



Steam-Jacketed Screw Conveyors are Stacked Vertically and Driven by a Common Drive Unit



Feed Blocks Provide Vitamins and Nutrients to Keep Animals Healthy



**Design
Engineering
Manufacturing**

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Custom Pedestal Trough Ends Eliminate Downtime at Cattle Feed Facility

General Description of the Application

A large livestock feed provider manufactures nutritional supplements for the cattle raising industry. Supplements add vitamins and nutrients to the diets of animals that eat forage and provide extra protein and energy to remain healthy. The end products manufactured at this location are nutritional feed and tub blocks.

Jacketed screw conveyors are commonly used to cook molasses, extract moisture, and ready the molasses compound for the addition of nutritional fines. Steam-jacketed screw conveyors are used to heat and mix the molasses and nutrients to the proper temperature and consistency. The mixture is then conveyed to a cooling conveyor and discharged to feed and tub blocks.

The livestock feed provider had a system of steam-jacketed screw conveyors stacked vertically and driven by a common drive unit. Excessive heat from the steam was compromising the bearings and chain on the drive system. Downtime and replacement parts were costing \$180,000 per year.

Advantages Provided by KWS

KWS visited the facility to review the application and offer solutions. The existing bearings were located too close to the steam and heat, causing premature failure. Also, the overhung load caused by the chain drive was contributing to the failures. KWS designed custom double-pedestal trough ends that utilize two pillow block bearings with the driven sprocket located in between the two bearings. The bearings are now moved away from the steam and heat and the overhung load has been eliminated.

KWS also provided special shaft seals to prevent the leakage of steam and hot materials. Using a split flanged gland seal design, the graphite packing can now be replaced in five minutes ensuring no loss of heat or downtime. KWS has the engineering and manufacturing capabilities to create solutions for any bulk material handling application.



KWS Double-Pedestal Trough Ends Utilize Two Pillow Block Bearings



Livestock Feed Provider Manufactures Feed Blocks