

# NTN Maximum Capacity Type Double-Row Angular Contact Ball Bearings Eliminate Pump Failures at Chemical Plant

A major North American based chemical production plant was experiencing repeated, premature bearing failures on the screw pumps in the titanium dioxide production process. The repetitive failures of the large bearings on these pumps created product quality problems and required eight pumps to be rebuilt every month, causing costly downtime at a rate of *\$400,000 per month*.

NTN's engineering and sales support team ran a comprehensive failure analysis of the plant's screw pumps. They discovered that the competitor's bearings were only lasting an average of *one week* due to a design with steel cages that could not stand up to the contaminated conditions.

## The NTN Solution

NTN's team concluded that the plant needed to change from bearings with steel cages to a product equipped with highly durable brass cages and prescribed NTN's 3300 Series Maximum Capacity Type double-row angular contact ball bearings. Our Max Type double-row angular contact ball bearings are designed to provide higher load capabilities.

## The Result

The NTN solution *never failed!* The Max Type double-row angular contact ball bearings successfully ran from installation to the plant's regularly-scheduled, monthly preventative maintenance pump rebuilds.

The increased bearing life, reduced maintenance and other related costs, resulted in *over \$4.6 million in savings* in just one year. The plant personnel were so satisfied with the improved lifetime of the screw pumps that they now only use NTN Max Type double-row angular contact ball bearings on these pumps.



## VALUE ADDED BREAKDOWN

**MAINTENANCE REDUCTION**  
**\$4,200,000**

**INCREASED BEARING LIFE**  
**\$179,424**

**REDUCED ACQUISITION COST**  
**\$14,936**

**LABOR SAVINGS**  
**\$282,240**

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**DOCUMENTED COST SAVINGS**  
**\$4,676,600**

Cost000373



**ANNUALIZED COST SAVINGS**  
**\$4,676,600**

# NTN MAXIMUM CAPACITY TYPE DOUBLE-ROW ANGULAR CONTACT BALL BEARINGS

- Maximum capacity design provides higher load capability and longer life when compared to traditional double row angular contact ball bearings
- High strength machined bronze cage used for heavy duty applications supplied standard for bore sizes 70mm / 2.755" and larger
- Designed in a back-to-back arrangement for high rigidity in rotating shaft applications
- Versatile contact angle provides high thrust capability while maintaining high speed capability



## 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.ntnamericas.com/trainingschool](http://go.ntnamericas.com/trainingschool))



### eKnowledge

WEB-BASED TRAINING PROGRAM

Six online product training modules covering different bearing types and nomenclature  
([www.ntnamericas.com/eknowledge](http://www.ntnamericas.com/eknowledge))



### NTN Bearing Finder

Customizable search tool featuring exhaustive data sets, comprehensive part interchanges and interactive CAD drawings  
([bearingfinder.ntnamericas.com](http://bearingfinder.ntnamericas.com))

## Let us pump your production up to full volume.

We're here to help you achieve your productivity and performance goals. For more information, contact your NTN Sales Representative or call **1-888-412-4122**. For technical questions, email [techsupport@ntn.ca](mailto:techsupport@ntn.ca).

NTN BEARING CORPORATION OF CANADA  
305 Courtneypark Drive West • Mississauga, ON L5W 1Y4  
Tel: 905-564-2700 • Fax: 905-564-7749 • [www.ntn.ca](http://www.ntn.ca)