

INDUSTRIAL CONTROL VALVE STUDY UNIT



Experimental capabilities

- **Assembly and disassembly of a valve**
- **Theoretical reminders**
- **Definition of the flow rate coefficient of a control valve**
- **Relation between Cv and Kv**

- **Determination of flow rate coefficient Kv experimental**
- **With or without positioner**

- **Plotting of the characteristics of the control valve**
- **Flow rate based on the control**
- **Differential pressure based on the control**
- **Influence of the positioner on the linearity, hysteresis**

PRINCIPLE OF OPERATION

The EVR 100 bench allows the study of the dynamic behavior of a control valve. The bench allows you to calculate the Cv of a valve, know the characteristics of flow rates and to understand the dynamic behavior of the valve.

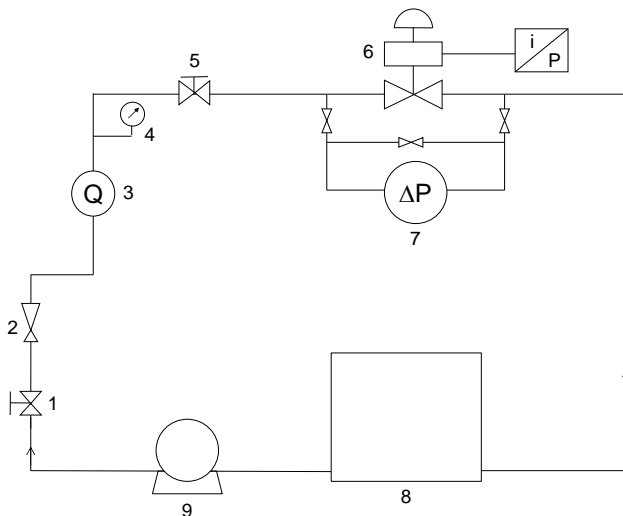
The unit comes complete ready for use directly usable by the users.

The bench is instrumented with technical and teaching materials in French and all the accessories required for proper operation. The robust design of this equipment makes it perfectly suited for use in schools.

Its anodized aluminum structure on multidirectional wheels with brakes 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



PID Microprocessor controller

Accuracy class: 0.2

Configurable scale range

4-20 mA analog output

Data acquisition software (no license needed)

Data acquisition, recording and evaluation of the characteristic of the control valve in order to operate the characteristic curves on PC. The software can be used on a PC computer on which is installed the Windows 7 operating systems (Or earlier version).

The cable between the machine and the PC will be provided

Autonomous water supply:

Polyethylene water tank with draining circuit

Centrifugal pump with stainless steel body

Flow control valve at the outlet

Allowing to simulate functionally the flow of a liquid in an installation and to illustrate the various phenomena

- 1. Valve 1/4 turn for connection to the water supply**
- 2. Pressure reducer**
- 3. Flow sensor**
Scale : 25 l/min
Output 4/20 mA
- 4. Manometer**
- 5. Water flow control valve**
Membrane technology
- 6. Control valve**
Different control valves
- control valves with pneumatic actuators with different coefficient of flow rate and servo pneumatic motor compatible with the positioner
Converter I/P integrated
Compressed air supply
Control of variable: 4-20mA

- Electrical valves with servomotor
The bench is fitted with a system of adapted connections to operate the various changes of valves in total safety
- 7. Differential pressure sensor**
Accuracy : 0-6 bars
Manifold 3-ways
- 8. Water tank**
75 L polyethylene
Equipped with a drain valve
- 9. Centrifugal pump**
Stainless steel
9 m³/h, 2900 rev/min, 0,75 kW

EVR100



Services required





Documentation

- Electrical supply : 230Vac – 50 Hz – XX A
- Water supply : 10 L/min – 3 bars
- Compressed air supply: 6-8 bars (dry air)
- Dimensions: (LxWxH mm): 1250 x 800 x 1700
- weight (Kg): 90

- User's manual
- Pedagogical manual
- Technical documentation of the components
- 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

Possible optional accessories : Control Valves

EVR 121	ELECTRICAL VALVE Kvs = 1 To connected on the supply unit EVR 100	
EVR 123	ELECTRICAL VALVE Kvs = 3,6 To connected on the supply unit EVR 100	
EVR 130	PNEUMATIC VALVE Kvs = 0,1 To connected on the supply unit EVR 100	
EVR 133	PNEUMATIC VALVE Kvs = 3,6 To connected on the supply unit EVR 100	
EVR 141	PNEUMATIC VALVE Kvs = 1 To connected on the supply unit EVR 100	