TERRA SOURCE

JEFFREY RADER TubeFeeder

Uses at least 70% less energy than conventional open screw reclaimers



The TubeFeeder[®] by Jeffrey Rader is a highly advanced mechanical reclaim device engineered for the efficient handling of stored bulk materials before they enter manufacturing processes or combustion. Its innovative design, featuring an exterior tube with uniformly distributed slots and powered by synchronized traverse drives, ensures controlled and consistent material flow. With applications ranging from biomass power plants to food and agriculture sectors, the TubeFeeder[®] excels in reclaiming a wide range of materials, including wood chips, fibrous materials, and agriculture grains.

Designed for demanding environments, the TubeFeeder[®] is designed & built to deliver consistent performance even in extreme conditions, such as cold-weather operations.



Its reversible tube rotation and minimal head load make it an ideal solution for efficient, 24/7 operation with minimal downtime. With over 100 installations worldwide, the TubeFeeder® stands as a testament to Jeffrey Rader's commitment to innovation, efficiency, and sustainability in bulk material handling.

The TubeFeeder® operates under a closed force system, utilizing gravity to enhance the efficiency of material reclaiming, significantly reducing operational power requirements by to at least 70% compared to conventional reclaimers. This system not only minimizes wear and tear on components but also extends the lifespan of critical parts, leading to substantial cost savings in both maintenance and energy consumption. The TubeFeeder®'s unique ability to homogenize cross-segregated materials and ensure first-in, first-out reclaiming is essential for maintaining consistent product quality and maximizing operations across various industries.



The TubeFeeder by Jeffrey Rader represents an advanced, energy-efficient solution for bulk material reclaiming, offering significant savings, reliable operation, and adaptability across industries.

Contact TerraSource Today for More Information!



Traditional System

Energy Savings and Environmental Sustainability:

- **70% Energy Savings** and significant reduction in operational costs
- Reduced Carbon Footprint with lower energy requirements, contributing to sustainability goals and potential carbon credits
- Compact Design Optimizes Storage Space, reducing the environmental footprint of material handling operations

Intelligent Design and Mechanical Advantages:

- Innovative Closed Force System Design eliminates shear forces, enhancing the durability and efficiency of the system
- **Precision Homogenization**, ensures consistent product quality with first-in, firstout technology, delivering uniform material flow and improved combustion
- Self-Contained Thrust Loading protects building structures from stress, ensuring long-lasting and reliable operation

Cost Savings and Operational Efficiency:

- Significant Cost Reduction with foundation and structure costs lowered by 15%-20%, along with reduced electrical infrastructure expenses
- **Continuous 24/7 Operation** and designed for high-volume, trouble-free operation, ensuring maximum uptime and productivity.
- Enhanced Wear Life extends the lifespan of wear parts by 5-7 years, reducing maintenance costs and downtime due to elimination of shear forces
 - Simplifies Civil Works due to its railsupported structure and the absence of thrust loads, resulting in lower dynamic loads and reduced foundation cost

TubeFeeder Offers Exceptional Process Efficiency

Versatility and Application:

- Significant Cost Reduction with foundation and structure costs lowered by 15%-20%, along with reduced electrical infrastructure expenses
- Multi-Industry Compatibility, reclaims wood chips, fibrous materials, and bulk materials in industries like biomass power plants, pulp & paper mills, and agriculture
- Over 100 Installations Worldwide, it is a demonstrated and trusted solution in various industrial settings, and known for its reliability and effectiveness



Technical Data:

- Capacity: 25 m3/h to 600 m3/h (Max capacity depends on tube diameter; to reach 200 m3/h a larger tube and screw drive is needed)
- Outer tube with slots and activators rotates at variable frequency between 0,5 to 6 rpm
- Internal screw auger conveyor operates at a changeable fixed rpm, between 20 to 40 rpm
- Tube drive power: 7.5 to 30 kW
- Screw drive power: 5 kW to 15 kW
- Slew drive power: 1.1 kW

Pennsylvania Crusher

 Approximate mass of machine: 50,927 lbs (23,100 kg/25.5 tn)

MELGIN

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JEFFREY **RADER**

Rotating System



The rotating TubeFeeder is specifically designed for cylindrical silos. Positioned at the bottom, it rotates like a clock, using an internal screw conveyor to transport material to the center of the machine, where it then drops through the silo floor. This design ensures that the oldest materials are accessed first, promoting controlled homogenization and even material feed. The rotating mechanism is particularly beneficial in environments with potential explosive atmospheres, such as those handling biomass, as it can be easily adapted to meet ATEX & ICEX certification standards. The cylindrical shape of round concrete silos facilitates easier approval compared to more complex A-frame structures.



The TubeFeeder by Jeffrey Rader Handles Biomass Challenges Well: controlling dust, removing foreign and oversized particles, and ensuring appropriate material storage and high-quality homogenization, makes it an integral component for reclaiming biofuel.

SAWDUST INDUSTRIAL WOOD -WOODCHIPS WASTE Mill Wood Forest Waste WASTE Blended FUEL

Advantages:

Uniform Mass Flow:

- Ensures each slot reclaims the same • volume
- Uniform drawdown across the entire material bed
- True "First In. First Out" reclaim technology
- Minimizes material segregation and optimizes process efficiency

Precise Homogenization:

- Each slot along the tube contributes equally to reclaimed material
- Ensures a consistent and uniform feed rate when handling multiple fuels or materials

Consistent Reclaim:

 Ensures consistent reclaiming performance regardless of operational direction

Adaptability in Challenging Conditions:

- Frozen lumps of chips are effectively penetrated and broken up by activators
- Offers consistent, high-volume reclaim capabilities, even in the harshest winter conditions, ensuring uninterrupted operation

Optimal for Silos:

- Designed to maintain uniform drawdown in multi-compartment silo storage
- Ideal solution when precise material management is required
- No restriction on material height



One major advantage is our TubeFeeder offers exceptional process efficiency by homogenizing crosssegregated materials and providing a uniform feed rate through precise blending. Its reversible tube rotation ensures consistent reclaim rates and guality, regardless of direction, making it highly adaptable to a wide range of bulk materials. This feature is particularly advantageous for blending multiple fuels and maintaining uniform drawdown in multi-compartment silos, making the TubeFeeder an ideal solution for seamless operation, especially in winter conditions where handling frozen or oversized materials is critical.





Advanced Reclaim Technology of **Exterior Tube with Uniform Slots:**

- Features an exterior rotating tube equipped with uniformly distributed slots furnished with activators along its length
- Material is gravity-fed through the feeder slots
- Material bridges over slots when not operational
- Its slot configuration accommodates a larger swept area
- Its configurable slots and adjustable revolution speeds ensures controlled combustion and consistent material flow processing
- Able to handle a wide range of bulk material specifications









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