

VERTICAL ROLLER MILLS

Vertical roller mill is a type of industrial equipment used to crush or grind materials into small particles. Vertical raw mills are widely used in the concrete and mining fields, and are also used to process gypsum. These units can process both raw and recycled materials, while helping to reduce waste and preserve virgin supplies of these materials.



Vertical roller mill is a completely new and innovative design and a further step to more efficient grinding of soft and medium-hard products. The basic concept is based on a combination of the lower section of the mill featuring the roller and its supports, the grinding table and drive system, together with a series of highly efficient classifiers. Depending on the different product requirements the mill can be equipped with different types of separators.

The mill combines established technical features with a new innovative support and drive system. This innovative support and drive system incorporates a bearing cartridge with slide shoe bearings and a standard bevel gear box with an electric motor. As a result of this system the forces generated by the grinding action are retained within the vertical roller mill structure and not conducted to the foundations. This makes civil engineering works less expensive.

From the quarry all the way to ready mix blenders, we have innovative solutions for many applications: roller press, kiln tyre, hammer crushers, fan blades, fan housing, buckets, drag chain beds, clinker breaker disks, raw mill fans.



From raw material processing through the blast furnace and to steel forming, we have innovative solutions for: cooling roller trains, pumps, run-out table rollers, rolling mills, rolling cones, manipulator jaws, hot shear blades, mandrel shafts, guide rollers, sinter crushers.

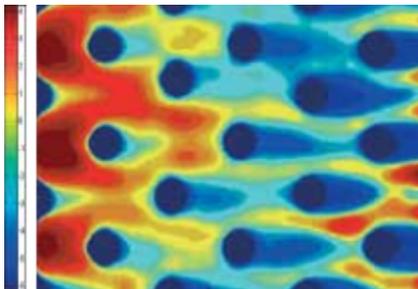


Wear analysis

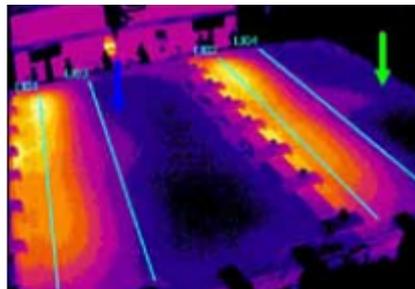


The latest state-of-the-art testing machines and facilities are essential to accurately measure and understand the complex relationship between chemistry, process and application. We work with world experts in Technical Universities for testing and modeling in addition to having fully equipped labs with electron microscopes and wear test facilities.

(Unique impact, abrasion wear test machine)



Modelling of wear behavior



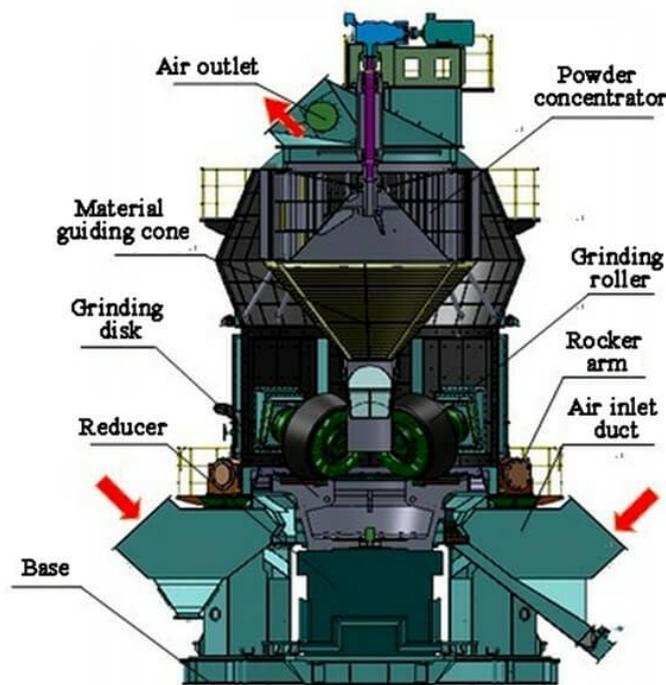
Thermovision analysis of application

Great wall providing complete solutions for VRM maintenance and performance improvement is our goal. Thanks to our R&D department and the long experience in maintaining mills, we have developed special products providing unbeatable wear resistance:

Advantages of our vertical roller mill:

1. Conform to national policy requirements

□□ The NDRC of cement industry development policy pointed out that the cement enterprise with low output, high power consumption, high pollution will be shut down, encouraging adopt advanced technology and equipment, large-scale production.



2. Reducing the power consumption of the raw material preparation effectively

□□ According to the display of material production measured data, it can be saving electricity above 30% use of vertical roller mill production per ton raw material than traditional ball mill, and power saving effect is very remarkable.

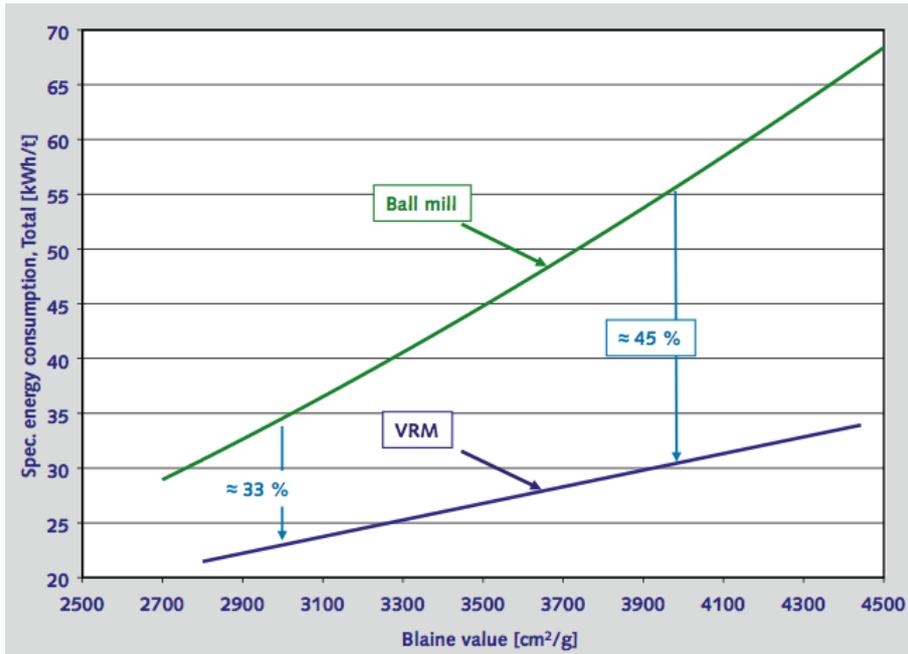
3. Using the most wear-resisting material to overlaying with a long service life.

□□ The lining board and rollers jointing with the German import Boehler welding stick, has

characteristics of powerful wear-resisting, corrosion resistance, heat-resistance, and can reduce operating cost and improve service life.

4. The biggest home-made [raw material vertical roller mill](#)

□□ The Great Wall machinery production of independent research and development GRMR63.61 vertical roller mill which is the biggest home-made raw material vertical roller mill, millstone effective diameter up to 6.3m, the quantity of roller is 6, and it can improve the powder milling efficiency greatly.



Energy consumption: ball mill vs. vertical roller mill

Parts of vertical roller mill



Grinding table



Grinding rollers