



Servo System Applications

Application No. 1

Objective:

Provide an automated system for production of medical guide wires for a variety of lengths, requiring minimal operator involvement. End cut to exhibit minimal burr condition, and finished wires must be segregated in same-length groups.

Solution:

Utilized #2 Servo Feed System to feed guide wire from spools using a motorized fine wire payoff. Guide wire lengths of up to 100" required that the wire be rotary straightened. A loop control device was used to maintain a reservoir of straightened wire between the rotary device and the servo feed rolls. A standard #3 Cutter Head was employed using a "quill on quill" tool arrangement to provide a high quality shear cut.

A custom conveyor-dump tray attachment was designed to pull the guide wires as they fed to allow for developed lengths up to 100". After the feed cycle is completed, the cutter actuates and the cut-to-length guide wire is ejected into a collection tray. The standard servo feed software package enables the program to control the entire feed, cut, convey, batch and eject functions.

Different guide wire lengths within the same feed cycle can be programmed and segregated on the conveyor and dumped into the collection tray in independent batches.



Guide Wire Conveyor and Dump Tray



Complete System (payoff not shown)



Conveyor-Dump Tray Actuation Mechanism

Application No. 2

Objective:

Provide an economical, automated system for a relatively low volume application. Machine must feed and straighten .187" wide X .010" thick nickel strip, roll form a crown cross section into the material, cut to 3" length, stack 16 pieces in a cassette and index an empty cassette into loading position for next feed, form, cut and load cycle.

Solution:

Utilize #2 Servo Feed System to pull nickel strip from a motorized payoff and through a single plane #1 PWS Precision Straightener. Special contour ground feed wheels roll form the required crown into the strip.

A custom post-feed straightening station is used to re-calibrate the straightness after roll forming to insure the consistent flatness of the cut lengths for stacking. A standard #3 pneumatic cutter head is integrated to cut the strip to the required length.

The next feed cycle transfers the cut blank into a pre-positioned cassette. After loading 16 blanks, the automatic cassette indexing station transfers the loaded cassette out into the exit track and re-positions the next empty cassette from a pre-loaded stack into the loading position. For more details on this application, or to determine if the #2 Servo Feed System could be a solution for a current job you have or are quoting, please contact us.



Prior to stacking, a crown shape is rolled into the strip using the feed rolls

Feed & roll form, cut off, load, stacking and indexing stations