edibon
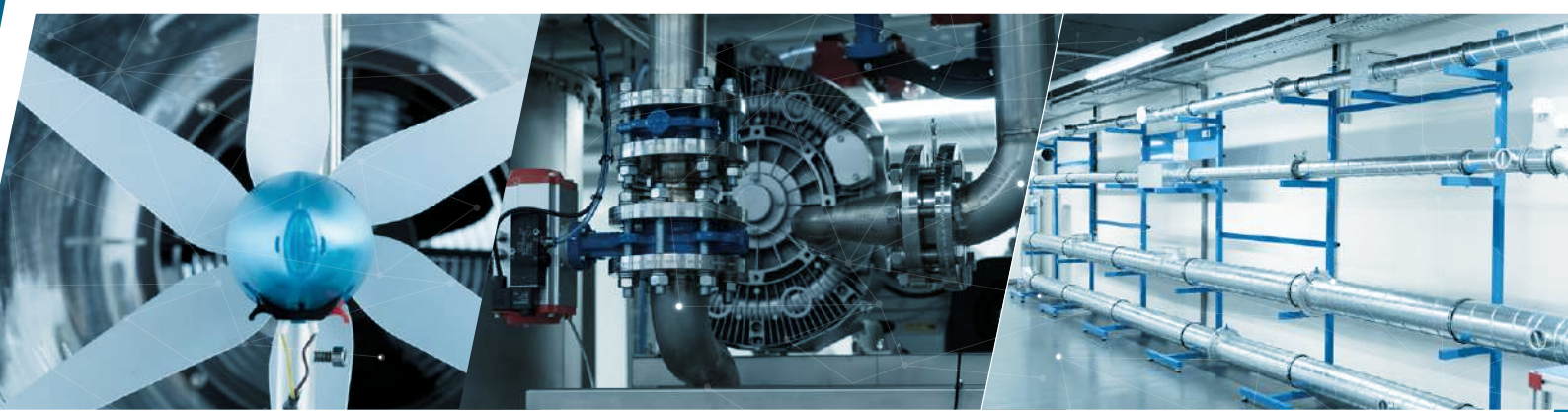
INNOVATING IN TECHNICAL TEACHING

AND RESEARCH EQUIPMENT SINCE 1978

SCADA

FULL CUSTOMER SERVICES

100% OWN DESIGN AND MANUFACTURING

ABOUT US

WHO WE ARE

EDIBON is a worldwide benchmark company, with 45 years of experience in teaching and research equipment for engineering and technical education.

+ MISSION

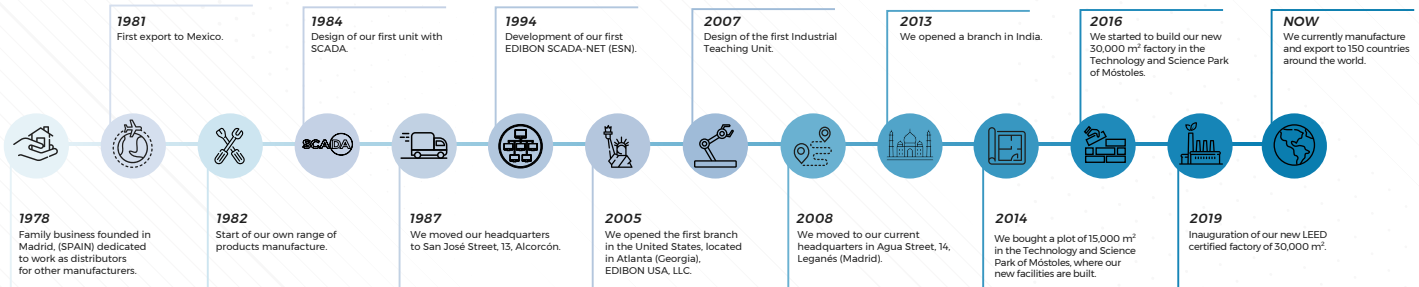Create the best product with the latest technology available in the market.

+ VISSION

Consolidate the company's leadership worldwide.

+ VALUES

Creation of a culture of responsibility, respect, equality, perseverance and environmental protection.

OUR HISTORY

1981
First export to Mexico.

1984
Design of our first unit with SCADA.

1994
Development of our first EDIBON SCADA-NET (ESN).

2007
Design of the first Industrial Teaching Unit.

2013
We opened a branch in India.

2016
We started to build our new 30,000 m² factory in the Technology and Science Park of Móstoles.

NOW
We currently manufacture and export to 150 countries around the world.

1978
Family business founded in Madrid, (SPAIN) dedicated to work as distributors for other manufacturers.

1982
Start of our own range of products manufacture.

1987
We moved our headquarters to San José Street, 13, Alcorcón.

2005
We opened the first branch in the United States, located in Atlanta (Georgia), EDIBON USA, LLC.

2008
We moved to our current headquarters in Agua Street, 14, Leganés (Madrid).

2014
We bought a plot of 15,000 m² in the Technology and Science Park of Móstoles, where our new facilities are built.

2019
Inauguration of our new LEED certified factory of 30,000 m².

EDIBON IN THE WORLD

Some countries that already use EDIBON Technology:

Afghanistan	Bulgaria	Georgia	Malaysia	Portugal	Trinidad & Tobago
Albania	Burkina Faso	Germany	Mauricio	Qatar	Tunisia
Algeria	Cambodia	Ghana	Mauritania	Romania	Turkey
Angola	Cameroon	Greece	Mexico	Russia	Turkmenistan
Argentina	Canada	Guatemala	Mongolia	Saudi Arabia	UAE
Australia	Chile	Guinea Ec	Morocco	San Cristobal & Nieves	Uganda
Austria	China	India	Mozambique	Serbia	Ukraine
Armenia	Colombia	Indonesia	Myanmar	Singapore	UK
Azerbaijan	Costa Rica	Lebanon	Netherlands	Slovakia	Uruguay
Bahrain	Croatia	Libya	New Zealand	South Africa	USA
Bangladesh	Cyprus	Italy	Nicaragua	South Korea	Uzbekistan
Barbados	Dominica	Irak	Nigeria	Spain	Venezuela
Belarus	Dominican Rep	Ireland	Oman	Sri Lanka	Vietnam
Belgium	Ecuador	Ivory Coast	Pakistan	Sudan	Yemen
Belize	Egypt	Jordan	Palestine	Suriname	Zambia
Bhutan	El Salvador	Kazakhstan	Panama	Switzerland	
Bolivia	Estonia	Kuwait	Paraguay	Syria	
Botswana	Ethiopia	Kyrgyzstan	Peru	Tajikistan	
Brazil	Finland	Latvia	Philippines	Taiwan	
Brunei	France	Lithuania	Poland	Thailand	

HIGHER EDUCATION

TECHNICAL AND VOCATIONAL TRAINING

ENGINEERING AND TECHNICAL TRAINING CENTERS

RESEARCH CENTERS

Ask us for further information: *www.edibon.com/en/content/contact-us*

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OUR FACILITIES

New and advanced 30.000 m² factory to design, innovate, manufacture and perform quality control procedure.

R+D+i department

Manufacturing plant

Quality control

OUR EXPERIENCE

Some customers and partners:

HARVARD UNIVERSITY

CSIC

SiT SINGAPORE INSTITUTE OF TECHNOLOGY

EPFL ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE

The City University of New York

UNIVERSIDAD NACIONAL DE COLOMBIA

CHARLES DARWIN UNIVERSITY

THE UNIVERSITY OF HONG KONG

MIT Massachusetts Institute of Technology

N Novosibirsk State University THE REAL SCIENCE

POLITÉCNICA

What do they say about us?

I would definitely recommend EDIBON INTERNATIONAL for the personalized treatment, the solutions provided for updating the laboratory with very versalite teaching units and with good documentation, the continuous advice on the design of the proposal, as well as the deadlines for the shipment and installation.

Joaquín Moreno Marchal
University of Cadiz.
[SPAIN]

On behalf of AINS SHAMS UNIVERSITY, I´d like to thank EDIBON INTERNATIONAL for their cooperation and understanding of the situation from the beginning of the project, as well as the negotiation about the equipment till the end and the fast shipping service they provided.

Dr. Walid Torky
Ains Shams University.
[EGYPT]

QUALITY & WARRANTIES

In the company there is a great interest in quality and good management:

LRQA CERTIFIED ISO 9001

LRQA CERTIFIED ISO 14001

LRQA CERTIFIED ISO 45001

URS ISO 27001

CE

THE GLOBAL COMPACT WE SUPPORT

UL

CSA

ASEE

INNOVATIVE SME

Sercobe

worlddidac MEMBER

The purchase of an EDIBON unit implies a great responsibility and commitment for us:

WARRANTY 5-YEAR edibon

SPARE PARTS AVAILABILITY 15-YEAR edibon

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TECHNICAL TEACHING AND RESEARCH UNITS

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1.1. 3D PHYSICS

EFAC. Computer Controlled Three Dimensions (3D) Physics

EDIBON SCADA System

Control Interface | Data Acquisition Board | Supervisory + Control + Data Software

FUB. Base Frame and Robot for EFAC

★ *REQUIRED ELEMENTS FOR FUB (At least one is required):*

FCE. Electric Fields Study Set

FCM. Magnetic Field Study Set

FM. Mechanics Study Set

FAC. Acoustics Study Set

FOP. Optics Study Set

FTT. Thermodynamics Study Set

Some **SOFTWARE RESULTS** screens

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2.1. POWER SUPPLIES, MEASUREMENT EQUIPMENT AND ACCESSORIES

▶ **LIEBA**. Basic Electronics and Electricity Laboratory

Complete configuration example for LIEBA

FACO. Power Supply

EBC100. Base Unit, with built-in power supply

Some **SOFTWARE RESULTS** screens

▶ **EDAS/VIS**. EDIBON Data Acquisition System and Virtual Instrumentation

EDAS/VIS: EDIBON Data Acquisition System and Virtual Instrumentation

Control Interface Box — Data Acquisition Board — Supervisory + Control + Data Software
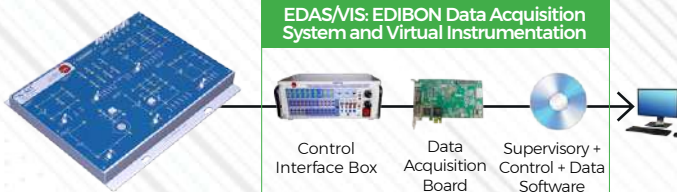
Example of Teaching Unit: Module "N-M1" of Basic Electronics

▶ **EDAS/VIS-WF**. EDIBON Data Acquisition System / Virtual Instrumentation System with WI-FI communication

2. ELECTRONICS

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2.2. KITS FOR CIRCUITS ASSEMBLY

▶ **M-KITS**. Basic Electronics and Electricity Assembly Kits:

Complete configuration example for M-KITS

★ *UNITS AVAILABLE*

N-M15.	Own Development Module.
M1/KIT.	Direct Current (DC) Circuits Kit.
M2/KIT.	Alternating Current (AC) Circuits Kit.
M3/KIT.	Semiconductors I Kit.
M4/KIT.	Semiconductors II Kit.
M5/KIT.	Power Supplies Kit.
M6/KIT.	Oscillators Kit.
M7/KIT.	Operational Amplifiers Kit.
M8/KIT.	Filters Kit.

M9/KIT.	Power Electronics Kit.
M10/KIT.	Digital Systems and Converters Kit.
M11/KIT.	Digital Electronic Fundamentals Kit.
M12/KIT.	Basic Combinational Circuits Kit.
M13/KIT.	Basic Sequential Circuits Kit.
M14/KIT.	Optoelectronics Kit.
M16/KIT.	Electric Networks Kit.
M18/KIT.	Three-phase Circuits Kit.

2.3. THEORETICAL - PRACTICAL FUNDAMENTALS

2.3.1. BASIC ELECTRICAL LAWS CONCEPTS

▶ **LIEBA**. Basic Electronics and Electricity Laboratory

N-M1.	Direct Current (DC) Circuits Module.
N-M2.	Alternating Current (AC) Circuits Module.
N-M16.	Electric Networks Module.
N-M17.	Electromagnetism Module.
N-M18.	Three-phase Circuits Module.
M99-6.	Electronics for Motors and Generators Unit.

N-M17. Electromagnetism Module.

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M99-6. Electronics for Motors and Generators Unit

2.3.2. ANALOG ELECTRONICS

LIEBA. Basic Electronics and Electricity Laboratory

N-M6. Oscillators Module.

N-M7. Operational Amplifiers Module.

N-M8. Filters Module.

N-M6. Oscillators Module.

M99. Analog Circuits Unit

2.3.3. DIGITAL ELECTRONICS

LIEBA. Basic Electronics and Electricity Laboratory

N-M60. Analog/Digital Converters Module.

N-M61. Digital/Analog Converters Module.

N-M10. Digital Systems & Converters Module.

N-M11. Digital Electronics Fundamentals Module.

N-M12. Basic Combinational Circuits Module.

N-M13. Basic Sequential Circuits Module.

N-M60. Analog/Digital Converters Module.

2. ELECTRONICS

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CADDA. Computer Controlled A/D and D/A Converters Unit

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software
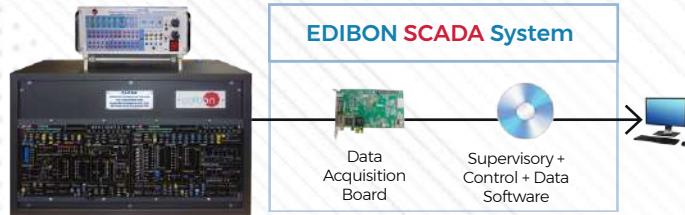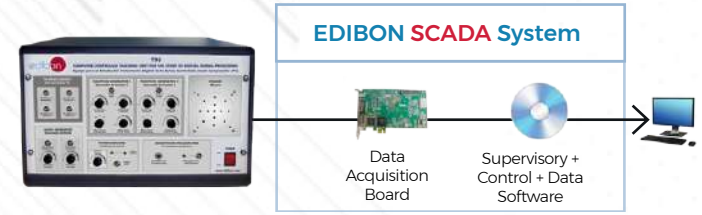
TDS. Computer Controlled Teaching Unit for the Study of Digital Signal Processing

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software
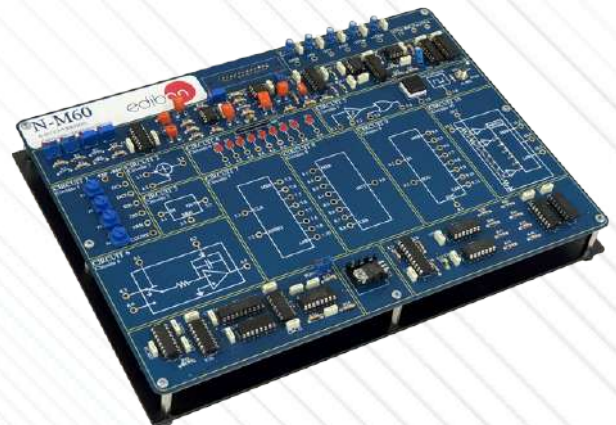
2.3.4. SEMICONDUCTORS

LIEBA. Basic Electronics and Electricity Laboratory

N-M3. Semiconductors I Module.

N-M4. Semiconductors II Module.

N-M14. Optoelectronics Module.

N-M14. Optoelectronics Module.

2.3.5. INSTRUMENTATION & CONTROL

LIEBA. Basic Electronics and Electricity Laboratory

M41. Resistance Transducers.

M44. Applications of Light.

M45. Linear Position and Force.

M46. Environmental Measurements.

M47. Rotational Speed & Position Control.

M48. Sound Measurements.

N-M49. Applications of Temperature and Pressure Module.

M45. Linear Position and Force.

2.3.6. POWER ELECTRONICS (FUNDAMENTALS)

LIEBA. Basic Electronics and Electricity Laboratory

N-M9. Power Electronics Module.

N-M5. Power Supplies Module.

N-M9. Power Electronics Module.

2. ELECTRONICS

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2.4. INDUSTRIAL ELECTRONICS

2.4.1. INSTRUMENTATION & CONTROL
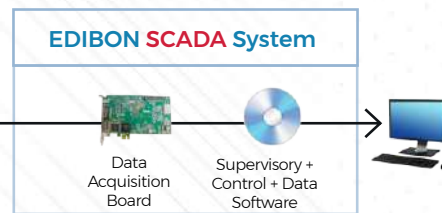
SPC. Weighing System, with Computer Data Acquisition

SCSP. Pressure Sensors Calibration System

BS. Modular System for the Study of Sensors

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software

BSPC. Computer Controlled Base Unit for BS

★ *ADDITIONAL RECOMMENDED ELEMENTS FOR BSPC*

BS1. Vibrations and/or Deformations Test Module

BS2. Temperature Test Module

BS3. Pressure Test Module

BS4. Flow Test Module

BS5. Ovens Test Module

BS6. Liquid level Test Module

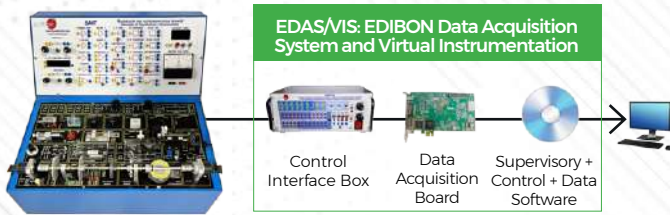**BS7.** Tachometer Test Module

BS8. Proximity Test Module
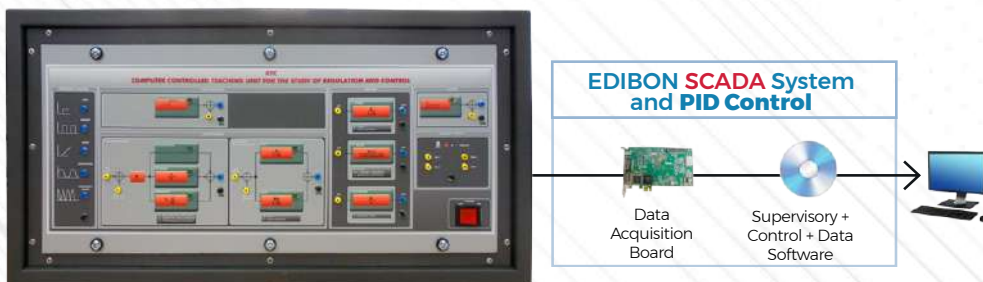
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BS9. Pneumatic Test Module

BS10. Light Test Module

Some **SOFTWARE RESULTS** screens

SAIT. Transducers and Instrumentation Unit

EDAS/VIS: EDIBON Data Acquisition System and Virtual Instrumentation

Control Interface Box

Data Acquisition Board

Supervisory + Control + Data Software

RYC/B. Basic Teaching Unit for the Study of Regulation and Control

RYC/T. Computer Controlled Modular Control and Regulation Unit

EDIBON SCADA System and PID Control

Data Acquisition Board

Supervisory + Control + Data Software

RYC. Computer Controlled Teaching Unit for the Study of Regulation and Control

★ *ADDITIONAL RECOMMENDED ELEMENTS FOR RYC*

RYC-BB. Ball and Beam Module

RYC-SM. DC Servo Motor Module

RYC-TAR. Air Flow Temperature Control Module

RYC-PI. Inverted Pendulum Control Module

RYC-CLM. Magnetic Levitation Control Module

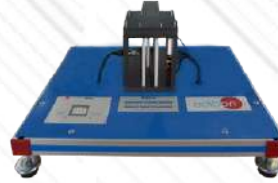**RYC-TAG.** Water Flow Temperature Control Module

RYC-TE. Temperature Control Module

RYC-P. Pressure Control Module

2. ELECTRONICS

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RYC-N. Level Control Module

RYC-C. Flow Rate Control Module

RYC-I. Luminosity Control Module

RYC-pH. pH Control Module

RYC-CP. Position Control Module
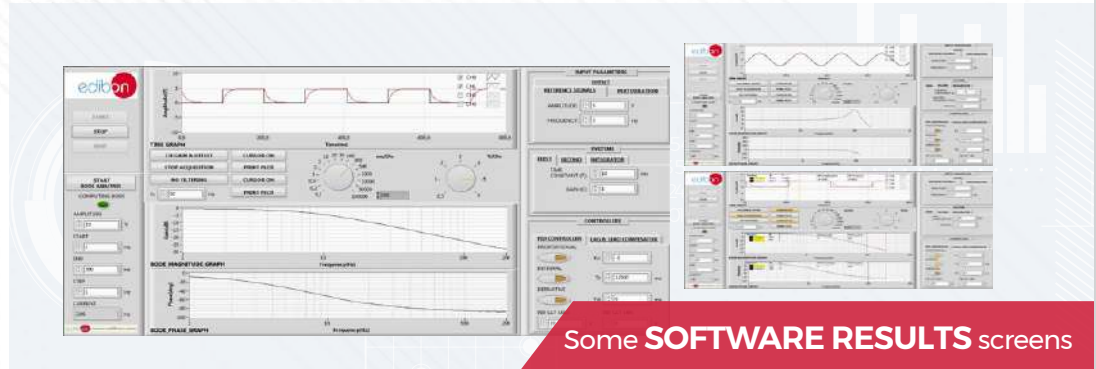
Some **SOFTWARE RESULTS** screens

SCE. Computer Controlled Generating Stations Control and Regulation Simulator

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software
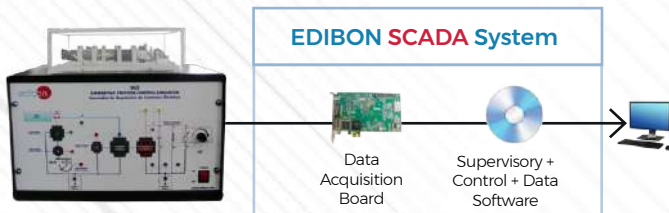
2.4.2. ELECTRICAL SERVOMOTORS

AE-SMI. Servomotor Industrial Application
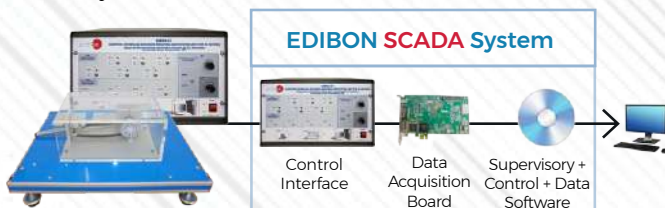
SMI-UB. Servomotor Base Unit

AE-BMI. Brushless Motor Industrial Application

BMI-UB. Brushless Motor Base Unit

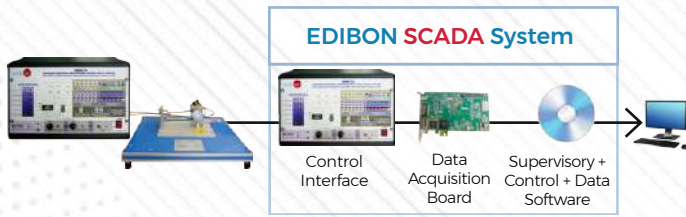**SERIN/CC**. Computer Controlled Advanced Industrial Servosystem Unit (for DC Motors)

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

SERIN/CCB. Servosystems Basic Unit for DC Motors

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SERIN/CA. Computer Controlled Advanced Industrial Servosystems Unit (for AC Motors)

EDIBON SCADA System

Control Interface

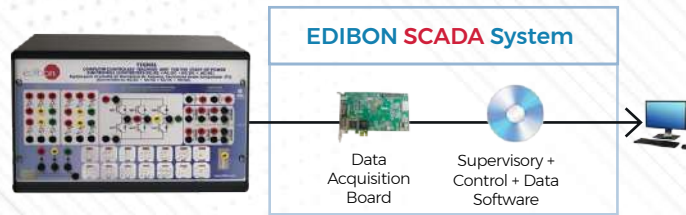Data Acquisition Board

Supervisory + Control + Data Software

AEL-SERIN/CA-1KW. 1 kW AC Industrial Servomotor Application

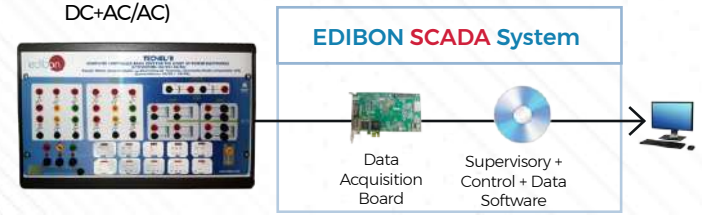## 2.4.3. POWER ELECTRONICS

**TECNEL**. Computer Controlled Teaching Unit for the Study of Power Electronics (with IGBTS)

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software

TECNEL/B. Computer Controlled Basic Teaching Unit for the Study of Power Electronics (no IGBTS). (Converters: AC/DC+AC/AC)

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software

AEL-PWEC. Power Electronics Application, with SCADA

AEL-WPPIC. Computer Controlled Wind Power Plants Application with Induction Generator

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software
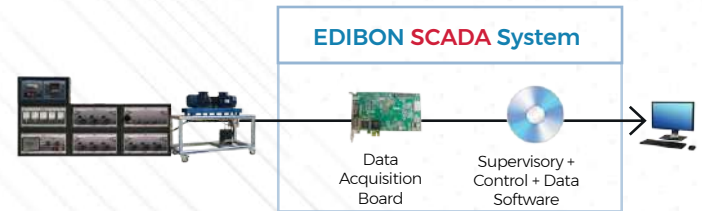
2.5. AUTOMOTIVE ELECTRONICS

AEL-EHVC. Computer Controlled Hybrid and Electric Vehicles Application

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software
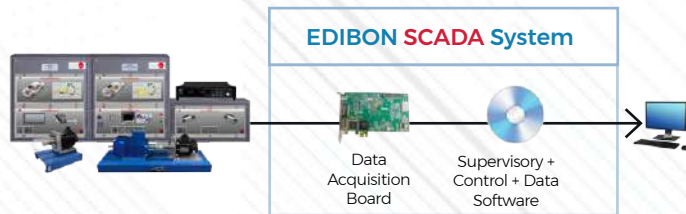
AV-EC. Automotive Fundamental Electronic Circuits Unit

AV-ELC. Automotive Fundamental Electrical Circuits Unit

AV-A. Automotive Actuators Unit

2. ELECTRONICS

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AV-WW. Automotive Wiper Washer Unit

AV-ECC. Automotive Engine Cooling Circuit Unit

AV-AC. Automotive Auxiliary Components Unit

AV-ECD. Automotive Electronic Control Device Unit
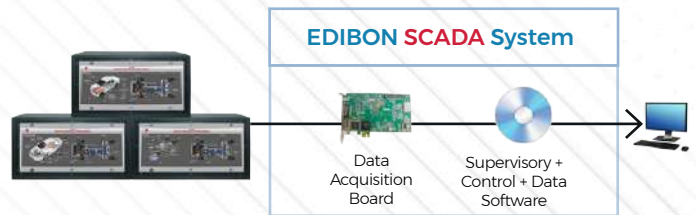
AV-S. Automotive Sensors Unit

AV-SCS. Automotive Starting and Charging Systems unit

AV-GE. Automotive Electric Generation Unit

AV-HYB. Computer Controlled Automotive Hybrid Simulation Unit

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software

2. ELECTRONICS

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COMMUNICATIONS

▶ *3.1 POWER SUPPLIES, MEASUREMENT EQUIPMENT AND ACCESSORIES*

▶ *3.2 THEORETICAL - PRACTICAL FUNDAMENTALS*

▶ *3.3 APPLIED COMMUNICATIONS*

3.1. POWER SUPPLIES, MEASUREMENT EQUIPMENT AND ACCESSORIES

LICOMBA. Communications Laboratory

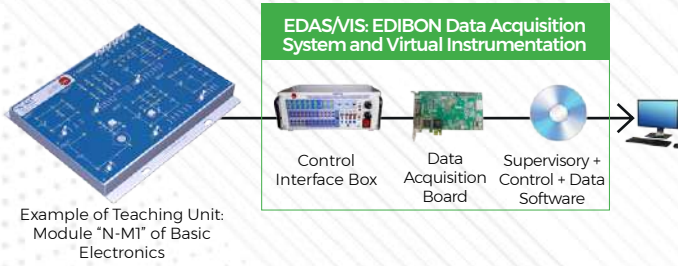*Complete configuration example for LICOMBA*

FACO. Power Supply

EBC100. Base Unit, with built-in power supply

Some **SOFTWARE RESULTS** screens

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EDAS/VIS. EDIBON Data Acquisition System and Virtual Instrumentation

EDAS/VIS: EDIBON Data Acquisition System and Virtual Instrumentation

Control Interface Box

Data Acquisition Board

Supervisory + Control + Data Software

Example of Teaching Unit: Module "N-M1" of Basic Electronics

EDAS/VIS-WF. EDIBON Data Acquisition System / Virtual Instrumentation System with WI-FI communication

3.2. THEORETICAL - PRACTICAL FUNDAMENTALS

3.2.1. CODING, MODULATION AND SIGNAL PROCESSING THEORY

EMDA/A. Analog Modulations Unit

EMDA/D. Digital Modulations Unit
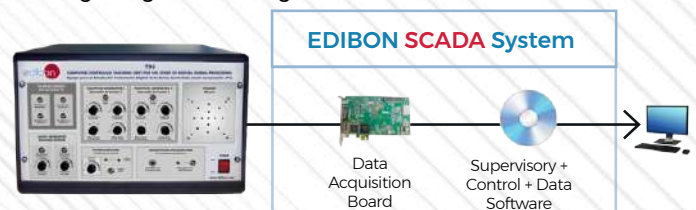
EMDA/P. Pulse Modulations Unit

ELT. Transmission Lines Unit

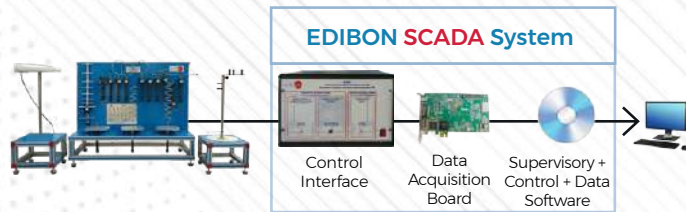**EDICOM6**. Optical Fibre Transmission and Reception

TDS. Computer Controlled Teaching Unit for the Study of Digital Signal Processing
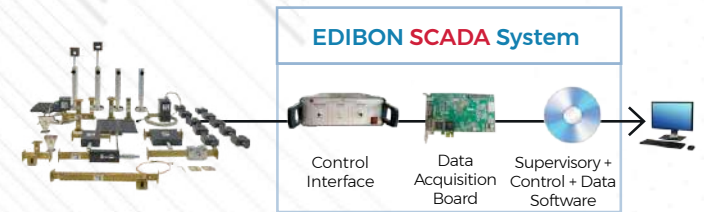
EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software

3. COMMUNICATIONS

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3.2.2. ANTENNA AND MICROWAVE THEORY

EANC. Computer Controlled Antenna Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

EMIC. Computer Controlled Microwave Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
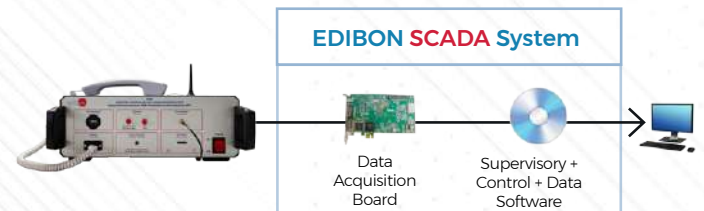
3.3. APPLIED COMMUNICATIONS

CODITEL. Telephony Systems Unit

ETM. Computer Controlled GSM Communications Unit

EDIBON SCADA System
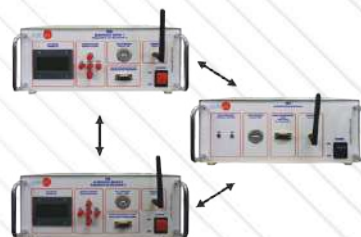
Data Acquisition Board — Supervisory + Control + Data Software

ESA. Satellite Unit

ERA. Radar Unit

EGPS. GPS Unit

EBL. Bluetooth Unit

ELAN. Lan Network Unit

3. COMMUNICATIONS

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4 ELECTRICITY

▶ **4.1 ELECTRICAL INSTALLATIONS**

▶ **4.2 HOME AND BUILDING AUTOMATION**

▶ **4.3 ELECTRICAL MACHINES**

▶ **4.4 INSTALLATIONS AND MAINTENANCE**

4.1. ELECTRICAL INSTALLATIONS

4.1.1. HOME ELECTRICAL INSTALLATIONS

AEL-1. Electrical Installations Laboratory

AEL-AD13.	Entry Phone Application.
AEL-AD14.	Audio and Video Entry Phone Application.
AEL-AD6A.	Luminosity Control Application.
AEL-AD6B.	Basic Luminosity Control Application.
AEL-AD24.	Position Switches Application.
AEL-AD5.	Lighting Application with Timer Switch.
AEL-AI13-E.	Electrotechnics Application (Lighting).
AEL-AE4.	Differential Automatic Switches Application.
AEL-AD9A.	Heating Control Application.
AEL-AD9B.	Basic Heating Control Application.

Configuration example of AEL-1 - Electrical Installations Laboratory

4.1.2. INDUSTRIAL ELECTRICAL INSTALLATIONS

4.1.2.1. MANEUVER CONTROL AND DRIVES

|	
AEL-CM1.	Logical Control Operations Application.
AEL-CM2.	Application of Manual Starters and Velocity Commutators with Asynchronous Motors.
AEL-CM3.	Automatic Control Operations II Application.
AEL-CM4.	Automatic Control Operations with Contactors and Sensors IV Application.
AEL-MED.	Industrial Installations Monitoring Application.
AEL-AI13-A.	Electrotechnics Application (RLC Circuits).

4.1.2.2. ELECTRICAL RISKS AND PROTECTIONS

AEL-AD33.	Single-Phase Installations Faults Application.
AEL-AD33T.	Three-phase Installations Faults Application.
AEL-AE5.	Protection Relays Control Application.
AEL-PMEI.	Protection Measures in Electrical Installations Application.
AEL-AE9.	Power Flux Protection Application.

4. ELECTRICITY

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4.2. HOME AND BUILDING AUTOMATION

4.2.1. CONVENTIONAL APPLICATIONS

AEL-2. Home Automation Systems Laboratory

AEL-AD1A.	Robbery Alarm Advanced Application.
AEL-AD1B.	Robbery Alarm Application.
AEL-AD3A.	Fire Alarm Advanced Application.
AEL-AD3B.	Fire Alarm Application.
AEL-AD15A.	Position Control Advanced Application.
AEL-AD15B.	Position Control Application.
AEL-AD8.	Blinds Activation Application.
AEL-AD25A.	Control Application for Home Electric Service through the telephone.
AEL-AD22.	Flooding Control Application.
AEL-AD30.	Gas and Smoke Detection Application.
AEL-AD31.	Movement and Sound Detection Application.
AEL-AD40.	Remote Control Application Via Telephone.
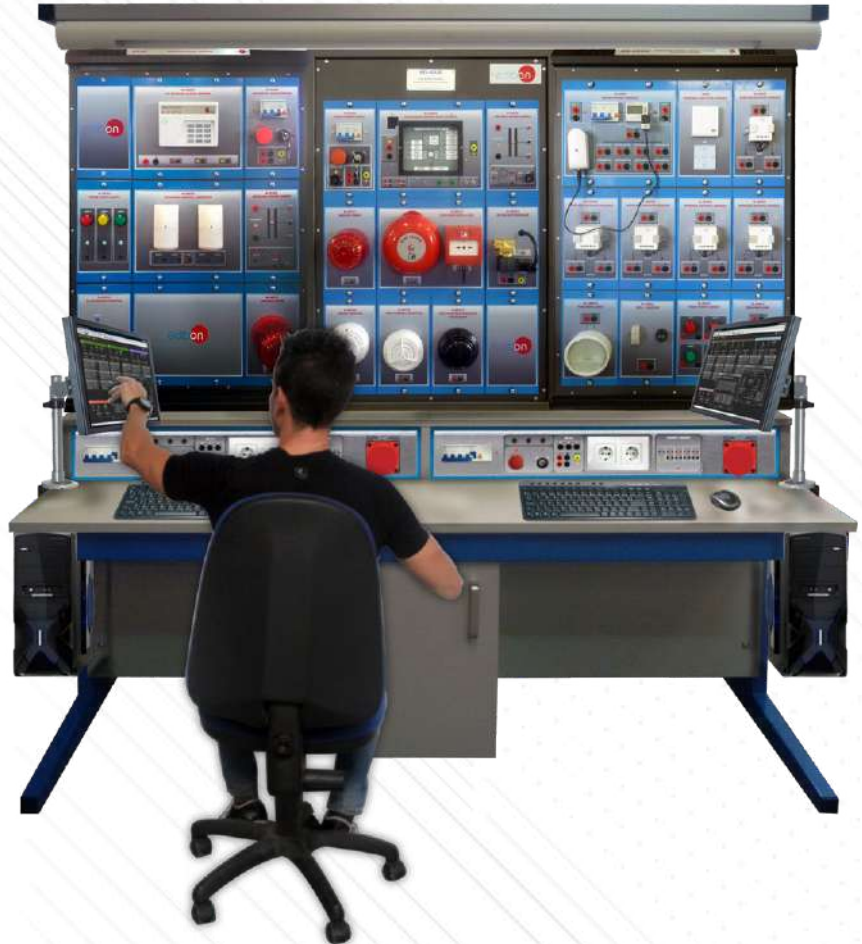
Configuration example of AEL-2 - Home Automation Systems Laboratory

4.2.2. WIRELESS ZIGBEE AND Z-WAVE APPLICATIONS

AEL-AD28A.	Complete Home Automation Application with ZigBee Wireless Protocol.
AEL-AD28B.	Advanced Home Automation Application with ZigBee Wireless Protocol.
AEL-AD28C.	Home Automation Application with ZigBee Wireless Protocol.
AEL-AD23.	Wireless Intrusion Detection Application (RF).
AEL-ZWAVE.	Automation Systems Application with Z-WAVE Technology.
ZWAVE-AI.	Z-WAVE Anti Intrusion System.
ZWAVE-FFG.	Z-WAVE Flooding, Fire and Gas Security System.
ZWAVE-LC.	Z-WAVE Lighting Control.
ZWAVE-HC.	Z-WAVE Heating Control.
ZWAVE-VS.	Z-WAVE Video Surveillance.
ZWAVE-AC.	Z-WAVE Access Control.
ZWAVE-SC.	Z-WAVE Shutter Control.

4.2.3. DALI LIGHTING AUTOMATION

AEL-DALI.	DALI Installations Application.

4.2.4. KNX/EIB HOME/BUILDINGS AUTOMATION

AEL-KNX.	KNX Automation Installations in Buildings Application.
AEL-KNX-UB.	AEL-KNX Base Unit.
AEL-KNX-LIC.	KNX Lighting Control Training Application.
AEL-KNX-HVAC.	KNX for HVAC Control Training Application.
AEL-KNX-BC.	KNX Blind Control Training Application.
AEL-KNX-SFC.	KNX Security Control Training Application: Fire, Anti-intrusion, Floods, etc..
AEL-KNX-BMS.	Building Control Training Application via BMS.
AEL-BCS.	Building Automation and Control Networks BACnet Application.

4.2.5. BACNET BUILDINGS AUTOMATION

AEL-BCS.	Building Automation and Control Networks BACnet Application.

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4.3. ELECTRICAL MACHINES

4.3.1. TRANSFORMERS APPLICATIONS

AEL-3. Electrical Machines Laboratory

AEL-SPTT.	Single-Phase Transformer Application.
AEL-TPTT.	Three-Phase Transformer Application.
AEL-AI13-D.	Electrotechnics Application (Transformers).
AEL-ESAT.	Fault Simulation Application in Three Phase Transformers.
LIMEL.	Integrated Laboratory for Electrical Machines:.

4.3.2. GENERATORS AND MOTORS APPLICATIONS

4.3.2.1. AC ELECTRICAL MOTORS AND GENERATORS

AEL-EEEM.	Energy Efficiency in Electrical Motors Application.
AEL-EHVC.	Computer Controlled Hybrid and Electric Vehicles Application.
AEL-EMSS.	Electrical Machines Soft Starters Application.
AEL-EMCF.	Electrical Machines Control through Frequency Controller Application.
AEL-AI13.	Electrotechnics Application (RLC Circuits, Electrostatics, Motors, Transformers, Lighting).
AEL-AI13-C.	Electrotechnics Application (Motors).
AEL-EMRP.	Electrical Machines Relays Protection Application.
AEL-MMRT.	Motor Management Relays Application.
AEL-ACEMT.	Advanced AC Electrical Motors Application.
EM-SCADA.	Control and Data Acquisition System Software for Electrical Machines.
AEL-ACINA.	Application of AC Three-Phase Induction Motor of Squirrel Cage.
AEL-ACDHA.	Application of AC Dahlander Three-Phase Induction Motor.
AEL-ACWRA.	Application of AC Three-Phase Induction Motor of Wound Rotor.
AEL-ACLA.	Application of AC Linear Motor Operations.
AEL-ACRL.	AC Three-Phase Reluctance Motors Application.
AEL-ACSPA.	Application of Asynchronous Single-Phase Motor with Split Phase.
AEL-AI12.	Alternating Current Motors Application.
AEL-SCIMS.	Squirrel Cage Induction Motors Starter Application.
AEL-EEA.	Alternators Study Application.
AEL-HPSG.	High Power Synchronous Generators Application.
AEL-LPSG.	Low Power Synchronous Generators Application.
AEL-ACEM.	AC Three-Phase Induction Motors Application.
AEL-EGMG24.	Motor-Generator Group.
AEL-ESAM.	Faults Simulation Application in Electrical Motors.
MUAD.	Electric Power Data Acquisition System.
AEL-FTM.	Transparent and Functional Motors Application.
LIMEL.	Integrated Laboratory for Electrical Machines:.

Configuration example of AEL-3 - Electrical Machines Laboratory

4.3.2.2. DC ELECTRICAL MOTORS AND GENERATORS

AEL-DCEMT.	DC Electrical Motors Applications.
AEL-DCSHT.	DC Shunt Excitation Motor Application.
AEL-DCSE.	DC Series Excitation Motors Application.
AEL-DCSH.	DC Shunt Excitation Motors Application.
AEL-DCCO.	DC Compound Excitation Motors Application.
AEL-DCIE.	DC Independent Excitation Motors Application.
AEL-DCGEA.	DC Generators Application.
AEL-DCPMA.	DC Permanent Magnet Motors Application.
AEL-DCBRA.	DC Brushless Motor Application.
AEL-DCEMA.	DC Electrical Motors Application.
AEL-UMA.	Universal Motor Application.
AEL-STMA.	Stepper Motor Application.
EM-SCADA.	Control and Data Acquisition System Software for Electrical Machines.
AEL-EHVC.	Computer Controlled Hybrid and Electric Vehicles Application.
MUAD.	Electric Power Data Acquisition System.
LIMEL.	Integrated Laboratory for Electrical Machines:.

4.3.3. PHYSICAL PRINCIPLES AND DESIGN OF ELECTRICAL MACHINES

AEL-EMT-KIT.	Advanced Dissectible and Configurable Electrical Machines.

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4.4.1. CUTAWAY MODELS

Configuration example of AEL-4 - Electromechanical Constructions Laboratory

AEL-4. Electromechanical Constructions Laboratory

EMT1-S.	Cutaway DC Independent Excitation Motor-Generator.
EMT2-S.	Cutaway DC Series Excitation Motor-Generator.
EMT3-S.	Cutaway DC Shunt Excitation Motor-Generator.
EMT4-S.	Cutaway DC Compound Excitation Motor-Generator.
EMT5-S.	Cutaway DC Shunt/Series/Compound Excitation Motor-Generator.
EMT15-S.	Cutaway DC Permanent Magnet Motor.
EMT12-S.	Cutaway Universal Motor.
EMT18-S.	Cutaway DC Brushless Motor.
EMT6-S.	Cutaway Independent Excitation 3PH Synchronous Motor-Generator.
EMT6C-S.	Cutaway Permanent Magnets 3PH Synchronous Motor-Generator, 8 Poles, 24 VAC.
EMT7-S.	Cutaway 3PH Squirrel-Cage Motor.
EMT7B-S.	Cutaway 3PH Squirrel-Cage Motor, 4 Poles.
EMT7C-S.	Cutaway 3PH Squirrel-Cage Motor, 8 Poles.
EMT8-S.	Cutaway 3PH Wound Motor.
EMT9-S.	Cutaway Dahlander Motor, 2 Speeds.
EMT10-S.	Cutaway 3PH Squirrel-Cage Motor, 2 speeds.
EMT11-S.	Cutaway 1PH Squirrel-Cage Motor with Starting Capacitor.
EMT14-S.	Cutaway Single Phase Repulsion Motor with Brushes.
EMT16-S.	Cutaway 1PH Squirrel-Cage Motor with Starting and Running Capacitor.
EMT17-S.	Cutaway 3PH Squirrel-Cage Motor with "Y" Connection.
EMT19-S.	Cutaway Stepper Motor.
EMT20-S.	Cutaway 1PH Squirrel-Cage Motor with Split Phase.
EMT21-S.	Cutaway 3PH Reluctance Motor.
EMT22-S.	Cutaway 1PH shaded Pole Motor.

4.4.2. DETACHABLE MODELS

AEL-MGTC.	Motors, Generators and Transformers Construction Application.
AEL-DMG-KIT.	Dissectible Motors-Generators Application.
AEL-DIM-KIT.	4 Dissectible Induction Motors Application.

4.4.3. INSTALLATIONS AND MAINTENANCE TRAINING

|	
WIT-MDRV.	Wiring Installation Training for AC and DC Motor Drives.
WIT-IEM.	Wiring Installation Training for AC and DC Industrial Electrical Motors.
WIT-WPS.	Wiring Installation Training for Wind Power Systems.
WIT-IEP.	Wiring Installation Training for Industrial Electrical Protections.
WIT-ILI.	Wiring Installation Training for Industrial Lighting Installations.
WIT-ISG.	Wiring Installation Training for Industrial Signalling Elements.
WIT-PFC.	Wiring Installation Training for Power Factor Correction Devices.
WIT-ISE.	Wiring Installation Training for Industrial Switching Elements.
WIT-EIB.	Wiring Installation Training for Electrical Installations in Buildings.
WIT-EPH.	Wiring Installation Training for Entryphones.
WIT-MCB.	Wiring Installation Training for Mains Connection and Meters in Buildings.
WIT-KNX.	Wiring Installation Training for Control via KNX.
WIT-KNX-UB.	WIT-KNX Base Unit.
WIT-KNX-LIC.	Wiring Installation Training for Lighting with KNX.
WIT-KNX-HVAC.	Wiring Installation Training for HVAC with KNX.
WIT-KNX-BC.	Wiring Installation Training for Blinds with KNX.
WIT-KNX-SFC.	Wiring Installation Training for Security with KNX: Fire, Intrusion Prevention, Floods, etc..
WIT-KNX-BMS.	Wiring Installation Training for Building Control via BMS.
WIT-SDCAC.	Wiring Installation Training for Start-up of DC and AC Motor Drives.
WIT-PHS.	Wiring Installation Training for Photovoltaic Systems.
WIT-PGH.	Wiring Installation Training for Power Generation Hybrid Systems.
WIT-NETS.	Wiring Installation Training for Network Systems.

4. ELECTRICITY

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5 ENERGY

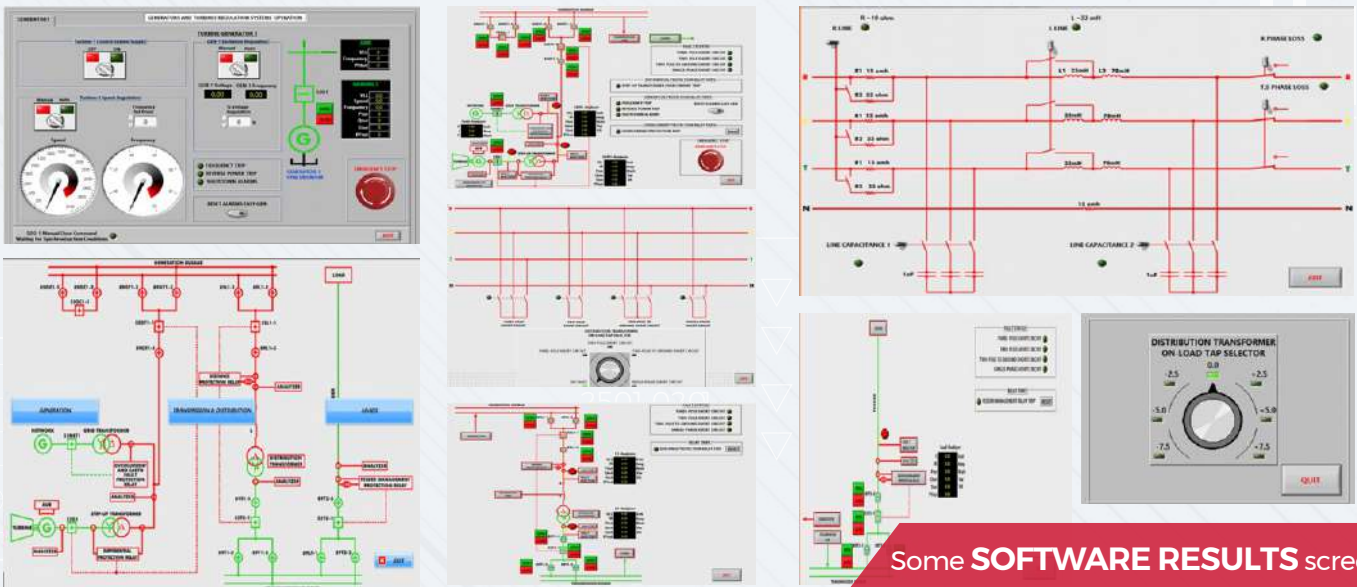## 5.1. SMART GRIDS AND POWER SYSTEMS

5.1.1. SMART GRIDS AND POWER SYSTEMS (UTILITIES)

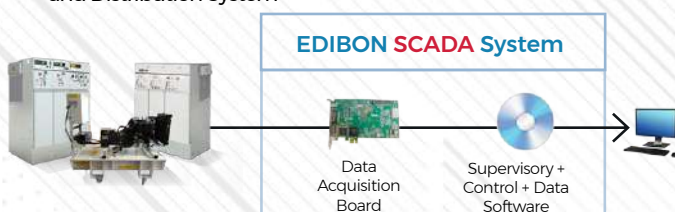▶ **APS12**. Advanced Mechanical, Electrical and Smart Grid Power Systems (Utilities)

Some **SOFTWARE RESULTS** screens

edibon
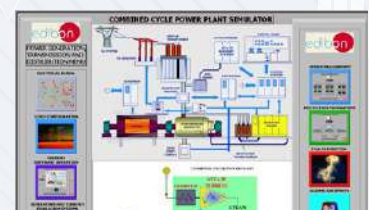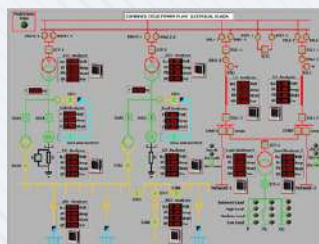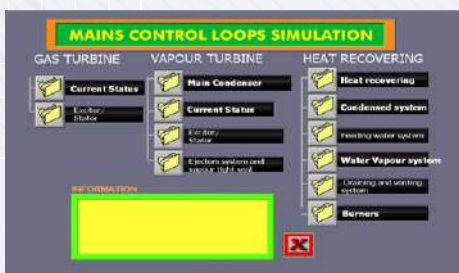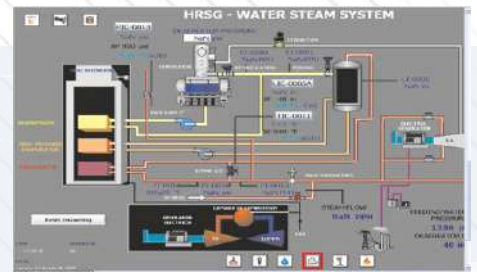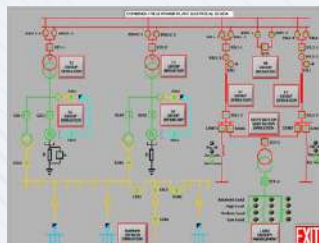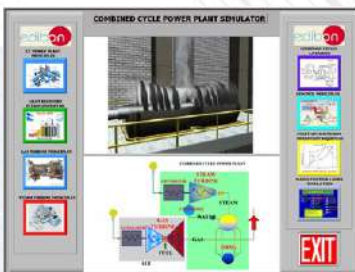
AEL-MPSS. Modular Smart Grid Power Systems Series

Some **SOFTWARE RESULTS** screens

MPGDC. Computer Controlled Marine Power Generation and Distribution System

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software

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PSV-PPSS. Power Plants Simulation Software

Complete configuration example for PSV-PPSS

★ **AVAILABLE VERSIONS**

PSV-HPPS-SOF. Hydroelectric Power Plants Simulator

PSV-GSPP-SOF. Gas Power Plants Simulator

PSV-WPPP-SOF. Wind Powered Power Plant Simulator

PSV-BPP-SOF. Biomass Power Plant Simulator

PSV-GPP-SOF. Geothermal Power Plants Simulator

PSV-HSPP-SOF. Heliothermic Solar Power Plants Simulator

5. ENERGY
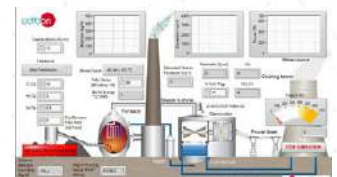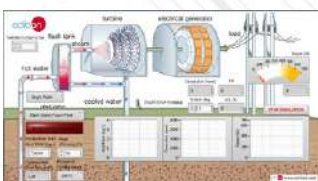
This power plant simulation software would also be available in
**5.1.3. Power System Applications >
5.1.3.1. Power Generation**

edibon

5.1.2. SMART GRIDS AND POWER SYSTEMS (END USER)

▶ **AEL-FUSG**. Final User Smart Grid System

Complete configuration example for AEL-FUSG

⭐ *AVAILABLE VERSIONS*

AEL-FUSG-M. Final User Smart Grid - Smart Meter Application

AEL-FUSG-E. Final User Smart Grid - Smart Energy Application

AEL-FUSG-N. Final User Smart Grid - Net Metering Application

5. ENERGY

Some **SOFTWARE RESULTS** screens

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5.1.3. POWER SYSTEM APPLICATIONS

5.1.3.1. POWER GENERATION

AEL-EPP. Energy Power Plants Application

TDEGC. Computer Controlled Diesel Engine Electrical Generator Application

EDIBON SCADA System and PID Control

Data Acquisition Board

Supervisory + Control + Data Software

AEL-MGP. Microgrid Power Systems

AEL-BSGC. Computer Controlled Smart Grids Application
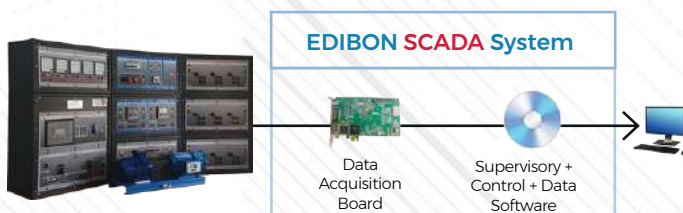
EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software

AEL-LPSG. Low Power Synchronous Generators Application

AEL-GAD-01S. Pumping Storage Power Plant Application, with SCADA

AEL-CPSS-01S. Smart Grid Power System with Power Generation, Transmission, Distribution and Loads, with SCADA

AEL-CPSS-03S. Parallel Power Generation System with two Generators, two Distribution Lines and Loads, with SCADA

AEL-HPSG. High Power Synchronous Generators Application

AEL-TI-07. Power Transmission Application with Synchronous Generator

5. ENERGY

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⋮▶ **PSV-PPSS**. Power Plants Simulation Software

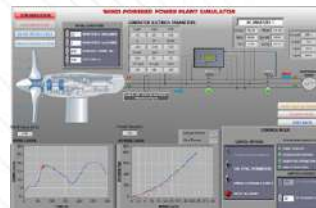
Complete configuration example for PSV-PPSS
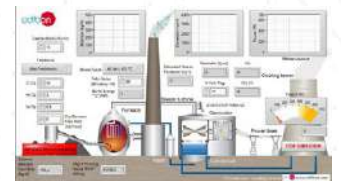
★ *AVAILABLE VERSIONS*

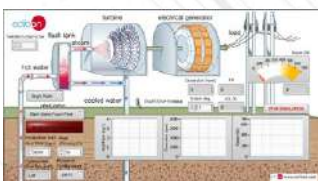**PSV-HPPS-SOF.** Hydroelectric Power Plants Simulator

PSV-GSPP-SOF. Gas Power Plants Simulator

PSV-WPPP-SOF. Wind Powered Power Plant Simulator

PSV-BPP-SOF. Biomass Power Plant Simulator

PSV-GPP-SOF. Geothermal Power Plants Simulator

PSV-HSPP-SOF. Heliothermic Solar Power Plants Simulator

5. ENERGY

This power plant simulation software would also be available in
**5.1. Smart Grids and Power Systems >
5.1.1. Smart Grids and Power Systems (utilities)**

edibon

5.1.3.2. POWER TRANSMISSION

AEL-TI-01. Analysis of Three-phase Power Lines Application

AEL-TI-02. Distribution Transformer with Motor Regulation Application

AEL-TI-03. Arc Suppression Coil Application

AEL-TI-04. Underground Transmission Lines Application

AEL-TI-05. Parallel and Series Transmission Lines Application
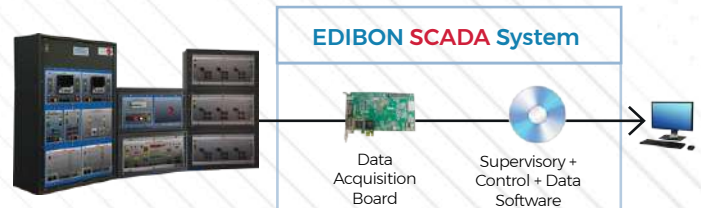

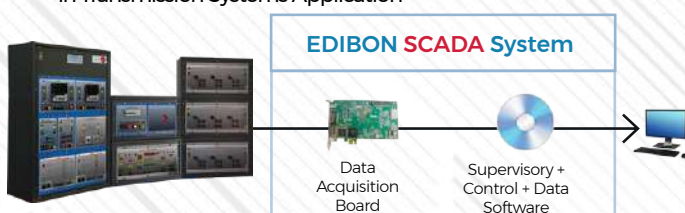**AEL-TI-06**. Analysis of Power Flows in Transmission Lines Application

AEL-AE1A. Aerial Line Model Application

AEL-PTSG. Computer Controlled Power Transmission Smart Grid Application, with SCADA

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software

AEL-SVC. Computer Controlled Voltage Control with SVCs in Transmission Systems Application

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software

AEL-PWEC. Power Electronics Application, with SCADA

5. ENERGY

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5.1.3.3. POWER DISTRIBUTION AND LOADS

AEL-SST-01. Switching in Transmission and Distribution Substations Application

AEL-MRPC. Manual Reactive Power Compensation Application

AEL-RPC. Reactive Power Compensation Application

AEL-EECFP. Advanced Power Factor Compensation Application

AEL-APFC. Single-phase Automatic Power Factor Compensation Application

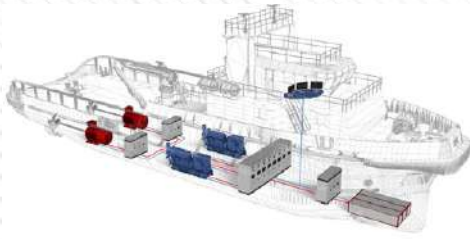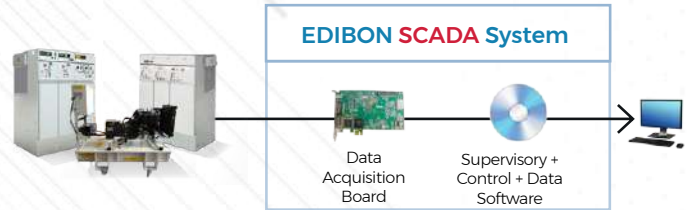**AEL-DLT**. Dynamic Loads Application

5. ENERGY

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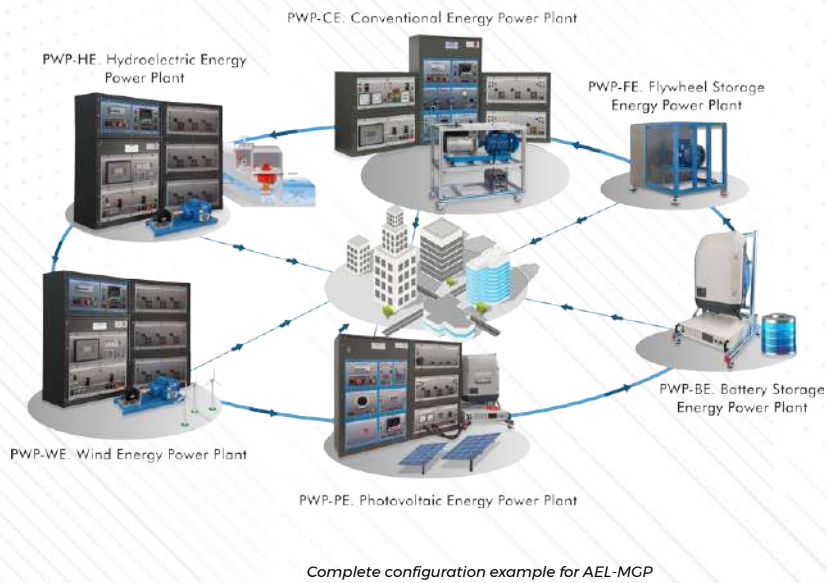
AEL-MEPD-01. Modular Marine Electrical Power Distribution Application, with SCADA

MPGDC. Computer Controlled Marine Power Generation and Distribution System

EDIBON SCADA System

| Data Acquisition Board | Supervisory + Control + Data Software |

AEL-MGP. Microgrid Power Systems

PWP-CE. Conventional Energy Power Plant

PWP-HE. Hydroelectric Energy Power Plant

PWP-FE. Flywheel Storage Energy Power Plant

PWP-BE. Battery Storage Energy Power Plant

PWP-WE. Wind Energy Power Plant

PWP-PE. Photovoltaic Energy Power Plant

Complete configuration example for AEL-MGP

PWP-CE. Conventional Energy Power Plant

PWP-HE. Hydroelectric Energy Power Plant

PWP-WE. Wind Energy Power Plant

PWP-PE. Photovoltaic Energy Power Plant

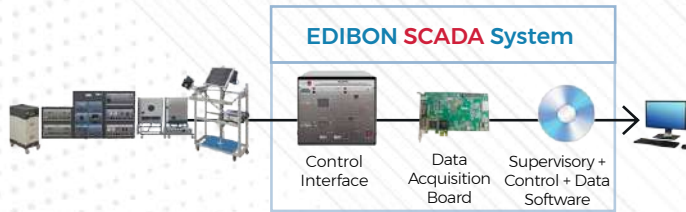**PWP-BE.** Battery Energy Storage Power Plant

PWP-FE. Flywheel Energy Storage Power Plant

Some **SOFTWARE RESULTS** screens

5. ENERGY

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5.3.1. PHOTOVOLTAIC SOLAR ENERGY

AEL-PHVGC. Computer Controlled Photovoltaic Power Plants Application
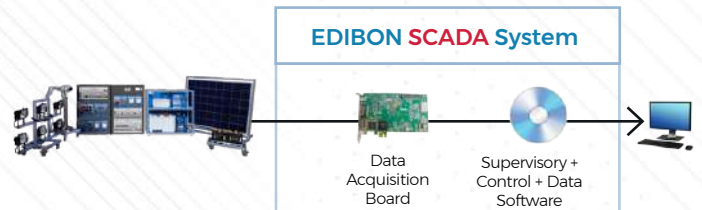

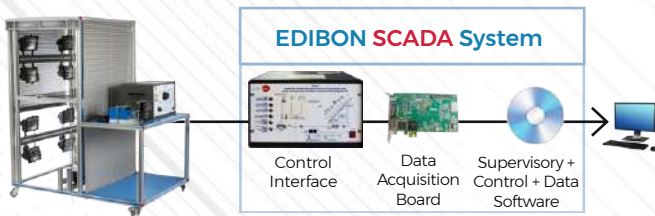**AEL-PHIP**. Photovotaic Systems Application in Isolated and Parallel Grids

AEL-SAPV. Stand-Alone Photovoltaic Application

SWPC. Computer Controlled Stand-alone Water Pumping Application

EESFC. Computer Controlled Photovoltaic Solar Energy Unit

MINI-EESF. Photovoltaic Solar Energy Modular Unit (Complete Version)

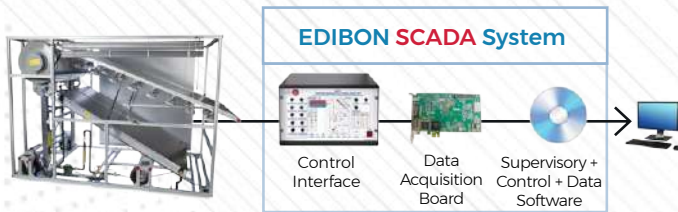**MINI-EESF/M**. Photovoltaic Solar Energy Modular Unit (Intermediate Version)

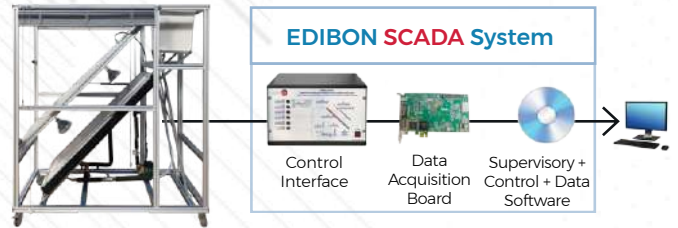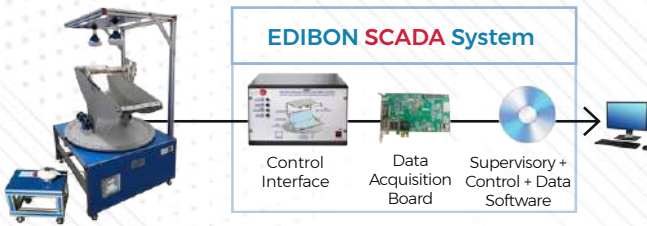**MINI-EESF/B**. Photovoltaic Solar Energy Modular Unit (Basic Version)

5. ENERGY

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5.3.2. SOLAR THERMAL ENERGY

EESTC. Computer Controlled Thermal Solar Energy Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

MINI-EESTC. Computer Controlled Thermal Solar Energy Basic Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

ECESC. Computer Controlled Focusing Solar Energy Collector

EDIBON SCADA System

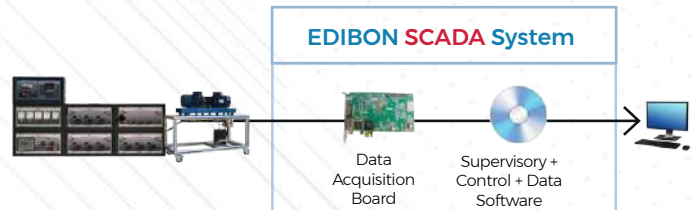Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

5.3.3. WIND ENERGY

AEL-WPTC. Wind Power Application with Permanent Magnets Synchronous Generator, with SCADA

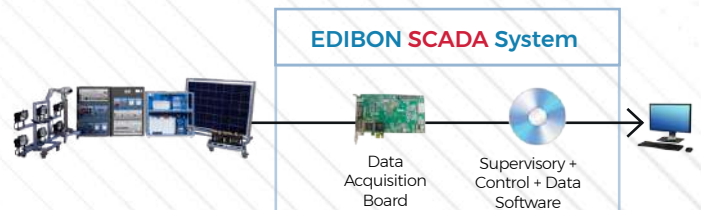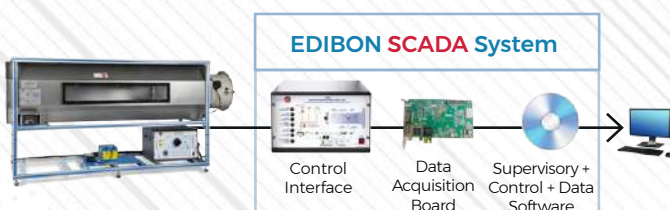**AEL-WPPIC**. Computer Controlled Wind Power Plants Application with Induction Generator

EDIBON SCADA System

Data Acquisition Board — Supervisory + Control + Data Software

AEL-SWT. Stand-Alone Wind Turbine Application

SWPC. Computer Controlled Stand-alone Water Pumping Application

EDIBON SCADA System

Data Acquisition Board — Supervisory + Control + Data Software

EEEC. Computer Controlled Wind Energy Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

MINI-EEEC. Computer Controlled Wind Energy Basic Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

5. ENERGY

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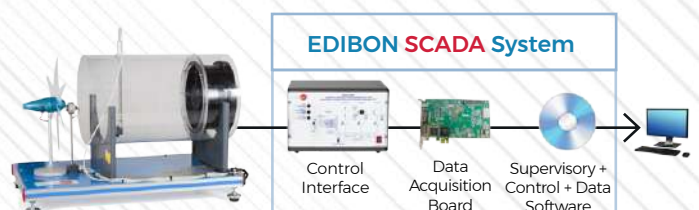
5.3.4. MARINE ENERGY

EOMC. Computer Controlled Waves Energy Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
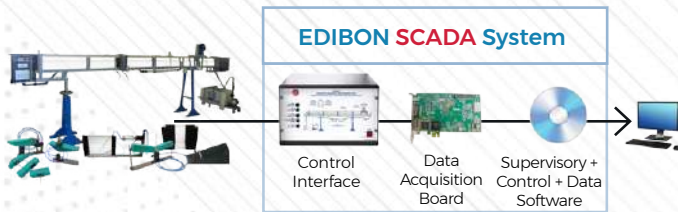
EMMC. Computer Controlled Tidal Energy Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
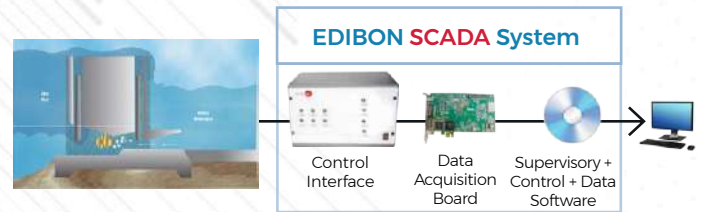
ECMC. Computer Controlled Submarine Currents Energy Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
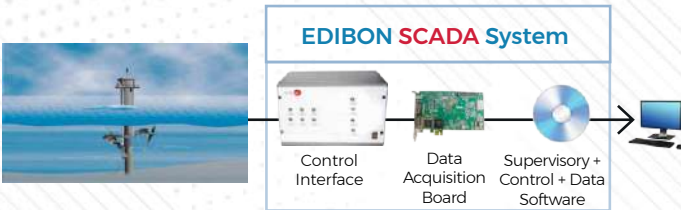
5.3.5. GEOTHERMAL ENERGY

EG6C. Computer Controlled Geothermal (high enthalpy) Energy Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
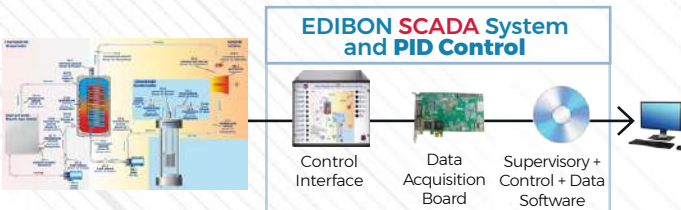
EG5C. Computer Controlled Geothermal (low enthalpy) Energy Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
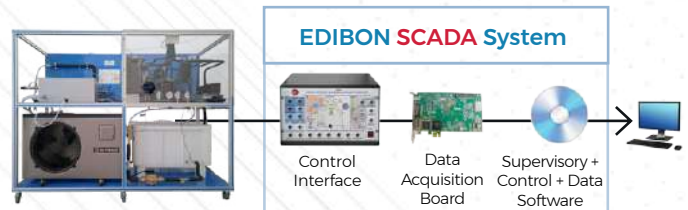
EGTWC. Computer Controlled Geothermal Energy Unit with Two-Well System

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
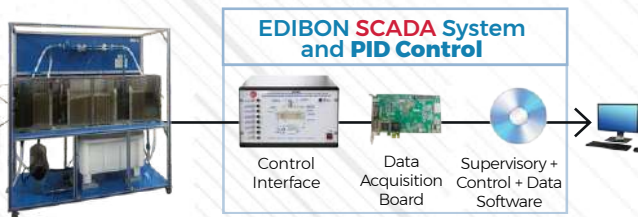
5.3.6. HYDRAULIC ENERGY

HPPP. Computer Controlled Hydroelectric Power Plant with Pelton Turbine

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
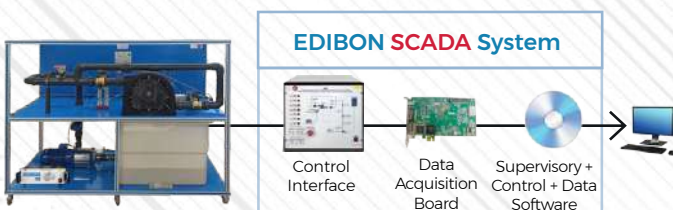
HPPF. Computer Controlled Hydroelectric Power Plant with Francis Turbine

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

5. ENERGY

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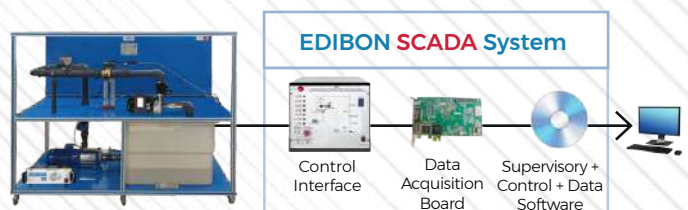
HPPK. Computer Controlled Hydroelectric Power Plant with Kaplan Turbine

EDIBON SCADA System

Control Interface | Data Acquisition Board | Supervisory + Control + Data Software
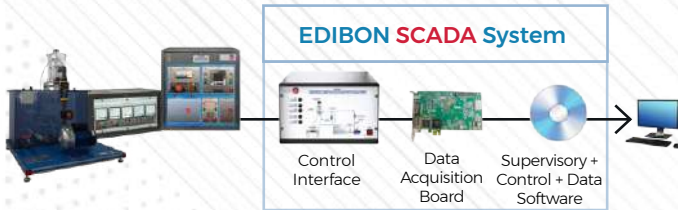
AEL-GAD-01S. Pumping Storage Power Plant Application, with SCADA

TPC. Computer Controlled Pelton Turbine

EDIBON SCADA System and PID Control
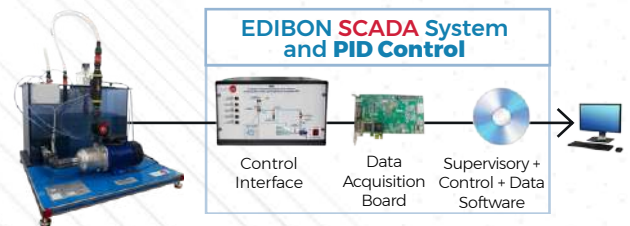
Control Interface | Data Acquisition Board | Supervisory + Control + Data Software

TFC. Computer Controlled Francis Turbine

EDIBON SCADA System and PID Control

Control Interface | Data Acquisition Board | Supervisory + Control + Data Software

TKC. Computer Controlled Kaplan Turbine

EDIBON SCADA System and PID Control

Control Interface | Data Acquisition Board | Supervisory + Control + Data Software

TFRC. Computer Controlled Radial Flow Turbine

EDIBON SCADA System and PID Control

Control Interface | Data Acquisition Board | Supervisory + Control + Data Software

TFAC. Computer Controlled Axial Flow Turbine

EDIBON SCADA System

Control Interface | Data Acquisition Board | Supervisory + Control + Data Software

HTRC. Computer Controlled Experimental Reaction Turbine

EDIBON SCADA System

Control Interface | Data Acquisition Board | Supervisory + Control + Data Software

HTIC. Computer Controlled Experimental Impulse Turbine

EDIBON SCADA System

Control Interface | Data Acquisition Board | Supervisory + Control + Data Software

5. ENERGY

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5.3.7. BIOFUELS

ACCR/20/CTS. Computer Controlled and Touch Screen 20 l Anti-Corrosive Circulation Reactor
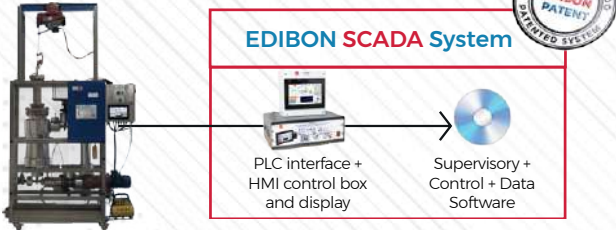
EDIBON **SCADA** System

PLC interface + HMI control box and display

Supervisory + Control + Data Software

SCS/60/CTS. Computer Controlled and Touch Screen 60 l Semicontinuous Centrifugal Separator

EDIBON **SCADA** System

PLC interface + HMI control box and display

Supervisory + Control + Data Software
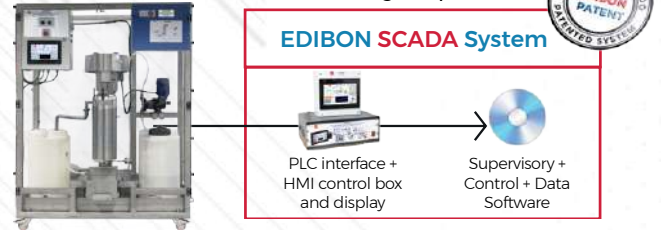
EBEC. Computer Controlled Bioethanol Process Unit

EDIBON **SCADA** System and **PID Control**

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

PBGC/CTS. Computer Controlled and Touch Screen Biogas Processing Plant

EDIBON **SCADA** System and **PID Control**

PLC interface + HMI control box and display

Supervisory + Control + Data Software
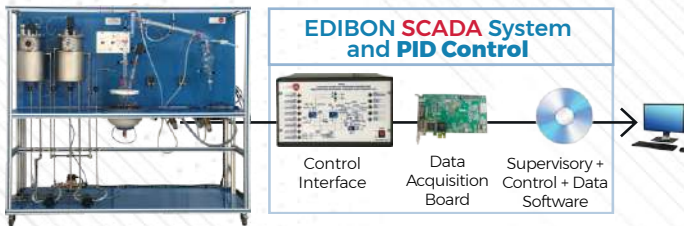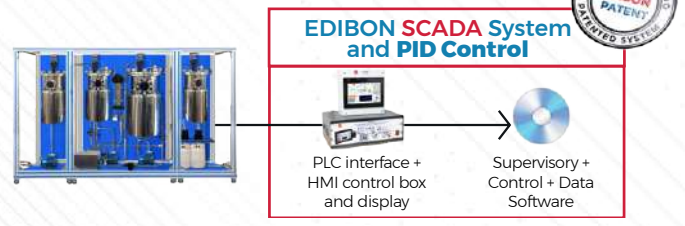
EBGC. Computer Controlled Biogas Process Unit

EDIBON **SCADA** System and **PID Control**

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software
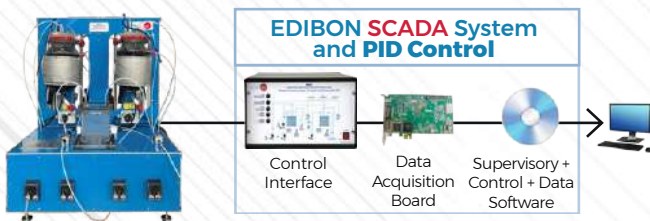
EBDC. Computer Controlled Biodiesel Process Unit

EDIBON **SCADA** System and **PID Control**

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

EBMC. Computer Controlled Biomass Process Unit

EDIBON **SCADA** System and **PID Control**

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software
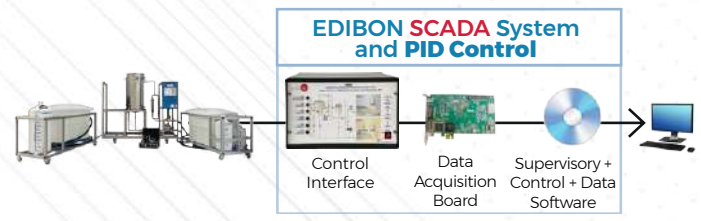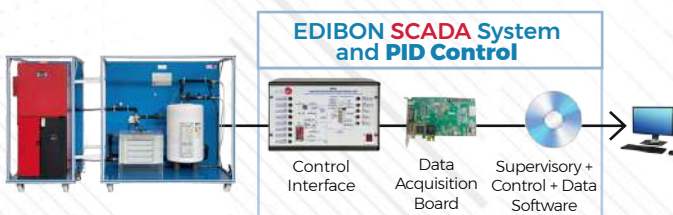
5.3.8. STORAGE SYSTEMS

TCPISC. Computer Controlled Cooling Plant with Ice Store

EDIBON **SCADA** System

Control Interface

Data Acquisition Board
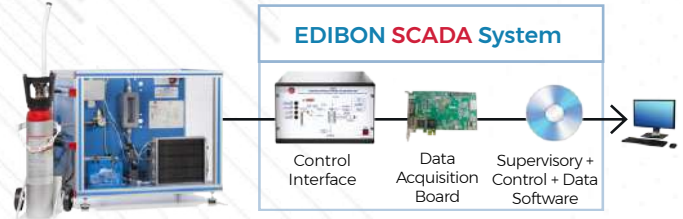
Supervisory + Control + Data Software

5. ENERGY

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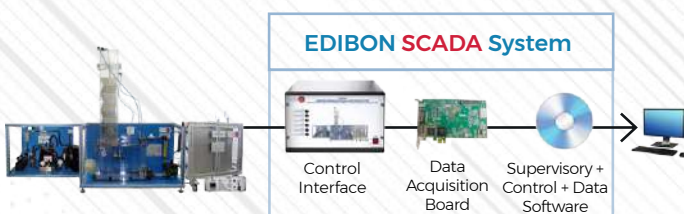
5.3.9. HYDROGEN FUEL CELLS

▶ **AEL-FCLL**. Fuel Cell Energy Application

▶ **EC6C**. Computer Controlled PEM Fuel Cell Advanced Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

▶ **EC5C**. Computer Controlled PEM Fuel Cell Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
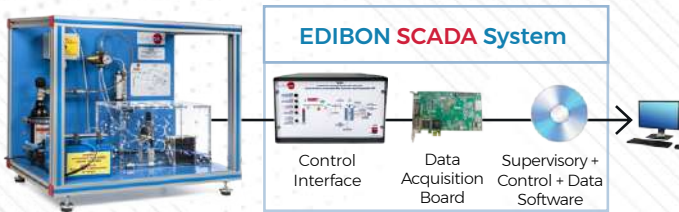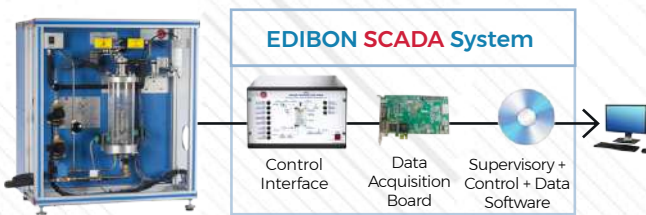
▶ **EDILAB-ELEC1**. Electrolyzer (3 Nl/h)

▶ **EDILAB-ELEC2**. Electrolyzer (60 Nl/h)

5.3.10. STEAM TURBINES AND ORGANIC RANKINE CYCLES

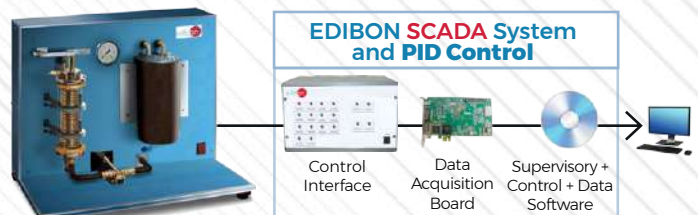▶ **TTVC**. Computer Controlled Steam Turbine

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

▶ **TPTV/1.5kW/CTS**. Computer Controlled and Touch Screen 1.5 kW Steam Power Plant

EDIBON SCADA System and PID Control

PLC interface + HMI control box and display — Supervisory + Control + Data Software

▶ **TPTV/20kW/CTS**. Computer Controlled and Touch Screen 20 kW Steam Power Plant

EDIBON SCADA System and PID Control

PLC interface + HMI control box and display — Supervisory + Control + Data Software

▶ **HTVC**. Computer Controlled Solar/Heat Source Vapour Turbine

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

5. ENERGY

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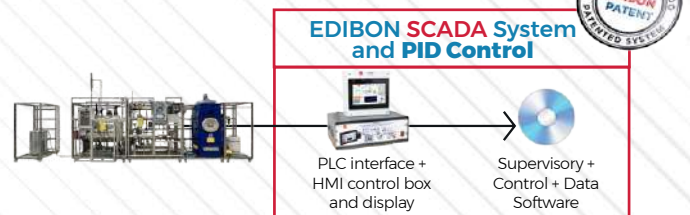
TORC. Computer Controlled Organic Rankine Cycle Unit

EDIBON **SCADA** System
and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
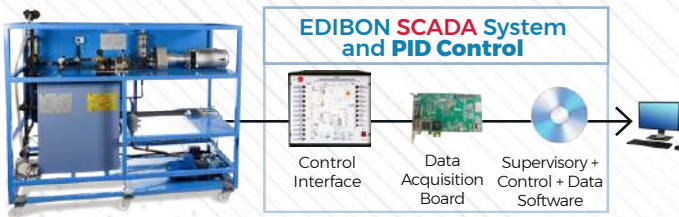
5.3.11. OTHER NON-CONVENTIONAL SYSTEMS

TMSC. Computer Controlled Stirling Motor

EDIBON **SCADA** System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TBTC. Computer Controlled Thermo-Electric Heat Pump

EDIBON **SCADA** System
and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
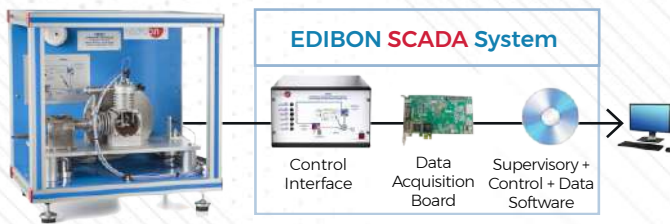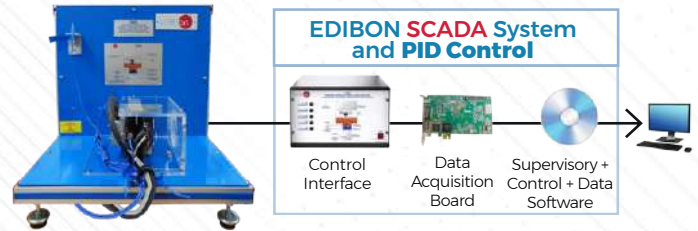
5.4. CONVENTIONAL ENERGIES

TDEGC. Computer Controlled Diesel Engine Electrical Generator Application
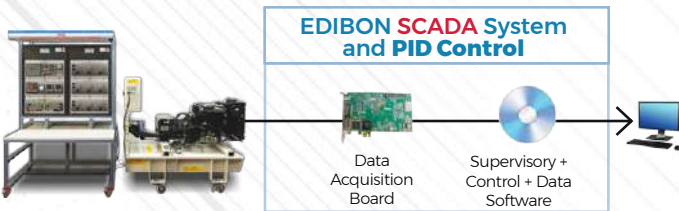
EDIBON **SCADA** System
and **PID Control**

Data Acquisition Board — Supervisory + Control + Data Software

TGDEC. Computer Controlled Two -Shaft Gas Turbine

EDIBON **SCADA** System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TGDEPC. Computer Controlled Two-Shaft Gas Turbine/ Jet Engine

EDIBON **SCADA** System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

5. ENERGY

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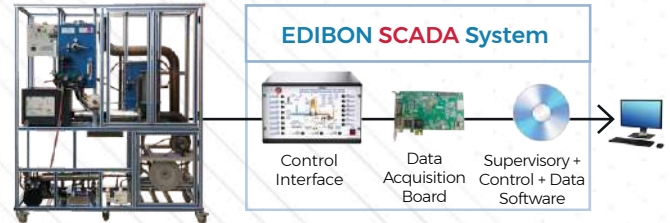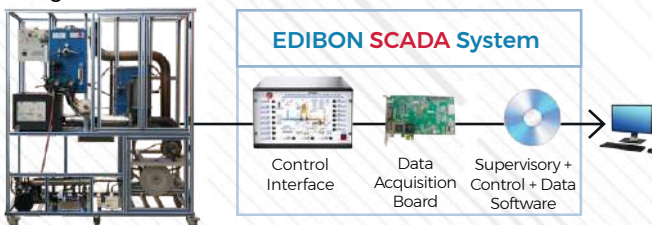
5.5. ENERGY STORAGE
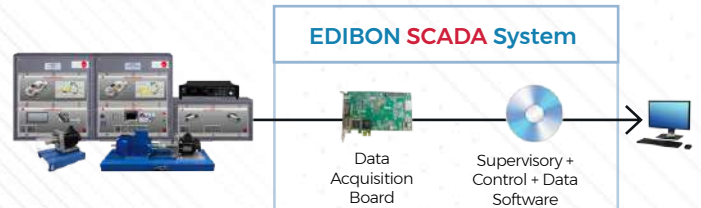
AEL-FES. Flywheel Energy Storage Application

AEL-SGSB. Smart Grids Battery Storage Application

AEL-GAD-01S. Pumping Storage Power Plant Application, with SCADA

AEL-EHVC. Computer Controlled Hybrid and Electric Vehicles Application

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software

AEL-BESTA. Battery Energy Storage Test Application

5.6. HIGH VOLTAGE AND ELECTRICAL PROTECTION SYSTEMS

5.6.2. PROTECTION SYSTEMS

ERP. Protection Relays Application

ERP-CBM. Cybersecurity Application

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AEL-CTFP. Current Transformer Fundaments Application for Protections Devices

AEL-VTFP. Voltage Transformer Fundaments Application for Protection Devices

AEL-GPRE. Generator Protection Relay Application

5.7. INSTALLATIONS AND MAINTENANCE

5.7.3. INSTALLATIONS AND MAINTENANCE TRAINING
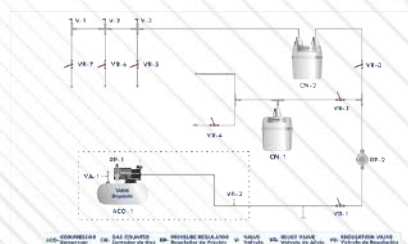
MRST. Measurement and Regulation Station Unit

IGHT. Instantaneous Gas Heater Experimentation Unit

GBT. Forced Draft Gas Burner Unit

GHST. Gas Home Supply Trainer

5. ENERGY

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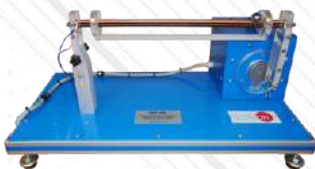▶ *6.1 MECHATRONICS*

▶ *6.2 PLC AUTOMATION*

6.1. MECHATRONICS

6.1.1. CONTROL

6.1.1.1. THEORETICAL-PRACTICAL FUNDAMENTALS

RYC/T. Computer Controlled Modular Control and Regulation Unit

EDIBON SCADA System and PID Control

Data Acquisition Board

Supervisory + Control + Data Software

RYC. Computer Controlled Teaching Unit for the Study of Regulation and Control

★ *ADDITIONAL RECOMMENDED ELEMENTS FOR RYC*

RYC-BB. Ball and Beam Module

RYC-SM. DC Servo Motor Module

RYC-TAR. Air Flow Temperature Control Module

RYC-PI. Inverted Pendulum Control Module

RYC-CLM. Magnetic Levitation Control Module

RYC-TAG. Water Flow Temperature Control Module

RYC-TE. Temperature Control Module

RYC-P. Pressure Control Module

RYC-N. Level Control Module

RYC-C. Flow Rate Control Module

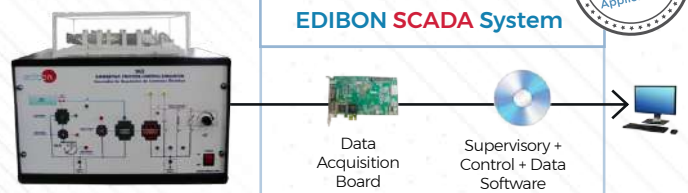**RYC-I.** Luminosity Control Module

RYC-pH. pH Control Module

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Some SOFTWARE RESULTS screens

RYC-CP. Position Control Module

RYC/B. Basic Teaching Unit for the Study of Regulation and Control

SCE. Computer Controlled Generating Stations Control and Regulation Simulator

Also available for 6.1.1.3. Industrial System Applications

EDIBON SCADA System

Data Acquisition Board — Supervisory + Control + Data Software

6.1.1.2. INDUSTRIAL CONTROLLERS

CECI. Industrial Controllers Unit

CRCI. Industrial Controllers Networking

CEAC. Computer Controlled Controller Tuning Unit

EDIBON SCADA System

Data Acquisition Board — Supervisory + Control + Data Software
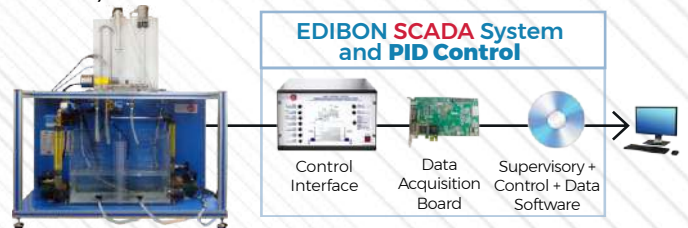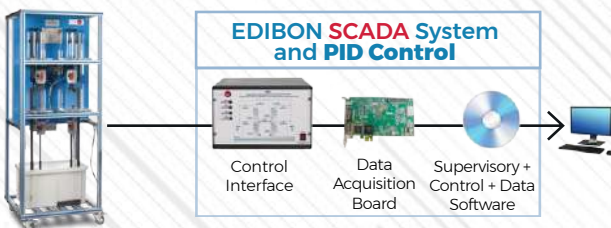
CEAB. Field Bus Applications Unit
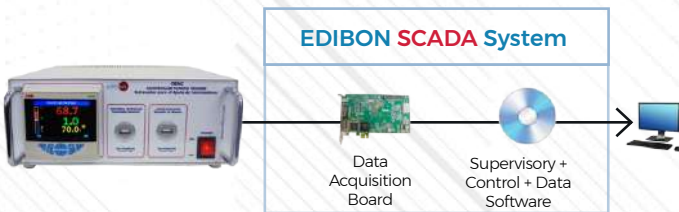
6.1.1.3. INDUSTRIAL SYSTEM APPLICATIONS

CTAC. Computer Controlled Coupled Tanks System

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

UCP. Computer Controlled Process Control (Electronic Valve)

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

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UCPCN. Computer Controlled Process Control (Pneumatic Valve)

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

UCPCV. Computer Controlled Process Control (Speed Controller)

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

UCPCNCV. Computer Controlled Process Control Unit (Electronic + Pneumatic Valve and Speed Controller)

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

UCP-P. Computer Controlled Process Control Unit for the Study of Pressure (Air)

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

CPIC. Computer Controlled Industrial Process Control Plant

EDIBON SCADA System and PID Control

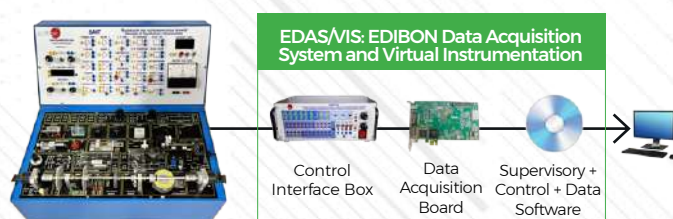Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

CPIC-C. Computer Controlled Industrial Process Control Plant (only Flow).

CPIC-T. Computer Controlled Industrial Process Control Plant (only Temperature).

CPIC-N. Computer Controlled Industrial Process Control Plant (only Level).

CPIC-P. Computer Controlled Industrial Process Control Plant (only Pressure).
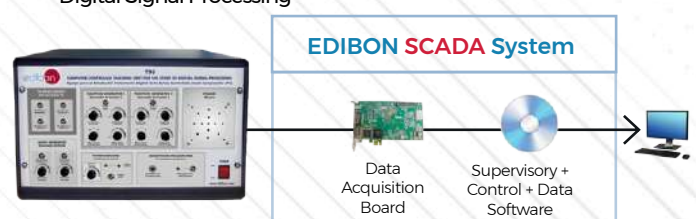
6.1.2. ELECTRONICS
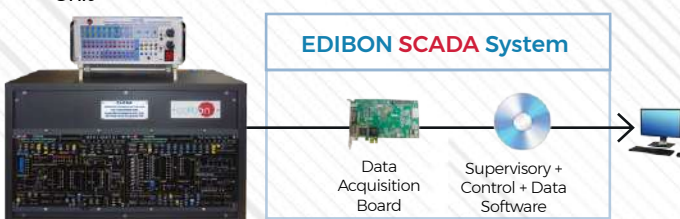
6.1.2.1. SENSORS AND ELECTRONIC INSTRUMENTATION

SAIT. Transducers and Instrumentation Unit

EDAS/VIS: EDIBON Data Acquisition System and Virtual Instrumentation

Control Interface Box — Data Acquisition Board — Supervisory + Control + Data Software

TDS. Computer Controlled Teaching Unit for the Study of Digital Signal Processing

EDIBON SCADA System

Data Acquisition Board — Supervisory + Control + Data Software

CADDA. Computer Controlled A/D and D/A Converters Unit

EDIBON SCADA System

Data Acquisition Board — Supervisory + Control + Data Software

BS. Modular System for the Study of Sensors

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software

BSPC. Computer Controlled Base Unit for BS

★ *ADDITIONAL RECOMMENDED ELEMENTS FOR BSPC*

BS1. Vibrations and/or Deformations Test Module

BS2. Temperature Test Module

BS3. Pressure Test Module

BS4. Flow Test Module

BS5. Ovens Test Module

BS6. Liquid level Test Module
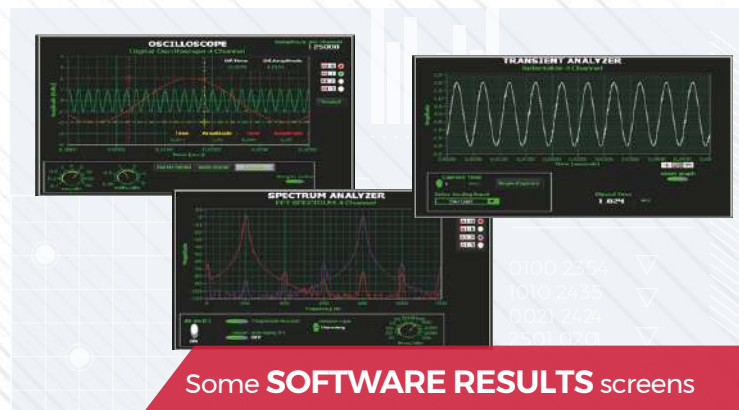

BS7. Tachometer Test Module
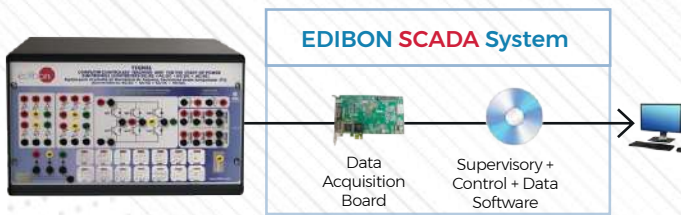

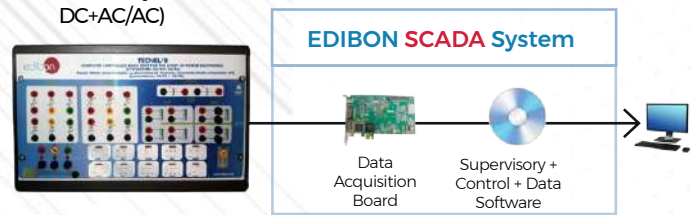**BS8.** Proximity Test Module

BS9. Pneumatic Test Module

BS10. Light Test Module

Some **SOFTWARE RESULTS** screens

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TECNEL. Computer Controlled Teaching Unit for the Study of Power Electronics (with IGBTS)

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software

TECNEL/B. Computer Controlled Basic Teaching Unit for the Study of Power Electronics (no IGBTS). (Converters: AC/DC+AC/AC)

EDIBON SCADA System
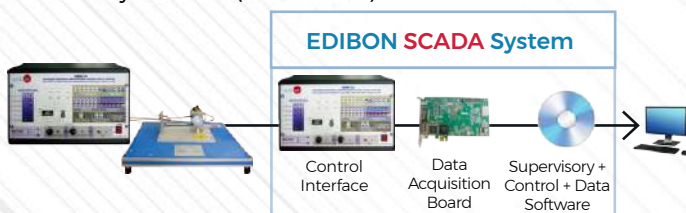
Data Acquisition Board

Supervisory + Control + Data Software

SERIN/CC. Computer Controlled Advanced Industrial Servosystem Unit (for DC Motors)

EDIBON SCADA System

Control Interface

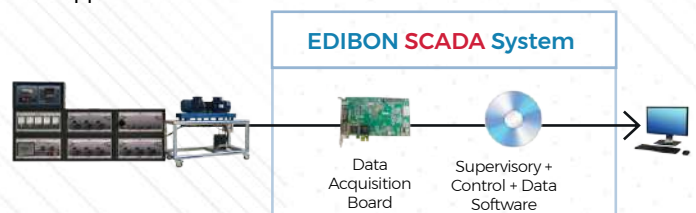Data Acquisition Board

Supervisory + Control + Data Software
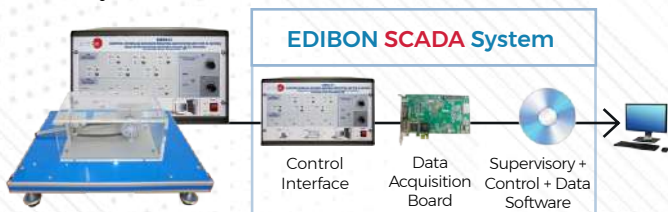
SERIN/CCB. Servosystems Basic Unit for DC Motors

SERIN/CA. Computer Controlled Advanced Industrial Servosystems Unit (for AC Motors)

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

AEL-WPPIC. Computer Controlled Wind Power Plants Application with Induction Generator

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software

AEL-PWEC. Power Electronics Application, with SCADA

AEL-SERIN/CA-1KW. 1 kW AC Industrial Servomotor Application

6.1.3. HYDRAULICS AND PNEUMATICS

6.1.3.1. HYDRAULICS

AE-HD. Hydraulic and Electro-Hydraulic Application

HPU. Hydraulic Power Unit

6. MECHATRONICS & AUTOMATION

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AE–NS. Pneumatic and Electro-Pneumatic Application

SAC. Silent Air Compressor Unit
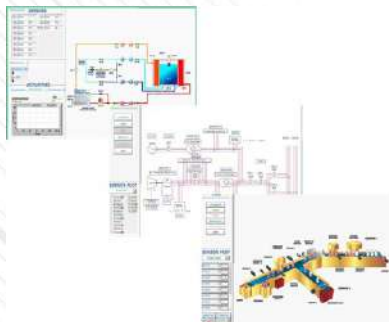

AE-V. Vacuum Technology Unit

6.1.4. MECHATRONIC SOFTWARE

AE–AS. Automation System Simulation Software

6.2. PLC AUTOMATION

6.2.1. PLC OPTIONS

AE-PLC-PAN. PANASONIC PLC Application.

AE-PLC-SIE. SIEMENS PLC Application.

AE-PLC-AB. ALLEN BRADLEY PLC Application.

AE-PLC-MIT. MITSUBISHI PLC Application.

AE-PLC-OMR. OMRON PLC Application.

6.2.2. HARDWARE EMULATORS

6.2.2.1. MANUFACTURING SYSTEMS

N-EM-MA. Embossing Machine.

N-EM-ST. Drilling System.

N-EM-SDT. Pipe Bending System.

N-EM-PAE. Automatic Stamping Press.

N-EM-RAC. Compressed Air Network.

N-EM-TC. Coal Treatment.

N-EM-PELE. Packing Line and Bottling Plant.

N-EM-CMM. Molding Machine Control.

N-EM-CACV. Vehicle Feeding & Loading Control.

N-EM-CR. Reactor Control.

N-EM-CL. Rolling Mill Control.

N-EM-CTRA. Workcell Application.

N-EM-CB. Pump Control.

6.2.2.2. FLOW AND LEVEL CONTROL

N-EM-SBAR. Dirty-Water Pump System.

N-EM-SBP. Pump System (Pressure).

N-EM-SCA. Canalization System.

N-EM-PLLT. Filling Process of Tanks.

N-EM-CCO. Sluice Gate Control.

N-EM-CNC. Level and Flow Control.

N-EM-CNTA. Water Tower Level Control.

N-EM-CS. Silo Control.

N-EM-CML. Liquids Mixing Control.

N-EM-CME. Mixer Control.

N-EM-AC. Buffer Storage.

N-EM-RT. Temperature Regulation.

N-EM-SALL. Automatic Filling System.

6.2.2.3. TRANSPORT AND SORTING

N-EM-SL. Cleaning System.

N-EM-SBT. Conveyor Belts System.

N-EM-SCCT. Conveyor Charging System.

N-EM-SCC. Collecting Belt Conveyor.

N-EM-MCC. Mails Allocation Machine.

N-EM-CPOS. Position Control.

N-EM-CCP. Count and Position Control.

6.2.2.4. ELECTRICAL MACHINES CONTROL

N-EM-ACC. Feeding and Loading Control.

N-EM-M. Motor Control.

N-EM-MPP. Stepper Motor Control.

N-EM-MET. Star-Delta Connection.

N-EM-MCETI. Reversing Star-Delta Connection.

N-EM-MD. Dahlander Motor Circuit.

N-EM-M2BS. Motor with 2 separate Windings.

N-EM-MAC. Starting a Wound - Rotor Motor.

N-EM-CPR. Reactive Current Compensation.

N-EM-MCI. Reversing Contactor.

6.2.2.5. TRAFFIC & PARKING CONTROL

N-EM-CST. Traffic Signal Control.

N-EM-AV. Car Parking.

N-EM-AG2Z. Two Zones Parking Garage.

N-EM-CSV. Ventilation System Control.

6.2.2.6. HOME AND OFFICE

N-EM-CA. Elevator Control.

N-EM-CLA. Automatic Washing Machine Control.

N-EM-MB. Drinks Machine.

N-EM-MBC. Hot Drinks Machine.

N-EM-CA2P. Two-Doors Access Control.

N-EM-CI. Fire Control.

N-EM-CP. Proximity Control (security).

N-EM-CF. Photo Control.

N-EM-CSC. Heating System Control.

N-EM-AN. Annunciator.

N-EM-SLU. Running Lights.

N-EM-CTI. Tower Lighting Control Module.

6.2.3. INSTRUMENTATION AND CONTROL WITH PLC

▶ **BS-PLC**. Modular System for the Study of Sensors with PLC Control

★ **AVAILABLE VERSIONS**

BS2-PLC. Temperature Test Module for PLC.

BS3-PLC. Pressure Test Module for PLC.

BS4-PLC. Flow Test Module for PLC.

BS5-PLC. Ovens Test Module for PLC.

BS6-PLC. Liquid Level Test Module for PLC.

BS7-PLC. Tachometers Test Module for PLC.

BS9-PLC. Pneumatic Test Module for PLC.

BS10-PLC. Light Test Module for PLC.

Complete configuration example for BS-PLC

6. MECHATRONICS & AUTOMATION

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6.2.4. INDUSTRIAL APPLICATIONS WITH PLC

AE-PLC-SE. Elevator Control Application.

AE-PLC-CPI.	Industrial Processes Control Workstation.
AE-PLC-PH.	pH control Workstation.
AE-PLC-ME.	Electrical Machines Application.
AE-PLC-SM.	Smart Grid System Application.
AE-PLC-CS.	Traffic Light Control Application.
AE-PLC-INV.	Greenhouse Application.
AE-PLC-SE.	Elevator Control Application.
AE-PLC-SPA.	Automatic Sectional Door Application.
AE-PLC-SA.	Industrial Kneader Application.
AE-PLC-EF.	Photovoltaic Energy Application.
AE-PLC-EE.	Wind Energy Application.
AE-PLC-EST.	Solar Thermal Energy Application.
AE-PLC-SH.	Hybrid Energy Application.
AE-PLC-MEE.	Wind Turbine Application.
AE-PLC-SP.	Power System Application.
AE-PLC-AC.	Air pressure and flow control Workstation.
AE-PLC-CN.	Flow and level control Workstation.
AE-PLC-RT.	Temperature Regulation Application.

6.2.5. WORKSTATION APPLICATIONS WITH PLC

6.2.5.1. PIECES FEEDING WORKSTATIONS APPLICATIONS

AE-PLC-APS.	Pieces Feeder Workstation.
AE-PLC-A.	Feeding Workstation for Pieces.
AE-PLC-MA.	Multiple Pieces Feeder Workstation.
AE-PLC-DS.	Pieces Distributor Workstation.

6.2.5.2. PROCESSING WORKSTATIONS APPLICATIONS

AE-PLC-M.	Mounting Workstation.
AE-PLC-P.	Automatic Pressing Workstation.
AE-PLC-AT.	Automatic Screw Workstation.
AE-PLC-MEMB.	Bottling Workstation.
AE-PLC-MET.	Labelling Workstation.
AE-PLC-ST.	Drilling Workstation.
AE-PLC-SMOLD.	Molding Workstation.
AE-PLC-SCOR.	Cutting Workstation.
AE-PLC-FT.	Filtration Workstation.
AE-PLC-MS.	Mixing Workstation.
AE-PLC-PHD.	Punching Workstation.
AE-PLC-FS.	Filling Workstation.
AE-PLC-CRS.	Corking Workstation.
AE-PLC-APB.	Bottle Opening Workstation.
AE-PLC-CP.	Control Processes Workstation.

AE-PLC-APS. Pieces Feeder Workstation.

6.2.5.3. ROTARY TABLE WORKSTATIONS

AE-PLC-MR1.	Rotary Table Station: Feeding, Quality Control and Assembly (dimensional study).
AE-PLC-MR2.	Rotary Table Station: Feeding, Quality Control, and Assembly (material and color study).
AE-PLC-MR3.	Rotary Table Station: Automated Processing Control (drilling and polishing study).
AE-PLC-MR4.	Rotary Table Station: Filling, Bottling and Capping.

6. MECHATRONICS & AUTOMATION

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6.2.5.4. PIECES MANIPULATOR WORKSTATIONS APPLICATIONS

AE-PLC-MPS.   Pieces Manipulator Workstation.

AE-PLC-T.   Linear Transport Workstation.

AE-PLC-SPO.   Positioning Workstation.

AE-PLC-MAE.   Electrical Handling Workstation.

AE-PLC-MAN.   Pneumatic Handling Workstation.

AE-PLC-CTCA.   AC Conveyor Belt Workstation.

AE-PLC-CTCC.   DC Conveyor Belt Workstation.

AE-PLC-MACT.   Pneumatic Handling and Conveyor Belt.

6.2.5.5. ROBOTIC WORKSTATIONS APPLICATIONS

AE-BR.   Robotic Arm Workstation.

AE-SCA.   SCARA Arm Workstation.

6.2.5.6. PIECES IDENTIFICATION WORKSTATIONS APPLICATIONS

AE-PLC-SIP.   Pieces Identification Workstation.

AE-PLC-VS.   Quality Control Workstation.

AE-PLC-CF.   Sorting Workstation.

AE-PLC-SLB.   Ball Selection Workstation.

AE-PLC-RFID.   RFID identification Workstation.

AE-PLC-CPD.   Defective Pieces Sorter Workstation Application.

AE-PLC-MACT.   Pneumatic Handling and Conveyor Belt.

6.2.5.8. STORING WORKSTATIONS APPLICATIONS

AE-PLC-AL.   Storage Workstation.

AE-PLC-ALT.   Buffer Workstation.

AE-PLC-ALB.   Bottling Storage Workstation.
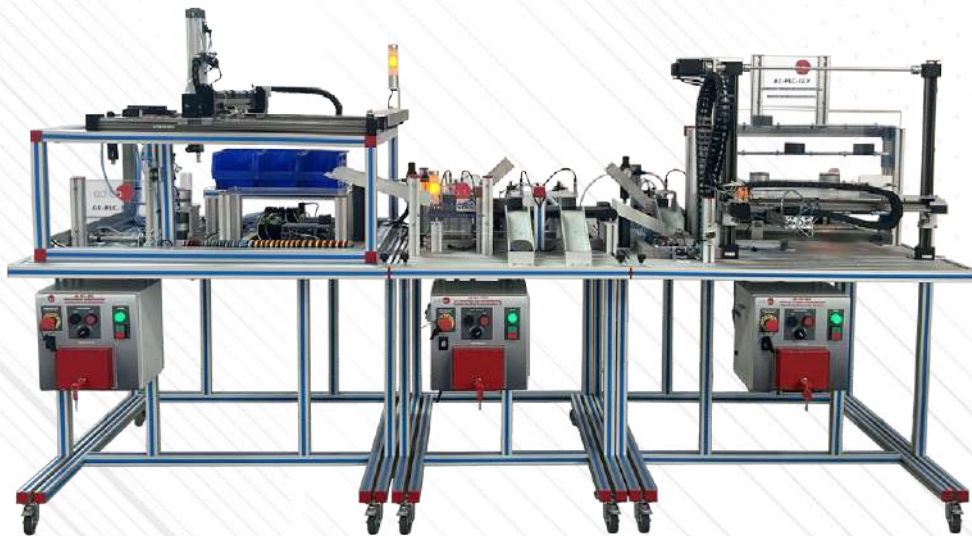
AE-PLC-ALV.   Vertical Storage Workstation.

AE-PLC-SPO.   Positioning Workstation.   **AE-PLC-CTCC.**   DC Conveyor Belt Workstation.   **AE-PLC-ALV.**   Vertical Storage Workstation.

6.2.6. FLEXIBLE MANUFACTURING SYSTEMS WITH PLC

AE-PLC-FMS1. Flexible Manufacturing System 1.	**AE-PLC-FMS9.** Flexible Manufacturing System 9.
AE-PLC-FMS2. Flexible Manufacturing System 2.	**AE-PLC-FMS10.** Flexible Manufacturing System 10.
AE-PLC-FMS3. Flexible Manufacturing System 3.	**AE-PLC-FMS11.** Flexible Manufacturing System 11.
AE-PLC-FMS4. Flexible Manufacturing System 4.	**AE-PLC-FMS12.** Flexible Manufacturing System 12.
AE-PLC-FMS5. Flexible Manufacturing System 5.	**AE-PLC-FMS13.** Flexible Manufacturing System 13.
AE-PLC-FMS6. Flexible Manufacturing System 6.	**AE-PLC-FMS14.** Flexible Manufacturing System 14.
AE-PLC-FMS7. Flexible Manufacturing System 7.	**AE-PLC-FMS15.** Flexible Manufacturing System 15.
AE-PLC-FMS8. Flexible Manufacturing System 8.	

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7 MECHANICS

- ▶ **7.1 MECHANICAL ENGINEERING**
- ▶ **7.2 AUTOMOTIVE MECHANICAL ENGINEERING**
- ▶ **7.3 MATERIALS ENGINEERING**
- ▶ **7.4 INSTALLATIONS AND MAINTENANCE**

7.1. MECHANICAL ENGINEERING

7.1.1. MECHANICS FUNDAMENTALS KITS

LIMEBA. Basic Mechanics Integrated Laboratory

MECA/EC. Panel and Common Elements Case for LIMEBA

★ *REQUIRED ELEMENTS FOR MECA/EC (At least one is required):*

MECA1. Statics Experiments

MECA2. Load Elevation Mechanisms Experiments

MECA3. Transmissions Experiments

MECA4. Dynamics Experiments

MECA5. Friction Experiments

MECA6. Special Mechanisms Experiments

7.1.2. SIMPLE MACHINES

7.1.2.1. MECHANISMS

MBD. Slider Crank Mechanism

MYE. Scotch Yoke Mechanism

MBM1. Slotted Link Mechanism

MBM2. Whitworth Quick Return Mechanism

MCA. Four-Bar Mechanism

MME. Geneva Stop Mechanism

MAC. Coupling Mechanism

MUN. Hooke's Joint Mechanism

MEX. Cam and Follower Mechanism

MBI. Crank Mechanism

7. MECHANICS

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MDA. Ackermann Steering Mechanism

MMEL. Winch Mechanism

MBLU. Bar Linkages Unit

7.1.2.2. GEARS

MTSF. Worm and Wheel Unit

MAE. Acceleration of Geared System Unit

MSDA. Simple Drives Assembly Unit

MCDA. Combined Drives Assembly Unit

MGTA. Gear Train Assembly Unit

MGE. Gear Generation Unit

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MEE. Geared Lifting Unit
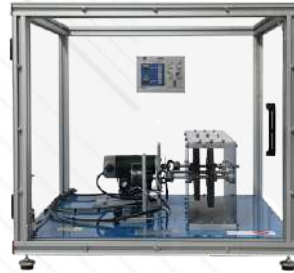
MESE-T. Geared Study

MESE. Geared Study Drive Unit

KSGT. Unit for the Kinematic Study of Gear Trains

7.1.3. STATICS AND DYNAMICS

MEMB2. Unit for studying Equilibrium of Moments on a Two Arm Lever

MBMRC. Computer Controlled Balance of Reciprocating Masses Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

MEAL. Cam Analysis Unit

MDFC. Coriolis Force Demonstration Unit

MFCE. Centrifugal Force Unit

MGI. Gyroscope

7. MECHANICS

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CGU. Centrifugal Governor Unit

MED. Static and Dynamic Balancing Unit

MES. Simple Balancing Unit

MIF. Inertia Flywheel Unit

MRYE1. Wheel and Axle Unit

MRYE2. Wheel and Differential Axle Unit

MELH. Unit for studying Hooke´s Law

MSHU. Simple Harmonic Motion Unit

SRI. Unit to Study Rotational Inertia

7. MECHANICS

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7.1.4. VIBRATIONS AND OSCILLATIONS

MEVTC. Computer Controlled Torsional Vibration Unit

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

MVRE. Vibration of Coil Spring Unit

MVL. Free Vibration Unit

MVLF. Free & Forced Vibration Unit

MEVLB. Unit for Studying Free Vibration of a Bar

MSHU. Simple Harmonic Motion Unit

MOT. Torsional Oscillations Unit

MVCC. Computer Controlled Critical Speed Investigation Unit

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

MEER. Whirling of Shafts Unit

7. MECHANICS

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7.1.5. TRIBOLOGY (FRICTION, WEAR, LUBRICATION)

MCF. Belt Friction Unit

MEF. Friction Study Unit

MPCO. Journal Bearing Unit

MEMT. Tribology Modular Unit

Complete configuration example for MEMT

MEMT-UB. Drive Unit for Tribological Tests

MEMT-1. Radial Pressure Distribution in a Journal Bearing

MEMT-2. Dynamic Friction of a Cylinder on a Roller

MEMT-3. Dynamic Friction of a Pin on a Disc

MEMT-4. Rolling Friction in Wheels

MEMT-5. Elastohydrodynamic Lubrication

MEMT-6. Friction Vibration

7. MECHANICS

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MCD. Thin Cylinder Unit

MBF. Unit for Studying Bearing Friction

MCF/A. Belt Friction Unit with Dynamometers

MCPG. Thick Walled Cylinder Unit

7.1.6. STRUCTURAL MECHANICS

MFPG. Unit for studying Forces in a Jib Crane

MVS. Suspension Bridge Unit

MARP. Parabolic Arch Unit

MART. Three-Hinged Arch Unit

MFBS. Unit for Studying Forces in a Simple Bar Structure

MFCS1. Unit for studying Forces in Different Single Plane Trusses

7. MECHANICS

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▦▶ **MFCS2**. Unit for studying Forces in an Overdeterminate Truss

▦▶ **MFCS3**. Unit for studying Deformation of Trusses

▦▶ **MCPG**. Thick Walled Cylinder Unit

▦▶ **MFL**. Two Hinged Arch Unit
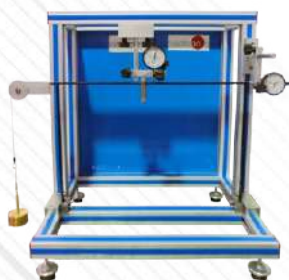
▦▶ **MPO**. Portal Frame Unit

▦▶ **STH**. Stress Hypotheses Unit

▦▶ **MEPE**. Simple Stability Problems Study Unit

▦▶ **MDLE**. Unit for studying Methods to Determine the Elastic Line

▦▶ **MCD**. Thin Cylinder Unit

▦▶ **SSM**. Unit to Study Stress on a Membrane

7. MECHANICS

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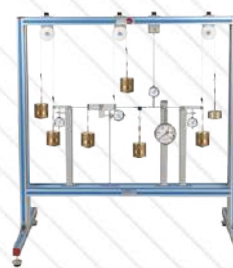
MVV. Unsymmetrical Cantilever Unit

MDB. Deflection of Curved Bars Unit

MFV. Beam Deflection Unit

MFLT. Strut Buckling Unit

MEBM. Euler Buckling Modes Unit

MUP. Universal Buckling Unit

MMF. Shear Force and Bending Momentum Unit

7. MECHANICS

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7.2. AUTOMOTIVE MECHANICAL ENGINEERING

7.2.1. BRAKES AND CLUTCHES

MFT. Drum Brake Unit

MFD. Disc Brake Unit

MFF. Braking and Accelerating Forces Unit

MEM. Plate Clutch

MSH. Simple Hydraulic Unit

7.2.2. GEARS, DIFFERENTIALS AND TRANSMISSIONS

MESE-T. Geared Study
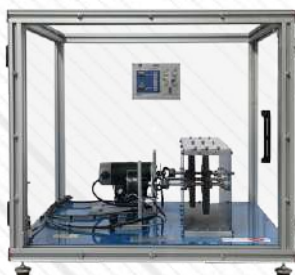
MESE. Geared Study Drive Unit

MCC. Gearbox

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MTE1. Epicyclic Gear Unit (1 element)

MTE2. Epicyclic Gear Unit (2 elements)

MTE3. Epicyclic Gear Unit (3 elements)

MBW. Borg-Warner Automatic Transmission

MDC. Differential-Crownwheel and Pinion

MEC. Overdrive Unit

MBMRC. Computer Controlled Balance of Reciprocating Masses Unit
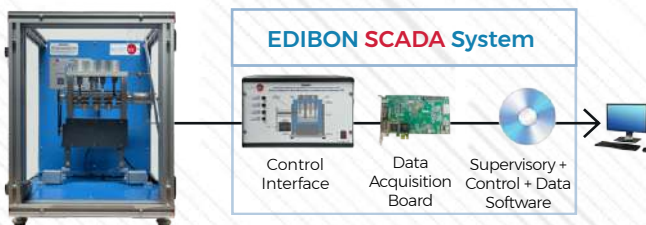
EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

MED. Static and Dynamic Balancing Unit

7. MECHANICS

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7.2.3. ENGINES

TBMC3. Computer Controlled Test Bench for 2.2 kW Engines

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TBMC8. Computer Controlled Test Bench for 7.5 kW Engines

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TBMC12. Computer Controlled Test Bench for 11 kW Engines

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TBMC75. Computer Controlled Test Bench for 75 kW Engines

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TBMC-CG. Computer Controlled Exhaust Gas Calorimeter

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Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
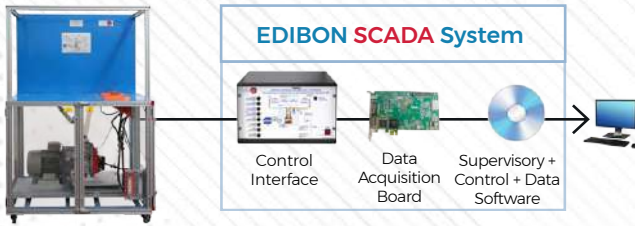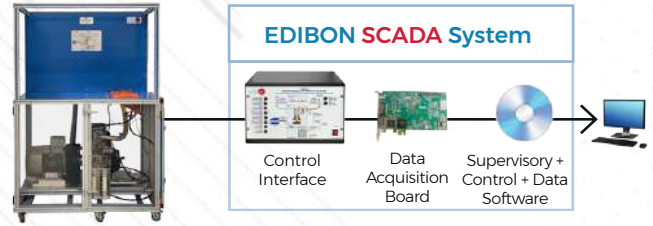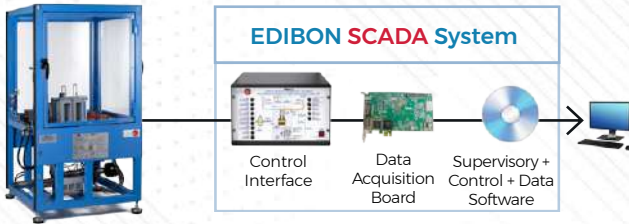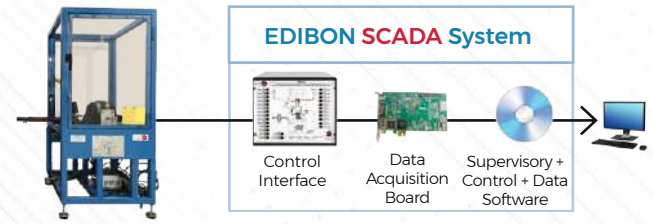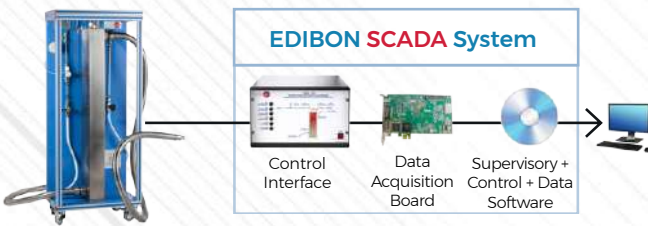
TBMC-AGE. Exhaust Gas Analyzer

TBMC-AGE/NOx. Exhaust Gas Analyzer (NOx)

TMHC. Computer Controlled Test Bench for Hybrid Engine

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

7. MECHANICS

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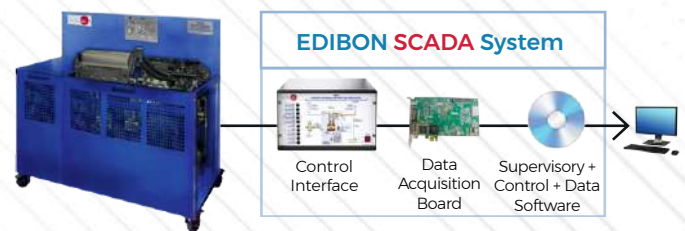
7.3. MATERIALS ENGINEERING

7.3.1. PHOTOELASTICITY AND STRAIN MEASUREMENT

▸ **EFOC**. Computer Controlled Photoelasticity Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
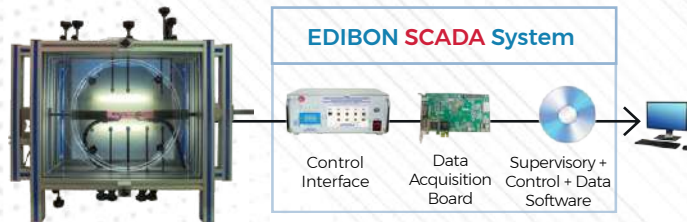
▸ **MEGE**. Strain Gauge Training Unit

▸ **MFGE**. Unit for Determining the Gauge Factor of Strain Gauges

▸ **PSD**. Photoelastic Stress Demonstration Unit

7.3.2. MATERIALS TESTING

7.3.2.1. MECHANICAL TEST

▸ **EEU/20KN**. Universal Material Testing Unit

▸ **EEDB**. Brinell Hardness Testing Unit

▸ **EBVR**. Brinell, Vickers & Rockwell Hardness Testing Unit

▸ **EEFCR**. Creep Testing Unit

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EEFC. Computer Controlled Fatigue Testing Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
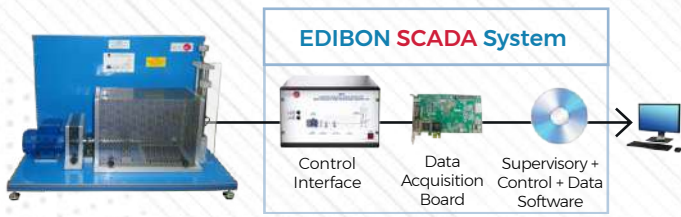
EEICI. Charpy and Izod Impact Testing Unit

MUP. Universal Buckling Unit

MFLT. Strut Buckling Unit

MEBM. Euler Buckling Modes Unit

MTP. Torsion and Bend Unit

MTB. Torsion Unit

MTT. Torsion Test Unit (30Nm)

MTTU. Tensile Tester Unit

MDB. Deflection of Curved Bars Unit

7. MECHANICS

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MFV. Beam Deflection Unit

MMF. Shear Force and Bending Momentum Unit
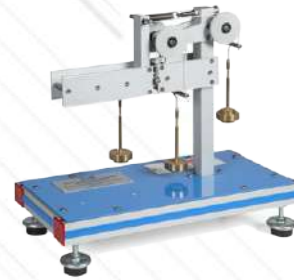
7.3.2.2. THERMAL AND ACOUSTIC TESTS

TIAC. Computer Controlled Acoustic Impedance Tube/ Acoustic Insulation Test Unit

EDIBON SCADA System

Control Interface → Data Acquisition Board → Supervisory + Control + Data Software

TCMC. Computer Controlled Thermal Conductivity of Building and Insulating Materials Unit

EDIBON SCADA System

Data Acquisition Board → Supervisory + Control + Data Software

TDRC. Computer Controlled Noise Control Demonstration Unit

EDIBON SCADA System

Control Interface → Data Acquisition Board → Supervisory + Control + Data Software

Some **SOFTWARE RESULTS** screens

7. MECHANICS

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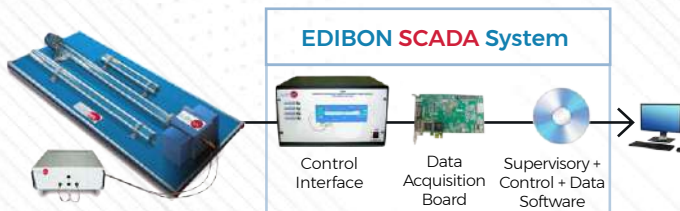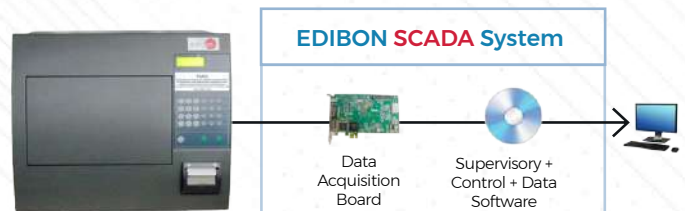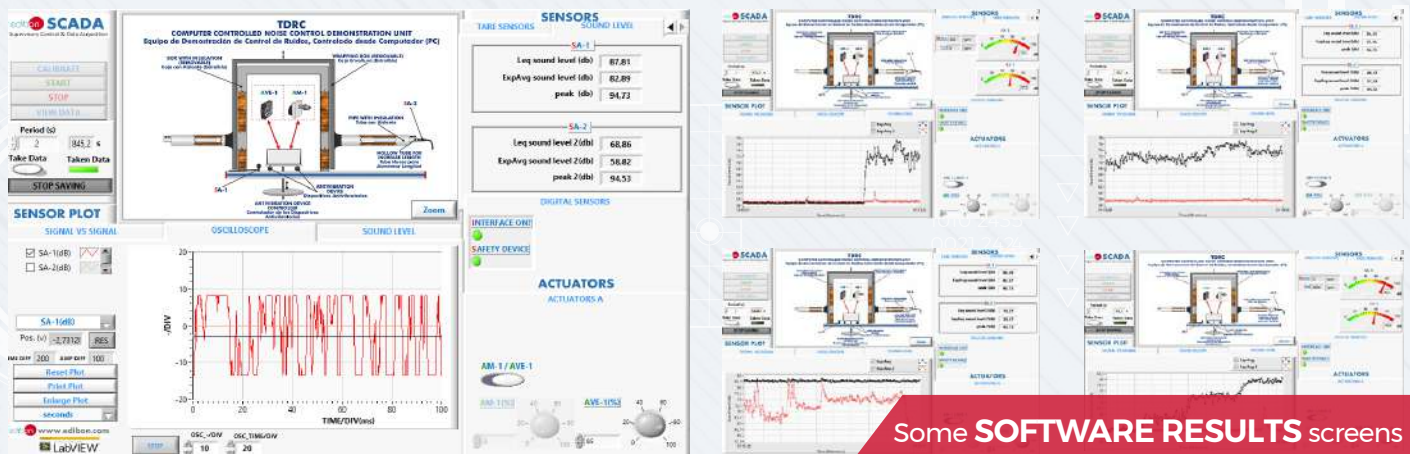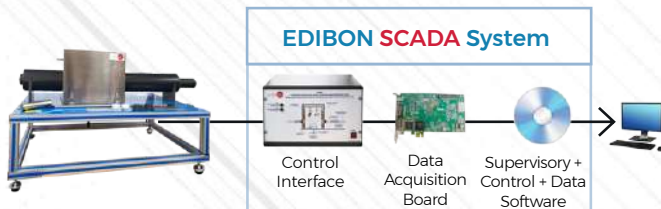
7.3.3. MANUFACTURING AND TREATMENT TECHNIQUES

7.3.3.1. CASTING

▶ **MCAM**. Bell Casting Basic Training Set

▶ **MCLA**. Foundry, Building-up Training Set 1

▶ **MCEN**. Centrifugal Casting, Building-up Training Set 2

7.4. INSTALLATIONS AND MAINTENANCE

7.4.1. CUTAWAY MODELS

▶ **CMTM**. Cutaway Models of Transmission of Motion Units

★ *AVAILABLE VERSIONS*

WGCM. Unit to Study a Worm Gear Cutaway Model

MGCM. Unit to Study a Mitre Gear Cutaway Model

SGCM. Unit to Study a Spur Gear Cutaway Model

SGCM/2. Unit to Study a Two-Stage Spur Gear Cutaway Model

PGCM. Unit to Study a Planetary Gear Cutaway Model

BDCM. Unit to Study a Variable Speed Trapezoidal Belt Drive Cutaway Model

CGCM. Unit to Study a Control Gear Cutaway Model

DCCM. Unit to Study a Multiple-Disc Clutch Cutaway Model

BCM. Unit to Study a Bearing Cutaway Model

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7.4.2. DETACHABLE MODELS

SJBA. Unit to Study a Shaft with Journal Bearings Assembly

HJBA. Unit to Study a Hydrodynamic Journal Bearing Assembly

SGA. Spur Gear Assembly Unit

CGA. Combined Gear Assembly Unit

7.4.3. INSTALLATIONS AND MAINTENANCE TRAINING

ADSG. Drive, Shaft, and Gear Alignment Unit

MDUC. Computer Controlled Machine Diagnosis Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

Some **SOFTWARE RESULTS** screens

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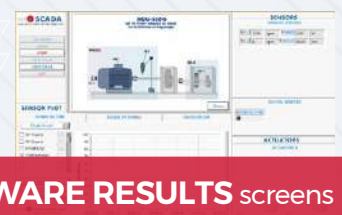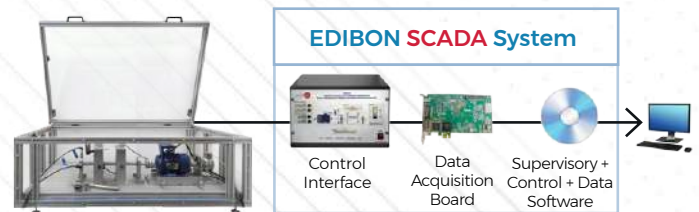
7.4.3. INSTALLATIONS AND MAINTENANCE TRAINING

MDU. Machine Diagnosis

MDU-UB. MDU Base Unit

★ *REQUIRED ELEMENTS FOR MDU-UB (Required: "MDU-SSC". Of the rest of the elements, additionally, only one is required):*

MDU-MLB. Mobile Structure for MDU

MDU-SM. Top Table Structure for MDU

MDU-SSC. Software, Sensors and Control for MDU Unit

MDU-BLU. Break and Load Unit

MDU-SES. Set of Elastic Shaft

MDU-SRS. Set of Rotating Shaft with Crank

MDU-SRBF. Set of Roller Bearings with Faults

MDU-SCO. Set of Couplings

MDU-SBD. Set of Belt Drive

MDU-SSDG. Set to Study Damage in Gears

MDU-SCM. Set of Crank Mechanism

MDU-SSCP. Set to Study Cavitation in Pumps

MDU-SSVF. Blower Vibration Set for MDU

MDU-SEV. Set of Electromechanical Vibrations

MDU-SD. Displacement Sensors for MDU Unit

7. MECHANICS

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VMSC. Computer Controlled Unit to Study Vibrations in Machine Supporting Structures

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

MSLG. Unit to Study Lathe Gears

RGT. Rigging Training Unit
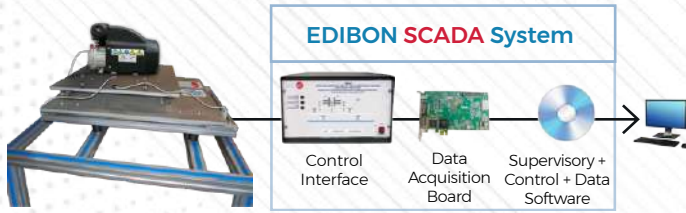
MSCT. Screw Joint Testing Unit

MDSU. Basic Unit of Mechanical Drive Systems

7. MECHANICS

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FLUID MECHANICS

8.1. FLUID MECHANICS MODULAR LABORATORY

8.1.1. BASE UNITS

LIFLUBA. Basic Fluids Mechanics Integrated Laboratory

Complete configuration example for LIFLUBA

★ **UNITS AVAILABLE**

FME00. Hydraulics Bench

FME00/B. Basic Hydraulic Feed System

8.1.2. MEASUREMENT

FME02. Flow over Weirs

FME10. Dead Weight Calibrator

FME37. Flowmeter Calibrator

FME18. Flow Meter Demonstration

8. FLUID MECHANICS

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FME26. Depression Measurement System (vacuum gauge)

FME30. Transparent Vortex Flow Meter

FME30/I. Vortex Flow Meter

FME32. Static Pitot Tube

FME34. Fluid Statics and Manometry

FME36. Rotameter

BDAS. Data Acquisition System and Sensors

8.1.3. HYDROSTATICS

FME08. Hydrostatic Pressure

FME11. Metacentric Height Demostration

FME11-A. Metacentric Height Demostration of a "V" Shaped Floating Body

FME11-B. Metacentric Height Demostration of a "U" Shaped Floating Body

FME33. Pascal's Principle Demonstration

FME35. Fluid Properties

BDAS. Data Acquisition System and Sensors

8.1.4. HYDRODYNAMICS

FME01. Jet Impact on Surfaces

FME03. Bernoulli's Theorem Demonstration

FME04. Orifice Discharge

FME14. Free and Forced Vortex

8. FLUID MECHANICS

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FME17. Orifice and Free Jet Flow

FME19. Cavitation Phenomenon Demonstration

FME22. Venturi, Bernoulli and Cavitation Unit

BDAS. Data Acquisition System and Sensors

8.1.5. FLOW VISUALIZATION

FME06. Osborne Reynolds' Demonstration

FME09. Flow Visualization in Channels

FME20. Laminar Flow Demonstration

FME25. Flow channel, lenght: 1 m

FME31. Horizontal Osborne Reynolds Demonstration

BDAS. Data Acquisition System and Sensors

8.1.6. HYDRAULIC MACHINES: PUMPS

FME12. Series/Parallel Pumps

FME13. Centrifugal Pump Characteristics
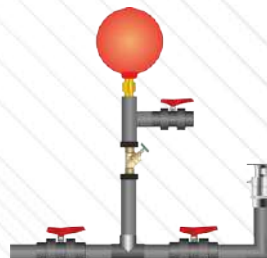
FME38. Hydraulic Ram Pump

BDAS. Data Acquisition System and Sensors

8. FLUID MECHANICS

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8.1.7. HYDRAULIC MACHINES: TURBINES

FME16. Pelton Turbine

FME21. Radial Flow Turbine

FME27. Axial Flow Turbine

FME28. Francis Turbine

FME29. Kaplan Turbine

BDAS. Data Acquisition System and Sensors

8.1.8. HYDRAULIC PIPING SYSTEM

FME05. Energy Losses in Bends

FME07. Energy Losses in Pipes

FME15. Water Hammer

FME23. Basic Pipe Network Unit

FME24. Unit for the Study of Porous Beds in Venturi Tubes (Darcy´s Equation)

BDAS. Data Acquisition System and Sensors

8. FLUID MECHANICS

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8.2. MEASUREMENT

▶ **FMDU**. Flow Meters Demonstration Unit

▶ **HEMP**. Pressure Measurement Unit

▶ **HVB**. Drop Ball Viscometer and Resistance Coefficient Determination Unit

▶ **HCMP**. Precision Pressure Gauge Calibrator

▶ **TMCP**. Pressure Measurement and Calibration Unit

▶ **SCSP**. Pressure Sensors Calibration System

▶ **HMM**. Manometers & Multimanometers (several types):

Complete configuration example for HMM

★ **AVAILABLE VERSIONS**

HMM-W500. U-Shape Double Manometer.

HMM-U1000. U-Shape Manometer.

HMM-I1000. Inclined Multimanometer with 20 manometric tubes of 250 mm length.

HMM-V500. Multimanometer with 8 manometric tubes of 500 mm length, vertical position.

HMM-V500-12. Multimanometer with 12 manometric tubes of 500 mm lenght, vertical position.

HMM-4B. 4 Bourdon type Manometers Unit.

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8.3. HYDROSTATICS

BHI. Hydrostatics Bench & Fluid Properties

USSB. Unit to study Stability in Boats

8.4. FLOW VISUALIZATION

UVF. Hydrogen Bubble Flow Visualization Unit

LFA. Laminar Flow Visualization and Analysis Unit

TAVF180/100. Flow Visualization Aerodynamic Tunnel

WFPC. Computer Controlled Unit to Study Water Flow Principles

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software
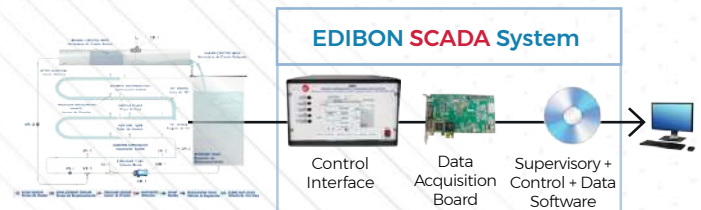
8.5. HYDRAULIC CHANNELS

CFC. Computer Controlled Flow Channels (section: 80X300 mm)

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

CFGC. Computer Controlled Flow Channels

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

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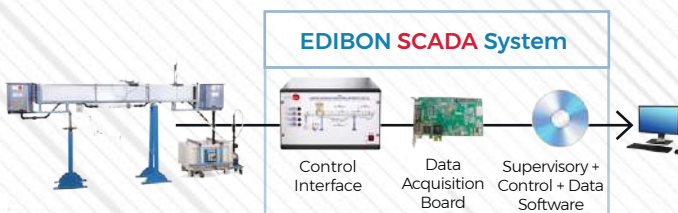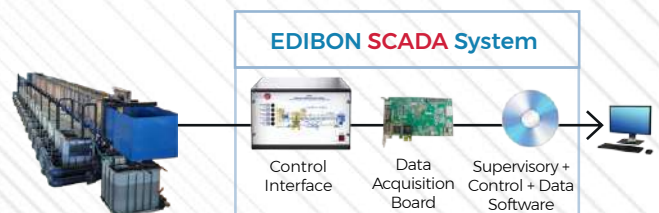
HTHS150/150C. Computer Controlled Closed Hydrodynamic Tunnel for Hight Speed, 150X150 mm

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
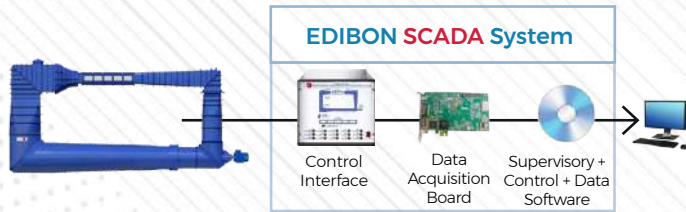
HTLS150/150C. Computer Controlled Closed Hydrodynamic Tunnel for Low Speed, 150X150 mm

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
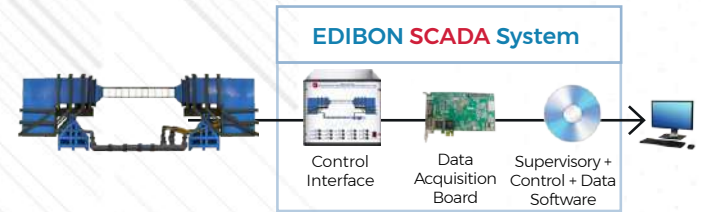
CAS. Sediment Transport Demonstration Channel

HVFLM-2. Mobile Bed and Flow Visualization Unit (working section: 2000X610 mm)

HVFLM-4. Mobile Bed and Flow Visualization Unit (working section: 4000x610 mm)

WFPC. Computer Controlled Unit to Study Water Flow Principles

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
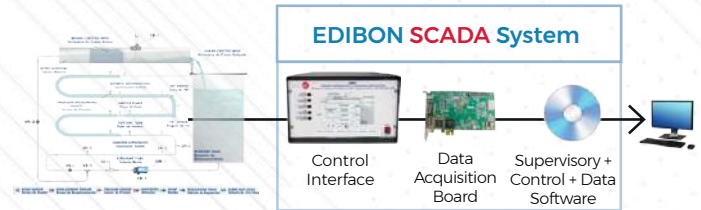
8.6. AERODYNAMICS

TAS25/100C. Computer Controlled Supersonic Wind Tunnel

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
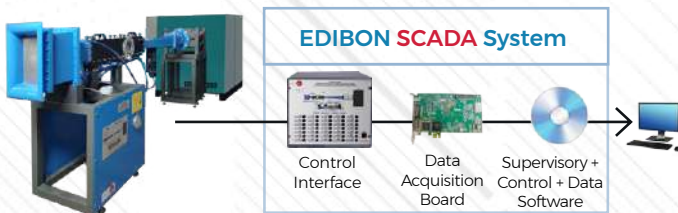
TAS25/100C-3B. Computer Controlled Supersonic Wind Tunnel (Three Blowers)

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
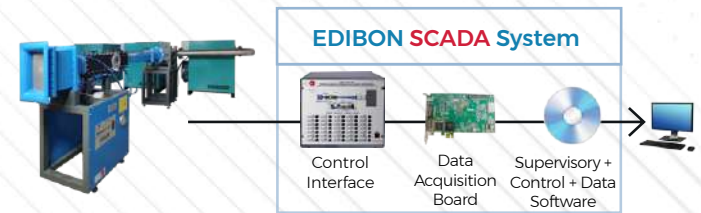
TA50/250C. Computer Controlled Aerodynamic Tunnel, 50X250 mm

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
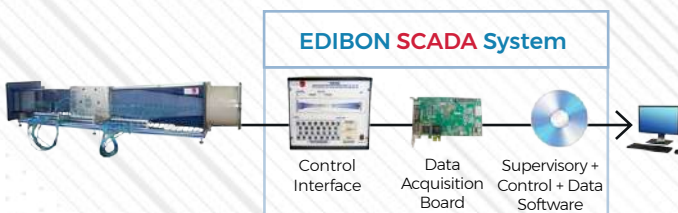
TA300/300C. Computer Controlled Aerodynamic Tunnel, 300X300 mm

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

8. FLUID MECHANICS

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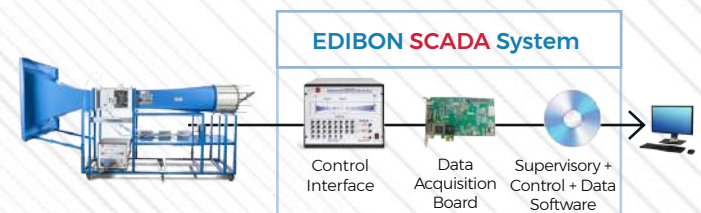
TA610/915C. Computer Controlled Aerodynamic Tunnel, 610X915 mm

EDIBON SCADA System

Control Interface | Data Acquisition Board | Supervisory + Control + Data Software
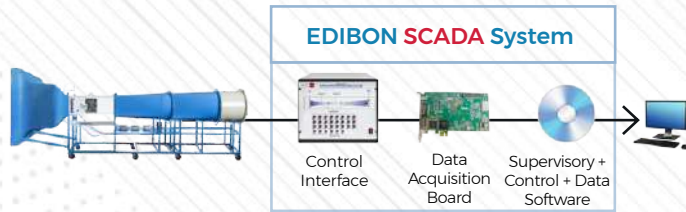
TA1000/1000C. Computer Controlled Aerodynamic Tunnel, 1000X1000 mm

EDIBON SCADA System

Control Interface | Data Acquisition Board | Supervisory + Control + Data Software
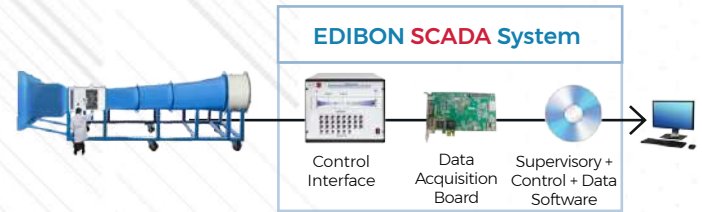
TA1200/1200C. Computer Controlled Aerodynamic Tunnel, 1200X1200 mm

EDIBON SCADA System

Control Interface | Data Acquisition Board | Supervisory + Control + Data Software
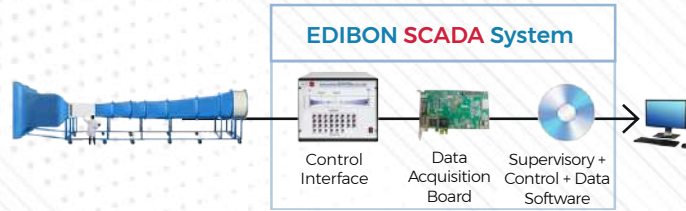
TACL2000/2000C. Computer Controlled Closed Aerodynamic Tunnel, 2000X2000 mm

EDIBON SCADA System

Data Acquisition Board | Supervisory + Control + Data Software
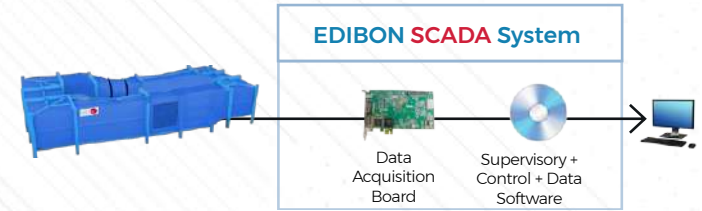
TAVF180/100. Flow Visualization Aerodynamic Tunnel

TADV225/450. Wind Tunnel Flight Demonstration Unit

ATBB. Aerodynamic Testing Bench

8.7. FLUID MACHINES

8.7.1. PUMPS

PBOC. Computer Controlled Multipump Testing Bench (4 types of pumps)

EDIBON SCADA System

Control Interface | Data Acquisition Board | Supervisory + Control + Data Software
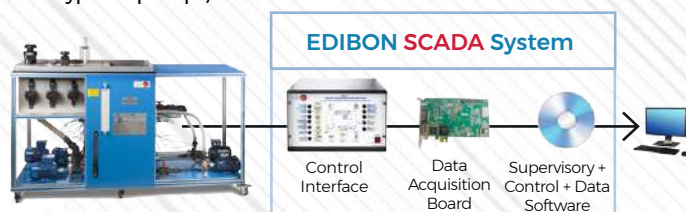
PB2C. Computer Controlled Multipump Testing Bench (2 types of pumps)

EDIBON SCADA System

Control Interface | Data Acquisition Board | Supervisory + Control + Data Software

8. FLUID MECHANICS

edibon
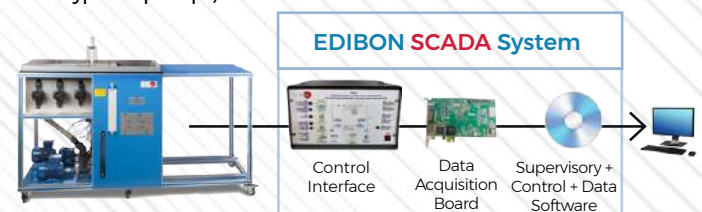
PBSPC. Computer Controlled Series/Parallel Pumps Bench

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software
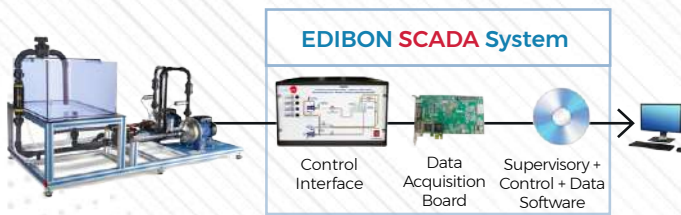
PBCC. Computer Controlled Centrifugal Pump Bench

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software
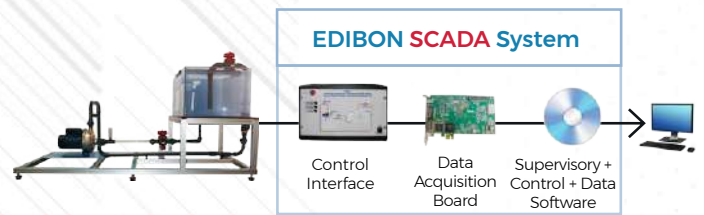
PBEC. Computer Controlled Gear Pump Bench

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software
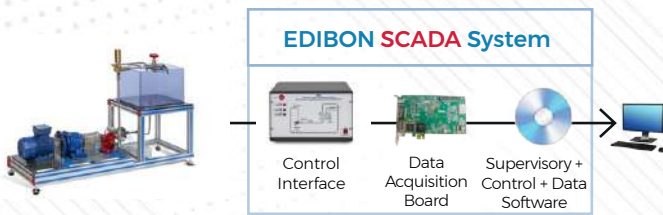
PBAC. Computer Controlled Axial Pump Bench

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software
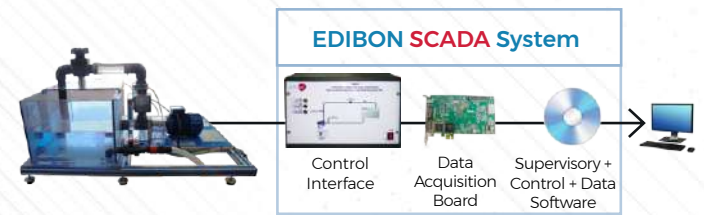
PBRC. Computer Controlled Piston Pump Bench

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

HMFAC. Computer Controlled Axial Flow Turbomachines Unit

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software
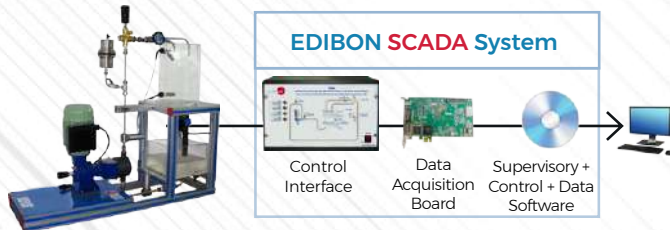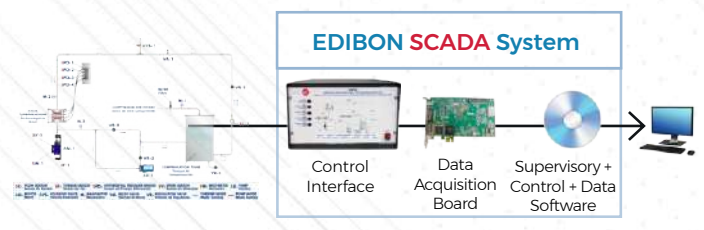
PBEAB. Pumps Alignment and Study Bench

edibon

8.7.2. FANS

HVCC. Computer Controlled Centrifugal Fan Teaching Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
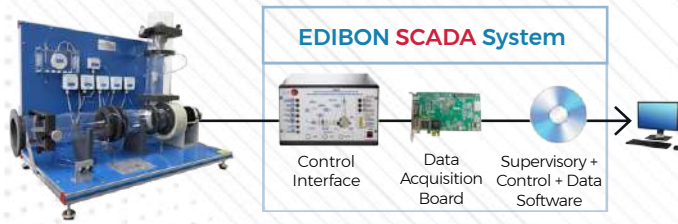
HVAC. Computer Controlled Axial Fan Teaching Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
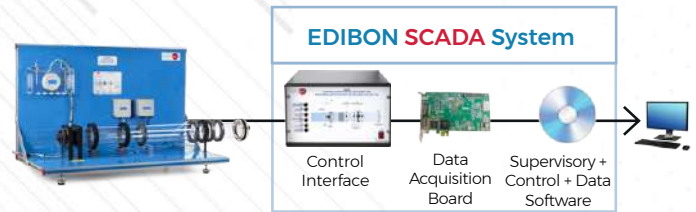
8.7.3. TURBINES

TPC. Computer Controlled Pelton Turbine

EDIBON SCADA System and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TFC. Computer Controlled Francis Turbine

EDIBON SCADA System and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TKC. Computer Controlled Kaplan Turbine

EDIBON SCADA System and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TFRC. Computer Controlled Radial Flow Turbine

EDIBON SCADA System and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TFAC. Computer Controlled Axial Flow Turbine

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

HTRC. Computer Controlled Experimental Reaction Turbine

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

HTIC. Computer Controlled Experimental Impulse Turbine

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

8. FLUID MECHANICS

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HTMC. Computer Controlled Hydraulic Turbines Modular Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

HT-UB. Hydraulic Turbines Base Unit

★ **REQUIRED ELEMENTS FOR HT-UB** (Requires at least one turbine (HT-P, HT-F, HT-FA, HT-FR, HT-K) and at least one of the brakes (FEM, PB)):

HT-F. Francis Turbine Model

HT-FA. Axial Flow Turbine Model
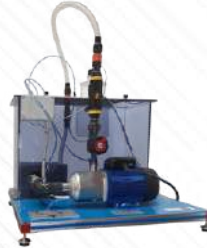
HT-FR. Radial Flow Turbine Model

HT-P. Pelton Turbine Model

HT-K. Kaplan Turbine Model

Some **SOFTWARE RESULTS** screens

HMFAC. Computer Controlled Axial Flow Turbomachines Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

8. FLUID MECHANICS

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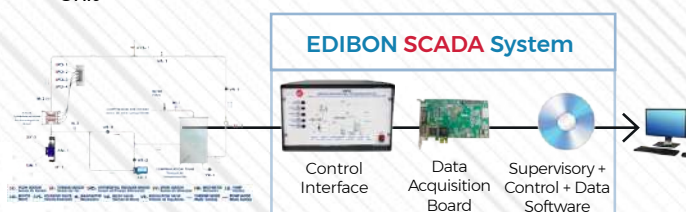
8.7.4. WIND TURBINES

EEEC. Computer Controlled Wind Energy Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

MINI-EEEC. Computer Controlled Wind Energy Basic Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
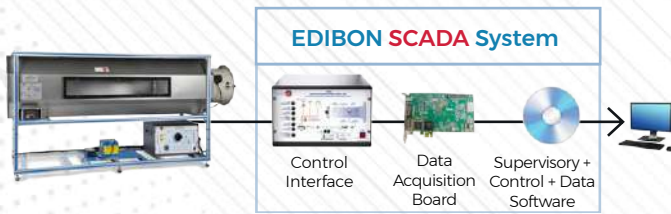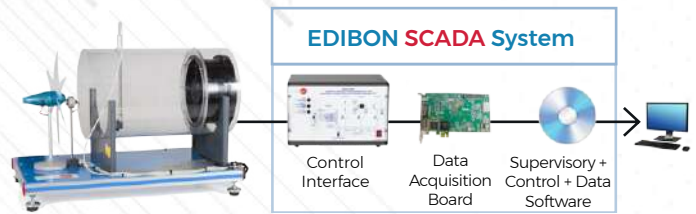
8.7.5. COMPRESSORS

HCCC. Computer Controlled Centrifugal Compressor Demonstration Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
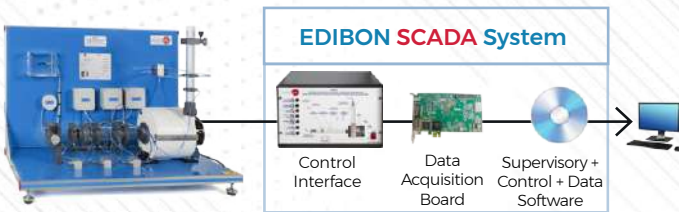
HCRC. Computer Controlled Reciprocating Compressor Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
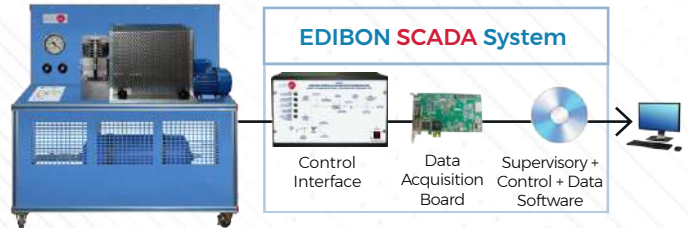
HCDEC. Computer Controlled Two-Stage Compressor Test Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

HFCC. Computer Controlled Flow of Compressible Fluids Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
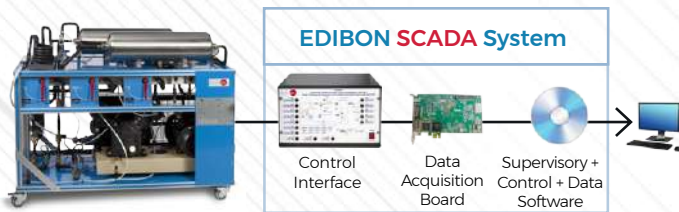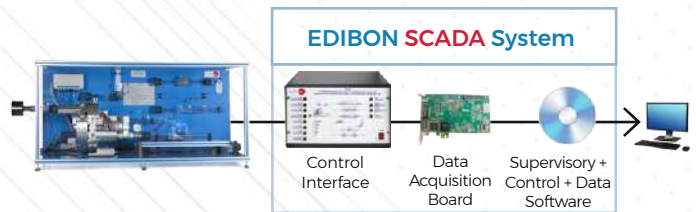
8.8. FLUID PIPING SYSTEM

AFTC. Computer Controlled Fluid Friction in Pipes, with Hydraulics Bench (FME00)

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
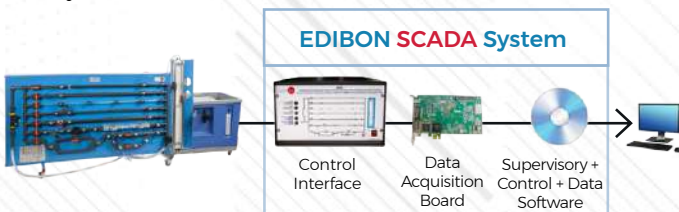
AFT/B. Fluid Friction in Pipes Unit, with Basic Hydraulics Feed System (FME00/B)

AFT/P. Fluid Friction in Pipes Unit

AMTC. Computer Controlled Pipe Network Unit, with Hydraulics Bench (FME00)

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

8. FLUID MECHANICS

edibon
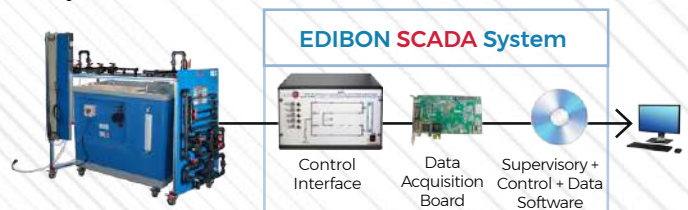
AMT/B. Pipe Network Unit, with Hydraulics Bench (FME00/B)

AMT/P. Mesh in Pipe Unit

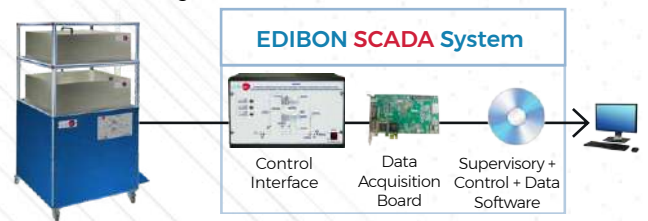**PDCFP**. Unit to Study the Pressure Drop of Compressible Fluids in Pipes
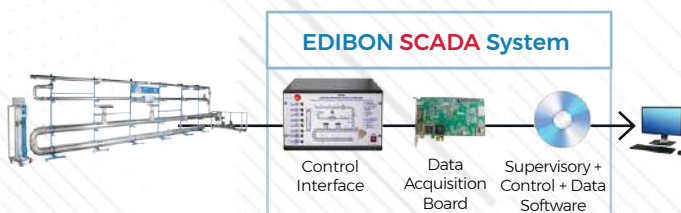
EGAC. Computer Controlled Water Hammer Unit
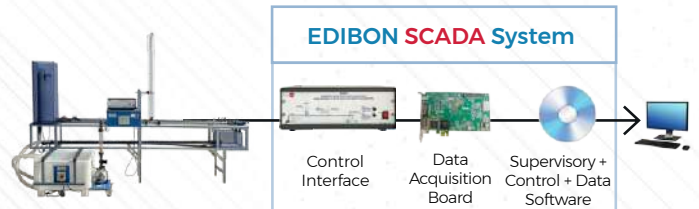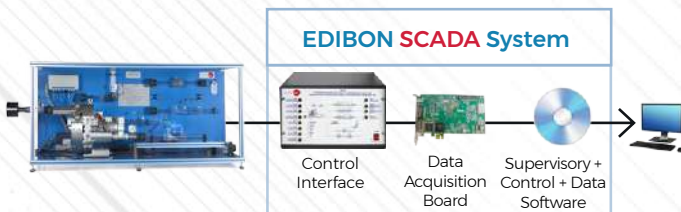
EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

HFCC. Computer Controlled Flow of Compressible Fluids Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PDDRC. Computer Controlled Unit for Transient Drainage Processes in Storage Reservoirs

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TSCAC. Computer Controlled Air Duct Systems Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

HECA. Air Flow Studies Unit

TEVC. Computer Controlled Ventilation Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

8. FLUID MECHANICS

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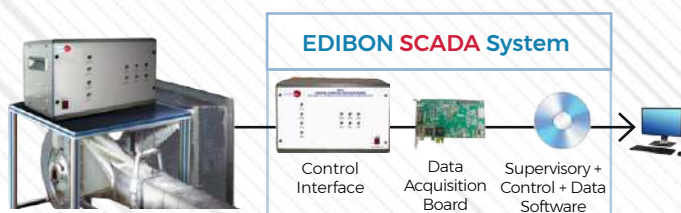
8.9.1. CUTAWAY MODELS

ANVCM. Unit to Study an Angular Needle Valve Cutaway Model

LNVCM. Unit to Study a Lift Non-return Valve Cutaway Model

PMFCM. Unit to Study a Pipe Mesh Filter Cutaway Model

UHCM. Unit to Study an Underground Hydrant Cutaway Model

CPCM. Centrifugal Pump Cutaway Model Unit

BVCM. Unit to Study a Ball Valve Cutaway Model

NBVCM. Unit to Study a Non-return Butterfly Valve Cutaway Model

SNVCM. Unit to Study a Straight-way Needle Valve Cutaway Model

WMCM. Unit to Study a Water Meter Cutaway Model

GPCM. Gear Pump Cutaway Model Unit

edibon

PPCM. Piston Pump Cutaway Model Unit

8.9.2. DETACHABLE MODELS

ASV. Assembly of a Shut-Off Valve Unit

AMCV. Assembly of a Motorized Control Valve Unit

ACPV. Assembly of a Control Pneumatic Valve Unit

AMP. Assembly and Maintenance of Pumps

AMCP. Assembly and Maintenance of a Centrifugal Pump Unit

AMMCP. Assembly and Maintenance of a Multistage Centrifugal Pump Unit

AMSP. Assembly and Maintenance of a Screw Pump Unit

AMDP. Assembly and Maintenance of a Diaphragm Pump Unit

AMPP. Assembly and Maintenance of a Piston Pump Unit

AMLCP. Assembly and Maintenance of an In-Line Centrifugal Pump Unit

AMGP. Assembly and Maintenance of a Gear Pump Unit

8. FLUID MECHANICS

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8.9.3. INSTALLATIONS AND MAINTENANCE

PVFA. Pipes, Valves and Fittings Assembly Unit

BFPT. Backflow Prevention Training Unit

TEV3V. Three-Way Mixing Valve Training Unit

TEV4V. Four-Way Mixing Valve Training Unit

TEIS. Sanitary Fittings Training Unit
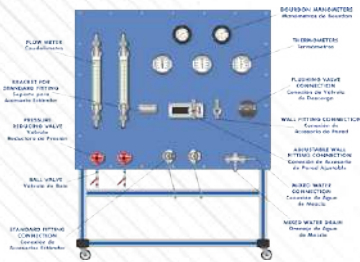
TIAP. Drinking Water Installation Unit
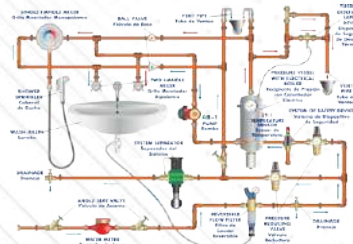
TPAP. Protection of Drinking Water Training Unit
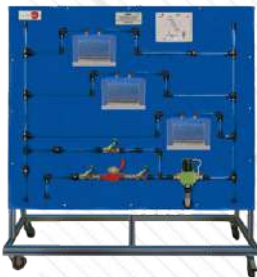
TELT. Pipe Cleaning Training Unit

TSID. Sewerage Unit

PDDRC. Computer Controlled Unit for Transient Drainage Processes in Storage Reservoirs

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

8. FLUID MECHANICS

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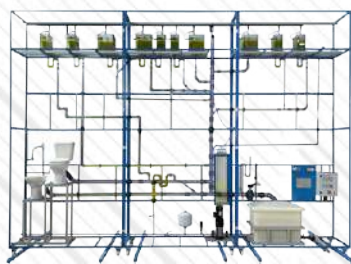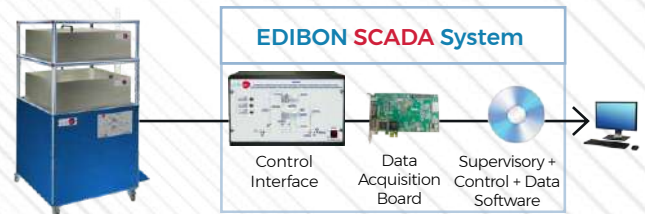
▶ **9.1 FUNDAMENTALS AND BASIC CONCEPTS OF THERMODYNAMICS**

▶ **9.2 HEATING, VENTILATION, AIR CONDITIONING AND HOT WATER**

▶ **9.3 HEAT PUMPS**

▶ **9.4 REFRIGERATION**

▶ **9.5 THERMAL HYDRAULIC PIPING SYSTEM**

▶ **9.6 HEAT TRANSFER**

▶ **9.7 HEAT EXCHANGERS**

▶ **9.8 THERMAL MACHINES**

▶ **9.9 INTERNAL COMBUSTION ENGINES**

▶ **9.10 INSTALLATIONS AND MAINTENANCE**

9.1. FUNDAMENTALS AND BASIC CONCEPTS OF THERMODYNAMICS

▶ **TVCC**. Computer Controlled Combustion Laboratory Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
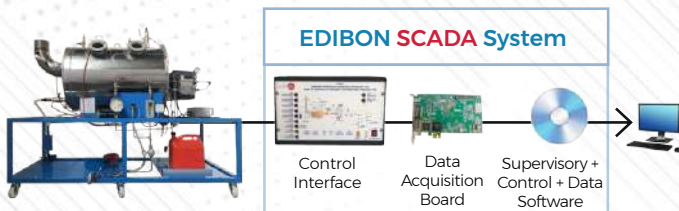
▶ **TEDT**. Thermal Expansion Training Unit

▶ **TEPGC**. Computer Controlled Expansion Processes of a Perfect Gas Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
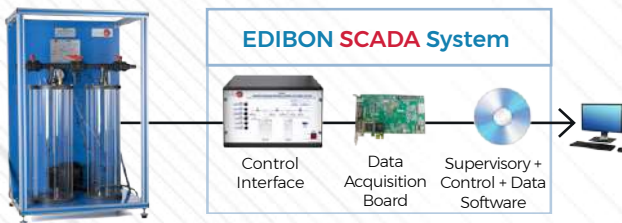
▶ **TBCF**. Bomb Calorimeter

▶ **TCESC**. Computer Controlled Separating and Throttling Calorimeter

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
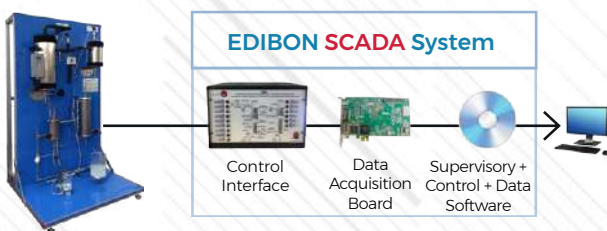
▶ **TECMC**. Computer Controlled Marcet Boiler Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
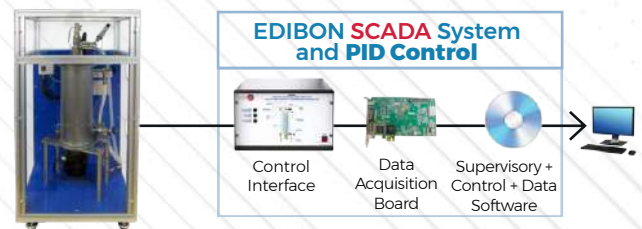
▶ **TMTC**. Computer Controlled Temperature Measurement Unit

EDIBON SCADA System and PID Control

Data Acquisition Board — Supervisory + Control + Data Software

▶ **TEMT**. Temperature Measurement Training Unit

edibon
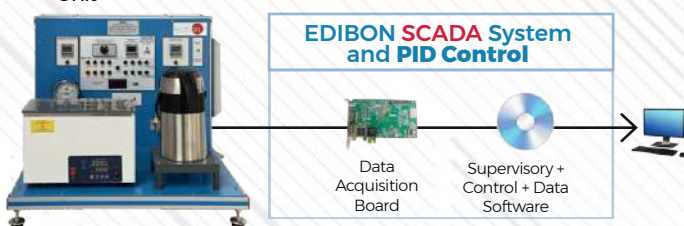
TLBGC. Computer Controlled Gas Laws Unit (Boyle and Gay-Lussac Laws)

EDIBON SCADA System
and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
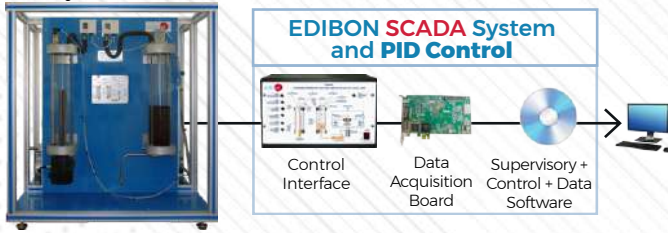
TRLC. Computer Controlled Recycle Loops Unit

EDIBON SCADA System
and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
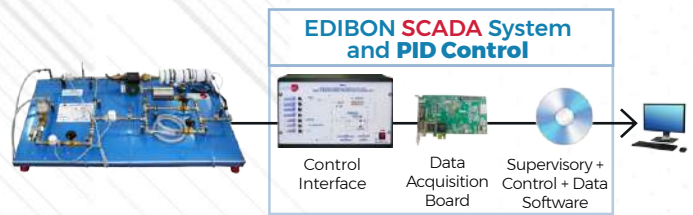
TSPC. Computer Controlled Saturation Pressure Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
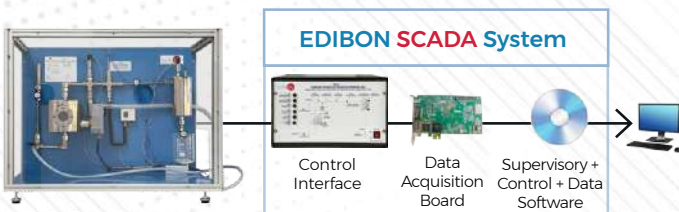
TMHA. Air Humidity Measurement Unit

TVPLC. Computer Controlled Flame Propagation and Stability Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

HFCC. Computer Controlled Flow of Compressible Fluids Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
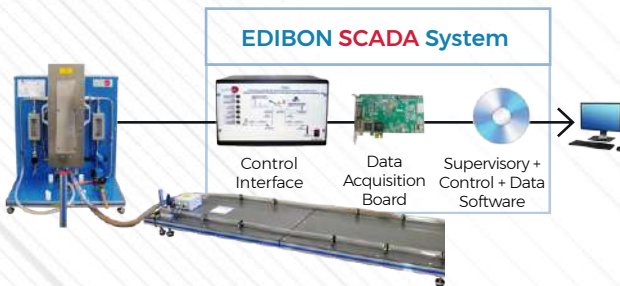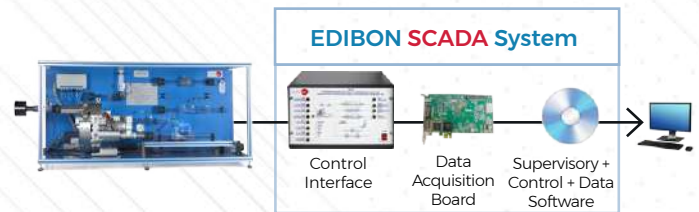
TFTC. Computer Controlled Nozzle Performance Test Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
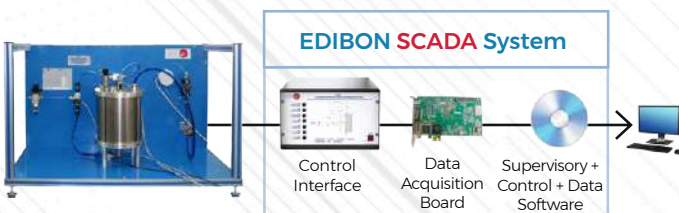
TPT. Nozzle Pressure Distribution Unit

9.2. HEATING, VENTILATION, AIR CONDITIONING AND HOT WATER

EACC. Computer Controlled Hot Water Production and Heating Teaching Unit

EDIBON SCADA System
and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

EBMC. Computer Controlled Biomass Process Unit

EDIBON SCADA System
and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

9. THERMODYNAMICS & THERMOTECHNICS

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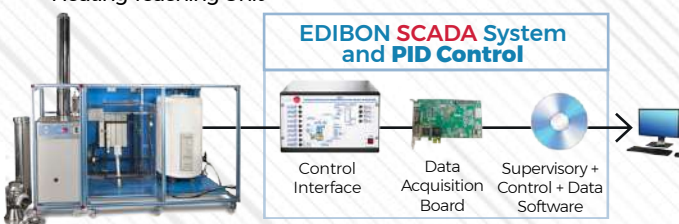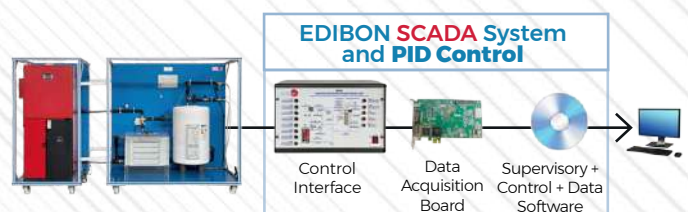
TEHSC. Computer Controlled Unit to Study the Efficiency of a Heating System

EDIBON **SCADA** System and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
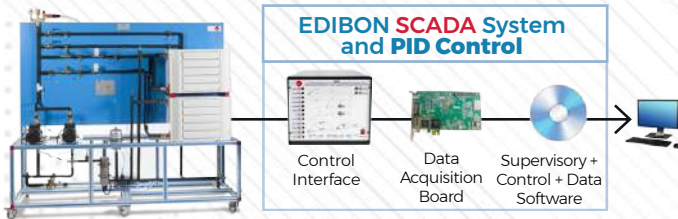
WHT. Water Heaters Training Unit

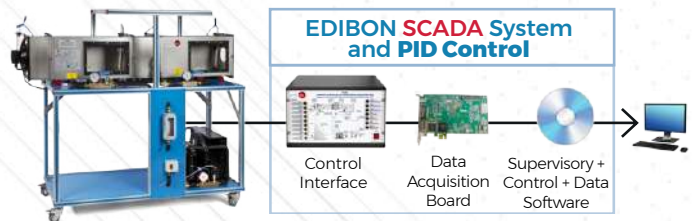**HPSE**. Heat Pump for different Heat Sources and Heat Exchangers

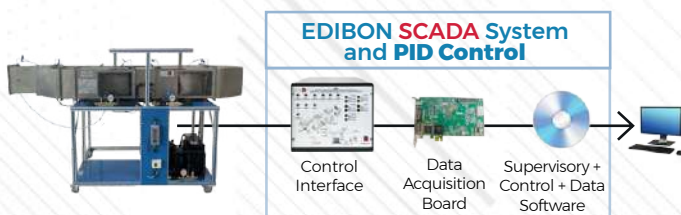**UHHS**. Underfloor Heating and/or Heat Source for Heat Pump
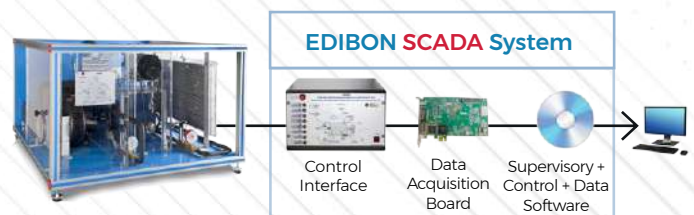

FHAH. Fan Heater and/or Air Heat Exchanger
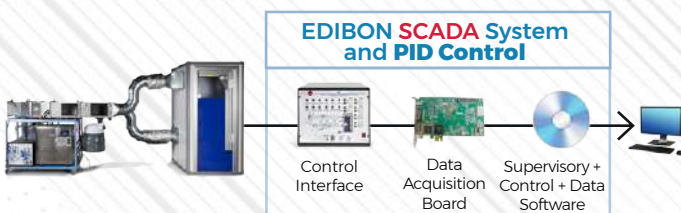

TAAC. Computer Controlled Air Conditioning Laboratory Unit

EDIBON **SCADA** System and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TARC. Computer Controlled Recirculating Air Conditioning Unit

EDIBON **SCADA** System and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TAAUC. Computer Controlled Automobile Air Conditioning Unit

EDIBON **SCADA** System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TACC. Computer Controlled Air Conditioning Unit with Climatic Chamber and Water Chiller

EDIBON **SCADA** System and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TSAC. Computer Controlled Air Conditioning Unit with Climatic Chamber

EDIBON **SCADA** System and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

9. THERMODYNAMICS & THERMOTECHNICS

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TSCAC. Computer Controlled Air Duct Systems Unit

EDIBON SCADA System

Control Interface

Data Acquisition Board

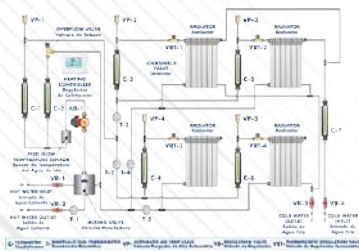Supervisory + Control + Data Software
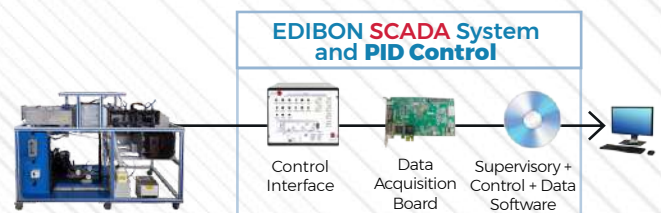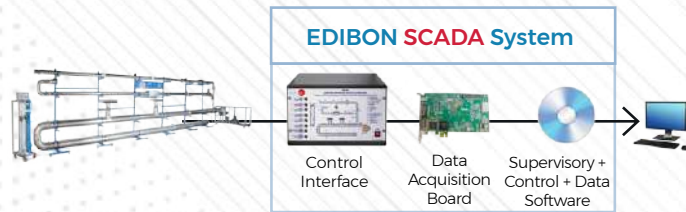
TACS. Split Air Conditioner Unit

TMHA. Air Humidity Measurement Unit
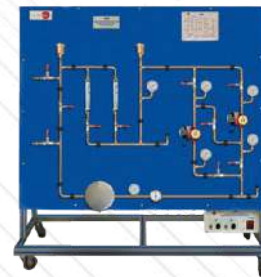
THBT. Hydraulic Radiator Balancing Training Unit

THST. Heating System Training Unit

TCPT. Circulating Pumps Training Unit
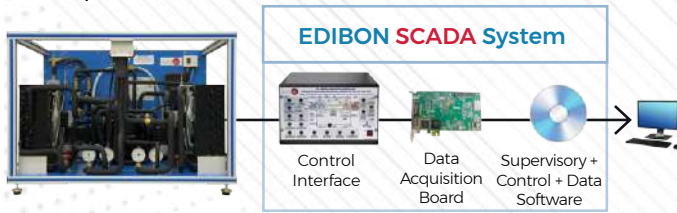
TEVT. Expansion Vessel Training Unit

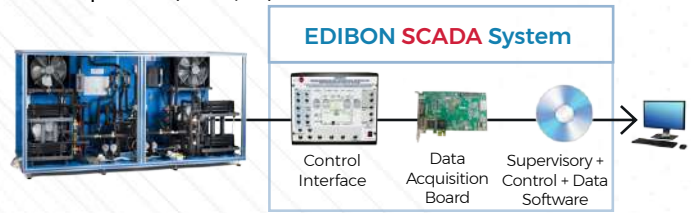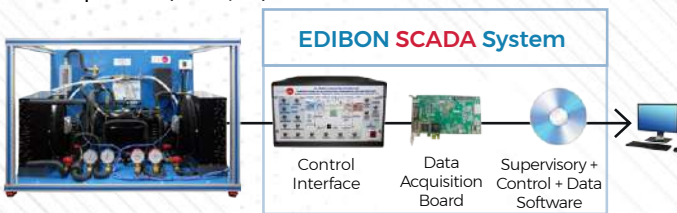**TPVST**. Pressure Vessel and Safety Features Training Unit

9. THERMODYNAMICS & THERMOTECHNICS

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▶ **THIBAR22C**. Computer Controlled Rerversible Heat Pump + Air Conditioning + Refrigeration with 2 Condensers and 2 Evaporators (Water/Air)

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

▶ **THIBAR44C**. Computer Controlled Rerversible Heat Pump + Air Conditioning + Refrigeration with 4 Condensers and 4 Evaporators (Water/Air)

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

▶ **THAR22C**. Computer Controlled Heat Pump + Air Conditioning + Refrigeration with 2 Condensers and 2 Evaporators (Water/Air)

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

▶ **HPSE**. Heat Pump for different Heat Sources and Heat Exchangers

▶ **UHHS**. Underfloor Heating and/or Heat Source for Heat Pump

▶ **FHAH**. Fan Heater and/or Air Heat Exchanger

9. THERMODYNAMICS & THERMOTECHNICS

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TTEC. Computer Controlled Bench Top Cooling Tower

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TCRC. Computer Controlled Refrigeration Cycle Demonstration Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
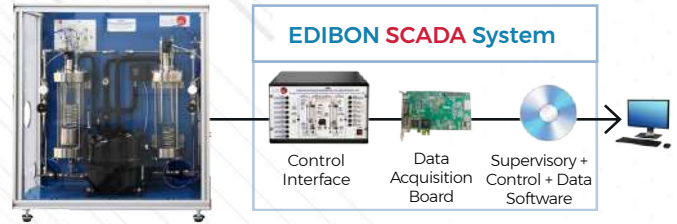
TRAC. Computer Controlled Absorption Refrigeration Unit
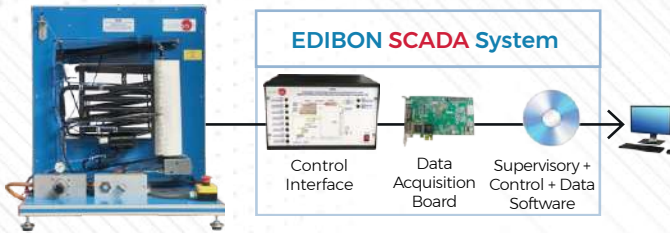
EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TCFRC. Computer Controlled Capacity Control and Faults in Refrigeration Systems

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
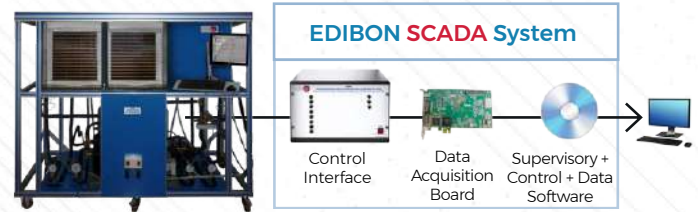
TPVC. Computer Controlled Vortex Tube Refrigerator Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TBTC. Computer Controlled Thermo-Electric Heat Pump

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
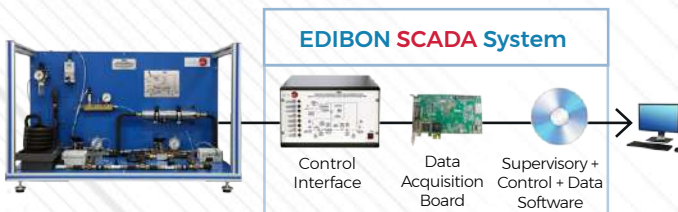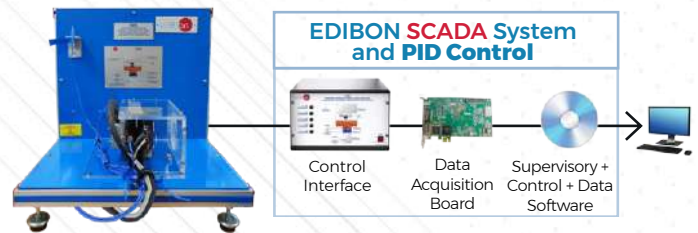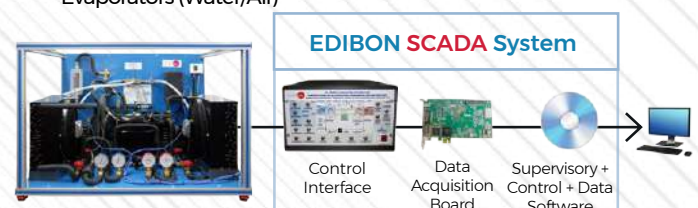
TSCR. Simple Compression Refrigeration Circuit Unit

THIBAR22C. Computer Controlled Rerversible Heat Pump + Air Conditioning + Refrigeration with 2 Condensers and 2 Evaporators (Water/Air)
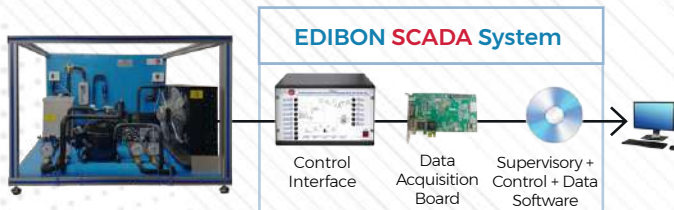
EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

THIBAR44C. Computer Controlled Rerversible Heat Pump + Air Conditioning + Refrigeration with 4 Condensers and 4 Evaporators (Water/Air)
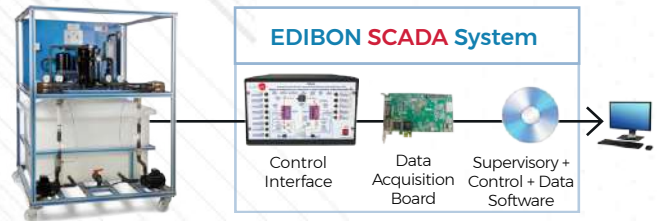
EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

THAR22C. Computer Controlled Heat Pump + Air Conditioning + Refrigeration with 2 Condensers and 2 Evaporators (Water/Air)
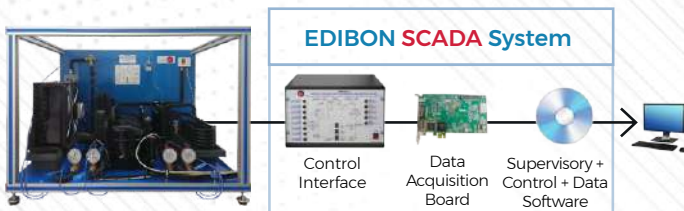
EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

edibon
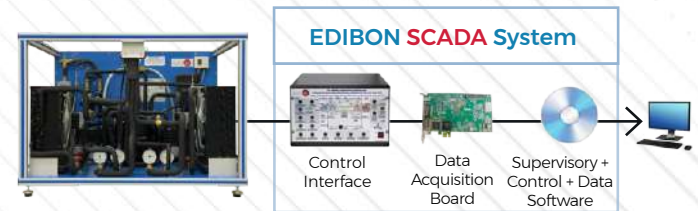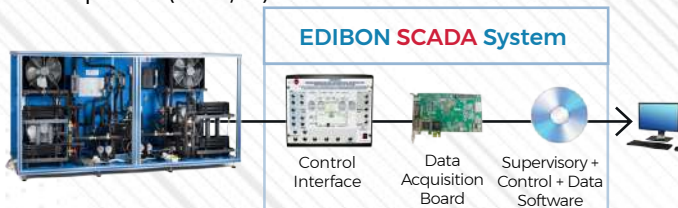
TRCAC. Computer Controlled Refrigeration Circuit with Variable Load

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TRCVC. Computer Controlled Vapour-Compression Refrigeration Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

THALAC/1. Computer Controlled Refrigeration Control Unit with several Compressors

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TRCC. Computer Controlled Refrigeration Unit with Open Compressor

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
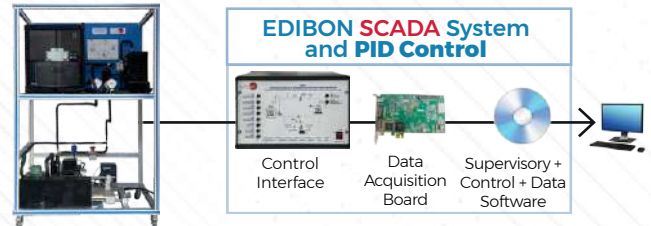
TRRC. Computer Controlled Refrigeration Unit with Refrigeration and Freezing Chamber

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
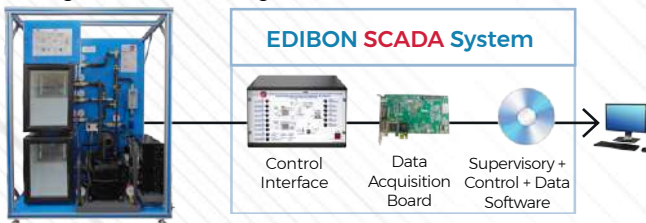
THARA2C/1. Computer Controlled Capacity Control Methods in Refrigeration

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
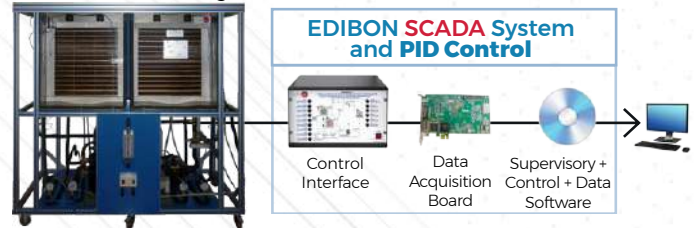
TRD2PC. Computer Controlled Two Doors Domestic Refrigeration Unit
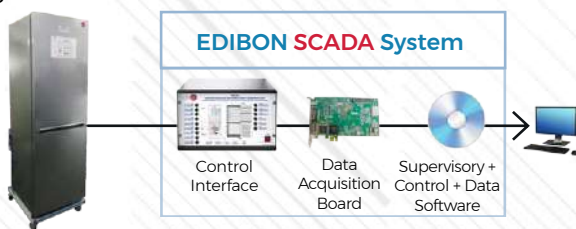
EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TPCC. Computer Controlled Contact Plate Freezer

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TCPISC. Computer Controlled Cooling Plant with Ice Store

EDIBON SCADA System
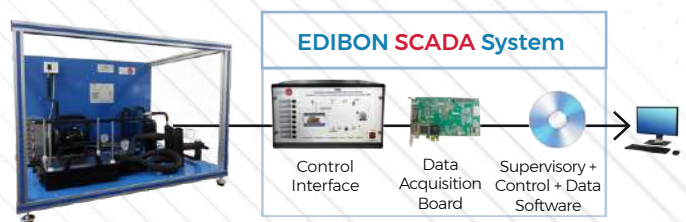
Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
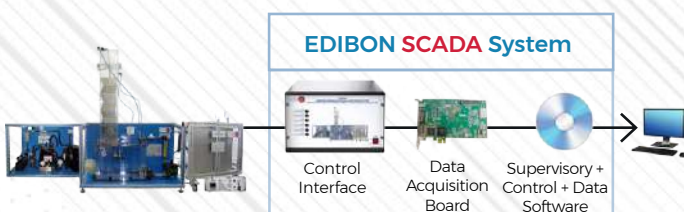
TCREV. Compression Refrigeration Unit with Different Expansion Valves
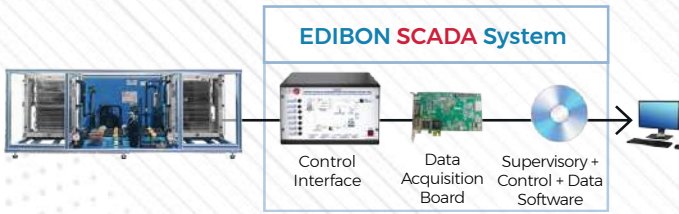
9. THERMODYNAMICS & THERMOTECHNICS

edibon
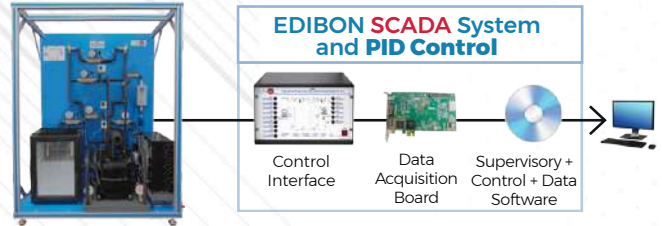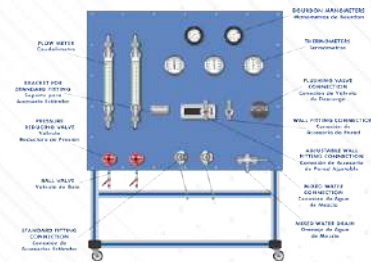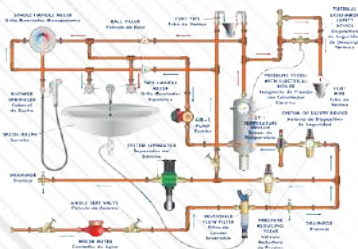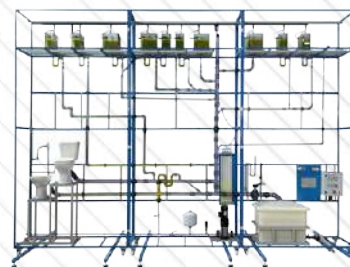
9.6. HEAT TRANSFER

TSTCC. Computer Controlled Heat Transfer Series

EDIBON SCADA System and PID Control

Data Acquisition Board

Supervisory + Control + Data Software

TSTCC/CIB. Control Interface for TSTCC (Common for all available modules type "TXC")
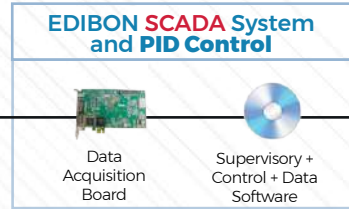
★ *REQUIRED ELEMENTS FOR TSTCC/CIB (At least one is required):*

TXC/CL. Linear Heat Conduction Module for TSTCC

TXC/CR. Radial Heat Conduction Module for TSTCC

TXC/RC. Radiation Heat Transfer Module for TSTCC

TXC/CC. Combined Free and Forced Convection and Radiation Module for TSTCC

TXC/SE. Extended Surface Heat Transfer Module for TSTCC

TXC/ER. Radiation Errors in Temperature Measurement Module for TSTCC

TXC/EI. Unsteady State Heat Transfer Module for TSTCC

TXC/LG. Thermal Conductivity of Liquid and Gas Module for TSTCC

TXC/FF. Free and Forced Convection Heat Transfer Module for TSTCC

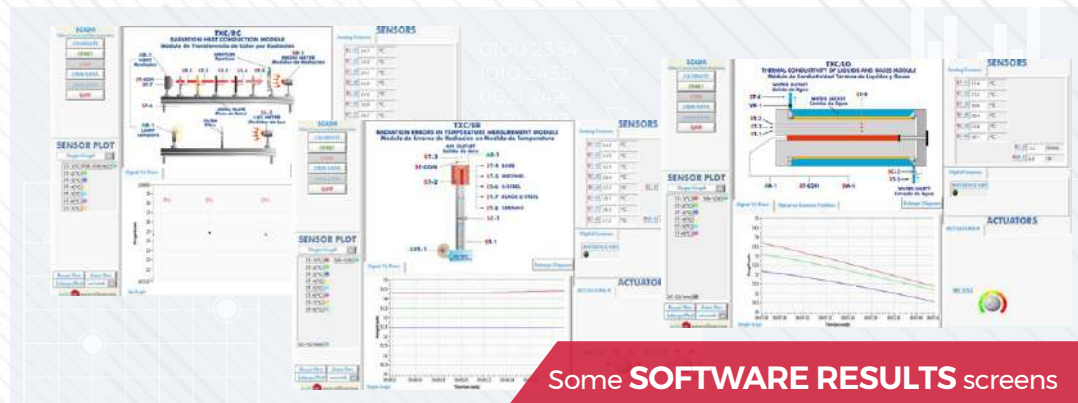**TXC/TE.** Three Axes Heat Transfer Module for TSTCC

TXC/MM. Metal to Metal Heat Transfer Module for TSTCC
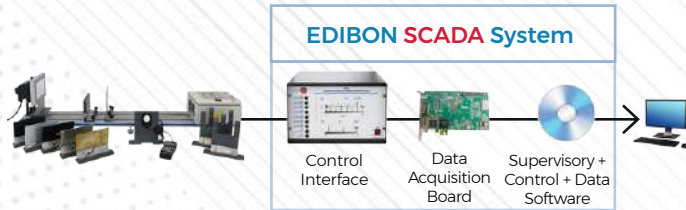

TXC/TC. Ceramic Heat Transfer Module for TSTCC

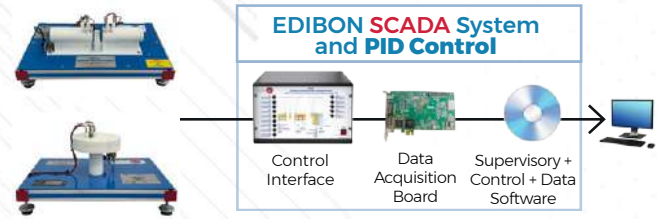**TXC/TI.** Insulating Material Heat Transfer Module for TSTCC
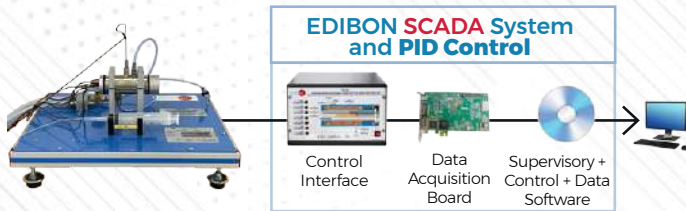

Some **SOFTWARE RESULTS** screens

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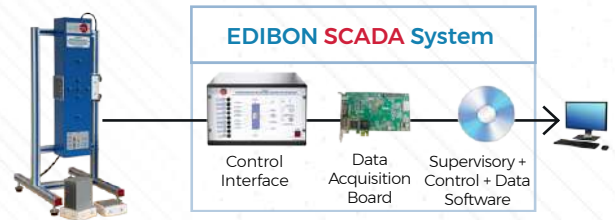**TRTC**. Computer Controlled Thermal Radiation and Light Radiation Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TCCC. Computer Controlled Heat Conduction Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TCLGC. Computer Controlled Thermal Conductivity of Liquids and Gases Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TCLFC. Computer Controlled Free and Forced Convection Heat Transfer Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TFEC. Computer Controlled Flow Boiling Demonstration Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TTLFC. Computer Controlled Fluidization and Fluid Bed Heat Transfer Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TFLVC. Computer Controlled Laminar/Viscous Flow Heat Transfer Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TCEC. Computer Controlled Boiling Heat Transfer Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TIVAC. Computer Controlled Steam to Water Heat Exchanger

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TCPGC. Computer Controlled Film and Dropwise Condensation Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

9. THERMODYNAMICS & THERMOTECHNICS

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TICC. Computer Controlled Heat Exchangers Training System

EDIBON SCADA System and PID Control

Data Acquisition Board

Supervisory + Control + Data Software

TIUS. Base Service Unit (Common for all available Heat Exchangers type "TI")

★ *REQUIRED ELEMENTS FOR TIUS (At least one is required):*

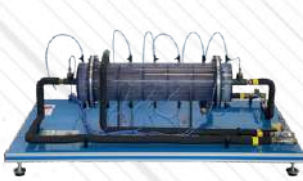**TITC.** Concentric Tube Heat Exchanger for TICC

TITCA. Extended Concentric Tube Heat Exchanger for TICC

TIPL. Plate Heat Exchanger for TICC

TIPLA. Extended Plate Heat Exchanger for TICC

TICT. Shell & Tube Heat Exchanger for TICC
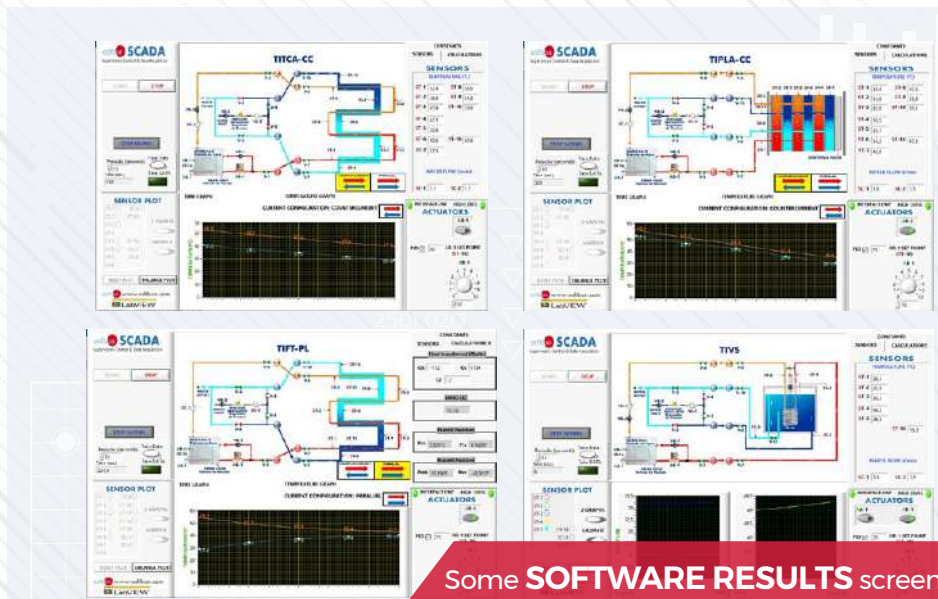
TIVE. Jacketed Vessel Heat Exchanger for TICC

TIVS. Coil Vessel Heat Exchanger for TICC

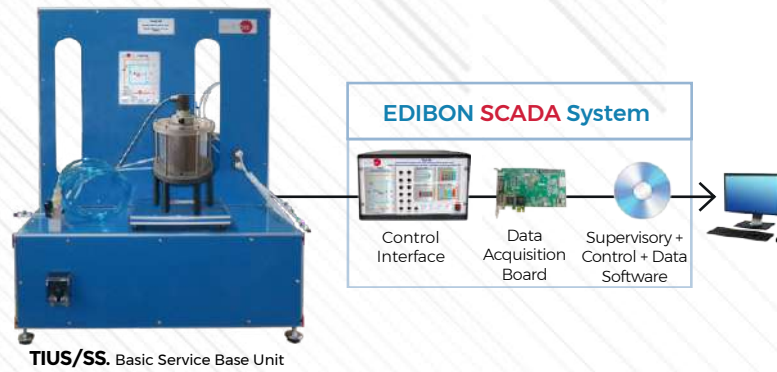**TIFT.** Turbulent Flow Heat Exchanger for TICC

TICF. Cross Flow Heat Exchanger for TICC

Some **SOFTWARE RESULTS** screens

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9. THERMODYNAMICS & THERMOTECHNICS

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TICC/SS. Computer Controlled Heat Exchangers Basic Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TIUS/SS. Basic Service Base Unit

★ *REQUIRED ELEMENTS FOR TIUS/SS (At least one is required):*

TITC/SS. Basic Concentric Tube Heat Exchanger
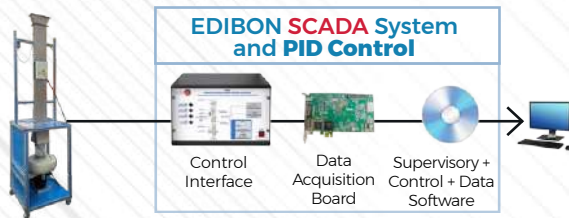
TIPL/SS. Basic Plate Heat Exchanger

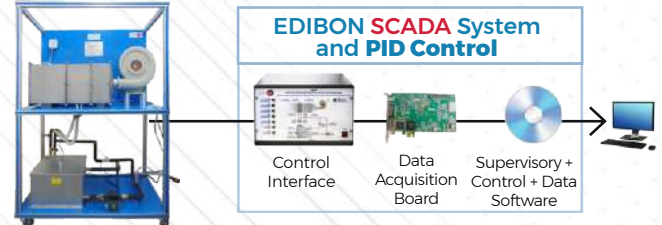**TICT/SS.** Basic Shell and Tube Heat Exchanger

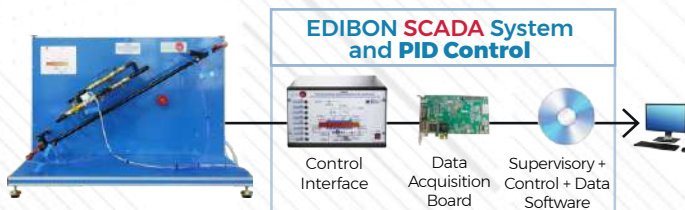**TIVES/SS.** Basic Stirred-Tank Heat Exchanger with Double Jacket and Coil

TIFCC. Computer Controlled Cross Flow Heat Exchanger

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TIAAC. Computer Controlled Water-to-Air Heat Exchanger Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TFLVC. Computer Controlled Laminar/Viscous Flow Heat Transfer Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
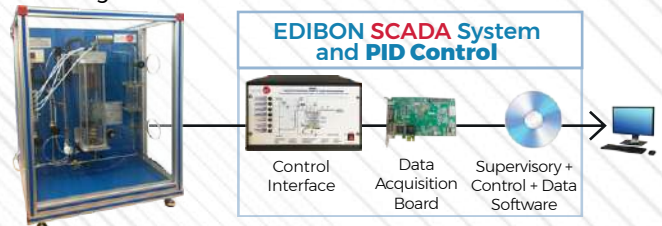
THER. Heat Exchangers in the Refrigeration Unit

TCPGC. Computer Controlled Film and Dropwise Condensation Unit
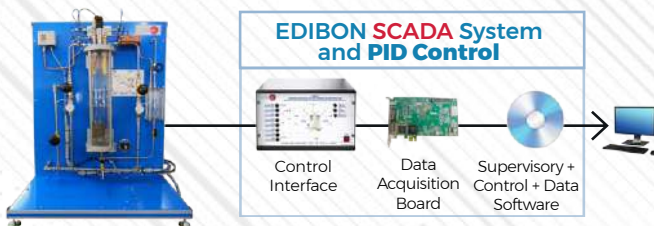
EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TIVAC. Computer Controlled Steam to Water Heat Exchanger

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

9. THERMODYNAMICS & THERMOTECHNICS

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TCEC. Computer Controlled Boiling Heat Transfer Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TFEC. Computer Controlled Flow Boiling Demonstration Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TTLFC. Computer Controlled Fluidization and Fluid Bed Heat Transfer Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
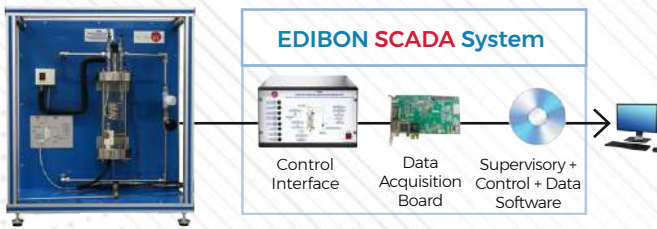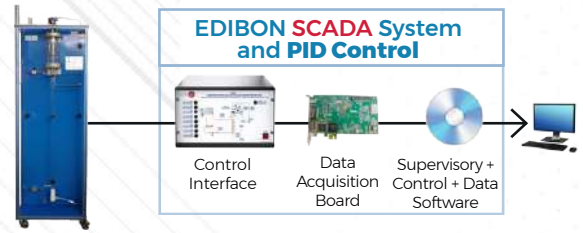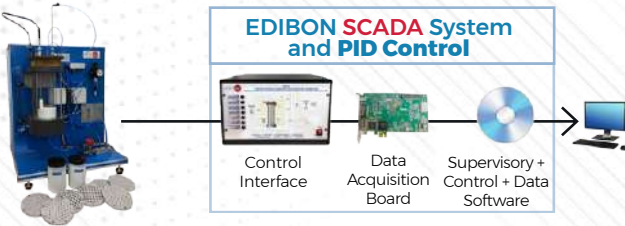
9.8. THERMAL MACHINES

TGDEC. Computer Controlled Two-Shaft Gas Turbine
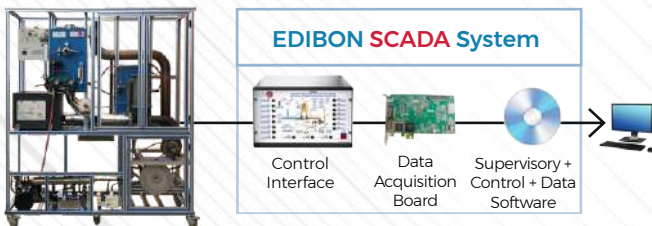
EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TGDEPC. Computer Controlled Two-Shaft Gas Turbine/Jet Engine

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TGFAC. Computer Controlled Axial Flow Gas Turbine/Jet Engine

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

HTVC. Computer Controlled Solar/Heat Source Vapour Turbine

EDIBON SCADA System and PID Control
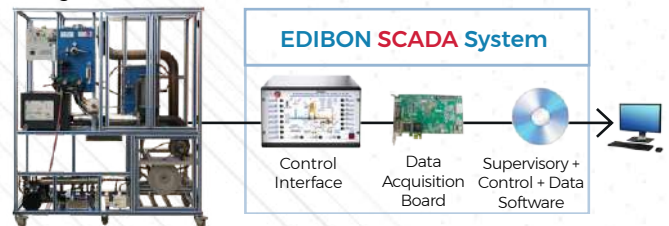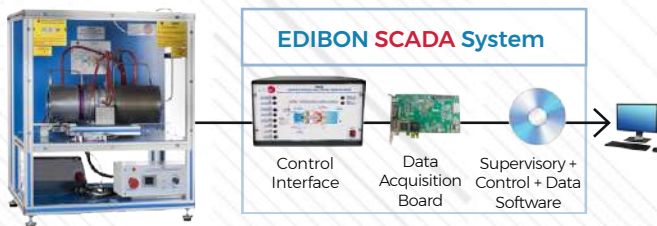
Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
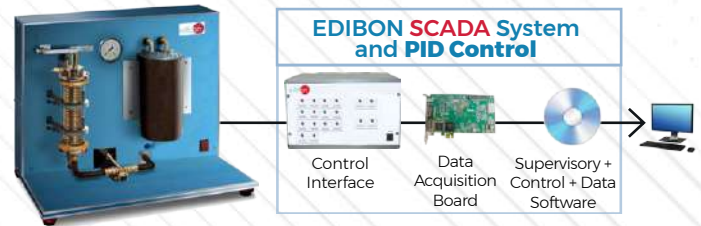
TSMEC. Computer Controlled Steam Motor and Energy Conversion Unit
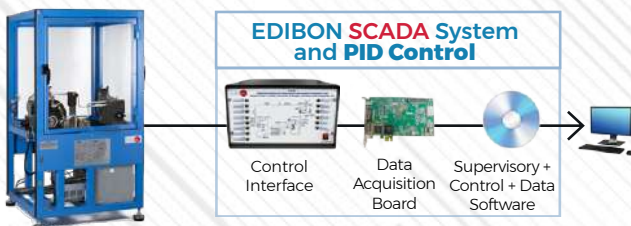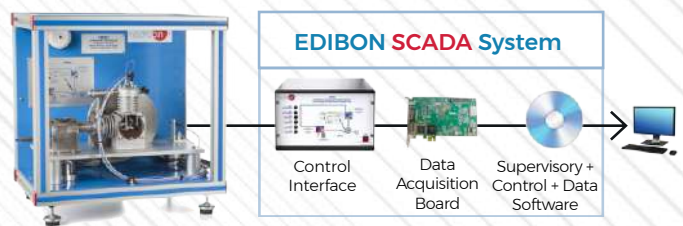
EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TMSC. Computer Controlled Stirling Motor

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

9. THERMODYNAMICS & THERMOTECHNICS

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TPTV/1.5kW/CTS. Computer Controlled and Touch Screen 1.5 kW Steam Power Plant

EDIBON **SCADA** System and **PID Control**

PLC interface + HMI control box and display → Supervisory + Control + Data Software

TPTV/20kW/CTS. Computer Controlled and Touch Screen 20 kW Steam Power Plant

EDIBON **SCADA** System and **PID Control**

PLC interface + HMI control box and display → Supervisory + Control + Data Software
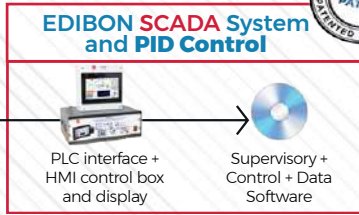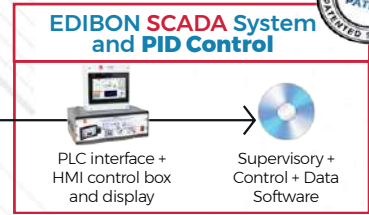
9.9. INTERNAL COMBUSTION ENGINES

TBMC3. Computer Controlled Test Bench for 2.2 kW Engines
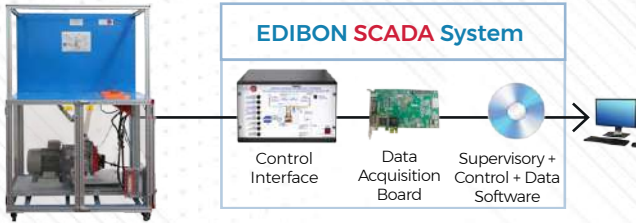
EDIBON **SCADA** System

Control Interface → Data Acquisition Board → Supervisory + Control + Data Software

TBMC8. Computer Controlled Test Bench for 7.5 kW Engines

EDIBON **SCADA** System

Control Interface → Data Acquisition Board → Supervisory + Control + Data Software

TBMC12. Computer Controlled Test Bench for 11 kW Engines

EDIBON **SCADA** System

Control Interface → Data Acquisition Board → Supervisory + Control + Data Software

TBMC75. Computer Controlled Test Bench for 75 kW Engines

EDIBON **SCADA** System

Control Interface → Data Acquisition Board → Supervisory + Control + Data Software

TBMC-CG. Computer Controlled Exhaust Gas Calorimeter

EDIBON **SCADA** System

Control Interface → Data Acquisition Board → Supervisory + Control + Data Software
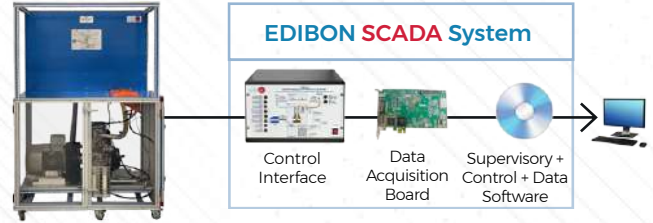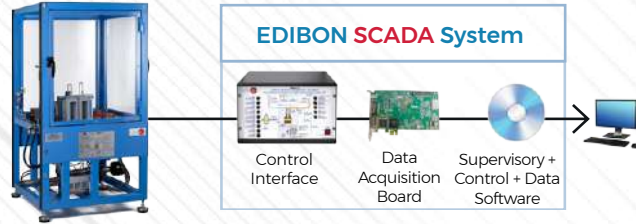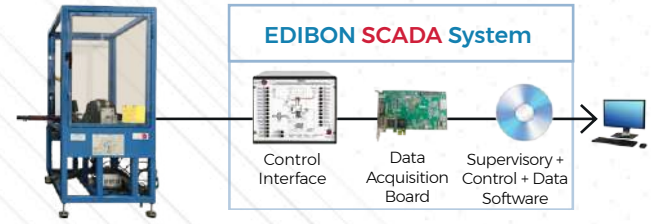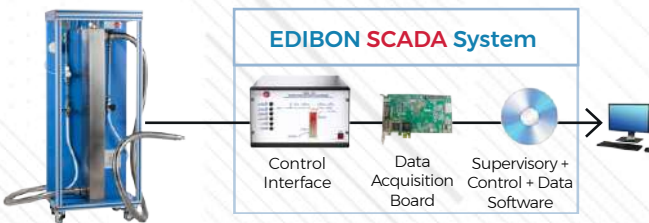
TBMC-AGE. Exhaust Gas Analyzer

TBMC-AGE/NOx. Exhaust Gas Analyzer (NOx)

PFGA. Portable Flue Gas Analyzer

9. THERMODYNAMICS & THERMOTECHNICS

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TMHC. Computer Controlled Test Bench for Hybrid Engine

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

TGFAC. Computer Controlled Axial Flow Gas Turbine/ Jet Engine

EDIBON SCADA System

Control Interface

Data Acquisition Board
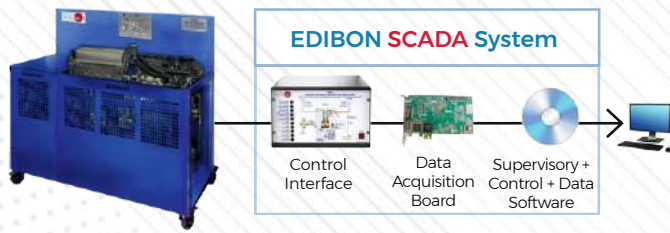
Supervisory + Control + Data Software
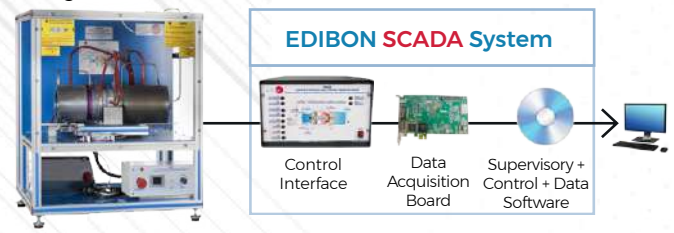
9.10. INSTALLATIONS AND MAINTENANCE

9.10.1. CUTAWAY MODELS

DFCM. Unit to Study a Filter Drier Cutaway Model

GMCM. Unit to Study a Gas Meter Cutaway Model

HCCM. Unit to Study a Hermetic Refrigerant Compressor Cutaway Model

HOSCM. Unit to Study a Helical Oil Separator Cutaway Model

LSCM. Unit to Study a Liquid Separator Cutaway Model

OCCM. Unit to Study an Open Refrigerant Compressor Cutaway Model

SCCM. Unit to Study a Semi-Hermetic Refrigerant Compressor Cutaway Model

SHICM. Unit to Study a Sight Glass with Humidity Indicator Cutaway Model

9. THERMODYNAMICS & THERMOTECHNICS

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9.10.3. INSTALLATIONS AND MAINTENANCE TRAINING
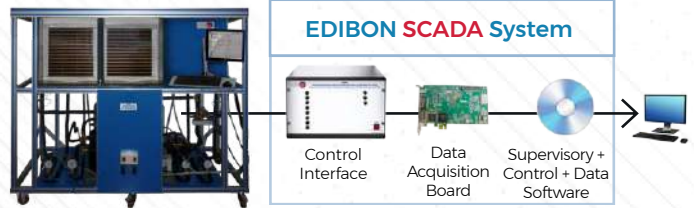
TIR. Introduction to Refrigeration Unit
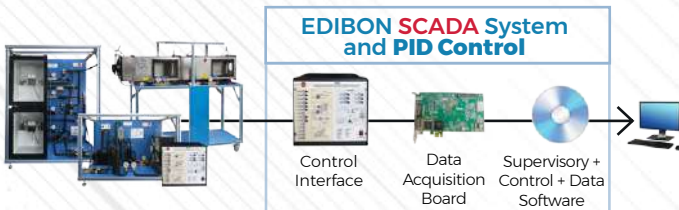

TEMT. Temperature Measurement Training Unit

TAMR. Assembly and Maintenance in Refrigeration Systems Unit

TCFRC. Computer Controlled Capacity Control and Faults in Refrigeration Systems

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TRAMC. Computer Controlled Refrigeration and Air Conditioning Modular Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

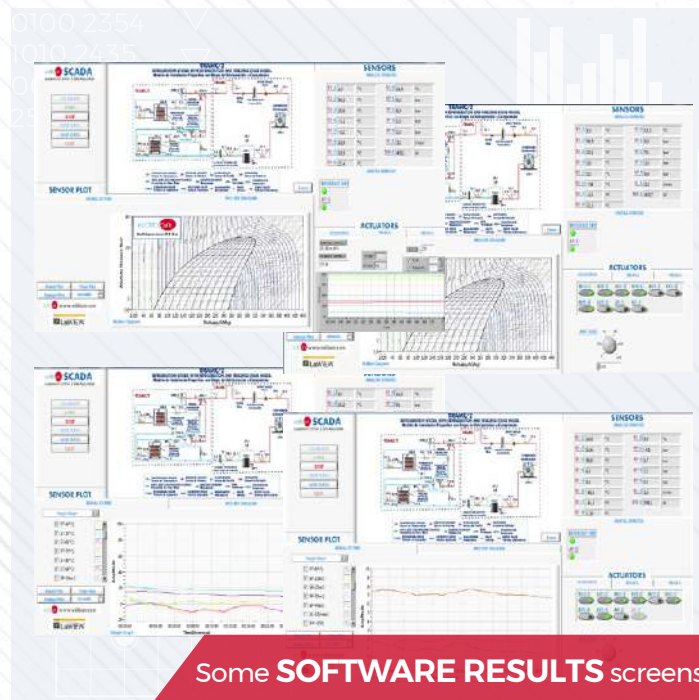
TRAMC/1. Home refrigeration model

TRAMC/2. Refrigeration System with Refrigeration and Freezing Stage Model

TRAMC/3. Simple Air Conditioning System Model for Room Cooling

TRAMC/4. Complete Air Conditioning System Model

Some **SOFTWARE RESULTS** screens

9. THERMODYNAMICS & THERMOTECHNICS

edibon

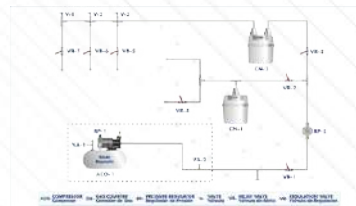**MRST**. Measurement and Regulation Station Unit

IGHT. Instantaneous Gas Heater Experimentation Unit

GBT. Forced Draft Gas Burner Unit

GHST. Gas Home Supply Trainer

TEIR. Electrical Installations in Refrigeration Systems Unit
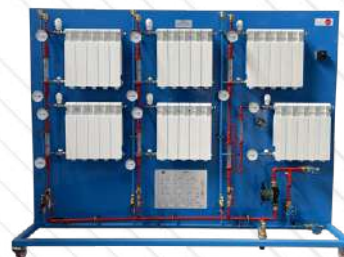

TECR. Electrical Connection of Refrigerant Compressors Unit
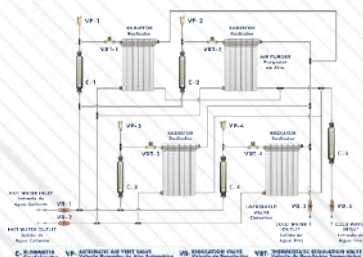

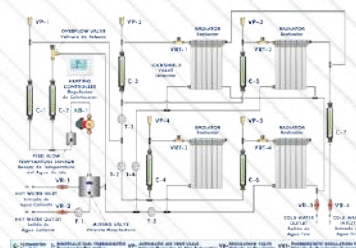**TEFA**. Electrical Faults in Air Conditioning Systems Unit

THBT. Hydraulic Radiator Balancing Training Unit

RT. Radiators Training Unit

THST. Heating System Training Unit

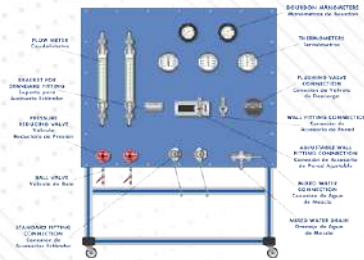9. THERMODYNAMICS & THERMOTECHNICS

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TEV3V. Three-Way Mixing Valve Training Unit

TEV4V. Four-Way Mixing Valve Training Unit
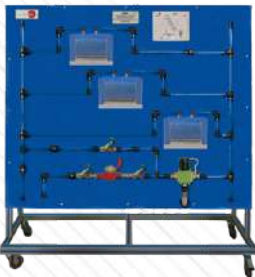
TEIS. Sanitary Fittings Training Unit

TIAP. Drinking Water Installation Unit
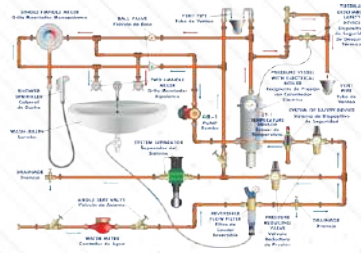
TPAP. Protection of Drinking Water Training Unit

TELT. Pipe Cleaning Training Unit

TSID. Sewerage Unit

TCPT. Circulating Pumps Training Unit
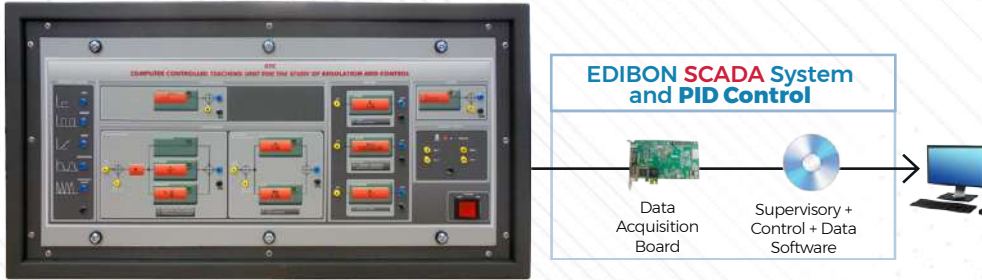
TEVT. Expansion Vessel Training Unit

TPVST. Pressure Vessel and Safety Features Training Unit

9. THERMODYNAMICS & THERMOTECHNICS

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▶ **10.1 THEORETICAL - PRACTICAL FUNDAMENTALS**

▶ **10.2 CONTROLLERS & INDUSTRIAL COMMUNICATIONS**

▶ **10.3 INDUSTRIAL APPLICATIONS AND SYSTEMS**

10.1. THEORETICAL - PRACTICAL FUNDAMENTALS

▶ **RYC/T.** Computer Controlled Modular Control and Regulation Unit

EDIBON SCADA System and PID Control

Data Acquisition Board

Supervisory + Control + Data Software

RYC. Computer Controlled Teaching Unit for the Study of Regulation and Control

★ *ADDITIONAL RECOMMENDED ELEMENTS FOR RYC*

RYC-BB. Ball and Beam Module

RYC-SM. DC Servo Motor Module

RYC-TAR. Air Flow Temperature Control Module

RYC-PI. Inverted Pendulum Control Module

RYC-CLM. Magnetic Levitation Control Module

RYC-TAG. Water Flow Temperature Control Module

RYC-TE. Temperature Control Module

RYC-P. Pressure Control Module

RYC-N. Level Control Module

RYC-C. Flow Rate Control Module

RYC-I. Luminosity Control Module
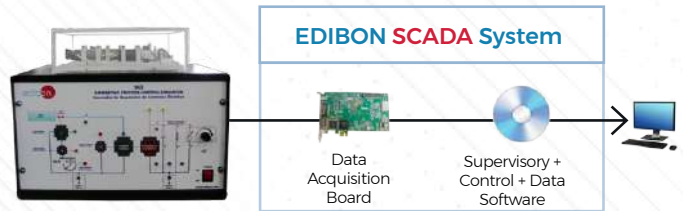

RYC-pH. pH Control Module

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RYC-CP. Position Control Module

Some SOFTWARE RESULTS screens

RYC/B. Basic Teaching Unit for the Study of Regulation and Control

SCE. Computer Controlled Generating Stations Control and Regulation Simulator

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software

10.2. CONTROLLERS & INDUSTRIAL COMMUNICATIONS

CECI. Industrial Controllers Unit

CRCI. Industrial Controllers Networking

CEAC. Computer Controlled Controller Tuning Unit

EDIBON SCADA System

Data Acquisition Board

Supervisory + Control + Data Software
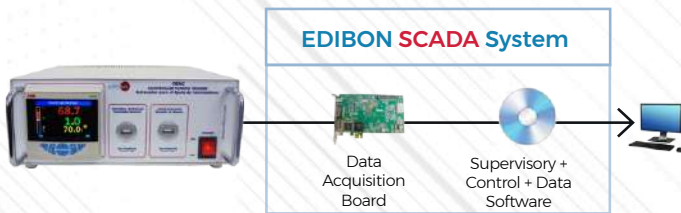
CEAB. Field Bus Applications Unit

10.3. INDUSTRIAL APPLICATIONS AND SYSTEMS

APC. Applications for Process Control

FLPTU. Flow, Level, Pressure and Temperature Regulation for Process Control

10. PROCESS CONTROL

CTAC. Computer Controlled Coupled Tanks System

EDIBON **SCADA** System
and **PID Control**
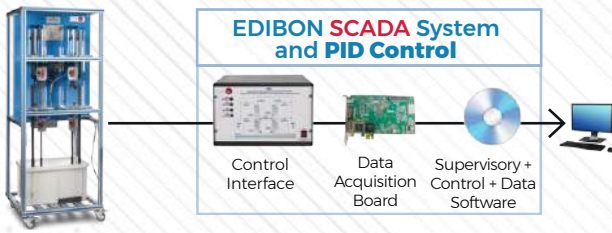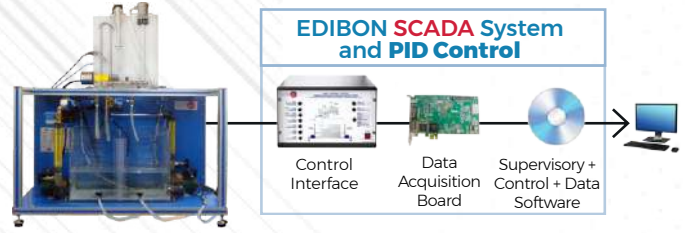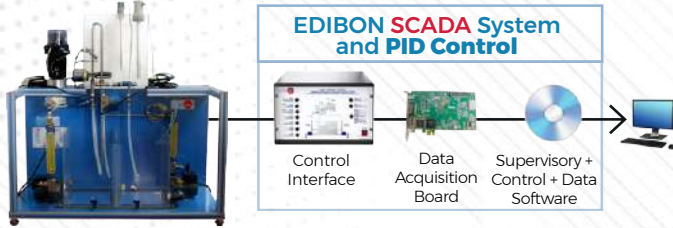
Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

UCP. Computer Controlled Process Control (Electronic Valve)

EDIBON **SCADA** System
and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

UCPCN. Computer Controlled Process Control (Pneumatic Valve)

EDIBON **SCADA** System
and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

UCPCV. Computer Controlled Process Control (Speed Controller)

EDIBON **SCADA** System
and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

UCPCNCV. Computer Controlled Process Control Unit (Electronic + Pneumatic Valve and Speed Controller)

EDIBON **SCADA** System
and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

UCP-P. Computer Controlled Process Control Unit for the Study of Pressure (Air)

EDIBON **SCADA** System
and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

CPIC. Computer Controlled Industrial Process Control Plant

EDIBON **SCADA** System
and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

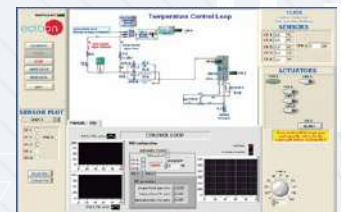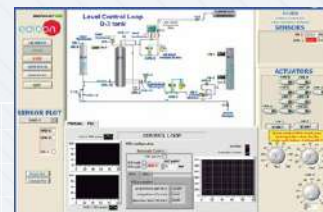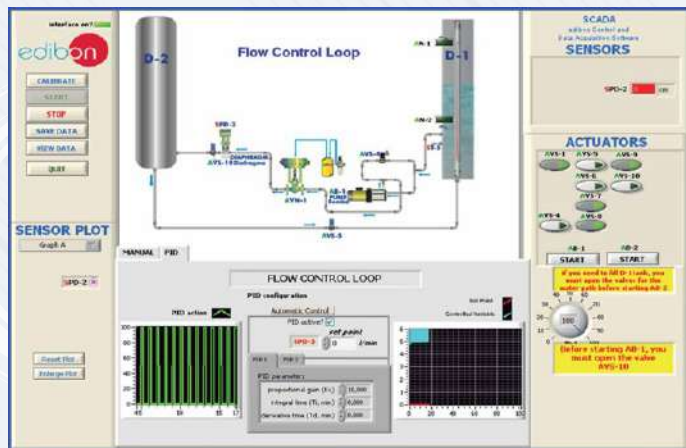**CPIC-C**. Computer Controlled Industrial Process Control Plant (only Flow).
CPIC-T. Computer Controlled Industrial Process Control Plant (only Temperature).
CPIC-N. Computer Controlled Industrial Process Control Plant (only Level).
CPIC-P. Computer Controlled Industrial Process Control Plant (only Pressure).

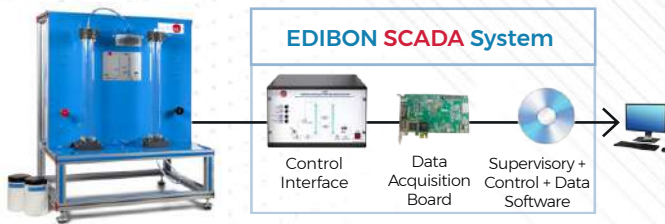**10. PROCESS CONTROL**

Some **SOFTWARE RESULTS** screens

▶ *11.1 UNIT OPERATIONS*

▶ *11.2 CHEMICAL REACTORS*

11.1. UNIT OPERATIONS

11.1.1. FLUIDIZATION

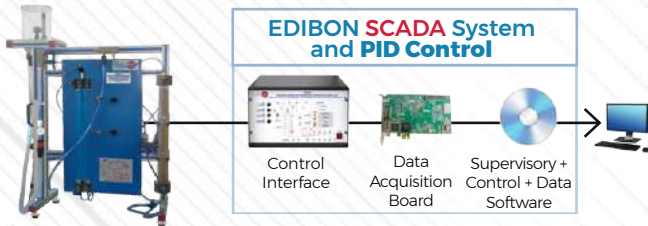**LFFC**. Computer Controlled Fixed and Fluidized Bed Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TTLFC. Computer Controlled Fluidization and Fluid Bed Heat Transfer Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PEFPC. Computer Controlled Permeability/Fluidisation Studies Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
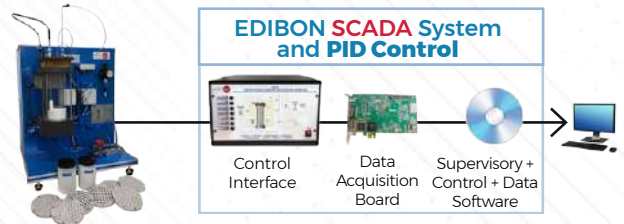
11.1.2. EVAPORATION

CGE/0.4/CTS. Computer Controlled and Touch Screen 0.4 l/h Carver-Greenfield Evaporator

EDIBON SCADA System

PLC interface + HMI control box and display — Supervisory + Control + Data Software

EPAC. Computer Controlled Rising Film Evaporator

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
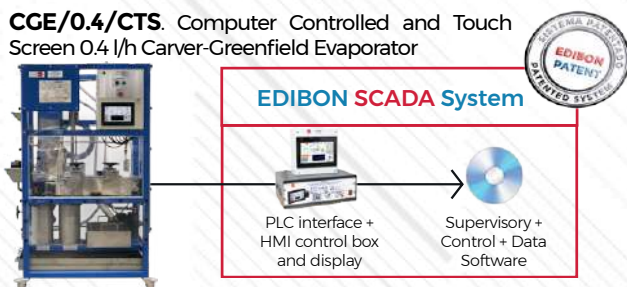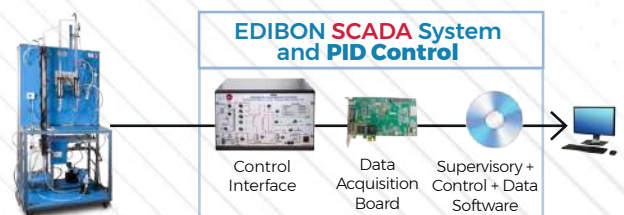
EPDC/C. Computer Controlled Falling Film Evaporator

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
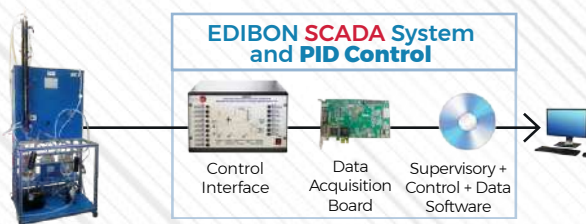
EDPAC. Computer Controlled Double Effect Rising Film Evaporator

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

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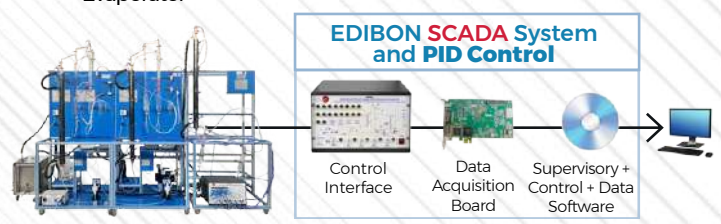
EPFC. Computer Controlled Thin Film Evaporator
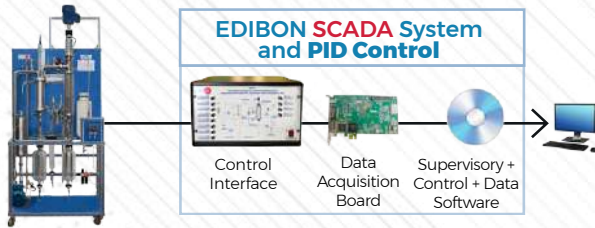
11.1.3. BOILING

TCEC. Computer Controlled Boiling Heat Transfer Unit
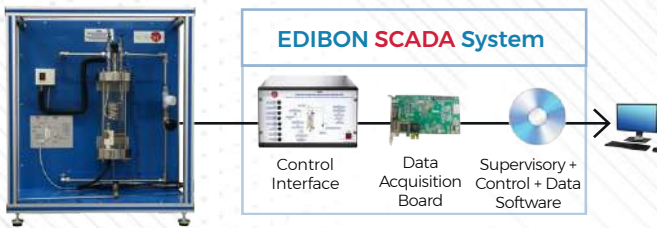
TFEC. Computer Controlled Flow Boiling Demonstration Unit
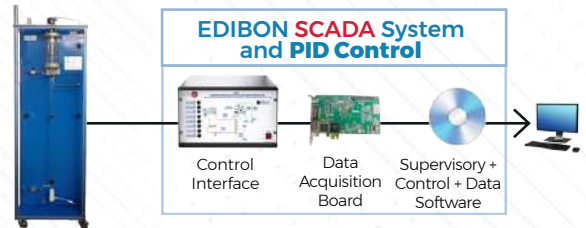
11.1.4. DISTILLATION AND CRACKING

CSRD/4/CTS. Computer Controlled and Touch Screen 4 l/h Corrosive Solvent Recovery Distillation
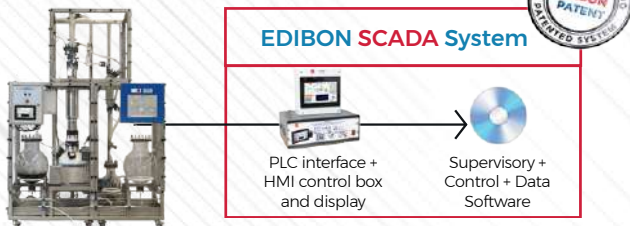
UDCC/A. Advanced Computer Controlled Continuous Distillation Unit
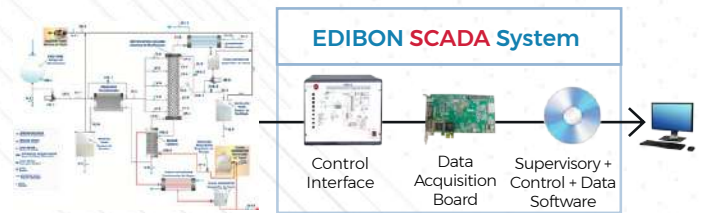
UDCC. Computer Controlled Continuous Distillation Unit
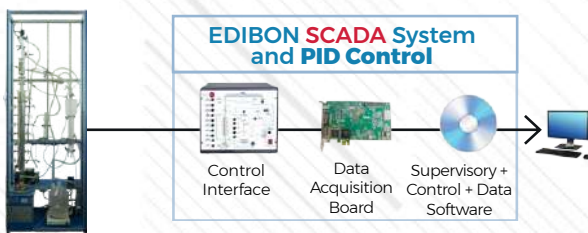
UDDC. Computer Controlled Batch Distillation Unit
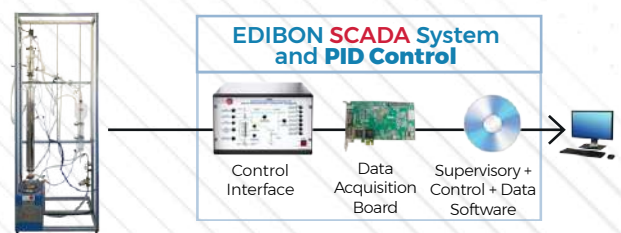
QCCC. Computer Controlled Cracking Column

11. CHEMICAL ENGINEERING

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11.1.5. EXTRACTION

UELLC. Computer Controlled Liquid-Liquid Extraction Unit
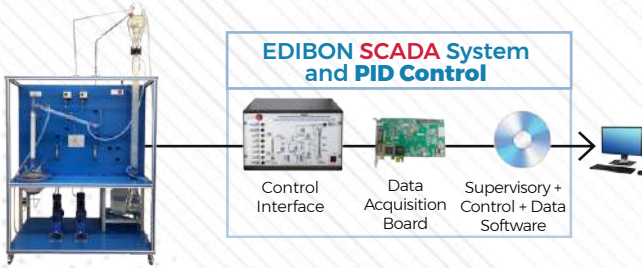
EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

SLE00. Computer Controlled and Touch Screen Solid-Liquid Extraction Pilot Plant

EDIBON SCADA System and PID Control

PLC interface + HMI control box and display — Supervisory + Control + Data Software

UESLC. Computer Controlled Solid-Liquid Extraction Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

QEDC. Computer Controlled Batch Solvent Extraction and Desolventising Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

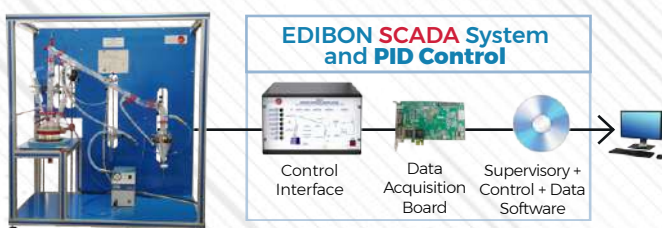**FPCC**. Computer Controlled Unit to Study Flow through Packed Columns

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
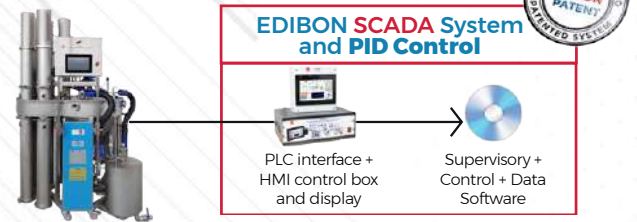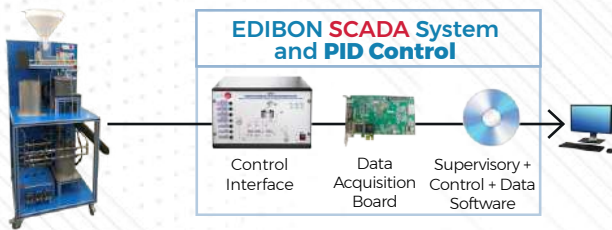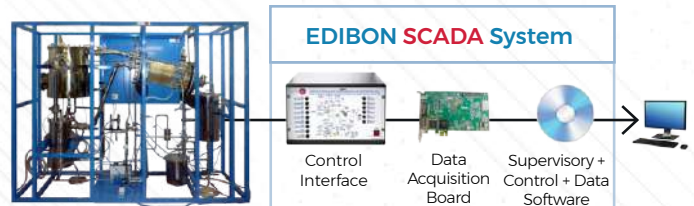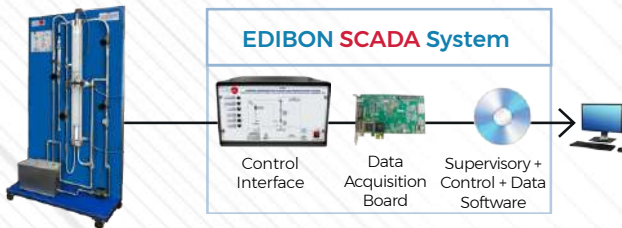
11.1.6. DIFFUSION

QDTLC. Computer Controlled Liquid Mass Transfer and Diffusion Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
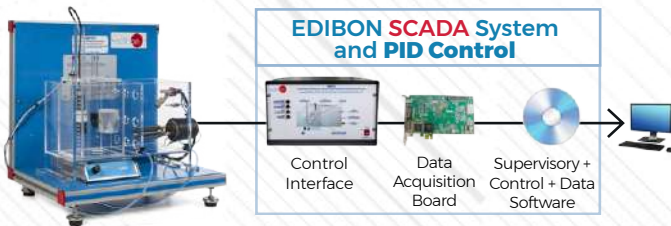
QDTGC. Computer Controlled Gaseous Mass Transfer and Diffusion Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
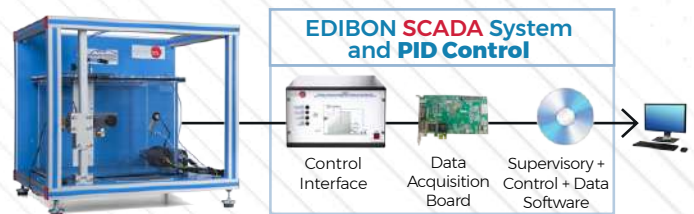
11.1.7. DRYING AND COOLING

TTEC. Computer Controlled Bench Top Cooling Tower
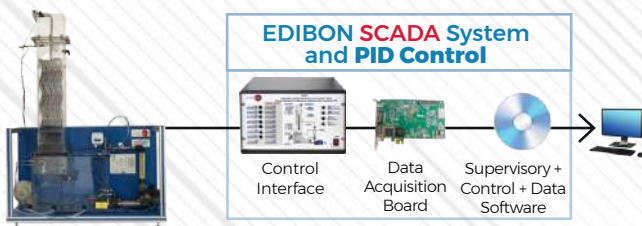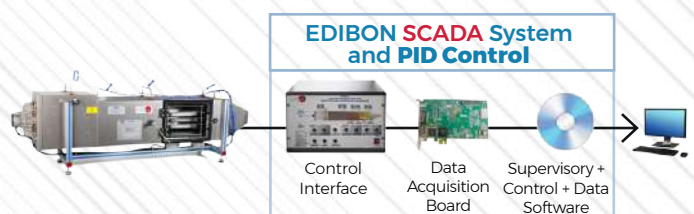
EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

SBANC. Computer Controlled Tray Drier

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

11. CHEMICAL ENGINEERING

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SSPC. Computer Controlled Spray Drier

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

SDCC. Computer Controlled Spray Dryer and Chiller Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
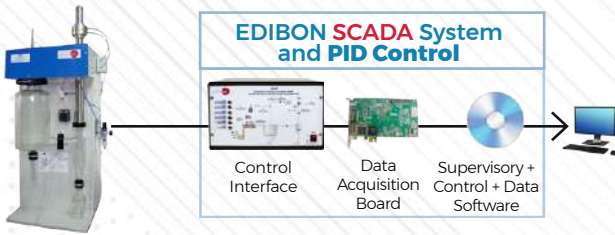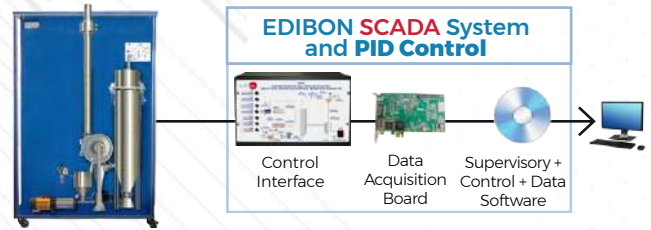
BLIO. Freeze Dryer

11.1.8. ABSORPTION AND ADSORPTION

CAGC. Computer Controlled Gas Absorption Column

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
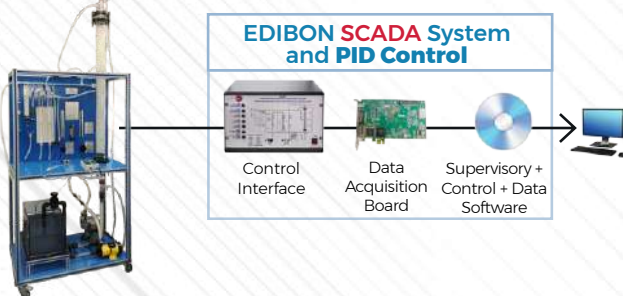
CAPC. Computer Controlled Wetted Wall Gas Absorption Column

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
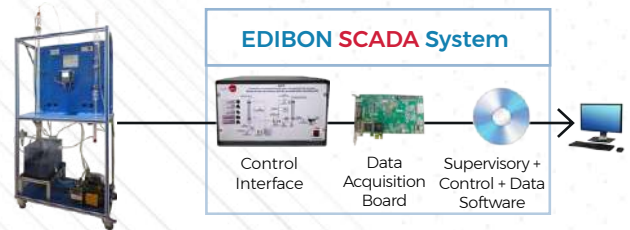
LPSA. Laboratory Scale Pressure Swing Adsorption Unit
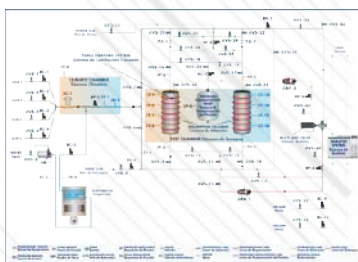
QALFC. Computer Controlled Fixed Bed Adsorption Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
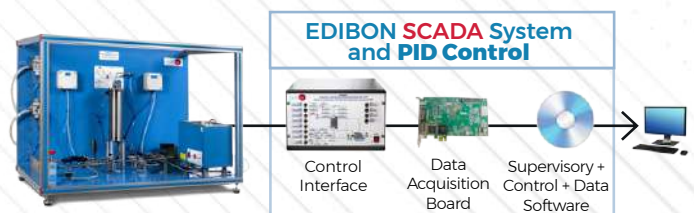
QSAC. Computer Controlled Adsorptive Air Drying Unit
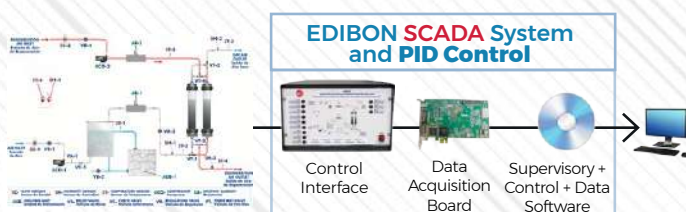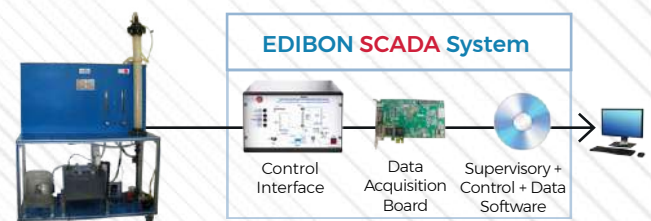
EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PLGC. Computer Controlled Gas Washing Processing Plant

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

11. CHEMICAL ENGINEERING

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FPCC. Computer Controlled Unit to Study Flow through Packed Columns

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PEAC. Computer Controlled Adsorption Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
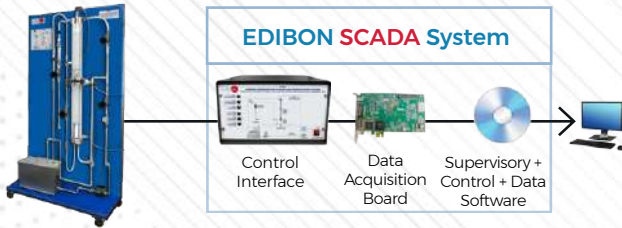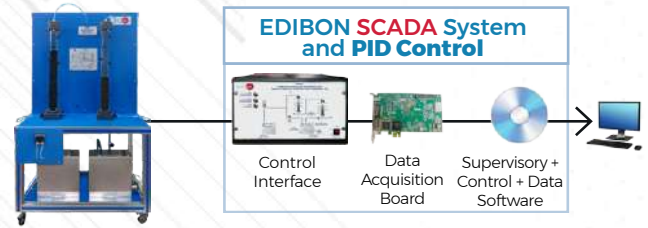
11.1.9. ION EXCHANGE AND CORROSION

EECC. Computer Controlled Corrosion Study Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

EIIC. Computer Controlled Ion Exchange Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
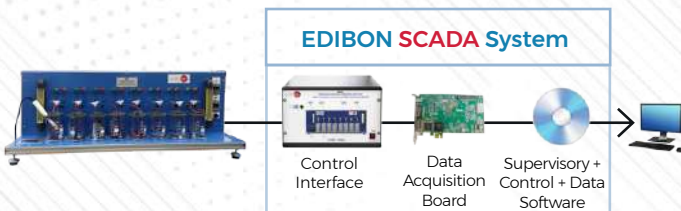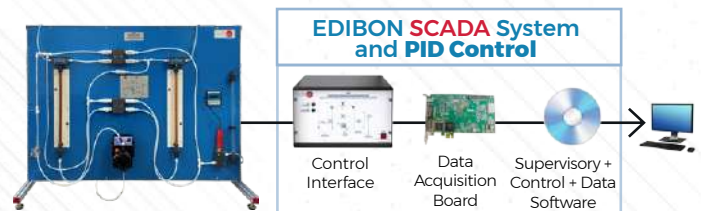
11.1.10. CRYSTALLIZATION AND PYROLYSIS

QUCC. Computer Controlled Crystallization Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

EPIRC. Computer Controlled Pyrolysis Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
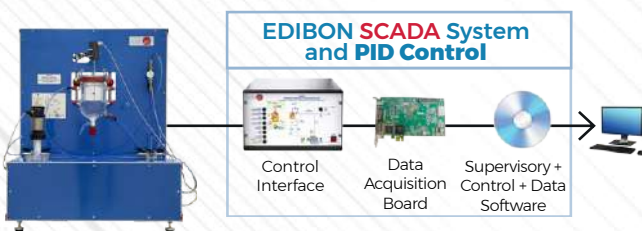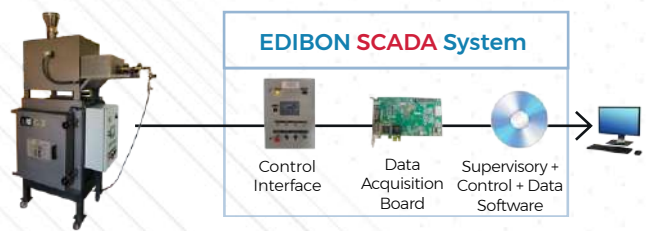
11.1.11. FILTRATION, SEDIMENTATION AND MIXING

SCS/60/CTS. Computer Controlled and Touch Screen 60 l Semicontinuous Centrifugal Separator

SISTEMA PATENTADO · EDIBON PATENT · PATENTED SYSTEM

EDIBON SCADA System

PLC interface + HMI control box and display — Supervisory + Control + Data Software
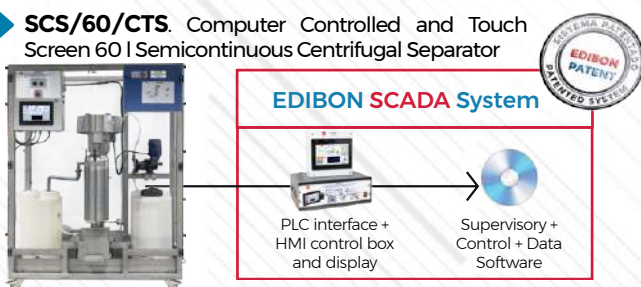
TFUC. Computer Controlled Continuous and Batch Filtration Unit
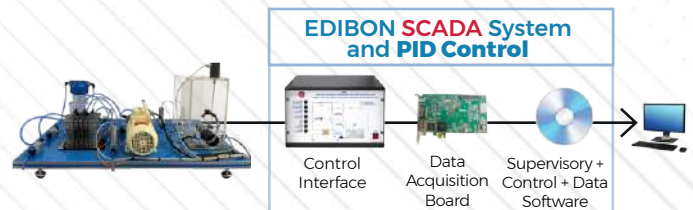
EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

AFPMC. Computer Controlled Plate and Frame Filter Press

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

EFLPC. Computer Controlled Deep Bed Filter Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

11. CHEMICAL ENGINEERING

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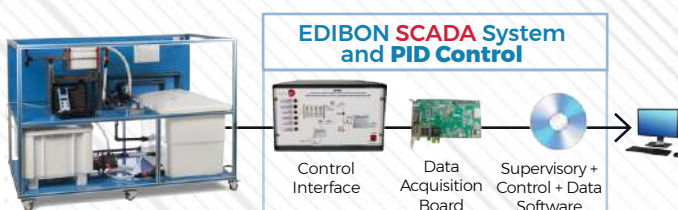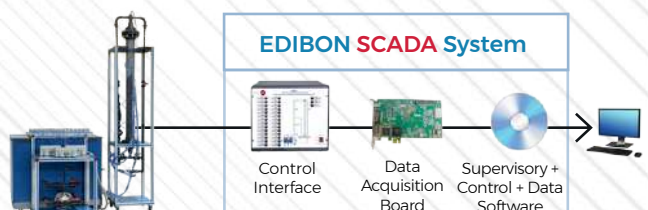
ESED. Sedimentation Study Unit

PDSC. Computer Controlled Sedimentation Tank
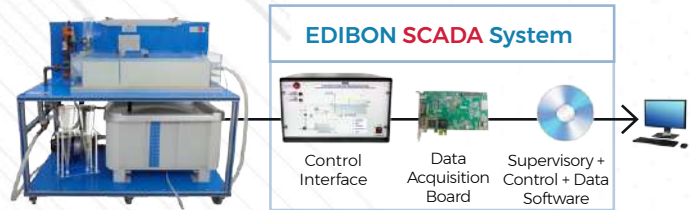
EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PDFDC. Computer Controlled Drainage and Seepage Tank

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

ROUC. Computer Controlled Reverse Osmosis/Ultrafiltration Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
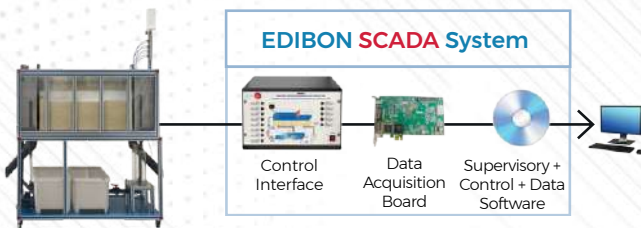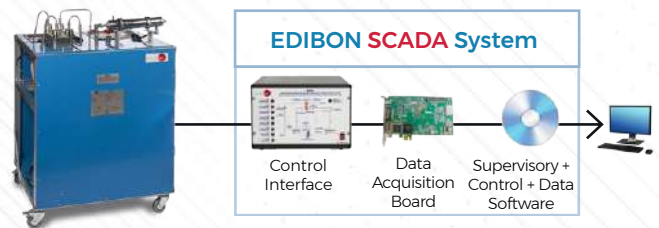
EMLS. Liquid/Solid Mixing Unit

QCDIC. Computer Controlled Disc Centrifuge

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PFTC. Computer Controlled Drum Cell Filter

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PSMC. Computer Controlled Magnetic Separation Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PSNC. Computer Controlled Gas Flow Classification Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PCGC. Computer Controlled Gas Cyclone

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

11. CHEMICAL ENGINEERING

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PHCC. Computer Controlled Hydrocyclone

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

HTSC. Computer Controlled Horizontal Three-phase Separator

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
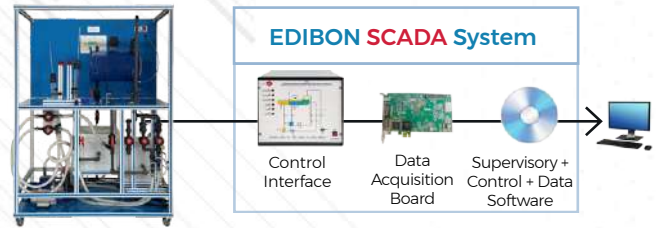
VTSC. Computer Controlled Vertical Three-phase Separator

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
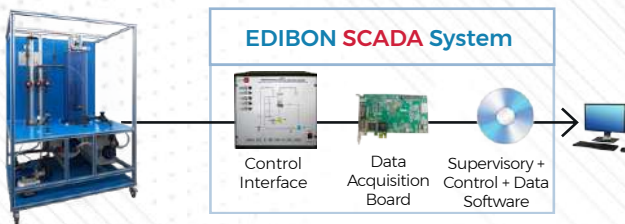
11.1.12. SOLIDS TREATMENT

QMS. Solids Handling Study Unit

11.2. CHEMICAL REACTORS

ACCR/20/CTS. Computer Controlled and Touch Screen 20 l Anti-Corrosive Circulation Reactor

EDIBON SCADA System

PLC interface + HMI control box and display — Supervisory + Control + Data Software

Some **SOFTWARE RESULTS** screens

11. CHEMICAL ENGINEERING

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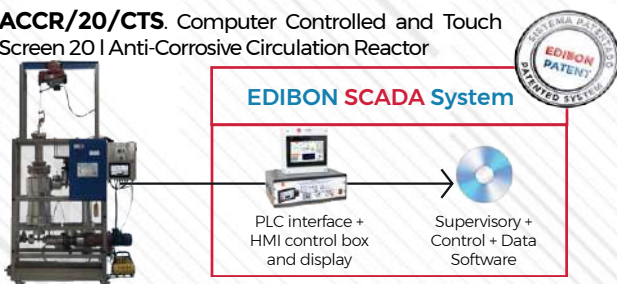
QRQC. Computer Controlled Chemical Reactors Training System

EDIBON SCADA System and PID Control

Control Interface → Data Acquisition Board → Supervisory + Control + Data Software → 🖥️

QRUBI. Base and Service Unit for QRQC
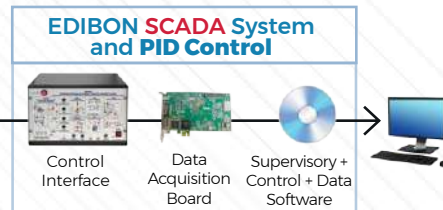
★ *REQUIRED ELEMENTS FOR QRUBI (At least one is required):*

QRIA. Isothermal Reactor with Stirrer

QRIA/D. Isothermal Reactor with Stirrer and Distillation

QRFT. Tubular Flow Reactor

QRAD. Adiabatic and Isothermal Reactor

QRSA. Reactors with Stirrer in Series
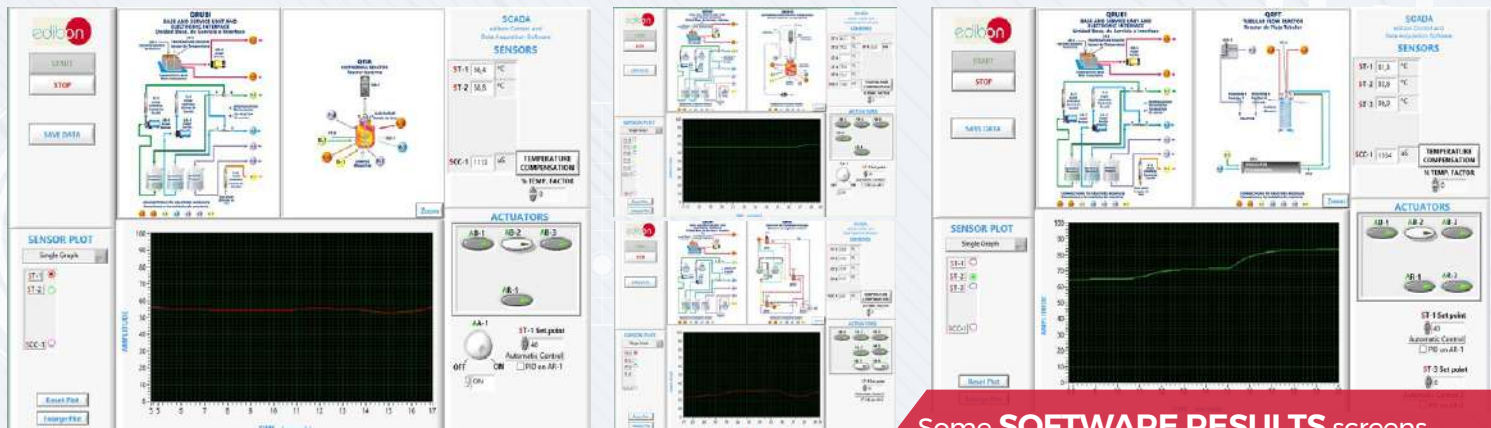
Some **SOFTWARE RESULTS** screens

11. CHEMICAL ENGINEERING

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QRC. Computer Controlled Chemical Reactors

EDIBON SCADA System and PID Control

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

QUSC. Base and Service Unit for QRC
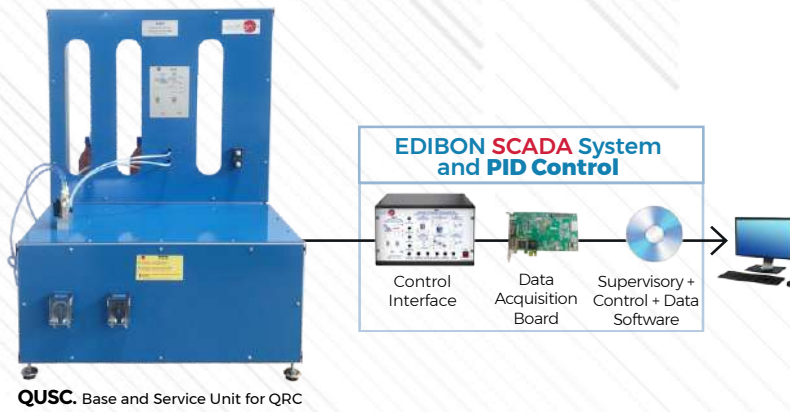
★ *REQUIRED ELEMENTS FOR QUSC (At least one is required):*

QRCAC. Computer Controlled Continuous Stirred Tank Reactor for QRC

QRTC. Computer Controlled Tubular Flow Reactor for QRC
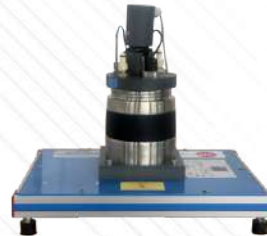
QRDC. Computer Controlled Batch Reactor for QRC

QRSC. Computer Controlled Stirred Tank Reactors in Series for QRC

QRLC. Computer Controlled Laminar Flow Reactor for QRC

QRPC. Computer Controlled Plug Flow Reactor for QRC

Some **SOFTWARE RESULTS** *screens*

11. CHEMICAL ENGINEERING

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QRCC. Computer Controlled Catalytic Reactors

EDIBON SCADA System and PID Control

Control Interface → Data Acquisition Board → Supervisory + Control + Data Software →
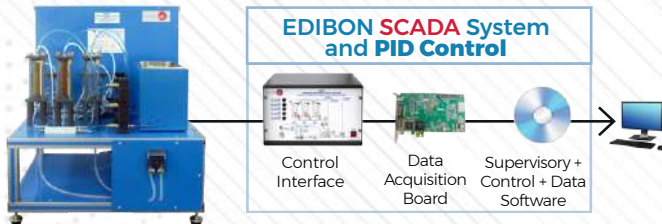
QRCC-IF. Computer Controlled Flow Injection Analysis (FIA) Unit

Some **SOFTWARE RESULTS** screens

QRALC. Computer Controlled Airlift Reactor

EDIBON SCADA System

Control Interface → Data Acquisition Board → Supervisory + Control + Data Software →
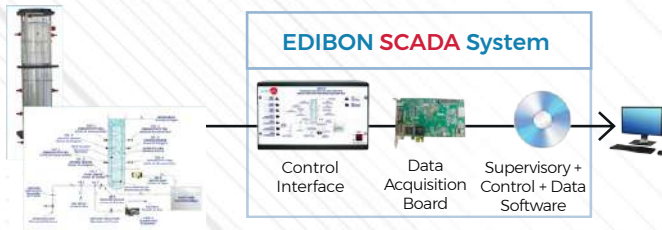
QREC. Computer Controlled Batch Enzyme Reactor

EDIBON SCADA System and PID Control

Control Interface → Data Acquisition Board → Supervisory + Control + Data Software →

Some **SOFTWARE RESULTS** screens

11. CHEMICAL ENGINEERING

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FOOD & WATER TECHNOLOGIES

12.1. FOOD TECHNOLOGY

SBANC. Computer Controlled Tray Drier

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

SSPC. Computer Controlled Spray Drier

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

SDCC. Computer Controlled Spray Dryer and Chiller Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

VPMC. Computer Controlled Multipurpose Processing Vessel

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

ROUC. Computer Controlled Reverse Osmosis/ Ultrafiltration Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

AFPMC. Computer Controlled Plate and Frame Filter Press

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

AEHC. Computer Controlled Hydrogenation Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

AEDC. Computer Controlled Deodorizing Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

12. FOOD & WATER TECHNOLOGIES

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AEDC/A. Advanced Computer Controlled Deodorizing Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PACC. Computer Controlled Continuous Cycle Oil Production Plant

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

EDLC. Computer Controlled Liquid Packaging Teaching Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

EDSC. Computer Controlled Solids Packaging Teaching Unit
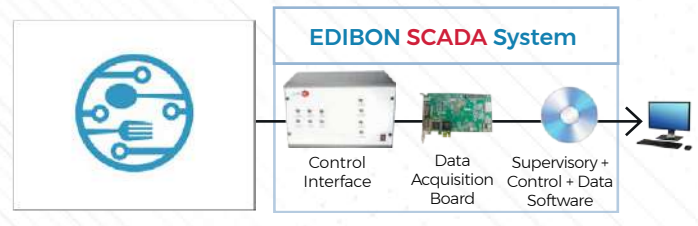
EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

QEDC. Computer Controlled Batch Solvent Extraction and Desolventising Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TFDC. Computer Controlled Teaching Frigorific Tank

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TPCC. Computer Controlled Contact Plate Freezer

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
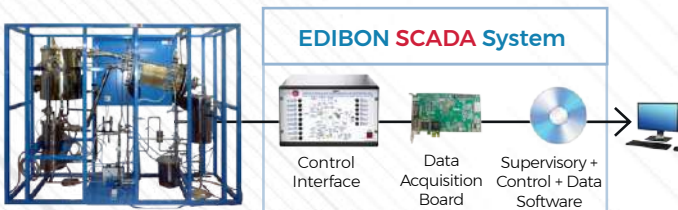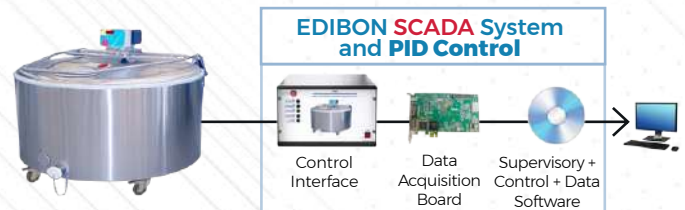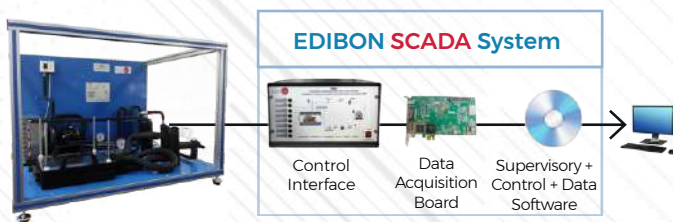
BLIO. Freeze Dryer

12.2. DAIRY PRODUCTS TREATMENT

DSNC. Computer Controlled Teaching Cream Separator
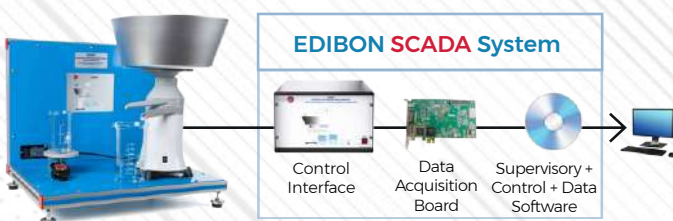
EDIBON SCADA System
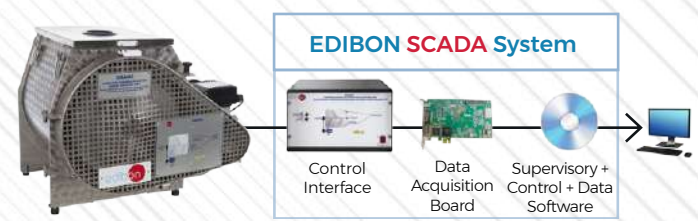
Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

EMANC. Computer Controlled Butter Maker Teaching Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

12. FOOD & WATER TECHNOLOGIES

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AUHT/CTS. Computer Controlled and Touch Screen UHT Unit

EDIBON SCADA System and PID Control

PLC interface + HMI control box and display → Supervisory + Control + Data Software

PADC. Computer Controlled Teaching Autonomous Pasteurization Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
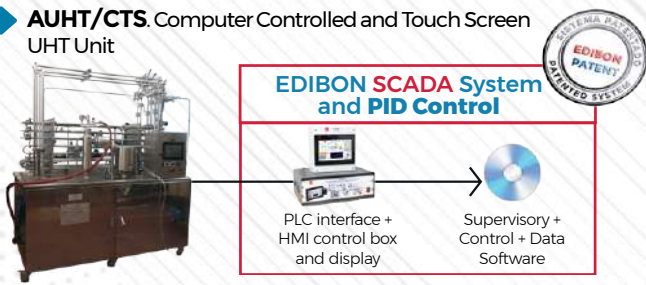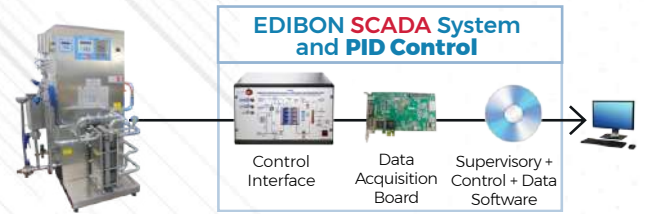
PASC. Computer Controlled Laboratory Pasteurizer
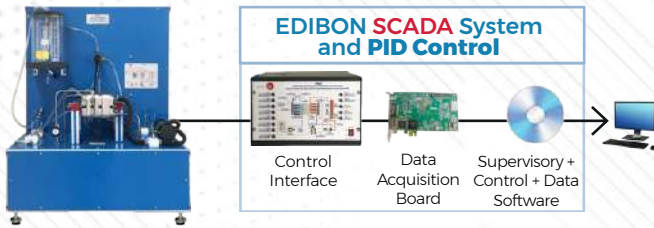
EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

CCDC. Computer Controlled Teaching Curdling Tank

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PVQC. Computer Controlled Teaching Cheese Press

EDIBON SCADA System

Data Acquisition Board — Supervisory + Control + Data Software
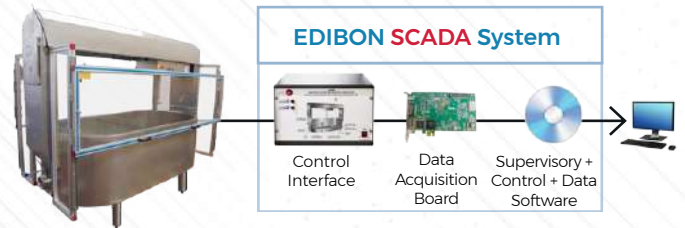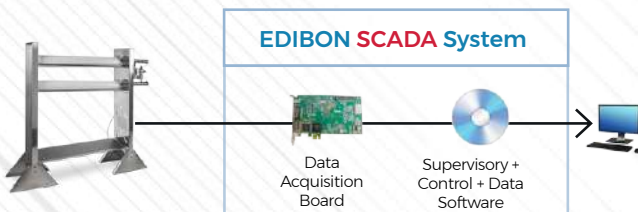
DVCP. Dutch Vat for Cheese Production (until 50l)

IYDC. Computer Controlled Teaching Yogurt Incubator

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

RDC. Computer Controlled Teaching Cottage Cheese Maker

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
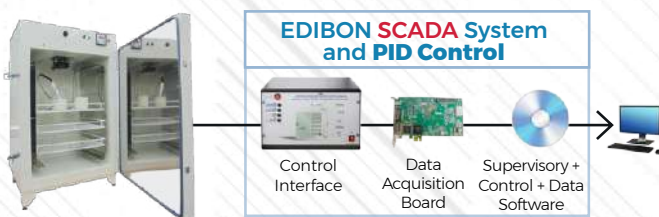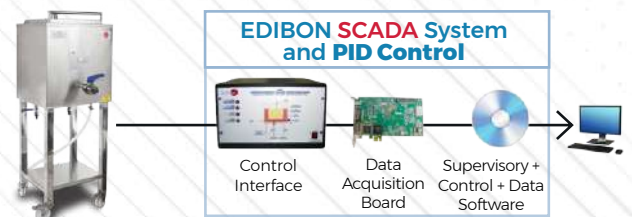
AEQC. Computer Controlled Cheese Vat

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
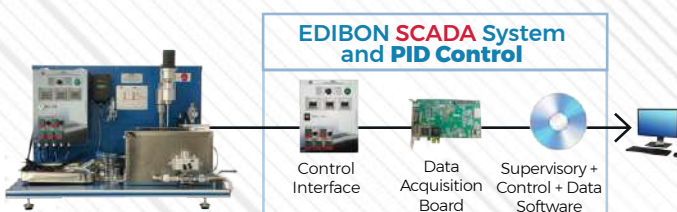
FQDC. Computer Controlled Teaching Cheese Melter

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

12. FOOD & WATER TECHNOLOGIES

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EDLC. Computer Controlled Liquid Packaging Teaching Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
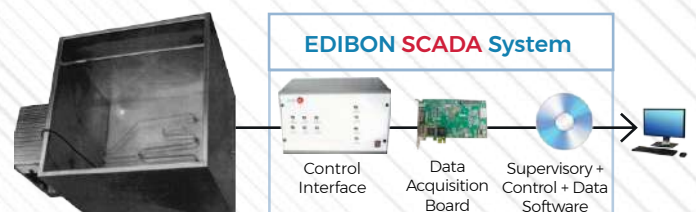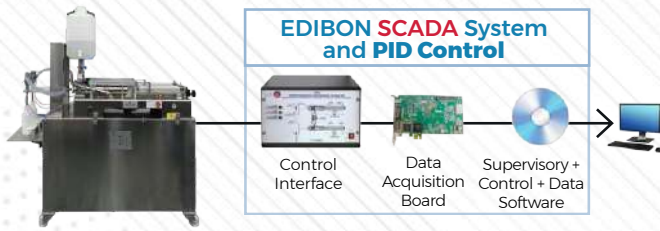
12.3. DRINKING WATER TREATMENT

PEFC. Computer Controlled Flocculation Test Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PEAIC. Computer Controlled Aeration Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

EFLPC. Computer Controlled Deep Bed Filter Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

EIIC. Computer Controlled Ion Exchange Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PCCAC. Computer Controlled Water Quality Control Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

SPFC. Computer Controlled Sedimentation, Precipitation and Flocculation Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

ROUC. Computer Controlled Reverse Osmosis/Ultrafiltration Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PEAC. Computer Controlled Adsorption Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

12. FOOD & WATER TECHNOLOGIES

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PFADC. Computer Controlled Dissolved Air Flotation Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PPBC. Computer Controlled Biofilm Process Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PPTAC/1. Computer Controlled Water Treatment Plant 1

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PPTAC/2. Computer Controlled Water Treatment Plant 2

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

Some **SOFTWARE RESULTS** screens

12. FOOD & WATER TECHNOLOGIES

13 ENVIRONMENT

13.1. HYDROLOGY AND HYDROGEOLOGY

▶ **ESHC(4x2m)**. Computer Controlled Hydrologic Systems, Rain Simulator and Irrigation Systems Unit (4x2 m)

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
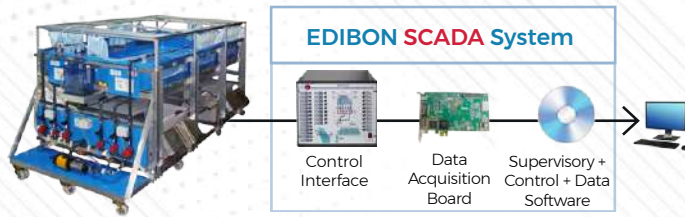
▶ **ESHC(2x1m)**. Computer Controlled Hydrologic Systems, Rain Simulator and Irrigation Systems Unit (2x1 m)

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
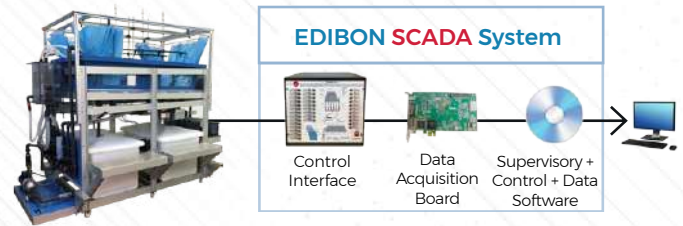
▶ **ESHC(2x1m)/S**. Computer Controlled Hydrologic Studies Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
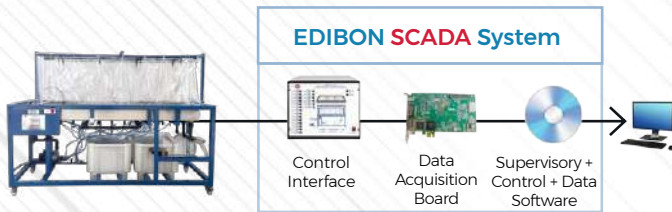
▶ **RHU**. Rainfall Hydrographs Unit

▶ **RSESC**. Computer Controlled Rainfall Simulator for Soil Erosion Studies

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
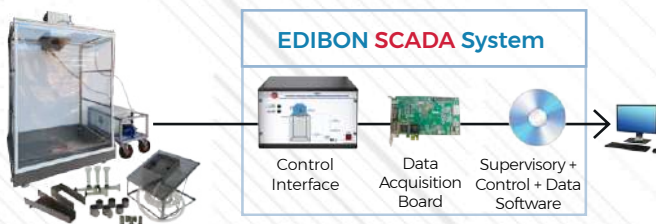
▶ **RFS**. River Flow Simulator

▶ **HVFLM-2**. Mobile Bed and Flow Visualization Unit (working section: 2000X610 mm)

▶ **HVFLM-4**. Mobile Bed and Flow Visualization Unit (working section: 4000x610 mm)

13. ENVIRONMENT

edibon
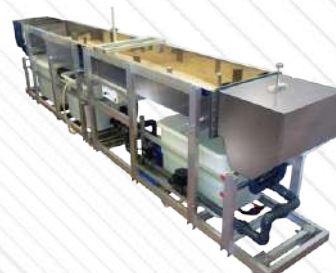
CAS. Sediment Transport Demonstration Channel

PDFDC. Computer Controlled Drainage and Seepage Tank

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
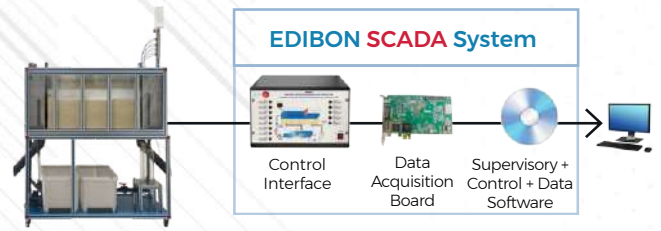
PTSA. Soil/Water Model Tank

EFAS. Ground Water Flow Unit

PAHSC. Computer Controlled Soil Moisture Suction Sand Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
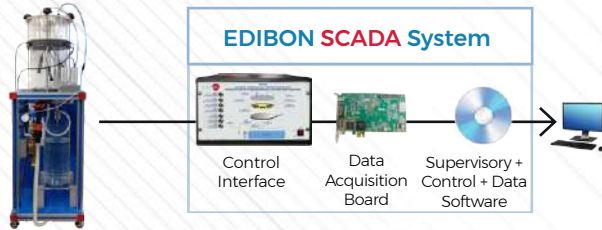
PL. Demonstration Lysimeter

PPD. Drain Permeameter

PEIFC. Computer Controlled Filterability Index Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PEFPC. Computer Controlled Permeability/Fluidisation Studies Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
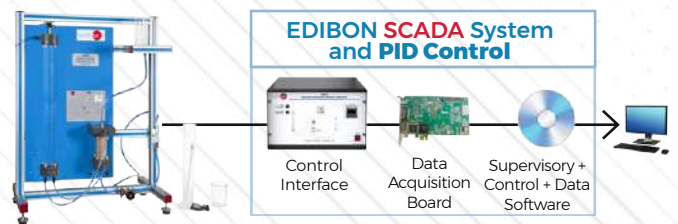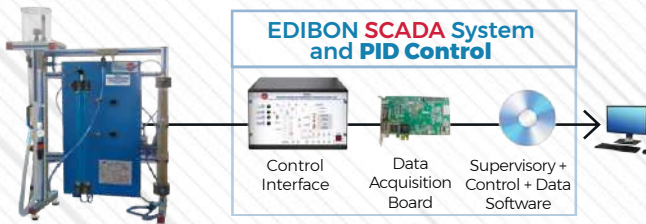
PEDI. Demonstration Infiltration Unit

13. ENVIRONMENT

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PDSC. Computer Controlled Sedimentation Tank

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
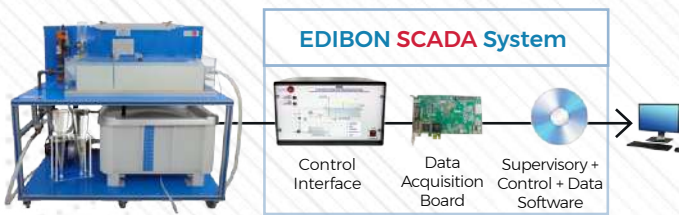
ESED. Sedimentation Study Unit

13.2. ENVIRONMENTAL POLLUTION

PLGC. Computer Controlled Gas Washing Processing Plant
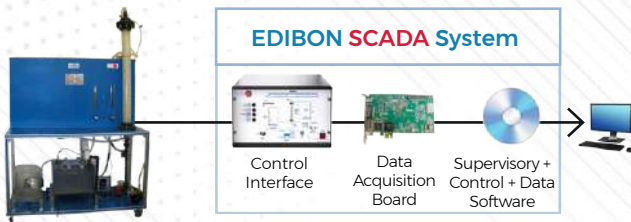
EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PSNC. Computer Controlled Gas Flow Classification Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PCGC. Computer Controlled Gas Cyclone

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

EPIRC. Computer Controlled Pyrolysis Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

ROUC. Computer Controlled Reverse Osmosis/ Ultrafiltration Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
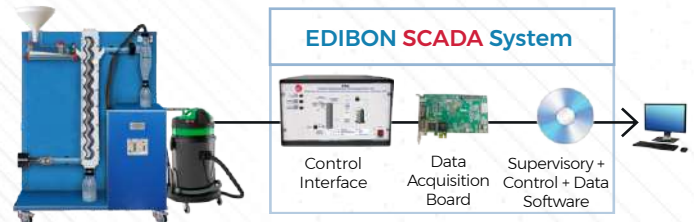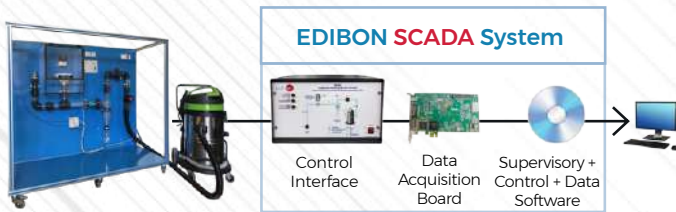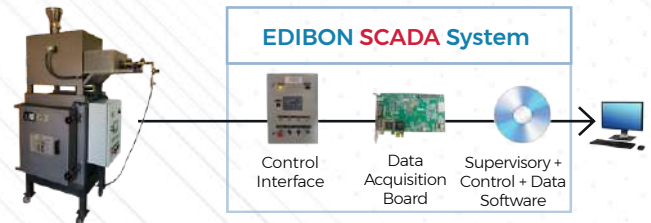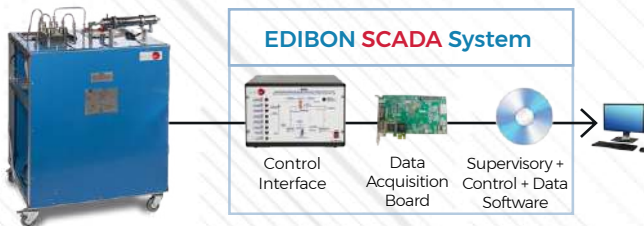
13.3. WASTEWATER TREATMENT

SCS/60/CTS. Computer Controlled and Touch Screen 60 l Semicontinuous Centrifugal Separator

EDIBON SCADA System

PLC interface + HMI control box and display — Supervisory + Control + Data Software
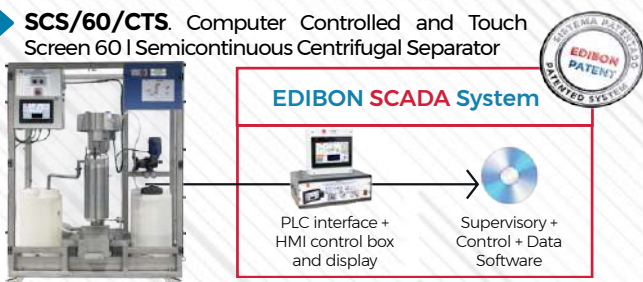
PDAC. Computer Controlled Aerobic Digester

EDIBON SCADA System and **PID Control**

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

13. ENVIRONMENT

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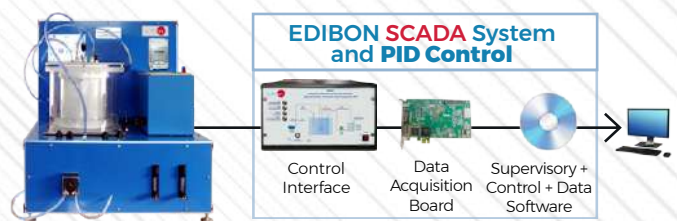
PDANC. Computer Controlled Anaerobic Digester

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PEFC. Computer Controlled Flocculation Test Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PEAIC. Computer Controlled Aeration Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

EFLPC. Computer Controlled Deep Bed Filter Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

EIIC. Computer Controlled Ion Exchange Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PCCAC. Computer Controlled Water Quality Control Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

SPFC. Computer Controlled Sedimentation, Precipitation and Flocculation Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

POAC. Computer Controlled Advanced Oxidation Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PEAC. Computer Controlled Adsorption Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

PHCC. Computer Controlled Hydrocyclone

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

13. ENVIRONMENT

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▶ **PFTC**. Computer Controlled Drum Cell Filter

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

▶ **QCDIC**. Computer Controlled Disc Centrifuge

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

▶ **PPTAC/1**. Computer Controlled Water Treatment Plant 1

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

▶ **PPTAC/2**. Computer Controlled Water Treatment Plant 2

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

▶ **PFADC**. Computer Controlled Dissolved Air Flotation Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

▶ **PPFAC**. Computer Controlled Activated Sludge Process Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

▶ **PPBC**. Computer Controlled Biofilm Process Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
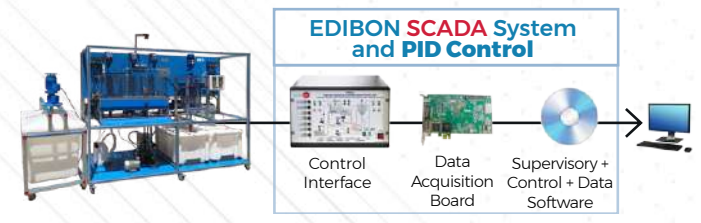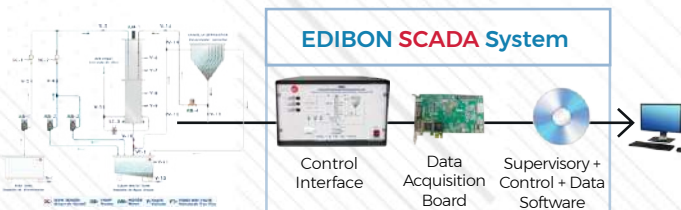
13.4. RECYCLING

▶ **PSMC**. Computer Controlled Magnetic Separation Unit
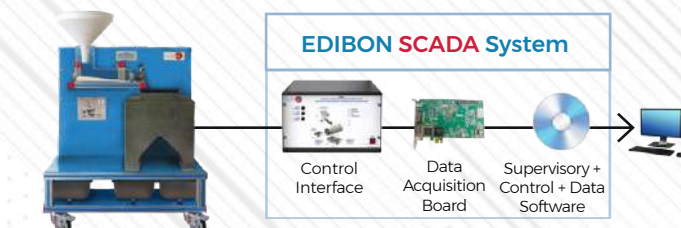
EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

13. ENVIRONMENT

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BIOMEDICAL ENGINEERING

14.1. BIOMECHANICS

14.1.1. MECHANICS FUNDAMENTALS KITS
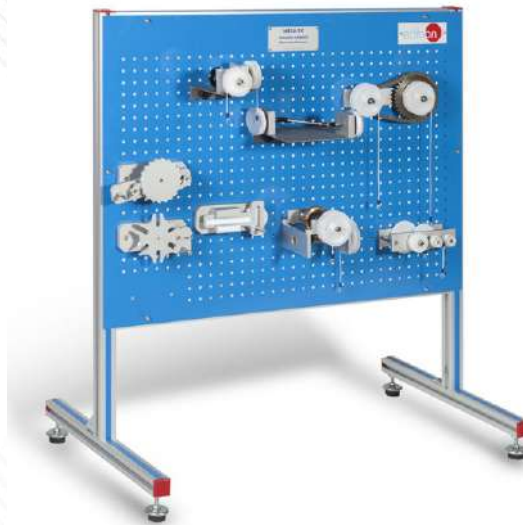
LIMEBA. Basic Mechanics Integrated Laboratory

MECA/EC. Panel and Common Elements Case for LIMEBA

★ **REQUIRED ELEMENTS FOR MECA/EC** *(At least one is required):*

MECA1. Statics Experiments

MECA2. Load Elevation Mechanisms Experiments

MECA3. Transmissions Experiments

MECA4. Dynamics Experiments

MECA5. Friction Experiments

MECA6. Special Mechanisms Experiments

edibon

14.1.2. SIMPLE MACHINES

14.1.2.1. MECHANISMS

MBD. Slider Crank Mechanism

MYE. Scotch Yoke Mechanism

MBM1. Slotted Link Mechanism

MBM2. Whitworth Quick Return Mechanism

MCA. Four-Bar Mechanism

MME. Geneva Stop Mechanism

MAC. Coupling Mechanism

MUN. Hooke's Joint Mechanism

MEX. Cam and Follower Mechanism

MBI. Crank Mechanism

14. BIOMEDICAL ENGINEERING

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MDA. Ackermann Steering Mechanism

MMEL. Winch Mechanism

MBLU. Bar Linkages Unit

14.1.2.2. GEARS

MTSF. Worm and Wheel Unit

MAE. Acceleration of Geared System Unit

MSDA. Simple Drives Assembly Unit

MCDA. Combined Drives Assembly Unit

MGTA. Gear Train Assembly Unit

MGE. Gear Generation Unit

14. BIOMEDICAL ENGINEERING

edibon
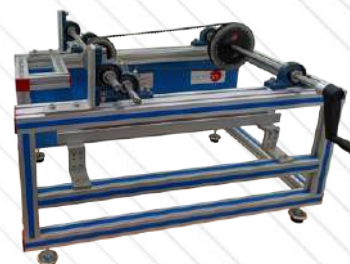
MEE. Geared Lifting Unit
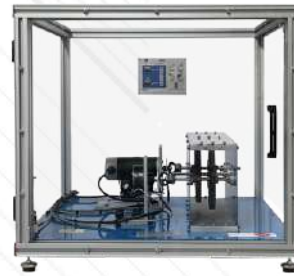
MESE-T. Geared Study

MESE. Geared Study Drive Unit

KSGT. Unit for the Kinematic Study of Gear Trains

14.1.3. STATICS AND DYNAMICS

MEMB2. Unit for studying Equilibrium of Moments on a Two Arm Lever

MBMRC. Computer Controlled Balance of Reciprocating Masses Unit

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

MEAL. Cam Analysis Unit

MDFC. Coriolis Force Demonstration Unit

MFCE. Centrifugal Force Unit

MGI. Gyroscope

14. BIOMEDICAL ENGINEERING

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CGU. Centrifugal Governor Unit

MED. Static and Dynamic Balancing Unit

MES. Simple Balancing Unit

MIF. Inertia Flywheel Unit

MRYE1. Wheel and Axle Unit

MRYE2. Wheel and Differential Axle Unit

MELH. Unit for studying Hooke´s Law

MSHU. Simple Harmonic Motion Unit

SRI. Unit to Study Rotational Inertia

14. BIOMEDICAL ENGINEERING

edibon

14.1.4. VIBRATIONS AND OSCILLATIONS

MEVTC. Computer Controlled Torsional Vibration Unit

EDIBON SCADA System

MVRE. Vibration of Coil Spring Unit

MVL. Free Vibration Unit

MVLF. Free & Forced Vibration Unit

MEVLB. Unit for Studying Free Vibration of a Bar

MSHU. Simple Harmonic Motion Unit

MOT. Torsional Oscillations Unit

MVCC. Computer Controlled Critical Speed Investigation Unit

EDIBON SCADA System

MEER. Whirling of Shafts Unit

14. BIOMEDICAL ENGINEERING

edibon

14.1.5. TRIBOLOGY (FRICTION, WEAR, LUBRICATION)

MCF. Belt Friction Unit

MEF. Friction Study Unit

MPCO. Journal Bearing Unit

MEMT. Tribology Modular Unit

Complete configuration example for MEMT

MEMT-UB. Drive Unit for Tribological Tests

MEMT-1. Radial Pressure Distribution in a Journal Bearing

MEMT-2. Dynamic Friction of a Cylinder on a Roller

MEMT-3. Dynamic Friction of a Pin on a Disc

MEMT-4. Rolling Friction in Wheels

MEMT-5. Elastohydrodynamic Lubrication

MEMT-6. Friction Vibration

14. BIOMEDICAL ENGINEERING

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MCD. Thin Cylinder Unit

MBF. Unit for Studying Bearing Friction

MCF/A. Belt Friction Unit with Dynamometers

MCPG. Thick Walled Cylinder Unit

14.1.6. STRUCTURAL MECHANICS

MFPG. Unit for studying Forces in a Jib Crane

MVS. Suspension Bridge Unit

MARP. Parabolic Arch Unit

MART. Three-Hinged Arch Unit

MFBS. Unit for Studying Forces in a Simple Bar Structure

MFCS1. Unit for studying Forces in Different Single Plane Trusses

edibon
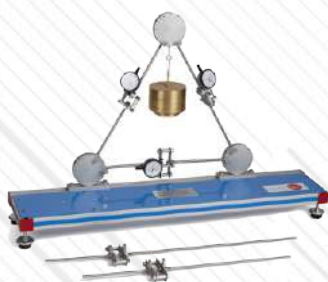
MFCS2. Unit for studying Forces in an Overdeterminate Truss

MFCS3. Unit for studying Deformation of Trusses

MFL. Two Hinged Arch Unit

MPO. Portal Frame Unit

STH. Stress Hypotheses Unit

MEPE. Simple Stability Problems Study Unit

MDLE. Unit for studying Methods to Determine the Elastic Line
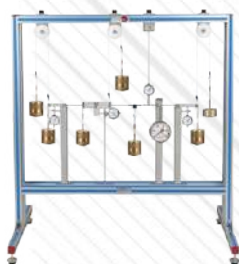
MCD. Thin Cylinder Unit

SSM. Unit to Study Stress on a Membrane

MVV. Unsymmetrical Cantilever Unit

14. BIOMEDICAL ENGINEERING

edibon

MDB. Deflection of Curved Bars Unit

MFV. Beam Deflection Unit

MFLT. Strut Buckling Unit

MUP. Universal Buckling Unit

MMF. Shear Force and Bending Momentum Unit

14.1.7. PHOTOELASTICITY AND STRAIN MEASUREMENT

EFOC. Computer Controlled Photoelasticity Unit

EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

MEGE. Strain Gauge Training Unit

MFGE. Unit for Determining the Gauge Factor of Strain Gauges

PSD. Photoelastic Stress Demonstration Unit

14. BIOMEDICAL ENGINEERING

edibon
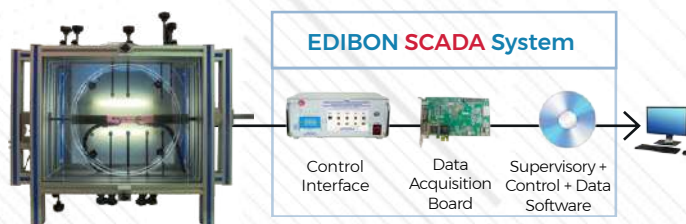
14.1.8. MECHANICAL TESTS

EEU/20KN. Universal Material Testing Unit

EEDB. Brinell Hardness Testing Unit

EBVR. Brinell, Vickers & Rockwell Hardness Testing Unit

EEFCR. Creep Testing Unit

EEFC. Computer Controlled Fatigue Testing Unit
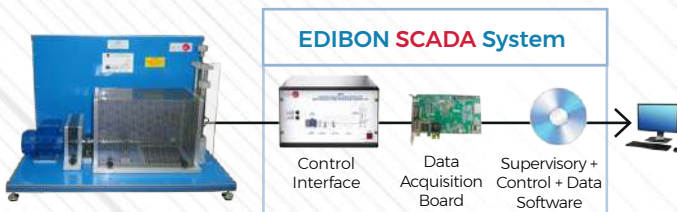
EDIBON SCADA System

Control Interface

Data Acquisition Board

Supervisory + Control + Data Software

EEICI. Charpy and Izod Impact Testing Unit

MUP. Universal Buckling Unit

MFLT. Strut Buckling Unit

MEBM. Euler Buckling Modes Unit

MTP. Torsion and Bend Unit

14. BIOMEDICAL ENGINEERING

edibon

MTB. Torsion Unit

MTT. Torsion Test Unit (30Nm)

MTTU. Tensile Tester Unit

14.1.9. THERMAL AND ACOUSTIC TESTS

TIAC. Computer Controlled Acoustic Impedance Tube/ Acoustic Insulation Test Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TDRC. Computer Controlled Noise Control Demonstration Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

TCMC. Computer Controlled Thermal Conductivity of Building and Insulating Materials Unit

EDIBON SCADA System

Data Acquisition Board — Supervisory + Control + Data Software

14. BIOMEDICAL ENGINEERING

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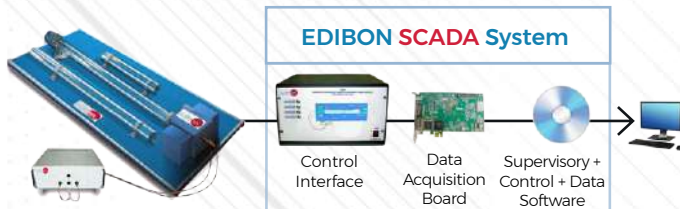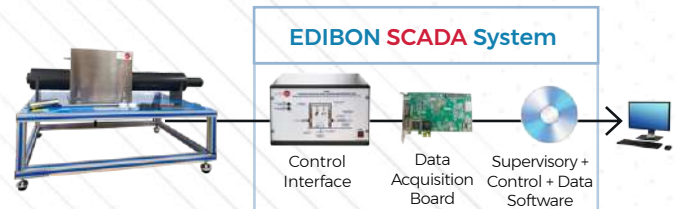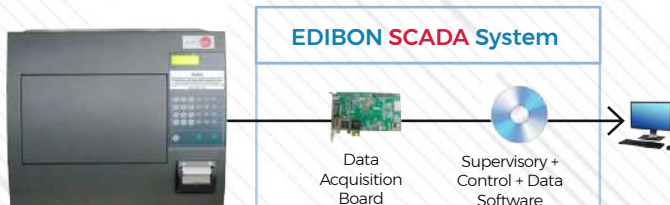
14.2.1. THEORETICAL-PRACTICAL FUNDAMENTALS

14.2.1.1. BASIC ELECTRICAL LAWS CONCEPTS

LIEBA. Basic Electronics and Electricity Laboratory

Complete configuration example for LIEBA

N-M1. Direct Current (DC) Circuits Module.

N-M2. Alternating Current (AC) Circuits Module.

N-M16. Electric Networks Module.

N-M17. Electromagnetism Module.

N-M18. Three-phase Circuits Module.

N-M16. Electric Networks Module.

14.2.1.2. ANALOG ELECTRONICS

LIEBA. Basic Electronics and Electricity Laboratory

N-M6. Oscillators Module.

N-M7. Operational Amplifiers Module.

N-M8. Filters Module.

N-M6. Oscillators Module.

14.2.1.3. DIGITAL ELECTRONICS

LIEBA. Basic Electronics and Electricity Laboratory

N-M60. Analog/Digital Converters Module.

N-M61. Digital/Analog Converters Module.

N-M10. Digital Systems & Converters Module.

N-M11. Digital Electronics Fundamentals Module.

N-M12. Basic Combinational Circuits Module.

N-M13. Basic Sequential Circuits Module.

N-M12. Basic Combinational Circuits Module.

14. BIOMEDICAL ENGINEERING

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CADDA. Computer Controlled A/D and D/A Converters Unit

EDIBON SCADA System

Data Acquisition Board → Supervisory + Control + Data Software

TDS. Computer Controlled Teaching Unit for the Study of Digital Signal Processing

EDIBON SCADA System

Data Acquisition Board → Supervisory + Control + Data Software
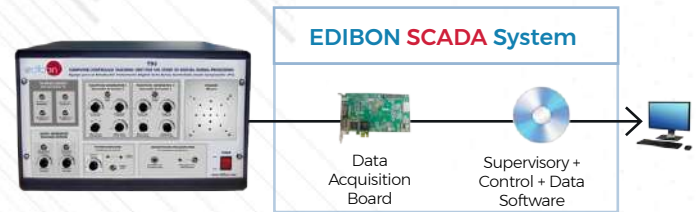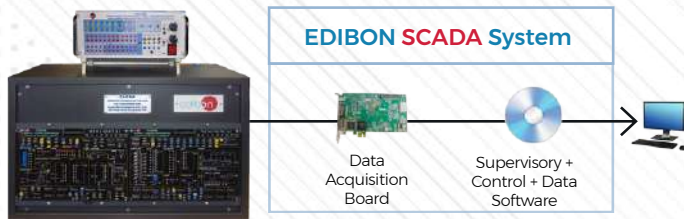
14.2.1.4. SEMICONDUCTORS

LIEBA. Basic Electronics and Electricity Laboratory

N-M3.	Semiconductors I Module.
N-M4.	Semiconductors II Module.
N-M14.	Optoelectronics Module.

N-M14. Optoelectronics Module.

14.2.1.5. INSTRUMENTATION AND CONTROL

LIEBA. Basic Electronics and Electricity Laboratory

M44.	Applications of Light.
M45.	Linear Position and Force.
M46.	Environmental Measurements.
M47.	Rotational Speed & Position Control.
M48.	Sound Measurements.
N-M49.	Applications of Temperature and Pressure Module.

M46. Environmental Measurements.

14.2.1.6. POWER ELECTRONICS

LIEBA. Basic Electronics and Electricity Laboratory

N-M9.	Power Electronics Module.
N-M5.	Power Supplies Module.

N-M9. Power Electronics Module.

14. BIOMEDICAL ENGINEERING

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SAIT. Transducers and Instrumentation Unit

EDAS/VIS: EDIBON Data Acquisition System and Virtual Instrumentation

Control Interface Box

Data Acquisition Board

Supervisory + Control + Data Software

RYC/B. Basic Teaching Unit for the Study of Regulation and Control

RYC/T. Computer Controlled Modular Control and Regulation Unit

EDIBON SCADA System and PID Control

Data Acquisition Board

Supervisory + Control + Data Software

RYC. Computer Controlled Teaching Unit for the Study of Regulation and Control

★ *ADDITIONAL RECOMMENDED ELEMENTS FOR RYC*

RYC-BB. Ball and Beam Module

RYC-SM. DC Servo Motor Module

RYC-TAR. Air Flow Temperature Control Module

RYC-PI. Inverted Pendulum Control Module

RYC-CLM. Magnetic Levitation Control Module

RYC-TAG. Water Flow Temperature Control Module

RYC-TE. Temperature Control Module

RYC-P. Pressure Control Module

RYC-N. Level Control Module

RYC-C. Flow Rate Control Module

RYC-I. Luminosity Control Module

RYC-pH. pH Control Module

14. BIOMEDICAL ENGINEERING

RYC-CP. Position Control Module

Some **SOFTWARE RESULTS** screens

14.3. BIOMEDICAL EQUIPMENT

BIHBPC. Computer Controlled Biomedical Parameters and Biosignals Unit

EDIBON SCADA System

Data Acquisition Board — Supervisory + Control + Data Software

BIPBSC. Computer Controlled Biomedical Patient Biosignals Simulation Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
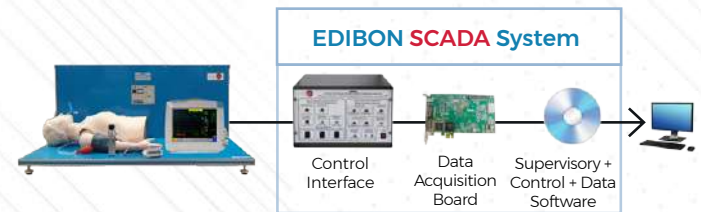
BISBC. Computer Controlled Biomedical Spirometry Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
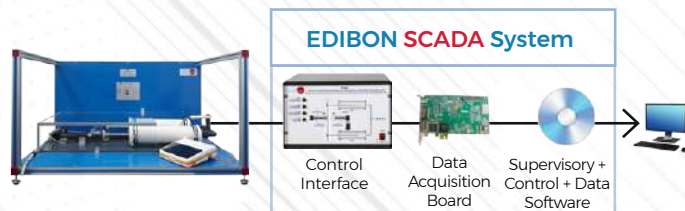
BICIR. Biomedical Electrosurgery Unit

BICSC. Computer Controlled Biomedical Circulatory System Unit

EDIBON SCADA System and PID Control

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
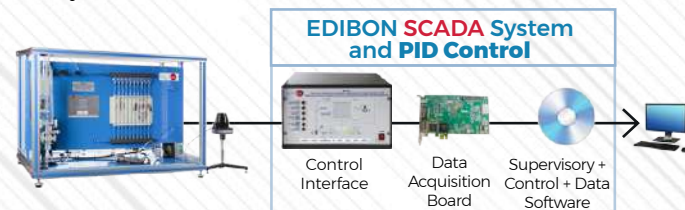
BIETC. Computer Controlled Biomedical Electrotherapy Unit

EDIBON SCADA System

Data Acquisition Board — Supervisory + Control + Data Software

14. BIOMEDICAL ENGINEERING

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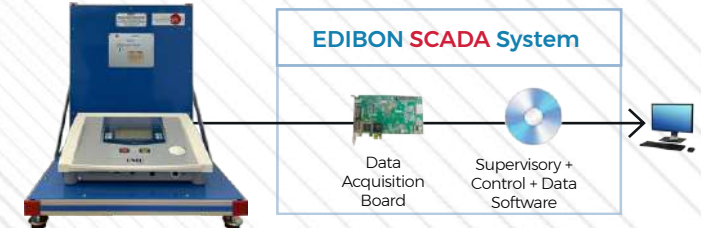
BIUTEC. Computer Controlled Biomedical Ultrasound Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
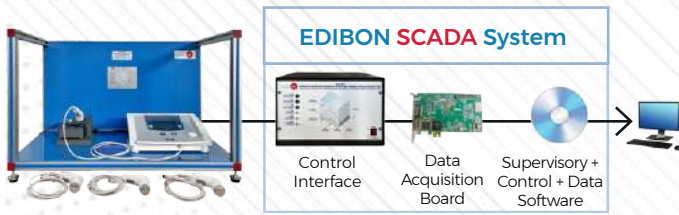
BIADC. Computer Controlled Biomedical Diagnosis and Auditory Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software
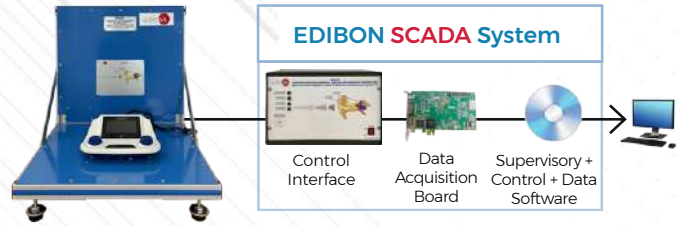
BIMAG. Biomedical Magnetotherapy Unit

BIMTE. Thermal Effects of Microwaves in Biomedicine Unit

BIEV. Computer Controlled Steam Sterilizer Unit

EDIBON SCADA System

Control Interface — Data Acquisition Board — Supervisory + Control + Data Software

14. BIOMEDICAL ENGINEERING

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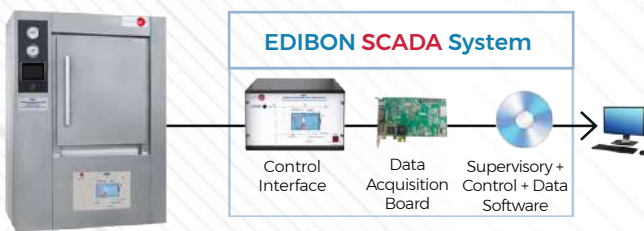
LABORATORY ACCESSORIES

▶ SERVICES MODULES

▶ TECHNICAL FOURNITURE

▶ INSTRUMENTATION

▶ MULTIMEDIA COMPLEMENTS

SERVICES MODULES

STEAM GENERATORS

▶ **TGV**. Steam Generator (3 kW)

▶ **TGV/6KW**. Steam Generator (6 kW)

▶ **TGV-6KWA**. Steam Generator (6 kW) (for high pressures and high temperatures)

▶ **TGV-18KWA**. Steam Generator (18 kW) (for high pressures and high temperatures)

HOT / COLD WATER SUPPLY

▶ **WHM**. Water Heater Module

▶ **TERA**. Refrigeration or Heating Water Recirculation Unit

▶ **TERA/A**. Refrigeration or Heating Water Recirculation Advanced Unit

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MAINTENANCE OF REFRIGERATION AND AIR CONDITIONING EQUIPMENT

T/KIT1. Maintenance Kit containing Vacuum Pump, Hoses and Manometers

T/KIT2. Maintenance Kit containing Leakage Detector

T/KIT3. Maintenance Kit containing Refrigerant Filling and Evacuation module

PRESSURE GROUPS FOR FLUIDS

SAC. Silent Air Compressor Unit

HPU. Hydraulic Power Unit

VPCG. Vacuum Production for Corrosive Gases Unit

FME00. Hydraulics Bench

FME00/B. Basic Hydraulic Feed System

LABORATORY ACCESSORIES

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AUXILIARY AND PROTECTION TRANSFORMERS

▷ **AUTP**. Auxiliary Transformer and Protection Units

TECHNICAL FOURNITURE

▷ **TF-CR**. Classroom Furniture

▷ **TF-LAB**. Laboratory Furniture

▷ **TF-WS**. Workshop Furniture

MULTIMEDIA COMPLEMENTS

▷ **C-ID**. Interactive Panel

LABORATORY ACCESSORIES

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CUSTOMIZED PILOT PLANTS

▶ **ENERGY**

▶ **THERMODYNAMICS & THERMOTECHNICS**

▶ **CHEMICAL ENGINEERING**

▶ **ENVIRONMENT**

ENERGY

▶ **TPTV/20kW/CTS**. Computer Controlled and Touch Screen 20 kW Steam Power Plant

The Computer Controlled and Touch Screen **Steam Power** Plant Adjustable up to 20 kW, "TPTV/20kW/CTS", converts thermal energy into mechanical energy and afterwards into electrical energy. It allows the students to understand the entire process and the basic components of a power plant (heat source to generate steam, a turbine with load and a refrigeration system to condense the steam).

▶ **TPTV/1.5kW/CTS**. Computer Controlled and Touch Screen 1.5 kW Steam Power Plant

Some **SOFTWARE RESULTS** screens

The Computer Controlled and Touch Screen 1.5 kW **Steam Power** Plant, "TPTV/1.5kW/CTS", converts thermal energy into mechanical energy and then into electrical energy. The unit allows students to understand the complete process and the basic components of a thermal power plant (a heat source to generate steam, a turbine with load and a cooling system to condense the steam).

▶ **ACCR/20/CTS**. Computer Controlled and Touch Screen 20 l Anti-Corrosive Circulation Reactor

Some **SOFTWARE RESULTS** screens

The Computer Controlled and Touch Screen 20 l **Anti-Corrosive Circulation Reactor**, "ACCR/20/CTS", is able to show, for further research and study, the fractionation of biomass into its three components of interest: high quality cellulose, hemicellulose and lignin, by using an organic solvent, Gamma-Valerolactone (GVL).

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ACCR/250/CTS. Computer Controlled and Touch Screen 250 l Anti-Corrosive Circulation Reactor

The Computer Controlled and Touch Screen 250 l *Anti-Corrosive Circulation Reactor*, "ACCR/250/CTS", is capable of displaying, for further research and study, the fractionation of biomass into its three components of interest: high-quality cellulose, hemicellulose, and lignin, using an organic solvent, Gamma-Valerolactone (GVL). Additionally, the equipment features key components made of PTFE/PFA/ECTFE, enabling the study of highly corrosive processes.

SCS/60/CTS. Computer Controlled and Touch Screen 60 l Semicontinuous Centrifugal Separator

Some **SOFTWARE RESULTS** screens

The Computer Controlled and Touch Screen 60 l Semicontinuous *Centrifugal Separator*, "SCS/60/CTS", is able to show, for further research and study, the obtaining of lignin from lignocellulosic biomass.

SCS/1000/CTS. Computer Controlled and Touch Screen 1000 l Semicontinuous Centrifugal Separator

The Computer Controlled and Touch Screen 1000 l Semicontinuous *Centrifugal Separator*, "SCS/1000/CTS", is able to show, for further research and study, the obtaining of lignin from lignocellulosic biomass.

PBGC/CTS. Computer Controlled and Touch Screen Biogas Processing Plant

The Computer Controlled *Biogas Processing* Plant, "PBGC/CTS", has been designed to generate biogas and study different parameters that affect the anaerobic digestion itself and the value of the obtained biogas.

CUSTOMIZED PILOT PLANTS

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THERMODYNAMICS & THERMOTECHNICS

TPTV/1.5kW/CTS. Computer Controlled and Touch Screen 1.5 kW Steam Power Plant
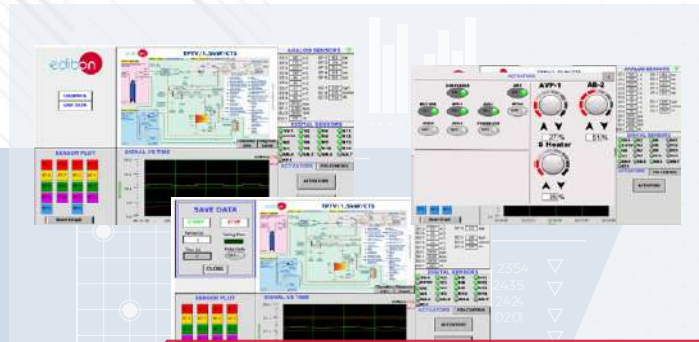
Some **SOFTWARE RESULTS** screens

The Computer Controlled and Touch Screen 1.5 kW **Steam Power** Plant, "TPTV/1.5kW/CTS", converts thermal energy into mechanical energy and then into electrical energy. The unit allows students to understand the complete process and the basic components of a thermal power plant (a heat source to generate steam, a turbine with load and a cooling system to condense the steam).

TPTV/20kW/CTS. Computer Controlled and Touch Screen 20 kW Steam Power Plant

The Computer Controlled and Touch Screen **Steam Power** Plant Adjustable up to 20 kW, "TPTV/20kW/CTS", converts thermal energy into mechanical energy and afterwards into electrical energy. It allows the students to understand the entire process and the basic components of a power plant (heat source to generate steam, a turbine with load and a refrigeration system to condense the steam).

CHEMICAL ENGINEERING

SLE00. Computer Controlled and Touch Screen Solid-Liquid Extraction Pilot Plant
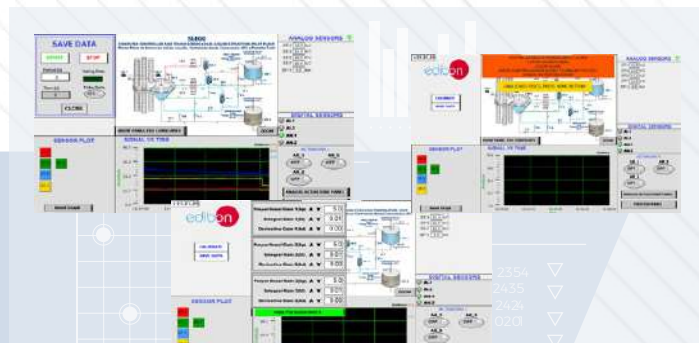
Some **SOFTWARE RESULTS** screens

The Computer Controlled **Solid-Liquid Extraction** for High Temperature Unit, "SLE00", consists of a pilot scale installation that allows the extraction of solutes from a solid matrix using different types of solvents and with variable operating conditions, which gives the unit great versatility.

CUSTOMIZED PILOT PLANTS

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CGE/0.4/CTS. Computer Controlled and Touch Screen 0.4 l/h Carver-Greenfield Evaporator
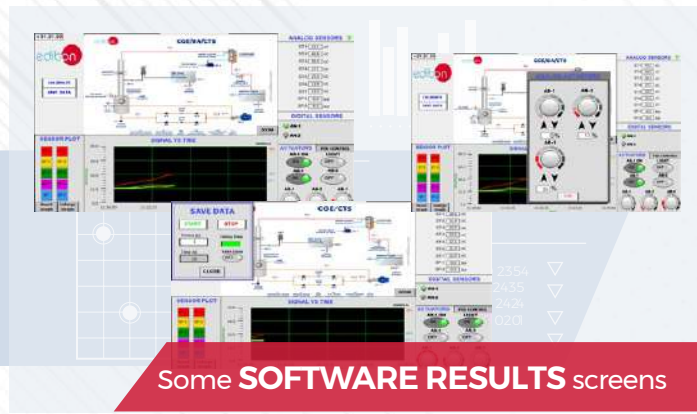
Some **SOFTWARE RESULTS** screens

The Computer Controlled and Touch Screen 0.4 l/h *Carver-Greenfield Evaporator*, "CGE/0.4/CTS", is able to show, for further investigation and study, the removal of dissolved solids from a liquid stream composed of Gamma-Valerolactone (GVL) and furfural.

CGE/12/CTS. Computer Controlled and Touch Screen 12 l/h Carver-Greenfield Evaporator
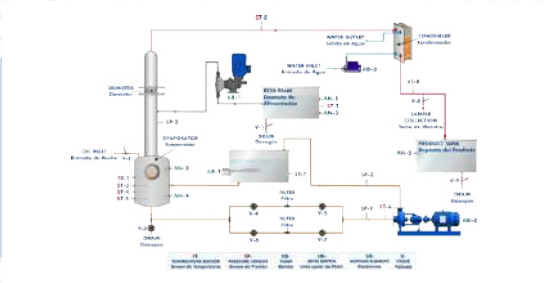
The Computer Controlled and Touch Screen 12 l/h *Carver-Greenfield Evaporator*, "CGE/12/CTS", is able to show, for further investigation and study, the removal of dissolved solids from a liquid stream composed of Gamma-Valerolactone (GVL) and furfural.

CSRD/4/CTS. Computer Controlled and Touch Screen 4 l/h Corrosive Solvent Recovery Distillation
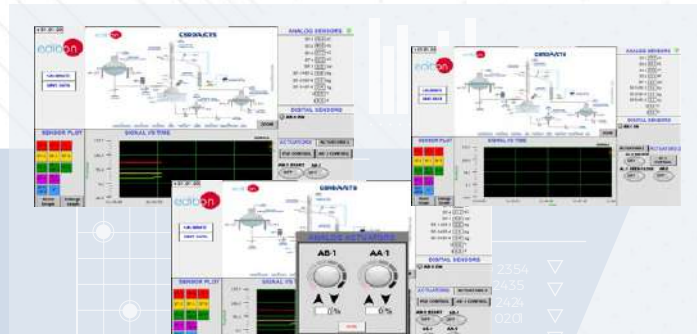
Some **SOFTWARE RESULTS** screens

The Computer Controlled and Touch Screen 4 l/h *Corrosive Solvent Recovery Distillation*, "CSRD/4/CTS", is able to show, for further investigation and study, the separation of water from a mixture composed of the organic solvent Gamma-Valerolactone (GVL) and different acids. In addition, the unit has the main elements made of borosilicate glass, which allows the study of corrosive processes.

CSRD/12/CTS. Computer Controlled and Touch Screen 12 l/h Corrosive Solvent Recovery Distillation
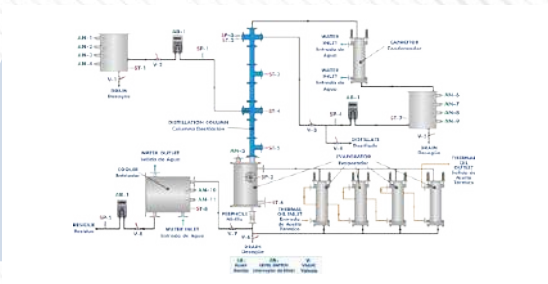
The Computer Controlled and Touch Screen 12 l/h *Corrosive Solvent Recovery Distillation*, "CSRD/12/CTS", is able to show, for further investigation and study, the separation of water from a mixture composed of the organic solvent Gamma-Valerolactone (GVL) and different acids. In addition, the unit has the main elements made of borosilicate glass, which allows the study of corrosive processes.

CUSTOMIZED PILOT PLANTS

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SCS/60/CTS. Computer Controlled and Touch Screen 60 l Semicontinuous Centrifugal Separator

Some **SOFTWARE RESULTS** screens

The Computer Controlled and Touch Screen 60 l Semicontinuous *Centrifugal Separator*, "SCS/60/CTS", is able to show, for further research and study, the obtaining of lignin from lignocellulosic biomass.

SCS/1000/CTS. Computer Controlled and Touch Screen 1000 l Semicontinuous Centrifugal Separator

The Computer Controlled and Touch Screen 1000 l Semicontinuous *Centrifugal Separator*, "SCS/1000/CTS", is able to show, for further research and study, the obtaining of lignin from lignocellulosic biomass.

ACCR/20/CTS. Computer Controlled and Touch Screen 20 l Anti-Corrosive Circulation Reactor
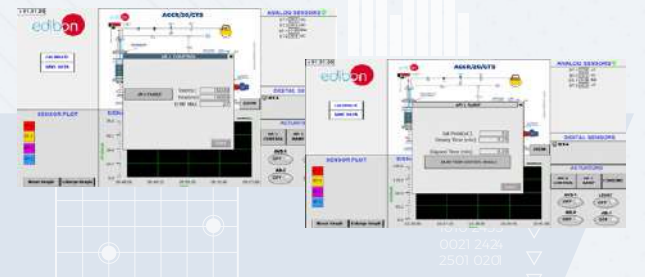
Some **SOFTWARE RESULTS** screens

The Computer Controlled and Touch Screen 20 l *Anti-Corrosive Circulation Reactor*, "ACCR/20/CTS", is able to show, for further research and study, the fractionation of biomass into its three components of interest: high quality cellulose, hemicellulose and lignin, by using an organic solvent, Gamma-Valerolactone (GVL).

ACCR/250/CTS. Computer Controlled and Touch Screen 250 l Anti-Corrosive Circulation Reactor

The Computer Controlled and Touch Screen 250 l *Anti-Corrosive Circulation Reactor*, "ACCR/250/CTS", is capable of displaying, for further research and study, the fractionation of biomass into its three components of interest: high-quality cellulose, hemicellulose, and lignin, using an organic solvent, Gamma-Valerolactone (GVL). Additionally, the equipment features key components made of PTFE/PFA/ECTFE, enabling the study of highly corrosive processes.
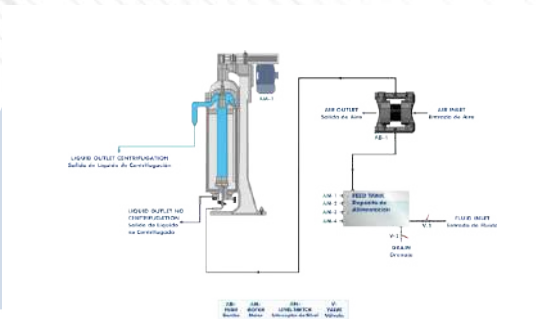
CUSTOMIZED PILOT PLANTS

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PILOT PLANTS FOR DAIRY PRODUCTS

LE00/PM. Pilot Plant for the Production of Pasteurized Milk

Fresh Milk

DMH/CTS
Computer Controlled
and Touch Screen Milk
Homogenizer

PADC
Computer Controlled
Teaching Autonomous
Pasteurization Unit

TFDC
Computer Controlled
Teaching Frigorific
Tank

Milk

EDLC
Computer Controlled
Liquid Packaging
Teaching Unit

With the Pilot Plant for the **Production of Pasteurized Milk**, "LE00/PM", designed by EDIBON, we cover the first phase of fresh milk treatment to obtain pasteurized milk.

LE00/Y. Pilot Plant for the Production of Yogurt

Milk

VPMC
Computer Controlled
Multipurpose
Processing Vessel

IYDC
Computer Controlled
Teaching Yogurt
Incubator

Yogurt

With the Pilot Plant for the **Production of Yogurt**, "LE00/Y", designed by EDIBON, from pasteurized milk, we obtain and make the yogurt manufacturing process.

LE00/MP. Pilot Plant for the Production of Milk Powder

Milk

EPAC
Computer Controlled
Rising Film Evaporator

TGV
Steam Generator
(3 kW)

SSPC
Computer Controlled
Spray Drier

Powdered Milk

With the Pilot Plant for the **Production of Milk Powder**, "LE00/MP", designed by EDIBON, from pasteurized milk, powdered milk is obtained by dehydration.

CUSTOMIZED PILOT PLANTS

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LE00/CC. Pilot Plant for the Production of Cheese and Cottage

Milk

CCDC
Computer Controlled Teaching Curdling Tank

PVQC
Computer Controlled Teaching Cheese Press

Curd Cheese

RDC
Computer Controlled Teaching Cottage Cheese Maker

STCS/CTS
Computer Controlled and Touch Screen Salting Tank with Cooling System

CMC/CTS
Computer Controlled and Touch Screen Cheese Maturation Chamber
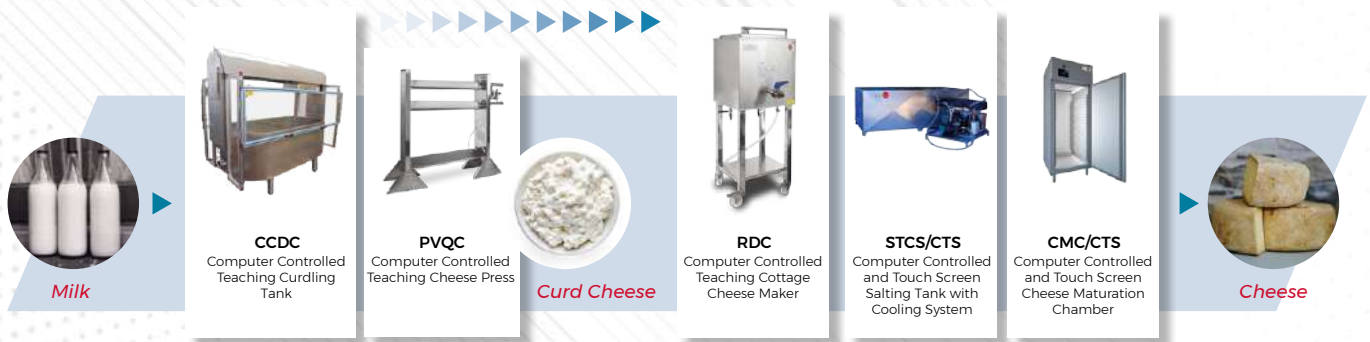
Cheese

With the Pilot Plant for the ***Production of Cheese and Cottage***, "LE00/CC", designed by EDIBON, we will obtain cottage cheese and cheese from pasteurized milk.

LE00/CBI. Pilot Plant for the Production of Cream, Butter and Ice Cream

Milk

DSNC
Computer Controlled Teaching Cream Separator

Skimmed Milk

Cream

EMANC
Computer Controlled Butter Maker Teaching Unit

Butter

ICM/CTS
Computer Controlled and Touch Screen Ice Cream Maker

Ice Cream

With the Pilot Plant for the ***Production of Cream, Butter and Ice Cream***, "LE00/CBI", designed by EDIBON, we will obtain skimmed milk, cream, butter and ice cream.

PILOT PLANTS FOR MEAT

CA00/CUPS. Pilot Plant for the Production of Cured Pieces and Sausages

MM/CTS
Computer Controlled and Touch Screen Meat Mincer

MK/CTS
Computer Controlled and Touch Screen Meat Kneader

SHF/CTS
Computer Controlled and Touch Screen Semi-Automatic Hydraulic Filler

MSS
Manual Sausage Stapler

PSS
Pneumatic Sausage Stapler

SST/CTS
Computer Controlled and Touch Screen Semi-automatic Sausage Tying Machine

ST
Salting Tank

MT
Marinade Tray

DC/CTS
Computer Controlled and Touch Screen Drying Cabinet

Cured Pieces

With the Pilot Plant for the ***Production of Cured Products and Sausages***, "CA00/CUPS", designed by EDIBON, we are able to obtain cured products from untreated meat.

CUSTOMIZED PILOT PLANTS

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CA00/COPS. Pilot Plant for the Production of Cooked Pieces and Sausages

BIM
Manual Brine Injection Machine

MDV/CTS
Computer Controlled and Touch Screen Maceration Drum with Vacuum System

FCMA/CTS
Computer Controlled and Touch Screen Fine Cutting Machine

VF/CTS
Computer Controlled and Touch Screen Vacuum Filler

PVSS
Pneumatic Vacuum Sausage Stapler

CK/CTS
Computer Controlled and Touch Screen Cooking Kettle

FSF/CTS
Computer Controlled and Touch Screen Forced Air and Steam Furnace

Cooked Pieces and Sausages

With the Pilot Plant for the **Production of Cooked Pieces and Sausages**, "CA00/COPS", designed by EDIBON, we are able to obtain cooked products from untreated meat.

CA00/PM. Pilot Plant for the Production of Precooked Meat Products

HK/CTS
Computer Controlled and Touch Screen Hot Kneeder

MM/CTS
Computer Controlled and Touch Screen Meat Mincer

BC/CTS
Computer Controlled and Touch Screen Blast Chiller

HM/CTS
Computer Controlled and Touch Screen Hamburger Maker

CBB/CTS
Computer Controlled and Touch Screen Compact Batter Breading Machine

FEP/CTS
Computer Controlled and Touch Screen Fryer for Elaborate Products

THS
Tray Heat Sealer

TIGI/CTS
Computer Controlled and Touch Screen Thermosealing Machine with Inert Gas Injection

Precooked Meat Products

With the Pilot Plant for the **Production of Precooked Meat Products**, "CA00/PM", designed by EDIBON, it is possible to study and research in the elaboration of precooked food from meat products, mainly meatballs and croquettes.

PILOT PLANTS FOR CEREALS

CE00/MF. Pilot Plant for Milling and Flour Production

Cereals

GM/CTS
Computer Controlled and Touch Screen Grain Milling Machine

FT/CTS
Computer Controlled and Touch Screen Pneumatic Transport System

FS/CTS
Computer Controlled and Touch Screen Industrial Sifter

Flour

With the Pilot Plant for **Milling and Flour Production**, "CE00/MF", designed by EDIBON, we cover the first phase of cereals treatment to produce flour.

CUSTOMIZED PILOT PLANTS

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CE00/P. Pilot Plant for the Production of Pasta

Flour

PEK/CTS
Computer Controlled
and Touch Screen
Extruder and Kneader

SPD/CTS
Computer Controlled
and Touch Screen
Static Drying Unit

Pasta

With the Pilot Plant for the **Production of Pasta**, "CE00/P", designed by EDIBON, we cover the complete pasta production process.

CE00/B. Pilot Plant for the Production of Bread

Flour

AWD/CTS
Computer Controlled
and Touch Screen
Automatic Water
Dosing Device

DK/CTS
Computer Controlled
and Touch Screen
Dough Kneader Unit

WCO
Water Cooler

DD/CTS
Computer Controlled
and Touch Screen
Dough Division Unit

BM
Baguette Maker Unit

CBO/CTS
Computer Controlled
and Touch Screen
Convection Bread
Oven
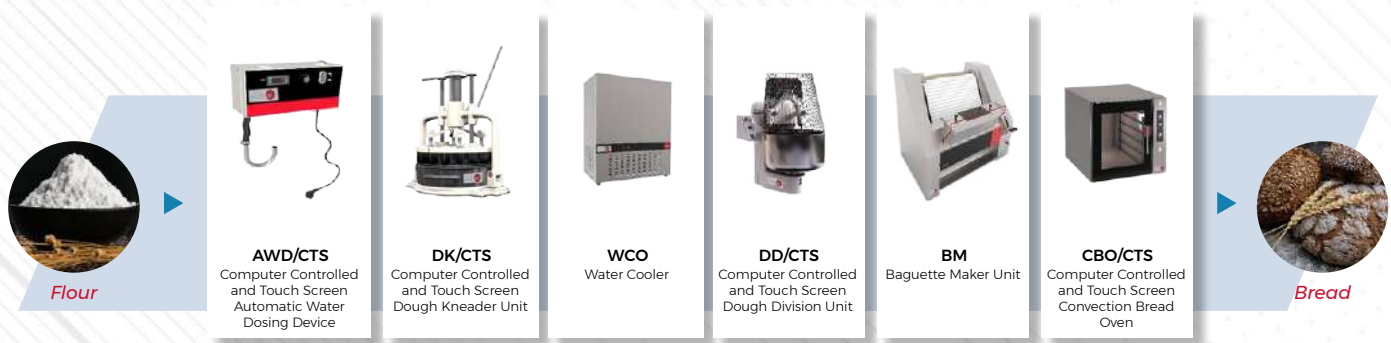
Bread

With the Pilot Plant for the **Production of Bread**, "CE00/B", designed by EDIBON, we cover the complete bread production process.

CE00/MA. Pilot Plant for Cereal Malting

Cereals

GCS/CTS
Computer Controlled
and Touch Screen
Grain Cleaning and
Steeping Unit

GGER/CTS
Computer Controlled
and Touch Screen
Grain Germination Unit

GDT/CTS
Computer Controlled
and Touch Screen
Grain Drying and
Toasting Unit

DCLM/CTS
Computer Controlled
and Touch Screen
Deculmer

SCH
Horizontal Screw
Conveyor

RCB
Rising Conveyor Belt

Cereal Malting

The Pilot Plant for **Cereal Malting**, "CE00/MA", **is a pilot scale plant that includes all the industrial stages for malt production.**

CUSTOMIZED PILOT PLANTS

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PILOT PLANTS FOR OILS

AS00. Computer Controlled and Touch Screen Pilot Plant for Seeds Oil

AC00. Computer Controlled and Touch Screen Pilot Plants for the Production of Oil

Olives

OWLR/CTS
Computer Controlled and Touch Screen Olive Washing Machine and Leaf Remover

PACC
Computer Controlled Continuous Cycle Oil Production Plant

OCPF/CTS
Computer Controlled and Touch Screen Oil Collector with Plate Filter

Extra Virgin Olive Oil

EDLC
Computer Controlled Liquid Packaging Teaching Unit

The Computer Controlled and Touch Screen Pilot Plants for the **Production of Oil**, "AC00", is a pilot plant able to carry out the main processes present in the elaboration of virgin olive oil.

AEDC/A. Advanced Computer Controlled Deodorizing Unit

The Advanced Computer Controlled **Deodorizing** Unit, "AEDC/A", designed by EDIBON is a unit that allows the study and research of the continuous deodorization operation capable of performing a vacuum and high temperature distillation with steam.
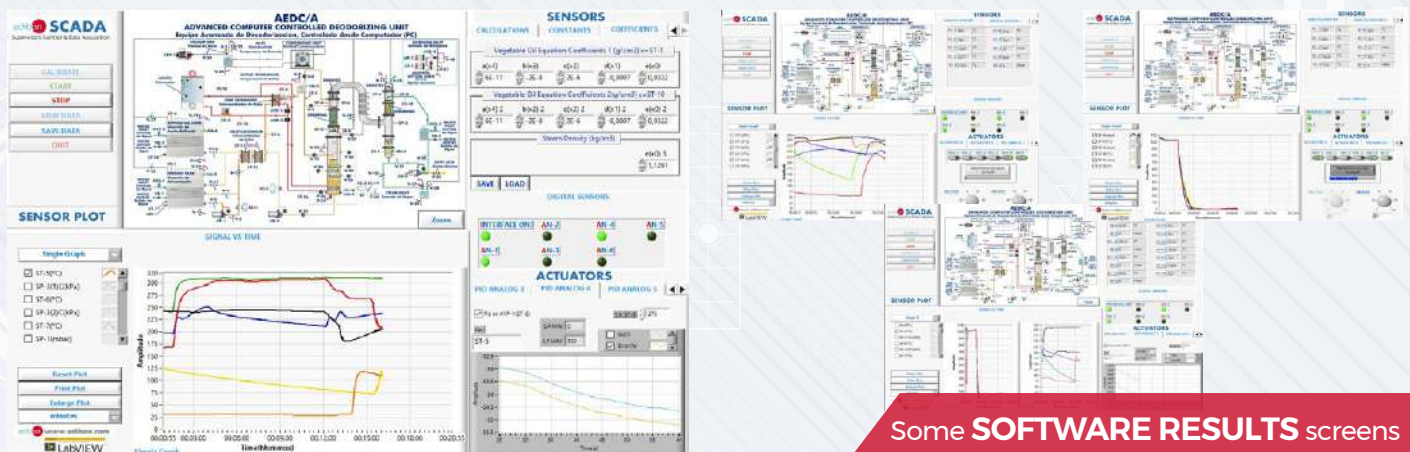
Some **SOFTWARE RESULTS** screens

PILOT PLANTS FOR FRUITS, VEGETABLES, AND LEGUMES

FR00/JP. Pilot Plant for Pasteurized Juice Production

Fruit

WMFV
Washing Machine
for Fruit and
Vegetables

FPCR
Fruit Pitting and
Crushing Unit

Crushed fruit

SPLE
Sheet Press for
Liquid Products
Extraction

or

HPLE
Hydraulic Press
for Liquid Product
Extraction

TCAT
Temperature-
Controlled Agri-food
Tank

SFAF
Sheet Filter for
Agri-food Liquid
Products

Fruit juice

AUHT/CTS
Computer Controlled
and Touch Screen
UHT Unit

or

PADC
Computer Controlled
Teaching Autonomous
Pasteurization Unit

EDLC
Computer Controlled
Liquid Packaging
Teaching Unit

or

BMAF
Bottling Machine
for Agroalimentary
Liquid Products

EDMT
Capping Machine
for Agri-food Liquid
Products

*Pasteurized
juice*

The Pilot Plant for ***Pasteurized Juice Production***, 'FR00/JP', is a pilot-scale pilot plant equipped to carry out all the industrial stages for pasteurized juice production.

FR00/PJ. Pilot Plant for Fruit Purees and Pulps Production

Fruit

WMFV
Washing Machine
for Fruit and
Vegetables

FPCR
Fruit Pitting and
Crushing Unit

Crushed fruit

DMH/CTS
Computer
Controlled and
Touch Screen Milk
Homogenizer

AUHT/CTS
Computer Controlled
and Touch Screen
UHT Unit

or

PADC
Computer Controlled
Teaching Autonomous
Pasteurization Unit

BIEV
Computer
Controlled Steam
Sterilizer Unit

EDLC
Computer Controlled
Liquid Packaging
Teaching Unit

or

PVAFP
Packaging Machine
for Viscous Agri-food
Products

EDMT
Capping Machine
for Agri-food Liquid
Products

Fruit Purees

The Pilot Plant for ***Fruit Purees and Pulps Production***, 'FR00/PJ', is a scale size pilot-plant equipped to carry out all the industrial stages for fruit puree or pulp production.

CUSTOMIZED PILOT PLANTS

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FR00/FE. Pilot Plant for Fruit Essences Production

Fruit

WMFV
Washing Machine for Fruit and Vegetables

FPCR
Fruit Pitting and Crushing Unit

Crushed fruit

SPLE
Sheet Press for Liquid Products Extraction

or

HPLE
Hydraulic Press for Liquid Product Extraction

PJCM
Pulp and Juice Centrifugal Machine for Juices and Agri-food Products

SFAF
Sheet Filter for Agri-food Liquid Products

Fruit juice

ECAL/CTS
Computer Controlled and Touch Screen Evaporator for Concentrating Agri-food Liquid Products

DMH/CTS
Computer Controlled and Touch Screen Milk Homogenizer

EDLC
Computer Controlled Liquid Packaging Teaching Unit

or

BMAF
Bottling Machine for Agroalimentary Liquid Products

EDMT
Capping Machine for Agri-food Liquid Products

Fruit Essences

The Pilot Plant for **Fruit Essences Production**, 'FR00/FE', is a scale size pilot-plant equipped to carry out all the industrial stages for all the industrial stages for fruit essence production.

FR00/FS. Pilot Plant for Fruit Sauces or Dressings Production

Fruit

WMFV
Washing Machine for Fruit and Vegetables

FPCR
Fruit Pitting and Crushing Unit

Crushed fruit

ECFCI/CTS
Computer Controlled and Touch Screen Electric Cooker for Fruit Cooking by Immersion

DMH/CTS
Computer Controlled and Touch Screen Milk Homogenizer

AUHT/CTS
Computer Controlled and Touch Screen UHT Unit

or

PADC
Computer Controlled Teaching Autonomous Pasteurization Unit

BIEV
Computer Controlled Steam Sterilizer Unit

EDLC
Computer Controlled Liquid Packaging Teaching Unit

or

PVAFP
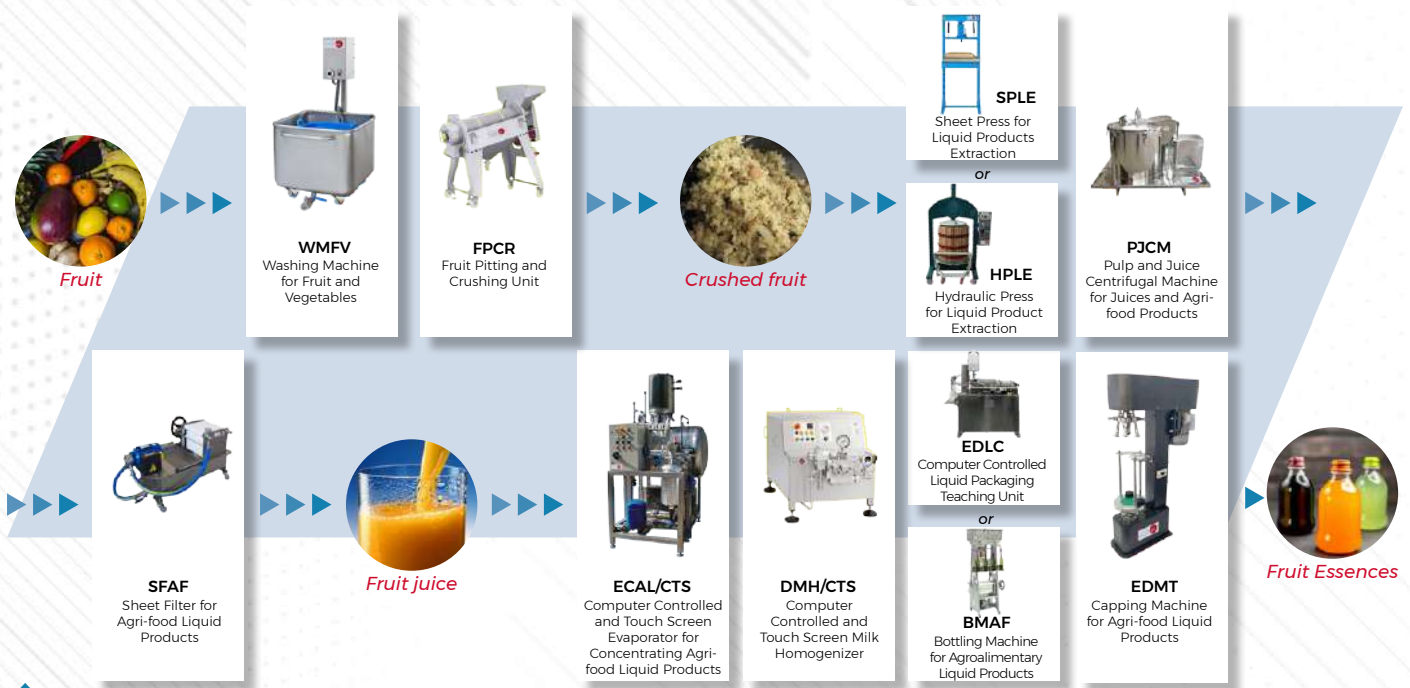Packaging Machine for Viscous Agri-food Products

EDMT
Capping Machine for Agri-food Liquid Products
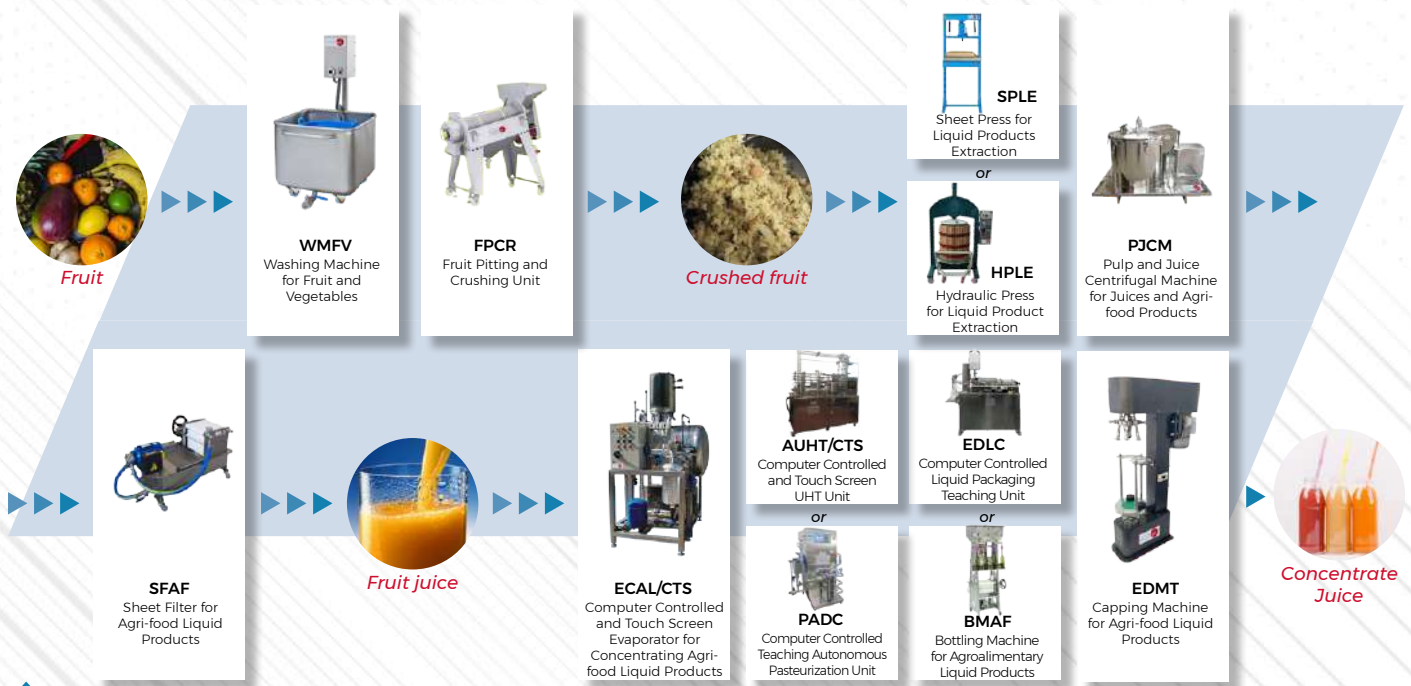
Fruit Sauces or Dressings

The Pilot Plant for **Fruit Sauces or Dressings Production**, "FR00/FS", is a scale size pilot-plant equipped to carry out all the industrial stages for fruit sauce or dressings production.

CUSTOMIZED PILOT PLANTS

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FR00/FJ. Pilot Plant for Fruit Jam Production

Fruit

WMFV Washing Machine for Fruit and Vegetables

FPCR Fruit Pitting and Crushing Unit

Crushed fruit

ECFCI/CTS Computer Controlled and Touch Screen Electric Cooker for Fruit Cooking by Immersion

AUHT/CTS Computer Controlled and Touch Screen UHT Unit

or

PADC Computer Controlled Teaching Autonomous Pasteurization Unit

BIEV Computer Controlled Steam Sterilizer Unit

EDLC Computer Controlled Liquid Packaging Teaching Unit

or

PVAFP Packaging Machine for Viscous Agri-food Products

EDMT Capping Machine for Agri-food Liquid Products

RRC/CTS Computer Controlled and Touch Screen Refrigerator Reception Cabinet

Fruit Jam

The Pilot Plant for **Fruit Jam Production**, "FR00/FJ", is a pilot-scale pilot plant equipped to carry out all the industrial stages for jam production.

FR00/JC. Pilot Plant for Concentrated Juice Production

Fruit

WMFV Washing Machine for Fruit and Vegetables

FPCR Fruit Pitting and Crushing Unit

Crushed fruit

SPLE Sheet Press for Liquid Products Extraction

or

HPLE Hydraulic Press for Liquid Product Extraction

PJCM Pulp and Juice Centrifugal Machine for Juices and Agri-food Products

SFAF Sheet Filter for Agri-food Liquid Products

Fruit juice

ECAL/CTS Computer Controlled and Touch Screen Evaporator for Concentrating Agri-food Liquid Products

AUHT/CTS Computer Controlled and Touch Screen UHT Unit

or

PADC Computer Controlled Teaching Autonomous Pasteurization Unit

EDLC Computer Controlled Liquid Packaging Teaching Unit

or

BMAF Bottling Machine for Agroalimentary Liquid Products

EDMT Capping Machine for Agri-food Liquid Products

Concentrate Juice

The Pilot Plant for **Concentrated Juice Production**, 'FR00/JC', is a pilot-scale pilot plant equipped to carry out all the industrial stages for concentrated juice production.

CUSTOMIZED PILOT PLANTS

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UV00. Computer Controlled and Touch Screen Pilot Plant for the Grape Treatment

Grapes ▶▶▶

GD/CTS
Computer Controlled and Touch Screen Grape Destemming Unit

HGP/CTS
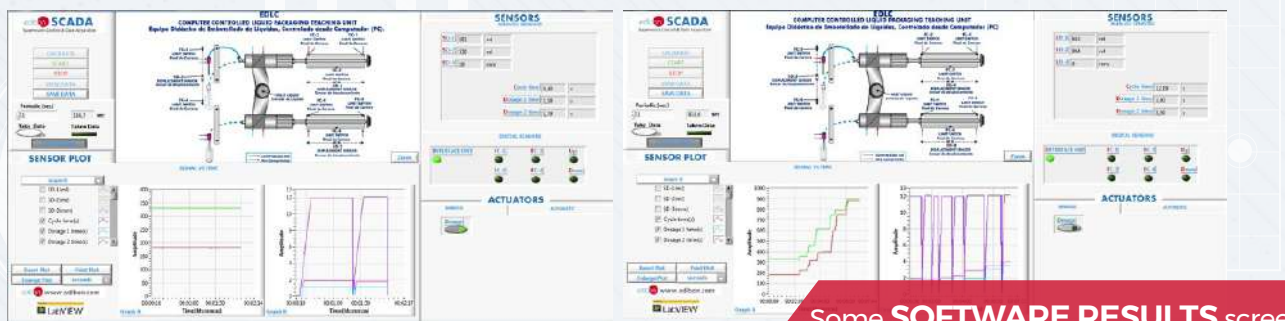Computer Controlled and Touch Screen Hydraulic Grape Press

TMVF
Two Tanks for Maceration, Vatting and Fermentation of Wine

TERA
Refrigeration or Heating Water Recirculation Unit

EDLC
Computer Controlled Liquid Packaging Teaching Unit

▶▶▶ Wine

The Computer Controlled and Touch Screen Pilot Plant for the **Grape Treatment**, "UV00", designed by EDIBON, is a pilot plant in which the main production processes related to grapes are carried out.

Some **SOFTWARE RESULTS** screens

CI00. Computer Controlled and Touch Screen Pilot Plant for Citrus Fruits

TO00. Computer Controlled and Touch Screen Pilot Plant for Tomatoes

VE00. Computer Controlled and Touch Screen Pilot Plant for Vegetables and Legumes

ENVIRONMENT

EDIBON-MOF4AIR. Pilot Plant for CO$_2$ Adsorption Capture

HORIZON 2020

MOF4AIR

This project seeks a new solution to more efficiently **capture carbon dioxide** from power plants and industries. In order to address this significant challenge we currently face, the European Union launched the MOF4AIR research project to tackle the efficient capture of carbon dioxide in power plants and industries. At EDIBON, we have developed a solution that allows the testing of MOF-type materials for CO$_2$ capture in industrial environments.
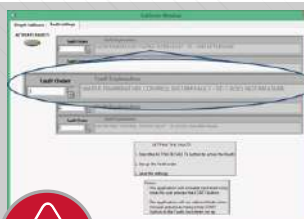
CUSTOMIZED PILOT PLANTS

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OUR TECHNOLOGY

| EXPANSIONS

In addition, all EDIBON teaching and research units **can be expanded with our expansions** at any time and **knowledge can be increased**.

Industrial expansions

PLC
PLC Industrial Process Control

FSS
Faults Simulation System

ECR
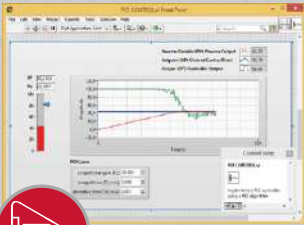EDIBON Industrial Modular System with **NI CompactRIO**
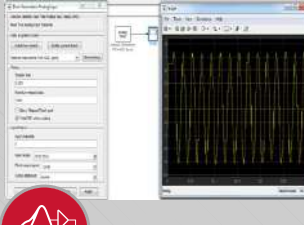
PLCHMI
IIoT local/remote Control and Monitoring with **HMI**

Advanced Research expansions

ELK
EDIBON Software Development KIT, Powered by NI **LabVIEW™**

EMAK
EDIBON **Matlab** Kit

Multipost expansions

ESN
EDIBON **Scada-Net**

ECL
EDIBON **Cloud Learning**

Pedagogical expansions

ICAI
Interactive Computer **Aided Instruction** Software

EMSK
EDIBON Development KIT for **Circuits Simulation**, Powered by NI LabVIEW™

MSAC
Modular System for **Acquisition and Control**

ARISE
Augmented Reality Instructional System by EDIBON

See more information: www.edibon.com/en/content/expansions

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KNOW-HOW

The basis of **EDIBON technology** is our "**SCADA**" system. This system can always be used in any part of the process whenever necessary.
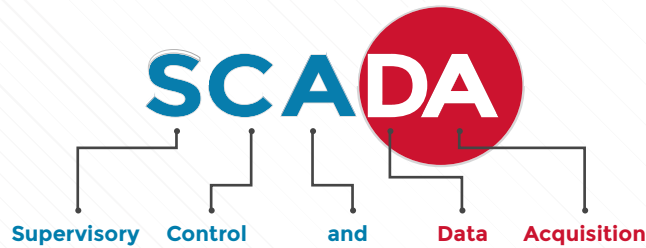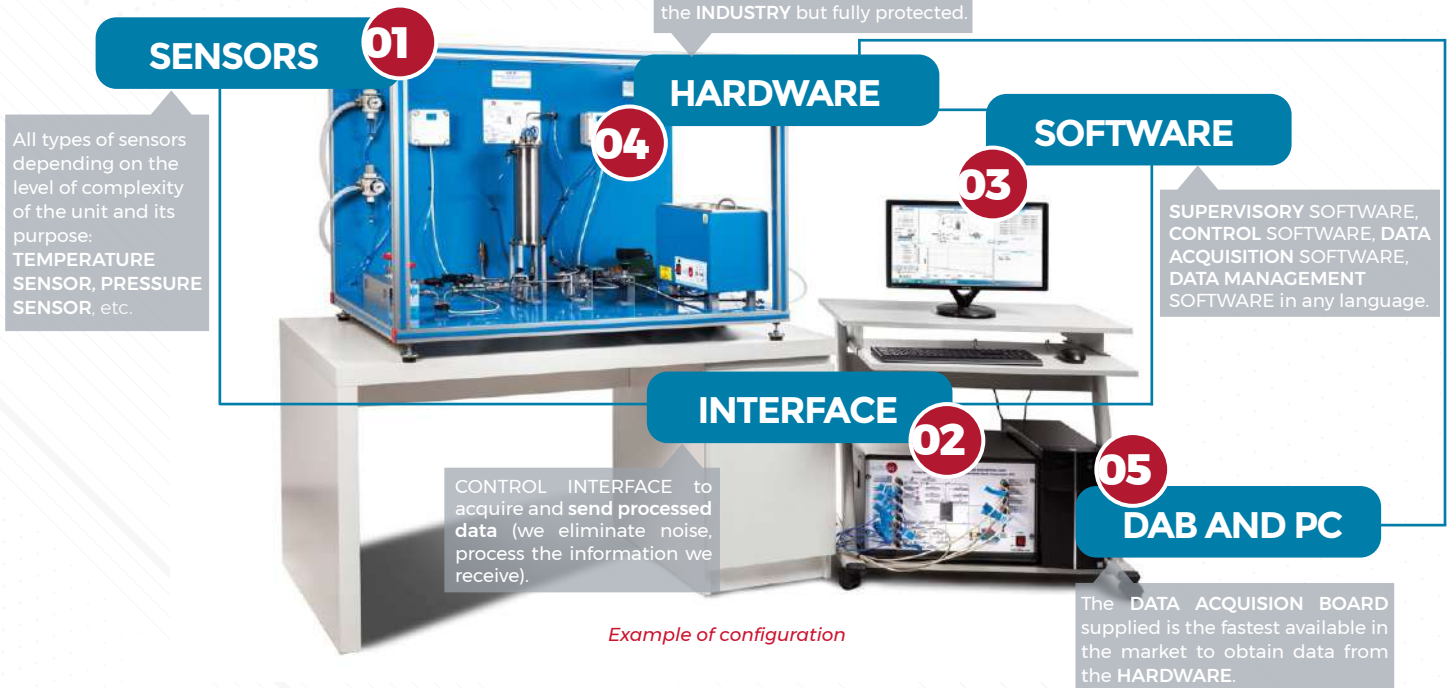
It is a very widespread system in the industry and we are the only company in the world that has introduced it in our training and research units, offering thus **multiple advantages** to users.

Thanks to this computer-controlled technology, with our SCADA system you can **save time and increase efficiency during training**.

SCADA

Supervisory   **Control**   **and**   **Data**   **Acquisition**

All EDIBON units consists of the same elements that are used in the **INDUSTRY** but fully protected.

SENSORS 01

All types of sensors depending on the level of complexity of the unit and its purpose: **TEMPERATURE SENSOR, PRESSURE SENSOR**, etc.

HARDWARE 04

SOFTWARE 03

SUPERVISORY SOFTWARE, **CONTROL** SOFTWARE, **DATA ACQUISITION** SOFTWARE, **DATA MANAGEMENT** SOFTWARE in any language.

INTERFACE 02

CONTROL INTERFACE to acquire and **send processed data** (we eliminate noise, process the information we receive).

DAB AND PC 05

The **DATA ACQUISION BOARD** supplied is the fastest available in the market to obtain data from the **HARDWARE**.

Example of configuration

See more information: www.edibon.com/en/content/know-how

R + D + i. *Research + Development + Innovation*

To achieve excellence in education, with advanced sustainable solutions and at an efficient cost.

100% OWN **DESIGN**
CONTINUOUS **DEVELOPMENT**

100% OWN **MANUFACTURING**
MORE THAN **16.000** **DIFFERENT UNITS**

100% OWN **QUALITY CONTROL**
SPECIALIZED **ENGINEERS**

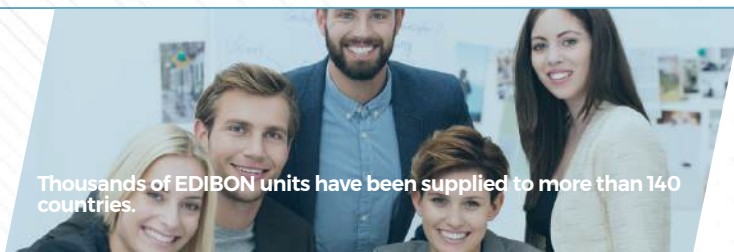**See more information:** www.edibon.com/en/content/rd
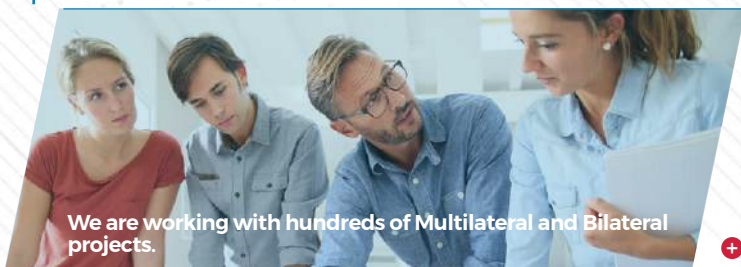
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LINES OF BUSINESS

DAY BY DAY

DAY BY DAY (D/D) Business when all main money resources normally go to a "country box" and/or to country government (MOF), who decides the money distribution to all ministries in the country.

+ *Ask us for further references.*

Thousands of EDIBON units have been supplied to more than 140 countries.

PROJECTS

We are working with hundreds of Multilateral and Bilateral projects.

The donor and the country receiving the aid agree to finance a National Project or a particular project for a particular end customer (executing agency).
In case of projects, the end customer has money from the donor for the particular project.

+ *Would you like to know our experience with projects?*
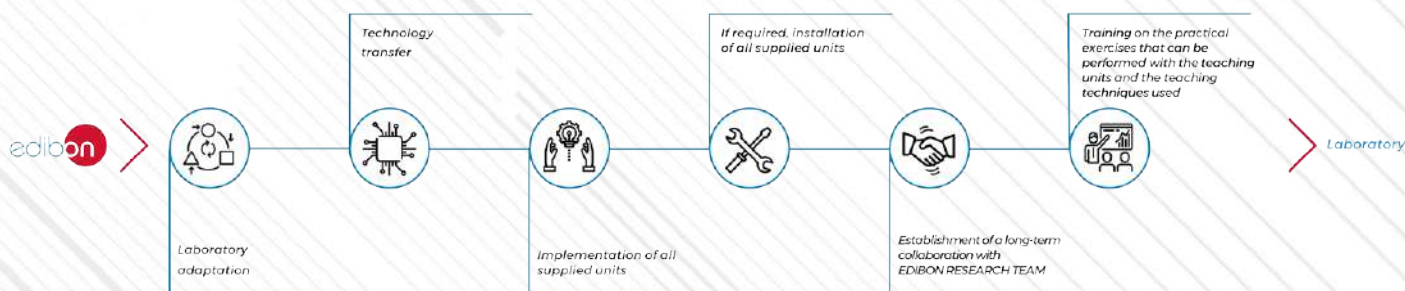
COMPLETE LABORATORIES

EDIBON experience technology can create an EFFICIENT LABORATORY, you can improve the performance of your students and the understanding of all theoretical concepts in a simple and fast way. Having a well-designed laboratory, equipped with the most advanced technology available on the market and designed by EDIBON, will:

How is the **PROCESS** *according to your* **NEEDS?**

Complete custom-built design of any technical laboratory.

edibon > Laboratory adaptation — Technology transfer — Implementation of all supplied units — If required, installation of all supplied units — Establishment of a long-term collaboration with EDIBON RESEARCH TEAM — Training on the practical exercises that can be performed with the teaching units and the teaching techniques used > Laboratory

+ *More than 2000 complete laboratories installed worldwide.*

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TECHNICAL EDUCATION TURN-KEY PROJECTS (TKP)

A TKP is a custom made project design, including financing, designed for one or more laboratories in all types of Technical Education Institutions, at Higher Education, Technical Education, Vocational Training, even Secondary Education.

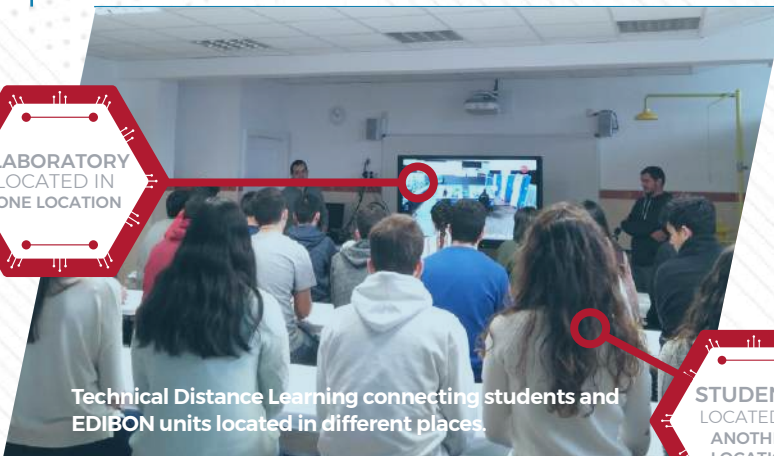The project includes: supply, installation, commissioning, training and after sales service.

Ask us about financing possibilities in your country.

Complete solutions with good financing.

TECHNICAL DISTANCE LEARNING (ECL)

LABORATORY LOCATED IN ONE LOCATION

In the case of Technical Distance Learning, we have designed our own system: EDIBON Cloud Learning (ECL).

EDIBON Cloud Learning is a cloud platform to help new generations to access the latest technology during the learning process via the Internet. Technical Distance Learning enables students in any city in the world to run the EDIBON units located in Madrid and perform all the practical exercises.

Technical Distance Learning connecting students and EDIBON units located in different places.

STUDENTS LOCATED AT ANOTHER LOCATION

STUDENTS CAN REMOTLY CONTROL THE LABORATORY FROM HOME

EDIBON Cloud Learning is divided in two platforms:

USERS ONLINE PLATFORM

ADMINISTRATORS have full control over their laboratories thanks to the powerful class-administrator tool.

USERS can learn interactively in a flexible environment as if they were in the laboratory, accessing through the remote app for working with EDIBON units. Several users can work with one unit or one user with several units.

REMOTE APP PLATFORM

Users can control EDIBON units & EDIBON SCADA software as if the were in the laboratory.

Moodle platform for control of teaching equipment and management of students and teachers.

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CUSTOM-MADE UNITS AND PILOT PLANTS

Due to our 100% **own design** and our strong own **R+D+i department** we are able to do a full new design under special needs.

AEDC/A. *Advanced Computer Controlled Deodorizing Unit.* [SPAIN]

BENEFITS:
• Enables researchers to remove fatty acids from oil.

3 m.
5 m.

CSIC
CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

MOF4AIR. *Pilot Plant for CO_2 Adsorption Capture.* [NORWAY, TURKEY and FRANCE]

2 m.
13 m.

MOF4AIR will demonstrate optimized absorbents with fine-tuned CO_2 adsoption process.

BENEFITS:
• 95 % reduction in CO_2 emissions from power plants and carbon-intensive industries.
• 40 % reduction in greenhouse gas emissions.
• Fast transition to a low carbon economy.

CE00/MA. *Pilot Plant for Cereal Malting.* [IRELAND]

3 m.
17 m.

SLE00. *Computer Controlled and Touch Screen Solid-Liquid Extraction Pilot Plant.* [DENMARK]

2 m.
3 m.

BENEFITS:
• Researchers can reproduce the malting process in a huge variety of conditions.
• Local producers can now test their products.

➕ *Ask us for further information.*

BENEFITS:
• Available to carry out several different solid-liquid extraction experiments.
• Researchers can now work at high pressure and temperature conditions [up to 80°C].
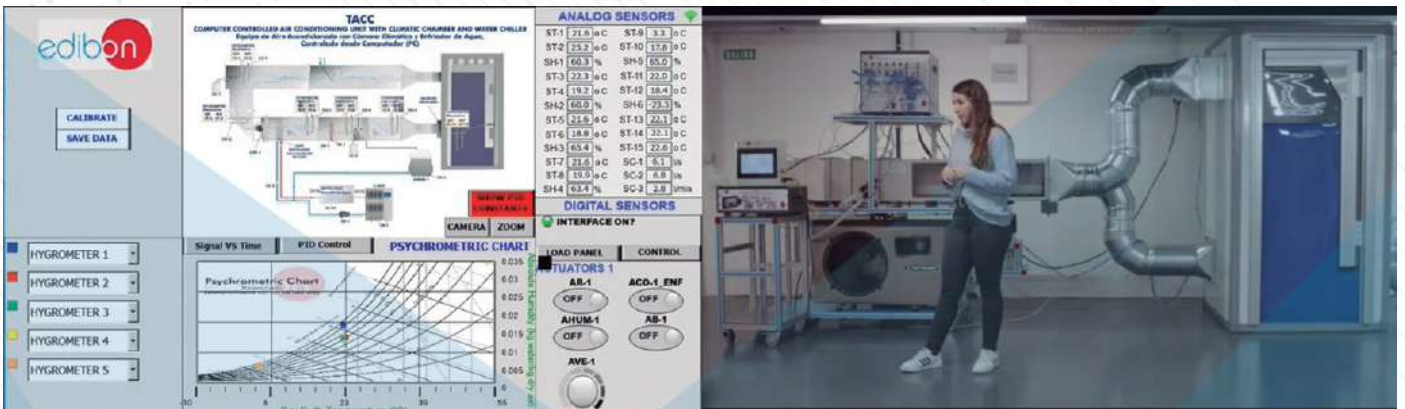• Disolvents used: base, acid, organic.

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TECHNICAL COURSES

The courses offered by EDIBON have been designed with the highest level of technical training offered worldwide.

With EDIBON units for Teachers, Students and Researchers.

Example of practices carried out during the technical courses (remote version)

+ *Ask us for further information.*

TECHNICAL EDUCATION CONSULTANCY

Assistance, Assessment and Support for Technical Projects.

Analysis of the customer needs. Analysis of the country possibilities. Design of the laboratories. Design of the laboratories content. Sustainability. IMPORTANT! EDIBON collaborates with consultants and consulting companies, offering LONG EXPERIENCE IN TECHNICAL TEACHING. Consultants and consulting companies are WELCOME.

+ *Ask us for further information.*

CONSTRUCTION OF BUILDINGS FOR TECHNICAL EDUCATION

Building preliminary project. Building complete project. LEED building. Financing. Construction. Any interested person can check our experience with our own factory, a 30 000 m² building, one of the most modern in the world.

Design of buildings with LEED certification for engineering companies and Technical/Vocational Centers.

+ *Ask us for further references.*

See more information: www.edibon.com/en/content/category/lines-of-business

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REPRESENTANT: