



# SPRING COILERS

Single Point  
FZ Series



## Produce All Types of Springs

- Belting
- Rings
- Compression
- Shaped Wire
- Constant Force
- Torsion
- Extension
- Wire Forms
- Magazine





Machine Size		00	0	0-1/2	1	1-1/2	2	2-1/2	3	4	5
<b>Model #</b>		<b>FZ 100</b>	<b>FZ 10</b>	<b>FZ 810</b>	<b>FZ 11</b>	<b>FZ 115</b>	<b>FZ 12</b>	<b>FZ 125</b>	<b>FZ 23</b>	<b>FZ 24</b>	<b>FZ 25</b>
<b>Wire Diameter</b>	in.	.003 – .015	.008 – .028	.010 – .040	.015 – .080	.032 – .135	.047 – .177	.080 – .275	.125 – .375	.160 – .625	.250 – .750
	mm	.076 – .380	.200 – .700	.250 – 1.00	.400 – 2.00	.800 – 3.50	1.20 – 4.50	2.00 – 7.00	3.20 – 9.50	4.00 – 16.0	6.30 – 19.0
<b>Wire Diameter Torison</b>	in.	.003 – .015	.008 – .028	.010 – .040	.015 – .080	.032 – .135	.047 – .177	.080 – .250	.125 – .325	.160 – .440	.250 – .500
	mm	.08 – .380	.200 – .700	.250 – 1.00	.400 – 2.00	.800 – 3.00	1.20 – 4.50	2.00 – 6.40	3.20 – 8.30	4.00 – 11.2	6.30 – 12.7
<b>Minimum Index</b>		3	3	4	3	3	3	3	3	5	5
<b>Spring Box Max.</b>	in.	.281	.875	.875	1.75	2.25	3.25	4.25	5	6	10
	mm	7.1	22	22	44	57	83	108	127	152	254
<b>Feed Length</b>		Unlimited									

All dimensions subject to factory confirmation. Dependent on the spring geometry, larger sizes are possible. Contact FENN with your specific application.

## All Spring Types

Adaptability is vital 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 touchscreen interface. Torin Spring Coilers can quickly produce various springs and wire forms on a single machine, all with uncompromised accuracy, repeatability, and flexibility. Torin allows you to meet different production requirements and helps keep your business competitive.

### Coilers available for wire diameter ranging .003" - .750"

- Compression
- Extension
- Torsion
- Belting
- Wire Forms
- Magazine
- Rings
- Constant Force
- Shaped Wire

## Service and Training

Telephone support paired with new remote support capabilities are included with every machine to help minimize downtime.

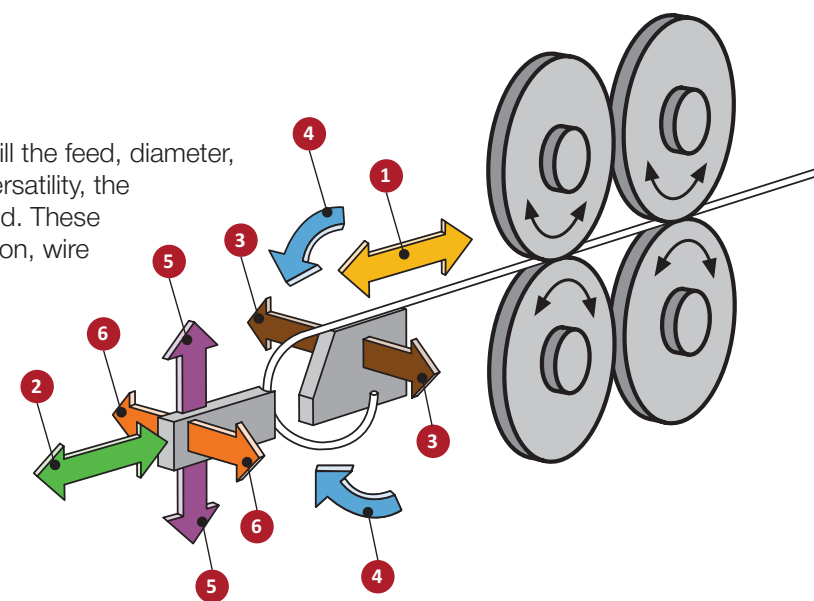
Ensure full utilization of all Torin's features and efficiencies with our operator training at your facility or ours in Connecticut, USA.

Preventative Maintenance programs are available. Contact FENN for details.

## Available in 4, 5 or 6 Axis

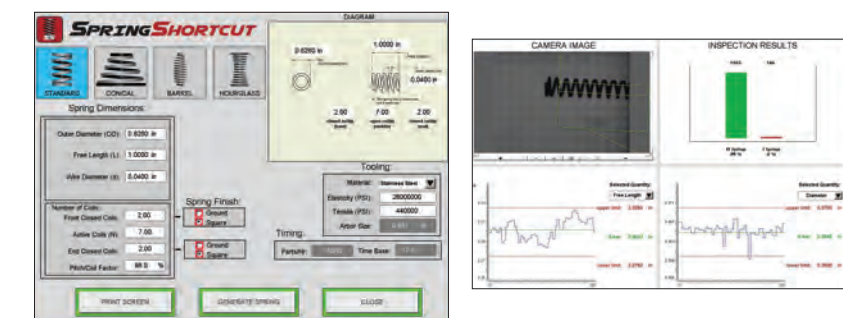
Every Torin Spring Coiler comes standard with 4 axes that fulfill the feed, diameter, pitch and cut functions. For customers who require greater versatility, the torsion and lateral coiling point functions or axes can be added. These additional axes enable the production of springs such as torsion, wire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

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



## Standard Features

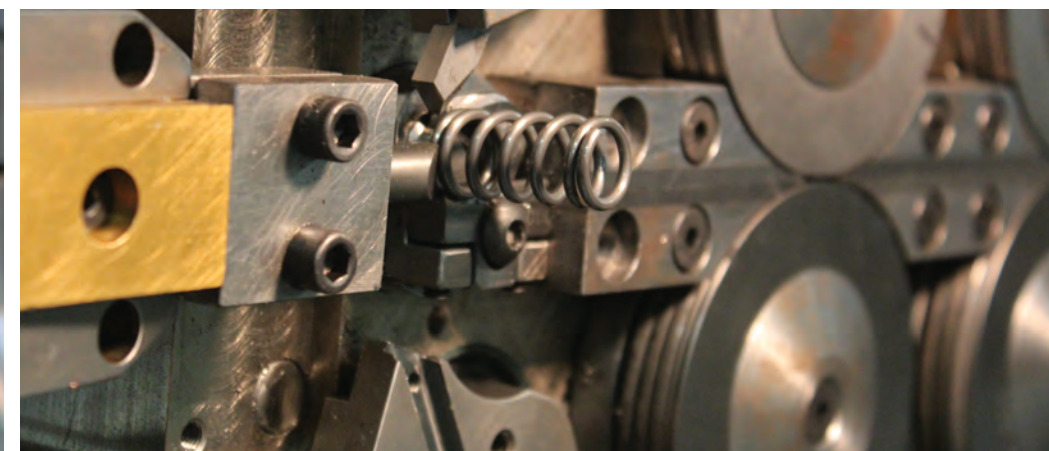
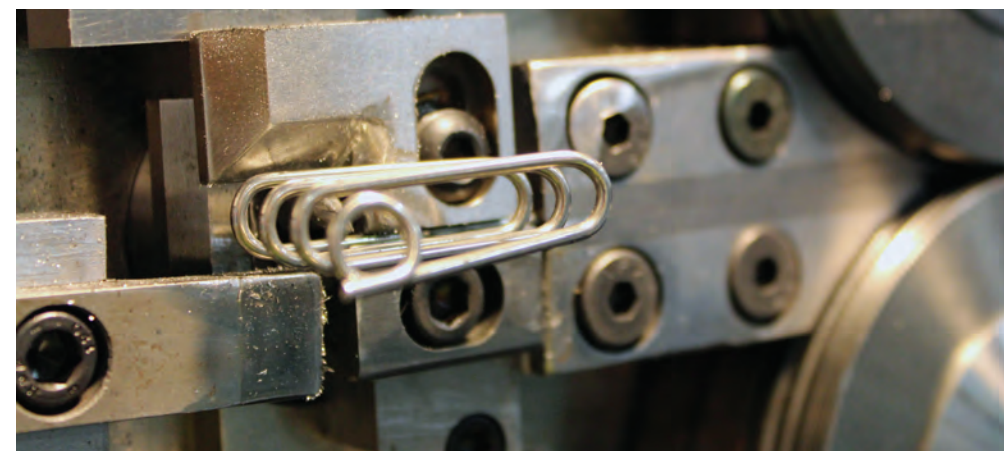
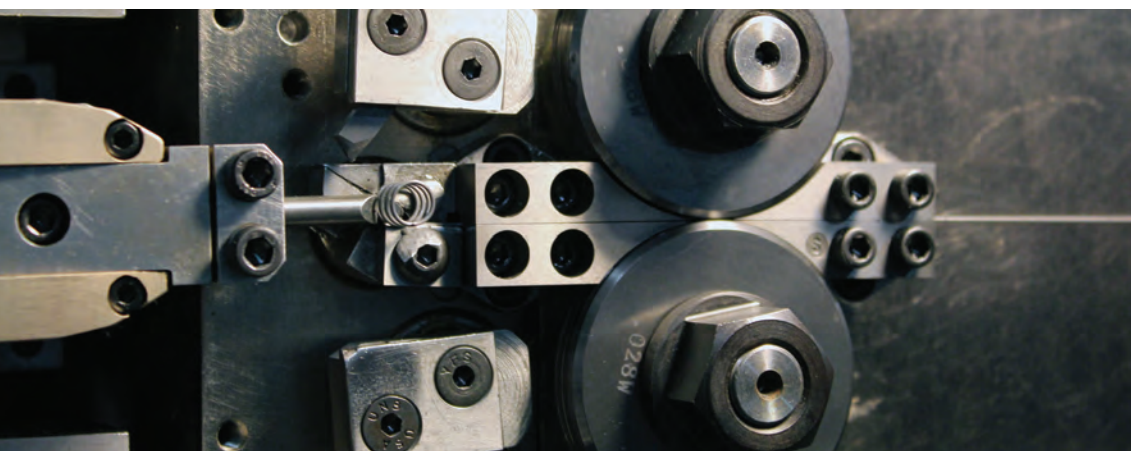
- Heavy-duty construction
- High speed
- High accuracy
- Tight index spring production
- User-friendly operator interface
  - Torin's latest software combines many high-tech features paired with our classic CNC-style programming, making training easy for current Torin operators
  - Available in multiple languages to accommodate a diverse workforce
  - Complete system diagnostics accessibility
  - Spring Jog Mode allows the operator to step through the program; highlighting each operation on the CAMS screen
- Ergonomics
  - Remote hand wheel for easy setup
  - Pendant-style operator interface with 19-inch touchscreen display
- Industry-leading 2-year warranty



**SPRINGPORTAL** allows for secure connection to your machine by a FENN technician. Our technicians can remotely access your machine to provide software updates, diagnostic support and access machine set-up conditions. FENN's 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

- 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 by making minor adjustments to generated programs rather than developing the entire program
- **Shortened setup** enables more time for profitable production runs



## Optional Features

- **Ring Production Attachment** for producing large diameter rings on your existing Torin spring coiler. For example, an FZ 115 size ring attachment can produce rings  $\varnothing 15''+$ , depending on the spring-back of the material and shape of the ring.
- **Forming Attachments** such as end formers and spinners.
- **Quill-style Tooling** will enable more complex wire forming.
- **Length Gauge Interface** for customer-supplied length gauges 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 and 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 a lateral coiling point when performing more complex bends such as extension spring ends.
- **Laser Torsion 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, and ejection devices.
- **Wire Straighteners** are high-quality 2 plane straighteners that eliminate cast in the wire, resulting in higher quality springs.
- **Customer Configurable Programmable Inputs/Outputs** enable the connection of secondary inline equipment.
- **End of Wire Sensor** signals the operator when the wire has run out or will shut the machine down for lights-out production.
- **Tool Breakage Sensor** stops the machine, preventing further damage in the unlikely event that a tool breaks, or something malfunctions in the setup.
- **Wire De-Reelers/Payoff**

## Engineered Solutions

Examples:

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

### Torsion Winder

Custom design increased client's production by 30%

Brush Spring >



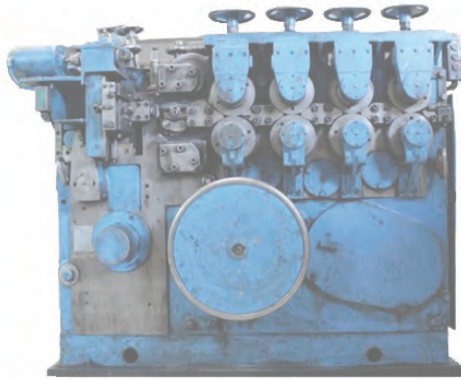
### All-in-One

Shape wire and coil springs within a single line



# FENN's Electrical Retrofit Program **provides unmatched value**

## W SERIES Mechanical Coilers



Before: WS24S



After: WS24S

FENN can 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 one-year retrofit warranty.

- Precise, variable-speed servo control of feed and camshaft independently allows for camshaft reversals and eliminates the need to change gears or adjust feed crank gears, clutches, and brakes.
- Variable speed and position control of the camshaft enables greater flexibility when making complex springs such as multiple diameter changes. This also allows you to expedite setup by adjusting the timing of the camshaft 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

## Z SERIES & CNC Control Upgrades

### - Torin software upgrades with the latest FZ Series features

Package upgrades eliminate the risk of relying on obsolete components and other issues, including poor-quality springs, low production rates, worn mechanics, and downtime, which can result in reduced productivity and profits.



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**TORIN MACBEE**

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**All FENN machinery is proudly designed and built in our USA headquarters.** Contact us today to see how FENN can customize a metal forming machine that is best suited to your application requirements.

### A Trusted Leader in Custom Engineered Metal Forming Machinery

FENN has been designing and building rugged, dependable metal-forming machinery for more than a century. From initial design to manufacturing and equipment support, FENN has a full team of experts, including customer service technicians, product managers, and engineers, to ensure your project's success.

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