

The better alternative: 3 in 1 KHD Humboldt Wedag's outstanding and new grinding system with Roller Press and VSK-Separator

Now, 3 systems are in operation:

- * for clinker, burnt oil shale, gypsum at Rohrbach Zement, Dotternhausen plant, Germany,
- * for clinker, gypsum, limestone at Southern Province, Bisha plant, Saudi Arabia,
- * for blast furnace slag at ENCI, Ijmuiden plant, Netherlands.

3 in 1

- 1 KHD Humboldt Wedag Roller Press (over 200 machines in operation),
- 2 V-Separator (over 40 machines in operation),
- 3 cage wheel, part of the High Efficiency Separator type SEPMASTER (over 200 machines in operation).

Successful introduction on the market: New grinding concept - Roller Press + VSK Separator - for the new cement mill No. 6 of Rohrbach Zement, Dotternhausen.

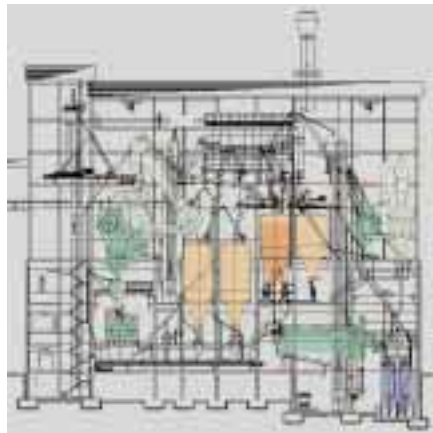
In the beginning of the year 2000, the KHD Humboldt Wedag AG received the order from Rohrbach Zement in Dotternhausen, Germany, for building a new cement grinding plant on turnkey basis. The construction of the plant started in November 2000. Eleven months later the commissioning was started. From the very beginning, the products were ready for being sold.

The core machines of the two grinding circuits are part of the normal product range of the KHD Humboldt Wedag AG:

- * Roller Press 7-140/80,
- * VSK-Separator 65/12-2000,
- * Single chamber ball mill 3.0 x 9.0m with integral drive flanged to the mill tube,
- * High Efficiency Separator type SEPMASTER SKS-Z 2000.

The conception of the grinding plant based on feed materials of very different grindability is permitting the production of a variety of products (three Portland shale cements as well as further cement types and intermediate products for binders) as required by the market.

After operating the plant for more than one year, the expectations are fulfilled. The plant offers utmost flexibility in regard to process engineering and quality control.



In particular the first production type – VSK-Separator is performing well and, with the Roller Press, evidences the expected advantages:

- * compact, space saving unit,
- * low pressure losses,
- * low energy requirement,
- * excellent separating results,
- * reduced wear,
- * taking over of further functions such as disagglomerating, drying and cooling.

Successful upgrade from 110 t/h to 160 t/h of cement mill No. 2 at Bisha plant, Saudi Arabia with KHD's Roller Press and latest separator type VSK

Starting in mid February 2003, commissioning of the new grinding circuit at Bisha plant, Southern Province Cement Co., Saudi Arabia was successfully completed by the end of March 2003. The performance parameters guaranteed by KHD Humboldt Wedag AG have been achieved within this short period of time: throughput of 160t/h cement at a fineness of 3200 cm²/g according to BLAINE.

The semi-turnkey contract for upgrading the existing cement mill No. 2 included engineering, equipment, supply, supervision of local manufacturing and erection and commissioning.

The highlight of this project is the Roller Press-/VSK-Separator-grinding system of KHD Humboldt Wedag AG by then, **the second one in operation.**



The VSK-Separator combines the well-known static V-Separator and the cage wheel of the High Efficiency Separator type SEPMASTER.

The key plant components, all designed by KHD Humboldt Wedag AG, are:

- * Roller Press 7-140/80,
- * VSK-Separator 65/12-2250,
- * Fan for VSK Separator,
- * 2 Cyclones.

To avoid any downtime during erection and commissioning of the existing tube mill and High Efficiency Separator, the new grinding plant has been set up to operate in parallel with the tube mill circuit. Finish product is separated in the VSK as well as in the existing separator. The two grinding circuits are linked by feeding the middle size fraction of the VSK to the tube mill.

The required cement quality is now reached with just under 3000 cm²/g which is lower than the 3200 cm²/g guaranteed. Cement properties remained the same, giving additional benefit in output and specific energy demand.

The installation of the plant was realized without interrupting the ongoing cement production. The client was able to meet the demand for cement at any time.

The story of success continues: The third Roller Press + VSK-Separator grinding plant was put into operation in ENCI's Ijmuiden Plant.

The grinding circuit, Roller Press + VSK-Separator put into operation at ENCI, Netherlands, in April 2003 is fed with wet blast furnace slag. For the first time the combination of Roller Press + VSK-Separator is used for this kind of application.



In this extremely compact and energy-efficient plant concept, designed by KHD Humboldt Wedag AG, the process steps drying, grinding and classifying are realised.

Now, a total of **three plants of that new generation** with different targets and applications **is being operated worldwide.**

To substitute four existing ball mills and the drum drier in the Ijmuiden plant, KHD Humboldt Wedag AG received the order for engineering, supply, construction and commissioning of a new grinding plant essentially comprising the core machines:

- * Roller Press 16-170/140,
- * VSK-Separator 96/24-2750.

In a first step, already realised in the beginning of 2002, KHD Humboldt Wedag AG successfully optimised the existing ball mill No.9 in the Ijmuiden plant at ENCI by installing a High Efficiency Separator type SEPMASTER SKS-Z 3750 in order to prepare this mill for substantial increase in output from 95 to 280 t/h of cement with high slag content and a fineness of 4 100 cm²/g.