

Cementos Santo Domingo New Auxiliary Drive for Ball Mill



Picture of original Cementos Santo Domingo ball mill drive.

Cementos Santo Domingo, S. A.

Established in 1999 in the Dominican Republic under private capital and a mining concession of more than 3 million square meters, of which only 50 000 m² are occupied by infrastructure.

Located in Azua City, in the southern region approximately 98km from Santo Domingo, D.N. The milling process for Portland cement is achieved by means of a dual chamber Allis-Chalmers ball mill with an 80 Ton/h capacity.

Operational Background

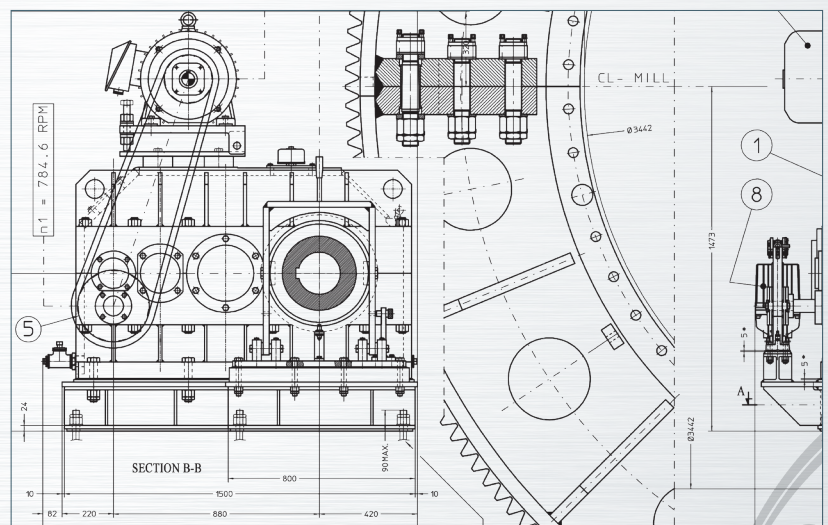
Existing drive was unable to achieve controllable slow motion of the mill
Resulting in difficult maintenance procedures

Existing Problem

The main drive has a 2000 hp, 200 rpm synchronous motor coupled to a friction clutch with a pneumatic control, which allows the former to connect to the pinion of the final reduction. This system made it very difficult to achieve precise positioning of the mill during maintenance.

Solution

The engineering team at ABS analyzed the problem and proposed a simple and efficient solution. An auxiliary drive installed on the free side of the pinion shaft with engagement via a manual jaw clutch.



Lateral view of new auxiliary drive installed on free side of pinion shaft.

Installation

Due to the plant's urgent need to implement this solution, their own personnel performed the installation, supported by documentation and instructions provided by ABS.

Startup

The new mill, now with independent main and auxiliary drives, began to operate during a major plant maintenance stop of the same year, requiring less time than normally allocated for this task.



Gearbox Technical Data

Power	26 kW
Input Speed	1 177 rpm
Output Speed	2.76 rpm
Speed Ratio	425.5
Service Factor (AGMA)	1.0

"We have been able to complete interventions to internal diaphragms of the ball mill in less time, reducing the use of the main drive."

Conclusions

Our company counts with the experience to provide practical solutions for large drives in Ball Mills, Bucket Elevators, Rotary Kilns and Dryers, Conveyors, and other applications, adjusting to mounting space, speed, torque, and power requirements.