Condition Monitoring in Slurry Pumps with the Wirth Pump Monitoring System (WPMS™)

With a broad portfolio of condition monitoring tools, we assist our customers in optimizing maintenance costs and improving operational predictability. The field-proven WPMS™ system (Wirth Pump Monitoring System) is a high frequency and real-time pulsation monitoring system for slurry pumps. In addition to a continuous performance overview it enables early detection of critical issues allowing for preventive and condition based maintenance and increasing the pump’s availability. Our WPMS™ system therefore reduces costs of ownership and at the same time increases the plant’s productive time.

The WPMS™ system continuously monitors the following pump characteristics:

- Suction and discharge performance
- Piston and valve performance (leakage)
- Pulsation equipment performance (suction and discharge)
- Volumetric efficiency of the pump and each chamber

The monitoring hardware is based on industry standards: High frequency pressure sensors continuously measure pressure for each stroke. The sensors are connected to a controller in the WPMS™ cubicle, where the live data analysis is executed, based on field-proven and verified mathematical algorithms. The calculated values are visualized in an easy-to-read graph on the operators’ screen. In addition to a continuous performance overview of the key pump characteristics, the screen also provides an automatic alarm in case of estimated failures. This allows for planned action before more critical issues arise. The WPMS™ system can already be used in early project phases to optimize the pump’s ramp-up process, and all the way through the operation.

In addition to new slurry pumps, MHWirth’s WPMS™ system is also suitable for retrofitting existing triplex single-acting and duplex double acting pumps. Using the integrated remote access, experts from MHWirth can directly connect to the pump for deeper analysis and troubleshooting. Depending on customer requirements, the WPMS™ system can store data for several months to review logged data.