

Prinzing GmbH, Blaubeuren, Germany

Efficient and flexible production of sewage treatment plants, storm-water receivers and pumping stations

Since they are used in the construction of sewage treatment plants, storm-water receivers, pumping stations, petrol and fat separators and other similar structures, tanks made from precast concrete components play an important role in environmental

protection. Because these elements are installed underground and must therefore withstand high static stresses, concrete, as a durable and cost-effective material, is particularly suitable for making these elements.

Prinzing at Blaubeuren in Germany has now developed its Atlas modular production system further, especially for these products. An example of the latest series was recently delivered to Wienerberger Alpha Umwelttechnik GmbH at Klagenfurt in Germany.

(Fig. 2)

Layout and construction of the production plant

The Atlas modular system enables the entire plant to be set up with the optimum layout for the products being produced and the required production capacity. In accordance with the customer's wishes, this plant was set up

for nominal widths of 1,000 to 3,000 mm, construction depths of 1,000 to 3,000 mm and a production capacity of 25 monolithic tanks per shift.

The plant (Fig. 2) is made up of the following components:

- a central vibrator with a frequency controller, installed under the floor, hydraulic formwork bracing and formwork lifting equipment,
- a direct filling system with a material silo and placing unit,
- a crane-operated turning spreader with a load carrying capacity of 25 tonnes, a hydraulic turning drive, hydraulic nominal width adjustment and core puller,

- a formwork unit for each nominal width with formwork made up of different components which can be combined so that tanks can be produced with and without partition walls with a pumping pit,
- steel pallets for immediate stripping at the curing station,
- the latest Siemens, Series S7 control system with integrated Tele-service, Prinzing menu-driven software and program memory for each product.

Large product diversity

The new system offers a comprehensive range of products and product



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ATLAS laid out for the cost-effective production of concrete tanks



2

The crane gently carries the turns the products

variants – tanks of various different nominal widths and construction depths, variants with and without partition walls with pumping pit and the associated central manhole cones as well as various different connections. The plant is able to offer the required production flexibility due to the following design features:

- The formwork can be changed in a short time within a single work cycle. This is achieved by the hydraulic formwork bracing system with the central vibrator and the hydraulic nominal-width adjustment system for the turning spreader. The formwork itself is set up as a combination of different components so that only one component of the formwork needs to be swapped over to produce the different product variants such as tanks with and without partition walls with a pumping pit etc.
- The production process itself is automatic. This means that after the formwork is installed in the machine pit, filling, compaction and stripping takes place automatically and in accordance with the product.
- Furthermore, the Atlas offers two basically different production methods, i.e. the vibration method with immediate stripping and the casting method with curing inside the

formwork. This makes it possible to meet the special conditions and requirements for the tanks and pre-cast concrete components in the optimum way.

High capacity due to optimised production processes

The plant is designed for production capacity of 25 tanks per shift. This is achieved by the automated production process and the largely partially-auto-

mated hydraulic processes in the transport and stripping system. The tanks are stripped at the curing station immediately after production. This means that the demand on formwork is relatively low. Very high product quality is achieved because filling the formwork is optimised and the concrete is compacted with a central vibrator. Where there are special requirements for the tanks in regard to strong reinforcement or integrated water-proofing, the “curing in the mould” production method is used. The filling system and the central vibrator station are equipped so that the optimum production process for the highest quality can be used with either the immediate-stripping or the curing-in-the-mould method. The design of the plant also offers the necessary flexibility for future developments. ■

Further information:

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The latest ATLAS generation offers high performance production with flexibility and outstanding product quality