

APPLICATION BREAKDOWN:

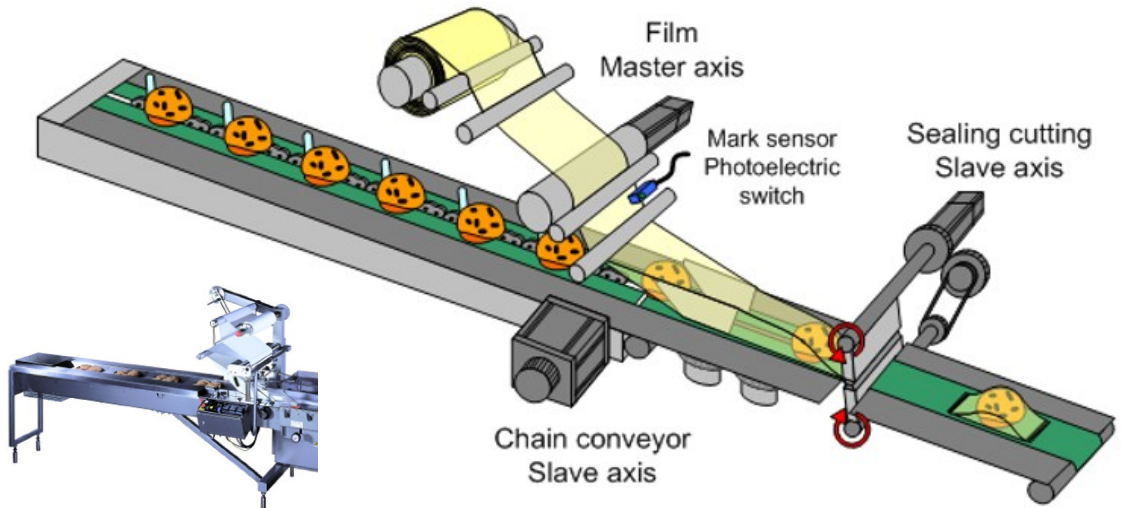
Motion Control for Flow Wrapper



When Sensors Inc. helps a customer update technology on older machinery, an elegant solution is the goal. The update should simplify the operation of the machine, improve its through-put, and minimize product waste and downtime.

A baked-goods manufacturer had a flow wrapper that was a constant source of wasted film and maintenance problems. The tension of the film feed was manually adjusted with a potentiometer on a variable frequency drive. The chain conveyor feeding the product into the wrapper was controlled with another potentiometer, and the seal bars cycled based on a registration sensor and a timer that controlled the length of the seal / cut.

Coordinating the speed of all three components to get the correct combination of product infeed, film tension, and seal/cut took experience. Even when all three were adjusted properly, the “error” caused by the width of the cutting blade, the temperature of the sealer bar and inconsistencies in the film would lead to frequent jams. Those jams required the film to be pulled out and re-fed all the way through the system to the registration sensor. That process could take 5 or more minutes, and wasted several feet of film.



The motion experts at Delta recommended their ASDA-A2 servo system. Servo motors for the film feed, chain conveyor, and seal/cut bar would track position exactly. Offsets in the simple servo program would eliminate the spacing errors from the registration marks, blade width, and film variances.

This solution eliminated the need for constant potentiometer adjustments and greatly reduced downtime and wasted film. It had the added advantage of being able to change the cut length of film for different products with the push of a button.

Rotary Shear Table Setting	
Unit	mm
Gear Ratio:	A= 1 : B= 1
Knife No.:	1
Knife Diameter(d1):	599.995 mm, ircum.: 1884.939 mm
Encoder Diameter(d2):	250 mm, circum.: 785.398 mm
Encoder Pulse	10000 pulse/rev <input type="checkbox"/> P5-84 manually Input
Motor PUU NO. per rev	100000 PUU/rev <input type="button" value="Setting..."/>
Cut length (L)	2000 mm (565.482~5654.817)
Speed Compensation	0 % (-20%~20%)
<input type="button" value="Create Table"/>	

