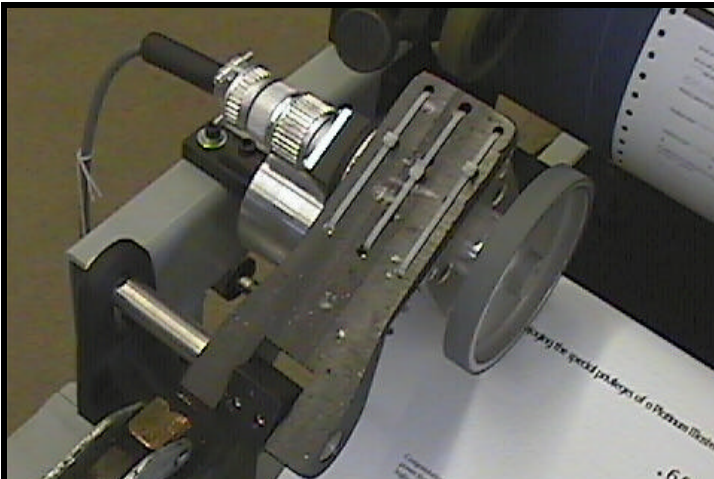# Die Cutting

OVERVIEW

DMC developed the software and provided electrical hardware for a die cutting machine used in the production of windowed bags for tortilla chips.
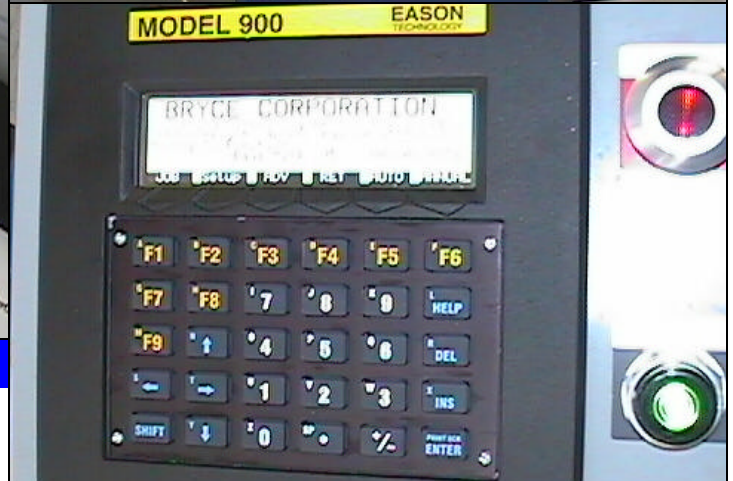
CUSTOMER BENEFITS

· Quick and easy setup
· No mechanical changes required when changing cut spacing
· Auto registration reduces wasted material
· Flexible system can accommodate a wide range of cutting applications

HARDWARE/SOFTWARE

· Acroloop® ACR2000 four-axis motion controller
· Eason® 900 interface terminal
· Yaskawa® Sigma II servo amplifier and motor

Clockwise starting from above left: line speed encoder, die cutter overview, Eason 900 operator interface

SYSTEM DESCRIPTION

Conventional rotary die cutting systems require changing the die roller when switching to a different cut spacing. This is costly and time consuming. This system eliminates the need for mechanical die changes when a new window spacing is desired. The system is set up by entering the size and spacing of the windows to be cut into the paper bag material. The Acroloop 2000 controller makes all of the necessary calculations to generate the correct motion profile so the windows are cut at the correct spacing without distortion. The cutting die follows an encoder wheel in contact with the paper. This allows the system to precisely follow the paper regardless of its speed. An optical sensor reads registration marks on the material and makes constant corrections to ensure that the windows are cut in each bag at the correct location.