

# PULSONIC AVOCET

## Sludge Blanket Measurement System



The Avocet monitors the sedimentation and scum accumulation in remote settlement tanks, and clarifiers in water treatment works, waste water reclamation works and factories with treatment plant.

The Avocet is particularly suited for identifying auto-desludging and overspill alarm signals and for monitoring the general biological health of thick sludge blankets.

### The Principle of Operation

An Ultrasonic sensor is immersed just below the surface of the effluent pointing directly to the bottom of the tank.

The Avocet uses time of flight echo processing to determine the distribution of solids particles, scattered throughout the settling effluent. Scum formation is detected by the attenuation, backscatter and reflection time of the ultrasonic signal, as it passes through the sedimentation.

Then, is displayed in a histogram form.

### Product Features

- Outstation: Ultrasonic sensor and a programmable instrumentation unit,
- Telemetry link : enables the local data to be transmitted to a base station up to 2km away,
- Base station-PC based : Centralizes and displays the information from multiple outstations.



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## INSTALLATION AND OPERATION

This outstation is fixed to the handrail of the scrapper gantry on the settlement tank. It displays the sediment relative density throughout the tank.

During normal operation the signal strength will vary due to many factors but one these will be the build up of solids on the sensor.

To overcome this an air purge facility is installed and at across the sensor which removes debris and reduces the need for continual maintenance.

The base station comprises of a PC based monitoring system.

This enables each outstations to be consecutively polled to display real time information of the individual settlement tanks.

Alarm states can be programmed for sensor failure/scum detection and high level sedimentation. A data storage facility will be enable the operator observe the sedimentation performance over any historical period.

Tank Depth Range	0.7m to 7m
Level Resolution	This is a percentage of depth and is equivalent to 0.03m (3cm) at 5 metres range
Stability	0.1% degre Celsius
Dead Zones	Normally 0-0.6 metres and above 7 metres
Temperature Range	-20 to +60 for the internal temperature in the enclosure
Enclosure Protection	IP 65 for outstation
Power Requirement	Either 110 Volts A.C or 250 Volts A.C Switch selectable
Ultrasonic Sensor	the outstation is fitted with a low voltage tranceiver type operating at VHF
Outputs	A single pole change over relay rated at 250 A.C. continuous
	4-20 mA which encodes the blanket depth as a percentage of the tank depth
	2 trip point programmable relays
	Consult manufacturers if RS232 is required
Features	The self-purging sensor reduces difficulties due to fouling
	The system is essentially non-invasive



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