FLOW-RATE CONTROL
Mod. FCBp/EV (PLC on-board)

This bench top unit enables to carry out several tests of flow-rate control and it can be connected with the water network or with the laboratory line of compressed air to reproduce the flow-rate control of a gas or of a liquid.
The flow inside the pipe is measured by a differential-pressure transmitter connected with a calibrated orifice and it is controlled by a pneumatic valve.
The on-board PLC includes a PID algorithm block and is able to manage the unit through an Ethernet communications module. This module allows the PLC to work together with an operator panel for the information exchange. The panel has several graphic pages, with the unit synoptic diagram, the open and closed control loop main parameters, and the graphic of the system response according to the working situations.

TRAINING PROGRAM:

This unit enables to develop and analyze the following subjects:
- Proportional, Integral and Derivative control
- Open-loop control
- Closed-loop control
- Tuning a controller
- Response to a noise

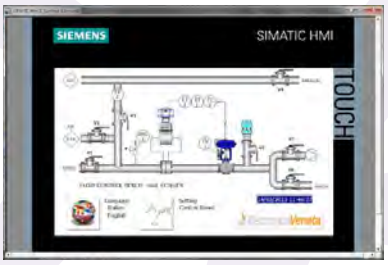
TECHNICAL SPECIFICATIONS:

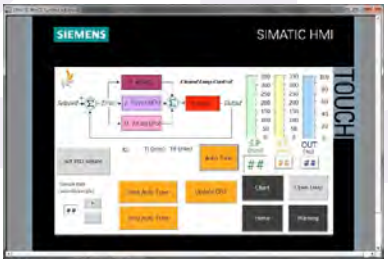
- Framework of AISI 304 stainless steel
- Electronic differential-pressure transmitter of AISI 316 stainless steel, with 4 to 20 mA output signal
- Calibrated orifice of AISI 304 stainless steel
- Pneumatic control valve of AISI 316 stainless steel, Cv = 2.5
- Electro-pneumatic converter, 4 to 20 mA / 0.2 to 1 bar
- Safety valve
- Bourdon gauge of stainless steel with range of 0 to 6 bar
- Pressure gauge for measuring the output signal of I/P converter
- Switchboard of painted carbon steel with synoptic, ELCB and measuring terminals for input and output signals of the controller
- Pipes and valves of AISI 304 and 316 stainless steel
- This unit can be connected in with module mod. PCBp/EV for the simultaneous control of pressure and flow rate
- Industrial PLC placed in the electrical board, including the PID control block and Ethernet communications module. It is included the standard IEC 1131 61131 programming software.
- Operator Panel, 7" TFT touchscreen display, 16 million colors, 800 x 480 pixels, with RJ45 PROFINET ports; the H.M.I (Human Machine Interface) industrial supervision software is included.

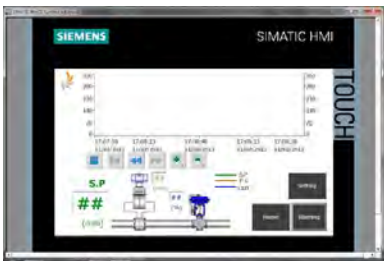
Power Supply: 230 Vac 50 Hz single-phase - 0,5 kVA
(Other voltage and frequency on request)
Dimensions: 850 x 600 x 750 mm
Net Weight: 50 kg

 ELETTRONICA VENETA S.P.A. - 31045 Motta di Livenza (TV) Italy - Via Postumia 16 - Tel. +39 0422 765 802 - Fax +39 0422 861 901 - E-mail: export@elettronicaveneta.com

Examples of the operator panel graphic pages:







REQUIRED

UTILITIES (PROVIDED BY THE CUSTOMER)

- Tap water (valve with ½" hose connector): 1000 l/h @ 2 bar max.
- Compressed air (2 female valves of ¼"): 0.3 Nm^3/h @ 1.5 bar, for instruments, and 25 Nm^3/h @ 6 bar, when air is used as process fluid

ACCESSORIES (NOT INCLUDED)

- Personal Computer running Windows 7 Professional (32 bit)

SUPPLIED WITH

THEORETICAL-EXPERIMENTAL HANDBOOK

OPTIONAL

TWO-PEN RECORDER
(it must be installed before shipment, not as upgrade)

SERVICE UNIT MOD. US-1/EV
for closed-circuit operations