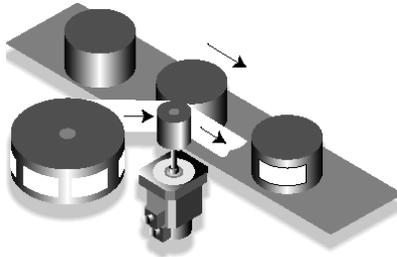


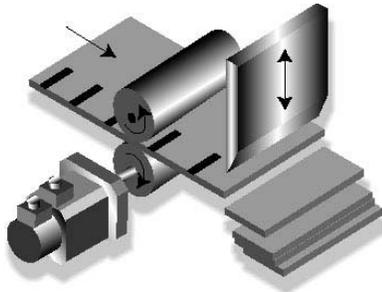
Applications

Labeling Application



In this application, a roller or set of pinch rollers feed labels through a labeling head. The product approaching a labeling head triggers a sensor, which initiates the MP940 profile. The predefined profile causes the label to be pulled through the labeling head and applied to the product. The servo must provide low acceleration to prevent tearing the labels and quick deceleration to stop between tightly placed labels. The control can compensate for variation in package separation and changes to conveyor speeds.

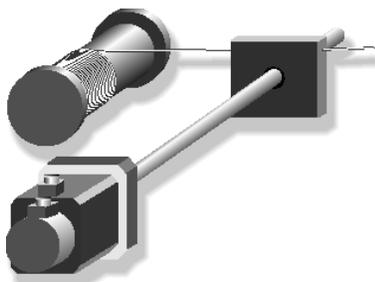
Cut-To-Length



The performance of many applications, in particular those requiring conditional indexing, can be improved by obtaining real-time position information. In order to improve thru-put, the MP940 utilizes dedicated high speed input for capturing registration marks at the highest possible process speeds. This input can acquire and store the position of the motor or external encoder in less than 30 microseconds.

A system that is synchronized by an MP940 provides faster and more accurate cut lengths exactly placed on the registration marks or adjustable offsets.

Coil Winding



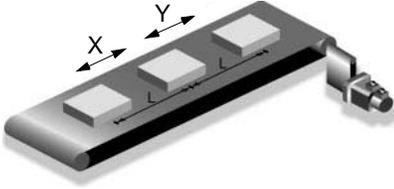
The product is wound onto a bobbin that rotates at a constant speed. The filament will be laid onto the bobbin by a ball screw driven guiding mechanism that will slowly decrease its travel rate as the winding diameter is increased.

With an MP940 servo system, complex changes of ratio based on master position are possible. In addition, the arm must reverse quickly at the end of the move.

These processes are done at a very high speed and precise motion control is required for consistency and quality in high production environments. Product changeover is easily programmable with an MP940 servo system.

Applications

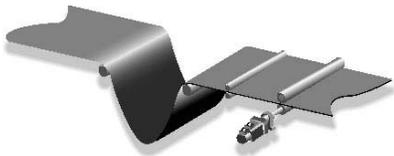
Random Timing In-feed - Conveying



Frequently, a product at a particular point in a process arrives with non-repeatable, or random timing. In this application, a product needs to be placed on an exit conveyor with perfect spacing to ensure it can be wrapped and packaged accurately.

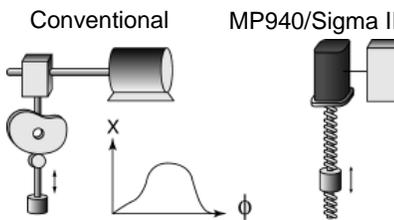
The MP940 servo system regulates the spacing on an output conveyor by advancing and retarding conveyor position and speed to obtain the required shift and then matching speed with the feeding conveyor for a smooth transition.

Feed To Length



Many process lines that unwind a roll continuously and feed a converting process in discrete moves use an MP940. The servo feeds a variable length of material to the process and can include an optional external encoder to compensate for material slippage. In addition, an MP940 analog output varies the speed of the unwind roll as the depth of the material accumulator and the diameter of the unwind roll changes.

Electronic Cam



Machines that previously required mechanical cam changes for product or process changes may now be settable and reconfigured electronically. The servomotor is linked to a master encoder with synchronized phase control mode. With synchronized phase control mode, the AC servo system moves the same way as with a mechanical cam.

With an MP940, each cam profile can have as many as 20 definable segments with each segment curve shape settable with 21 available shapes including straight line, parabolic, simple harmonic, cycloidal, modified trapezoidal, modified sine, asymmetrical cycloidal, etc.

The electronic cam is an ideal mode for periodic operation, especially those requiring varying gear ratios along the motion cycle. Such applications include flying shears, rotating knives, and packaging systems.