LAB ENGINEERING

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Product Name : Computerized Flow Control Trainer	**Product Code :** MLE0002

Description :

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

Storage tank: 30L
Centrifugal pump :
Power consumption: 250W
Flow rate: 150L/min
Head: 7m
Speed: 2800min-1
Rota meter: 0…1960L/h
Electromagnetic flow rate sensor: 0…6000L/h
Control valve with electric motor :
Kvs: 5,7m3/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