

B R O O M F I E L D

## FOIL/STRIP WINDERS

# Foil/Strip Transformer Winding Machines

## SPECIFICATIONS

The design of our **Foil/Strip Transformer Winding Machines**, which optimizes the configuration of the various assemblies, results in effective and efficient material handling and tension and keeps machine size to a minimum. An extra heavy-duty, welded and machined steel vertical frame guarantees the accurate alignment of all payoffs and guides with the winding axis.

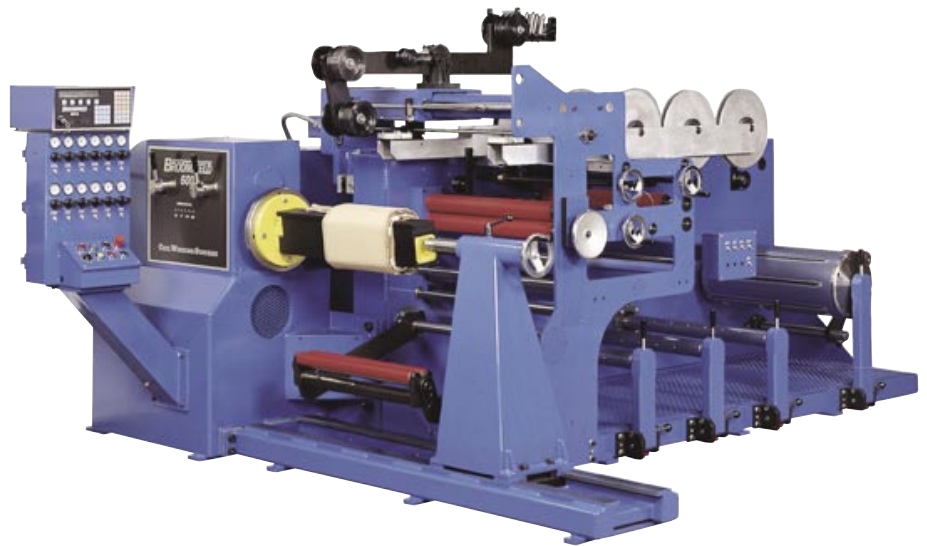
### Features & Benefits:

- "Low maintenance - high reliability."
- Tight coils and accurate margins.
- TIG and "Cold" welding.
- Programmable controls.
- Wire/Foil models available.
- Product specific design.
- Easy set-up and simple operation.
- Multiple foil, paper and wire handling.
- Heavy steel construction.

Operator Control Stations are located for accessibility and convenience during the machine operation. Switch labels available in several languages.

Dual Roller Coil Pressing is supplied as standard on most of our foil winding equipment. The dual roller design with a pivoting head, allows the rollers to change angle and spend more time on the corners. Interlocked with the E-Stop switch and up to 1,000 lbs. (455 kg) of pressure.

Foil Tension is provided by urethane covered steel rollers positioned after the guide assembly. Several styles provide a large range of tensions. May be powered to move the foil forward.



Heavy Duty Tailstocks of swing-away or slide-away designs to meet the need for winding mandrel support.

Inflatable Air Shafts with pneumatic disk brakes, provide for despooling and tensioning insulation paper; may also have powered rewinds.

Foil Guide System, just prior to tensioning system, is simple, effective and maintenance free to provide consistent edge alignment of your foil.

Inflatable Air Shafts for foil supply rolls are switch controlled and supported on the frame end by two heavy duty flange bearings piloted into each side of the frame. Many different diameters to accommodate most supply roll core sizes. Electric Rewinds standard.

Powered unwind or loose loop control is optional.

Tailstock Supports on the longer payoff shafts, swing down for easy supply roll loading and unloading. Lock up into place.

Each machine is custom-configured with standard assemblies to match your application requirements.

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## Specifications:

Broomfield Foil and Wire/Foil Winding Machines are custom configured according to your specific coil requirements. We start with one of our standard winding machines (models) based on the speed, torque and weight capacity requirements and add the features which tailor the winder to your needs.

**Motor Equipment:** 5 HP (3.73 KW) to 75 HP (55.95 KW) with AC Variable Frequency, AC vector or DC regenerative motor drive controls.

**Speed Reduction:** Belt and pulley to a gear reducer for single speed machines or multi-speed gearbox when ease of speed range change is required.

**Spindle Speeds:** Single speed machines for high torque, low speed applications: 0 to 30 RPM.  
Other speed ranges available.

**Multi-speed machines for wire and foil:** 0-30 RPM in lowest speed range typically; 0-380 RPM in highest speed range, depending on base machine selected. Higher speed ranges available.

**Faceplates:** 14" (355.6 mm) and 22" (558.8 mm) diameter models are used depending on the torque requirements.

**Spindle Center Height:** 33" (838.2 mm) to 42" (1,066.8 mm) from the floor or your requirement

**Coil Diameters:** Up to your requirement.

**Material Capacities:** Conductor foil/strips: 5" (127 mm) to 55" (1,397 mm) wide, 0.020" (0.51 mm) to 0.100" (2.54 mm) thick.

**Insulation:** 6" (152 mm) to 60" (1,524 mm) wide.  
Folded edge ("cuffed") insulation papers:  
5" (127 mm) to 50" (1,270 mm) wide.

**Aluminum or copper magnet wire:** According to your requirements (round or shaped).

**Material Payoffs:** Conductor foil/strip: Various size inch or metric diameter air-expanded shafts with rotary unions for full time air supply, tensioned by air actuated disk brakes to control over-spin.

**Insulation Paper:** 3" (76 mm) diameter or metric diameter air expanded shafts with rotary unions for full time air supply, tensioned by air actuated disk brakes.

**Folded (cuffed) edge Insulation paper:** Either fixed shafts with flanges for loose core rolls or air inflated rotating shafts with brakes for solid core rolls.

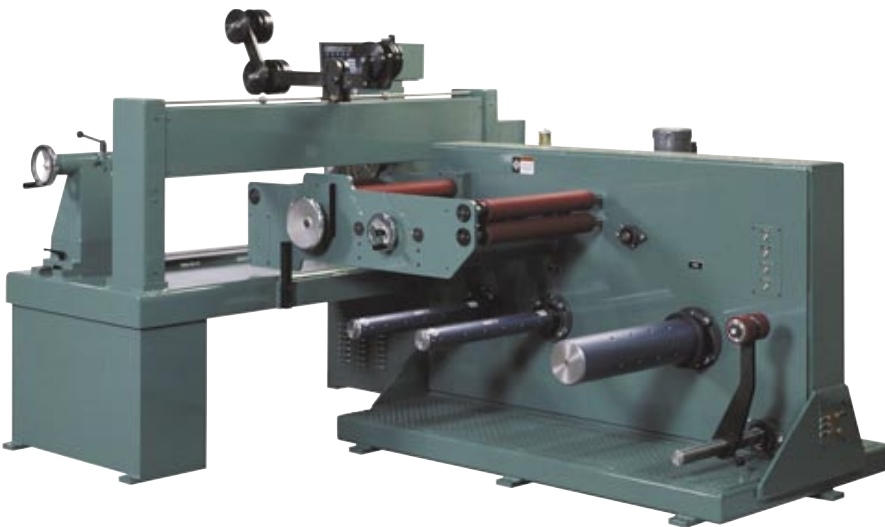
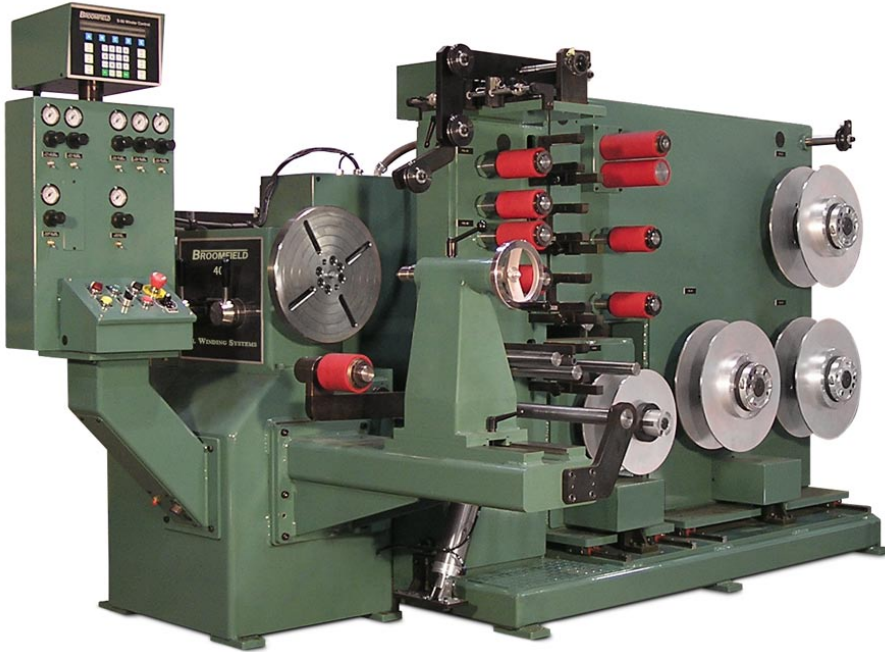
## Options:

- TIG Welding assembly provides an operator friendly method of joining single or multiple foils to a solid or laminated bus lead of similar material, either aluminum or copper. A water cooled TIG torch travels on a motorized track. Water also flows through one of the copper clamping jaws which helps cool down the foil ends and buss lead after welding.
- Cold Welding assembly brings together both semi-automatic and manual operations to create a very flexible system. Automated foil brushing with stroke distance choice and single or multiple over-lapped passes, side by side. PLC sequencing also turns on and off the vacuum system which removes the dust caused by brushing. Quickly changeable hardened pins and spacer plates at cold welding head allow for many material thickness.
- Precision Wire Guide Traverse assembly with various pulley and guiding assemblies for round, rectangular and multiple wire applications. Multiple wire guide arms may be included where required to guide several single or multiple wires onto either the same or several coils winding simultaneously.
- Multi-Speed Gear Box allows for the dual needs of low speed/high torque for winding foil and high speed/lower torque for winding wire. Shift levers by the operator control station allow easy selection of the proper speed/torque range.
- Paper Slitter assembly with drop in bin or take-up shaft for slit paper.
- Cuffed Edge Insulation Paper payoffs, guides and tensioners.
- Semi-Automatic Foil Shear, switch operated and mounted in the foil path, provides a straight edge for buss lead attachment.
- Foil Edge Treatment is available in several designs to eliminate the risk of burrs damaging the paper layer insulation.
- End Fill Paper Insulation assembly for strip paper rolls. Multiple rolls for each coil side accommodated.
- Machine Controls for simple foil winding or complex wire guide layering. Full flexible programmability available with visual instructional prompts for the operator, program storage and file movement.

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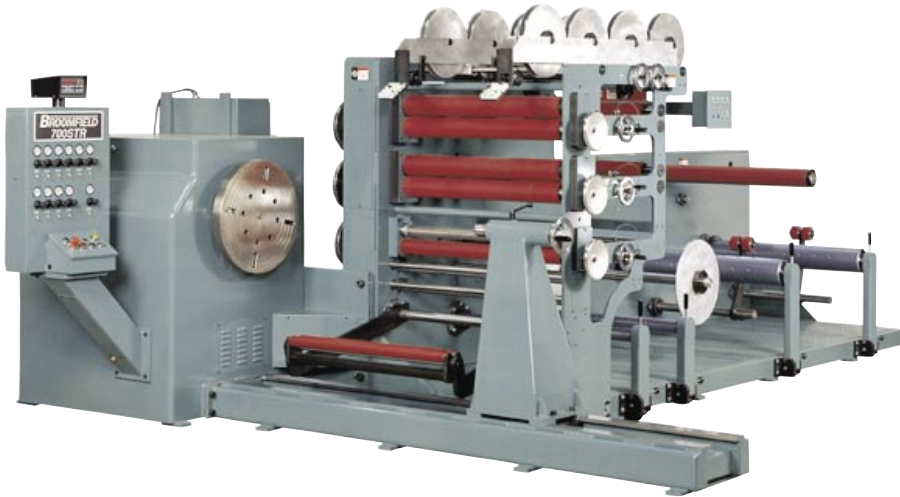
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