

B. W. SINCLAIR INFORMATION UPDATE

BWSI "LONGSPAN" CONVEYOR SCREWS CAN ELIMINATE HANGER BEARINGS

SINCLAIR is an industry leader in the engineering, design, and manufacture of extended length conveyor screws to eliminate intermediate support bearings.



The Conveyor Equipment Manufacturers Association establishes industry standards for the amount of deflection allowable at the midpoint of any conveyor screw. Stock conveyor components are manufactured in 10-12 ft. lengths, but installation of such components in longer conveyors requires intermediate hanger bearings. Since hanger bearings can be problematic from both maintenance and operations standpoints, SINCLAIR often recommends a "LongSpan" design.

The critical design factor is the amount of deflection or sag that is allowable. While CEMA establishes a benchmark of $\frac{1}{4}$ ", SINCLAIR always engineers a tighter tolerance to prevent long-term fatigue and oscillation of the rotating components.



The key to achieving an extended span between support bearings is the correct selection of flight thickness and center pipe diameter. Our computer-assisted design program considers both the mass weight of the proposed helix and the moment of inertia of the selected center pipe to calculate the theoretical deflection.

Our capabilities are, of course, somewhat limited by materials and budget. But the lengths that can be spanned with properly design "LongSpan" units is sometimes surprising.

Successful applications of this technology include:

- 30'-0" long mass-flow variable-pitch AISI-304LSS screw, 20" dia. oversized carbon steel center pipe, clad with stainless sheathing for product purity
- 40'-0" long AISI-316LSS wet pulp mixing screw on large diameter center pipe, clad with stainless sheathing for corrosion resistance
- 21'-0" long ribbon-flight AISI-304SS feed screws mounted on heavy wall SS oversized center pipe for sugar mill operation



The BWSI "LongSpan" conveyor screw ... the engineered answer to hanger bearing failure, noise pollution, and material flow blockages.

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