

NEWS RELEASE

Lafayette Steel & Aluminum Installs 72" Servo Feed CTL Line

Indianapolis, IN – Lafayette Steel Sales has installed a Hydraulic Leveler/Precision Servo Feed Cut-to-Length Line in its Indianapolis, IN facility. The line is capable of converting 50,000# x 72" wide cold rolled and galvanized carbon steel, aluminum and stainless coils in gauges from .018" through .135" into shape-corrected flat sheets from 24" through 240" long. The line is equipped with a radio controlled Coil Loading Car, Shifting Base Uncoiler, Pinch Rolls, Entry Crop Shear, Computer Controlled Hydraulic Leveler, PVC/ Interleaved Paper Applicator, Electronic Servo Feed, Hi-Speed Cut-Off Shear, Sheet Inspection/Reject Conveyor, and a 20' Drop Type Sheet Stacker.



72" x .135" CTL Line

5-Hi Precision Hydraulic Leveler:

The Lafayette Steel CTL Line is equipped with a massive 4-post precision 5-Hi shape-correction roller leveler equipped with seventeen 1.750" diameter work rolls supported by nine adjustable back-up flights. The back-up flights are positioned by 18-independently controlled hydraulic cylinders (9-entry and 9-exit) that provide work roll positioning and bending necessary for the elimination of strip shape defects such as coil-set, wavy-edges, and center-buckle. The hydraulic cylinders are controlled by a 2.80 GHz 40GB HD computer that precisely adjusts each cylinder via position data from linear voltage transducers installed in each back-up cylinder. Automatic Leveler set-up for various gauges is automatically accomplished based upon thickness and yield strength data input into the computer terminal by the operator. Work rolls can be repositioned via computer inputs or pushbuttons while running. Via order or job number, the computer allows specific Leveler set-up parameters to be transferred to the computer memory, a time-saving feature when processing less-than-full coil orders. When the remainder of a coil is processed, the Leveler automatically sets-up to the work roll position previously employed to level that particular coil.



1.750" x 17-Roll x 9-Flight x 5-Hi Hydraulic Leveler

Braner/Loopco Levelers employ no reversing motors, mechanical screw jacks, sliding wedges or tilting top frames to position the work rolls and back-ups. As a result, roll positioning is more accurate, and maintenance requirements are reduced. Periodical "calibration" of the Leveler can be accomplished in 5-minutes without any tools.



Flatness Inspection Table & Loop Quadrant

Electronic Servo Feed:

The Leveler runs at a constant speed feeding the leveled strip into a free-loop. Large radius non-marking quadrant tables support the strip into and out of the loop. An Electronic Servo Feed draws the strip from the free-loop and feeds the strip to a pre-set dimension through the Shear for cut-off. A servo motor drives adjustable pressure upper and lower strip feed rolls through universal shafts. The strip feed length is precisely measured by an electronic encoder, while a microprocessor controls strip acceleration/deceleration. Sheet length and batch count are entered into a digital operating system. When compared to a mechanical "reciprocating mechanical feed", a Servo Feed has a higher "short-part" production rate. A Servo Feed is able to advance the strip immediately after the Shear completes its cycle, while a reciprocating mechanical feed shoves the strip forward, but must release

the strip, slide the strip clamp backwards, and grab the strip again before it can start another cycle. Grabbing, releasing, sliding backwards, and grabbing again consume 50% of a reciprocating feed cycle time. Servo Feed also has a higher "long-part" production rate as it can generate a 240" feed cycle in one-continuous cycle. By comparison, a reciprocating mechanical feed's productivity is diminished by having to make multiple feed cycles for parts longer than 120".



Electronic Servo Feed

Hi-Speed Hydraulic Shear

Lafayette Steel's Cut-to-Length Line is equipped with a heavy-duty Hydraulic Shear capable of 60-strokes/minute. Because the Shear ram is powered by a pair of hydraulic cylinders rather than an AC motor driven clutch-brake crank shaft, the Shear has a virtually silent cycle.

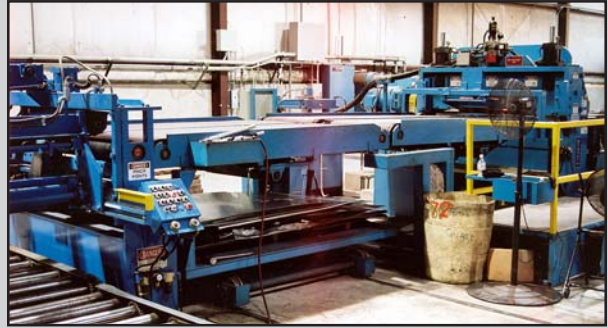


Hi-Speed Hydraulic Shear

Inspection-Reject Station

Sheets and blanks are inspected for flatness and surface defects on a two-section powered belt conveyor that carries cut sheets from the Shear to the Stacker. Sheets that pass a visual inspection are conveyed into the Sheet Stacker, while defective sheets can be diverted into a Scrap Collection Cart below the belt conveyor. Another benefit of the Inspection-Reject Station is that precision blanks can be quickly and

easily removed from the line for dimensional tolerance verification by simply lifting them off the belt.



Inspection-Reject-Scrap Cart

Sheet Stacker

Sheets and blanks are automatically stacked into straight-sided packages by the Sheet Stacker. The Inspection Station belts feed the parts into the Stacker where the parts are supported on non-marking wheels. As the part approaches the back-stop, the support wheels pivot open and drop the part onto the stack that is supported on a powered elevator table. The elevator table limits the drop distance to a few inches, and automatically descends to maintain the drop distance as the stack height grows. When a package is completed, the table lowers to the elevation of the Runout Conveyor onto which the finished package is conveyed, weighed, and wrapped.



Automatic Sheet Stacker w/ Scale & Runout



Finished Sheet Packages



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