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## FOOD GRADE BEARING UNITS . . . A TASTE OF OPPORTUNITY

The economy may be seeing marked improvements in recent days, but those in the food industry are already content with how their industry has fared. While some people may still be reluctant to resume making luxury purchases, the simple fact is that people do need to eat. As a result, the food processing industry has coped extremely well, showing little if any decrease in revenue growth.

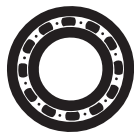
Plants that have weathered the storm are now poised to invest in capital improvements not only to accommodate growth due to the improving economy, but also to address one of the key issues revolving around the industry... safety.

Food safety has been overwhelmingly identified as a core manufacturing issue for food processing plants. Tighter FDA regulations will require higher attention to the materials and processes used within each of these plants. With over \$13 billion in capital expenditures budgeted by plants in 2010, it is evident that organizations are committed to updating their lines for optimal safety and efficiency.

Whether those plants are upgrading outdated equipment or simply performing routine maintenance, the demand for safe food grade bearings and bearing units for mixers, conveyors or any other sterilized applications remains strong. Getting the right components together to ensure FDA compliance and good bearing performance is no simple task. Corrosion and wash-down resistance must be balanced with allowable grease materials all while keeping cost in check.

NTN is proud to stand behind its comprehensive food grade bearing unit line designed specifically to address the safety needs of food grade applications. We invite you to read further about the features and benefits of the NTN's solutions for this key industry.





**Dr. Pete's**

C O R N E R

**PETER LORENTZ**  
Sr. Product Analysis Engineer  
NTN - Wheeling Test Lab

## FOOD GRADE ENVIRONMENTS

Like any other industry, the food grade environment has specific application considerations that need to be carefully analyzed when selecting a bearing. Whether it's for food preparation or processing or medical purposes (like pharmaceutical manufacturing or biomedical handling), bearing material, lubricant, sealing and unit housings (if applicable) must be considered.

### **Basic Bearing Material**

Frequent washing and sanitizing of equipment makes corrosion resistance a big issue in food grade applications. Standard bearing steel may be acceptable in some cases, but others may require special coatings such as black oxide. Still more demanding situations may justify upgrading to stainless steel. As with all other applications, the proper cage material also needs to be selected while balancing the effects of cost.

### **Lubricant**

The first question to ask is whether an FDA-compliant grease is required. In addition to general concerns of grease longevity and relubrication considerations of a bearing, leakage rates and washout resistance are key to choosing grease in food grade applications. In many cases, any grease leakage, food grade or otherwise is unacceptable. In these cases, special anti-leak greases such as L379 (Kyodo Yushi E-3), 5K (Kyodo Yushi SRL) or 1K (Kyodo Yushi PS2) can be considered. NTN also offers a solid food grade grease, LP06.

### **Seals**

The paradox of selecting a proper grease is that many FDA-compliant food grade greases do not have high washout resistance, yet most food grade applications involve frequent wash-down cleaning operations. Obviously seal selection comes into play at this point. Non-contact seals run the risk of allowing grease leakage and water ingress. Your NTN engineer can help supply data to make the best decision on what seal design will work best for your application.

### **Bearing Unit Housings**

When selecting a bearing unit housing, corrosion resistance again comes into play. NTN offers plastic and stainless steel housings if the application demands that level of resistance but cost can sometimes be prohibitive. Standard steel housings may be acceptable in some cases – and NTN is the only manufacturer that paints the bottoms of its housings, eliminating any exposed bare metal. While it may be tempting to save cost by using a hollow flange or pillow block, keep in mind that debris can collect in these cavities, decompose and become a breeding ground for bacteria. Solid housings are a must. Finally, be careful when using housing covers. Water can actually collect inside them and create even more problems with corrosion, grease failure and unsanitary conditions.

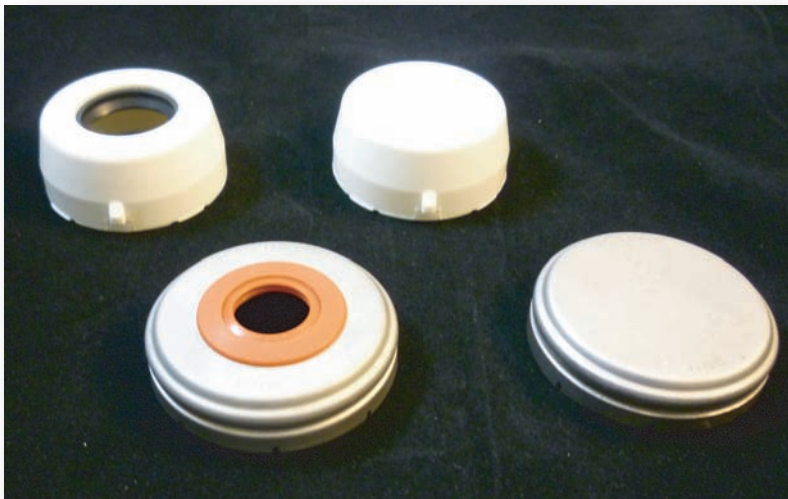
With additional focus on food safety and product quality, NTN's corrosion-resistant series of bearing units offers the flexibility and durability needed to support equipment within the food processing industry. Whether fitting a line that is exposed to high-pressure wash cycles or equipment that endures highly acidic content and aggressive temperature requirements, NTN can work with you to find the ideal bearing solution.

*Contact your NTN Sales Representative for more information.*

## SEALING ACCESSORIES

### Features and Benefits:

- Stainless steel or thermoplastic configurations offer excellent resistance to corrosion
- Stainless steel end caps recommended for protection against aggressive media and chemical attack
- Caps available in open and closed end styles.



## THERMOPLASTIC SERIES

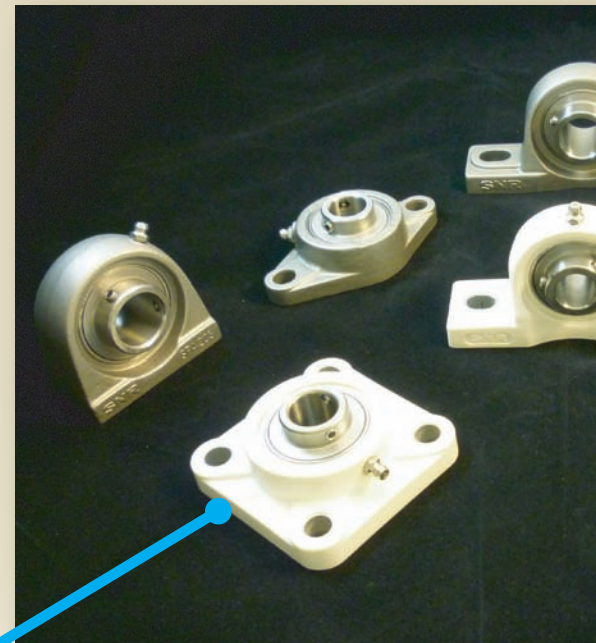
### Composition:

Housing	White PBT
Raceways	440C Stainless Steel
Balls	440C Stainless Steel
Cage	302 Stainless Steel
Grease Fitting	Stainless Steel
Grease Type	USDA-H1 Grade

### Features and Benefits:

- Stainless steel inserts provide superior corrosion resistance compared to common bearing steels or coated inserts
- Flat bases prevent buildup of particles or contaminants in otherwise difficult to clean areas
- Food grade grease provides excellent corrosion protection and resistance to high pressure washdown activity
- Self-aligning design provides optimum performance to withstand the rigors of high rotational speed and vibration

NTN's product line has been developed for the aggressive cleaning and handling grade conveyor lines are subjected. U eliminating any risk of contamination that may come in contact with these u additional protection from fluid exposure environments.



**NTN INTE**

CORROSION RESISTANT UNI		
Mounting Type	NTN-SNR	MI
Pillow Block	GNP	CPB10
4 Bolt Square Flange	GSF	C4F10
2 Bolt Square Flange	GSFT	C2F-1

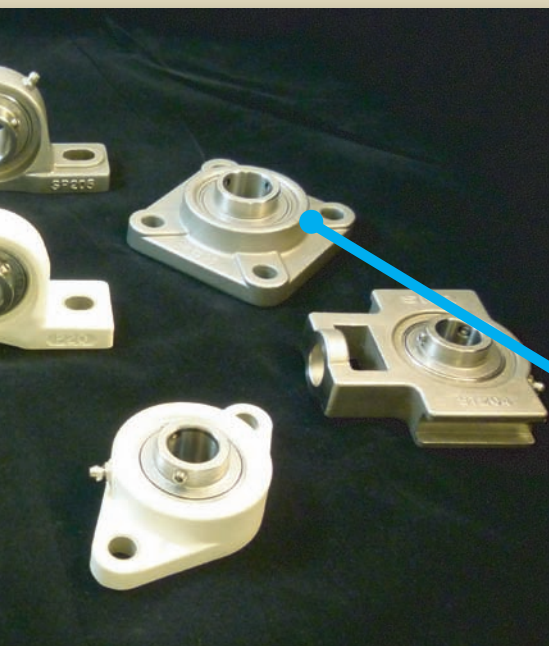
\*Plated inserts offer reduced protection compared to NTN stainless steel

CORROSION RESISTANT UNI		
Mounting Type	NTN-SNR	MI
Pillow Block**	SUCP	SPB1
Tapped Base**	SUCPA	STB1
4 Bolt Square Flange**	SUCF	S4F1
2 Bolt Square Flange**	SUCFL	S2F1
Take-Up Unit**	SUCT	-

\*\*NTN-SNR units available in eccentric locking configurations. Contact

# FOOD PROCESSING INDUSTRY

Designed with heavy consideration for food processing techniques to which food processing units feature food grade grease, stainless steel for food or pharmaceutical products processing units. End cap availability offers easy maintenance within high-pressure wash-down



## INTERCHANGE

### NTN- THERMOPLASTIC SERIES

NTN RC	AMI	Browning	Peer
00-ZM*	MUCPPL	CPS-S200	ZUCP*
00-ZM*	MUCFPL	CF4S-S200	ZUCF*
00ZM*	MUCNFL	CF2S-S200	ZUCFT*

\*Model inserts

### NTN- STAINLESS STEEL SERIES

NTN RC	AMI	Browning	Peer
00SS	MUCP	SPS	SSUCP
00SS	MUCTB	STBS	SSUCPA
00SS	MUCF	SF4S	SSUCF
00SS	MUCFL	SF2S	SSUCFT
-	-	-	-

\*NTN for details.



## STAINLESS STEEL SERIES

### Composition:

Housing	304 Stainless Steel
Raceways	440C Stainless Steel
Ball	440C Stainless Steel
Cage	302 Stainless Steel
Grease Fitting	Stainless Steel
Grease Type	USDA-H1 Grade

### Features and Benefits:

- Full stainless steel construction provides a durable mounted solution for environments featuring high moisture and acidic or alkaline presence
- Flat bases, food grade grease and self-aligning design offer equivalent performance to NTN's thermoplastic line
- High load capacity

For more information contact your NTN Sales Representative.  
For Technical questions: [eng@ntnamerica.com](mailto:eng@ntnamerica.com)

As NTN continues to focus on serving the Industrial Aftermarket, we're constantly looking for ways to improve our service to distributors and end users. In the past we've separated Industrial Aftermarket, Automotive Aftermarket and OEM sales regions to better target our sales efforts. Now that the structure of the sales team is refined, it's time to focus on upgrading our salesmen to be in the right places with the right information. That means that when there is an opening or if we feel a geographical area is being underserved, we're seeking the best talent available to fill those positions.

This spring, we're profiling two new Territory Managers on the West Coast. Both come to NTN with a wealth of experience in the industry. While one is filling a vacant position in Southern California, the other represents an addition to our Aftermarket Sales Forces in the Pacific Northwest. We're confident these additions will put NTN in a better position to serve your needs. Both Scott and Dave report to Kim Burger, who manages NTN's Western Sales Region.



**Scott Odiorne**, Territory Manager  
Territory: Pacific Northwest  
Based in Vancouver, WA

Scott joins NTN with over twenty years of experience in Industrial Distribution. He also served as a manufacturer's representative for both Sumitomo Corporation and Baldor Electric. In his free time he enjoys golfing, fishing and being involved in managing youth sports.

**"The opportunity to work for NTN is great because it's not only a realization of a professional goal for me, but an opportunity to grow NTN's presence and become a major supplier to the diverse customer base in this area."**

*Scott can be reached at (224) 406-3868 or [sodiorne@ntnusa.com](mailto:sodiorne@ntnusa.com)*



**Dave Wisner**, Territory Manager  
Territory: Southern California, Arizona, New Mexico and Southern Nevada  
Based in Anaheim Hills, CA

Dave has been involved with bearings in the Industrial Aftermarket for more than twenty years. His experience at SKF, Koyo and NSK has given him the opportunity to work on some unique applications such as roller coasters and roulette wheels. In his free time he is involved in his son's baseball team and likes to golf.

**"Everyone at NTN has met me with open arms and I look forward to working with them to provide quality products and services for the Southern CA, Southern NV, AZ & NM market."**

*Dave can be reached at (224) 383-5123 or [dwisner@ntnusa.com](mailto:dwisner@ntnusa.com)*

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**RANDALL RICHARDSON**



*Randall won a Garmin 205W GPS Navigator for his funniest bearing story submission in The World of NTN News Winter Newsletter!*

**Bearing Distributors Inc.**  
(Rock Hill, SC)

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*Submissions must be received by 7/30/10*