SNR Bearings: Your Guarantee in Sugar Refining
With today's diverse range of products, flavours and textures; sugar production has become one of the most technically advanced sectors in the agri-food industry. It has very specific requirements, due to the fact that production is managed in "runs", setting a high production rhythm. If one machine fails, the entire production is affected. In this demanding environment, SNR Bearings provides reliable, efficient and appropriate solutions.

Constraints of an Extraction Industry
Sugar is an everyday pleasure, ubiquitous in tea and coffee cups the world over. However; very specific transformation processes must occur so that it may be used by a consumer. Numerous operations involving bearings convert the raw materials (beet/sugar cane) into the finished product. In each of the different phases (i.e. conveying, washing, grinding, pulping), SNR has a technical solution.

We all love sugar... but mechanical parts DO NOT!
Bearings sustain various stresses during the production process:

- **Moisture**: water and steam throughout the process
- **Numerous contaminants**: stones, dirt, grass, sugar particles
- **High temperatures**: up to 100°C during some phases
- **Production rhythms**: the machinery operates 24 hours/day, requiring perfectly balanced lubrication.
- **Heavy loads**: conveyors transport thousands of tons of raw material daily.

Between Runs - Opportunity to Increase Bearing Life
A break in production in the sugar industry is generally used for maintenance. It provides an opportunity to detect any bearing problems. Experience shows that 90% of bearing defects are caused by external issues. SNR’s engineers want to draw your attention to the following issues, in order to prevent that from occurring.

- **False brinelling**: Damage to bearings subject to vibrations during shutdown phases (i.e. railways, local roads)
- **Oxidation/corrosion**: Internal oxidation mainly occurs on bearings when machinery has been shut down (i.e. condensation resulting from varying temperatures, washing when seals are damaged, etc.)
- **No lubrication or Poor Lubrication**: i.e. unsuitable grease, etc.
Extraction, Transformation, Packaging ... SNR has an answer for each stage.

Sugar beet
- Wash
- Slice (beet chips)
- Extract (by diffusion)
- Purify
  - Liming
  - Carbonation
  - Filtering
- Steam
- Heat
- Decant
- Lime
- Sugar beet
- Sugar cane
- Wash
- Grind
- Extract (by diffusion)

Sugar cane
- Wash
- Grind
- Lime
- Heat
- Decant
- Lime

Evaporate
Crystallize
Stir
Spin
Dry / Storage

Rotation
Eau
Vapeur d'eau
Température

Industrial use
Conveyor mechanisms
Peripheral installations

• SNR Self-Aligning Bearings in Cast-Iron or Sheet Steel
  - SNR bearings (delivered sealed and pre-lubricated) with eccentric ring or screw with cup point
  - Increased clearance C3
  - Operating temperatures:
    - standard (-30° to +110°C),
    - specific (-40°C to +250°C)
  - Can be fitted with protective covers
  - High performance lubrication (food-grade grease)
  - In compliance with ISO standards
  - Large selection of sealing solutions:
    - effective sealing: nitrile rubber double lip seal
    - enhanced sealing: lip seal + baffle plates
    - maximum sealing: triple lip seal (maximum protection against external contamination and splashes)

For generic applications

• SNR Cast-Iron Two-Part Bearings
  - Easy assembly
  - Effective seals:
    - Nitrile lip seal or felt ring
    - V ring seal
    - Nitrile fluorocarbon elastomer double lip seal
  - Operating temperatures: -30°C to +110°C

• SNR Bearings with Solid Lubrication LubSolid LSA
  - High performance in dusty environments (sealed version)
  - Reduced grease consumption and leakage
  - Optimized service life: porous polymer matrix, which can take 3 to 4 times more oil than grease.
  - This concept reduces machine shutdown and re-greasing time
  - Special food-grade, environmentally friendly grease
  - Operating temperatures: -20°C or -50°C to +80°C or +100°C
  - Available on ball bearings and spherical or tapered roller bearings (sealed, protected or open)

Premier Spherical Roller Bearings

- +18% increased load capacity
- +75% service life
- High-purity steel
- Increased roller size and numbers

• SNR EA Series, Steel Cage
  - Designed for standard applications
  - Resistant to extreme temperatures: from 60°C to +200°C by means of dimensional stability heat treatment on both rings.
  - Higher limit speed all-around cage providing enhanced roller guidance via the cage and lower heating
  - Excellent lubrication as a result of cage shape: increases the amount of lubricant in the bearing and facilitates lubricant flow.
  - Available with cylindrical or tapered bore
  - Standard or enhanced clearance
  - Re-greasing groove and holes (W33)

• SNR EM Series, Solid Cage
  - One-piece solid cage: highly rigid and extremely resistant to impacts
  - Cage centered on rolling elements to avoid any cage seizure in the event of thermal expansion
  - Perfect bearing guidance
  - Available with cylindrical or tapered bores
  - Standard or enhanced clearance
  - Re-greasing groove and holes (W33)
SNR has a wide range of solutions for sugar industry processes. Our standard (Premier and TOPLINE ranges) and specifically-developed ranges (Lubsolid) of bearings offer high performance levels. In addition, our experts are available to offer suggestions to enhance productivity.

SNR TOPLINE Ball Bearings
(extreme temperatures, high speeds)

This range provides products to work under very specific operating constraints.
- Heat treatment adapted to external conditions (both hot and cold)
- Lubricated with grease, according to application-specific requirements
- Extreme temperature seals and baffle plates
- Operating temperatures: -60°C to +200°C
- Resistant to high speeds and/or low torque
- Optimal internal geometry, with better tolerances and greater precision on the HV series

FT150 and FT150 ZZ: High temperature - 150°C peak temp.
High speed, up to 500,000 N.Dm

HT200 and HT200 ZZ: High temperature: 200°C peak temp
Average speed up to 150,000 N.Dm

LT and LT ZZ: Low temperature, to -60°C (LT ZZ series)

HV ZZ: High speed, up to 700,000 N.Dm

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<th>Standard SNR Bearings</th>
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<td>and Automatic Greaser</td>
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SNR offers a wide range of standardized ball and roller bearings: tapered and cylindrical. All types of machines with a standard open bearing and a lubrication system can be fitted with an automatic greaser.
- Constant, regular lubrication
- Reduced maintenance work in hazardous areas and lower maintenance costs
- Grease flow can be visually monitored
- Extremely flexible (can be stopped and restarted)
- Can operate in contaminated, damp environments, up to +55°C.
- Grease available: SNR-LUB EP, SNR-LUB HT, SNR-LUB VX and SNR-LUB AL1* (other versions available upon request)

*: Food-grade grease SNR-LUB AL1 complies with the stringent requirements of standard USDA H1 in terms of hygiene and purity of raw materials.