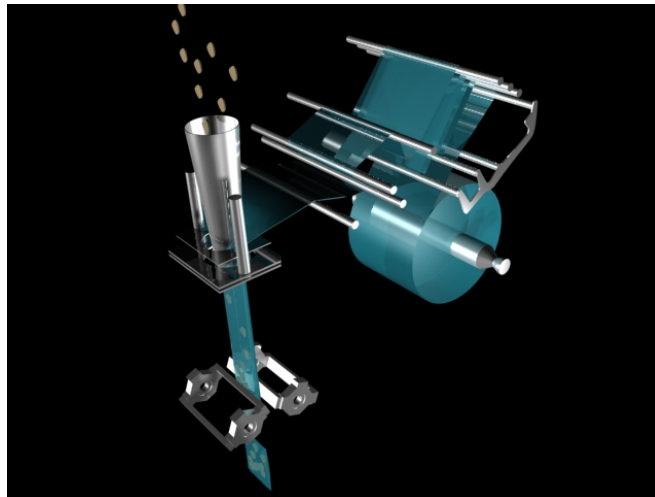


Case	Application of Delta's PLC in Packaging Machine				
Issued by	Solution Center	Date	August, 2009	Pages	2
Applicable to	Delta DVP series PLC				



Delta DVP series PLC is small in size, of fast speed, bountiful instructions and strongly functional, applicable to machine or equipment requiring small number of points. DVP-ES2/EX2/EH2/SV series PLC are built-in with high-speed pulse output and special motion control instructions, allowing connections to servo drives of different brands. The built-in positioning instruction, close-loop instruction, mark and shield functions realize the perfect application of DVP series PLC in a packaging machine and sealing machine. Packaging products using automation equipment requires fast packaging speed and precise positioning and cutting of the packaging materials, which are able to enhance the productivity and reduce the waste of packaging materials. Delta's DVP series PLC with AC motor drive, servo drive, human machine interface and temperature controller connected together can be applied easily in food or product packaging equipment.

Process of Packaging Machine Motion

Product → Entering material feeding or conveyer belt → Measuring product quantity → Sending product to packaging → Sealing → Finishing packaging

Motion of Packaging

1. Feeding packaging material
2. Positioning packaging material, sealing and cutting

Feeding Packaging Material

When the packaging material is fed, the winding tension will change according to the change of reel diameter. In addition, the change of reel width, thickness and other unexpected conditions concerning the packaging materials can be controlled at a certain level using tension control function. Delta VFD-VE and VFD-BW series AC motor drives are able to provide accurate and efficient tension control solutions.

Positioning Packaging Material, Sealing and Cutting

In the process of winding the packaging material to a fixed point, how to precisely position the packaging material is crucial, which allows the packaging material to accurately and quickly stop at the material feeding entrance for conducting the sealing at the bottom of the packaging. DCLLM close loop control instruction in DVP series PLC is able to compare the output pulse from the PLC and feedback signal from the encoder and do compensation depending on the difference observed to ensure correct number of output pulses generated. Together with the shield and mark functions offered by DVP-ES2/EX2/EH2/SV series PLC, the position of the packaging material can be accurately positioned and the sealing and cutting of the packaging done. For the sealing part, Delta DTA and DTB series temperature controllers are able to heat up and seal the packaging, and the cutting can be assisted by Delta ASDA-A2 series servo drive which can be applied in flying shear.

More information on Delta's DVP series PLC, visit our website at http://www.delta.com.tw/product/em/control/plc/control_plc_main.asp