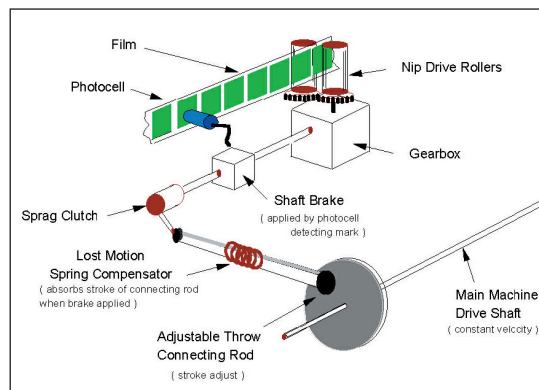


## PACKAGING INDUSTRY

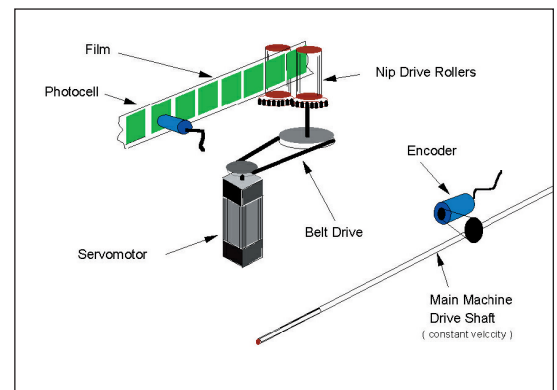
### Sachet Filling

New motor-driven flexible indexing system replaces mechanical indexing machine.

- Fully programmable to generate smooth indexing profiles with zero lost indexes
- Flexibility to allow for different bag sizes and product change
- Reduced wastage and downtime



*The original mechanically linked system.*



*The new electronic indexing system.*

#### The Problem

The original mechanical machine was slow, inflexible, and uneconomic. The cam design was 'progressive', i.e. each index was slightly too big – after 20 counts the photocell would detect the misalignment and brake the system, using clutch and motion compensator to absorb the next index. Also, there was also no facility to change packet size or tolerances without engineering work.

In short, the customer wanted a machine that would:

- be more efficient
- easier to use
- allow products to be changed quickly
- reduce the number of lost indexes

#### The Solution

Replacing the mechanical elements with a Quin servo driven flexible indexing system achieved all of the customer's objectives.

Key to this was the Quin Q-Drive, a combined drive amplifier and motion control system, connected directly to the encoder, photocell and motor. The PTS language (Programmable Transmission System) language allows flexible cam (indexing) systems to be created by monitoring the position of the master axis – in this case the main machine shaft – and linking the slave axis movement through a non-linear map. The system can be programmed using the Motion Generator – a calculation 'engine' that resides in the Q-Drive and calculates maps from given co-ordinates – in this case the length of index. A Mini Operators Panel was used for operator control, i.e. set-up, start, index length.

Quin Systems specialise in flexible innovative machine control solutions for the manufacturing industry. For more information, more FREE application notes or details of Quin products and project engineering skills, please contact: Quin Systems Ltd, Oaklands Business Centre, Oaklands Business Park, Wokingham RG41 2FD. Tel: 0118 977 1077 Fax: 0118 977 6728 Email: sales@quin.co.uk Web: www.quin.co.uk

# PACKAGING INDUSTRY

## Flow Wrapping

Due to limitations of a mechanically-driven wrapping machine, a major machine builder used a servo control system, complete with drives and motors, from Quin Systems to control and synchronise all mechanical movements within the machine.



### The Problem

Mechanically-driven wrapping machines have a number of limitations:

- the machines need to be mechanically adjusted for product changeovers. This requires skill and takes time.
- registration control requires the use of a variable ratio gearbox which is an expensive item and one that is also prone to wear.
- the limp motion of the end crimps approximates to a constant velocity during sealing; its variation in speed is also restricted.
- a no-product-no-bag feature is difficult to achieve mechanically.
- registration is maintained by making coarse corrections.

### The Solution

The new electronic control system has the following advantages:

- the machine is much simpler mechanically. There is less to wear and less to maintain.
- product changeovers can be achieved at the push of a button and from menu selections.
- the machine will hold better registration
- the machine can incorporate a no-product-no-bag feature to save wrapping material
- the machine can also incorporate a misplaced product feature to improve machine utilisation
- plain-film bag length, relative crimp sealing speed, and phase adjustments can be adjusted while the machine is running
- the control system provides better diagnostics
- higher operating speeds are achievable
- the machines can be synchronised to upstream product handling equipment
- tension control systems can be added for handling difficult materials

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