## Highly efficient submersible motor pumps for a broad range of applications

This year’s IFAT in Munich sees KSB Aktiengesellschaft, Germany, showcase the youngest generation of its Amarex KRT submersible motor pumps for the first time in Germany. This pump type is used for handling all kinds of municipal and industrial waste water. Its maximum flow rate is 10,080 m3 per hour and its highest head 120 m. With 850 kW, it offers the highest motor power available on the market as standard.

The development engineers at KSB’s Halle location have not only improved the operating reliability of the proven waste water hydraulic systems but also increased the pump’s hydraulic efficiency. Here, they were focusing on the typical operating ranges of waste water pumping stations. The impellers’ free passages comply with the applicable standard. To offer as broad a range of applications as possible, the new submersible motor pumps are available with four different improved impeller types.

With regard to low electricity consumption, electric drives of modern submersible motor pumps also play a key role. This is why operators are also offered a range of high-efficiency motors. Depending on their system’s load profile, they can choose a highly efficient motor variant which corresponds to the IE3 efficiency level for standardised motors in accordance with the IEC-60034-30 standard. Such motors are particularly interesting for powerful pumps with a high start-up frequency. Two bi-directional mechanical seals reliably protect the motor space against ingress of water.

A chamber filled with environmentally friendly oil ensures cooling and lubrication of the mechanical seals even when gas-laden fluids have to be pumped. Generously dimensioned ball bearings sealed for life support the stainless steel shaft. Special focus was placed on the design of the cable gland. Individual conductors stripped, tinned and sealed in resin ensure that the cable gland is absolutely watertight. Even in the event of damage to the cable sheath or the insulation, thanks to this design the pump is protected against short circuits.

To ensure that the pumps can be easily dismantled even after years of operation under tough conditions, all wetted screwed connections are made of stainless steel. For transporting acid waste water, too, KSB also supplies pumps made from high-grade stainless and acid-resistant duplex steel.

*Photo: The new Amarex KRT submersible motor pumps from KSB have been designed for low life cycle costs. (© KSB Aktiengesellschaft, Frankenthal)*