



# THE MARKET OF RECORDS

Bayon Castle, Cambodia





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OUTLINE HOW THE COMPANY  
CONTINUES TO SET TECHNICAL  
RECORDS IN SOUTHEAST ASIA.

### Introduction

Cement producers respond to price pressure on the Southeast Asian market either by keeping the investment costs of new plants low or by choosing reliable plants. For numerous cement producers, Gebr. Pfeiffer's expertise and market penetration are synonymous with reliable and efficient plants, low life cycle costs and excellent return on investment.

However different the market situation may be in the individual countries, Indonesia (2015: 63.05 million tpy), Thailand (46.65 million tpy) and Vietnam (91.42 million tpy) have regularly ranked among the world's largest cement markets. Even though the plant construction industry as a whole is facing enormous price pressure, suppliers like Gebr. Pfeiffer are playing an increasingly important role.

In Indonesia, more than in other countries, it is important to have reference plants on hand. Being a global supplier of machines and plants, Gebr. Pfeiffer is in a position to show reference plants in the region and/or of technically similar plants. With its 240 million or so inhabitants, Indonesia is an important market for Gebr. Pfeiffer in the cement industry. As early as 1974, the first Pfeiffer mill was sold to Nusantra, Indonesia, via a former licensee for vertical roller mills (VRMs). Follow-up orders were obtained later on and there are a number of technically remarkable projects among the mills currently in operation.

In 2013, PT Semen Bosowa bought two mills for its Maros plant on Sulawesi island. The MPS 5600 B raw mill, with an installed power of 6000 kW, produces an average of 480 tph of cement raw meal. The second mill, an MPS 3750 BK coal mill, is used to grind sub-bituminous coal with a high feed moisture. This mill's capacity is 60 tph.

The following year saw Pfeiffer supply a coal mill to Indonesia, which to date is the largest in the world. It is also used for grinding sub-bituminous coal, at a capacity of 110 tph (Figure 1). Semen Merah Putih had this mill, an MPS 4500 BK, along with two MPS 5300 B raw mills and two MPS 5300 BC cement mills, installed at its site at Bayah, Banten, on Java island.

Sub-bituminous coal comprises the vast majority of Indonesia's domestic coal reserves and is frequently used at cement plants in the country. This comparably young coal is soft, has a high moisture and contains a high percentage of volatile matter. This makes comminution less complex; the main emphasis is placed on drying the material.

Mills processing such feed materials usually have a large housing, allowing a high gas volume flow to pass through the mill for drying, and require a relatively low grinding force. Generally speaking, Pfeiffer mills are designed so that standardised and proven assemblies can be modified to meet the customer's requirements. At the same time, the standardised design enables the customer to manage with a small pool of spare parts.



**Figure 1. MPS 4500 BK, the world's largest coal mill, producing for Semen Merah Putih in Bayah.**



**Figure 2. Pfeiffer MVR 6000 C-6 vertical mill with MultiDrive®.**

Gebr. Pfeiffer set yet another world record with its vertical roller mills supplied to Semen Merah Putih's Bayah cement plant in Banten on Java island. Each of the two MPS 5300 BC cement mills was hot commissioned in one day. Moreover, the guaranteed performance data could also be achieved on the day that the two mills were handed over to the customer.

It was therefore not long before the next order was placed: PT Cemindo Gemilang ordered two further MPS 4500 BC cement mills for its grinding terminals in Gresik and Ciwadan, both situated on Java island. The two mills, each with an installed drive power of 3300 kW, produce 150 tph of OPC and 95 tph of ground granulated blast-furnace slag at a Blaine fineness of 4200 cm<sup>2</sup>/g.

### **Reliable and sound**

High technical availability places Pfeiffer mills in a strong position. Added to this is the high-quality and responsive aftersales service. It starts with the spare parts package that is delivered with the new mill, which includes hydraulic components, sensors and filters. Depending on the contract, the mill is delivered with the spare parts that are likely to be needed for a two-year operation.

In the event that the customer's requirements change, Gebr. Pfeiffer provides individual solutions. To this end, among other things, a highly specialised, company-owned test station is available to analyse the behaviour of the raw materials processed in Pfeiffer machines. The test results obtained enable the machines to be optimised to the new conditions.

Intensive service, provided within the framework of service contracts, helps customers efficiently use their plant by, for instance, assisting them in shutdown planning. They ensure regular inspections of the plants, with the scope and intervals being individually coordinated with the customer.

A service point has now been established in Kuala Lumpur, Malaysia, with the aim of bringing Pfeiffer service closer to customers in Southeast Asia. At the service point and upon request, customer-specific consignment stocks can be set up. In view of the growing number of customers in Southeast Asia, the service point will be incrementally expanded.

Choosing Malaysia as the location for the service point is no coincidence. Since the 1980s, a number of Pfeiffer mills have been set up at different locations in the country. As early as 1997, two grinding plants were supplied to the YTL Group in Malaysia. A follow-up order of two further vertical mills from the same customer went online in October 2015.

The most recent order in this country came from Lafarge Malaysia Berhad. The company ordered a MPS 5300 BC mill, with a 220 tph cement grinding capacity, for its Kuantan cement plant, which is currently under commissioning. In addition to the vertical mill with a drive power of 5500 kW, Pfeiffer's scope of supply for this order encompassed the system filter, the mill fan, the hot gas generator, and the complete mechanical equipment of the external material circulation, as well as metal separating equipment and detailed arrangement plans. A word on the process: moist extenders are dried in the mill by hot gases coming from different sources. The hot gas generator was installed to allow for additional heat and



to ensure operation of the grinding plant when the kiln is at a standstill.

### **The Cambodian market**

Where competition is characterised by reference plants, the challenge is highlighting new products, such as the MVR mill from Gebr. Pfeiffer. To this end, numerous local events are held to interact with customers and to provide them with extensive information. In 2015, for instance, Gebr. Pfeiffer hosted two panels in Hanoi, Vietnam; the following year, the company invited its customers to another Pfeiffer panel taking place in Jakarta, Indonesia. The audience was enthused above all by the field-proven combination of the Pfeiffer MVR mill and the MultiDrive®.

The Cambodian Chip Mong Group, in joint venture with the Thai cement producer Siam City Cement Co., was the first enterprise in Southeast Asia to order this technology. The contract comprises a total of three vertical mills to be set up in Touk Meas in Cambodia. An MPS 3350 BK mill will be used to process coal. This order will also see Pfeiffer supply a MVR 5000 R-4 mill for raw material grinding and a MVR 6000 C-6 mill for cement grinding. The technical highlight will be the cement mill, which to date is the largest vertical mill in the ASEAN region. It is equipped with a MultiDrive, featuring four independent gear units driving a girth gear located under the grinding table.

This mill drive ensures both electrical and mechanical redundancy. Its installed power is 7200 kW. The customer's requirement was to build a reliable and high-quality plant. Negotiations made it clear that the customer attached great importance to efficient mill technology. The aim was to achieve the highest levels of reliability at the lowest total cost of ownership. Moreover, the customer wanted to conclude a full service contract to ensure trouble-free plant operation in the long run.

The redundancy concept of the MVR mill with MultiDrive includes grinding rollers that can be swung out individually, permitting the mill to continue in operation in case of maintenance work or damage. Furthermore, the grinding capacities still achievable with this concept are considerably higher than with a two-mill solution, where the failure of one mill reduces the capacity by half. The same goes for the failure of one of the electric drive motors, which in the manufacturer's opinion is unlikely to happen.

The progress of the mill technology marked by the actively redundant rollers and drives is above all beneficial to cement producers, which set reliability and low total cost of ownership as selection criteria. Active redundancy allows even the largest units to obtain levels of availability that have so far been unachieved and enables the one-mill solution in large cement plants, both on the raw meal side and on the cement side. 