

SymBelt shoe press rebuild is energy savings & production - Summary

Modernizaciones con Prensas zapatas SymBelt

Menor consumo energético y aumento de producción - Resumen

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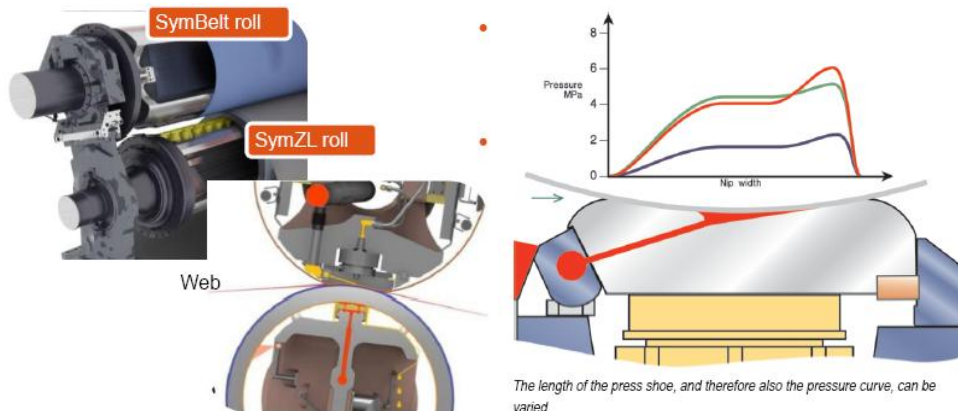
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Introduction

A press section modernization using SymBelt shoe presses decrease operation costs due to less steam consumption, low maintenance cost, improved sheet quality and better runnability.

Process Description

Since its invention, the shoe press has had a significant effect on the overall development of the press section concept. Compared to a roll press, a shoe press provides a longer dwelling time and a bigger press impulse, which improves dryness after the press.



The SymBelt shoe press consists of a shoe roll covered with a polyurethane belt. The belt usually has grooved surface for efficient water handling. The shoe inside the shoe roll is hydraulically pressed against the surface of a counter roll. Both rolls have rigid structures, because the operational linear loads of a shoe press may be from 100 kN/m up to 1,500 kN/m.

Applications:

- Any type of press section with different types of counter rolls.
- New paper or board machines and rebuilds, regardless of machine supplier.
- Metso OptiDwell shoe nip calenders.
- Pulp drying and tissue machines.

Technical features:

- The tilt, i.e. the shape of the pressure curve, is fixed during operation but it can be hanged between two different values if the belt is removed.
- All piping and connections are on the drive side, which reduces belt change time.
- Belt tension is adjustable by means of hydraulic pressure.
- The roll beam is optimized to obtain maximum bending stiffness for a specific outer diameter and roll weight.
- The press shoe employs a hybrid design that combines the best features of hydrostatic and hydrodynamic shoes.
- Oil is fed through the hydrostatic part, the pocket, in the center of the press shoe.
- Optimized pocket length provides:
 - Reduced power consumption.
 - Lower shoe and belt temperatures.
 - Improved high-speed runnability.
 - Reduced friction forces on the belt surface.
- The new generation shoe geometry and shallow pocket ensure shoe lubrication for higher speed and for better wad tolerance, and eliminate marking of the belt.

Conclusions

A SymBelt shoe press rebuild provides:

- Quickly from paper to paper = short rebuild shutdowns with optimized scopes
- Decreased operating expenses
- Less steam consumption
- Low maintenance
- Less downtime
- Higher production output at higher speed
- Better runnability
- Improved sheet quality (strength, smoothness, bond)
- Added potential for the use more secondary fiber, while still maintaining quality
- Allows higher production at higher speed with more secondary fiber, while still maintaining quality.