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Enhanced and improved: new manhole riser production at AmeriTex in Texas

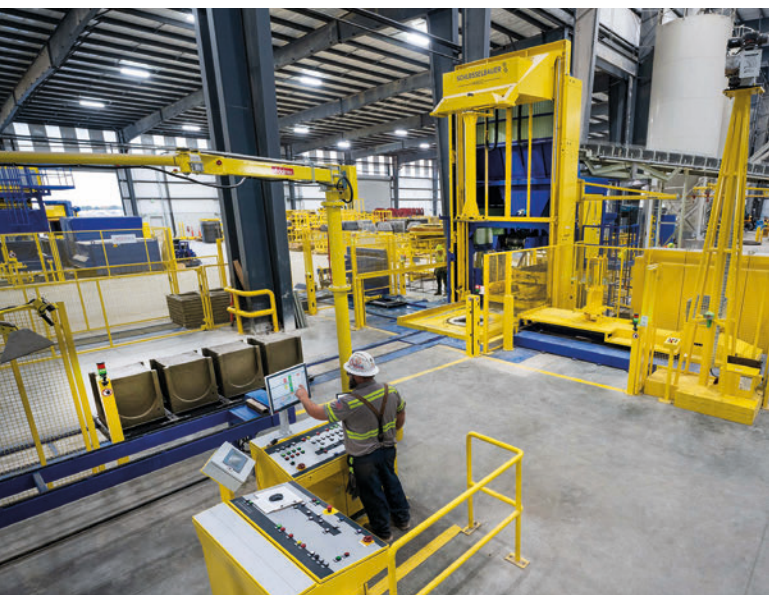
■ Christian Weinberger, Schlüsselbauer Technology GmbH & Co KG, Austria

AmeriTex Pipe & Products LLC is building on its strong position in the concrete components market by continually expanding its range of pipe and manhole products. These positive developments within the company, coupled with wider changes for production technology providers, have given rise to the need to completely replace some of the machines and systems that were previously in use. Through targeted investments, the decision-makers at AmeriTex have laid the foundations for the company to steadily consolidate its market position through quantitative and qualitative growth. This is being achieved not just through higher production volumes, but also with measures for ensuring and improving quality that are now possible thanks to new production methods. The partnership between AmeriTex and Schlüsselbauer Technology has been in force for several years now. It all began when the decision was taken to invest in the first highly automated production facility for mould-hardened manhole components. You can read more about this in CPI issue 5.2022.



The AmeriTex site in Houston - the home of the new Magic manhole riser production system

This first system ordered from Schlüsselbauer was commissioned without a hitch at the Houston site the following year. Since then, AmeriTex has put in orders for numerous other machines and complete production concepts. For instance, a second production site was also equipped with an automatic



Magic manhole riser system for single-person operation



Stable bottom pallets for immediately demoulded rectangular manhole bases



Transexact automatically transports fresh products to the curing area



Hardened products are removed from the curing area

circulation system for producing concrete manhole bases and special components. The new, flexible wet-cast systems were so well received, however, that many of the machines in use up until this point were coming under increased scrutiny. Some major plus points came into play that swung the balance in favor of installing more Schlüsselbauer machines at both locations. These were the increase in machine availability, reduction in cycle times, improvement of the (already high) product quality, and the reliable availability of services from the supplier. The verdict on the initial installations convinced the AmeriTex decision-makers that the quality-focused mentality of the Austrian manufacturer, combined with the proximity of the services available from Schlüsselbauer North America, together provided a strong basis for productivity and profitability at the ever-expanding production sites.

The most recent system put into operation was a Magic manhole riser machine. This equipment makes it possible to produce round manhole components up to an internal diameter of 60 inches, or rectangular ones with outer dimensions of up to 72 inches. The concrete filling procedure was designed to accommodate 48 and 60-inch circular products, and 60-inch rectangular formats. A reinforcement inserter was also integrated for all product types and nominal widths. The fully automated Transexact system transports immediately demoulded products to the curing area, and brings the hardened components to the palletizing system. Optimized routes are used in the curing area to pick up the hardened products and set down fresh ones in their place. The crane automatically returns the set rings to the production plant in a defined cycle. The automatic handling of the products in the curing area does more than just cut personnel costs. Crucially, it also helps to prevent damage to the products and production technology that is virtually unavoidable when handling concrete components manually.

Once the products have been transported from the curing area to the palletizing system, the third fully automatic unit springs into action. Special grippers adapted to the product geometry clamp the precast parts and release them from the steel pallets. A 180-degree turning machine is used to rotate manhole bases out of the production position and into the position ready for storage or installation. All grippers adapt fully automatically to the product being moved. Clamps on the product grippers are swapped out automatically and kept in temporary storage. Before the products on a chain conveyor leave the production hall, they are sent to rotating workstations where they are automatically checked for leaks



Fully automated handling (gripping, lifting, turning, setting down) of the products in the palletizing system



Products are inspected and labeled without any impact on cycle time

and labeled. The steel bottom pallets are handled with the same level of automation as the products themselves. Once the products have been removed, the pallets are automatically cleaned and oiled. The components in these two workstations also adapt automatically to the nominal width and contours of the pallets, just like the clamps on the product grippers adapt to the geometry of the products.

The Magic manhole riser system mentioned earlier isn't the first machine from Schlüsselbauer Technology to be installed here: it joins the Ringmaster plant for producing adjustment rings, which is already in use at this location. This produces

round and rectangular adjustment rings without the need for bottom pallets, and optionally with cast frames, in ultra-short cycle times and high quantities. The fresh products are automatically removed from the filling and compacting system installed at floor level and stacked in one of 20 intermediate storage spaces. As soon as the maximum stack height is reached, the product stack is transported out of the production area and the next cycle begins. Most manufacturers give lower priority to adjustment rings in the grand scheme of their product portfolios. This is because much smaller quantities of concrete are involved here than is the case for concrete pipes and manhole risers. However, more often



Products are taken to the outside area



AmeriTex has another fully automated wet-cast production plant at its Dallas site

than not, they are an underestimated cost factor, since it is not unusual for smaller components to incur disproportionate personnel costs. But with the new Ringmaster production system, AmeriTex has a strategy to overcome this, and can ensure efficient operation of this production space with its compact dimensions.

The experience gained with the many highly automated systems that have since been put into operation has convinced the managers at AmeriTex that they made the right decision by choosing Schlüsselbauer as their technology partner. With every new production unit bringing immediately obvious benefits, this is sparking further discussions on even greater levels of automation, as well as planting the seeds for expanding the range of products on offer, underpinned by high-quality moulds and handling components. AmeriTex is a fast-growing manufacturer in a dynamic market environment. This makes it strategically important to have the right partner

companies on hand to ensure continued productivity and help the company grow along its planned trajectory. When it comes to production technology for wet-cast and dry-cast products, Schlüsselbauer has stepped up as a reliable engineering partner that, for its part, is also making a major mark on the industry through constant developments at all levels, from product design to production concepts and installed technology. ■



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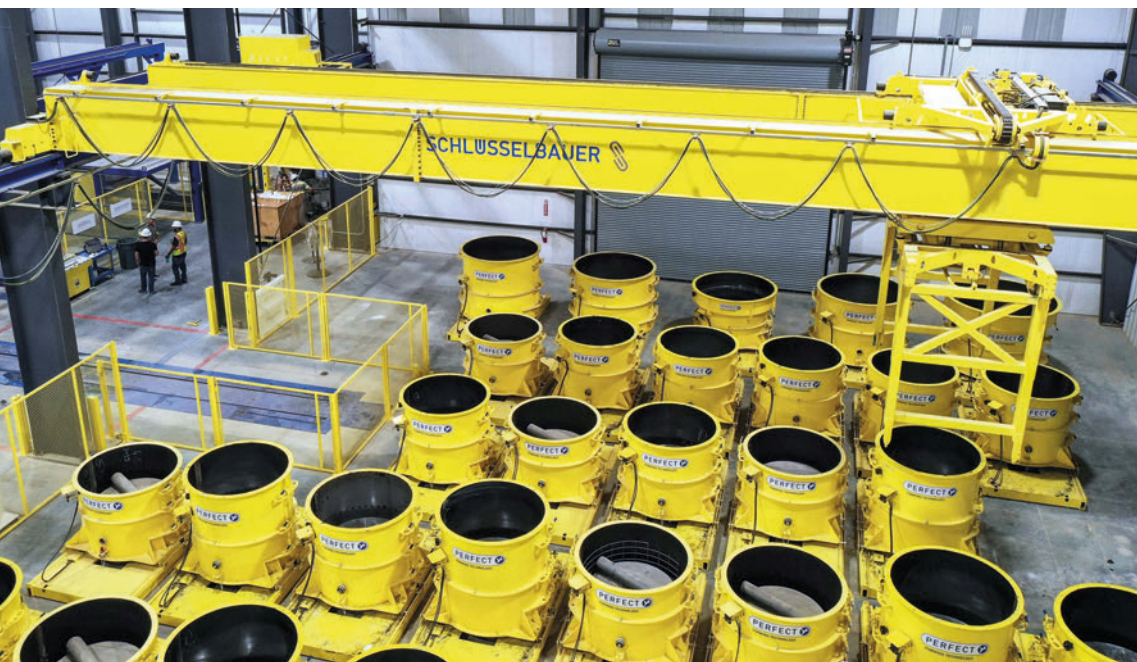
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Automatic wet-cast production for manhole bases of various geometries