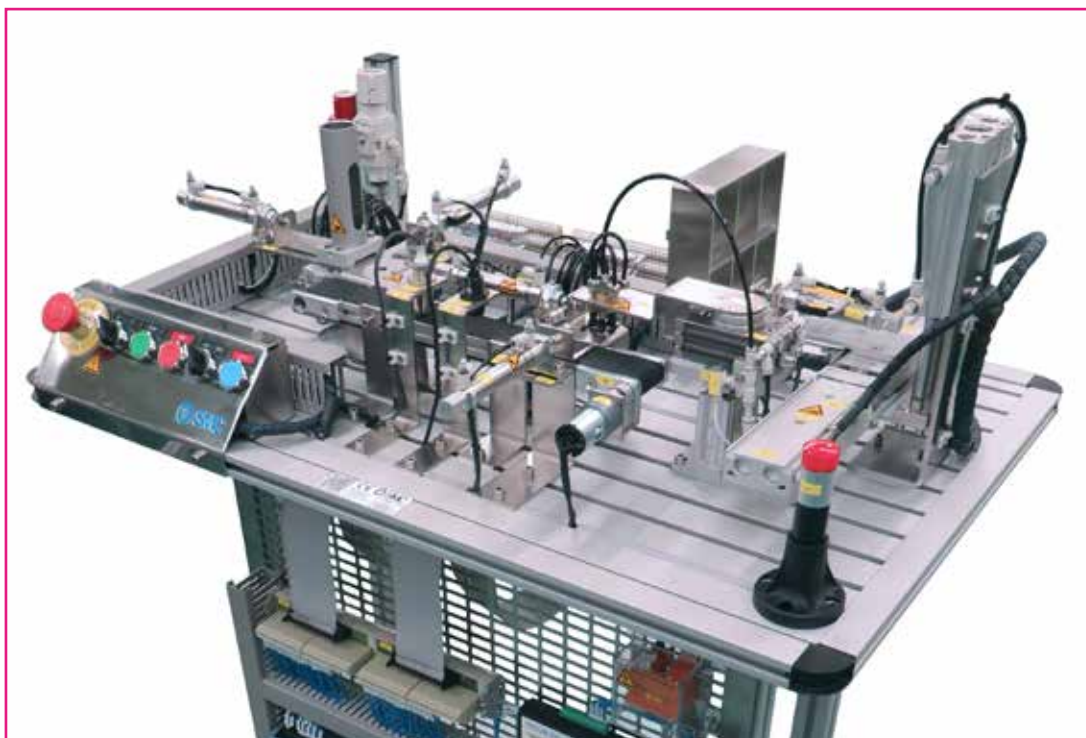| RELATED eLEARNING-200 COURSES |
| --- |
| Introduction to industrial automation (SMC-100) |
| Principles of pneumatics (SMC-101) |
| Introduction to electricity (SMC-102) |
| DC electricity (SMC-103) |
| Solid state (SMC-105) |
| Sensors technology (SMC-108) |
| Programmable controllers (SMC-109) |

*See eLEARNING-200 chapter for more information*

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## ■ AUTOMATE-200 - Options

AUTOMATE-200 has a series of optional extras.

### • Programming tools

The programming tools comprise the appropriate programming software and cables for the chosen PLC.

*See Programming Tools chapter*

### • SCADA: Supervisory Control and Data Acquisition

This is an industrial standard software application, making it easier to remotely supervise and control processes from a computer screen.

| • SAI2924    SCADA application AUTOMATE-200 |

### • AUTOMATE-200  application for autoSIM-200

We have a 3D application where users can simulate, supervise and control AUTOMATE-200 from an autoSIM environment.

*autoSIM is required. See autoSIM-200 chapter*
** Not availabe in AUTOMATE-200C version*



| LICENSES | ONE YEAR (electronic dispatch) | PERMANENTS (electronic dispatch) | PERMANENTS (physical dispatch) |
|---|---|---|---|
| 3D simulator for AUTOMATE-200, 1 license | SAI1968-001 | SAI1976-001 | SAI2530 |
| 3D simulator for AUTOMATE-200, 8 licenses | SAI1968-008 | SAI1976-008 | SAI2531 |
| 3D simulator for AUTOMATE-200, 16 licenses | SAI1968-016 | SAI1976-016 | SAI2532 |

### • Troubleshooting simulation system for AUTOMATE-200

The troubleshooting simulation system TROUB-200 can be included in the AUTOMATE-200B version, which generates up to 16 different breakdowns to be diagnosed by the user.

| • SAI2980    AUTOMATE-200 Troubleshooting box system |

## ■ AUTOMATE-200 - Configuration

Getting the right AUTOMATE-200 specification is as easy as:

### • Steps to follow

1.- Select the right version.

2.- Choose the PLC.

3.- Add any optional extras.

# ● AUTOMATE-200 - Technical features

| | Modules | Sensors (type & qty.) | Input / Output |
|---|---|---|---|
| **AUTOMATE-200B**<br>900x580x1200mm | Vertical feeder<br>Platform with part detector<br>Colour detector<br>Conveyor belt<br>Belt drive<br>Hole detector<br>Material detector<br>Roto-linear handling device with suction pads<br>Part classifier<br>Warehouse | Auto switch, Reed type (x10)<br>Photoelectric (x1)<br>Fiber optic (x2)<br>Vacuum pressure switch (x1)<br>Inductive (x1) | Digital 19/19 |
| | **Other devices (quantity)** | **Actuators (type & quantity)** | |
| | Three-colour indication light (x1)<br>Rolling table<br>Folding control panel | Pneumatic linear (x9)<br>Pneumatic rotary actuator (x1)<br>DC motor (x1)<br>Vacuum pad (x3) - Vacuum ejector (x1) | |
| | **Modules** | **Sensors (type & qty.)** | **Input / Output** |
| **AUTOMATE-200C**<br>645x760x290mm | Vertical feeder<br>Roto-linear handling device with pneumatic gripper<br>Conveyor belt<br>Material detector<br>Presence detector<br>End of conveyor belt detector<br>Part sorting | Auto switch, Reed type (x4)<br>Photoelectric (x1)<br>Fiber optic (x3)<br>Inductive (x1)<br>Capacitive (x1)<br>Micro-switch (x1) | Digital 20/16 |
| | **Other devices (quantity)** | **Actuators (type & quantity)** | |
| | Step by step driver servo Vcc (x1) | Pneumatic linear (x2)<br>Pneumatic gripper (x1)<br>Step by step motor servo Vcc (x1)<br>DC motor (x1)<br>Solenoid (x1) | |

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