

NEWS RELEASE

Steel Coil Services Produces Jumbo Traverse Wound Coils at 1,500 FPM

Tulsa, OK – Steel Coil Services, a division of Fintube Technologies, Inc, has installed a large high-speed Traverse Coil Winding System in its Port of Catoosa, OK, coil processing facility. The high-speed system, designed and manufactured by Stanat Precision Machine Co, Schiller Park, IL, is capable of producing jumbo size traverse wound coils at line speeds up to 1,500 FPM. Metal stampers and roll formers prefer to feed production lines with traverse wound coils rather than conventional ribbon wound slit coils because traverse wound coils contain ten (or more) times the lineal strip footage as a conventional ribbon wound coil, which reduces production losses related to coil loading and threading. In addition to containing 10 times the strip footage, wide traverse wound coils are easier to transport and safer to handle than large diameter narrow slit coils.



The Steel Coil Services Traverse Winding System is capable of processing 70,000 PSI yield strength carbon and stainless strip in gauges from .028" through .060", in widths from 3/8" through 3/4" into 6,000# x 21" wide traverse wound coils. The system can generate traverse wound coils up to 60" diameter without side plates or coil spools to contain the coil. Traverse wound coil can be produced with or without cardboard coil ID cores.

High Speed "Vertical" Uncoiler

The production of large traverse wound coils is a process during which a succession of narrow slit coils are individually unwound, butt-welded end to end, and traverse rewound until the specified traverse wound coil size is achieved. Rather than loading one narrow coil at a time onto an unwinder, a common method of feeding a Traverse Winding System is to load a group of multiple coils onto a mandrel type uncoiler, then unwinding one coil at a time. Once one coil is unwound, the entire coil group is shifted horizontally to align the next coil. High speed unwinding a single coil from a multiple coil group is often troublesome, as the coil being unwound tends to "wobble" on the uncoiler drum, rubbing against the adjacent coil and

creating strip tracking problems. Slowing the line speed solves that problem at the cost of productivity. The Steel Coil Services system is equipped with a unique Uncoiler that supports a 15,000# coil stack in an "eye-vertical" position rather than the usual "eye-horizontal" position. The Vertical Uncoiler eliminates narrow coil wobble, adjacent coil scuffing, and coil group shifting, allowing the line to run narrow coils at 1,500 FPM. The slit coil stack can be processed with or without a pallet. A hydraulically actuated multiple segment expanding mandrel centers and secures the eye vertical coil stack, and a vertically adjustable strip guide provides positive control of the unwinding strip. The Uncoiler is equipped with a reversing jog drive for coil positioning and an adjustable tension brake.



Strip End Joiner/Butt-Welder

Because a traverse wound coil consists of multiple ribbon slit coils joined end-to-end, an efficient method for joining individual coils is necessary. The Steel Coil Services system is equipped with a portable high speed "flash-welder" that joins the coil ends



together. Coil joining time is about a minute. The tail end of one coil and the lead end of the succeeding coil are clamped in the welding dies, and after the strips are aligned the automatic welding cycle is initiated. A weld annealing feature is included. The End Joiner is portable and is moved out of the line when running.

Strip Pulling Bridle

Power to pull coils off the Uncoiler at 1,500 FPM is provided by a heavy-duty Pulling Bridle. A Pulling Bridle is required in Traverse Coil Winding Systems because traverse winding tension is extremely critical and unrelated to the strip tension required to control unwinding. Therefore the entry and exit strip tensions must be independently regulated. The Bridle contains multiple large diameter DC motor driven rolls arranged to provide large wrap angles for positive strip traction. Pneumatic contact rolls secure the strip against the bridle rolls during strip joining and coil unloading when strip tension is released. The Bridle is equipped with power sufficient to edge condition the strip in the future. Adjustable entry and exit strip side guides and an adjustable elevation entry pass line roll position the strip in and out of the Pulling Bridle.



Servo Traverse Winder

The Traverse Winder is the unit that generates various size traverse wound coils. The Winder is equipped with a 20" diameter hydraulic expanding drum with a powered strip gripper bar. The drum can rewind coils directly onto the drum or onto a cardboard core. Finished coils are discharged via hydraulic coil pushoff onto a Single Arm Turnstile. The winding drum is powered by a DC motor drive with variable tension control that allows formation of large diameter traverse wound coils without the need for side support plates or coil spools. The traversing rewind



drum and drive base shifts on precision linear guide rails and anti-friction recirculating bearing trucks. This system is more accurate, requires less maintenance, and requires less motive force than conventional friction box or dovetail slide designs. As the Rewinder traverses back and forth, the strip is guided directly onto the coil by a cantilevered guide arm with a unique constant pass line roll assembly.

Microprocessor Operator Control

An operator friendly microprocessor controls the Traverse Winding System. The operator enters the strip gauge, width, gap between wraps, helix angle, strip stagger, coil end dwell, and the overall traverse coil width into the controller key pad to produce various size and density traverse wound coils. A message display provides data input prompts and confirms commands. A 100 order "databank" is included for recalling parameters from previously run jobs, eliminating set-up time.



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