A higher level of performance

Application Reference

Optimizing “secondary” and “final” clarifiers at waste water treatment plants using third generation sonar technology

Application problem:
The customer wanted to alarm lighter “Floc Layers” before, they carried over the launder, as well as improving efficiency by controlling the “RAS” density return to aeration and the “WAS” density to the thickeners.

Solution:
Hawk installed a third generation ORCA sonar transmitter with dual analog outputs capable of monitoring (2) two independent densities simultaneously.

1. The Floc/Fluff layers density calibrated to approximately 600mg/L. When process problems occur, generally related to the industrial waste water entering the plant, a biological imbalance causes bulking to occur and the light Floc/Fluff layer rises in the clarifier caused by the hydraulic inflow.

2. The “RAS” density was calibrated to approximately 4000mg/L. By controlling the “RAS” pump around the 4000mg/L density, we optimized the biomass returned to aeration and optimized the “WAS” density to the thickeners and belt filter. The “RAS” pump was slowed to it’s lowest pump rate at off peak loads and when there were settling problems in the clarifier.

Conclusion:
The waste water treatment plant was able to automatically detect major process problems occurring and was able to take evasive action to limit the problems. Cost savings in electricity were identified by controlling the “RAS” density return to aeration and improvements in efficiency were seen in the thickener and belt filters by pumping a higher density “WAS”.

Ordering information: (complete system)
Part no: OSIRDYX-OSIRT002S4XC6-OSIRMEL3-OSIRSCA

Application guaranteed!

Hawk is a world leader in level, position and flow measurement, providing cutting edge equipment to the global industrial market. We have 30 years of experience and a record of success in a wide range of areas including mining/mineral processing, water supply/waste water, bulk material handling and chemical. Our on-going commitment is to provide industry leading technology and cost effective solutions.

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