Waste water level monitoring in sewage treatment plants

When the sewage arrives via the sewage network, the sewage treatment plant relies on level monitoring to allow the process to operate correctly. Waste water level monitoring in sewage treatment plants is an essential control parameter for numerous sedimentation basins, settling tanks, aeration basins and clarifiers, that are involved in the sewage treatment process.

The waste water is first screened to remove debris that may damage the treatment plant such as rags, timber, grit or stones that all may have been carried with the waste water. The sewage will then flow into various chambers for equalisation, desilting, grease separation, mixing, aeration, chlorination, flocculation, sedimentation, etc. Waste water level monitoring in sewage treatment plants is required in most of these stages for accurate liquid level control.

Many older sewage systems combine storm water run-off with sewage which could overload the treatment plant, thus equalisation chambers are used to buffer the treatment plant from such sudden excessive liquid volume. This additional volume can then be treated as soon as the waste water volume returns to normal flow levels. Waste water level monitoring in sewage treatment plants is therefore used to ensure these tanks or basins are not overwhelmed and to continuously check the amount of sewage in buffered in the equalisation tank.

Further on, the location of the treatment plant must also be considered - in case it is located near the sea or a chemical plant some water coming in to the plant may be contaminated with sea water, brine or even chemicals. Waste water level monitoring in sewage treatment plants and fluid pressure monitoring at pumps or valves should therefore be undertaken by using submersible pressure transmitters, level sensors manufactured from materials resistant to these potentially contaminated liquids.

A sewage treatment plant will also have tanks storing chemicals to add to the waste water in the treatment process. Industrial waste water uses PH neutralisation processes to neutralise the acid or alkaline properties of the liquid. Hydrostatic level transmitter sensors are combined with diaphragm seals if required for material compatibility and are fastened to the bottom of these tanks to measure the level of the chemicals in the storage tanks for inventory control.
Ultimately the treated water is returned to the natural environment, into streams, rivers, groundwater or the sea.

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