

Customer demand sees European premiere for UJ310 jaw crusher

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Sandvik Construction has extended its offering into the European market with the introduction of a wheeled jaw crusher, the Sandvik UJ310. The first such UJ310 in Europe has been delivered to Polish sandstone producing company, Kamieniołom Barwałd, in May of this year. Its unique features are playing a key role in meeting the companies demanding production targets. The fully electrical system on the crusher makes it suitable for recycling and quarrying companies who require the productivity of Sandvik Equipment, but without the onsite mobility of tracked solutions.

Since the end of May 2015, the CE certified Sandvik UJ310, the first delivered into Europe, has been working in the south of Poland. Acquired by the sandstone producing company Kamieniołom Barwałd, the 52,2 ton plant was supplied by Sandvik's Polish distributor Grausch & Grausch, to work as a primary crusher on its armorstone and aggregates production line. Although wheel mounted, the UJ310 has proved able to still deliver a more flexible solution than semi-stationary plants, being easily relocated to where it is most needed.

Proven concept fills "European" gap

Compared to their track mounted mobile counterparts, wheeled crushers with performances of around 300 tph are rarely found in Europe. In Asia, and other markets however customer requirements have proved quite different, with Sandvik Construction supplying a range of semi-mobile crushers that have proved ideal for customers' real needs. A portfolio of wheeled units within the 35-50 tons range consists of 15 models. This covers all relevant crushing technologies for virtually any application and production stages in the mineral and aggregates industries.

Built to international manufacturing standards, the models are produced at Sandvik Asia's facilities in Pune, India. Proven and renowned, Sandvik's core components (crushers, feeders, conveyors, etc.) all guarantee the plant's high performance characteristics. The company's high standards on quality, safety and environmental sustainability are met through modern construction technologies drawing on cooperation with and the expertise of Sandvik's worldwide operations.

Developed and built for the actual practicalities of customer operations, the plants are designed for a quick set-up even within difficult working conditions. The features found on the range deliver a reliable, trouble-free

operation with easy maintenance with user-friendliness inbuilt. As widely autarkic units they can work stand-alone or are easily integrated components in multi-stage production lines.

High standards at work

At the heart of the UJ310 is the single-toggle CJ411 jaw crusher with a large opening of 1045 x 840 mm and maximum feed size of 750 mm. Material is fed into the 15 m³ standard hopper and through the vibrating feeder, SW1253H, which has a 1.5 m grizzly section with adjustable gaps of 90/105/120 mm. Fines and intermediate fractions are removed, and an optional wire cloth screen beneath the grizzly (900 mm x 1160 mm) is available to separate the fines from the intermediate fraction.

The fines are then removed onto a side conveyor; the intermediate fraction is re-circulated through a by-pass chute on the 1000 mm main conveyor to be stockpiled together with the crushed product or fed onto the next production stage. This configuration guarantees the plant's high output capacity, which in quarrying operations can achieve up to 325 tph at a CSS of 125 mm.

The total power of the electrical drive is 134 kW (crusher: 110 kW, feeder: 2 x 6.63 kW, main conveyor: 11 kW). All drive controls are housed in a central control panel unit and power is supplied through a mains or separate power set. The fully electrical drive ensures high energy efficiency with low emissions and easy operation of the plant. A frequency inverter allows the step less control of the feeder speed via remote control with emergency stop, which controls the feed rate and local control of the feeder speed.

All structural and chassis components of the 52,2 tons three-axle unit have been optimized for static and dynamic characteristics using Finite Element Analysis (FEA). This ensures safe transport via a low-loader, but enables short setup times with quick positioning on six landing legs. Spacious and solid maintenance platforms allow easy access for carrying out service and safe monitoring of the plant. Safety guards and covers on all moving parts are supplied as standard, as well as dust suppression through water sprinklers which are fitted on the crusher feed and discharge conveyor chutes.

Customer provides the impetus

Sandvik Construction's Polish distributor, Grausch & Grausch, recognized that the technical concept of the UJ310 could meet the needs of European customers. This gave Sandvik the impetus to complete the CE-certification of the model, which has proved to be particularly successful in the Indian market. The first European model has replaced a 150-200 tph primary crusher of Polish company Kamieniołom Barwałd, a

longstanding customer of Gausch & Gausch.

Founded in 1997, the company is based some 40 km south-west of Krakow. Its primary operations are quarrying sandstone, which is partially converted into natural building stone products, but is mainly processed into armorstones (63/130, 130/200, 130/350 mm) and road construction material. Annual production is in the region of 250,000 to 300,000 tons, with demand for the quarry's products being very high.

The use of the UJ310 has been driven by the needs and requirements of Kamieniołom Barwałd. "With this background and taking into consideration the easier integration into the quarrying organization and existing processing lines, the customer favored a semi-stationary solution from the start," says Tymoteusz Pilor, Gausch & Gausch's Product Manager for Sandvik crushing and screening technology. "Of course we evaluated the 'stationary' operation of a tracked machine or the installation of a modular crusher unit, but economic aspects had to be considered, especially regarding Sandvik's wheeled crusher technology, specifically adapted with hopper extensions and additional product conveyors have proved quite attractive. In fact the UJ310 meets the actual and future performance requirements very well and ensures low operating costs due to the exceptionally low power consumption."

The unit was manufactured and fully tested, gaining CE accreditation, and complies with all current safety regulations. Due to the customer's specific requirements, and working with a local engineering specialist, Gausch & Gausch provided a 55 m³ hopper extension and two additional conveyors for natural fines and the feeding of the follow-on processing stages.

Convincing concept

After the first month's production Tymoteusz Pilor is convinced about the success of the project and recognizes further market opportunities for the wheeled Sandvik UJ310. "Customer feedback from the start has been very positive. After the usual fine adjustments, the operation is running trouble-free in combination with the existing processing stages. Our customer has already noticed the low energy requirements and cost savings and is delighted with the outcome. After just one month's operation the fully electrical UJ310 has saved our customer almost 10-15,000 Euro compared to a similar diesel driven unit."

Due to the success of the UJ310 at Kamieniołom Barwałd's quarry Pilor already sees new projects on the horizon. "In addition to smaller and medium-sized quarry companies we also expect great interest from stationary recyclers. Together with cost advantages, the highly productive UJ310 brings advantages for both sectors with regards to simplification of permits compared to stationary plants." He concludes with an

optimistic assessment for the future of the UJ310 in Europe: "With the wheeled jaw crusher, Sandvik offers a unique product to the market with very few comparable alternatives. The fact that the Sandvik UJ310 is a 'global product' with many units produced also positively effects investment costs."

Grausch & Grausch, founded in 1993, is a construction equipment specialist headquartered in Złotkowo, near Poznan. In 2007 the company had 50 employees and began marketing the Extec range of mobile equipment, which following Extec's acquisition by Sandvik seamlessly led to the cooperation with Sandvik Construction in 2011. Since 2013 Grausch & Grausch is also the authorised distributor for the Sandvik Construction stationary crushing and screening as well as surface drilling product lines.

Source: Sandvik