



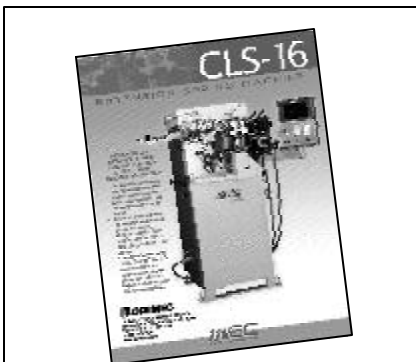
HIRO NISHIMURA, ENGINEERING MGR,
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MEC CLS-16
EXTENSION SPRING MACHINE



MEC CLS-10V
EXTENSION SPRING MACHINE



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Paying Attention to Tension

This tale begins 70 years ago. As a child I actually had a puppy that had his tail caught in a screen door.

The tail was long and the nondescript mutt was too young to know that if your young friend was not holding the screen door open, a dog had to get all of himself out before letting the door slam.

The incident produced a high decibel yelping sound. The tail was not seriously damaged.

Dad got a big laugh because cartoonists of that era had been drawing dogs with Z-shaped tails which had presumably been caught in a screen door.

Eventually, the dog learned how to negotiate his exit without getting caught, but never mastered the feat of a silent exit. I personally learned after much sharp-tongued chastisement not to let a screen door slam.

Screen door springs were about 12" (305 mm) long with open hooks on both ends. Hooked on one end to the door and the other to the door frame, the extension spring (some call them tension springs) slammed the door with a bang.

Technology has advanced, providing a door closer to replace the tension spring. A compression spring inside a cylinder closes the door. An adjustable pneumatic check regulates silent closing.

While most applications of mechanical springs could not qualify as high-tech, the machines that produce the springs have reached a high level of technology. No one knows this better than **Hiro Nishimura**, Engineering Manager at **ORIIMEC Corporation of America**, Erlanger, KY, USA. He has 13 years experience working with MEC.

The MEC CLS-16 is a good example. While this is called an "Extension Spring Machine," it is commonly known as the "MEC Looper." This is CNC controlled with three axes of servo control, including wire feed, cam shaft movement and transfer control.

These can be easily programmed together for high speed and accuracy with minimum setup time.

Extension springs need a hook or loop on each end so that whatever force is extending it can be mechanically attached to the ends.

The MEC CLS-16 with its CNC controls can produce all types of loops or hooks including English, side, German and extended hook. The cam shaft can be programmed to have both forward and reversed rotation in the same cycle, and the transfer motion can complete its operation or be stopped mid-cycle to prevent interference between the spring and the transfer arms. Also programmable are end alignment, sensor movement timing and amount of low speed material feed.

The CLS-16 is designed to produce springs made from material sizes ranging from 0.5 to 1.6 mm (0.02" to 0.063").

ORIIMEC has introduced a new machine in the looper series. The CLS-10V has more advanced high-tech features. They include a touch screen for its CNC controls; pre-installed program templates for extension springs with straight body, larger diameter hook and torsion attachment requirements (commonly used for extended hooks).

This machine is capable of producing extended hooks on both ends and/or a combination of hook types. It features new hooking station geometry and a handy pluse dialer for easier setup.

Wire material size ranges from 0.12 to 1.0 mm (0.0047" to 0.04"). Both of the machines mentioned in this story have a top production speed of 120 ppm.

There are over 5000 MEC spring making machines at work in North America, Europe, Southeast Asia and Japan. Hiro's experience can evaluate your needs, recommend the proper machine and train your people.

For more info **Circle 300**. **WFTI**