



*Non contractual photo*

**SERVICE : 230 V, 50 HZ, 250 W**  
**COMPRESSED AIR: 6 BAR, 3 NM<sup>3</sup> / H**  
**CLEAN WATER: 4 BAR, 20 ° C, 1000 L / H.**  
**DIMENSIONS : 850 X 425 X 940 MM**

## REFERENCE : MP135

This bench allows the study of the characteristics of a regulating valve with pneumatic servomotor with needle. The concepts of CV and Kvs will be discussed. The valve will be used with or without positioner.

A pneumatic servomotor valve is supplied via the water supply via a needle valve. The flow is measured by a float flow meter. An expansion valve adjusts the pressure of the supply network. The pressure difference between upstream and downstream of the control valve is measured using a differential pressure transmitter with local display.

The influence of the positioner on the response of the valve is determined by means of a current generator (4 to 20 mA) allowing the actuator of the control valve to be controlled via an I / P converter or via an electro- pneumatic positioner.

The device is mounted on a welded stainless steel frame.

### Educational Objectives :

- Determination of the experimental Kvs of the valve with and without positioner.
- Drawing and study of the curves:
- Intrinsic characteristics of the valve  $Q_v = f(\text{control})$  with constant pressure drop.
- Characteristic of the installed valve:  $Q_v$  and  $\Delta P = f(\text{control})$ .
- Role of the positioner and hysteresis phenomenon.

### Technical specifications :

It's made of :

- A regulator of the water supply circuit with manometer.
- A needle flow control valve made of stainless steel.
- Pneumatic control valve with variable CV in stainless steel.
- An electro-positioner.
- A regulator, air de-oiler with manometer.
- Differential pressure transmitter with local display and purge manifold.
- A float flowmeter
- An electrical box, waterproof IP 55, including:
- A lockable disconnecter,
- A power-on LED,
- An emergency stop key.
- A current generator (4 to 20 mA) with potentiometer and indicator,
- The control signal is brought back to secure cards.