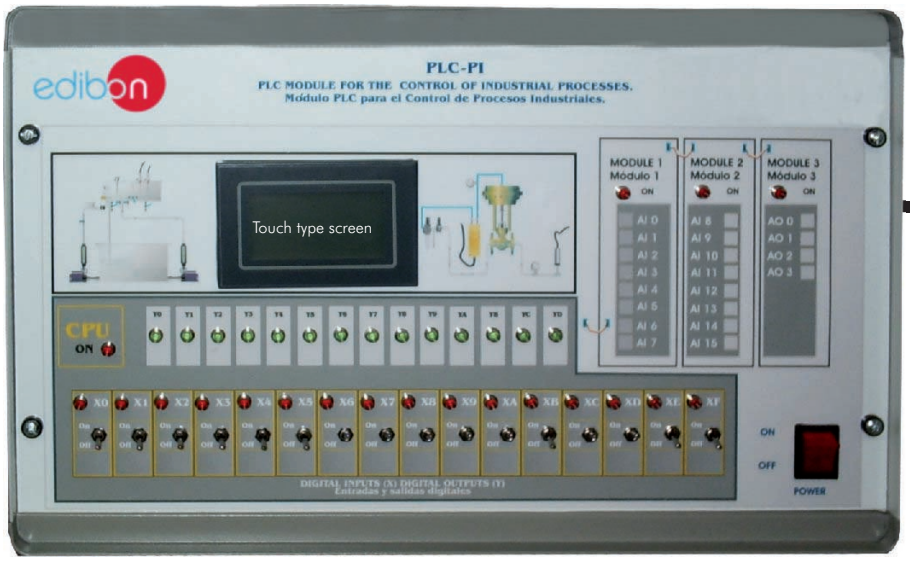
PLC Module for the Control of Industrial Processes
(for working with EDIBON Computerized Teaching Units)

PLC-PI

Technical Teaching Equipment



Always included in the supply:

② PLC-SOF. PLC Control Software for the specific application

Computer (not included in the supply)

① Unit: PLC-PI. PLC Module for the Control of Industrial Processes (for working with EDIBON Computerized Teaching Units).

www.edibon.com
↳Products
↳Products range
↳Units
↳6.- Systems & Automatics

DESCRIPTION

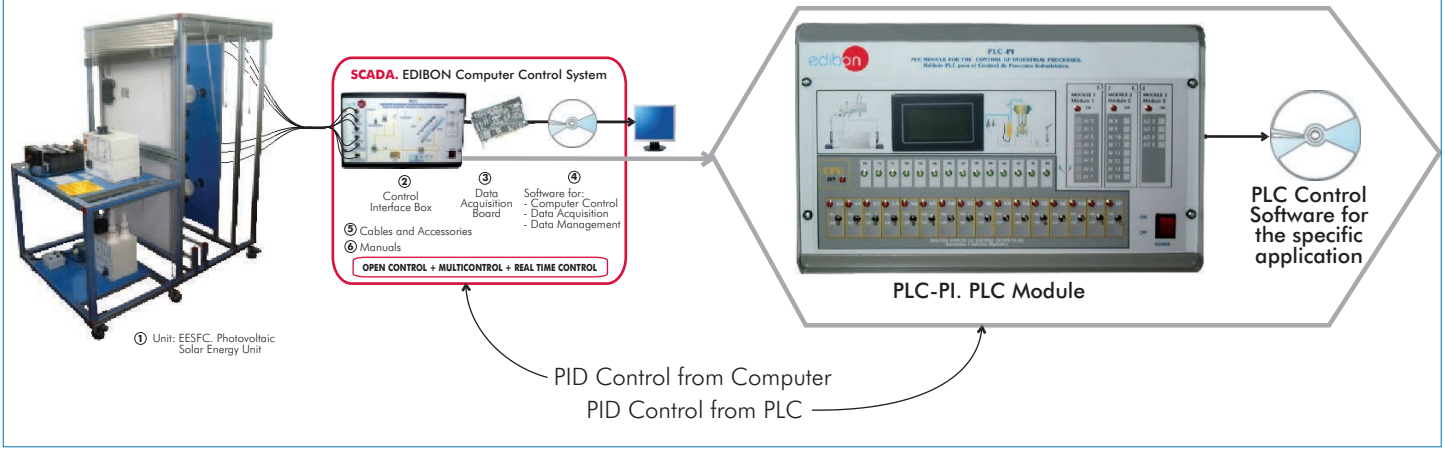
This PLC-PI unit contains a metallic box, with a front panel in order to manipulate the unit in a simple and easy way, the power supply and all necessary connectors and cabling and, additionally, the PLC itself with its own touch screen. We have design and supply the proper software for any particular application (for each particular EDIBON Computerized Teaching Unit).

Available wide range of PLC Applications (PID Control)

More than 300 applications

Example

PID Control from PLC



ISO 9001 : 2000 Certificate of Approval

European Union Certificate

Certificates ISO 14001: 2004 and ECO-Management and Audit Scheme (environmental management)

Worlddidac Quality Charter Certificate
Worlddidac Member

SPECIFICATIONS

Items supplied as standard

①PLC-PI. Unit:

Metallicl box.
Circuit diagram in the front panel.
Front panel:
Digital inputs(X) and Digital outputs (Y) block:
16 Digital inputs, activated by switches and 16 LEDs for confirmation (red).
14 Digital outputs (through SCSI connector) with 14 LEDs for message (green).
Analog inputs block:
16 Analog inputs (-10V. to + 10V.) (through SCSI connector).
Analog outputs block:
4 Analog outputs (-10V. to + 10V) (through SCSI connector).
Touch screen:
Dimensions approx. : 110 mm x 72 mm. High visibility and multiple functions. Display of a highly visible status. Recipe function. Bar graph function. Flow display function. Alarm list. Multi language function. True type fonts.
Back panel:
Power supply connector. Fuse 2A.
RS-232 connector to PC.
Inside:
Power supply outputs: 24 Vdc, 12 Vdc, -12 Vdc, 12 Vdc variable.
Panasonic PLC:
High-speed scan of 0.32 μsec. for a basic instruction.
Program capacity of 32 Ksteps, with a sufficient comment area.
Free input AC voltage (100 to 240 V AC).
DC input: 16 (24 V DC).
Relay output: 14 (250 V A AC/2 A).
Program capacity: 32 ksteps.
Equipped with a USB communication port.
High-speed counter.
Multi-point PID control.
Digital inputs/outputs and analog inputs/outputs Panasonic modules.
Communication RS232 wire, to computer (PC).

②PLC-SOF. PLC Control Software:

For each particular EDIBON Computerized Teaching Unit.

③Cables and Accessories, for normal operation.

④Manuals:

This unit **is supplied with 8 manuals:** Required Services, Assembly and Installation, Software, Starting-up, Safety, Maintenance, Calibration & Practices Manuals.

EXERCISES AND PRACTICAL POSSIBILITIES

Some General Practical Possibilities:

1.- Control of the particular unit process through the control interface box without the computer.
2.- PID control.
3.- Visualization of all the sensors values used in the particular unit process.
4.- Calibration of all sensors included in the particular unit process.
5.- Hand on of all the actuators involved in the particular unit process.
6.- Realization of different experiments, in automatic way, without having in front the particular unit. (These experiments can be decided previously).
7.- Simulation of outside actions, in the cases do not exist hardware elements. (Example: test of complementary tanks, complementary industrialenvironment to the process to be studied, etc).
8.- PLC hardware general use.
9.- PLC process application for the particular unit.
10.- PLC structure.
11.- PLC inputs and outputs configuration.
12.- PLC configuration possibilities.
13.- PLC program languages.
14.- PLC different programming standard languages (ladder diagram (LD), structured text (ST), instructions list (IL), sequential function chart (SFC), function block diagram (FBD)).
15.- New configuration and development of new process.
16.- Hand on an established process.
17.- To visualize and see the results and to make comparisons with the particular unit process.
18.- Possibility of creating new process in relation with the particular unit.
19.- PLC Programming Exercises.
20.- Own PLC applications in accordance with teacher and student requirements.

REQUIRED SERVICES

- Electrical supply: single-phase, 220V. 50Hz or 110V. 60Hz.
- Computer (PC).

DIMENSIONS & WEIGHTS

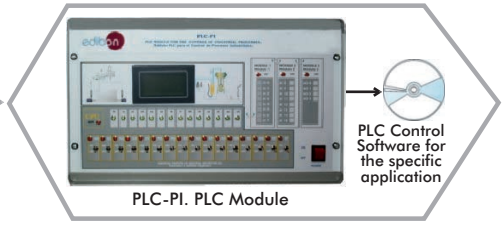
PLC-PI Unit: -Dimensions: 490 x 330 x 310 mm. approx.
-Weight: 30 Kg. approx.

Units which can use PLC-PI:

4.- Electricity

4.4.- Electrical Machines

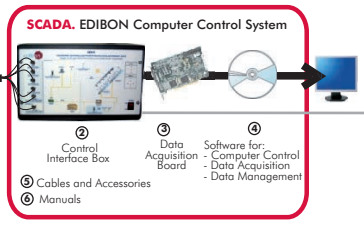
EME. **Electrical Machines Unit**

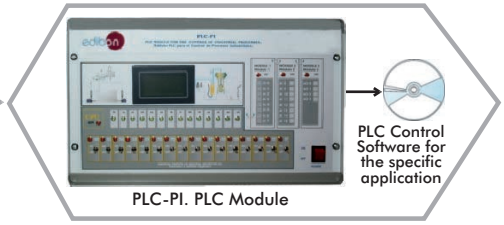


5.- Energy

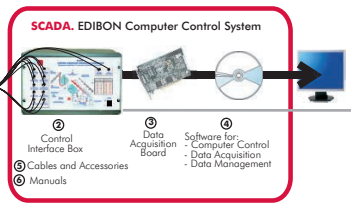
5.3.- Renewable (Alternative) Energies

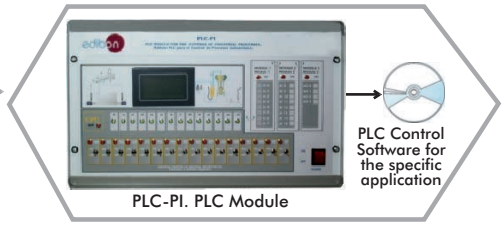
EESFC. Computer Controlled **Photovoltaic Solar Energy Unit**



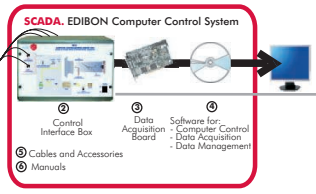


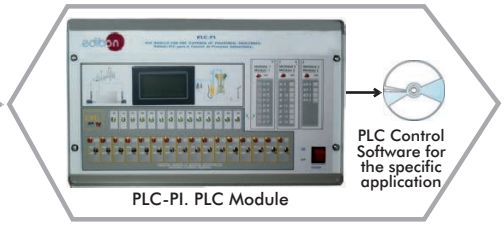
EESTC. Computer Controlled **Thermal Solar Energy Unit**





EEEC. Computer Controlled **Wind Energy Unit**





Continue ...

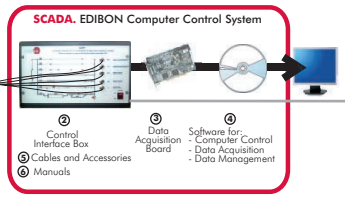
Units which can use PLC-PI: (continuation)

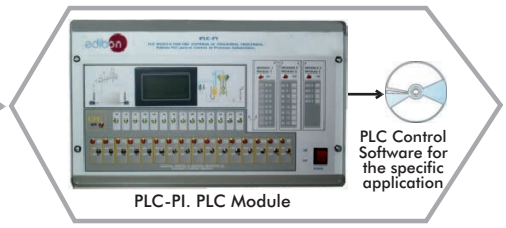
8.- Fluid Mechanics & Aerodynamics

8.2.- Fluid Mechanics (General)

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

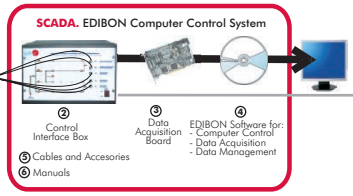
① Unit: AFTC. Fluid Friction in Pipes, with Hydraulics Bench (FME00)

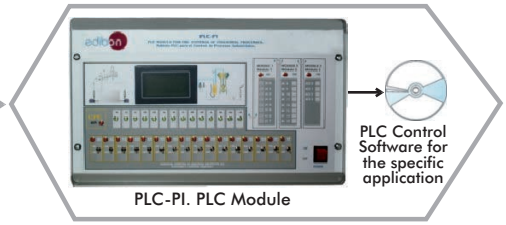




AMTC. Computer Controlled **Pipe Network Unit**, with Hydraulics Bench (FME00)

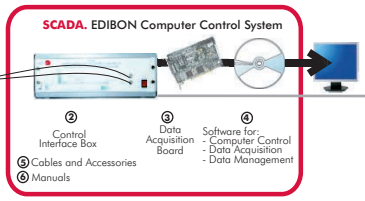
① Unit: AMTC. Pipe Network Unit, with Hidraulics Bench (FME00)

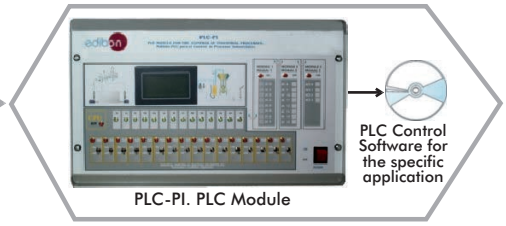




EGAC. Computer Controlled **Water Hammer Unit**

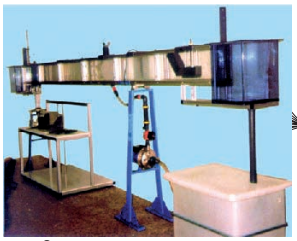
① Unit: EGAC. Water Hammer Unit



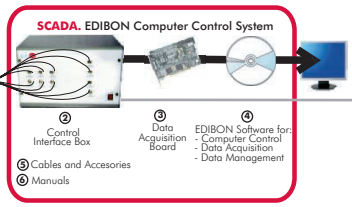


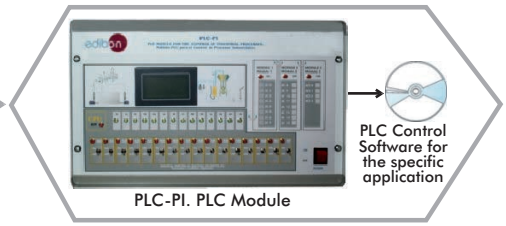
8.3.- Fluid Mechanics (Flow Channels)

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



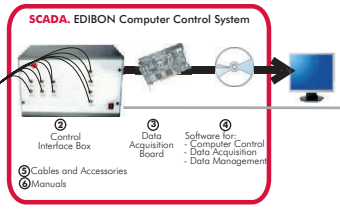
③ Unit: CFC. Flow Channels (section: 80 mm)

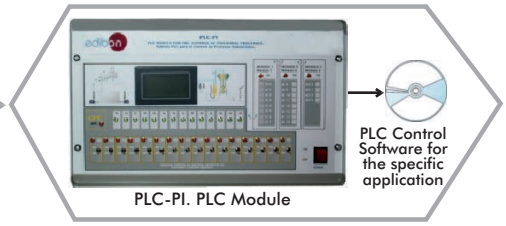




CFGC. Computer Controlled **Flow Channels (section: 300 mm)**

① Unit: CFGC. Flow Channels (section: 300 mm)





Continue ...

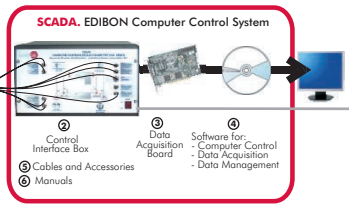
Units which can use PLC-PI: (continuation)

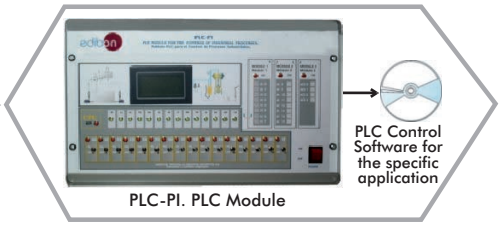
8.- Fluid Mechanics & Aerodynamics

8.4.- Hydraulic Machines (Pumps)

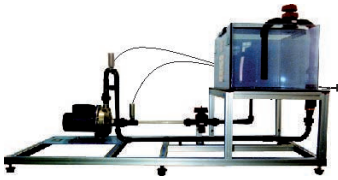
PBOC. Computer Controlled **Multipump Testing Bench**

① Unit: PBOC. Multipump Testing Bench

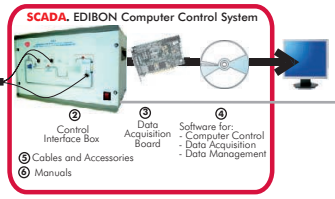


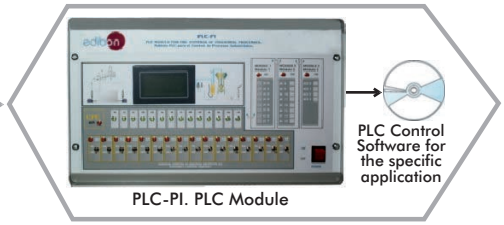


PBCC. Computer Controlled **Centrifugal Pump Bench**

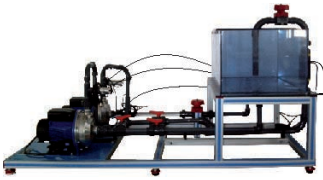


① Unit: PBCC. Centrifugal Pump Bench

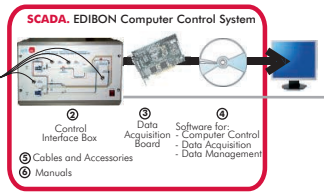


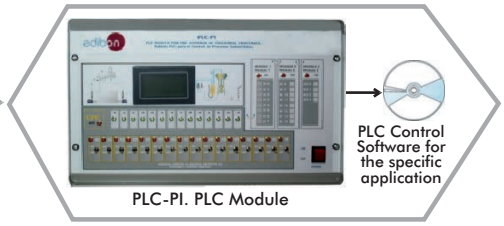


PBSPC. Computer Controlled **Series/Parallel Pumps Bench**

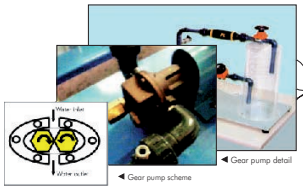


① Unit: PBSPC. Series/Parallel Pumps Bench

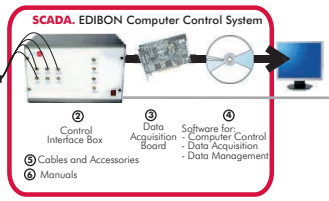


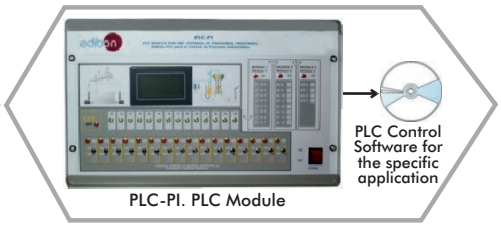


PBEC. Computer Controlled **Gear Pump Bench**

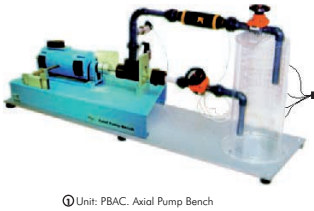


① Unit: PBEC. Gear Pump Bench

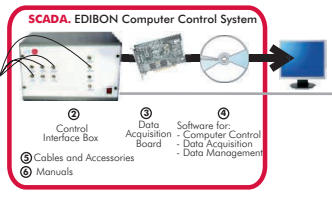


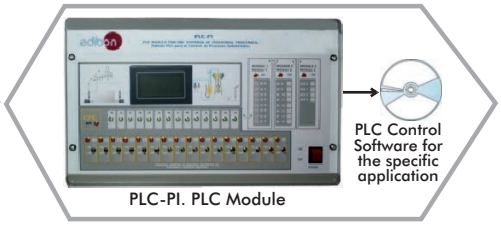


PBAC. Computer Controlled **Axial Pump Bench**

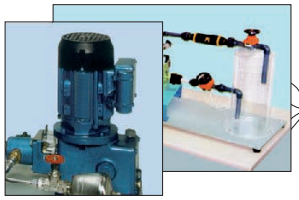


① Unit: PBAC. Axial Pump Bench

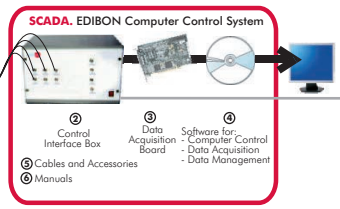


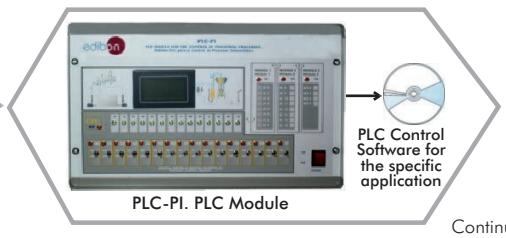


PBRC. Computer Controlled **(Reciprocating) Plunger Pump Bench**



① Unit: PBRC. (Reciprocating) Plunger Pump Bench





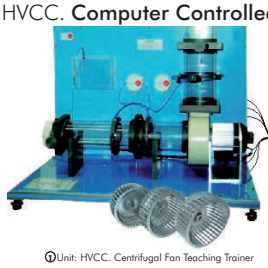
Continue ...

Units which can use PLC-PI: (continuation)

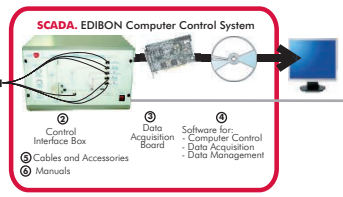
8.- Fluid Mechanics & Aerodynamics

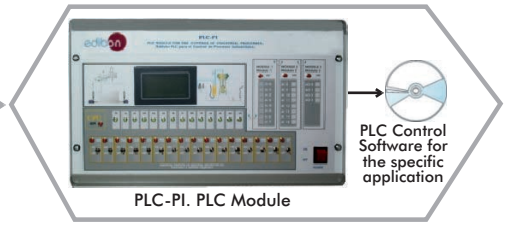
8.5.- Hydraulic Machines (Fans)

HVCC. Computer Controlled **Centrifugal Fan Teaching Trainer**

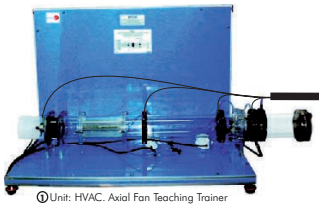


①Unit: HVCC. Centrifugal Fan Teaching Trainer

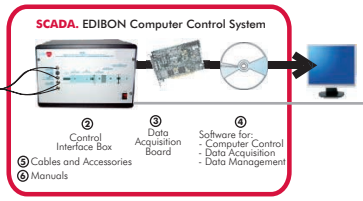


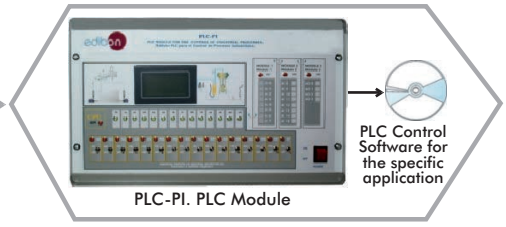


HVAC. Computer Controlled **Axial Fan Teaching Trainer**



①Unit: HVAC. Axial Fan Teaching Trainer

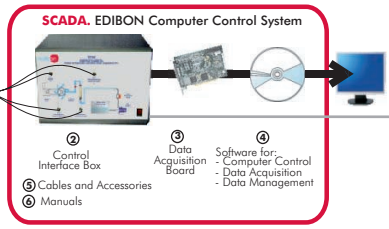


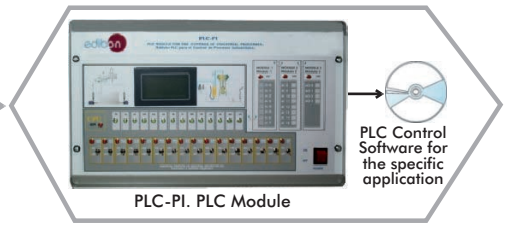


8.6.- Hydraulic Machines (Turbines)

TFRC. Computer Controlled **Radial Flow Turbine**

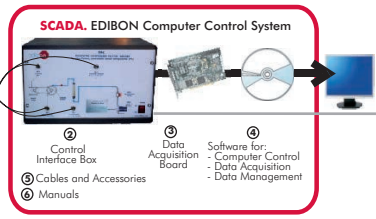
① Unit: TFRC. Radial Flow Turbine

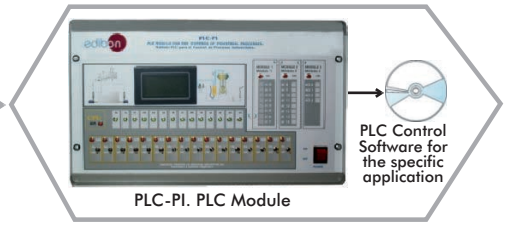




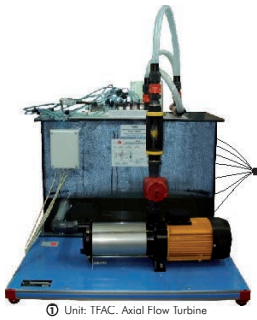
TPC. Computer Controlled **Pelton Turbine**

① Unit: TPC. Pelton Turbine

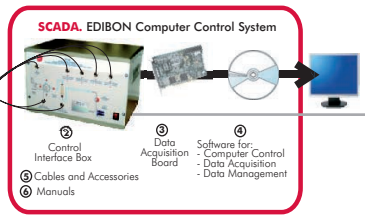


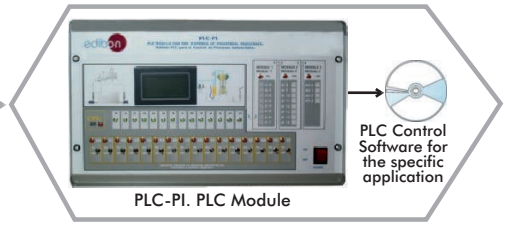


TFAC. Computer Controlled **Axial Flow Turbine**

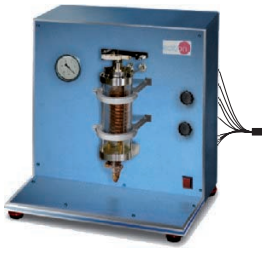


① Unit: TFAC. Axial Flow Turbine

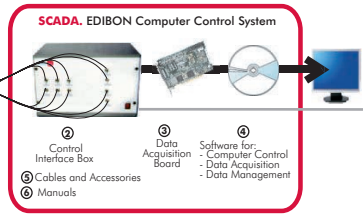


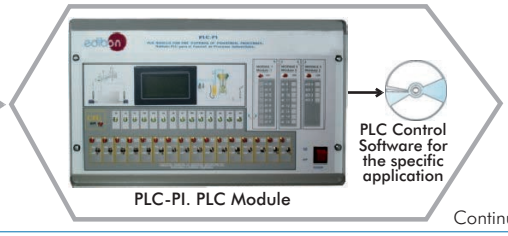


TTVC. Computer Controlled **Steam Turbine**



① Unit: TTVC. Steam Turbine





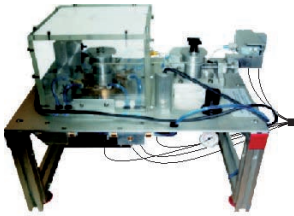
Continue ...

Units which can use PLC-PI: (continuation)

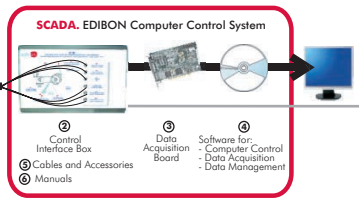
8.- Fluid Mechanics & Aerodynamics

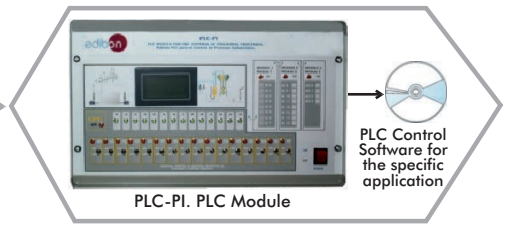
8.6.- Hydraulic Machines (Turbines)

HTIC. Computer Controlled **Experimental Impulse Turbine**

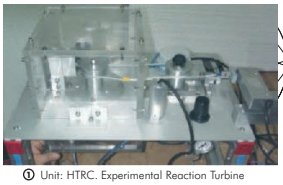


① Unit: HTIC. Experimental Impulse Turbine

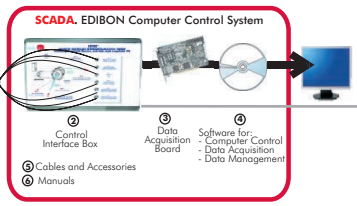


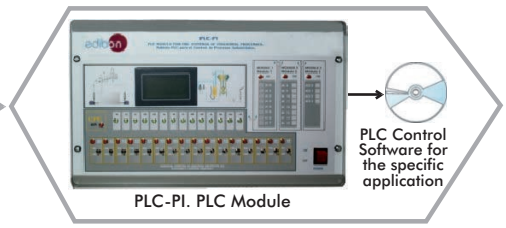


HTRC. Computer Controlled **Experimental Reaction Turbine**



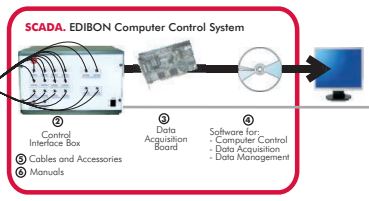
① Unit: HTRC. Experimental Reaction Turbine

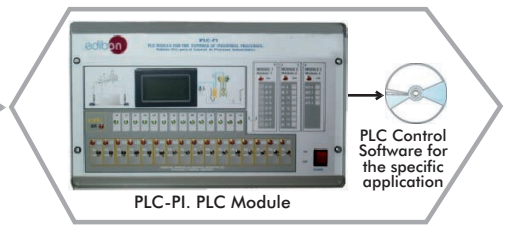




HTVC. Computer Controlled **Solar/Heat Source Vapour Turbine**

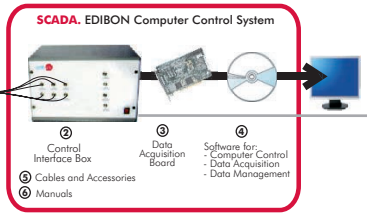
① Unit: HTVC. Solar/Heat Source Vapour Turbine

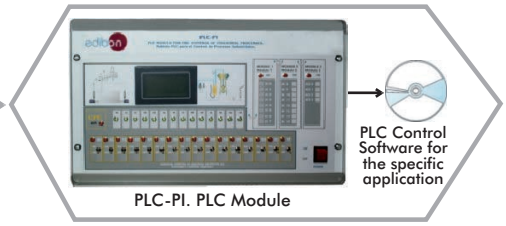




TFC. Computer Controlled **Francis Turbine**

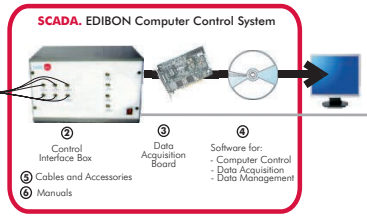
① Unit: TFC. Francis Turbine

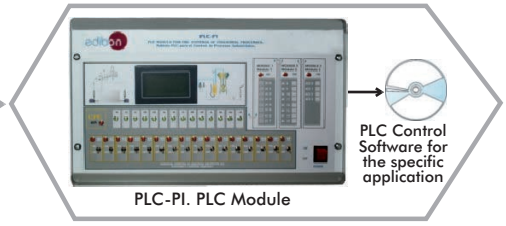




TKC. Computer Controlled **Kaplan Turbine**

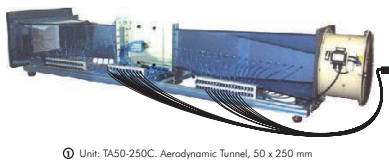
① Unit: TKC. Kaplan Turbine



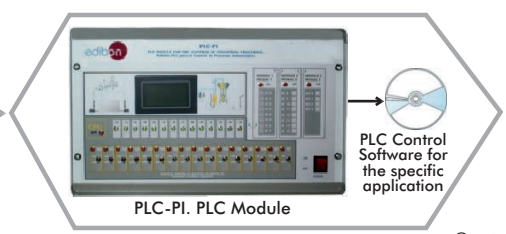


8.7.- Aerodynamics (Basic)

TA50/250C. Computer Controlled **Aerodynamic Tunnel, 50 x 250 mm**



① Unit: TA50-250C. Aerodynamic Tunnel, 50 x 250 mm



Continue ...

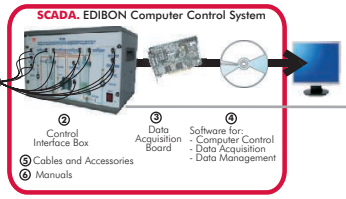
Units which can use PLC-PI: (continuation)

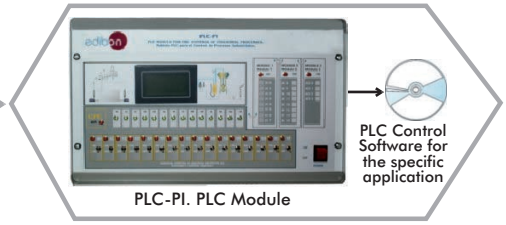
9.- Thermodynamics & Thermotechnics

9.1.- Refrigeration

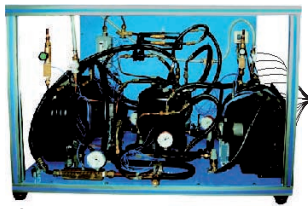
TCRC. Computer Controlled **Refrigeration Cycle Demonstration Unit**

① Unit: TCRC. Refrigeration Cycle Demonstration Unit

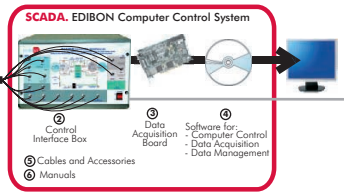


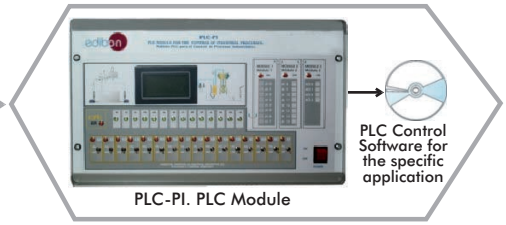


THAR22C. Computer Controlled **Refrigeration and Air Conditioning Unit** (two condensers and two evaporators)

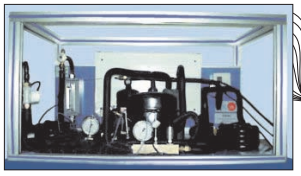


① Unit: THAR22C. Refrigeration and Air Conditioning Unit (two condensers (water and air) and two evaporators (water and air))

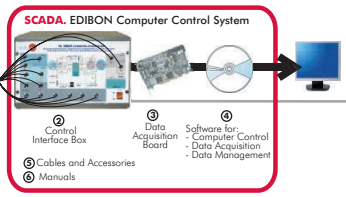


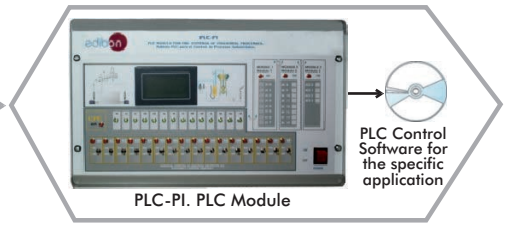


THAR2LC. Computer Controlled **Refrigeration and Air Conditioning Unit** (two condensers and one evaporator)



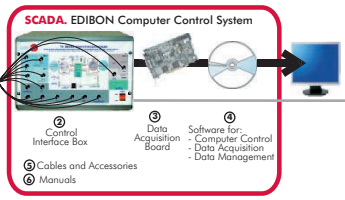
① Unit: THAR2LC. Refrigeration and Air Conditioning Unit (two condensers (water and air) and one evaporator (water))

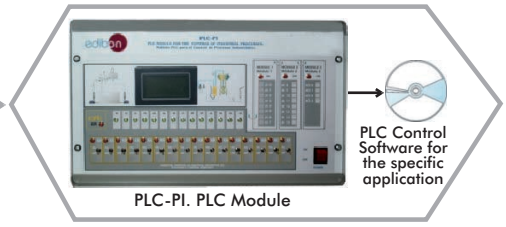




THARL2C. Computer Controlled **Refrigeration and Air Conditioning Unit** (water condenser and two evaporators)

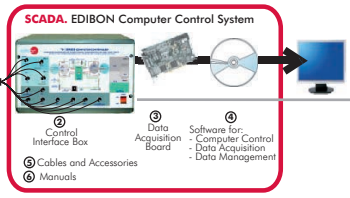
① Unit: THARL2C. Refrigeration and Air Conditioning Unit (one condenser (water) and two evaporators (water and air))

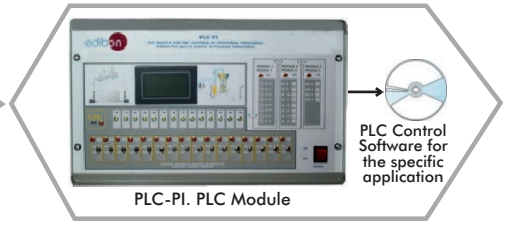




THARLLC. Computer Controlled **Refrigeration and Air Conditioning Unit** (water condenser and water evaporator)

① Unit: THARLLC. Refrigeration and Air Conditioning Unit (one condenser (water) and one evaporator (water))





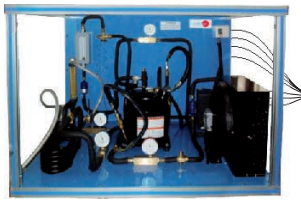
Continue ...

Units which can use PLC-PI: (continuation)

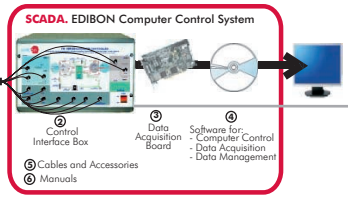
9.- Thermodynamics & Thermotechnics

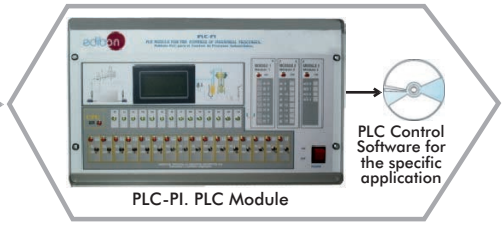
9.1.- Refrigeration

THARALC. Computer Controlled **Refrigeration and Air Conditioning Unit** (air condenser and water evaporator)

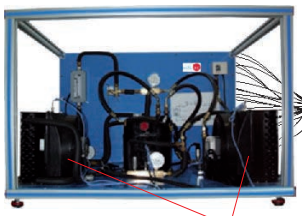


① Unit: THARALC. Refrigeration and Air Conditioning Unit (one condenser (air) and one evaporator (water))



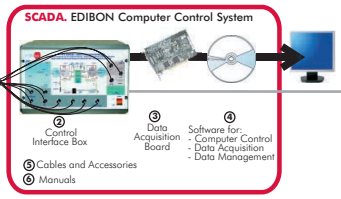


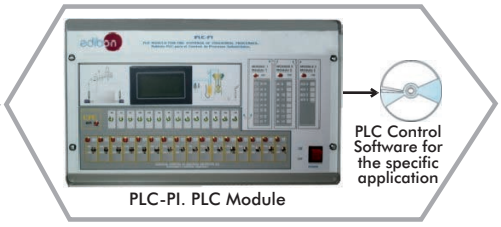
THARA2C/1. Computer Controlled **Capacity Control Methods in Refrigeration**



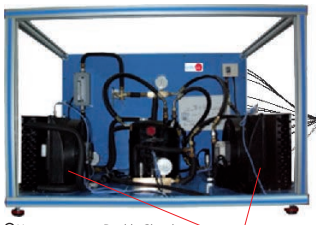
① Unit: THARA2C/1. Capacity Control Methods in Refrigeration

(Frontal view of the evaporators)



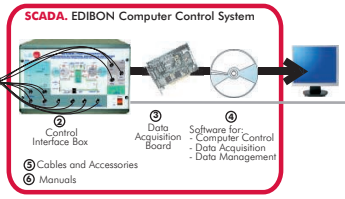


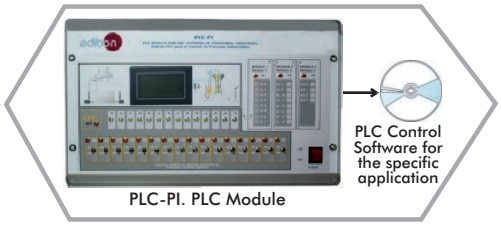
THARA2C/2. Computer Controlled **Double Chamber Refrigerator Module**



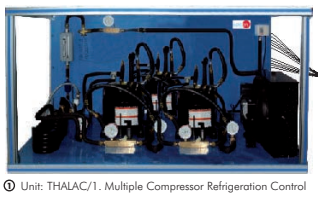
① Unit: THARA2C/2. Double Chamber Refrigerator Module

(Detailed view of evaporators)

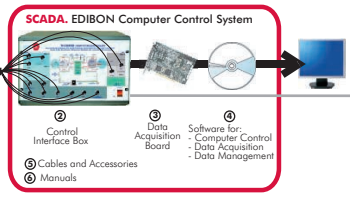


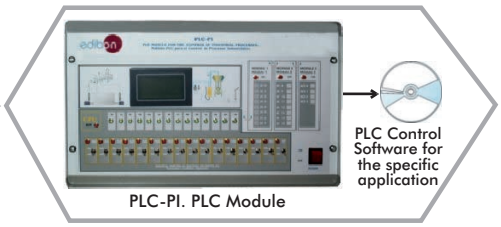


THALAC/1. Computer Controlled **Multiple Compressor Refrigeration Control**



① Unit: THALAC/1. Multiple Compressor Refrigeration Control





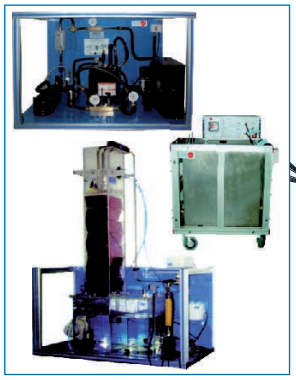
Continue ...

Units which can use PLC-PI: (continuation)

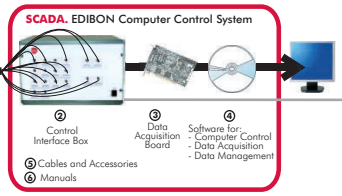
9.- Thermodynamics & Thermotechnics

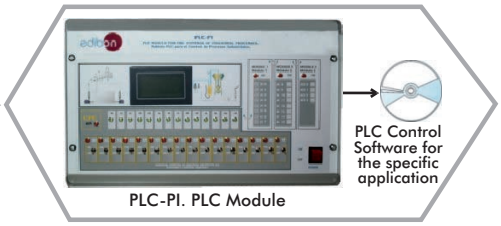
9.1.- Refrigeration

TCPISC. Computer Controlled **Cooling Plant with Ice Store**



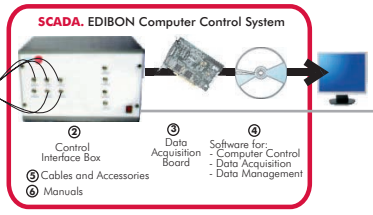
① Unit: TCPISC. Cooling Plant with Ice Store

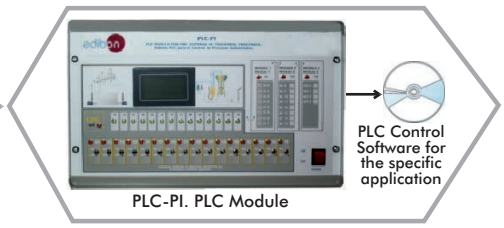




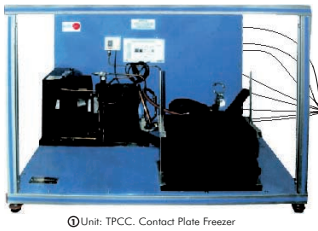
TPVC. Computer Controlled **Vortex Tube Refrigerator Unit**

① Unit: TPVC. Vortex Tube Refrigerator Unit

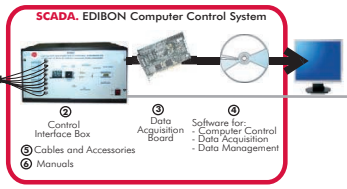


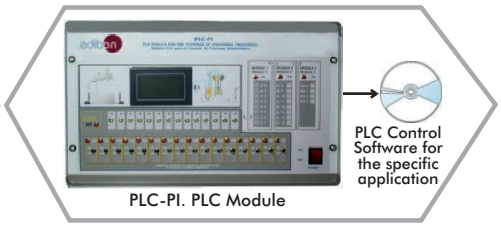


TPCC. Computer Controlled **Contact Plate Freezer**



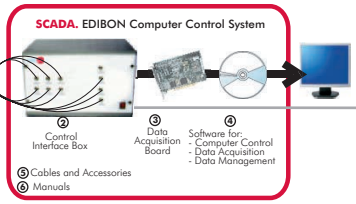
①Unit: TPCC. Contact Plate Freezer

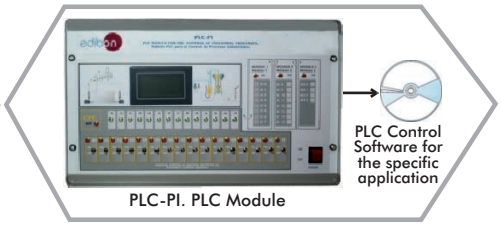




TEVC. Computer Controlled **Ventilation Trainer**

① Unit:TEVC. Ventilation Trainer

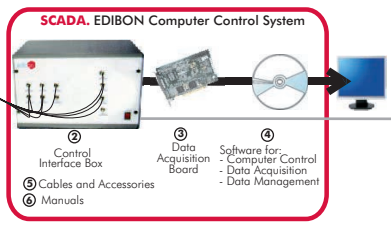


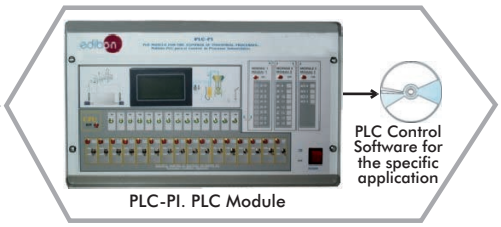


9.3.- Heating

EACC.Computer Controlled **Hot Water Production and Heating Teaching Unit**

①Unit: EACC. Hot Water Production and Heating Teaching Unit





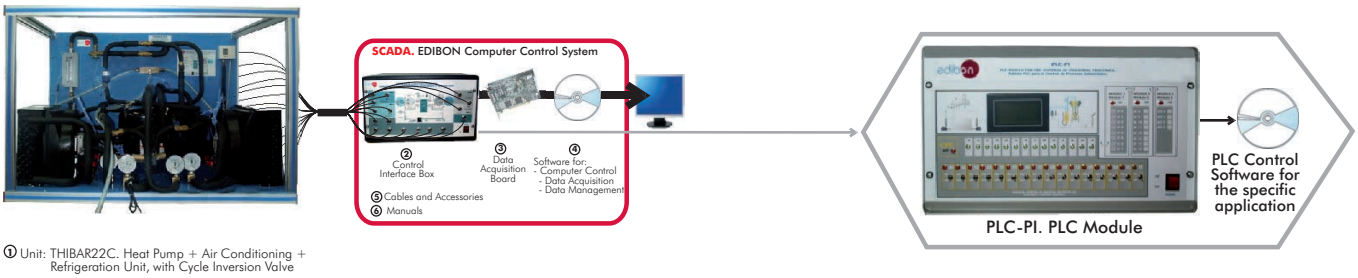
Continue ...

Units which can use PLC-PI: (continuation)

9.- Thermodynamics & Thermotechnics

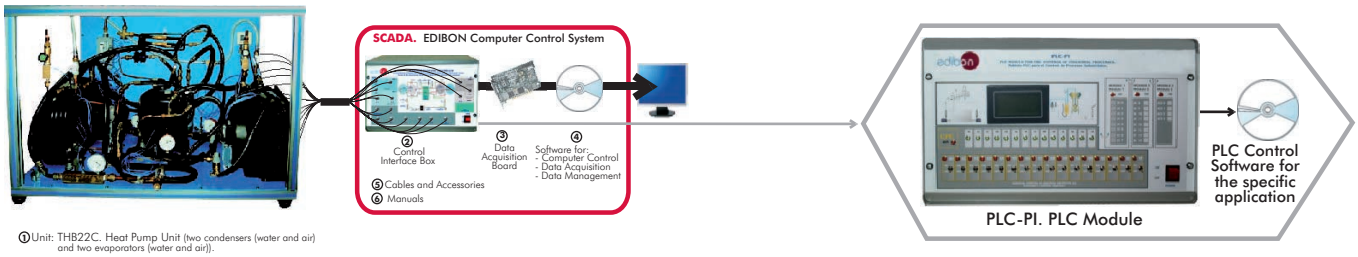
9.4.- Heat Pumps

THIBAR22C. Computer Controlled **Heat Pump + Air Conditioning + Refrigeration Unit, with Cycle Inversion Valve**



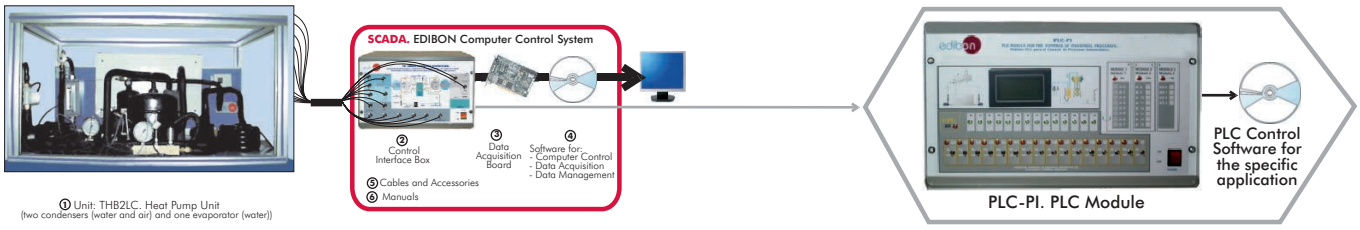
① Unit: THIBAR22C. Heat Pump + Air Conditioning + Refrigeration Unit, with Cycle Inversion Valve

THB22C. Computer Controlled **Heat Pump Unit** (two condensers and two evaporators)



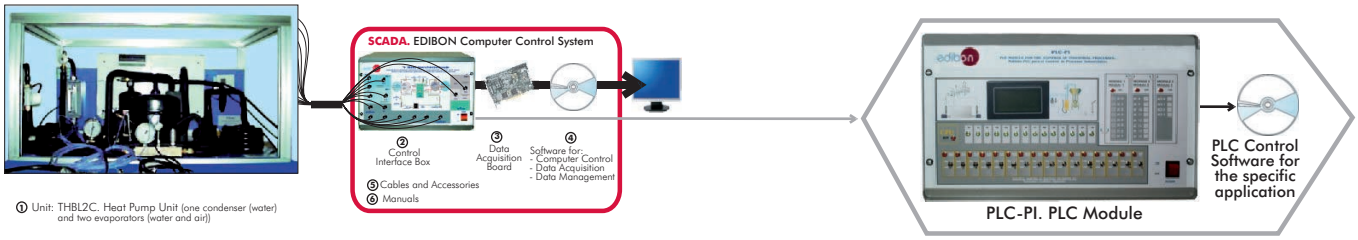
① Unit: THB22C. Heat Pump Unit (two condensers (water and air) and two evaporators (water and air)).

THB2LC. Computer Controlled **Heat Pump Unit** (two condensers and water evaporator)



① Unit: THB2LC. Heat Pump Unit (two condensers (water and air) and one evaporator (water))

THBL2C. Computer Controlled **Heat Pump Unit** (water condenser and two evaporators)



① Unit: THBL2C. Heat Pump Unit (one condenser (water) and two evaporators (water and air))

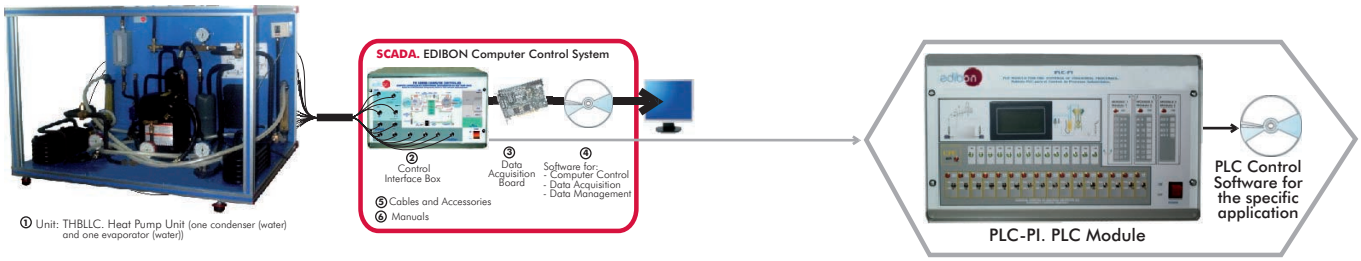
Continue ...

Units which can use PLC-PI: (continuation)

9.- Thermodynamics & Thermotechnics

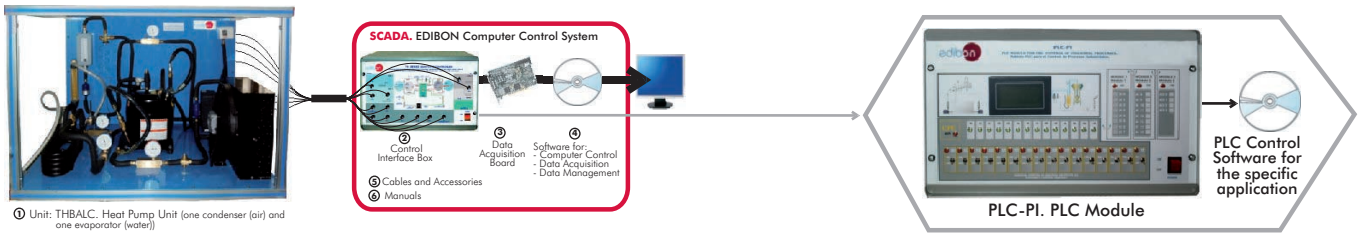
9.4.- Heat Pumps

THBLLC. Computer Controlled **Heat Pump Unit** (water condenser and water evaporator)



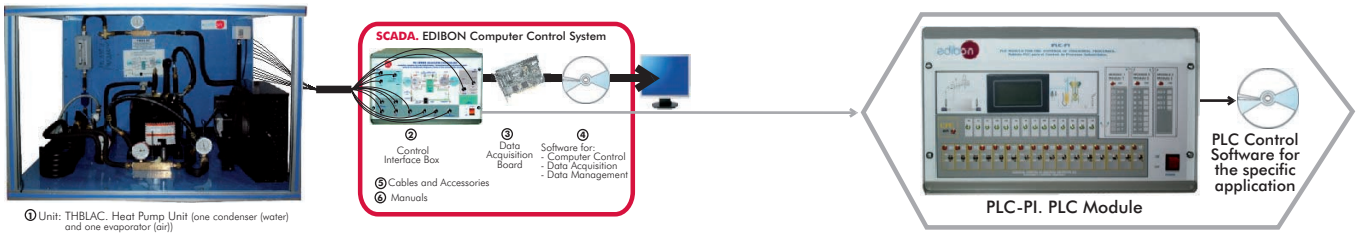
① Unit: THBLLC. Heat Pump Unit (one condenser (water) and one evaporator (water))

THBALC. Computer Controlled **Heat Pump Unit** (air condenser and water evaporator)



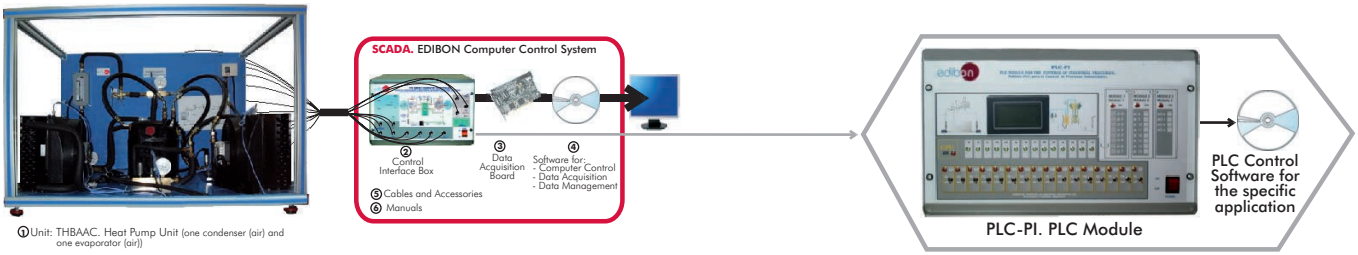
① Unit: THBALC. Heat Pump Unit (one condenser (air) and one evaporator (water))

THBLAC. Computer Controlled **Heat Pump Unit** (water condenser and air evaporator)



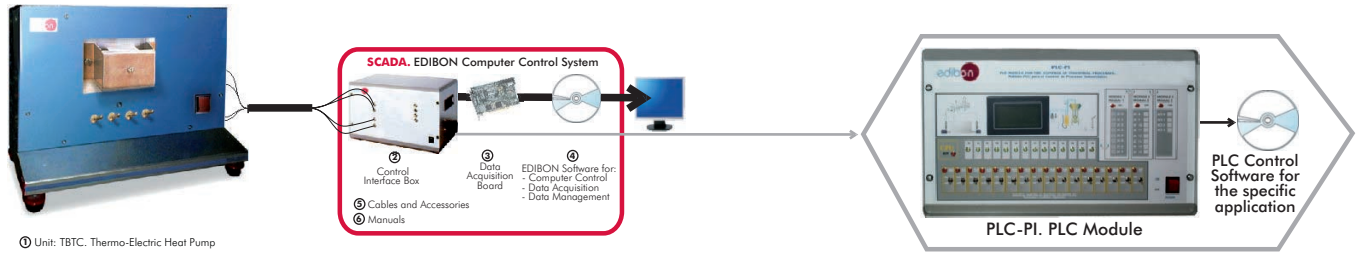
① Unit: THBLAC. Heat Pump Unit (one condenser (water) and one evaporator (air))

THBAAC. Computer Controlled **Heat Pump Unit** (air condenser and air evaporator)



① Unit: THBAAC. Heat Pump Unit (one condenser (air) and one evaporator (air))

TBTC. Computer Controlled **Thermo-Electric Heat Pump**



① Unit: TBTC. Thermo-Electric Heat Pump

Continue ...

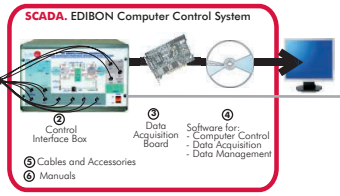
Units which can use PLC-PI: (continuation)

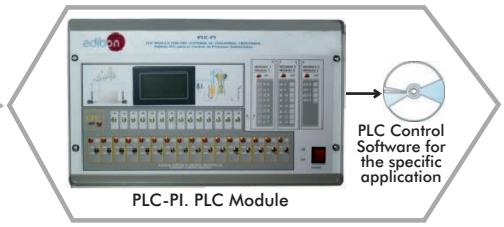
9.- Thermodynamics & Thermotechnics

9.5.- Air Conditioning

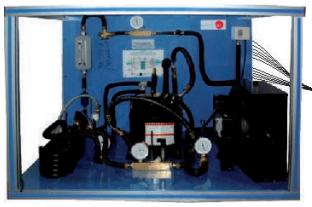
THAAAC. Computer Controlled **Air Conditioning Unit** (air condenser and air evaporator)

① Unit: THAAAC. Air Conditioning Unit (one condenser (air) and one evaporator (air))

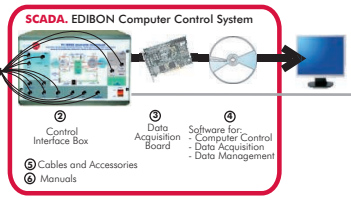


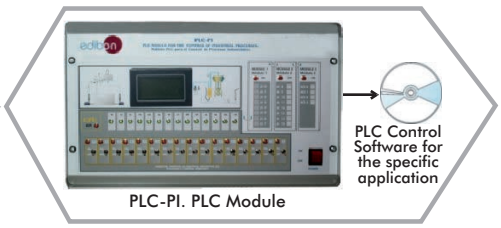


THALAC. Computer Controlled **Air Conditioning Unit** (water condenser and air evaporator)



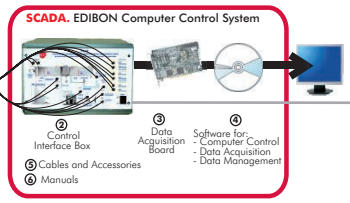
① Unit: THALAC. Air Conditioning Unit (one condenser (water) and one evaporator (air))

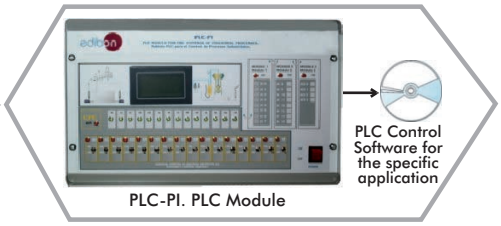




TAAC. Computer Controlled **Air Conditioning Laboratory Unit**

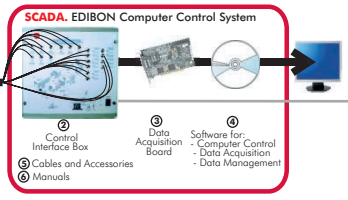
① Unit: TAAC. Air Conditioning Laboratory Unit

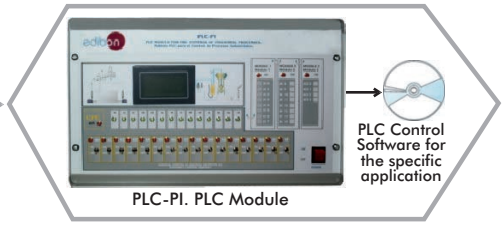




TARC. Computer Controlled **Recirculating Air Conditioning Unit**

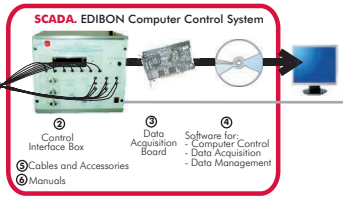
① Unit: TARC. Recirculating Air Conditioning Unit

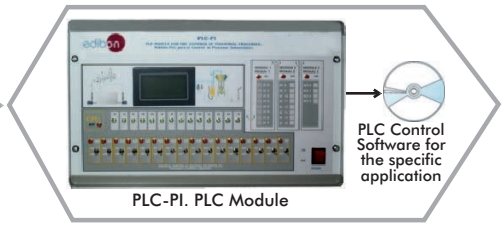




TAAUC. Computer Controlled **Automobile Air Conditioning Trainer**

① Unit: TAAUC. Automobile Air Conditioning Trainer





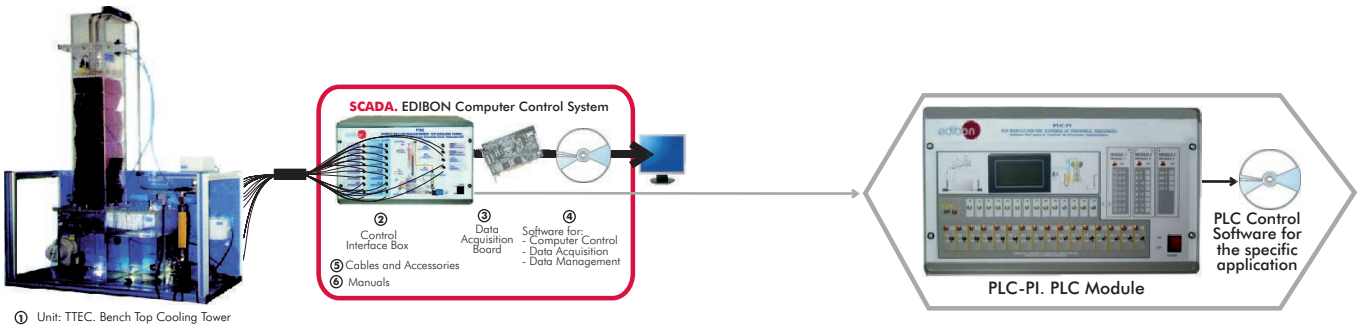
Continue ...

Units which can use PLC-PI: (continuation)

9.- Thermodynamics & Thermotechnics

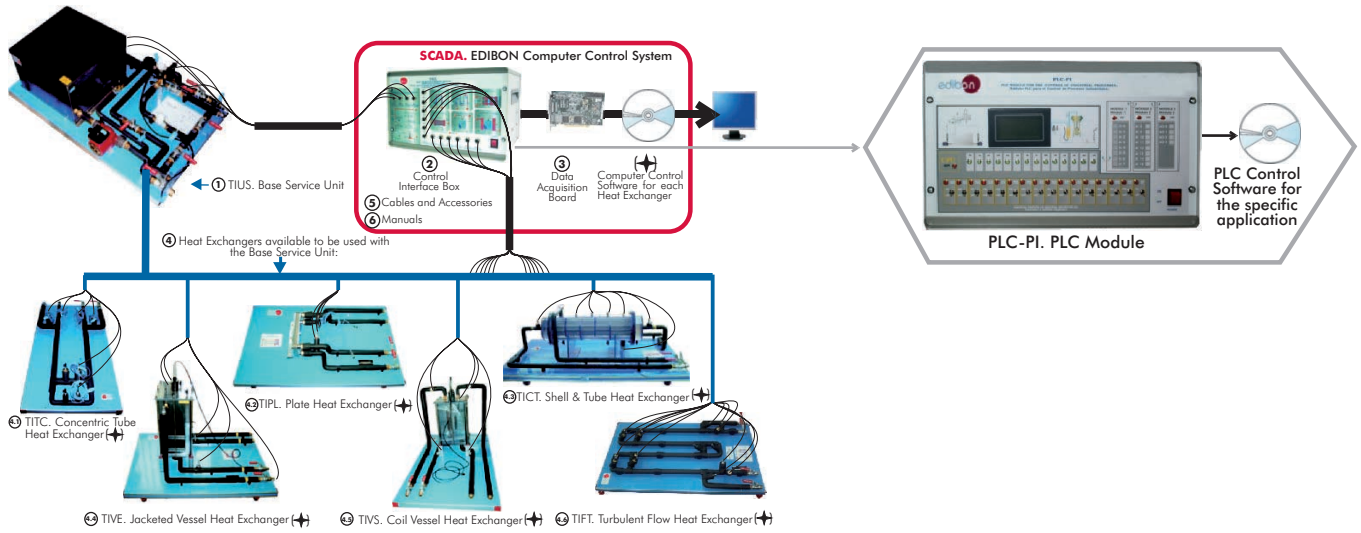
9.6.- Cooling Towers

TTEC. Computer Controlled **Bench Top Cooling Tower**



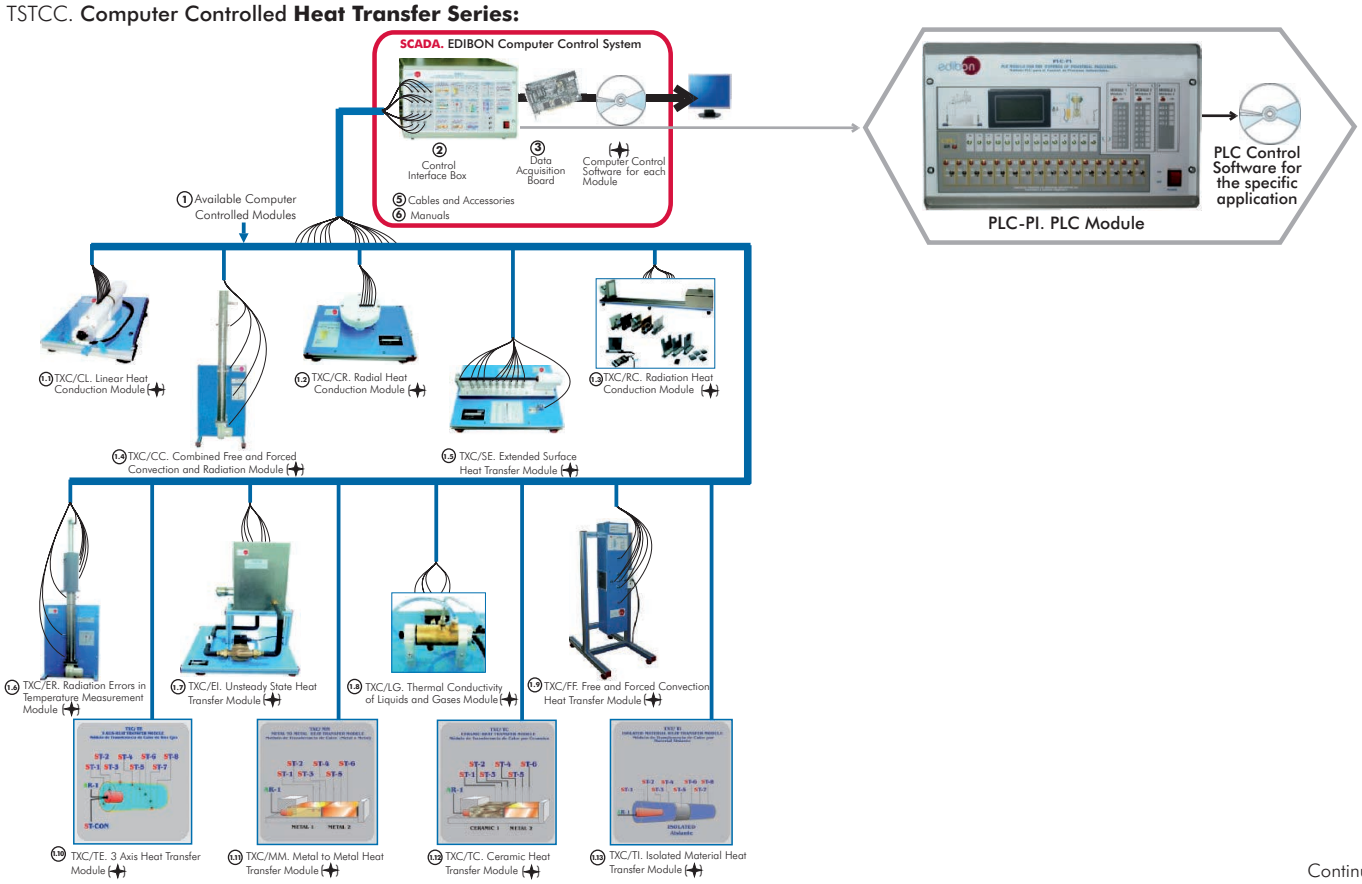
9.7.- Heat Exchange

TICC. Computer Controlled **Heat Exchangers Training System:**



9.8.- Heat Transfer (Basic)

TSTCC. Computer Controlled **Heat Transfer Series:**



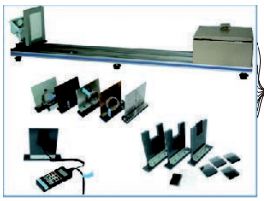
Continue ...

Units which can use PLC-PI: (continuation)

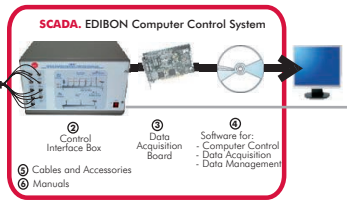
9.- Thermodynamics & Thermotechnics

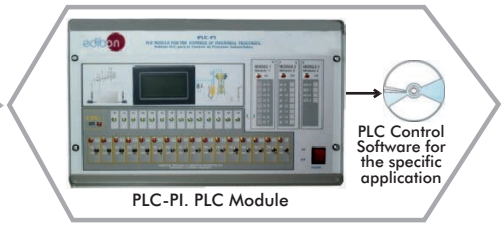
9.9.- Heat Transfer (General)

TRTC. Computer Controlled **Thermal Radiation Unit**



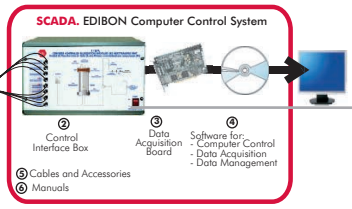
① Unit: TRTC. Thermal Radiation Unit

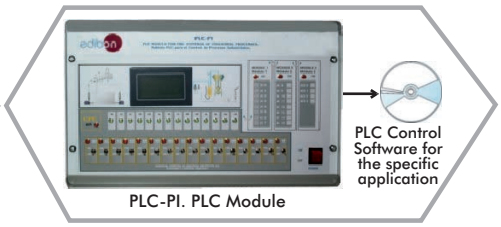




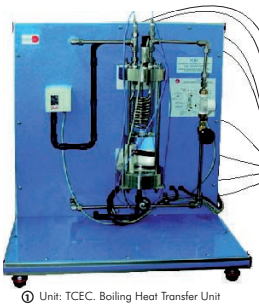
TTLFC. Computer Controlled **Fluidisation and Fluid Bed Heat Transfer Unit**

① Unit: TTLFC. Fluidisation and Fluid Bed Heat Transfer Unit

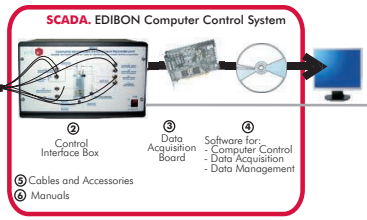


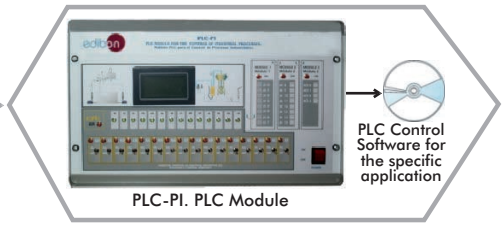


TCEC. Computer Controlled **Boiling Heat Transfer Unit**

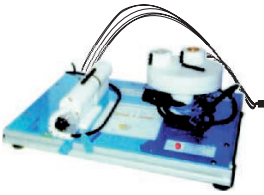


① Unit: TCEC. Boiling Heat Transfer Unit

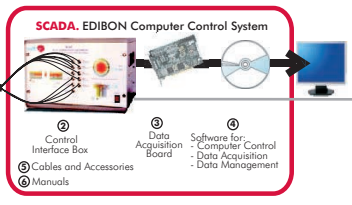


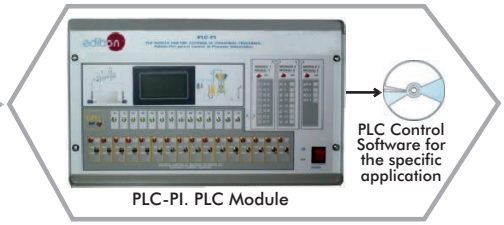


TCCC. Computer Controlled **Heat Conduction Unit**

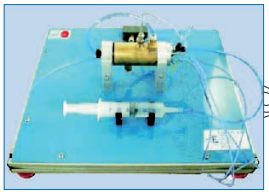


① Unit: TCCC. Heat Conduction Unit

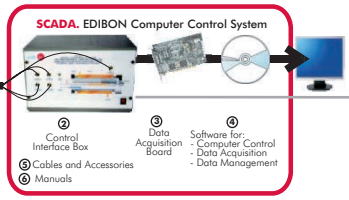


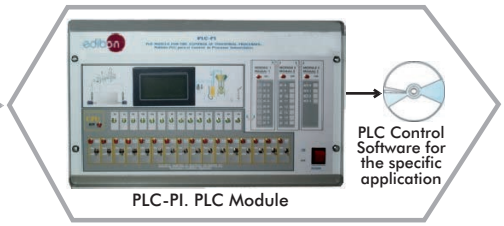


TCLGC. Computer Controlled **Thermal Conductivity of Liquids and Gases Unit**



① Unit: TCLGC. Thermal Conductivity of Liquids and Gases Unit





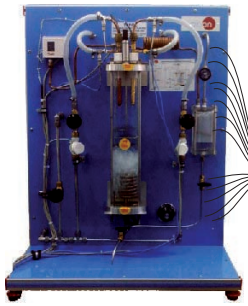
Continue ...

Units which can use PLC-PI: (continuation)

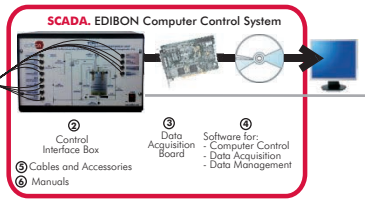
9.- Thermodynamics & Thermotechnics

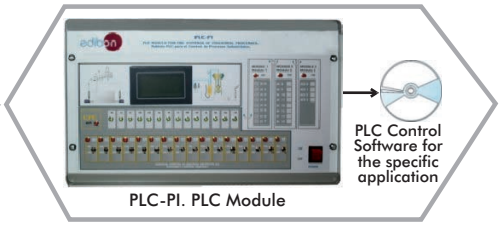
9.9.- Heat Transfer (General)

TCPGC. Computer Controlled **Film and Dropwise Condensation Unit**

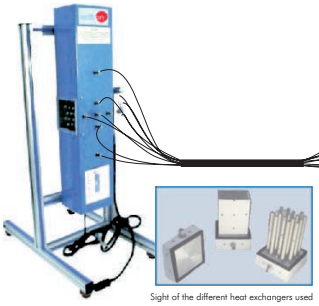


① Unit: TCPGC. Film and Dropwise Condesation Unit



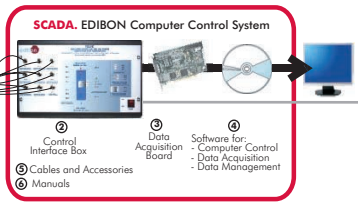


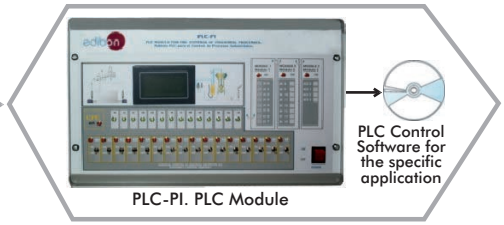
TCLFC. Computer Controlled **Free and Forced Convection Heat Transfer Unit**



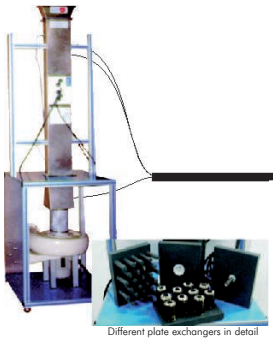
Sight of the different heat exchangers used

① Unit: TCLFC. Free and Forced Convection Heat Transfer Unit



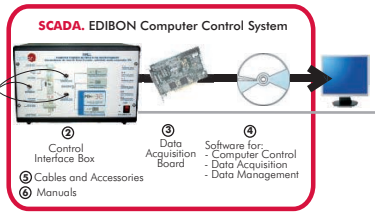


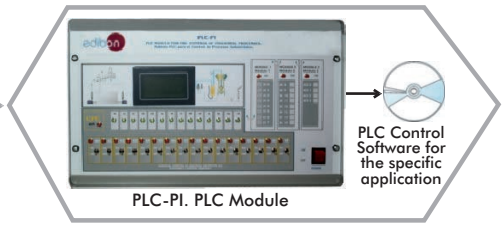
TIFCC. Computer Controlled **Cross Flow Heat Exchanger**



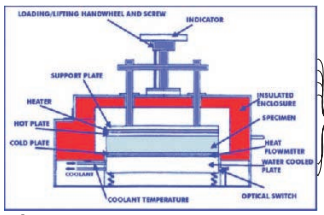
Different plate exchangers in detail

① Unit: TIFCC. Cross Flow Heat Exchanger

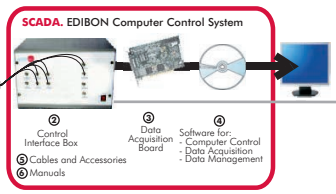


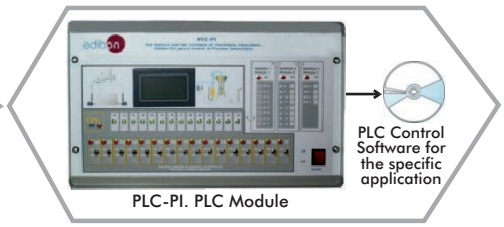


TCMC. Computer Controlled **Thermal Conductivity of Building and Insulating Materials Unit**



① Unit: TCMC. Thermal Conductivity of Building and Insulating Materials Unit

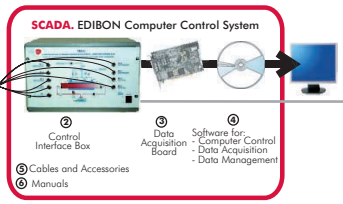


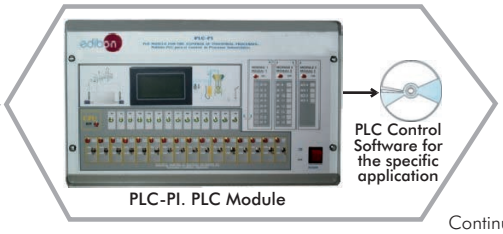


9.10.- Heat Transfer (Special)

TFLVC. Computer Controlled **Laminar/Viscous Flow Heat Transfer Unit**

① Unit: TFLVC. Laminar/Viscous Flow Heat Transfer Unit





Continue ...

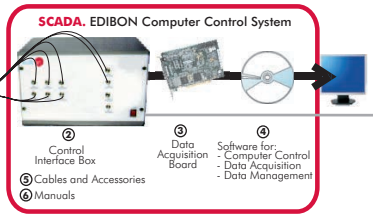
Units which can use PLC-PI: (continuation)

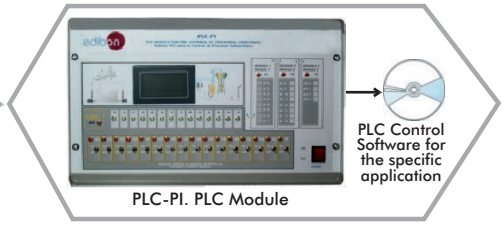
9.- Thermodynamics & Thermotechnics

9.10.- Heat Transfer (Special)

TIVAC. Computer Controlled **Steam to Water Heat Exchanger**

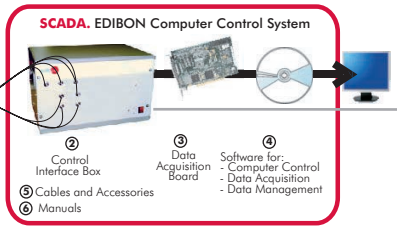
① Unit: TIVAC. Steam to Water Heat Exchanger

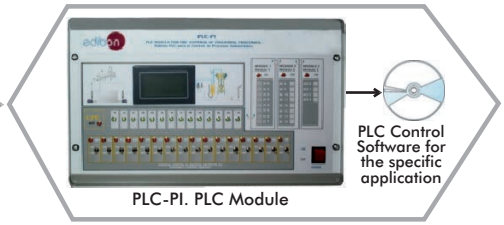




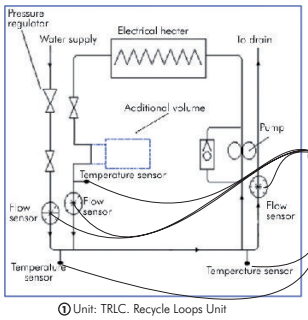
TFEC. Computer Controlled **Flow Boiling Demonstration Unit**

① Unit: TFEC. Flow Boiling Demonstration Unit

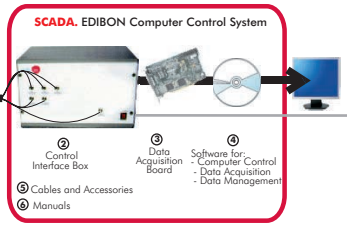


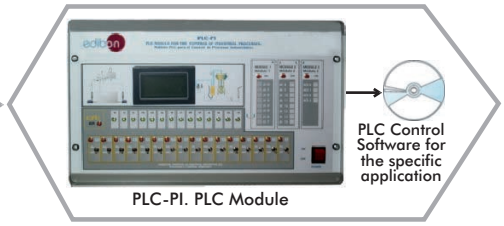


TRLC. Computer Controlled **Recycle Loops Unit**

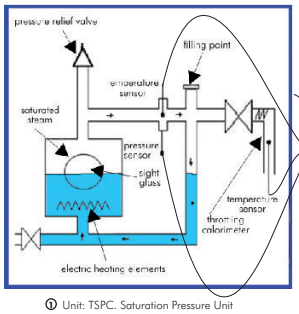


① Unit: TRLC. Recycle Loops Unit

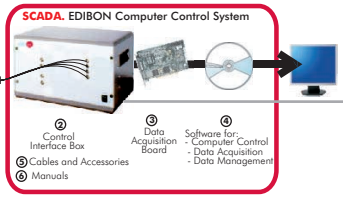


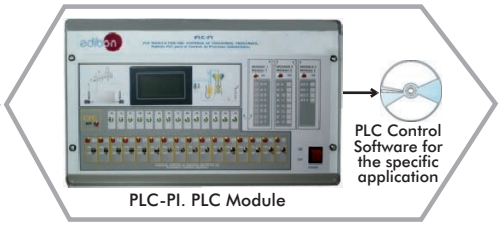


TSPC. Computer Controlled **Saturation Pressure Unit**



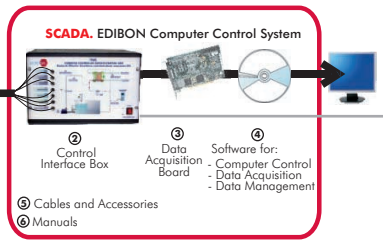
① Unit: TSPC. Saturation Pressure Unit

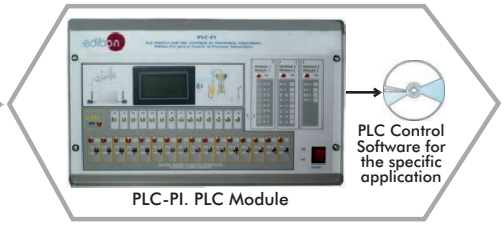




TFUC. Computer Controlled **Batch Filtration Unit**

① Unit TFUC. Batch Filtration Unit





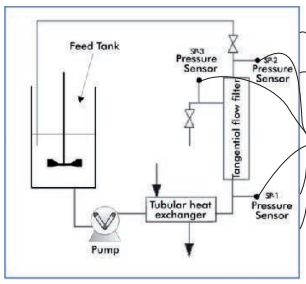
Continue ...

Units which can use PLC-PI: (continuation)

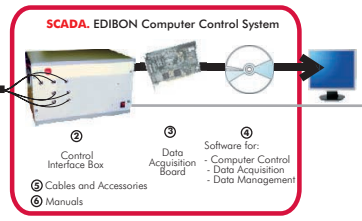
9.- Thermodynamics & Thermotechnics

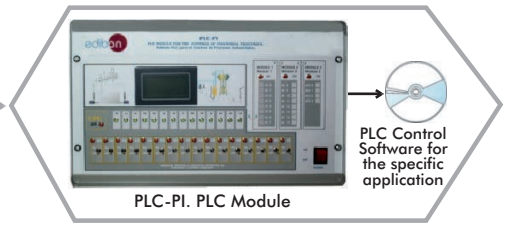
9.10.- Heat Transfer (Special)

TCFUC. Computer Controlled **Continuous Filtration Unit**



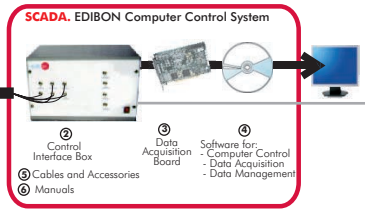
① Unit: TCFUC. Continuous Filtration Unit

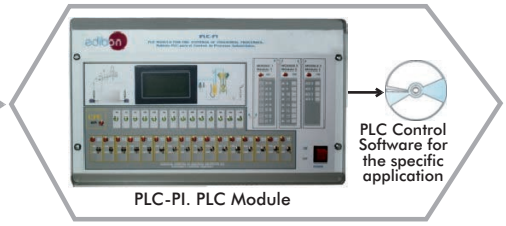




TEPGC. Computer Controlled **Expansion Processes of a Perfect Gas Unit**

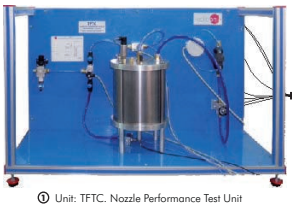
① Unit: TEPGC. Expansion Processes of a Perfect Gas Unit



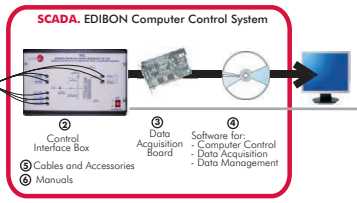


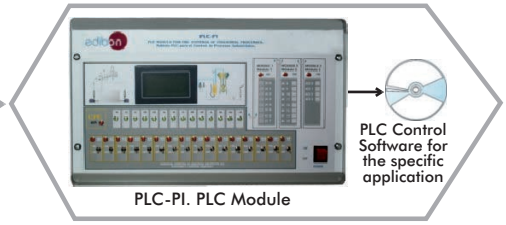
9.11.- Nozzles & Steam

TFTC. Computer Controlled **Nozzle Performance Test Unit**



① Unit: TFTC. Nozzle Performance Test Unit

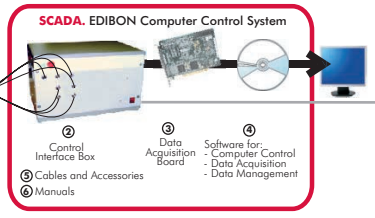


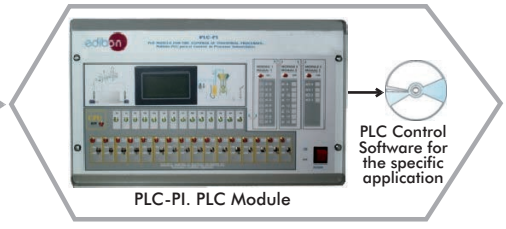


9.12.- Combustion

TVCC. Computer Controlled **Combustion Laboratory Unit**

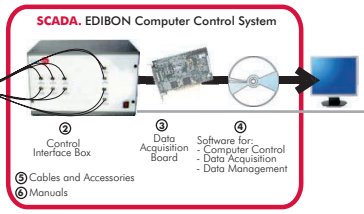
① Unit: TVCC. Combustion Laboratory Unit

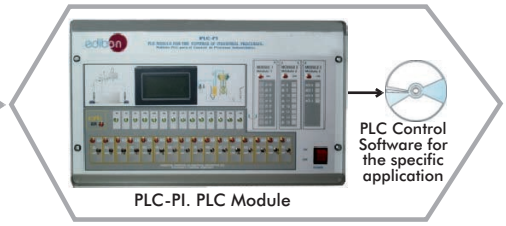




TVPLC. Computer Controlled **Flame Propagation and Stability Unit**

① Unit: TVPLC. Flame Propagation and Stability Unit





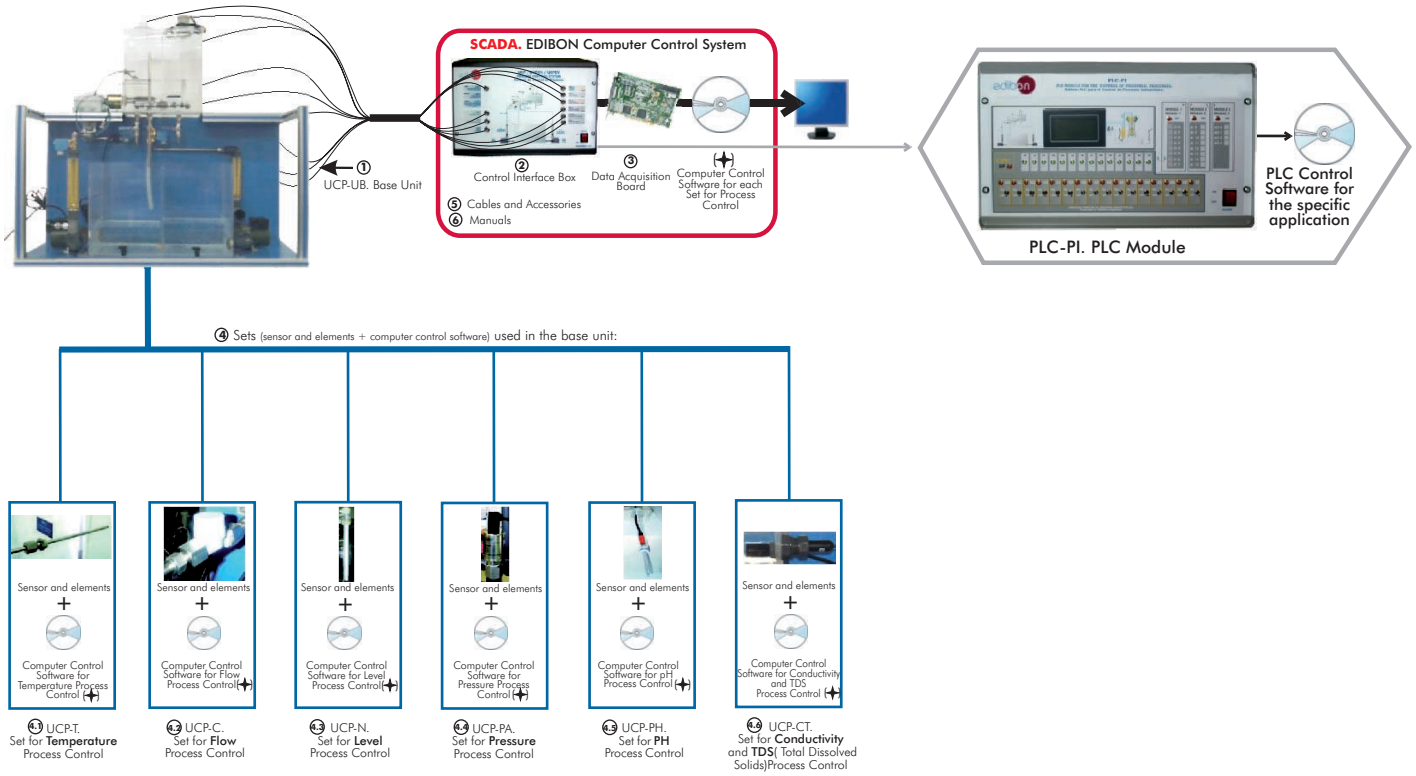
Continue ...

Units which can use PLC-PI: (continuation)

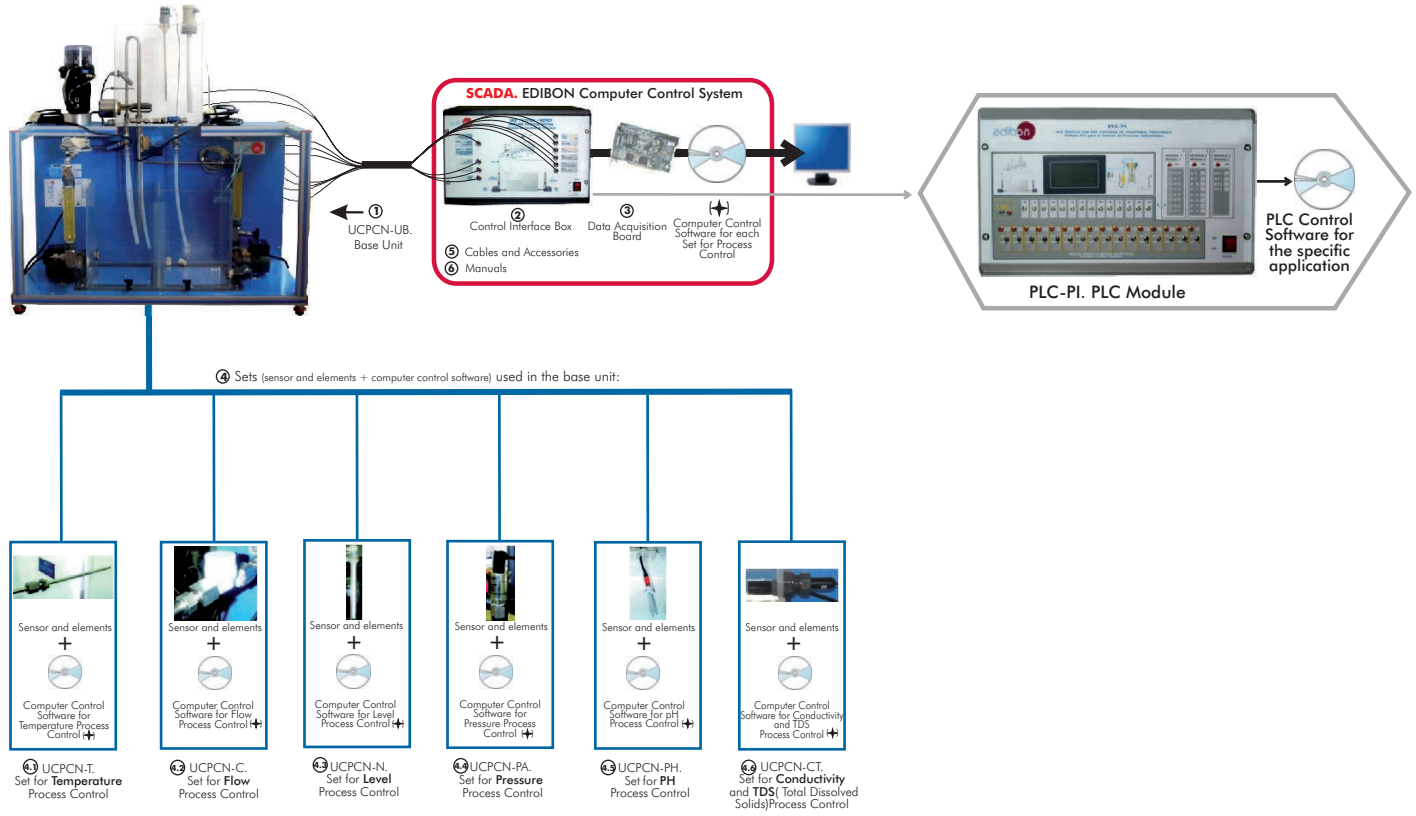
10.- Process Control

10.1.- Process Control. Fundamentals

UCP. Computer Controlled **Process Control System, with electronic control valve :**



UCPCN. Computer Controlled **Process Control System, with pneumatic control valve :**



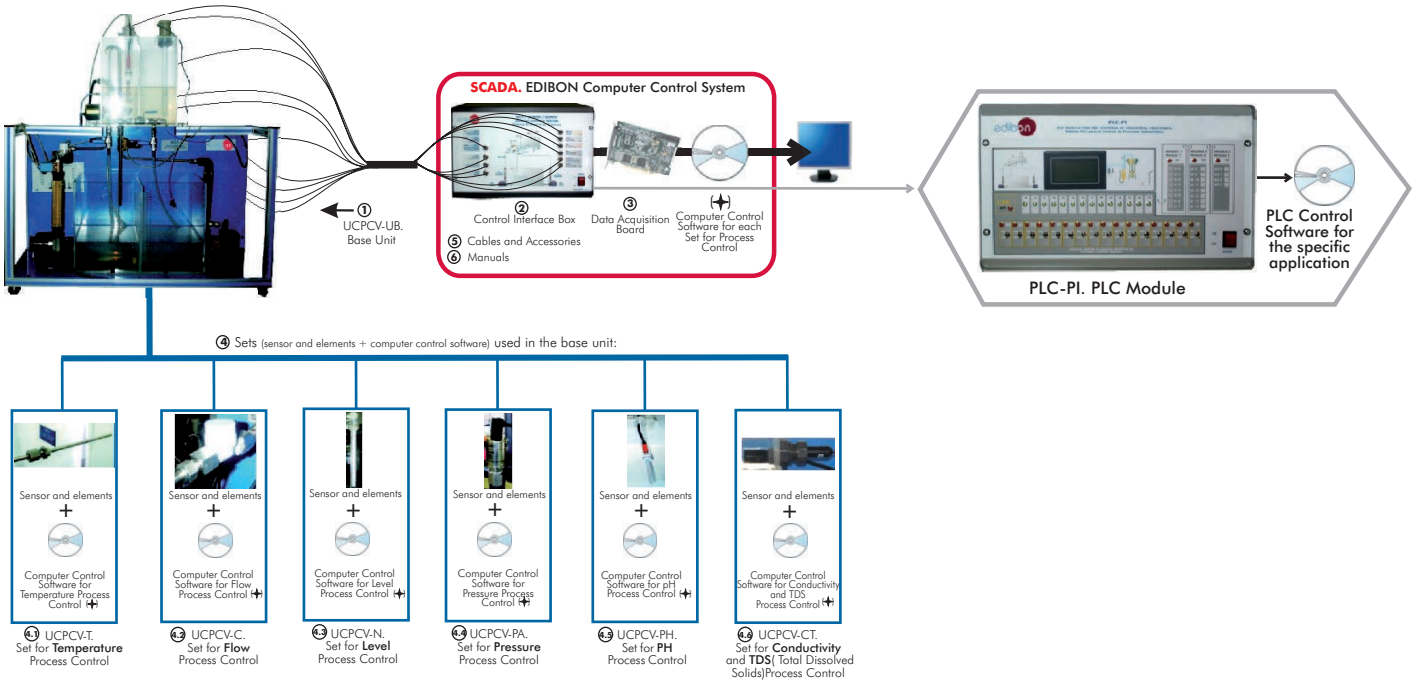
Continue ...

Units which can use PLC-PI: (continuation)

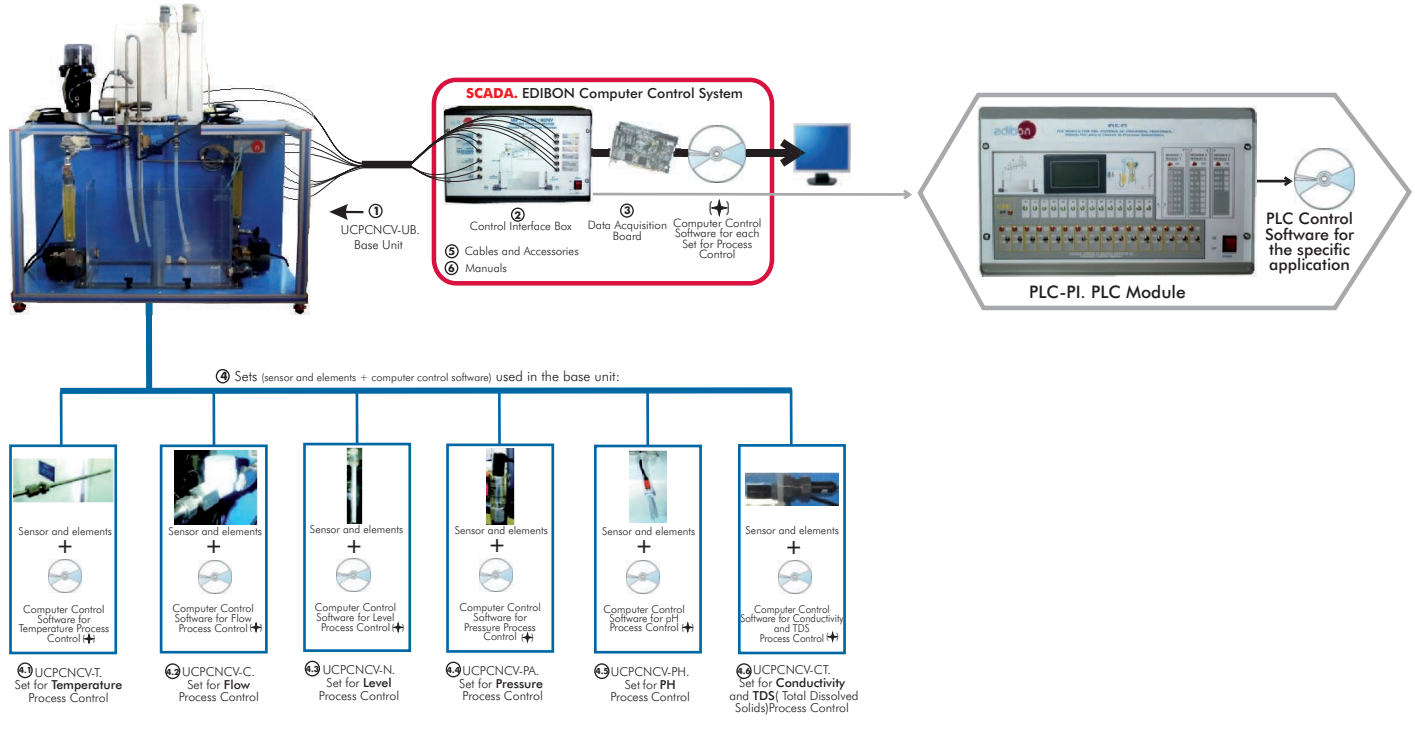
10.- Process Control

10.1.- Process Control. Fundamentals

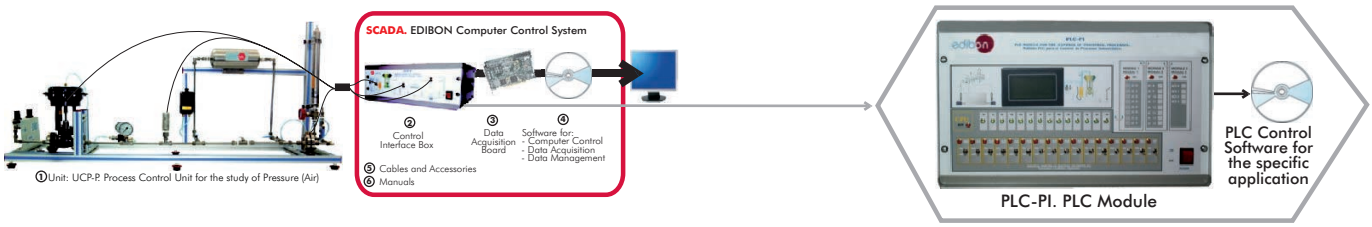
UCPCV. Computer Controlled **Process Control System, with speed controller :**



UCPCNCV. Computer Controlled **Process Control System, with electronic control valve + pneumatic control valve + speed controller :**



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



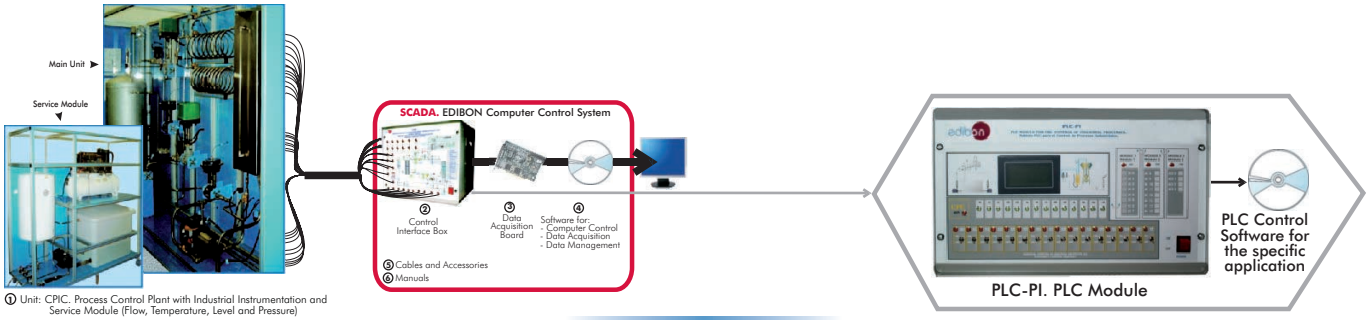
Continue ...

Units which can use PLC-PI: (continuation)

10.- Process Control

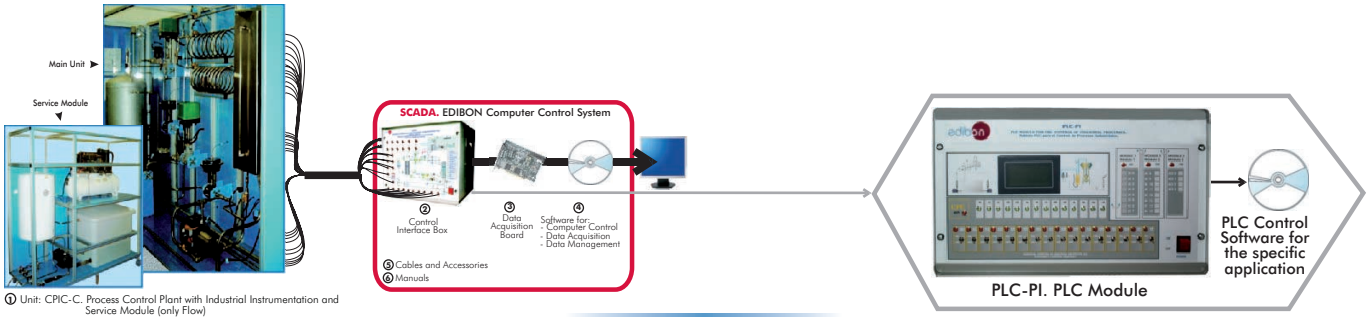
10.2.- Industrial Process Control

CPIC. Computer Controlled **Process Control Plant with Industrial Instrumentation and Service Module (Flow, Temperature, Level and Pressure)**



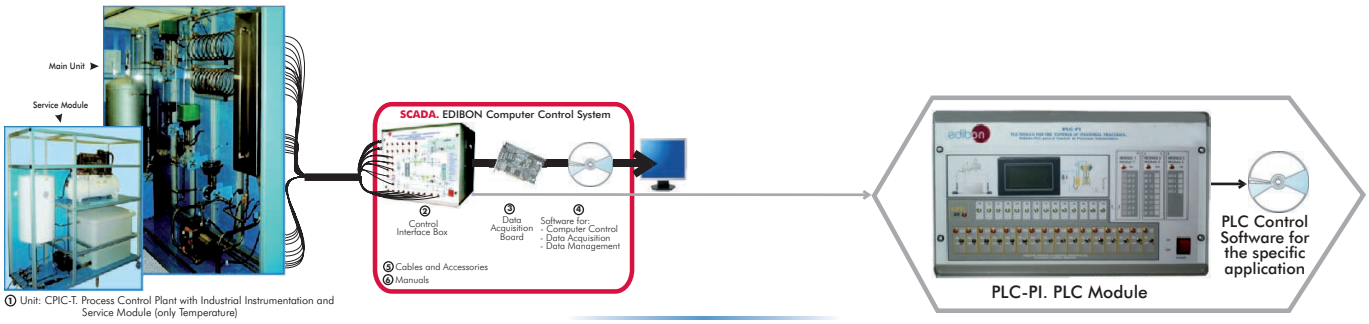
① Unit: CPIC. Process Control Plant with Industrial Instrumentation and Service Module (Flow, Temperature, Level and Pressure)

CPIC-C. Computer Controlled **Process Control Plant with Industrial Instrumentation and Service Module (only Flow)**



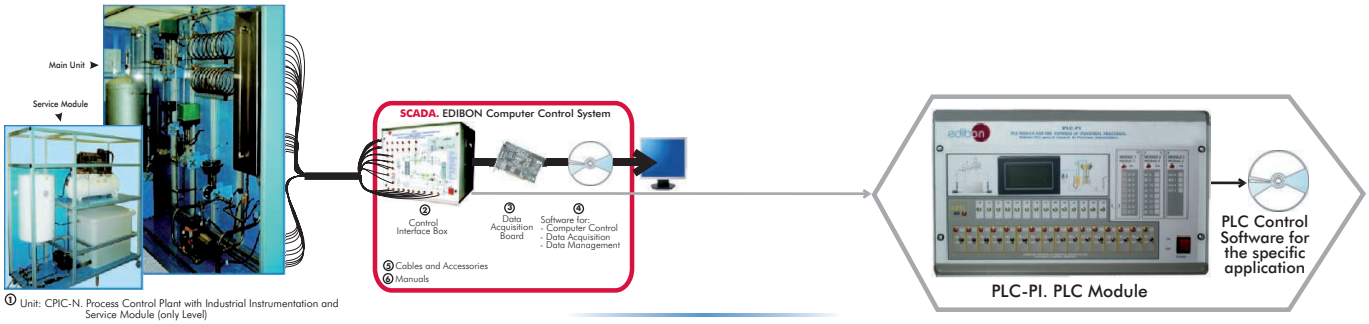
① Unit: CPIC-C. Process Control Plant with Industrial Instrumentation and Service Module (only Flow)

CPIC-T. Computer Controlled **Process Control Plant with Industrial Instrumentation and Service Module (only Temperature)**



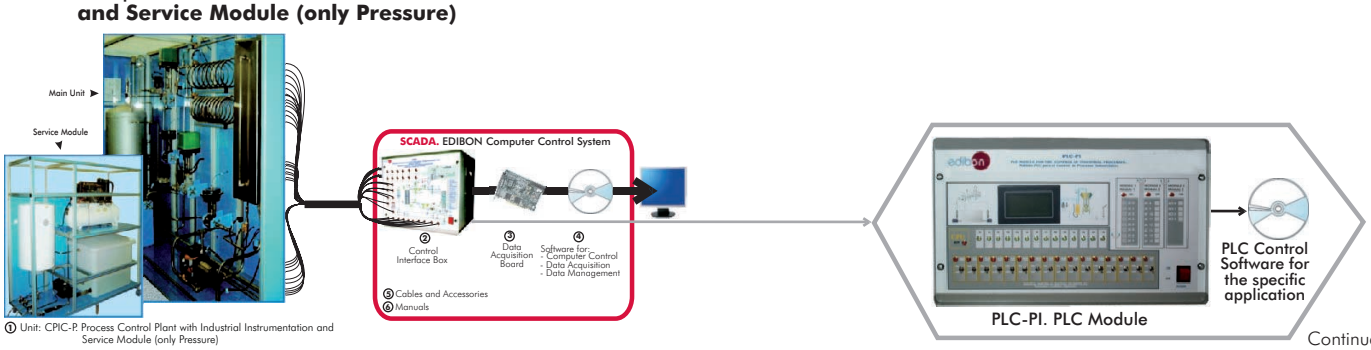
① Unit: CPIC-T. Process Control Plant with Industrial Instrumentation and Service Module (only Temperature)

CPIC-N. Computer Controlled **Process Control Plant with Industrial Instrumentation and Service Module (only Level)**



① Unit: CPIC-N. Process Control Plant with Industrial Instrumentation and Service Module (only Level)

CPIC-P. Computer Controlled **Process Control Plant with Industrial Instrumentation and Service Module (only Pressure)**



① Unit: CPIC-P. Process Control Plant with Industrial Instrumentation and Service Module (only Pressure)

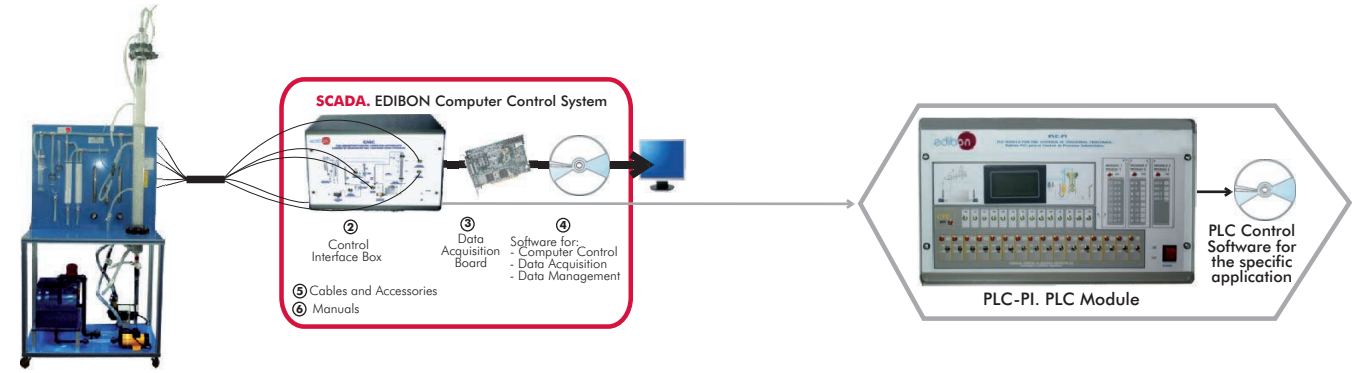
Continue ...

Units which can use PLC-PI: (continuation)

11.- Chemical Engineering

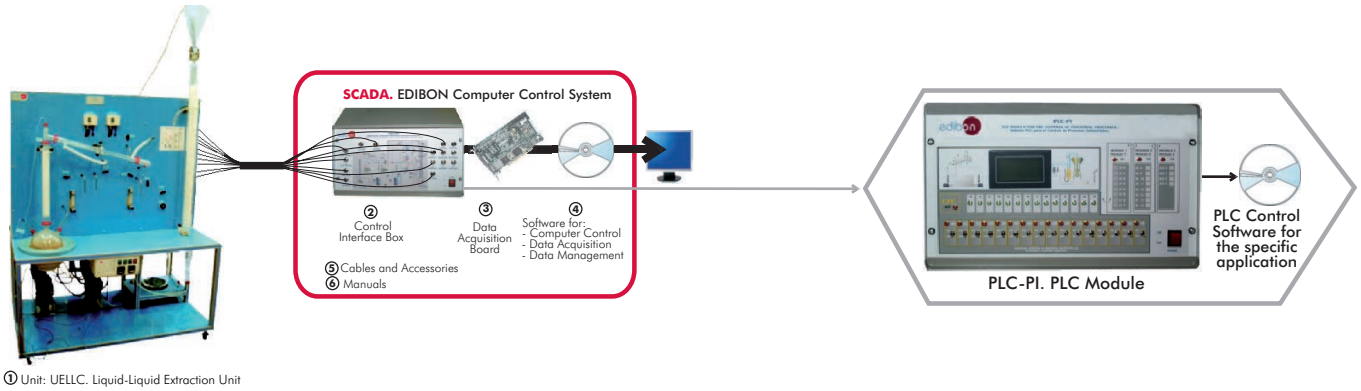
11.1.- Chemical Engineering (Basic)

CAGC. Computer Controlled **Gas Absorption Column**



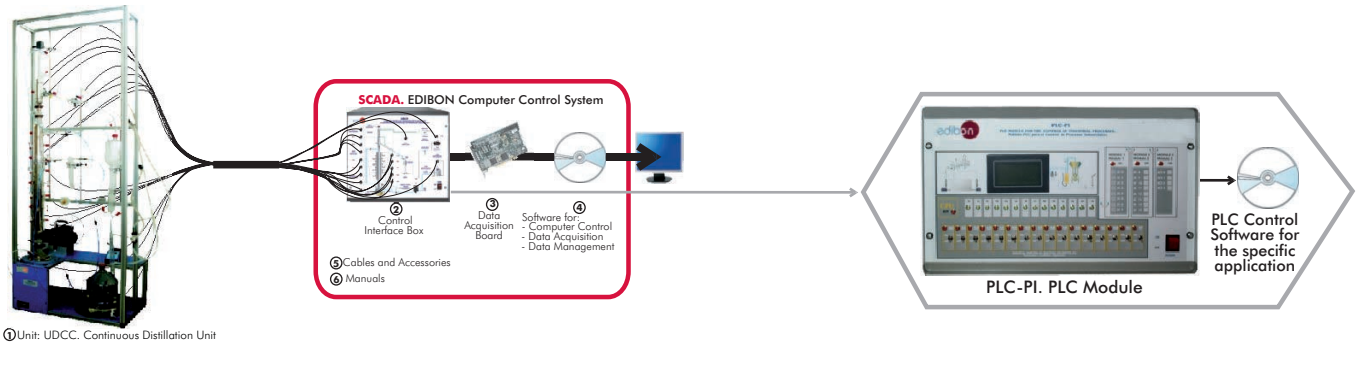
① Unit: CAGC. Gas Absorption Column

UELLC. Computer Controlled **Liquid-Liquid Extraction Unit**



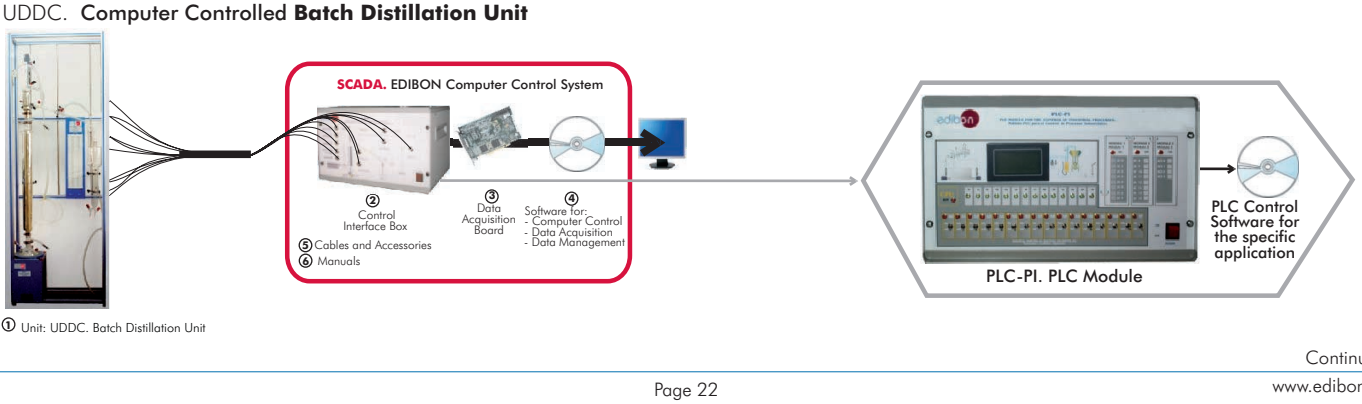
① Unit: UELLC. Liquid-Liquid Extraction Unit

UDCC. Computer Controlled **Continuous Distillation Unit**



① Unit: UDCC. Continuous Distillation Unit

UDDC. Computer Controlled **Batch Distillation Unit**



① Unit: UDDC. Batch Distillation Unit

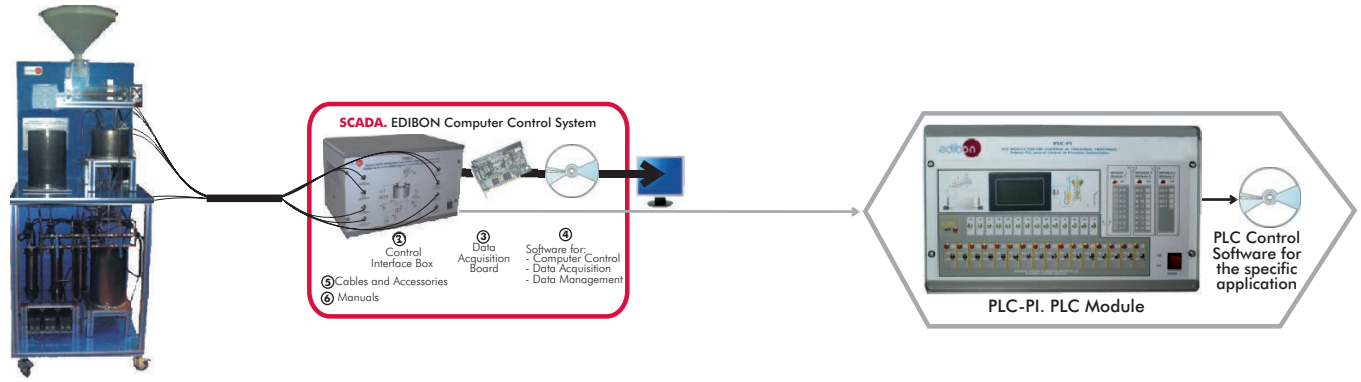
Continue ...

Units which can use PLC-PI: (continuation)

11.- Chemical Engineering

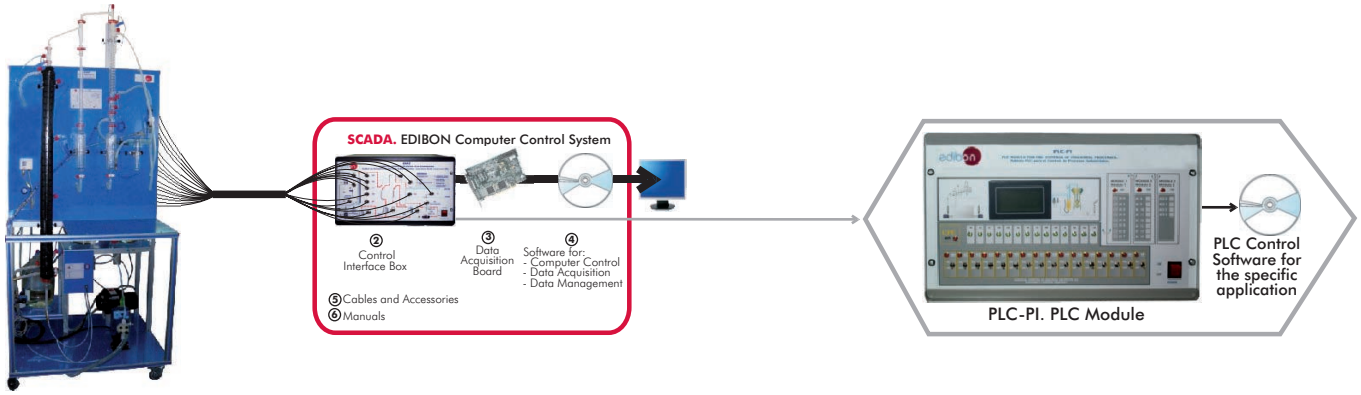
11.2.- Chemical Engineering (General)

UESLC. Computer Controlled **Solid-Liquid Extraction Unit**



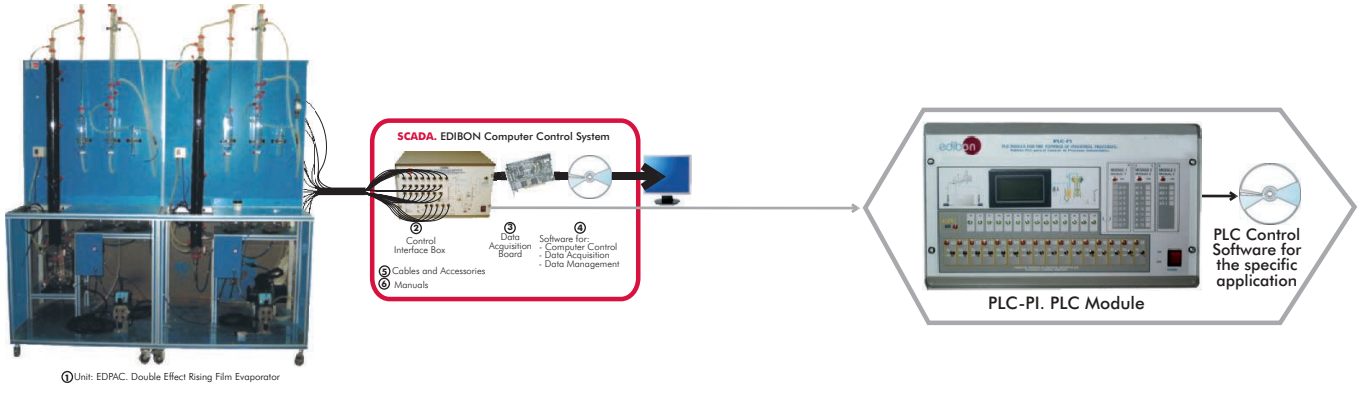
① Unit: UESLC. Solid-Liquid Extraction Unit

EPAC. Computer Controlled **Rising Film Evaporator**



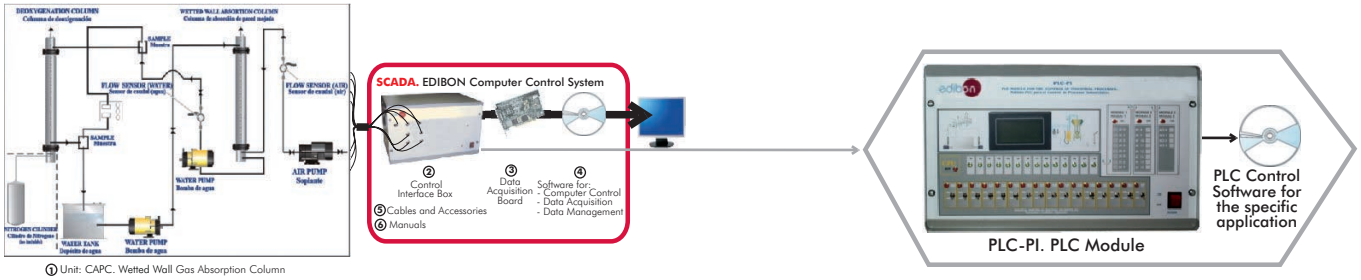
① Unit: EPAC. Rising Film Evaporator

EDPAC. Computer Controlled **Double Effect Rising Film Evaporator**



① Unit: EDPAC. Double Effect Rising Film Evaporator

CAPC. Computer Controlled **Wetted Wall Gas Absorption Column**



① Unit: CAPC. Wetted Wall Gas Absorption Column

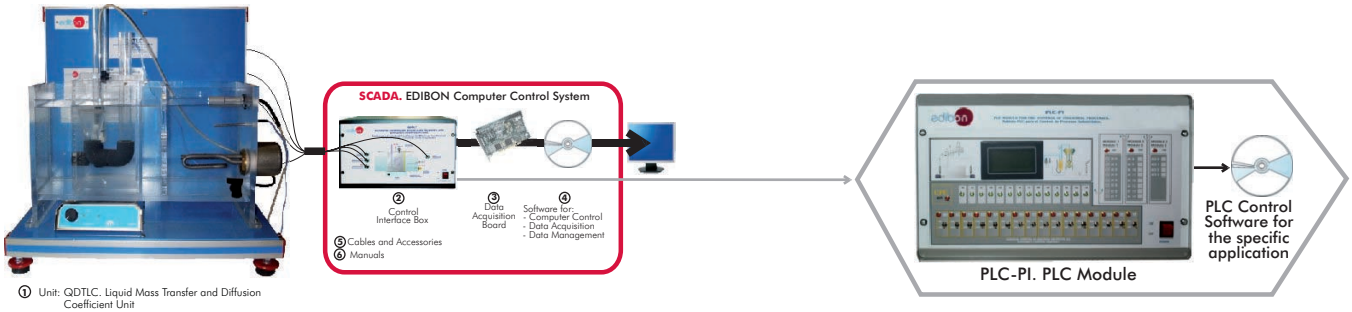
Continue ...

Units which can use PLC-PI: (continuation)

11.- Chemical Engineering

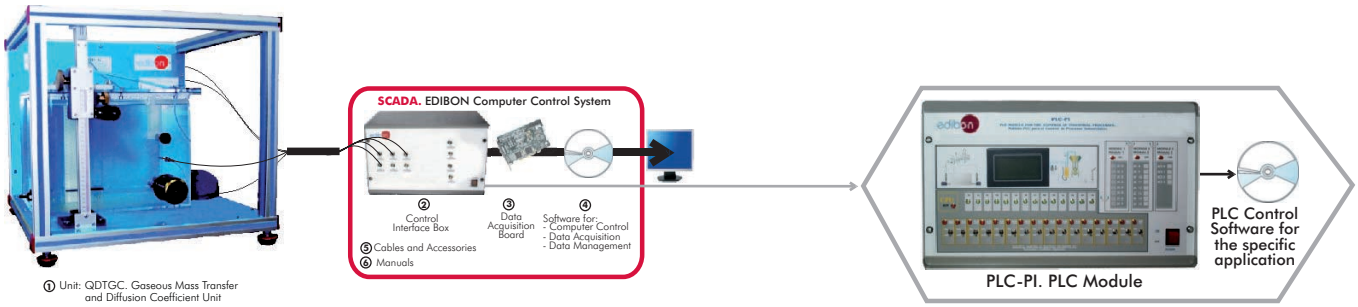
11.2.- Chemical Engineering (General)

QDTLC. Computer Controlled **Liquid Mass Transfer and Diffusion Coefficient Unit**



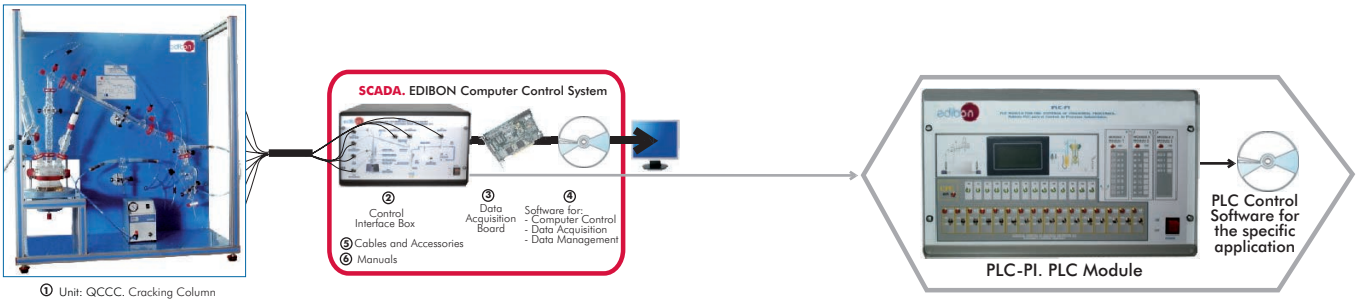
① Unit: QDTLC. Liquid Mass Transfer and Diffusion Coefficient Unit

QDTGC. Computer Controlled **Gaseous Mass Transfer and Diffusion Coefficient Unit**



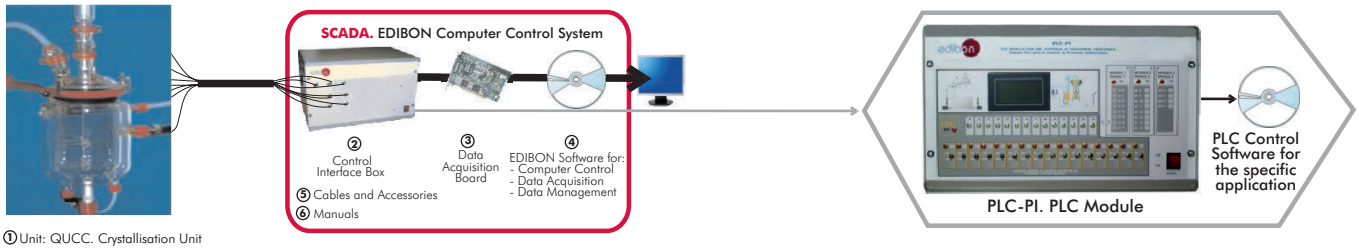
① Unit: QDTGC. Gaseous Mass Transfer and Diffusion Coefficient Unit

QCCC. Computer Controlled **Cracking Column**



① Unit: QCCC. Cracking Column

QUCC. Computer Controlled **Crystallisation Unit**



① Unit: QUCC. Crystallisation Unit

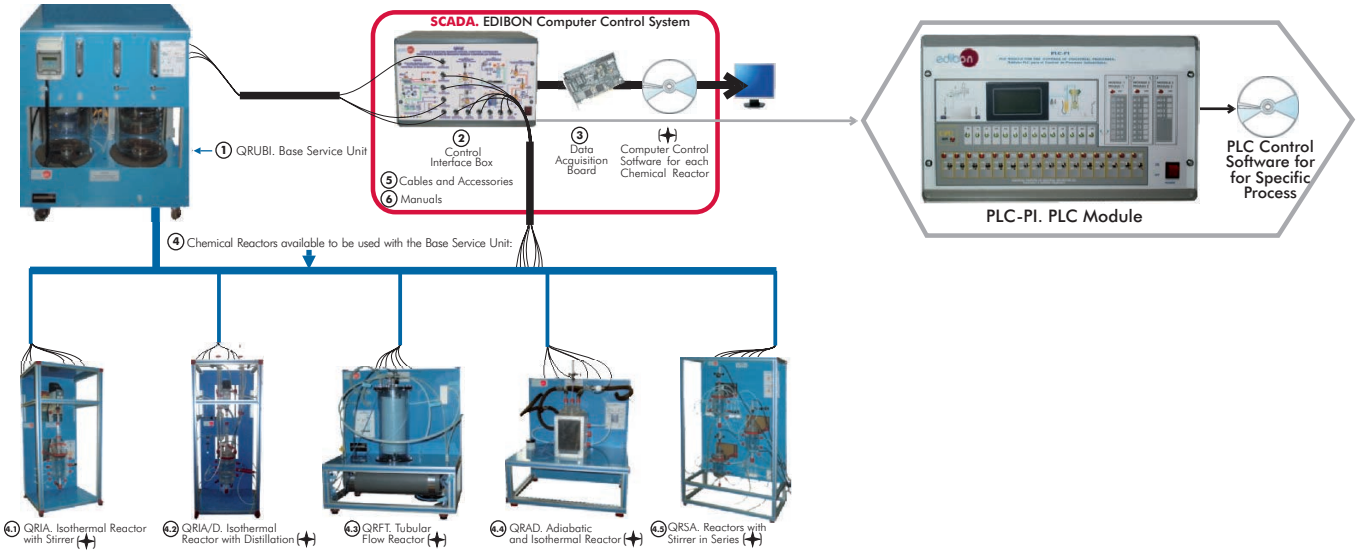
Continue ...

Units which can use PLC-PI: (continuation)

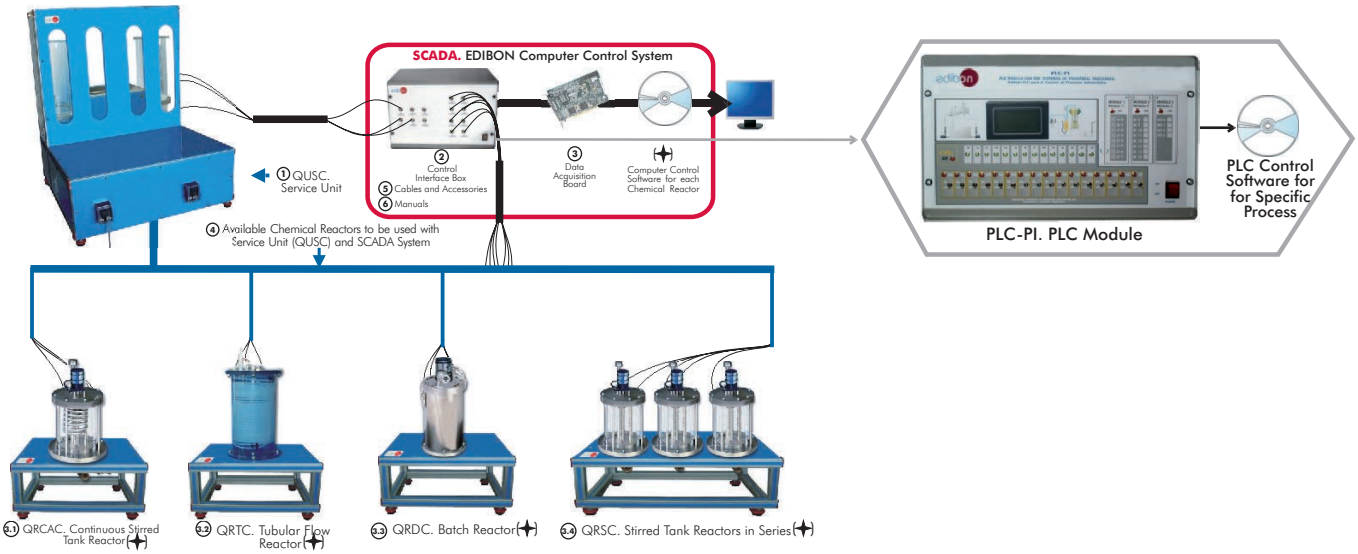
11.- Chemical Engineering

11.3.- Chemical Reactors

QRQC. Computer Controlled **Chemical Reactors Training System:**

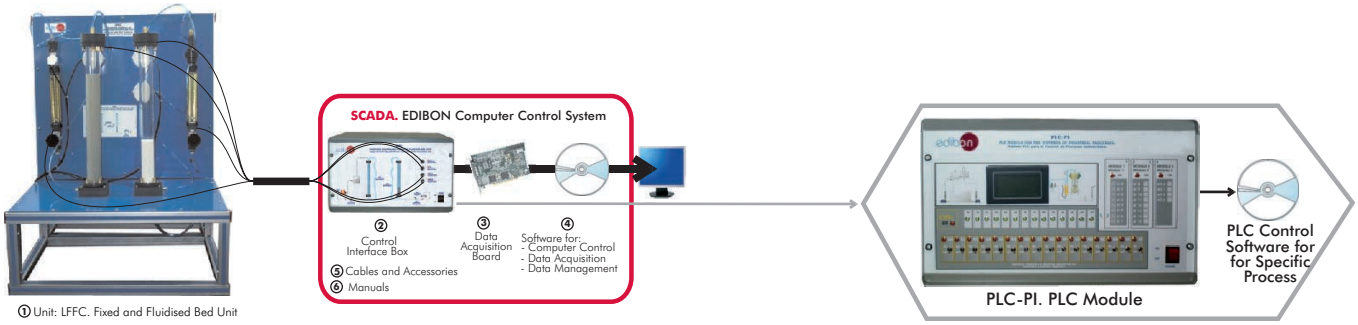


QRC. Computer Controlled **Chemical Reactors Trainer:**



11.4.- Chemical Process

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



Continue ...

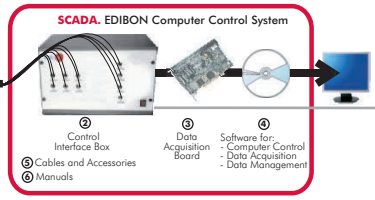
Units which can use PLC-PI: (continuation)

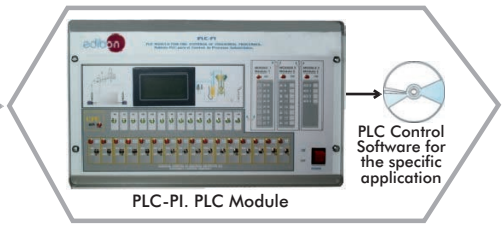
11.- Chemical Engineering

11.4.- Chemical Process

QEDC. Computer Controlled **Batch Solvent Extraction and Desolventising Unit**

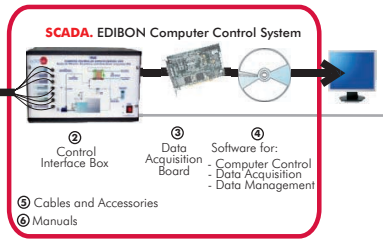
① Unit: QEDC. Batch Solvent Extraction and Desolventising Unit

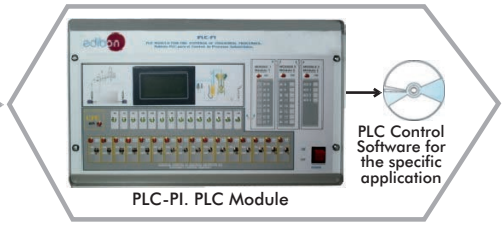




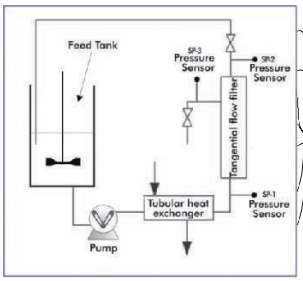
TFUC. Computer Controlled **Batch Filtration Unit**

① Unit TFUC. Batch Filtration Unit

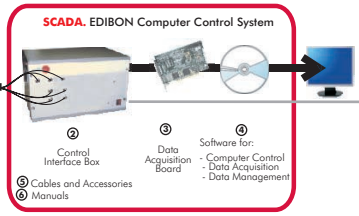


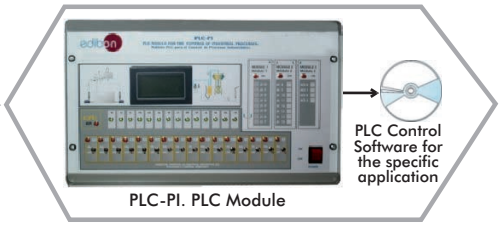


TCFUC. Computer Controlled **Continuous Filtration Unit**



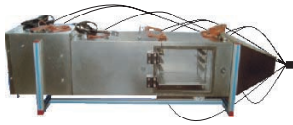
① Unit: TCFUC. Continuous Filtration Unit



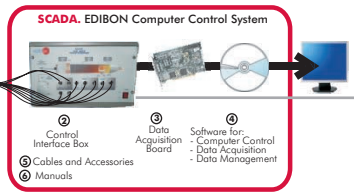


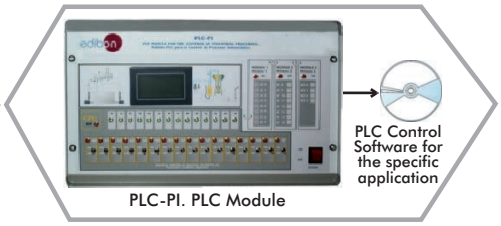
11.5.- Chemical Process (Agronomical Industry)

SBANC. Computer Controlled **Tray Drier**

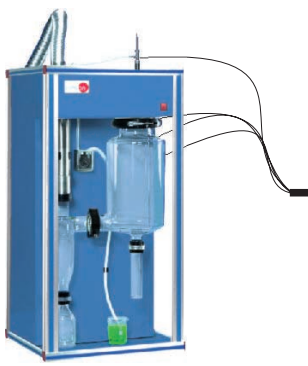


① Unit: SBANC. Tray Drier

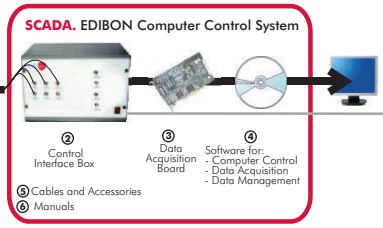


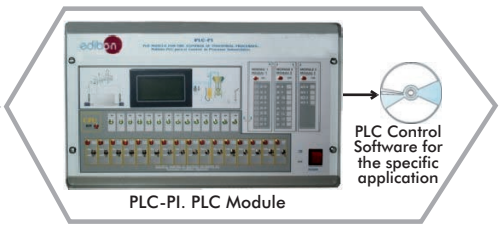


SSPC. Computer Controlled **Spray Drier**



① Unit: SSPC. Spray Drier





Continue ...

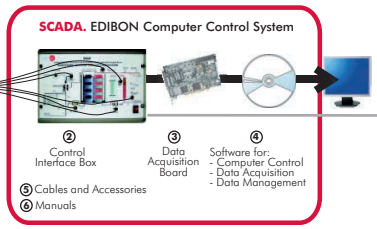
Units which can use PLC-PI: (continuation)

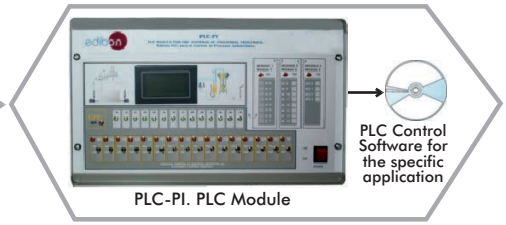
12.- Food & Water Technologies

12.1.- Food Technology (Basic)

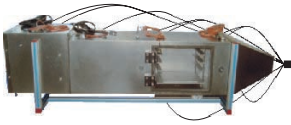
PADC. Computer Controlled **Teaching Autonomous Pasteurization Unit**

① Unit: PADC. Teaching Autonomous Pasteurization Unit

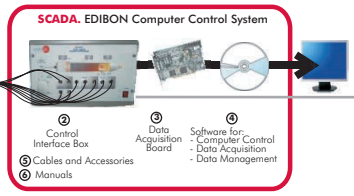


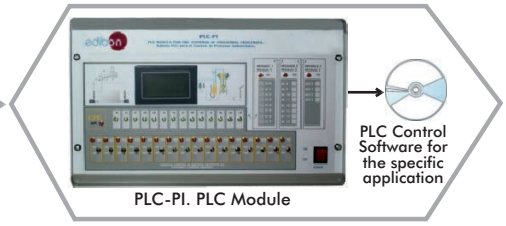


SBANC. Computer Controlled **Tray Drier**



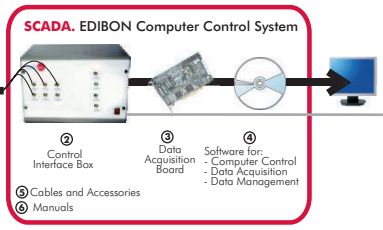
① Unit: SBANC. Tray Drier

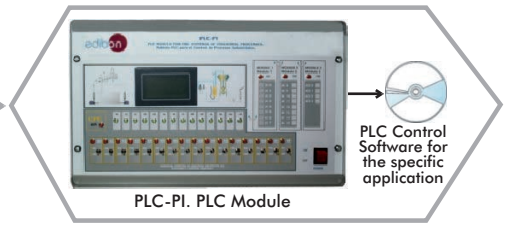




SSPC. Computer Controlled **Spray Drier**

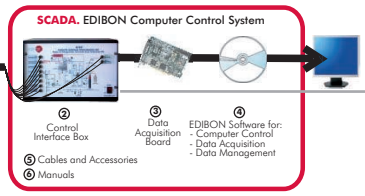
① Unit: SSPC. Spray Drier

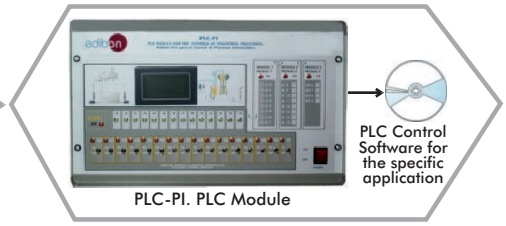




AEHC. Computer Controlled **Hydrogenation Unit**

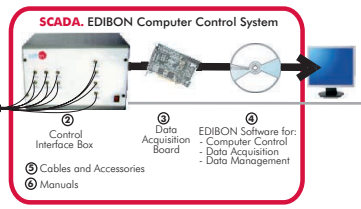
① Unit: AEHC. Hydrogenation Unit

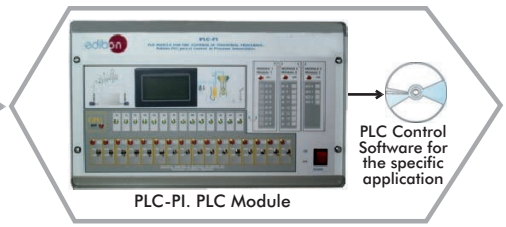




AEDC. Computer Controlled **Deodorising Unit**

① Unit: AEDC. Deodorising Unit





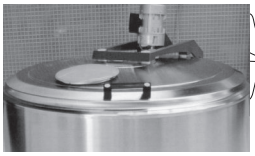
Continue ...

Units which can use PLC-PI: (continuation)

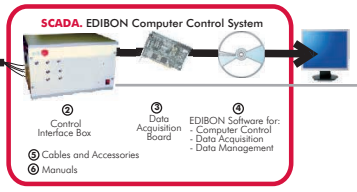
12.- Food & Water Technologies

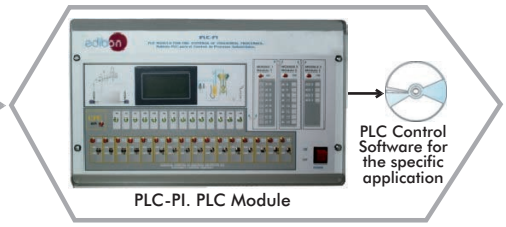
12.1.- Food Technology (Basic)

TFDC. Computer Controlled **Teaching Frigorific Tank**

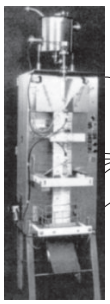


① Unit: TFDC. Teaching Frigorific Tank

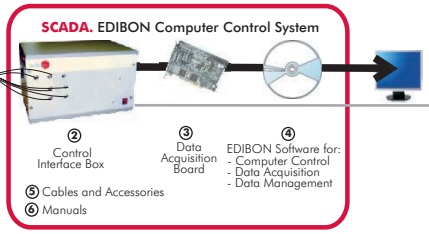


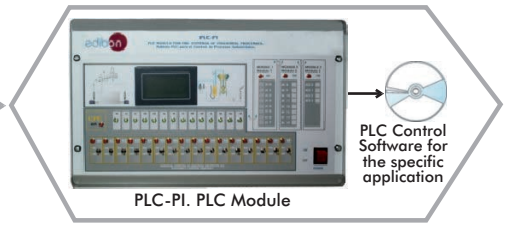


EDLC. Computer Controlled **Teaching Machine for Putting in Plastic Packing Liquids**

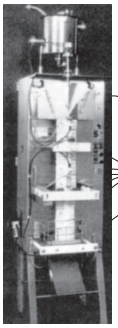


① Unit: EDLC. Teaching Machine for Putting in Plastic Packing Liquids

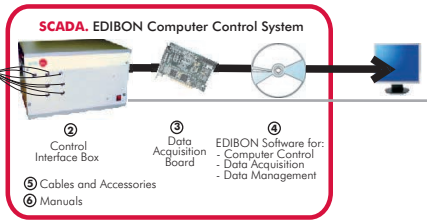


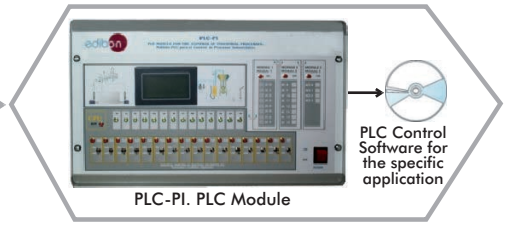


EDSC. Computer Controlled **Teaching Machine for Putting into a Container Solids**



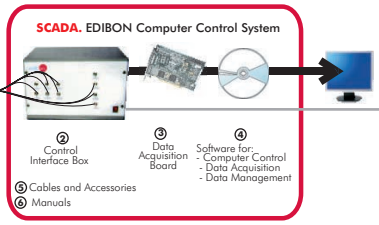
① Unit: EDSC. Teaching Machine for Putting into a Container Solids

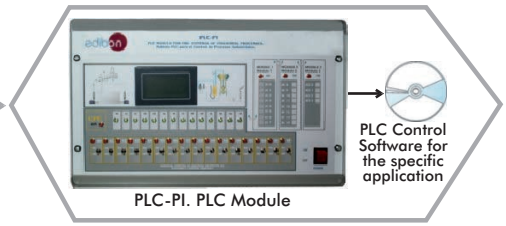




ROUC. Computer Controlled **Reverse Osmosis/Ultrafiltration Unit**

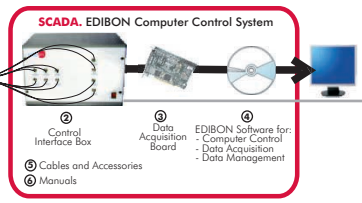
① Unit: ROUC. Reverse Osmosis/Ultrafiltration Unit

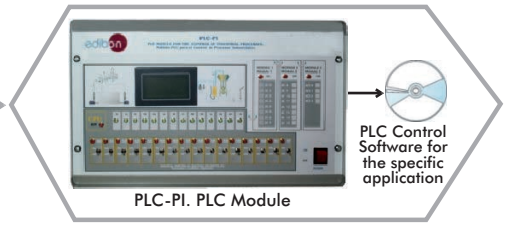




VPMC. Computer Controlled **Multipurpose Processing Vessel**

① Unit:VPMC. Multipurpose Processing Vessel





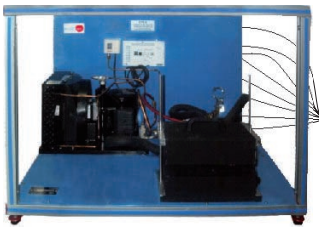
Continue ...

Units which can use PLC-PI: (continuation)

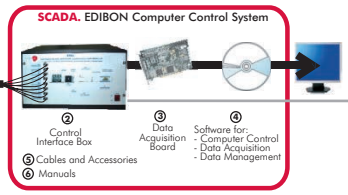
12.- Food & Water Technologies

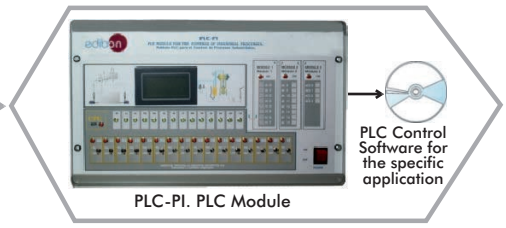
12.1.- Food Technology (Basic)

TPCC. Computer Controlled **Contact Plate Freezer**



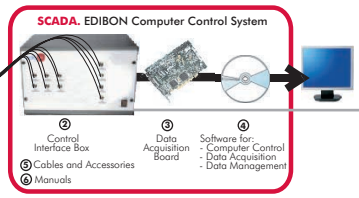
① Unit: TPCC. Contact Plate Freezer

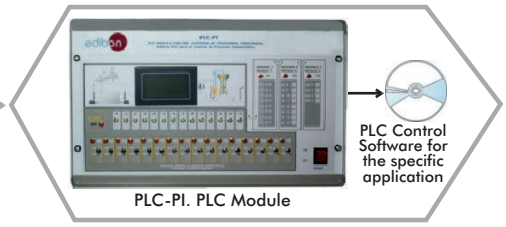




QEDC. Computer Controlled **Batch Solvent Extraction and Desolventising Unit**

① Unit: QEDC. Batch Solvent Extraction and Desolventising Unit

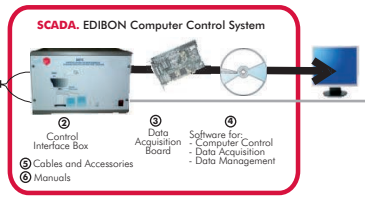


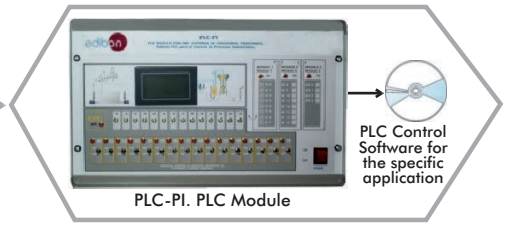


12.2.- Food Technology (Milk)

DSNC. Computer Controlled **Teaching Cream Separator**

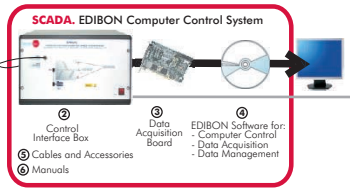
① Unit: DSNC. Teaching Cream Separator

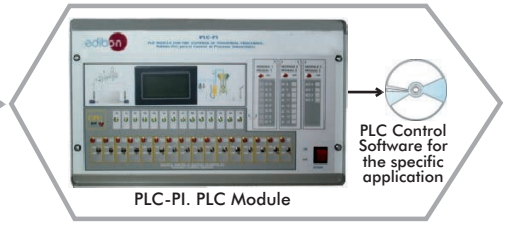




EMANC. Computer Controlled **Butter Maker Teaching Unit**

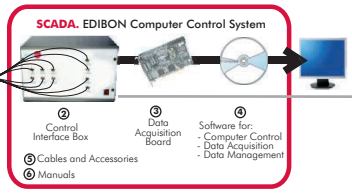
① Unit: EMANC. Butter Maker Teaching Unit

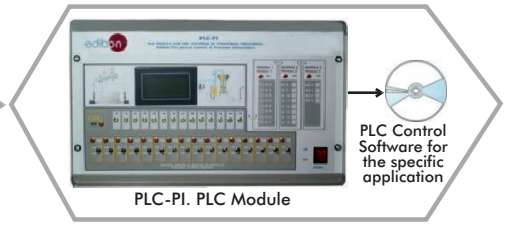




AUHTC. Computer Controlled **UHT Unit**

① Unit: AUHTC. UHT Unit





Continue ...

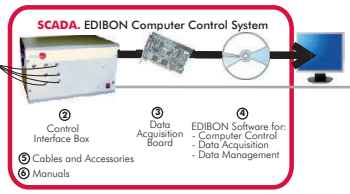
Units which can use PLC-PI: (continuation)

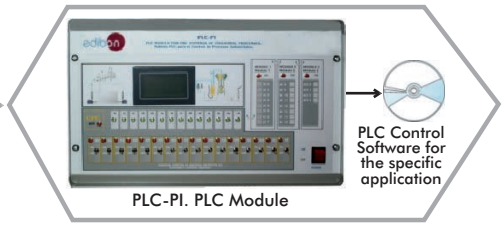
12.- Food & Water Technologies

12.2.- Food Technology (Milk)

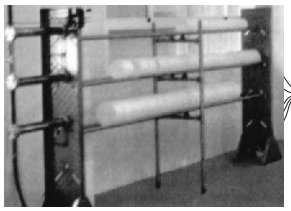
CCDC. Computer Controlled **Teaching Curdled Tank**

① Unit: CCDC. Teaching Curdled Tank

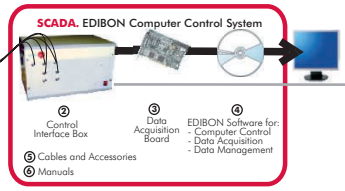


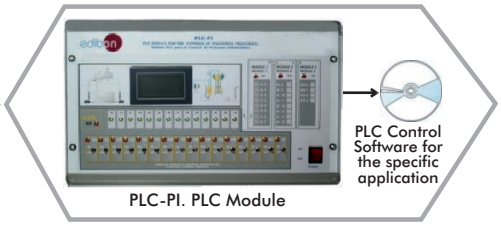


PVQC. Computer Controlled **Teaching Cheese Vertical Press**



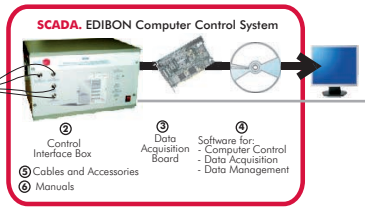
① Unit: PVQC. Teaching Cheese Vertical Press

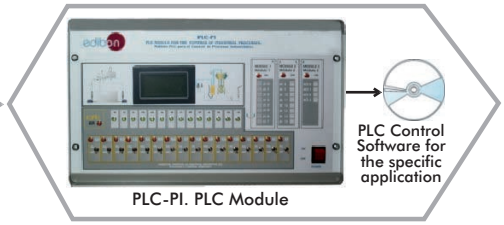




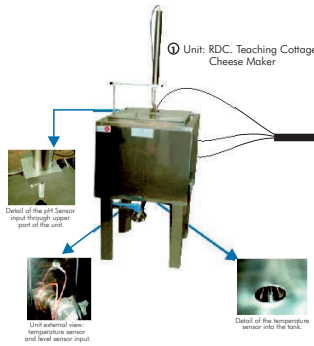
IYDC. Computer Controlled **Teaching Yogurt Incubator**

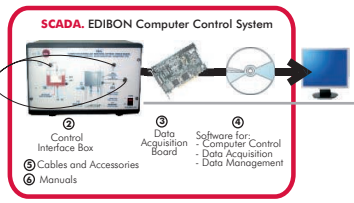
① Unit: IYDC. Teaching Yogurt Incubator

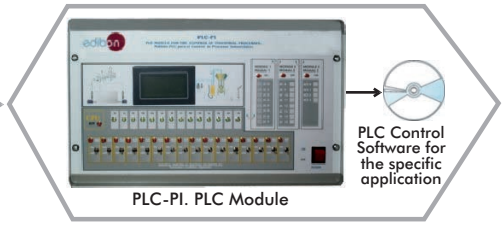




RDC. Computer Controlled **Teaching Cottage Cheese Maker**



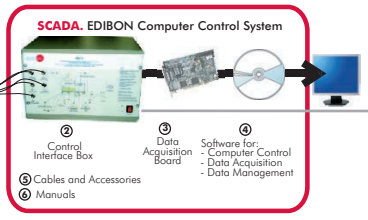


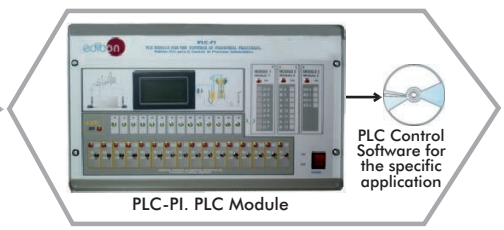


12.3.- Food Technology (Oil)

PACC. Computer Controlled **Continuous Cycle Oil Production Plant**

① Unit: PACC. Continuous Cycle Oil Production Plant





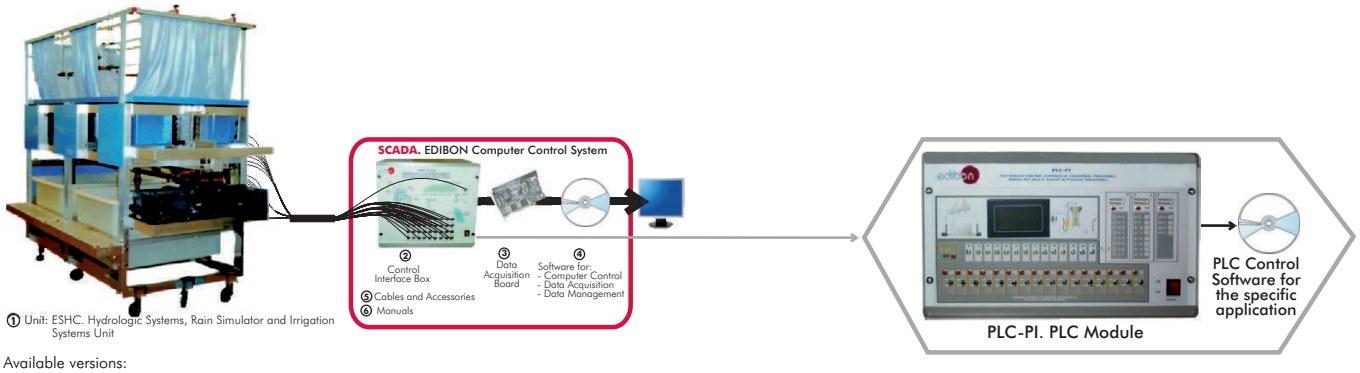
Continue ...

Units which can use PLC-PI: (continuation)

13.- Environment

13.1.- Water Handling

ESHC. Computer Controlled **Hydrologic Systems, Rain Simulator and Irrigation Systems Unit**

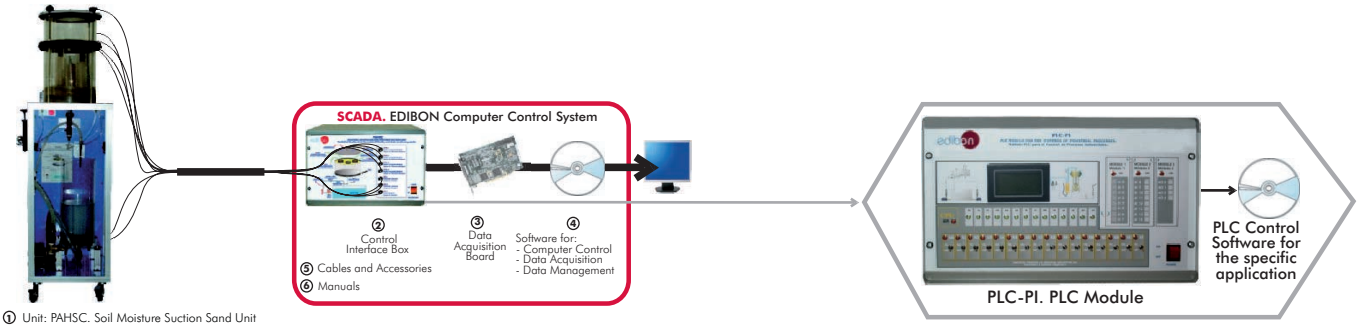


① Unit: ESHC. Hydrologic Systems, Rain Simulator and Irrigation Systems Unit

Available versions:

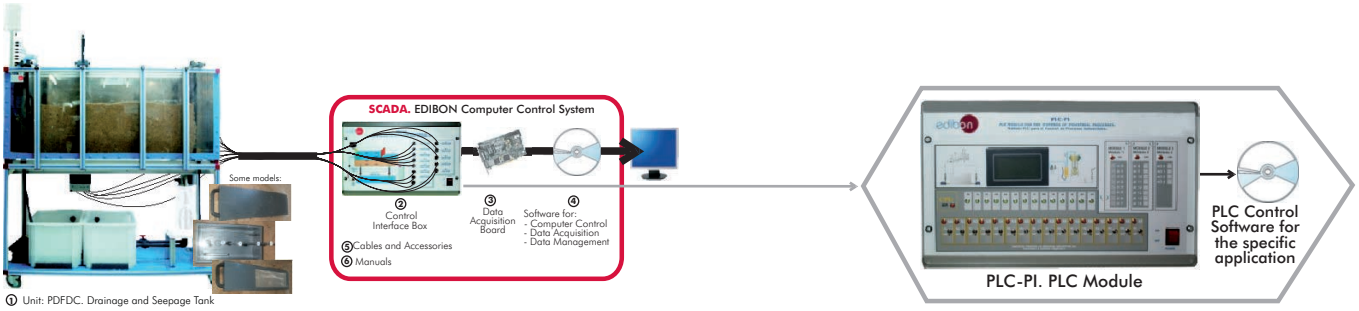
- ESHC (2x1m). Hydrologic Systems, Rain Simulator and Irrigation Systems Unit (2x1m).
- ESHC (4x2m). Hydrologic Systems, Rain Simulator and Irrigation Systems Unit (4x2m).

PAHSC. Computer Controlled **Soil Moisture Suction Sand Unit**



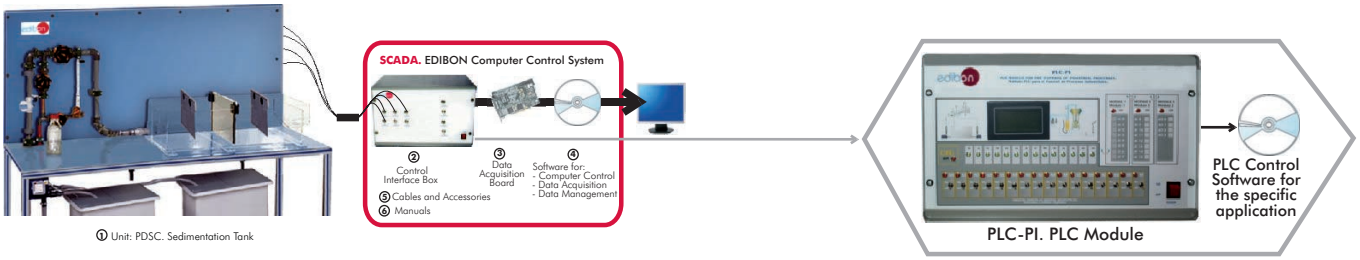
① Unit: PAHSC. Soil Moisture Suction Sand Unit

PDFDC. Computer Controlled **Drainage and Seepage Tank**



① Unit: PDFDC. Drainage and Seepage Tank

PDSC. Computer Controlled **Sedimentation Tank**



① Unit: PDSC. Sedimentation Tank

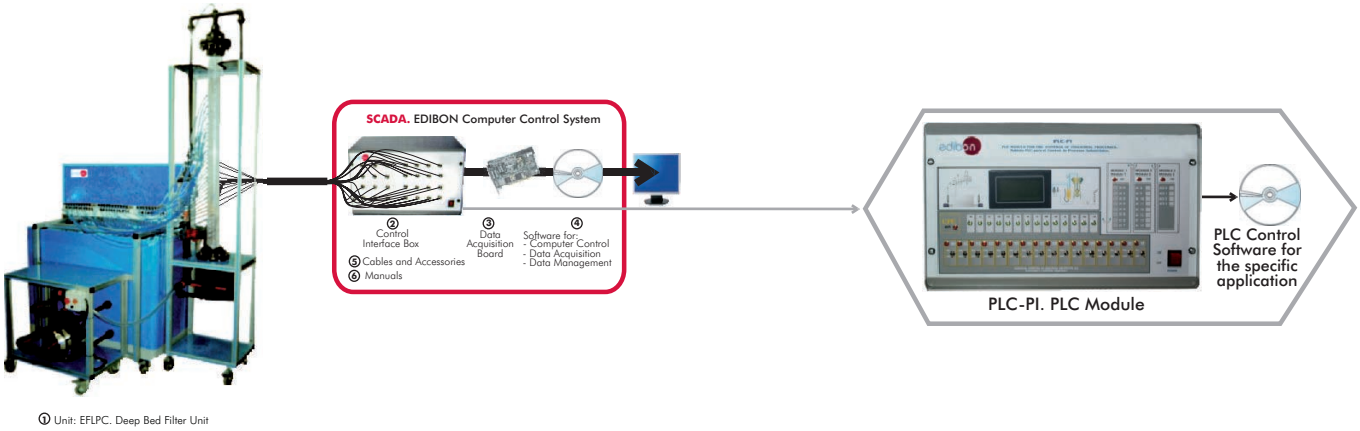
Continue ...

Units which can use PLC-PI: (continuation)

13.- Environment

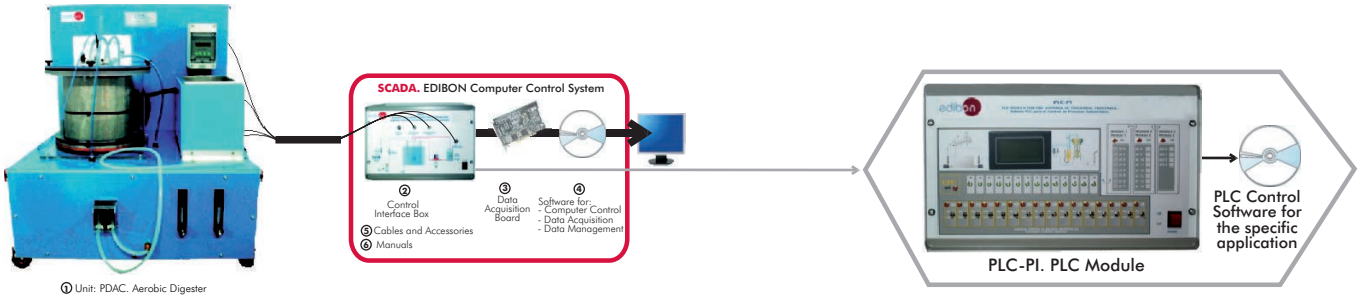
13.2.- Water Treatment

EFLPC. Computer Controlled **Deep Bed Filter Unit**



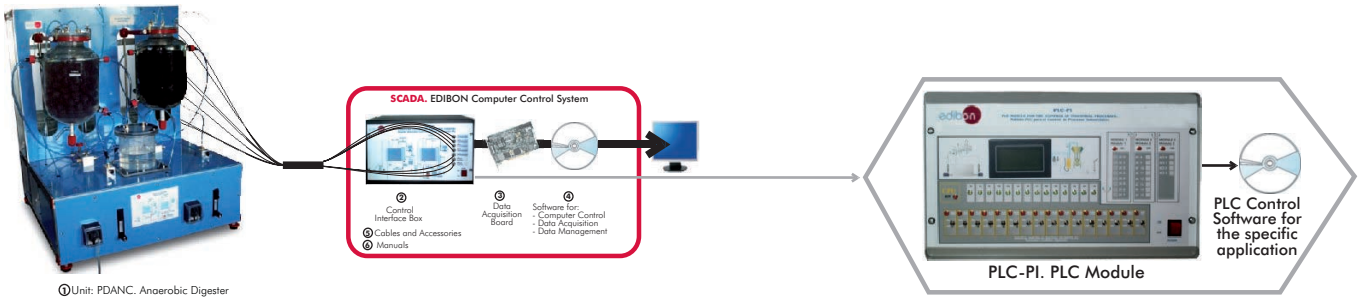
① Unit: EFLPC. Deep Bed Filter Unit

PDAC. Computer Controlled **Aerobic Digester**



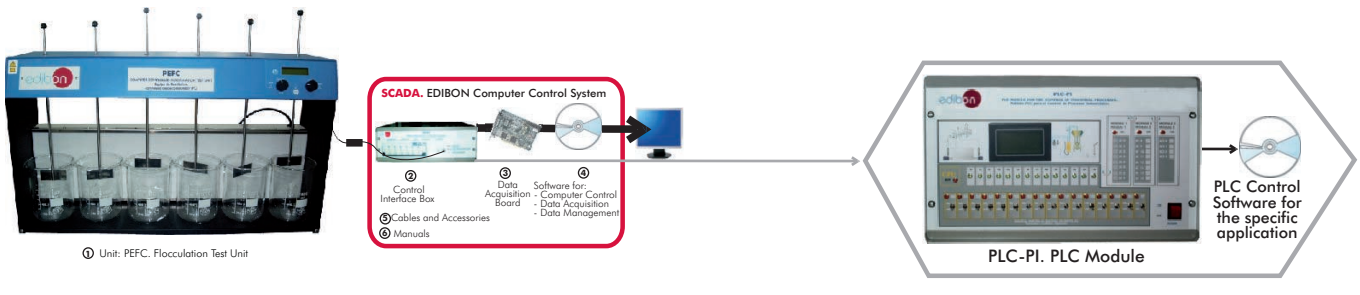
① Unit: PDAC. Aerobic Digester

PDANC. Computer Controlled **Anaerobic Digester**



① Unit: PDANC. Anaerobic Digester

PEFC. Computer Controlled **Flocculation Test Unit**



① Unit: PEFC. Flocculation Test Unit

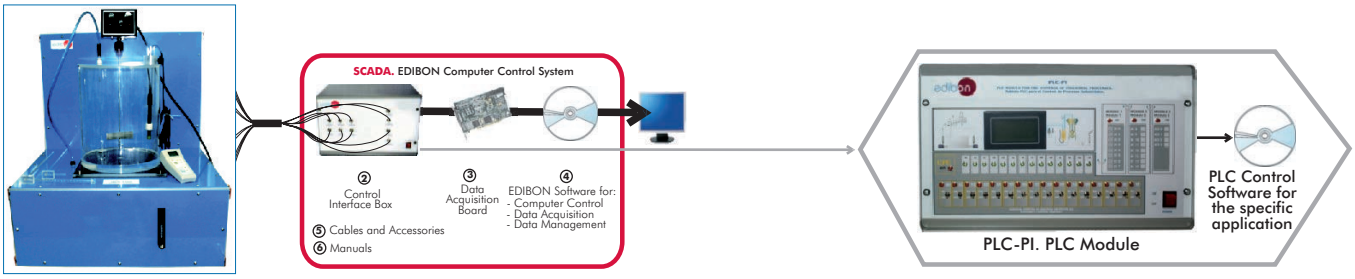
Continue ...

Units which can use PLC-PI: (continuation)

13.- Environment

13.2.- Water Treatment

PEAIC. **Computer Controlled Aeration Unit**



① Unit: PEAIC. Aeration Unit

✱Specifications subject to change without previous notice, due to the convenience of improvements of the product.

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