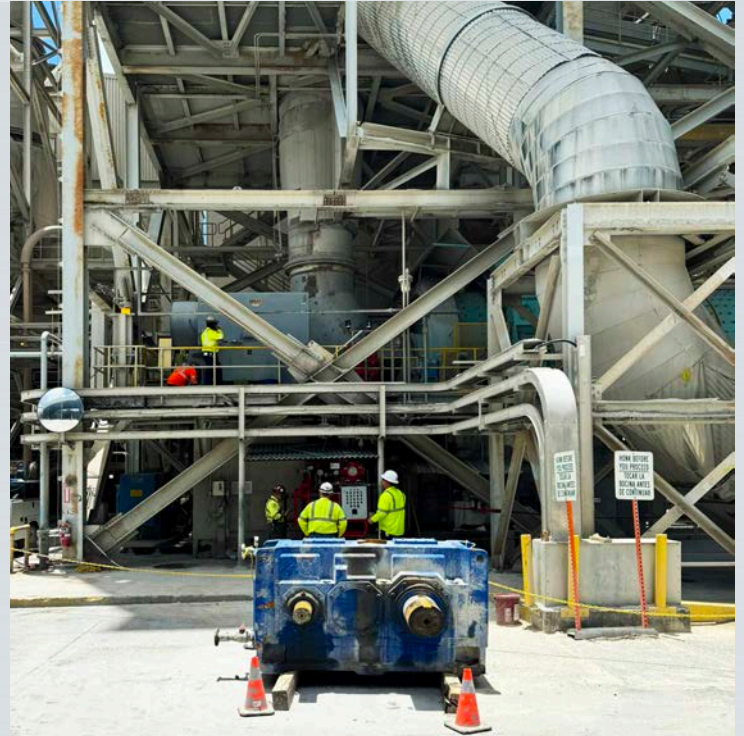


## Transforming Cement Industry Standards: ABS's Innovative Gearbox Solution for CEMEX

The CEMEX Brooksville plant, located in Florida, is part of CEMEX, a global leader in cement production, renowned for its commitment to innovation and operational excellence. This industry relies on heavy machinery and robust systems to ensure uninterrupted production and consistent product quality. One critical component of its infrastructure is the ball mill, used for cement grinding, where the gearbox plays a fundamental role in power transmission.

In recent years, the client faced a recurring challenge: downtime due to gearbox failing in the ball mill, causing operational disruptions, high maintenance costs, and significant downtime. The existing gearbox, with a torque capacity of 300,000 N·m, failed to meet the process demands. To address this, CEMEX sought a definitive solution to enhance system reliability, technical capacity, and extend the lifespan of key components.



*In the foreground, the existing size 19 gearbox with a torque capacity of 300,000 N·m, which was replaced by the new MGS Gearbox capable of handling up to 400,000 N·m.*



### The Challenge

While the original gearbox was designed to meet initial specifications, its torque capacity proved inadequate for the mill's growing demands. Frequent failures led to costly replacements and disrupted operational continuity. Moreover, any proposed solution had to seamlessly integrate with the existing foundation and couplings, avoiding expensive and complex modifications.



## The New MGS Gearbox: Capable of Handling Up to 400,000 N-m

At ABS we tackled this challenge with an innovative, client-focused approach. We designed and manufactured a gearbox with a remarkable torque capacity of 400,000 N-m and a motor power of 3,500 HP. This upgrade not only exceeded the limitations of the previous unit—delivering enhanced robustness and operational reliability—but also seamlessly integrated into the existing infrastructure without requiring any modifications.

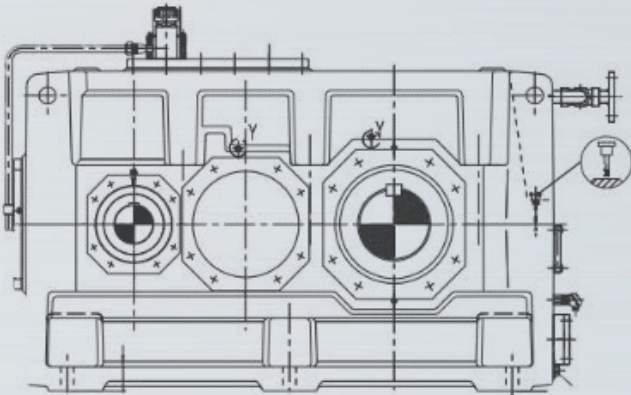
**Engineering design:** To achieve this, we developed a gearbox with an elevated intermediate shaft, creating a two-level configuration. This design allowed internal components (gears and shafts) to be arranged vertically within the casing, increasing the interaxial distance. This innovative approach significantly boosted torque capacity without altering the base or couplings.

**Forced Lubrication System:** Due to the unique design and increased capacity of the gearbox, an advanced cooling solution was essential. To address this, we installed an independent forced cooling system that delivers precise oil flow to all critical components—gears and bearings. This system ensures optimal cooling, smooth operation, and significantly extends the equipment's lifespan.

**Implementation:** Our team worked closely with CEMEX personnel to execute the installation and commissioning of the system. During this process, we conducted exhaustive testing to ensure the optimal performance of the gearbox and its compatibility with the ball mill.



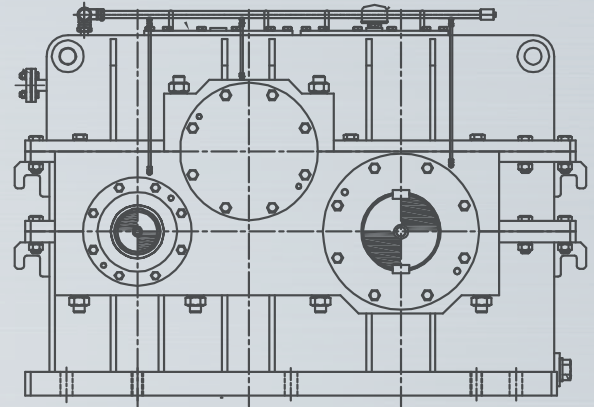
## FLENDER H2SH19



The existing size 19 gearbox, with a torque capacity of 300,000 N-m, did not meet the production requirements. To address this, CEMEX sought a customized solution from ABS: the MGS Gearbox capable of handling up to 400,000 N-m. This new design was developed to enhance system reliability, increase technical capacity, and extend its service life.

### NEW SOLUTION!

## MGS PS2-1190



MOTOR POWER	<b>2611 kW</b>
INPUT SPEED	<b>1190 RPM</b>
ACTUAL RATIO	<b>6.4/1</b>
OUTPUT SPEED	<b>185.93 RPM</b>
POWER RATING	<b>7833 kW</b>

## ABS & MGS Gears: The perfect partnership for the Cement industry

The implemented solution not only resolved the issue of recurring failures but also significantly improved system reliability. By increasing torque capacity and optimizing lubrication, we reduced maintenance costs and minimized the risk of operational disruptions. Moreover, the custom-designed gearbox highlighted our ability to adapt to the client's specific needs, delivering advanced engineering solutions that provide tangible value.

This project underscores our expertise and commitment as a global reference in power transmission solutions for the cement industry. At ABS, we see every challenge as an opportunity to innovate and exceed our clients' expectations, and we take pride in how our industrial brands consistently deliver efficient, high-quality solutions for the heavy industry sector.