Model 496 Short Center – NFPA Gravimetric – Coal Feeder

Brochure

The Model 496 Short Center NFPA rated Gravimetric feeder is designed to meet your needs when feeding a pulverizer. It was specifically designed for replacement of volumetric feeders where there is a short dimension from the center of the bunker outlet to the center of the pulverizer inlet. It's designed with the operator in mind to give years of trouble free operation. MERRICK has served the power industry for over 2 decades with over 1000 worldwide installations. This core experience coupled with world-class expertise in electronic control systems and extensive understanding of the power industry has enabled Merrick to design a truly unique coal feeder. The model 496 is specifically designed for:

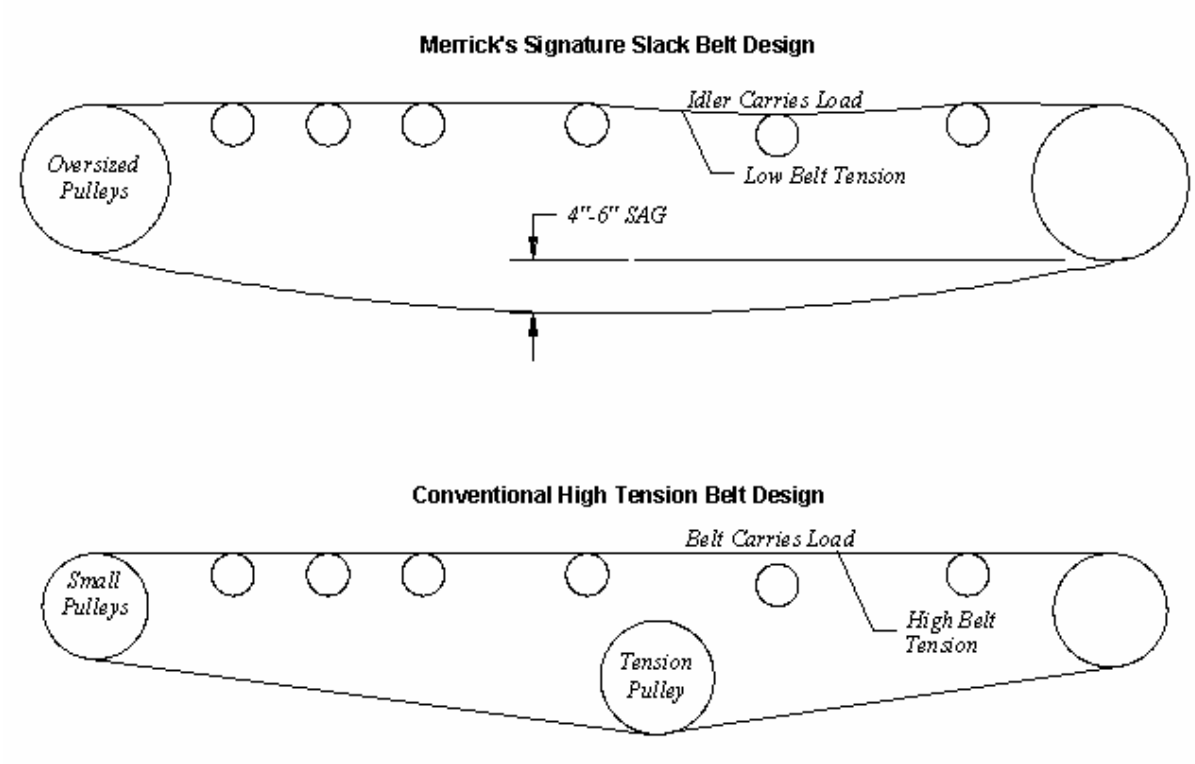
- **Performance** – The model 496 is engineered to provide cost effective operation at unparalleled accuracy of ± 0.25%
- **Reliability** – Merrick feeders are designed and manufactured under the strictest guidelines using only the highest quality materials and components to maximize uptime.
- **Safety** – Safety is always the top priority at Merrick. The model 496 is tested to 100 psi, 2x the NFPA 85 criteria. Additionally, all internal electronics are either explosion-proof or intrinsically safe.

Merrick's signature slack belt design

The model 496 utilizes Merrick's signature low-tension belt weighing philosophy that most efficiently reduces the harmful effects of belt reaction error. As a result, Merrick feeders offer the most cost-effective method in providing the highest accuracy available. Other belt feeders feature a high tension belt system, which can only delivery acceptable accuracy by including expensive, precision tolerance components and costly machining to "tune" each individual weigh system. Such tight tolerances cannot be maintained outside of the factory due to the wear associated with the harsh coal feeding environment. Adversely affecting accuracy, a high-tension belt magnifies any mis-alignments due to slightly offset tolerances or

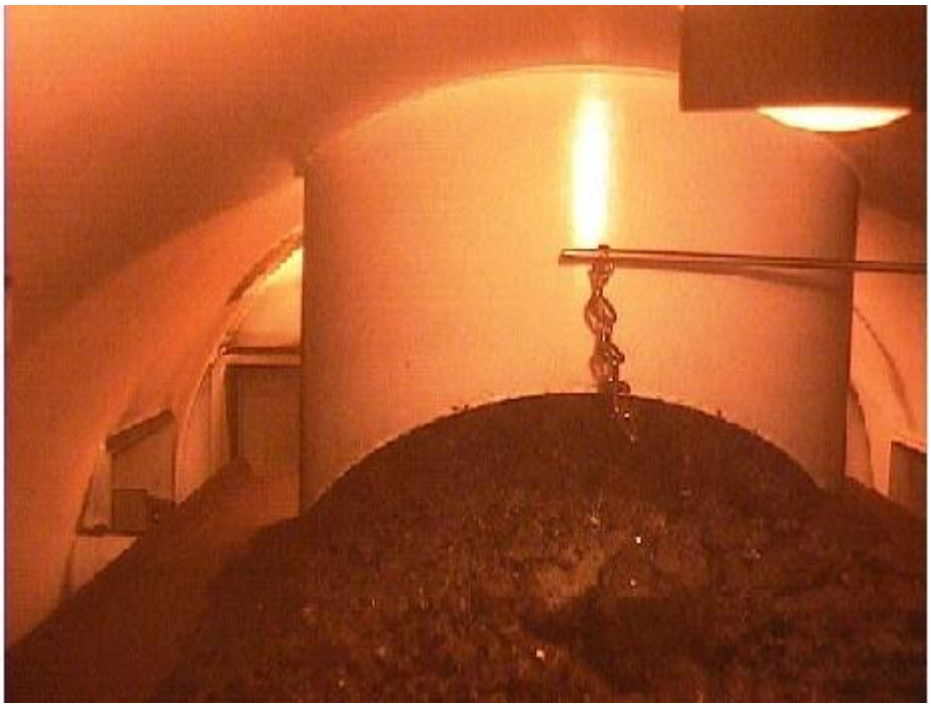
eventual wear. In addition, a high-tension approach requires greater horsepower, while significantly increasing wear on all rotating parts.

Merrick's slack belt design promotes longer belt life and eliminates the need for a V-guide belt and troublesome, counterweighted tensioning pulley. Simple, easy-to-adjust screw take-ups are used in conjunction with crowned head and tail pulleys to track and tension the belt.



Contoured Infeed

A unique infeed design also aids in accuracy and durability. The infeed of the model 496 is contoured to allow coal to follow its natural angle of repose as it is deposited onto the belt. This natural transition from vertical flow to horizontal flow minimizes belt tension variations and provides a uniform load profile, allowing a lower belt tension and increased weigh accuracy. A slotted infeed design is also available for feeding difficult to handle coals.



Body Shell and Feeder Construction

- Rugged weldment with 1/4” thick carbon steel shell for longer life
- 50 psi pressure integrity (NFPA 85)
- 304 stainless steel in active flow areas to minimize corrosion
- Large gasketed end and side access doors to facilitate easy feeder entry
- Fixed leveling bar to maintain a constant material profile
- Standard feeder inlet configurations:
    - 18” diameter for a 24” belt feeder
    - 24” diameter for a 36” belt feeder
    - 36” diameter for a 48” belt

Clean-out Conveyor

Bearings

- Externally regreasable head and tail pulley bearings for extended life
- All idler rolls greased and sealed for life

Weigh Suspension System

- Dual hermetically sealed and barometrically compensated load cells
- Simple to align, reducing maintenance costs
- Calibration test weights

Slack Belt/Positive Wrap Pulley

- Use of large pulleys provides positive belt wrapping thereby eliminating the need for high tension on both sides of the belt
- Longer belt and bearing life due to lower belt tension
- Higher accuracy from reduced belt error

- Drag chain type conveyor thoroughly sweeps the floor of the feeder into the discharge chute to minimize coal and dust build-up.
- The clean-out chain can be controlled in one of two different modes, either continuously or intermittently
- The clean-out conveyor is driven by an AC motor with an integral high efficiency off-the-shelf gear reducer

Conveyor Drive

- The main conveyor drive is driven by an AC TENV motor with a VFD speed control
- The direct drive, off-the-shelf high efficiency gear reducer is standard
- A chain drive is optional

Belt Scrapers

- Two belt scrapers are used-one at the head pulley to clean the outside of the belt and the other, a V-plow scraper, to clean and disburse material from the inside of the belt
- Scraper blades are made of a special, abrasion resistant material

Controls

- MERRICK Genetix process controller is standard
- Local mounting is standard for ease of operation
- Touch screen interface
- Optional dual encoders (drive motor and tail pulley) to detect belt slipping or breakage