

# ORAKEL

SYSTEM

# SUBMERGED AV FLOW SENSOR

The ORAKEL Submerged Area Velocity (AV) Flow Sensor is a robust, doppler velocity sensor that uses ultrasonic technology to measure wastewater flow with industry-leading accuracy and reliability.



## HOW IT WORKS

Installed within the open channel, the sensor simultaneously uses ultrasound waves to measure the velocity of the liquid flow and pressure sensing technology to establish depth. Pre-configured dimensions of the pipe or channel are used to determine the overall volume of flow.

A built-in temperature sensor provides greater accuracy of measurement.

Multiple sensors can be monitored from each ORAKEL control unit.

## APPLICATIONS

Designed to measure volumetric flow of raw sewage, industrial effluents and storm waters.

Due to its robust construction, the **ORAKEL Submerged AV Flow Sensor** can be used in open channels, combined sewers and storm sewers pipes.

Rugged design allows for depth and velocity measurements in the most hazardous of circumstances; the velocity profiled sensor reduces the risk of fouling and ragging.

## KEY FEATURES

- Market-leading accuracy
- Resists fouling and corrosion
- Cost effective, requiring little maintenance
- Versatile sensor installation - easy to place in the channel
- The **ORAKEL** control unit allows up to 15 additional sensors to be included



[www.detectronic.org/orakel](http://www.detectronic.org/orakel)

## TECHNICAL SPECIFICATION

### Velocity Sensor

Dual piezoelectric elements.

### Depth Sensor

Hydrostatic pressure.

### Integrated Temperature Compensation

Titanium diaphragm isolated silicon sensor.

### Physical

Sensor cable 10m as standard, up to 20m if required.

### Environmental

Sensor module protection: IP68.

Operating temperature: -20°C to +60°C.

### Approvals

CE approved.

### Performance - Velocity Sensor

Velocity range: 0.03m/s to 4.00m/s (resolution 1mm/s).

Linearity:  $\pm 1\%$ .

Velocity Sensor Accuracy:  $\pm 2.5\%$  FS ( $\pm 1\%$  in calibrated range 0.05m/s - 2.00m/s).

### Performance - Depth Sensor

Range: 0.0m to 6.0m (resolution 1.0mm).

Linearity: 0.1% BSL.

Accuracy:  $\pm 0.2\%$  FS ( $\pm 0.1\%$  in calibrated range 0.03m - 2.00m).

Also available in a 4-20mA loop-powered version with ATEX Ex ia Zone 0 approval.

## THE ORAKEL SYSTEM



The **ORAKEL System** is the ultimate fluid measurement product range.

Created as a modular system with a wide range of sensors that can be added to measure various characteristics for a truly bespoke and cost effective solution.

- Two types of high specification control units available
- On-screen graphing
- 9 buttons for easy navigation
- Secure website viewing option available
- 4-20mA and Modbus outputs available
- Multilingual options
- Connects up to 2 sensors as standard; expandable up to 16 sensors

To learn more about the **Detectronic ORAKEL System** and how it can help your business, get in touch:

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