



MVR VERTICAL ROLLER MILL WITH MULTIDRIVE® FOR CEMENT GRINDING IN AUSTRALIA

MultiDrive® system guarantees maximum reliability

// There is an unbroken trend in the cement industry for reliable, cost and energy efficient plants. Gebr. Pfeiffer focuses on these challenges, always playing a pioneering role when it comes to satisfying the market's high demands with new technologies.

The Port Kembla project of Australia's leading cement producer Cement Australia is an example of a reliable, cost and energy efficient cement production plant. This project saw Gebr. Pfeiffer supply a grinding plant, consisting of an MVR vertical roller mill and a MultiDrive® system, meeting the highest standards. The Port Kembla plant is designed to produce 1.1 million tpa of slag and cement at about 4,000 cm²/g acc. to Blaine.

Project planning and requirements

Cost efficient installation and highest possible reliability in operation: two essential requirements for the engineering of the project in Port Kembla.

In order to reduce costly installation works on site as

far as is possible, units were to be delivered to site in preassembled condition. And here is where the MultiDrive® system held a trump card: each of Port Kembla's three individual 1920-kW drive units, consisting of motor and gear unit and weighing about 25 t in total, can be transported by air.



As regards the operation of the plant, the customer set high standards on reliability and availability. His aim was to operate the plant fully automatically at least at night and by no more than 5 people during the day. This high level of reliability could only be achieved with a vertical mill from Gebr. Pfeiffer in combination with a MultiDrive® system. An MVR 6000 C-6 with six rollers was chosen. Each of the rollers can be swung out individually for maintenance or other works. In such a case the mill continues in operation, still achieving a minimum capacity of 83 %.

In addition to meeting the highest requirements in terms of reliability, the mill also satisfies the demand for ease of maintenance. The mill combined with the MultiDrive® system is a success story, allowing high throughput rates to be achieved very uniformly and reliably.

A procedure for the production of cement, patented

by Gebr. Pfeiffer as early as 2005, was applied in Kembla. In this procedure, the gypsum is first calcined in separate hammer mill and then fed to the vertical roller mill. This allows the properties of the cement to be adjusted in an optimum way through the gypsum component with comparably little effort.

The drying degree of the sulphate carrier essentially influences the setting times, specified in the standard and required by the market.

A key advantage of the patented procedure lies in the thermal energy savings in the order of 300 % and more, because only the gypsum in the separate gypsum calcining plant, and not all cement components in the MVR mill, must be processed at higher temperatures.

A positive side effect of this procedure is that, if the gypsum calcining plant is suitably adjusted, a silo-safe cement is produced. This prevents unwanted chemical reactions during storage, as well as the associated problems when the cement is discharged from the silo.

Results and benefit

The Pfeiffer MVR mill with MultiDrive® in Port Kembla operates at a maximum level of reliability and energy efficiency. All targets set by the customer were more

than fulfilled. The plant is operated at an average capacity of more than 200 t/h and all guaranteed performance values have been exceeded.

Projektdaten:

- » Customer: Holcim/HeidelbergCement/Cement Australia
- » Project: Port Kembla/Australia
- » Plant/product: cement grinding plant with MVR 6000 C-6 vertical roller mill with MultiDrive®
- » Material to be ground: natural gypsum, FGD gypsum, clinker granulated blast-furnace slag
- » Capacity: 215 t/h Portland cement (target: 208 t/h)
- » Spec. energy consumption of mill: 21.5 kWh/t (target: 22.8 kWh/t)

Gebr. Pfeiffer SE

Barbarossastr. 50-54
67655 Kaiserslautern, Germany
Tel.: +49 631 4161 0
Fax: +49 631 4161 290
info@gebr-pfeiffer.com