

ZBM Zenith Betonsteinmaschinen GmbH, 57290 Neunkirchen, Germany

## Versatile production plant for a small market

With a surface area of just short of 10,000 km<sup>2</sup>, Cyprus is the third largest island in the Mediterranean after Sicily and Sardinia. In terms of scenery and culture, Cyprus is an island of contrasts. Oriental and classic European influences can be found alongside one another. The island's history has been subject to dramatic change over thousands of years and has seemed to be at the mercy of numerous greater powers. Since 1794, the land has been divided into the larger Greek part, which has in the meantime entered the EU as the Republic of Cyprus, and the smaller Turkish part, often known as North Cyprus. Some 260,000 inhabitants, about 30% of the population, live there.

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*View of the Gürdag production facilities*

Favoured by a Mediterranean climate with dry, hot summers and mild winters, tourism in both parts of Cyprus has become an important source of income. In particular, the island's north possesses unspoilt scenery marked by the mutation of mountain to sea coast. This part, due as well to still reasonable real estate prices, is increasingly becoming a region in which holiday villas and retirement homes for Europeans of all nations are being erected. This has elevated the construction industry there to an important position alongside the tourism sector.

The Ersözlu family are natives of Lefkosa, the biggest town in North Cyprus, and have been successfully engaged in the construction material industry for decades. Under the "Gürdag" company name, they operate several quarries and the largest clay brick kiln in the northern part of the island.



*Drying rack – manufactured by Elifraf, a Turkish company*

A decision was reached in 2007 to significantly increase their involvement in the construction materials industry with the erection of a large-scale concrete block production facility. ZBM Zenith was selected - they are by far the most sizable importers of concrete block machines in Turkey. Another point in ZBM Zenith's favour was the fact that they are the only company in this dynamically growing market of Turkey that can boast a sales and service partnership with BTS. This firm can not only guarantee sustainable success in marketing but is able to supply the five single pallet plants and the approximately 70 multi-layer machines, which have been installed in Turkey up to the present time, with the replacement parts and technical service they may need.

It was clear from the outset that particular importance should be attached to universality when selecting and determining the plant's specific parameters. In a small market, this type of plant must fulfil other criteria than merely being able to produce a vast amount of articles of a certain restricted



The HB 865 blockmaker is equipped with a special silo for facing concrete, thus enabling the production of multicoloured elements



Alongside a widely diversified range of paving blocks and slabs, the production of cavity and pumice blocks is an important mainstay in Gürdag's business model

category. All the products and formats imaginable were to be found in the catalogue of features right from the beginning: pavers, articles for use in landscaping, garden and road construction as well as cavity and pumice blocks for civil engineering.

In the choice of other suppliers besides ZBM Zenith, great store was set on obtaining the best feasible combination of the lowest investment costs possible and the quality criteria that are indispensable for long-term, cost-effective operations. The basic idea was that all parts manufactured to a high level of quality in Turkey should also be sourced there, whilst all other sophisticated components should

be brought from Germany. Close coordination in selection and design matching was maintained between Gürdag, ZBM Zenith and BTS, who acted as intermediary between the various plant suppliers. The drying rack was supplied by the Turkish manufacturer, Elifraf, whilst the production pallets - a means of production often underestimated in an integrated plant system - were obtained from Rettenmeier, a German company.

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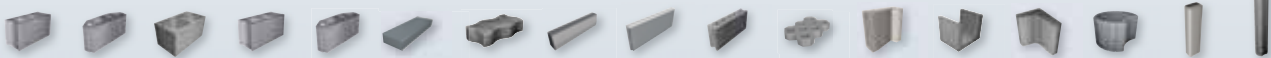
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The combination of local and German suppliers was continued with the batching and mixing plant. The plant's construction was carried out by the Turkish manufacturer Bozdog, whilst the mixer itself was delivered by Kniele from Germany. Franz Ludwig contributed the water metering computer, and the elaborate colour batching plant comes from Würschum. The control unit for the entire batching and mixing system was designed and put into effect by Endost Elazig, a Turkish manufacturer.



Board return transport system with an intermediate storage space for inserting and removing surplus manufacturing boards



Elevator and Zenith finger car system

The solid core of the ZBM Zenith single-pallet plant is the HB 865 automatic concrete block machine. It has been designed both for rapid cycle times and for high product quality. A contributory factor in this achievement is the twin-circuit hydraulic plant which makes synchronous motion sequences possible and which is controlled by a quadruple axis HNC, i. e. Hydraulic Numerical Control. Rapid changes of moulds and products plus a high operational life for all machine components make for excellent efficiency and profitability. The machine's multifaceted capabilities are displayed at Gürdag in the diversity of products which can be manufactured with it.

The drying rack, elevator and lowerator, and the automatic finger car system with their shelving space of 400 mm are set up in such a way that most products can be handled without having to outhouse the manufacturing pallets. Should it be nonetheless necessary to outhouse production pallets with higher products, the whole is made considerably easier by means of intermediate storage spaces and appropriate insertion areas in the board return transport system.

The decision for 16 levels was made as it allows the production building to utilised efficiently. Transporting the manufacturing pallets two at a time also reduces the transport movements in the finger car system, resulting in less consumption of energy and less wear in use.

From a technical point of view, the entire plant has been operating at Gürdag since late summer last year to the complete delight and satisfaction of the customer. Another particularly crucial factor in the process has been that the proprietor had already given thought to later staff needs when commencing the project. Plant management and operators had already been hired at the project's start. This provided a stable personnel line-up right from the beginning and the expertise gained during the setting up and commissioning of the plant was transferred seamlessly into their independent running of the plant.

#### FURTHER INFORMATION



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