

# RCP200



## AIR PRESSURE CONTROL STUDY UNIT



### Experimental capabilities

- Technical data on the elements of a control loop
- Study of a pressure control loop
- Identification of elements: Sensors, Regulator, Actuator, Disruptive element
- Configuring the controller by interface
- PID control parameters
- Visualization of different signals by software
- Characteristic curves
- Control On/Off

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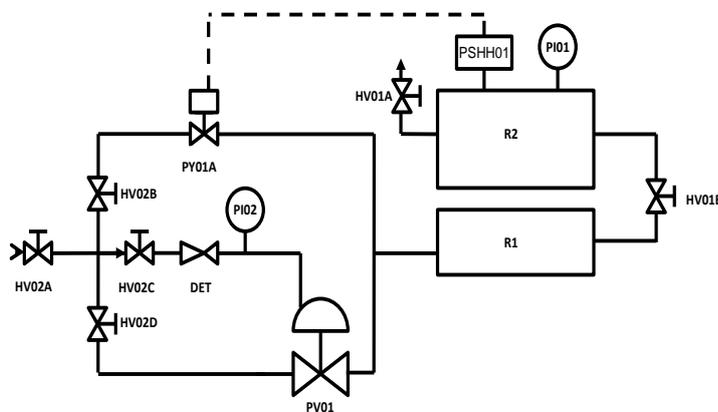
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## Operating principle

The bench RCP 200 allows the study of the pressure control of air. The air comes from a compressed air system and is modulated by a control valve. Two successive tanks and a drain valve can create a disturbance. A digital PID controller is receiving pressure information and must adjust the opening of the control valve to achieve the setpoint. The unit comes complete equipped with technical and pedagogical documentation in French as well as all the accessories required for proper operation (Included supervision software)

The robust design of this equipment makes it perfectly suited for use in schools. Its anodized aluminum structure on wheels makes it extremely robust as well as great flexibility of integration into your premises. The manufacturing of this equipment meets the European machine directive

## Illustrations



## Technical details

### Two Pressurised tanks

Volume R1 : 0,85 L  
Volume R2 : 1,9 L  
Max Pressure: 4 bars operating pressure 3 bars  
Intermediate control valve  
Overpressure valve  
Manometer for direct pressure reading

### Electronic pressure sensor

Measuring range : 0 to 6 bars

### Control valve (Cv=0,1)

Equipped with a pneumatic actuator  
Converter intensity-pressure

### PID Microprocessor controller

Configuration in P, PI or PID  
Accuracy class: 0.2  
Configurable scale range  
4-20 mA analog output  
2 programmable relay outputs

### On/Off control

Presence of a pressure switch and a solenoid valve

### Disturbers elements

Discharge valve (HV01A)

### Supervision software

Control and monitoring of the control process  
Representation of relevant data on PC  
Control and parameter setting of hardware controller  
Recording and storage of developments in the time

### Synoptic resuming the bench diagram

Sensor and actuator signals are brought back on the sockets of the diagram  
Two power supplies 24 VAC for two alarm LEDs  
A status indicator light, sockets

## Services required

- Electricity: 230 VAC mono - 50 Hz
- Compressed air (dry and oily) : 6 bars
- Dimensions: (LxWxH mm): 1000 x 700 x 700
- weight (Kg): 70

## Documentation

- User's manual
- Pedagogical manual
- Technical documentation of the components
- Lab exercises
- Certificate of conformity CE

Note : if the equipment installation is operated by our staff, all supplies and exhaust connections required must stand at less than 2m from the machine

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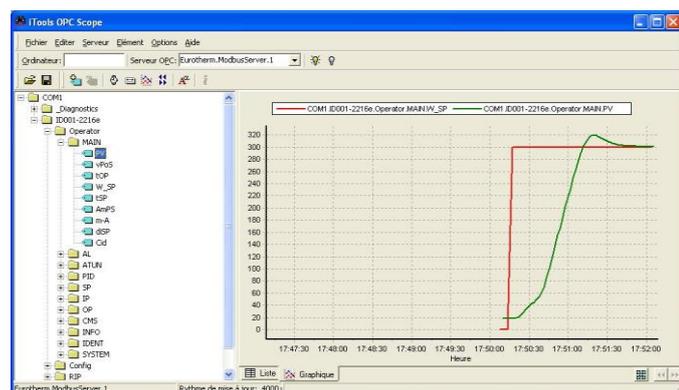
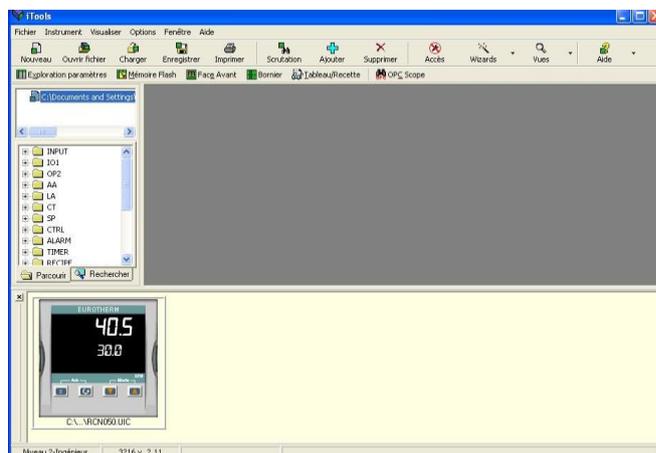
## Supervision: Parameter setting, Plot of curves

The bench is also equipped as standard with a supervision and parameter setting software. The connection towards the PC is made via a standard USB port. The software is divided into two parts:

### PARAMETER SETTING:

This section provides access to the parameters of the display directly via data explorer similar to that of Windows.

The front panel of controller is reproduced on the PC screen and the operator can operate the buttons and controls as if he was the driver.



### PLOT OF CURVES:

This part allows to draw curves with the controller signals. For example on the image below one visualizes the setpoint and the real-time measurement, but it is possible to add other parameters such as output signal... Data stored during the plot can then be saved to a file in Excel format.