

Schlüsselbauer Technology GmbH & Co KG, 4673 Gaspoltshofen, Austria

New production line for manhole adjustment rings and cones

Over 40 years of experience and competence lie behind Reiff-Beton of Krufft in Germany marking the company out as a reliable partner for the construction industry. The prime activity and expertise are currently in the production of steel reinforced concrete pipes and manhole covers for sewer systems used in site development and feed pipe collection drains for sewage works. Reiff-Beton puts special emphasis on ensuring that only the highest quality reaches the construction site. This is why it is focussed on own production to the very highest standards as the only way to meet continuously increasing quality demands and standards.

■ Mark Küppers, CPI worldwide, Germany ■

Developing product innovations and continuous work on expansion and optimising of the existing range is a main focus of the company. This goal is achieved using the

latest and most efficient production plant as the key to successful and effective production. This commitment also brought the recent Reiff-Beton decision to replace its existing production plant for manhole risers and cones with a sophisticated new plant

from the Austrian company Schlüsselbauer Technology.

Reiff-Beton employs a workforce of 60 at its works in Krufft. Some 95% of the trade is supplied with the broad product range. The delivery area has an average radius of up



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The Magic 1501 is designed for one man operation.

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Installation of the gasket for products with an integrated seal



Insertion of the step rungs is an easy job using the Stepmaster

to 100 km. Against the background of increasing rainwater use as a valuable resource Reiff-Beton provides its own rainwater cistern solutions. Special structures of all kinds are produced in addition to standard manholes in a highly efficient pipe and manhole system representing an attractively economic alternative to local concrete construction work. Reiff-Beton was the first in Germany to produce concrete protector walls along highways using the New-Jersey profile method over twenty years ago. The enormous experience gathered, continuous further development and implementation of stop distance testing carried out by the German Federal Highways Institute (BASt) have been the guarantee of a reliable contribution to road safety down to the present through use of the "System Reiff 2000". Reiff-Beton sees its competence not only in the production and delivery of this highly successful system article, but provides consulting and support for construction projects from planning down to implementation and has an unrivalled reputation as a competent partner in civil engineering throughout the region. The constant monitoring performed by both the company itself and by independent auditing agencies has ensured highest quality standards. Reiff-Beton has long been a prominent member of FBS - the professional body for concrete and steel pipe specialists - that has taken

a clear position in demanding far higher specifications are met by its members than those in the industrial standards.



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Production process: Pallets are fed, concrete poured into the mould and after the casting process the manhole riser is demoulded and pushed out of the production machine

Production machine

Reiff-Beton has acquired the new Schlüsselbauer production line for the manufacture of manhole risers and cones. The Magic 1501 has a basic concept design suitable for both single and multiple production and also extending across a broad range of products. While the Magic 1501 is also

designed for other concrete products in addition to manufacture manhole risers and cones including pipes, gutter and catch basins and other special products, the Magic 1501 will at first be used by Reiff-Beton only for the first two products. The Magic is to be used here for the production of manhole adjustment rings and cones with diameters of 1000 to 1500 mm (42"

to 60") and heights of 500 to 1000 mm (20" to 42").

The Magic 1501 works with an automatic pallet magazine permitting choice of production with or without an integrated seal. Where an integrated gasket is required this seal is pulled over the pallet manually ahead of the pallet is automatically fed. The pallet is raised by the machine to a convenient working height in the process.



The high automation standard of this machine means it is designed for one man operation. The step rungs required are inserted direct by a vibration process. The placing of the step rungs is a simple process using the Schlüsselbauer Stepmaster and involves no significant extra effort for the operator. The steps for the next product are inserted by the operator in a device during the filling and vibration process. This then travels program controlled into the waiting position, to transfer the steps to the core after the demoulding is completed. The cycle time is optimised and waiting times done away due to the use of the Stepmaster. For example manhole risers with 1200 mm (48")

The green product in the "parking zone" prior to transport to the curing area



Transporting the product, removing the pallets in the depalletizing plant, transporting to outdoor storage

FURTHER INFORMATION



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Cornelia Reiff, proprietor of Reiff-Beton, is convinced of the efficiency of the new unit and the quality of the products.

diameters and integrated steps can be produced in a cycle time of approx. 2:15 min. Up to 45 work cycles per hour can be achieved with the Magic 1501 depending on the product to be manufactured. Even for larger dimensions with diameters of up to 1500 mm (60") the average cycle of 30 per hour is achieved.

Changing the mould set is no problem with Magic 1501. Very short changing times are achieved using the Magic fast mould changing system. A complete change of mould requires about 40 minutes, a time saving bonus that results in manageable interruptions to the production process.

Product outfeed

The Schlüsselbauer Magic 1501 operates at Reiff-Beton as a stand-alone production machine with automatic outfeed of the products. A potential later upgrade to a fully

automatic line using the Schlüsselbauer Transexact Crane Robot has already been taken into account in the planning and can be implemented in a later upgrade.

The freshly extracted products are taken away on a transfer car. The products are stored during hardening in the production hall. The production hall provides sufficient indoor storage space for the fresh concrete products. After a one day curing period the dry products are then removed on the same transfer car to the depalletizing plant. This means a single transfer car and one employee are sufficient for the simultaneous transporting and exchange of the fresh and dry products to the locations where they are required. The production machine has its own adequately dimensioned buffer zone for the storage of several fresh products prior to onward transportation. This means that the transfer car is not a constant slave to the production machine cycle time.

The pallets are carefully removed in the depalletizing plant. After this the products are robot lifted onto the follow-on transport conveyor. From here the products are transported onwards to the outdoor storage area. Transport to the outdoor storage area is performed using a forklift.

The pallets are sent for automatic cleaning after being released from the concrete parts. The pallets are then oiled and sent back to the production machine. The pallets are oiled steady in a standard spraying process. This method is both more efficient and has the added bonus of preventing the occurrence of atomised spray mist in the works.



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