



A higher level of performance

## Application Reference

# Reliable sonar floc blanket level technology for water treatment plants, on primary sedimentation clarifier to control floc blanket height and water clarity



### Application problem:

The customer had used a led (light emitting diode) array, to monitor the floc blanket height 800 mm (30 inches) above and below the centre feedwell of the clarifier. This 1600 mm (60 inches) long array was very heavy and supported by extra cables from the bridge.

The led array worked ok, when the density of the floc blanket was stable, but required periodic calibration. The led array also required periodic cleaning, to remove scum buildup and required two operators to pull the array to the bridge. If the blanket level was higher than the led array, the customer was unable to know how high the blanket was. If the blanket level was lower than the led array, the tank's ability to filter out suspended solids diminished. The floc blanket was very dynamic due to hydraulic imbalance.

### Solution:

Hawk installed a high frequency sonar transducer, optimized to cover the light density floc blanket. The ORCA sonar transmitter, has a maximum range of 30 m (95ft), so the sonar could monitor the entire range of the clarifier, which was 6 m (20 ft) deep. The square designed clarifier was 45 m x 45 m (150 ft x 150 ft) square. Average flow was 125 megalitre per day (30 million gallons per day) to each clarifier.

An automatic sludge cleaning device was also installed to remove buildup from the sonar transducer. The sludge cleaner has a factory guarantee. The second analog output from the ORCA transmitter was used to measure the water clarity between the floc blanket and the sonar transducer, like a simple turbidity meter. This provided feedback to the control room for process problem.

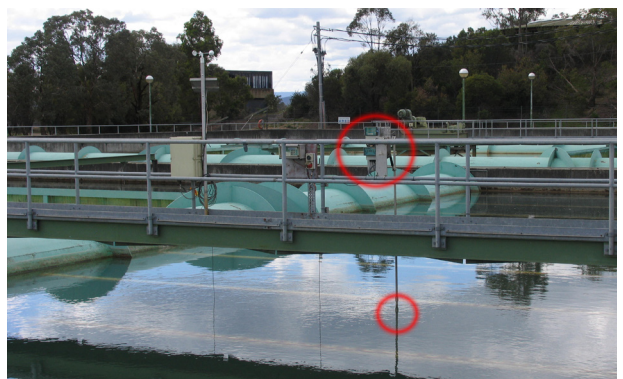
Hawk manufactures the largest range of sonar transducers, to provide optimized performance for all bed level density applications.

### Ordering information: (complete system)

Part no: OSIRDYX-OSIRT003S4XC6-OSIRMEL3-OSIRSC A

### 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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