Torrington® Spherical Bearing Provides Reliable Operation for Paper Mills

New W906A Modification

Spherical roller bearings engineered to survive high stress paper mill applications.

Timken® Torrington® compressive residual stress spherical roller bearings feature case-hardened steel components to manage the heavy tensile stresses found in high-nip paper mill applications.

The unique operating conditions of press, suction and calender rolls subject bearings to high surface stresses on the inner ring raceway and rollers. Through-hardened bearings are vulnerable to cracking at these contact points. Further complications come from stresses that can develop during routine bearing installation. These problems can lead directly to premature bearing damage and costly machine downtime.

Torrington compressive residual stress bearings incorporate case-hardened inner rings and rollers that offer a layer of compression to counteract these high tensile stresses. This advanced metallurgy minimizes unplanned downtime and improves overall productivity.

Benefits

Case-hardened components – up to three times longer L₁₀ life in testing with high stress applications. Fracture resistance prevents costly journal damage. Demonstrated ability to tolerate damage caused by contamination.

Maximized capacity – improved internal geometry permits greater roller length and diameter for some of the highest load capacities in the bearing industry. This extends bearing service life under normal operating conditions.

Superior precision – advanced manufacturing controls exceed RBEC five precision levels for runout. This is a quarter the radial runout of many competitive designs. Improved runout reduces vibration and contributes to greater caliper control.

Eccentricity control – both high and low points of eccentricity are marked on inner and outer rings to guide installation and achieve optimum running precision.

Improved components – smoother finishes and one-piece machined bronze cage enhance lubrication and strengthen the total design.

Broad range – improved features are available across a wide range of Timken Torrington spherical roller bearing types and sizes.

Paper Mill Applications

• Press Rolls
• Calender Rolls
• Suction Rolls
• Variable Crown Rolls
• Granite Rolls
• Super Calender Rolls
• Yankee Dryers
• Coater Rolls
• Temperature Controlled Rolls
• Embossing Rolls
Engineering Support
The dedicated paper mill engineering staff works closely with customers to determine optimal bearing design for specific applications. Sophisticated contact stress and deflection analysis refines bearing performance. Engineers also recommend appropriate sealing arrangements, lubrication type, quantity and intervals. Timken field service engineers work throughout the world to assist customers through professional experience and advanced analytical and communication tools.

Paper Mill Products and Services
Timken produces a full range of bearing types and sizes for the pulp and paper industry, from the woodyard through finish operations. These include ball bearings and housed units, cylindrical roller bearings, spherical roller bearings, tapered roller bearings, triple ring bearings, spherical plain bearings, and all types of heavy-duty thrust bearings. In addition, Timken provides an economical means to extend the service life of paper mill bearings that have been worn or damaged through use.

Timken® Torrington® Compressive Residual Stress Bearings/W906A Modification Code

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Torrington’s superior stress profile is now standard on the above spherical roller bearing sizes. To order, simply add the designation “W906A” to the bearing code, i.e. 231/530K YMBW906AC3

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