

Conveying Equipment

# A Solid Investment: Rexnord Products and Services for Bulk Material Handling





# Leadership Comes From Experience

Rexnord designs, engineers and fabricates chain and belt bucket elevators, apron pan conveyors, apron feeders, drag conveyors and flight conveyors.

With over 100 years of experience in material handling, Rexnord is an industry leader. A worldwide network of field sales and factory support personnel regularly visit customer installations to provide assistance to ensure efficient plant production.

### Proven Product Performance

Worldwide, Rex\* high performance chain and belt bucket elevators have met or exceeded the high lifts,

Rex high vertical lift chain bucket elevator handling cement.

large capacities and tough conditions for material handling.

Rexnord has supplied *chain* elevators with lifts in excess of 230 feet (70 meters) and *belt* elevators with lifts in excess of 328 feet (100 meters). Capacities of over 1,000 metric tons per hour are possible with Rex bucket elevators.

Drag conveyors or flight conveyors are the solution when a totally enclosed conveyor is required. Handling fine

materials ranging from dust to 6 inch (150mm) lumps, these conveyors are able to discharge material to multiple discharge locations.



Rex drag conveyors feeding multiple discharge points.



Rex AFT pan conveyor conveying hot cement clinker 214 ft. (65 m) lift.

**Apron pan conveyors** can handle horizontal and incline angles up to 50 degrees and material temperatures up to  $2,000^{\circ}$  F  $(1,093^{\circ}$  C). Several pan designs are available including the AFT<sup>TM</sup> design which incorporates

a patented overlap of steel pans. Spillage is minimized at steep inclines or where pans articulate over the head or tail shafts.



Rex AFT pan uses patented overlap design.

**Apron feeders** are ideal for controlled volumetric feeding or blending of bulk materials. Whether you're handling run-of-mine quarry rock with lumps as large as 6-1/2 feet (2 meters) to a crusher or blending several materials extracted from hoppers, Rexnord has an apron feeder to handle the job.



Rex apron feeder used for blending materials.

Unlike most suppliers of bulk material conveying equipment who merely supply some other manufacturers minimum specification components, Rexnord designs, manufactures and provides after-the-sale service on all critical components used in our equipment. This includes chain, traction wheels, sprockets, bearings, gear reducers and others, thus assuring single-source control and responsibility for manufacturing and service support throughout the life cycle of the equipment.

# From Concept to Production... and More

Before a pencil goes on the drawing board, or a hand starts to direct a computer, Rexnord's field sales people and its engineers set out to learn the smallest details of a customers goals. New plant or upgrades. Materials to be handled. Capacities.

Future needs.

Personnel capabilities. Generally, everything that will make a plant or piece of equipment produce efficiently and profitably. Rexnord's goal is to deliver more than the expected.

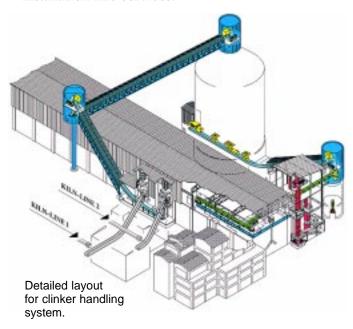
Rexnord offers a wide range of services to enhance



Rexnord engineers at customer's plant location.

product performance including:

Complete material handling engineering for project development, conceptual layout, installation and services.



**Maintenance seminars** either at Rexnord or in the field.

**Scheduled equipment inspection** and service contracts.

**On-site troubleshooting** and getting the right people and components to solve problems.

**Detailed wear life analysis** of Rex chain and other components to help our customers plan predictable replacement schedules.

**Field erection supervision** and equipment installation.

## **Upgrading Existing Plants**

Today, the demand is often to improve or retrofit an existing facility. Reduced maintenance and operator costs, as well as improved equipment performance, are continually required. Rexnord will propose plans to increase production by modifying our own equipment or our competitor's equipment. Longer life, less repair and maintenance and increased operating efficiency are the end results.

One typical example, shown below, was the replacement of a two-chain bucket elevator with a Rex single-strand chain and components. The application was at a highly abrasive iron ore sinter processing and storage facility where all 12 bucket elevators were retrofitted with Rex chain. Results included more than double the chain life, predictable and measurable wear life hours and significant savings of equipment and maintenance costs.



Other technology used two strands of "round link" type chains.



Rex single strand, high quality fabricated steel bushed chain.

# Applications: Over 6,000 Installations Supplied Worldwide

Rexnord has been a primary source of power transmission components and bulk material conveying equipment for industries like cement, fertilizer, dry chemicals, iron and steel, mining, solid waste, forest products and power generation. These thousands of installations and decades of service have given Rexnord a unique capability recognized by their customers.



Rex conveyors can handle extremely high temperature materials.



Rex belt bucket elevator handling finish cement.



Rex AFT pan conveyor installation.



Paper bale handling conveyor system.



Rex Style C pan conveyor handling hot steel sinter.



Rex bucket elevator at cement terminal.



Rex Style A pan conveyor handling municipal solid waste.

## **Planned Maintenance Programs**

Unexpected component failure can create havoc with production schedules. Rexnord offers several planned maintenance programs designed to minimize disruptions. **Annual periodic preventative maintenance contracts** by Rexnord field service



Rexnord field service engineers supervising maintenance inspection and repair.

engineers are a reliable way to keep plants up and running because they are designed to identify problems before they become major equipment failures. A schedule of planned equipment inspections including written reports with specific recommendations to help minimize costs and maximize production are provided. Rexnord's team of experienced field service engineers are available to travel

to plant sites worldwide to quickly assess the condition of equipment.

**Maintenance seminars** can be held at Rexnord or at your plant to teach the latest preventative maintenance techniques and increase maintenance personnel knowledge.

Chain wear life analysis. Rexnord offers

extensive testing and analysis to predict and measure chain life helping our customers prevent costly and disruptive downtime.

Maintenance training program for bucket elevators and conveyors.





Bucket elevator installation at a fertilizer plant.



Rex AFT pan conveyors handling cement clinker.



Rex chain bucket elevator for handling coal.



Bucket elevators at a coal-fueled power plant.



Rex pan conveyor for hot lime handling.



Drag conveyors used for feeding multiple discharge points.

# Product Development, Improvement and Testing Assure Long Life Performance

The Rexnord Technical Services (RTS) Center is involved with a continuous program of materials and mechanical engineering evaluation and improvement. RTS has the American Association for Laboratory Accreditation certification.

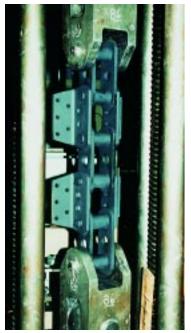
**Test and Evaluation** includes experimental stress analysis, static strength determination, vibration and sound measurement, environmental test chambers and precision instrumentation.



RTS testing laboratory.

Materials Engineering services include materials evaluation, scanning electron microscopy, failure analysis, mechanical properties analysis, chemical synthesis and formulation and process development. All techniques and equipment to provide state-of-the-art engineering services are available at RTS.

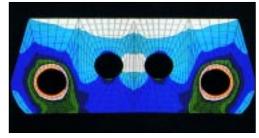
**Engineering Mechanics** develops finite element analysis, stress analysis, thermal analysis, fatigue



analysis, fracture mechanics and statistical analysis.

RTS product development has led to many innovations within the Rexnord and Link-Belt product lines. Upgrading existing products, reducing costs, increasing service life and solving customer problems are all challenges for RTS.

Rexnord's chain fatigue testing machines are unique to the industry.



Finite element analysis is just one tool used in developing Rex engineering chains.



## **Quality Replacement Parts**

To insure that Rexnord customers have the availability of quality Rex and Link-Belt replacement components, Rexnord has a system in place with strategically located service centers and warehouses that have ample stock of replacement components.

Original order references are available. Genuine Rexnord parts are available only through Rexnord or Rexnord Distributors. Contact Rexnord Conveying Equipment Division for details.



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