

Sendzimir Reverse Pyramid Winder Mandrels

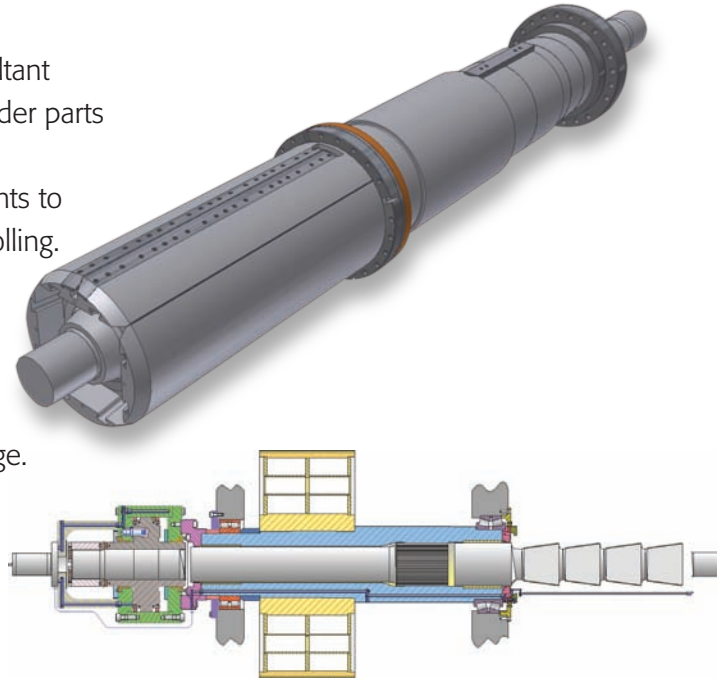
INNOVATION BY DESIGN

Design, Fabrication, Installation, Maintenance

Small Work Roll Mills require higher tension than comparable 4-High mills. As a result, **T. Sendzimir, Inc.** designed the reverse pyramid winder mandrel for today's high production mills and capable of handling 120,000lbs of tension.

Advantages:

- Controlled collapse design keeps hoop stress and resultant radial stress lower and avoids rapid damage to the winder parts that occur with other designs.
- New reverse pyramid winder design allows the segments to remain stationary, resulting in fewer problems during rolling.
- Custom output shaft and pyramid mandrel design results in the largest possible section at the transition from pyramid to round shaft, along with a carefully engineered transition which makes the design the strongest winder possible in its size range.
- Optimized gripper design with four inline pistons and segmented gripper bars prevents weakening and cracking of the segment.



Standard Features:

- **TSINC** has designed Outboard Bearing Gates for sliding sleeves, which engage after the gate, is fully closed. The sliding sleeve on the Outboard Bearing Gate is specifically designed to prevent engagement unless the alignment of the outboard bearing to the mandrel is correct.
- Gate alignment with respect to the mandrel is easily adjusted using the built in adjusting wedges. Our design is easier to implement in contrast to the shimmed method design.
- **TSINC's** unique rotating cylinder is designed as a unit, for quick removal for service and maintenance without disturbing the mandrel.
- Reduction in distance between segments has eliminated coil breaks for the majority of rolling, and has been greatly minimized at thin gauges.
- Heat treatment of the mandrel components has been optimized for maximum strength and the mandrel components have been designed for minimal stress concentrations. This concentration on strength and reliability ensures a long service life for these mill components.
- A shear ring between the pyramid shaft on the rotating cylinder piston, and the piston itself, protect the pyramid shaft against over-loading