



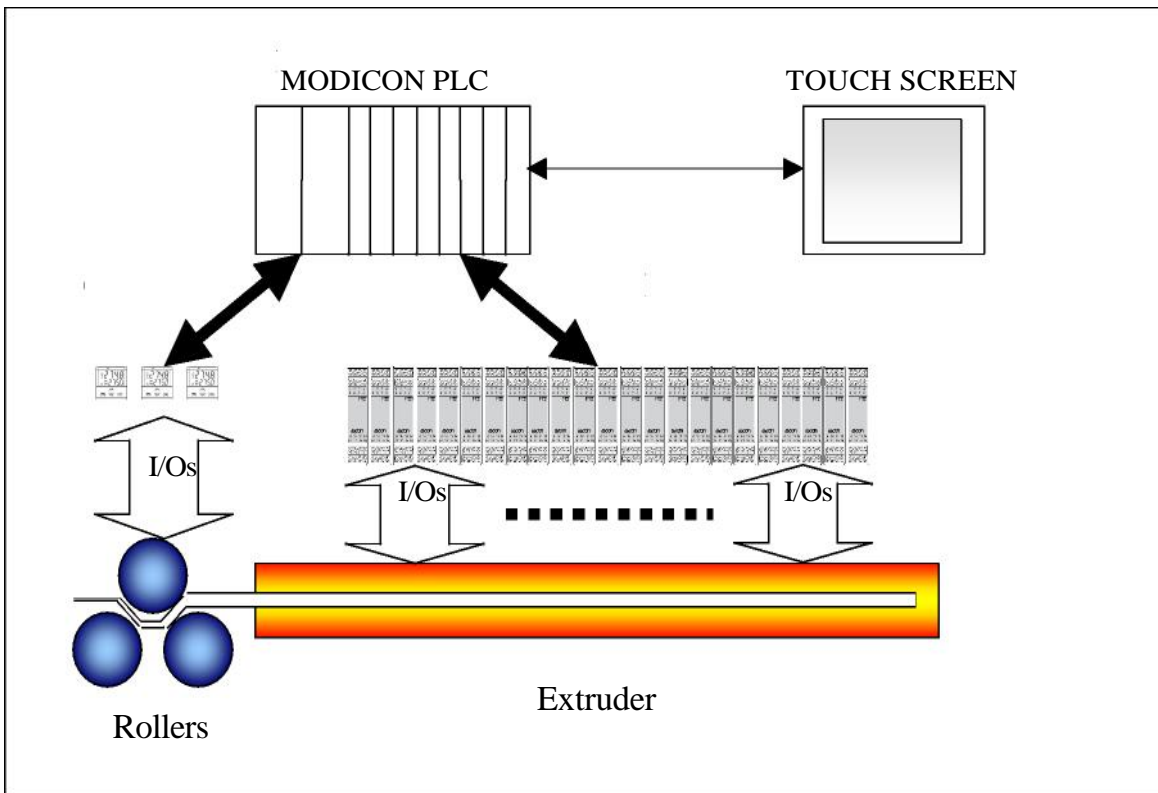
Plastic Extrusion

The extruder in this application utilizes both Delta2 DIN Rail modules and Gamma2 panel controllers supplied by Ascon. Accurate control of this process is necessary for producing high-precision PP/PET sheet. The sheet line has been designed in-house, by the customer, for the manufacture of thin monolayer film necessary to supply the factory with the raw material to be later formed into cups, containers, bowls, plates, and trays.

There are two main sections of the extruder: the extrusion barrel and die zones, and the down-stream roller section. Ascon Delta2 DIN Rail modules and Gamma2 panel controllers are used, while a Modicon PLC manages complete machine automation thru Modbus communications. A touch screen panel is used to view and change all extruder parameters.

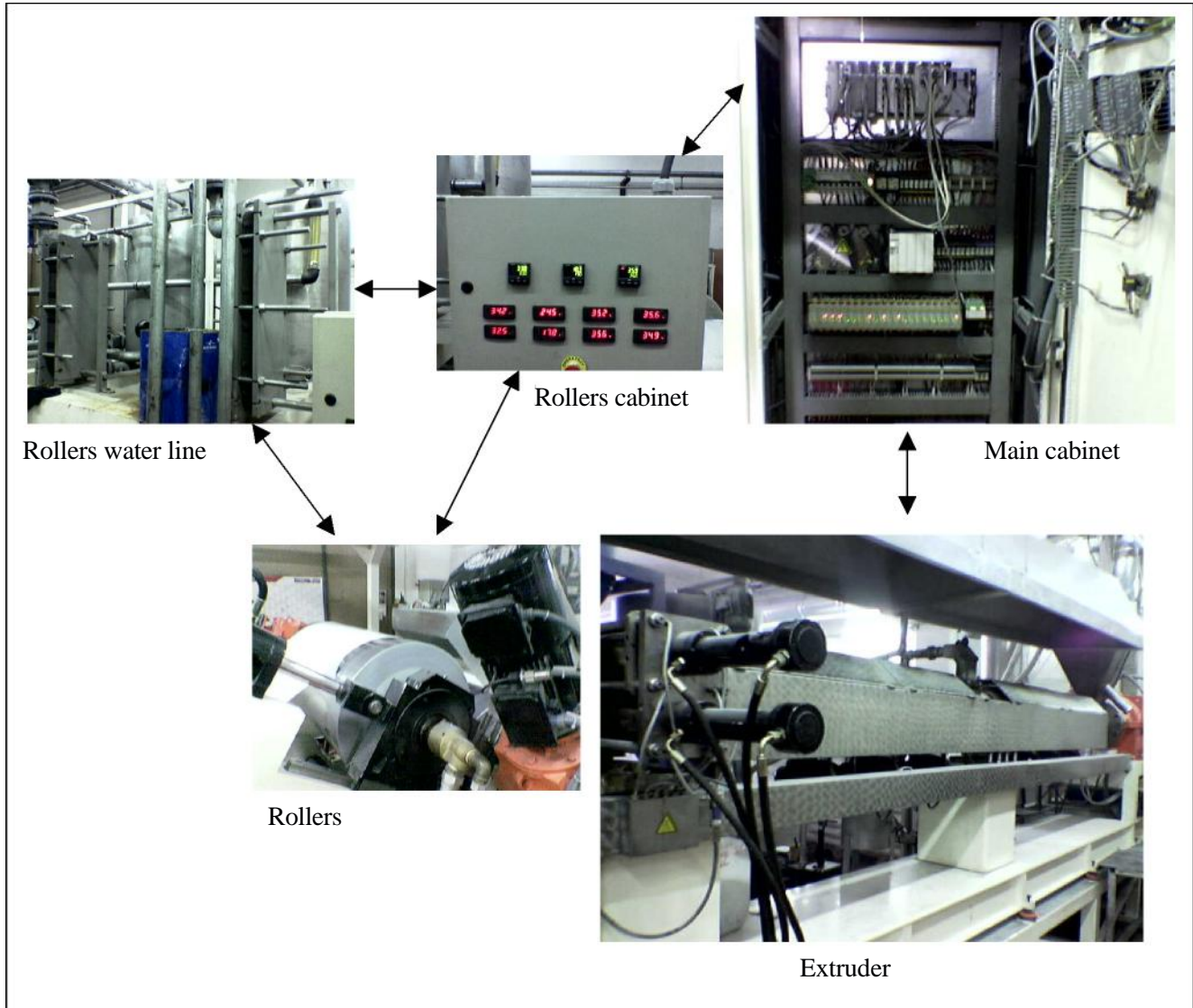
System Diagram

Delta2 PID DIN Rail modules control the temperatures in the 21 zones of the extruder (one



controller for each zone). Each module receives working parameters and setpoints from the Modicon PLC through the embedded RS485 Modbus interface. In this application stand-alone Gamma2 PID panel mount controllers (model M4) handles the water temperature in each roller cylinder, but Delta2 modules could have also been used.

This configuration allows the PLC to execute logic and automation operations while the PID loop control is done by dedicated and more effective devices such as Delta2 modules and Gamma2 panel controllers.



Delta2 DIN Rail PID Modules



The Delta2 DIN Rail modules include a unique common bus for RS485 Modbus communications and 24DC power supply. There are up to 3 relay outputs, a logic output, a universal input signal for temperature input, an auxiliary current transformer input to manage heater failure alarm, and a digital input to execute internal functions like stored setpoint selection.

This customer was especially satisfied by the performance and accuracy of not only the individual units, but also the entire system. Each module and controller can easily be withdrawn and replaced as all terminal blocks are removable and polarized in order to avoid connection errors.

Customer: www.saykap.com (Turkey)

EVERYTHING UNDER CONTROL

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