

**Product Name :**  
Astra Scientific Computerized Flow Control Trainer

**Product Code :**  
MeasurementLabs0002



**Description :**

Astra Scientific Computerized Flow Control Trainer

**Technical Specification :**

The Trainer provides a comprehensive experimental introduction to the fundamentals of control engineering using an example of flow control.

A pump delivers water from a storage tank through a piping system. The flow rate is measured by an electromagnetic sensor, which permits further processing of the measured value by outputting a standardized current signal. A Rota meter indicates the flow rate. The controller used is a state-of-the-art digital industrial controller. The actuator in the control loop is a control valve with electric motor operation. A ball valve in the outlet line enables defined disturbance variables to be generated. The controlled variable X and the manipulating variable Y are plotted directly on an integrated 2-channel line recorder.

Alternatively, the variables can be tapped as analogue signals at lab jacks on the switch cabinet. This enables external recording equipment, such as an oscilloscope or a flatbed plotter, to be connected.

**FEATURES:**

- Fundamentals of control engineering

- Real industrial control engineering components: controllers, transducers, actuators
- Experimental introduction to control engineering using an example of flow control
- Construction of the system with components commonly used in industry
- Digital controller with freely selectable parameters: P, I, D and all combinations

#### SPECIFICATION:

Storage tank: 30L

Centrifugal pump

- Power consumption: 250W
- Flow rate: 150L/min
- Head: 7m
- Speed: 2800min<sup>-1</sup>

Rota meter: 0...1960L/h

Electromagnetic flow rate sensor: 0...6000L/h

Control valve with electric motor

- Kvs: 5,7m<sup>3</sup>/h
- Stroke: 5mm
- Characteristic curve equal-percentage
- Valve-opening position sensor: 0...1000°

Line recorder

- 2x 4...20mA
- Feed rate 0...7200mm/h, stepped

Controller

- Process variables X, Y as analogue signals: 4...20mA
- Power required for operation

230V, 50Hz, 1 phase

230V, 60Hz, 1 phase



## Astra Scientific

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