

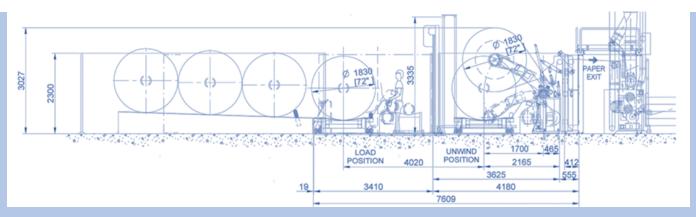
## PRODUCT DEVELOPMENT

CONVERTING

February, 2023

## **TSH-L UNWINDER**

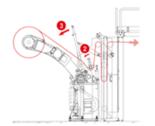
What would another month of production do for your bottom line? Yep, 13 months of production in a 12-month calendar year. What if you could also improve the safety of the line? Tired of using heavy shafts or core plugs? Does having several tons of paper moved around by a crane make you nervous? We thought so!



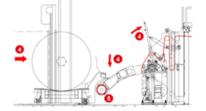


MTorres has a solution that significantly improves both productivity and safety. TSH-L center driven unwinder with automatic splicer for tissue and nonwoven materials, reduces reel changes from five to just over one minute. Depending on the number of reel changes per day, that time reduction can give you an extra month or even more of production.

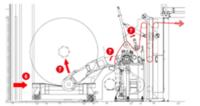
A prong truck can now place a reel onto a cart that will index into position for splice preparation. Once the splice has been prepared, the machine will automatically complete the splice sequence, enabling production to resume in just over 60 seconds. The splice sequence is started manually or automatically when the desired splice diameter is reached.



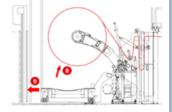
- . The line decelerates to a stop.
- The nip is activated to hold the web.
- The knife is activated and cuts the web.



- The arms lower to the core unload position. Simultaneously, the cart moves to the unload position and the knife retracts to a safe position.
- The unwinder arms open to deposit the core on the reel transport cart.

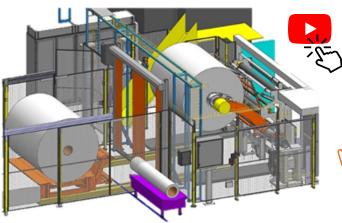


- The reel transport cart moves to the load position.
- The arms rise to the core height, close to ensure chucks enter core, and the chucks expand.
  - The paper webs (old and new) are clamped on the splice preparation bar.



- The unwinder arms rise to the upper unwind position.
- The roll is aligned, and a signal is then sent to start the line.
- The roll transport cart moves to its "loading" position. When it reaches this position, the roll-up door closes.

Splice Sequence in Detail



Reel changes and simple splice preparation, with the TSH-L, are accomplished with only one operator. With a center driven unwinder, no heavy shafts or core plugs are needed, greatly improving operator ergonomics.



Without a crane lifting and moving significant suspended loads, your Safety Manager and Operators will also be very happy.