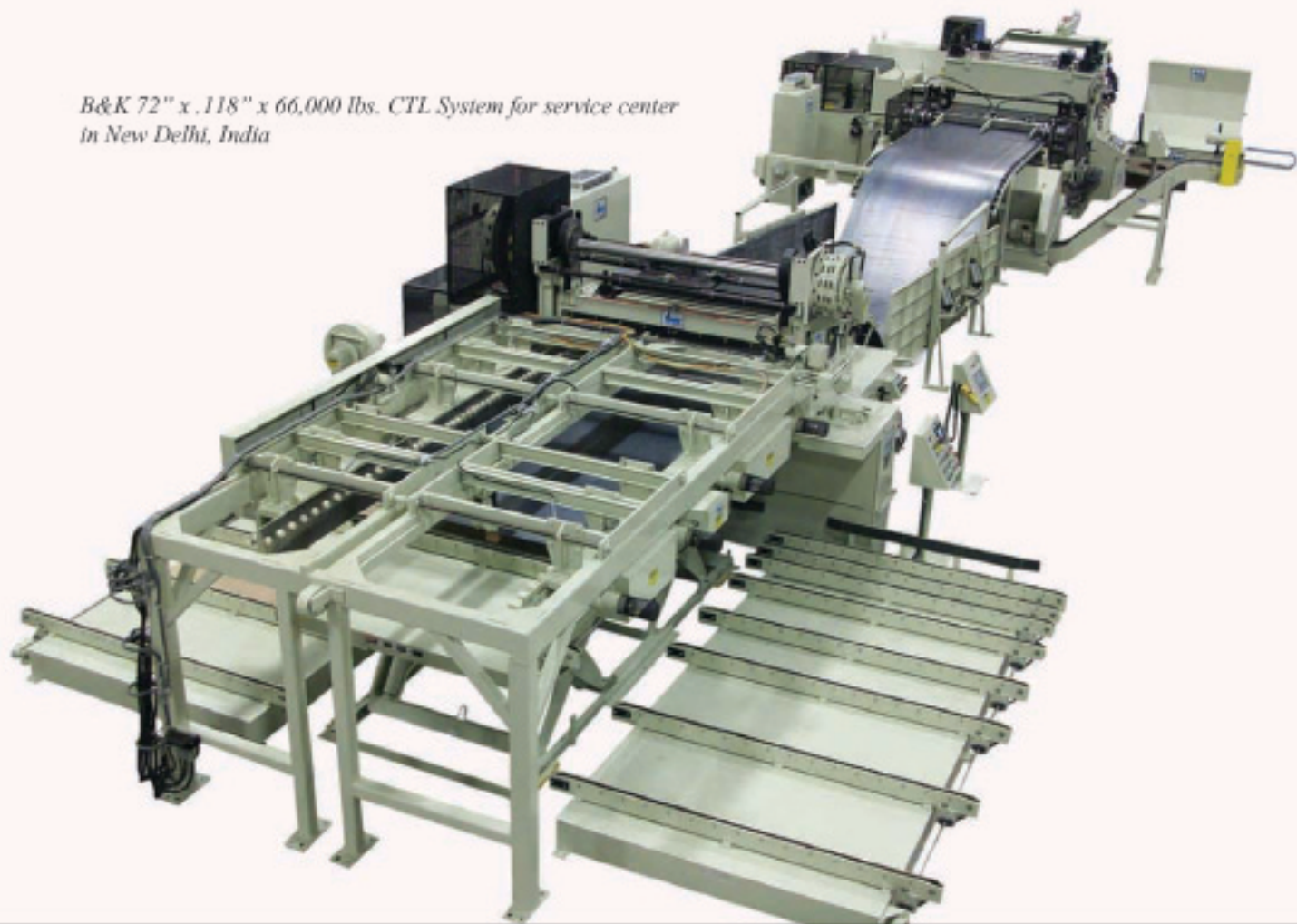


Formtek Maine Provides Coil Metal Processing Systems Worldwide

By Matt Watson, National Sales Manager, Formtek Maine

B&K 72" x .118" x 66,000 lbs. CTL System for service center in New Delhi, India



Formtek has many locations manufacturing cut-to-length and HVAC equipment. Recently the decision was made to split the two into separate locations based on product content. Formtek Maine, which has been manufacturing press feed, corrective levelers and cut-to-length (CTL) equipment for years, has recently taken over the Iowa Precision Inc. (IPI) brand, including CTL, Flexible Fabrication and Diemation product offerings. This addition further supports Formtek Maine's do-

mestic and international business plan, as IPI has thousands of installations worldwide.

Today's tough economic conditions should have everyone looking at international opportunities as many areas of the world ramp up their coil metal processing offerings.

CUT-TO-LENGTH SYSTEMS

Recently B&K, a division of Formtek Maine, supplied a large CTL system to Reliance Fabricator and Engineers in New Delhi, India, to grow

their service center capabilities. Reliance Fabricators has a 40,000 sq. ft. facility and employs 15 people to support their customer base. The company currently processes 1,000 tons of steel a month, and with the help of the new B&K line, they will process 3,000 tons per month.

The B&K system supplied to Reliance is designed to process 72" x .118" x 66,000 lbs. material at a line speed of 250 FPM. The entry end of the system is comprised of an "L" style coil car with hydraulic lift and travel. An

uncoller is supplied with a variable tension brake system, hydraulic expansion and inching drive, full radius drum mandrels, and adjustable sub base with edge control monitoring system. A hold-down peeler system provides for hands-free thread up of the system, which includes a peeler table, peeler blade, hold-down arm, powered rider roll, breaker bar, hand-wheel, adjustable edge guides and integrated cropping shear for damaged lead/tail removal. All functions are supplied with push button controls.

In the center of the CTL system is a B&K corrective leveler with 19 work rolls, 9 sets of back-ups, with 7 back up flights that are adjustable, 2 powered pinch rolls, a heavy duty dual herringbone gear box and an integrated edge trimmer driven from the leveler. The edge trimmer utilizes a stub arbor design and a custom design notching system to remove slugs from the edge of the incoming strip. This design allows for quick and easy adjustments for fine-tuning of the trimmer width settings without having to break the strip to adjust, as is common with other edge trimmer designs.

The exit end of the system is comprised of a 4-roll servo feed with full width matte chrome rolls, automatic lubrication system, hand-wheel adjustable edge guides, anti back-up rolls and an integrated control platform for the feed and mechanical shear. The mechanical shear features a box-type bed, high carbon, high chrome bowtie blade with four cutting edges, manual adjust shear base for camber compensation and a hand-wheel blade gap adjustment feature for quick and easy material thickness changes. Both the feed and shear supply cut blanks directly into a servo-driven direct drop parts stacker. This design enables individual parts to be fully supported while cut and then dropped directly into the stack on an air cushion to prevent any marking or damage to the cut sheets.

IPI has also recently shipped a Slear II multi-blanking CTL system to a service center in Cairo, Egypt, to process 60" x .119" x 50,000 lbs. ma-



"L" style coil car with hydraulic lift and handle



CTL System features a B&K precision corrective leveler

terial at a line speed of 200 FPM. The system utilizes a coil car with 20" lift capability, a powered uncoiler with 72" O.D. capacity, hydraulic expansion, hydraulic drive, automatic loop control with back tension capability and a hold down arm. The straightener has 6 hardened and ground rolls, variable speed drive, hydraulic peeler table and hydraulic peeler blade. The slitter head has tooling for 4 mullets and a digital knife position indicator for quick and accurate placement of the knives. The system uses a flying shear to cut the blanks. The stacker is supplied with 5 sets of dividers, 4 air tampers, powered lift table and an end discharge conveyor. The system design and layout provides high functionality in a compact footprint. The system from end to end consumes just 53 ft. of floor space.

IPI is currently manufacturing a Slear II multi-blanking CTL system with all the same features as the system described above for another service center in Egypt. This line is being manufactured at Formtek Maine and will be ready for customer buyoff at the end of November 2009.

FLEXIBLE FABRICATION

IPI is also currently manufacturing a large Flexible Fabrication system for Lennox Industries in Marshalltown, Iowa, at the Formtek Maine facility. This system will process material up to 36" x .032" x 10,000 lbs. The line consists of a coil car, uncoiler, straightener, coil processor, notch & louver dies, part inverter, dual lateral former, part rotator and two additional dual lateral formers.

The coil car rides on an above-floor



High performance 4-roll servo feed

guide track and internally contained lifting mechanism. A heavy duty hydraulic cylinder raises and lowers the V-shaped lift nest, which is a non-tilting design stabilized in all planes, to facilitate off-center loading of coils.

The uncoiler is designed to support and maintain the coil in accurate alignment with the process line. The expanding mandrel has 3 wide contoured expansion arms. Each arm is mounted on sliding inclined planes. Expansion and contraction is achieved by actuation of the hydraulic cylinder attached to the spindle upon which the arms are mounted.

The powered straightener is designed to remove coil set and uses 7 chrome plated straightener rolls and 4 matte chrome plated pinch rolls for pull off traction. The straightener design includes individual micrometer type roll adjusters for roll depth adjustment.

The coil processor is a versatile, high production machine designed to process coil stock into completed blanks per customers' prints. The coil processor incorporates a material

drive system as the prime mover to rapidly transfer coil stock through the processor along the "X" axis. A manual hand wheel and ball screw is used to position the notch press in the "Y" axis. With this combination, the coil processor can quickly adjust for various part sizes. As the "X" axis completes a position move, the selected die will cycle, producing a notch in the proper location. This procedure is repeated as many times as needed to produce a finished blank prior to the final cut-off position.

The notcher portion is comprised of heavy-duty "C" frame presses mounted to the sub frame of the coil processor. Antifriction, linear bearings are utilized to insure the notch heads travel freely along the "Y" axis. Location of the notch head on the "Y" axis is accomplished by manual adjustment.

The coil processor utilizes two basic tooling types in the die stations. Five, two-post dies are used to provide the required notching and one four-post die will be used to produce louvers.

The shear section involves a heavy-duty shear head affixed to the sub-frame of the coil processor. The coil has been processed through the previous operation in the system and now comes to the shear section where the finished blank will be separated from the coil. The coil processor will advance and position the coil under the shear blades and pause as the shear separates the blank from the coil.

The inverter provides ample space for the part as it exits the coil processor. A powered belt conveyor with heavy-duty structural steel tube frame and electric gear motor drives the blank out of the coil processor. Once in the inverter, the blank is positioned in a nest of fingers. The fingers are attached to a rotary device, which lifts the blank off the conveyor, rotates it 180 degrees and places it on to a similar conveyor opposite the first.

The dual lateral former is used to simultaneously form two flanges running parallel with the line feed. The



IPI Slear II Multi-Blanking CTL System

pre-notched blank enters the forming station via a powered belt conveyor. Once in position both forming units will cycle, forming the opposing flanges complete.

The rotator is used to rotate the blank 90°. An array of vacuum cups lower and attach to the blank. Once secure the cups will raise approximately 2 inches and rotate the re-

quired amount. After the rotation is complete, the cups will again lower and release the blank.

The blank then goes through two more dual lateral formers for additional forming of the final product for Lennox Industries. This system allows Lennox to produce complete doors for their home heating and cooling products from coil. ■

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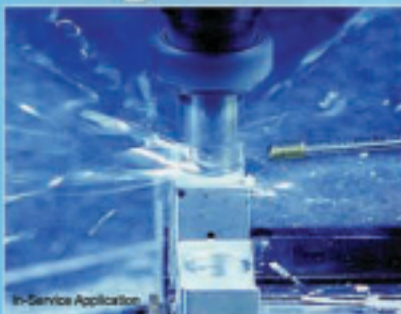
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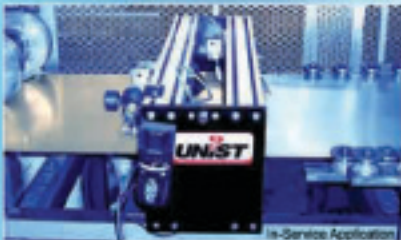
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