

SOLUTION:

COAL MILL FEEDERS

Coal Mill Feeding

Coal remains an important fuel source for the cement industry. Even with the increasing usage of alternative fuels and natural gas, a majority of North American cement plants rely on coal for at least a portion of the fuel mix. On-site milling of raw coal is very common.

The raw coal is minimally pre-processed prior to delivery with 2-3" particle size being very common. With a desired fineness usually in the range of 200-300 mesh, the mill plays a critical role in energy yield.

In coal milling, the feeder has two important functions. First, it must act as an airlock to prevent external or false air from entering the mill where it can disrupt the milling efficiency. Secondly, in many systems, the feeder is also the metering device that responds to a signal for more or less raw coal to the mill.

All types of coal have some degree of "stickiness" but its tendency to build-up on equipment surfaces is acute for lignite or for higher rank coals with excessive surface moisture, which can accumulate in open-top railcar transport or outdoor storage. The build-up problem makes a traditional rotary valve or rotary feeder a less-than-optimal choice for efficient feeding of coal mills.

Precision's PMDS Self-Cleaning rotary is an unattended mechanical solution for keeping the pockets of the valve free of coal build-up and the mill operating at full efficiency.

Precision's PMDS Self-Cleaning rotary is mechanical solution for keeping the pockets of the valve clear of coal build-up and the mill operating at optimal efficiency.

Handling high-moisture coal without costly operator intervention

PMDS Self-Cleaning rotary valves are designed to handle wet, sticky materials as with the coal at many cement plants. The mechanical self-cleaning action of the PMDS eliminates the need for costly stoppages to clean-out coal build-up in the rotary valve. This frees up maintenance or operations personnel for higher-value activities.

Varying moisture content over the course of a season doesn't hamper the operation of the PMDS self-cleaning valve. Because coal can't build-up in the rotary valve, the PMDS provides an accurate, reliable feed rate into the mill in all seasons and all conditions.

Maintain a consistent feed rate to the mill

All coal mills, no matter the type, produce a more uniform pulverization if they are fed in a consistent manner. Better pulverization produces a superior-burning fuel that maximizes the BTU yield out of every ton of raw coal purchased.

Electrical power consumption is optimized in a consistently-fed mill. Grinding and separating are both power-intensive and a consistently-fed mill will lower the energy cost per ton of the pulverizing operation.

Lower-rank coal may become an economically viable proposition

In areas where it is available, lignite can offer an attractive BTU-per-dollar proposition. However, many cement plants avoid it due to the challenges in handling it. While a Precision PMDS rotary valve can't eliminate every difficulty in handling this sticky coal, it does solve one of the most vexing problems – feeding.



COAL MILL FEEDERS

PMDS SELF-CLEANING ROTARY VALVE

SYNCHRONIZED ROTORS

A robust gear-set keeps the two rotors perfectly synchronized and the Nord shaft-mounted gear-motor supplies the torque to keep the rotors turning through your challenging product.



MODULAR DESIGN

Tight tolerance hardened alignments pins and high-strength bolts hold the components in an exact geometry that assures high Performance.

SELF-CLEANING

The product rotor has rounded pockets to promote good material release. The scraper or sweeper rotor is timed to scrape each pocket in the product rotor every revolution to prevent material build-up.



PMDS	TPH
PMDS-16	7-12
PMDS-18	11-18
PMDS-20	15-25
PMDS-18DL	20-35