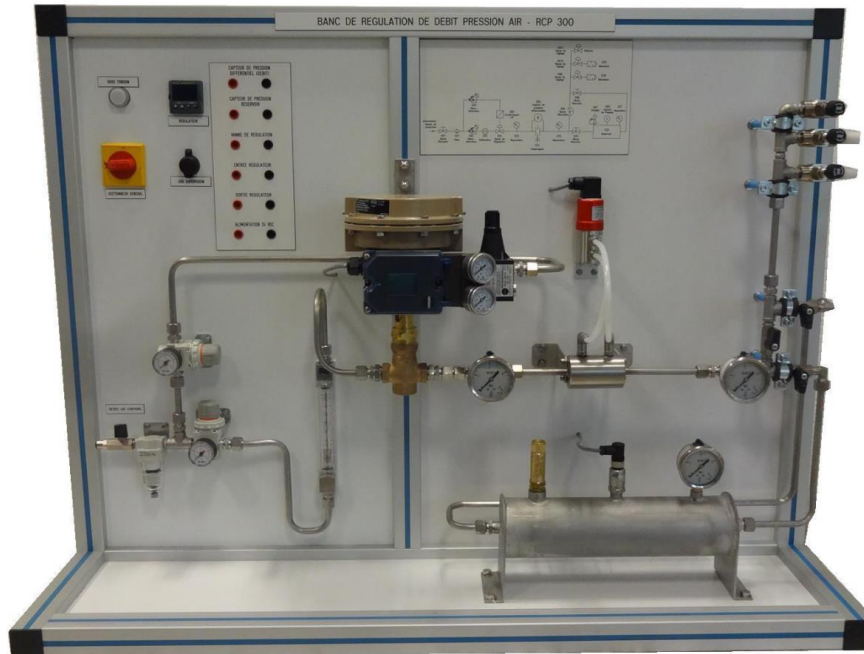


RCP300



AIR PRESSURE AND FLOW CONTROL STUDY UNIT



Experimental capabilities

- Technical data on the elements of a regulating loop
- Study of a pressure regulating loop and of flow rate
- Identification of elements Sensors, Regulator, Actuator, disruptive element
- Configuration of the regulator by computer interface
- PID control parameters
- Visualization of different signals by software
- Characteristics curves

DIDATEC– Zone d'activité du parc – 42490 FRAISSES- FRANCE
Tél. +33(0)4.77.10.10.10 – Fax+33(0)4.77.61.56.49 – www.didatec-technologie.com
email : service_commercial@didatec-technologie.com

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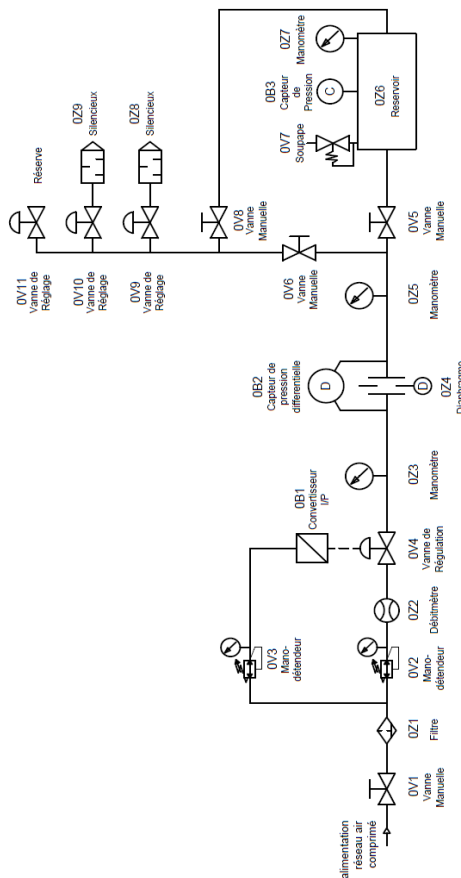
Operating principle

The RCP 300 bench allows the study of the pressure regulation and air flow rate. The air comes from the compressed air network and is modulated by a control valve. The pressure regulating where a pressure sensor is carried out in a tank where a pressure sensor is installed. At the output of the tank, silencers are connected to create a disturbance. The flow rate regulation is carried out via orifice (diaphragm) connected to differential. A digital PID controller receives pressure or flow rate information (measuring a ΔP) and must adjust the opening of the regulating valve to achieve the setpoint. The unit comes complete with instrumentation, technical and educational materials in french and all the accessories required for proper operation (Included the supervision software)

The robust design of this equipment makes it perfectly suited for school use.

Its anodized aluminum structure gives it great strength as well as great flexibility of integration into your premises. The manufacture of this equipment meets the European machine directive

Illustrations



Technical details

Tanks under pressure

Volume 2 L

Max pressure: 4 bars, 3 bar operating pressure

Overpressure valve

Manometer for direct pressure reading

Electronic pressure sensor

Measuring range: 0 to 4 bar

Differential pressure sensor

Measuring range: 0 to 100 mbar

Orifice

Stainless steel diaphragm

Regulating valve (Cv = 0.12)

Equipped with pneumatic actuator

Converter intensity –pressure

PID microprocessor controller

Configuration in P, PI or PID

Accuracy class: 0.2

Scope of configurable range

4-20 mA analog output

2 programmable relay outputs

Disruptive elements

Valve with silencers

Monitoring software

Control and monitoring of the process

of regulation with representation of relevant data on PC

Recording and storing of evolutions over time

Synoptic taking the bench schema

Sensor and actuator signals are reset

on double sink bushings

Services required

- Electricity: 230 VAC single - 50 Hz
- Compressed air (dry and oil) 3- 6 bars max
- Dimensions: (LxWxH mm): 1190 x 545 x 890
- weight (Kg): 70

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

Documentation

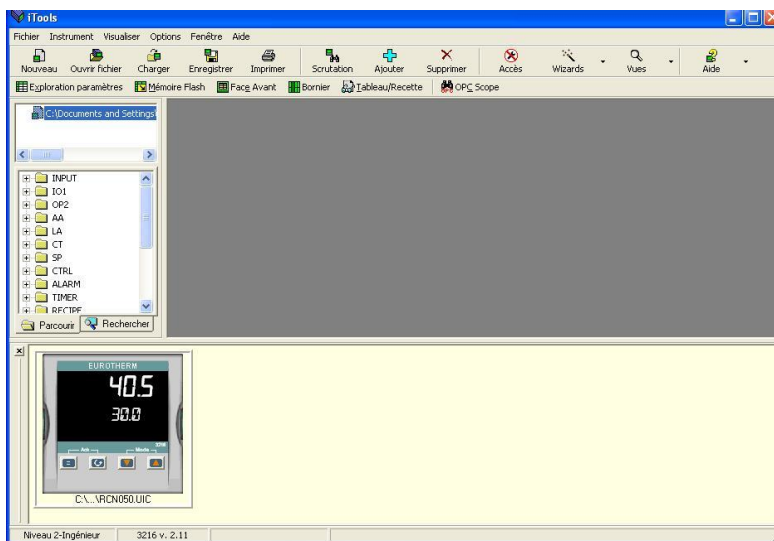
- User's manual
- Pedagogical manual
- Technical documentation of the components
- Certificate of conformity CE

Setting, Supervision, Plotting curves,

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

SETTING :

This part provides access to display parameters directly via data explorer similar to Windows. The front of the regulator is reproduced on the PC screen and the operator can operate the buttons and controls as if it were on the pilot.



SUPERVISION, PLOTTING CURVES :

This part allows to draw curves with the regulator's signals. For example in this image here one visualizes the setpoint and the real-time measurement, but it is possible to add other parameters such as the output signal ...

