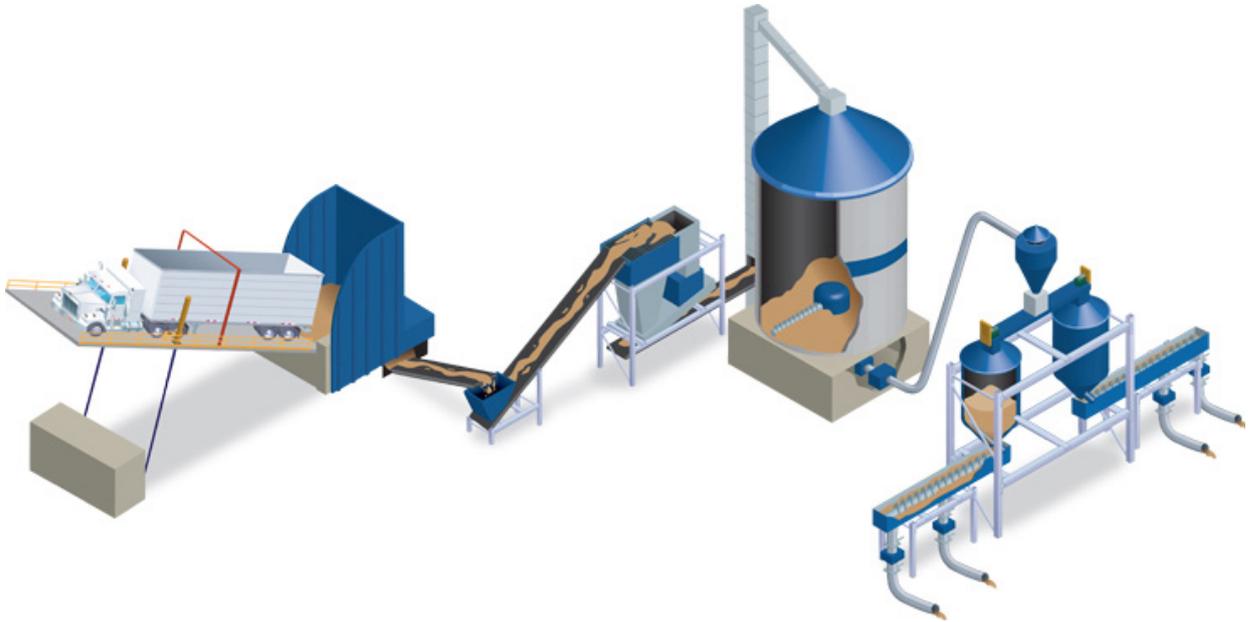


**Systems and equipment for biomass and alternative fuels.**



**Applications**

Jeffrey Rader material handling equipment is used in the multiple stages of biomass energy generation, from truck/rail receiving through the metered in-feed into the boiler.

Our products and experience can support your specific application, such as:

- Circulating or bubbling fluidized bed boilers
- Stoker or moving grate/floor boilers
- Cyclone and corner fired boilers
- Wall fired pulverized coal boilers
- Cement/lime kiln direct pneumatic injection
- Cement kiln pre-calciner fuel feed

In unison with that, we also have experience in the processing and handling of biomass and alternative fuels, including: wood chips, waste wood/C&D material, bark/hog fuel, sawdust, straw, miscanthus, DDGS, MSW/RDF, paper mill rejects, OCC, sludge, tire derived fuel (TDF), pellets, cubes or briquettes, coal, oil shale and others.

With over 50 years of experience in screening, processing, and handling biomass fuels, Jeffrey Rader offers the most reliable solutions for your needs.

**Truck Dumpers & Receiving Bunkers**



Jeffrey Rader manufactures truck dumpers as well as stokers, screw hoppers and chain receiving bunkers for self-unloading trucks. Our truck dumpers are designed for dependable operation under tough conditions.

All models feature the advanced engineering and heavy-duty construction that result in fast cycle times, improved productivity and reliable performance.

Jeffrey Rader can provide a full range of dumpers for your applications, including portables, back-on and drive-through.

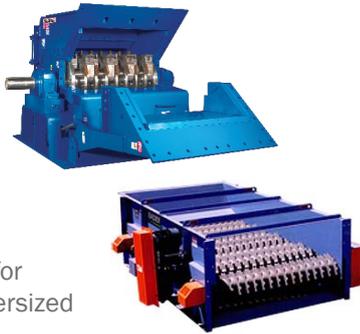
Additionally, our chain and stoker receiving hoppers are similarly designed for efficient, reliable operation under the most challenging conditions.

## Applications (continued from other side)

### Fuel Preparation Size Reduction & Screening

Jeffrey Rader offers the following systems and equipment to optimize boiler operations:

- Primary and secondary shredding & crushing systems
- Fine grinding of fuels for PC boilers
- Air density separation (ADS) systems
- Disc screens for removal of oversized materials
- Gyratory screens and flexible deck screens



### Conveying & Material Handling



Jeffrey Rader offers complete material handling systems with pneumatic and mechanical conveying systems.

We design ruggedly-built rotary valves,

cyclones, wear back elbows, ducting and blowers for tough, high-pressure, high volume and abrasive pneumatic conveying applications. Our pneumatic conveying systems can move material over long distances and elevations — even direct-inject into a boiler or kiln — with pneumatic conveying rates from 1 to 200 tons per hour.

Our mechanical conveying systems include durable chain conveyors, screw conveyors, bucket elevators and apron conveyors.

### Storage & Reclaim

Jeffrey Rader manufactures the equipment and designs the systems you need to stack-out, store and reclaim your wood chips, bark, hog fuel, biomass and RDF products.

Our storage solutions include open pile, metering bins and circular silos.

Our complete reclaim systems include traveling

linear screws, stokers, cone bottom screw reclaimers and top-pile stacker/reclaimers.

Whatever the number of days storage you require and type of product you are feeding, Jeffrey Rader storage and reclaim systems are designed to keep your facility running with a constant flow of materials.

### Boiler Fuel Feed Systems

Jeffrey Rader offers both mechanical and pneumatic boiler fuel feed systems which are a combination of our storage, reclaim, conveying and



feeding equipment. We work closely with you to ensure that the feed system we provide is designed to meet the storage, metering and feed rate requirements of your boiler, whether it's feeding 100%

biomass or co-firing biomass with coal.

Typical feed system equipment can include:

- Boiler front day bins, silos and hoppers
- Distribution of screws and conveyors
- Metering and robbing screws
- Expansion joints/isolation valves
- Feed chutes
- Rotary airlock feeders
- Fine grinding systems for PF boilers
- Gravimetric and volumetric feed controls

Our systems are in operation today at fuel feed rates of 3 to over 200 tons per hour.

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