

Continuous improvement

MAIN FEATURES

- **High-efficiency mill grinding all types of raw materials**
- **High-performance separator and optimized airflow ensure high separation efficiency and low pressure loss.**
- **Compact design minimizes space requirements**
- **No auxiliary mill drive required**
- **Large rollers permit coarse feed and ensure a thick grinding bed**
- **Easy adaptable to high airflow required by specially wet or easy to grind materials**
- **Low vibrations due to all impact forces and dynamic reactions being small and vertical and thus easy to accommodate**
- **Segmented wear parts for table and rollers allow use of the most wear resistant materials. Further, the segmented wear parts are suitable for hardfacing**
- **Reversible roller segments ensure high material utilization**

Introduction

Vertical roller mills are widely accepted as the most efficient means of preparing kiln feed for the production of cement clinker. They are capable of preparing a wide range of feed materials to the required fineness in an energy efficient process. Although cement raw materials vary considerably in grindability, drying requirement and abrasion, the roller mill has the flexibility to be adapted to these variations, as well as other specific requirements.

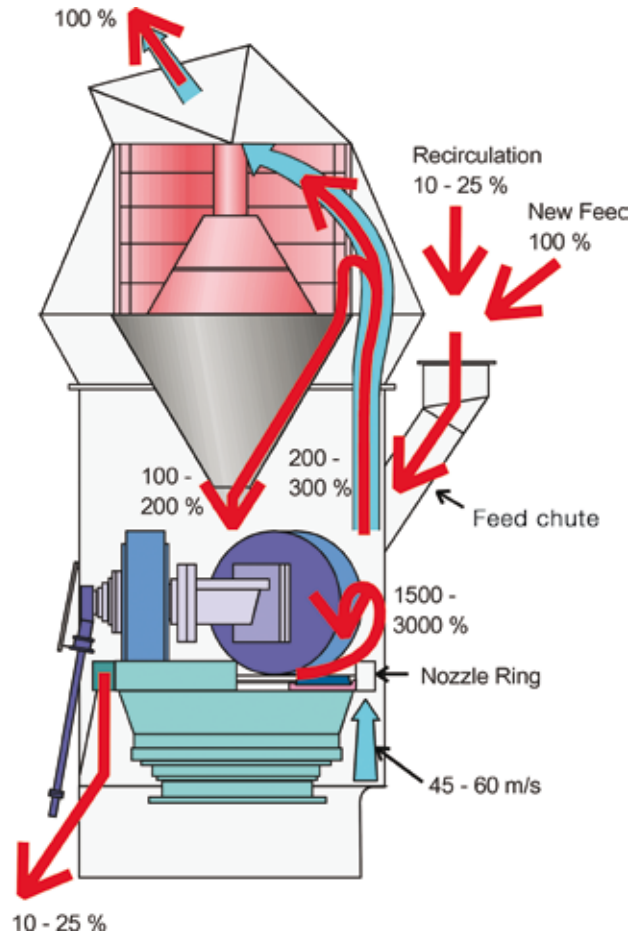
FLSmidth commenced the development of the ATOX mill around 1980. Continuous improvement of the ATOX raw mill has resulted in today's compact construction featuring a unique design concept entailing a number of advantages enhancing the reliability and performance of the ATOX raw mill.

Working principle

The ATOX mill uses pressure and shear generated between the rollers and the rotating table to crush and grind raw materials.

Feed material is directed onto the grinding table by the feed chute. The rotation of the grinding table accelerates the material towards the grinding track and passes it under the rollers. Partially ground material passes over the dam ring encircling the grinding table and into the hot gas stream coming from the nozzle ring.

The moisture in the materials is evaporated almost immediately while the finer portion of material is carried by the gas stream to the separator and the coarser portion is deflected directly back to the table. The separator allows material that has reached the required fineness to leave the mill, while it rejects oversized



Internal and external material circulation.

material and sends it back to the table for further grinding.

The coarsest fraction of the material that spills over the dam ring may fall through the nozzle ring and be conveyed back to the feed material inlet by a mechanical recirculation system.