

## ERD560 REGULATION OF AIR PRESSURE.



Software D\_REG  
Ref : ERD 560 100

Actuator and its control panel  
Ref : ERD 560 000

Manual of Practicals  
Ref : ERD 560 040

### MAIN CHARACTERISTICS:

This **ERD 560 000** module enables a very progressive study of the air pressure control principles.

#### Topic:

- ◆ Trial in **Open Loop** on air pressure control, Time constant 14,5 s,
- ◆ Pressure control with controller **P, P I, PID, Z Transform**,

#### Services Functions:

In addition to the control and display functions, the software also enables:

- ◆ Signal generation: steps, ramps, sines,
- ◆ Test and time display of pressure and outputs (comparator, Proportional, Integral, Derivate, Adder),
- ◆ Automatic measurements of time constants, response time 5%, overlap, phase shift, attenuation,
- ◆ Recording,
- ◆ Tests comparison

### AREAS OF APPLICATION:

#### Basic and vocational training:

Fast and easy-to-implement training to the main basic functions in industrial control:

- ◆ **Professional training**
- ◆ **Vocational and technical schools**
- ◆ **Universities, etc.**

#### SAFETY :

- ◆ The control module is conform to the due safety rules (Laboratory equipment, rule 611010). It is double insulated, all connections are made by 4mm g leads, no high temperature part is accessible to the Student., a pressure regulator limiter limits the pressure to 8 bars.

#### Packing

Weight : 12 kg  
Dimensions : 500 x 500 x 300 mm

### CONSTITUTION :

The ERD 560 C unit includes:

#### - ERD 560 000, actuator and its control panel, includes :

- 1 PVC Support that support the set,
- 1 Experimentation room 1000 cm<sup>3</sup>,
- A control panel that represents the process, it includes the input-output interfaces 4/20 mA per 4mm double well safety sockets and the disturbances controls,
- 1 Proportional valve for filling,
- 1 On/Off Valve (Leak disruption)
- 1 On/Off Valve (disruption of the supplied pressure)
- 1 Pressure Sensor,
- Power supply by external jack included.

#### - ERD 560 100 Software for acquisition and -control,

#### REQUIRED EQUIPMENT:

- PC and Windows;
- Milli-ampere-meter.
- Optional: Industrial controller  
2 Channels recorder

# ERD 560 100 : D\_REG, CONTROL PROGRAM:

On Windows XP Pro or Vista or Seven environment and via an ergonomic graphic interface « IRPI » (Industrial Process Control Interface), it enables:

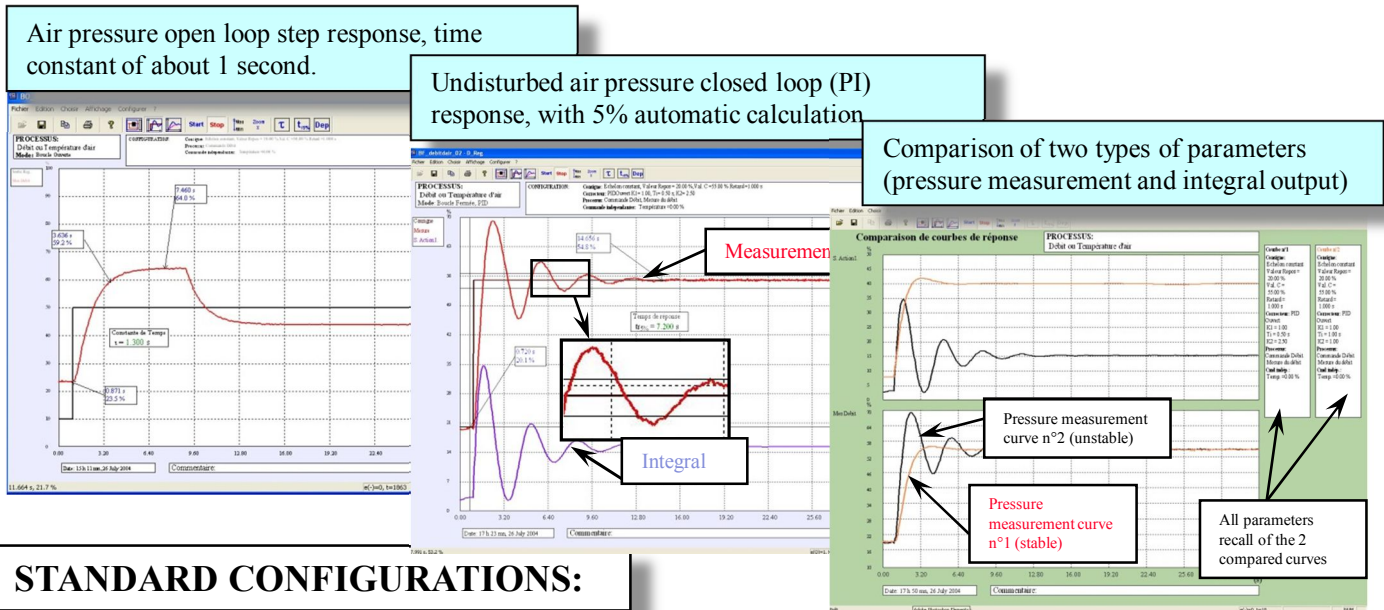
To configure the system:

- selection of the system structure: pressure open loop/closed loop systems,
- selection of control type and specific values : constant step, ramp, sine, trapezoid signals,
- selection of the corrector and its adjustments (can be modified during operation),
- selection of acquisition and recording parameters,
- selection of measurements units,

It also enables the structured running of experimental work:

- request of time response display of one (or several) characteristic parameter(s) : pressure, spacing, corrector output, etc. ...
- modification of time diagram scales (X or Y zoom)
- recording of the running test, comparison with the preceding tests, response curves recording,
- finding of the characteristic value of automatic (Time constant, time response 5%, overlap etc...).

Examples of curves:



## STANDARD CONFIGURATIONS:

ERD560C : « PRESSURE PROCESS CONTROL » basic package :		
Reference	Designation	Quantity
ERD560B	« PRESSURE PROCESS CONTROL STUDY » actuator with technical documents	1
ERD001000	Kit of 20 security patching leads Ø4 mm (3 Yellow, 9 Blue, 5 Red, 2 Black, 1 Green).	1
ERD560010	Technical resources document	1
ERD566040	Practical work manual : Air pressure process control (Student's manual), sources on CDROM	1
ERD560050	Practical work manual : Air pressure process control (Teacher's manual), sources on CDROM	1
ERD560100	Control program under Windows for acquisition and control	1
EGD000006	USB type AA patch cord	1
EGD000005	24 Vdc, 2.9 A Power Supply	1

ERD560S : Complete pack, Control and simulation : «AIR PRESSURE PROCESS CONTROL, SIMULATION AND PROTOTYPING » including :		
Reference	Designation	Qty
ERD560C	Package « STUDY OF AN AIR PRESSURE PROCESS CONTROL »	1
ERD560800	D_Scil, Module for prototyping and creation of real time correctors with SCILAB/XCOS	1