Torin® Spring Coilers

Adaptability is key in today's competitive market. Each Torin® FZ Series Spring Coiler is developed for fast set-up and changeover of springs using the powerful 19 inch touch screen interface. Torin Spring Coilers can quickly produce a wide variety of springs and wire forms on a single machine, all with uncompromised accuracy, repeatability and flexibility. Torin allows you to meet a variety of production requirements and helps keep your business competitive!

Many Springs, One Machine

- Coilers available for wire diameter ranging .003" – .750"
- Compression
- Extension
- Torsion
- Belting
- Wire Forms
- Magazine
- Rings
- Constant Force
- Shaped Wire

Simplified, State of the Art Controls

- Torin FZ Series features user-friendly operator interface with a modern graphical design and intuitive touch screen.
- Fast & simple spring program creation
- Multiple languages available
- FENN's advanced technology adds all the high tech features that add efficiency to your operation, paired with classic Torin CNC Spring programming

Dependable Service and Training

- Telephone support paired with new remote support capabilities are included with every machine to help minimize downtime
- Ensure full utilization of all Torin's features and efficiencies with our operator training at your facility or ours in Connecticut, USA
- PM program available—ask for details!

www.fenn-torin.com

Torin is pleased to offer a long list of standard features available on every FZ Series spring coiler, including:

• **Spring Portal** allows for secure connection to your machine by FENN technicians. Technicians are able to remotely access your machine to provide software updates, diagnostic support and access machine set-up conditions. Our real time video feature allows our technicians to see exactly what's happening with your machine and help you resolve issues quickly.

• **Spring Shortcut** spring program generator (see below)

• Ergonomic pendant style operator interface with 19 inch touch screen display

• **User-friendly operator interface:** Torin's latest software combines many high tech features paired with our classic CNC style programming, making training easy for current Torin operators

• Ergonomic **remote hand wheel** for easy setup

• **Complete system diagnostics** accessible through user interface

• **Spring jog mode** allows operator to step through the program; highlighting each operation on the CAMS screen

• **High speed, high accuracy,** tight index spring production

• **User interface is available in multiple languages** to accommodate a diverse workforce

• Torin's industry leading **2 year warranty**

• Heavy duty construction of the machine continues Torin's tradition of **robust American quality** capable of meeting your production demands for decades

Torin's Spring Shortcut spring program generator

• Accelerates the spring program development process by allowing the operator to enter a few key characteristics to generate a spring program

• Allows less experienced spring operators the opportunity to learn through making minor adjustments to generated programs rather than developing the entire program

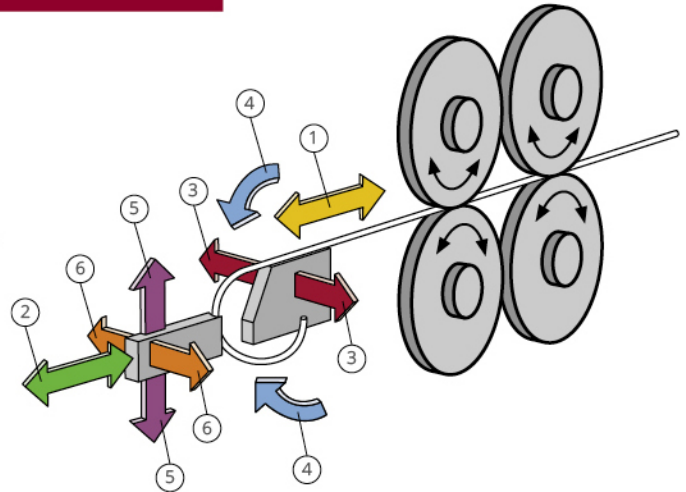• Shortened setup enables more time for profitable production runs

Coilers Available in Four, Five or Six Axis!

Every Torin spring coiler comes standard with 4 axes, which fulfill the feed, diameter, pitch and cut functions. For those customers who require greater versatility, the torsion and lateral coiling point functions or axes can be added. These additional axes enable the production of springs such as torsion, wire forms and hooked extension springs.

Six Axis Defined:

1. Feed
2. Diameter
3. Pitch
4. Cut
5. Torsion
6. Lateral Coiling Point

Discover the Right Size Machine For Your Application!

Machine Size	00 FZ 100	0 FZ 10	0-1/2 FZ 810	1 FZ 11	1-1/2 FZ 115	2 FZ 12	2-1/2 FZ 125	3 FZ 23	4 FZ 24	5 FZ 25
Wire Diameter (in)	.003-.015	.008-.028	.010-.040	.015-.080	.032-.135	.047-.177	.080-.275	.125-.375	.160-.625	.250-.750
Wire Diameter (mm)	.076-.38	.20-.70	.25-1.0	.40-2.0	.80-3.5	1.2-4.5	2.0-7.0	3.2-9.5	4.0-16	6.3-19
Wire Diameter Torsion (in)	.003-.015	.008-.028	.010-.040	.015-.080	.032-.135	.047-.177	.080-.250	.125-.325	.160-.440	.250-.500
Wire Diameter Torsion (mm)	.08-.38	.20-.70	.25-1.0	.40-2.0	.80-3.5	1.2-4.5	2.0-6.4	3.2-8.3	4.0-11.2	6.3-12.7
Minimum Index	3	3	3	3	3	3	3	3	5	5
Spring Body Max (in)	.281	.875	.875	1.75	2.25	3.25	4.25	5	6	10
Spring Body Max (mm)	7.1	22	22	44	57	83	108	127	152	254
Feed Length	UNLIMITED									

All dimensions subject to factory confirmation.

*Dependent on the spring geometry, larger sizes are possible. Contact FENN with your specific application.

Variety of springs made on Torin coilers

Torin FZ-11
Wire diameter range:
.015" – .080"
.40 – 2.0 millimeters
Minimum index: 3
PPH: Up to 45,000

Torin FZ-12
Wire diameter range:
.047" – .177"
1.2 – 4.5 millimeters
Minimum index: 3
PPH: Up to 24,000

Torin FZ-125
Wire diameter range:
.080"-.275"
2.0 – 7.0 millimeters
Minimum index: 3
PPH: Up to 20,000

FENN is in the business of creating customized solutions for a wide variety of applications. *Past examples include:*

- Constant force machines customized for each client for the production of constant force springs
- Torsion Winders for the production of flat torsion or brush springs
- Left hand configurations for belting springs and other special applications
- Integration of wire shaping equipment prior to the coiler allows you to go from round wire to shaped wire springs

All-In-One Solution

Shape wire and coil springs with a single line from FENN.
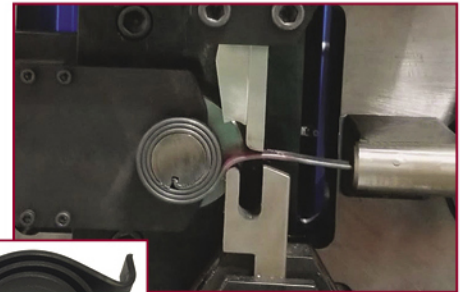
Benefits Include:

- **Equipment fully integrated by OEM**
- **Maintain complete control** of your product by eliminating reliance on outside vendors
- Fully automated line—**set it and forget it!**
- **Save time** with the ability to shape and coil wire during a single run

Possible Additional Features Include:

- Motorized Adjustment
- Automatic Gauge Control
- SPC / Data Acquisition System
- External Roll Cooling

Possible Applications Include:

- Dental Arches
- Wire Nuts
- Clutch Springs

Brush Spring

Torsion Winder
Torin's design increased client's production by 30%!

Clutch Springs

Contact us today to learn more about how FENN can develop a solution to meet your requirements.
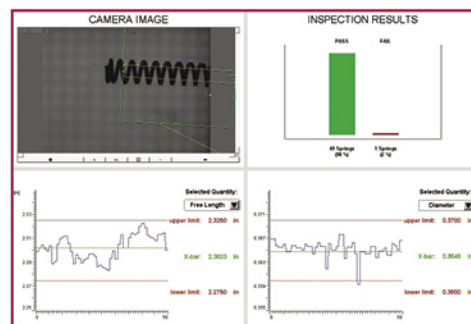
Keeping it Made in America

FENN was founded in Hartford, Connecticut in 1900. Over the years, FENN has produced a wide variety of metal forming equipment, and during WWII was one of the first companies in the country to convert its regular operations to 100% war production, producing tank and airplane components, gun parts and fire control apparatuses. Today, FENN focuses on its expertise in metal forming machinery, but proudly continues the tradition of supporting American manufacturing and jobs; both designing and building every machine at our headquarters in Connecticut, USA.

A selection of optional features are available to meet the diverse requirements of the spring making industry. Optional features include:
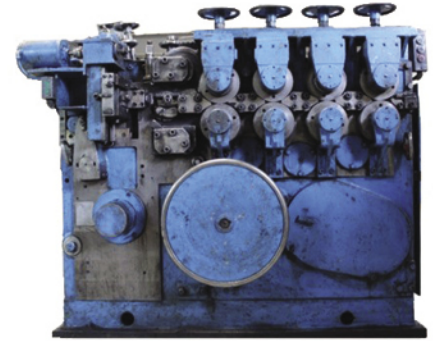
- **Ring Production Attachment**—This optional attachment is designed to produce large diameter rings on your existing Torin spring coiler. For example, an FZ 115 size ring attachment can produce rings ø15"+, depending on springback of the material and shape of the ring.

- **Forming Attachments**—Such as end formers and spinners.

- **Quill Style Tooling**—To enable more complex wire forming.

- **Length Gauge Interface**—For customer supplied length gauge such as a Larson or Moyer for on the fly, automatic adjustment of free length.

- **Torsion (5th) Axis**—Servo controlled torsion axis provides the capability to feed straight lengths of wire for the creation of torsion legs or magazine springs, or other wire forms. Includes torsion tool holders and a complete set of torsion tooling.

- **Lateral Coiling Point (6th Axis)**—Servo control provides lateral movement of the coiling point motion (in & out of machine face) for on-the-fly control of initial tension and the production of complex wire forms.

- **Retractable Bending Arbor**—Provides a bending anvil for use with lateral coiling point when performing more complex bends such as extension spring ends.

- **Laser Torsion Probe**—The laser probe provides precise feedback of spring geometry to the FZ control system, enabling the spring maker to control critical dimensions such as the angular clocking of torsion legs and extension hooks.

- **Part Handling Devices**—Such as dump troughs, conveyor belts, ejection devices.

- **Wire Straighteners**—High quality 2 plane wire straightener that eliminates cast in the wire resulting in higher quality springs.

- **Customer Configurable Programmable Inputs/Outputs**—Enables the connection of secondary inline equipment.

- **End of Wire Sensor**—This sensor signals the operator when the wire has run out, or will shut the machine down for lights out production.

- **Tool Breakage Sensor**—In the unlikely event that a tool breaks, or something malfunctions in the set up, this sensor will stop the machine, preventing further damage.

- **Spring Vision**—Utilizing advanced image processing, Spring Vision has the capability to measure and adjust the spring's free length, pitch and diameter in real-time without additional interaction from the operator beyond entering tolerance values at set-up. This allows for the coiler to self-adjust, via closed loop control, for any changes that may have occurred with the material, the tooling or the environment. All measurements as well as the captured spring image are displayed on the HMI along with Statistical Process Control (SPC) data pertaining to Pass/Fail and measurement distributions. The system records all of the captured measurements to log files, easily extractable for remote data processing or as supporting documentation for the customer.
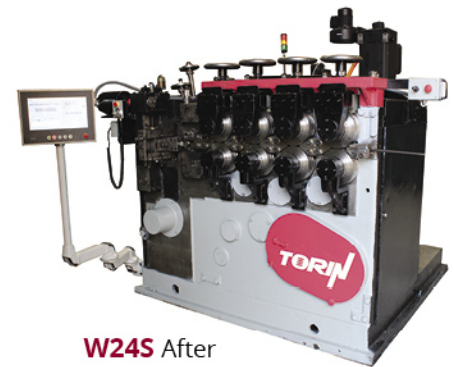
Retrofit Program for W Series Mechanical Coilers

FENN's Electrical Retrofit program provides unmatched value: our highly knowledgeable, experienced engineers and factory technicians enable FENN to deliver retrofitted equipment at a fraction of the cost of a new machine. Let us help you maximize the potential and output of your mechanical Torin Spring coiler with our CNC technology, all backed by our 1 year retrofit warranty! *Retrofit benefits include:*

• **Precise, variable speed servo control** of feed and cam shaft independently, allows for cam shaft reversals and eliminates need to change gears or adjust feed crank gears, clutches and brake.

• Variable speed and position control of the cam shaft enables **greater flexibility when making complex springs** such as multiple diameter changes. This also enables you to expedite set up by adjusting the timing of the cam shaft via offsets in the spring program rather than re-clocking the cams mechanically.

• **Unlimited accurate feed length** provided by precise servo control- without changing gears

• **Integrated probe** interface enables precise clocking of springs

• Retrofitted machines become simplified with **fewer mechanical parts that need future replacement.** Clutches, brakes and feed crank gears are all eliminated

• **Valuable mechanical parts** that become obsolete in the retrofit process are crated and shipped back to you for use on other machines, or disposed of at your discretion

• **High quality OEM parts** keep your Torin machine running at optimum performance

• Save time and labor when you **reduce set up time** with modern Torin programming
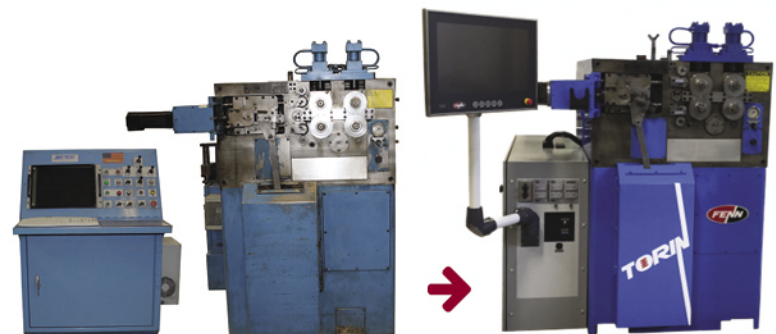

W24S Before

W24S After

Z Series & CNC Control Upgrades

Is your aged machine at risk for a breakdown?

Control Upgrades are available for older Torin servo controlled coilers. Give your machine a complete control upgrade including Torin software with the latest FZ Series features. With this package, eliminate the risk of relying on obsolete components, and other issues including:

• Low production rates

• Poor quality springs

• Downtime resulting in reduced productivity & profits

• Worn mechanics

115 CNC Before → **FZ-115 CNC** After

Now with the option to replace hydraulic cut with servo motor-driven cut (on select models)

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