

KEMROC KR 120 drum cutter at work

EDGED TOOL FOR HYDROPOWER

Material removed carefully from a historical weir

A weir in Wettin at the Saale river (Saxony-Anhalt, Germany) needed to be renovated so that the adjacent hydroelectric power plant could continue to generate green electricity. When new concrete foundations were required, Mathias Walter's specialist company tried something special. To remove existing concrete foundations, they used a KEMROC KR 120 drum cutter on a 26-ton excavator instead of the more traditional excavator and hammer combination. Completion of the first phase in spring 2020 was so successful that the contractor has already booked the same equipment for the second phase of construction.

To generate electricity from hydropower, there are numerous, often in the private sector, operators of hydroelectric power plants cooperating with local energy service providers throughout Germany. The business model is simple: operators receive a legally stipulated feed-in tariff for renewable electricity and in return they undertake to keep their power plants and associated infrastructure in good working condition. This has been the situation at the Pögritzmühle hydroelectric power station in Wettin-Löbejün at the Saale river (Saxony-Anhalt) for many years.

Floods in 2013 damaged the existing, historical weir used to dam the waters of the Saale river. Extensive repairs were necessary: the wooden weir had to be upgraded with the installation of steel hydraulic weir flaps in the course of 2020. To secure the flaps, they had to be fixed to a slab of concrete with ten concrete defensive pillars. To create a flat surface for the construction of these foundations, it was necessary to modify the existing weir structure. A wedge-shaped section with of a total width of 120 m and a height of 0 – 40 cm had to be removed from the base level below the weir.

The contract for this project in Wettin-Löbejün was awarded to the construction company Mathias Walter from Chemnitz. Among their many areas of expertise is the construction and maintenance of hydroelectric power plants. For the removal of the material from the floor, they considered viable alternatives to normal cut and hammer methods, since using a hydraulic breaker could damage the structure of the historical weir. On a previous project, the excavator operator Wolfgang Felber had discovered the use of drum cutter excavator attachments. They contacted the manufacturer KEMROC and outlined the project to application consultant Enrico Trender who confirmed immediately, "Yes, it would work."



Specialist contractor Matthias Walter goes to work on renovating the Gross Wettiner weir using a KEMROC KR 120.



The KEMROC drum cutter was mounted on a 26-ton Kobelco SK 280.

Cooperating with the construction equipment dealer TBH, the KEMROC specialist organised the delivery of a 26 t excavator fitted with a KEMROC KR 120 drum cutter to the construction site in Wettin-Löbejün.

According to the contractor, the combination of excavator and drum cutter proved to be productive, accurate and gentle on the structure of the building: “In one phase, we had to uncover pile walls, pump sump and wall connections – here accuracy took priority over speed. In another phase, however, fast removal of large volume of material from the first 60 m long section was called for. Here we achieved a very rapid progress with the drum cutter attachment. In both cases, the most important thing for me was the absence of vibration that could have caused damage to the building,” reported the site engineer. “In the mixture of quarried stone and concrete, the drum cutter produced a very much lower level of damaging vibration as a hydraulic hammer would have done.” The site engineer was also extremely satisfied with productivity: “Our KEMROC consultant recommended the right combination of carrier and attachment for us. The excavator had enough hydraulic power for this project and the drum cutter also brought the desired production rate even when used with extremely care.” In the second phase of construction, Matthias Walter, a specialist entrepreneur, and self-made man, wants to use this combination of equipment again. He has already booked his order with the manufacturer KEMROC. He sees further potential for this novel choice of equipment in numerous upcoming projects at hydroelectric power plants and says that other power plant operators have also shown interested. ■



The KEMROC drum cutter attachment impressed specialist Matthias Walter with its combination of precision, productivity, and quiet operation.

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