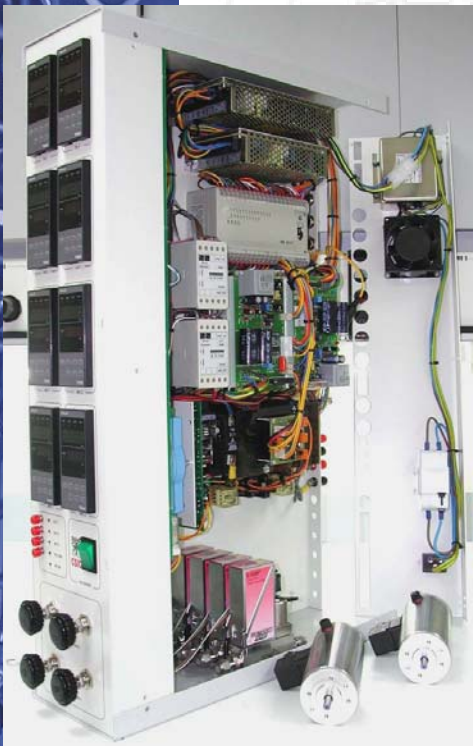
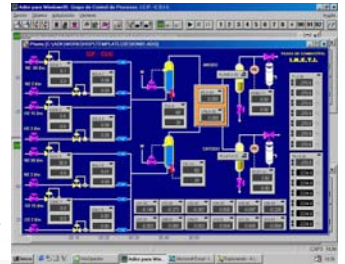


# FUEL CELLS

## WORKSHOP STATIONS AND CONTROL SYSTEMS FOR FUEL CELLS

*PID Eng&Tech has been working in the design and construction of control workshop stations for fuel cells since 1992.*

**P** ID Eng&Tech's computerized workshop stations supply gases (by MFC's) and provide humidity in the system, control the temperature, and the pressure in both anode and cathode. It is very important that the pressure control is performed with precision (about  $\pm 0,01$  bar). This implies that the cells should never fail due to the differential pressure variations, especially in the start-up procedure of the cell. A specific peculiarity of fused carbonates cells is a new device which closes the cell by means of pneumatic pressure, thus making the cell integrity secure. Process@ software provides a user-friendly interface to modify process configuration and automate the



### A STANDARD CONFIGURATION OF A WORKSHOP STATION IS:

- 2 to 6 mass flow controllers for gas flow control and measure
- 2 saturators, micropumps or MFC's for liquids
- 2 condensers (electric cooling by Peltier effect)
- 2 pressure controllers based on servocontrolled microregulation valve (patent n° P200401348)
- 8 data acquisition channels for temperature
- 6 data acquisition channels for cell voltages (differential isolated)
- 2 data acquisition for total voltage and intensity
- Electronic load pre-installed
- 1 computer and Process@ software, Ethernet remote control

