

NTN's Bower[®] Type E Bearing Units Improve Reliability of Bucket Elevators

A leading manufacturer of industrial absorbents was experiencing reliability issues with the bearings used in the bucket elevators. The elevators are used to transport unprocessed clay throughout the facility and so they are critical to production. The unexpected failures occurring with the current bearings were creating unplanned downtime, thus costing the facility a significant amount of time and money.

NTN's engineering and sales support team performed a thorough evaluation of the facility's bucket elevators and determined the competitor's bearings were lasting no more than *12 months* due to high edge stress and cage failure due to the induced misalignment from the varying weight of the clay being transported. The clay also presents a contamination issue within the application.

The NTN Solution

NTN's team recommended that the competitor's bearings be replaced with our Bower Type E mounted units. The Bower Type E unit is designed with a spherical roller bearing which can accommodate +/- 2° of misalignment, whereas the competitor's bearing unit is designed with a tapered roller bearing. Tapered roller bearings are not designed to accept heavy misalignment. Additionally, Bower Type E units have a contact double-lip seal that is protected with a metal guard to provide superior sealing performance in heavily contaminated environments.

The Result

The NTN solution has been proven to operate for *18 months without failure!* The Bower Type E bearing units provided the reliability the facility's maintenance team was looking for, resulting in over \$26,000 in annual cost savings.



VALUE ADDED BREAKDOWN

MAINTENANCE REDUCTION

\$15,552

UPTIME IMPROVEMENT

\$7,200

REDUCED ACQUISITION COST

\$3,922

DOCUMENTED COST SAVINGS

\$26,674

CS-0995

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**ANNUALIZED
COST SAVINGS
\$26,674**

BOWER TYPE E MOUNTED UNITS



- **One-piece, sturdy cast iron housing** to withstand demanding application
- **Threaded housing nut** keeps the bearing clearance set and provides great seal support
- **Self-aligning, double-row spherical roller bearing** allows for easy alignment and can handle +/- 2° of misalignment
- **Set screw locking collar** secures the inner ring to the shaft
- **Machined brass retainer** with offset pockets results in cage stiffness for high vibratory applications
- **Double-lip seal** molded onto a metal guard provides superior sealing performance in extreme environments
- **Elongated mounting slots** for versatile mounting configurations
- **Extended inner ring** allows for greater contact surface to the shaft which provides better performance and stability

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Beyond Bearings

Training. Installation Support.
Trouble-shooting. And more.

When you choose NTN, your team is equipped with all the necessary tools and resources to get the job done right. From installation to problem-solving, we'll be there with the hands-on support you need to take on your toughest challenges. This includes extra services such as:



Technical Training Unit

On-site, mobile training unit offering specialized, hands-on instruction from NTN engineers



Product Training School

Three days of in-depth instruction from NTN engineers at headquarters
(go.ntnamerica.com/trainingschool)



eKnowledge

WEB-BASED TRAINING PROGRAM

Six online product training modules covering different bearing types and nomenclature
(www.ntnamerica.com/eknowledge)



NTN Bearing Finder

Customizable search tool featuring exhaustive data sets, comprehensive part interchanges and interactive CAD drawings
(bearingfinder.ntnamerica.com)

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