

Level monitoring of waste water

Any water that has been used, is classified as waste water and will at most times enter the recovery system. Generally, waste water flows through the network to waste water treatment plants to recondition it and to allow safe return to the natural resources such as rivers, streams and the ocean. In many of the stages of waste water treatment, level monitoring of waste water is required.



As waste water moves through the sewage collection network, it often needs to be stored and pumped to higher levels in so called lift or pump stations. These lift stations will use a submersible pressure transmitter for the level monitoring of waste water and pump control.

Any component used in raw sewage will gradually become encased in fatty deposits and also a level transmitter is no exception. However unlike floats, which will sink when deposits build up, submersible pressure respectively hydrostatic level transmitters will still provide accurate level monitoring of waste water. As long as these fat deposits are not allowed to dry up, the hydrostatic pressure is still accurately transmitted to the diaphragm. Hydrostatic level transmitters are also unaffected by the internal structures of tanks and lift stations, such as internal bars supporting pumps, which can cause reflections and disrupt ultrasonic- or radar-based level detectors.



When waste water arrives at the treatment plant, it will flow to the various tanks of the treatment process where level monitoring of waste water is critical for control and automation. Submersible pressure transmitters will be used to regulate and control the pumps moving the sewage around the waste water treatment plant.

Primary treatments such as settlement tanks will allow human wastes and other organic solid matter to sink to the bottom. The solids, often called sludge are removed for further processing. Fat and Grease will rise to the surface and be scraped off. When the sludge height reaches a defined level it will be recovered and processed through either drying systems or large hydraulic filter presses, controlled by pressure transmitters.

The fresh water above the sludge level and from the filter process then flows to the secondary stage of the treatments, such as aeration tanks or microbial reactors.

Secondary treatment such as aeration encourages natural helpful bacteria to multiply and break down hazardous bacteria. Alternatively membrane bioreactors (MBR) are becoming popular and work as an extremely fine bio filter to remove hazardous bacteria. Both systems

require level monitoring of waste water to work most efficiently and level transmitters are then used to monitor the clean recovered water. The water finally may pass into further settlement tanks or be directly returned to the natural resources.

At all stages through the waste water network and treatment process level monitoring of waste water using hydrostatic level transmitters and submersible pressure transmitters provides essential control and feedback on the process.

Please find further information on this topic on our information platform www.wika.com/hydrostatic-level



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