



The New York Manufacturing Magic Continues

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The New Year's Ball Drop wouldn't be possible without a sophisticated electromechanical system that must operate reliably during the most critical 60 seconds of the year. In 2023, SEW-Eurodrive was featured in an article in *PTE* on the mechanical and electrical systems responsible for assisting the famous New Year's Ball Drop in Times Square:

powertransmission.com/having-a-ball-the-technology-behind-the-ball-drop

The 2026 Ball featured a refreshed exterior and next-generation LED technology capable of richer colors, smoother animations and more dynamic patterns. These visual upgrades increased the demands on the lifting system, which must manage the Ball's substantial weight while delivering controlled, steady movement.

A powerful winch system beneath the mast platform now handles the motion. Its two-line configuration and 42-inch drum with helical grooving use opposing wire ropes to maintain balance and smooth operation in a compact footprint.

At the center of this system is an SEW-Eurodrive gearmotor, designed to support the full load and provide precise, dependable motion throughout both the rise and the 60-second descent.

The unit's planetary and helical-bevel gearing, combined with an AC motor, encoder, brake and regenerative VFD, delivers accurate speed control and even returns energy to the grid as the Ball descends.

To meet the evolving requirements of the Ball Drop mechanism, the drive system now incorporates a through-going low-speed shaft that allows a second brake to be mounted opposite the gearbox. This added braking capability increases redundancy, which is critical for an event

where millions are watching, and the system has one precise minute to perform.

This gearmotor converts high motor speed into slow, powerful, predictable movement. The planetary stage provides the torque needed to support the Ball's weight, while the helical-bevel stage ensures efficient power transfer. Working together with the encoder, brake, and VFD, the system maintains exceptionally tight speed and stopping control.

Although the Ball operates only a few times each year, routine maintenance is essential to ensure continuous readiness. Regular lift-and-lower cycles confirm proper operation of the winch and gearmotor. SEW-Eurodrive service technicians perform inspections, change oil, analyze samples and verify the health of internal components.

Thanks to the system's low duty cycle and durable construction, wear remains minimal. Still, proactive maintenance safeguards performance for years to come. The Ball isn't just part of one night's celebration; it's a year-round landmark viewed by millions.

For 87 years following the first Ball Drop in 1907, the Ball was raised and lowered by six men with ropes and a stopwatch. Obviously, the project's size and scope has increased over time.

The equipment used today is a testament to engineering technology and manufacturing innovation. Every year, as the final seconds tick away, the world focuses on the glowing six-ton sphere towering above Times Square. It's a moment of celebration without any do-overs. When the countdown begins, the entire system must perform with absolute precision with some much-needed assistance from SEW-Eurodrive.

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