

# AQS-Sense

## High-Performance Leak Detection Solution powered by Acoustic Correlating Sensors

Engineered for any environment, pipe material, or diameter, AQS-Edge acoustic correlating sensor detects even the smallest leaks, ensuring your network's resiliency and operational efficiency.

### Key Benefits:

#### ENHANCED WATER SAVINGS:

Reduces Non-Revenue Water by up to 20% with advanced acoustic correlating sensors that quickly detect leaks, enabling rapid response and minimizing water loss.

#### EXCEPTIONAL ACCURACY:

Detects leaks within  $\pm 1$  m. Early detection of developing leaks enhances network resiliency and extends its lifespan.

#### ADVANCED AUDIO ANALYSIS:

Flexibility to deploy a tailored mix of sensors within the same network, optimizing performance based on your infrastructure type.

#### HIGH-PERFORMANCE LEAK DETECTION:

AQS sensors boost performance by up to 50% compared to traditional methods, contributing to a rapid Return On Investment of 1 year or less.

#### LONG-TERM VALUE:

Utilizes fewer sensors per kilometer, offering a reliable, cost-effective, and sustainable solution for large-scale water systems.\*

### Product Features

- Supports **4G cellular communication** with 3G fallback
- **Battery life** of up to **3-5 years**
- **Certified for CE, FCC, and MIL-STD-810 standards** (belowground only)
- Supports **Firmware Over-the-Air (OTA) updates**
- **Simple installation** on both aboveground and belowground hydrants or valves
- **Exceptional Accuracy:** Detects leaks within  $\pm 1$  m /  $\pm 3.2$  ft

#### AQS-Sense Accelerometer (AG)



The first compact acoustic correlating sensor designed to fit all aboveground hydrant installations. It detects leaks in metal and AC pipes up to 24 inches in diameter, with a typical installation distance of up to 300 meters apart.\*

#### AQS-Sense Accelerometer (BG)



The first-in-its-kind acoustic correlating sensor that can be installed in belowground valve pits. It detects leaks in metal and AC pipes up to 24 inches in diameter, with a typical installation distance of up to 300 meters apart.\*

#### AQS-Sense Hydrophone (BG)



The most advanced hydrophone specifically designed for leak detection in PVC, PE, and large-diameter pipes. Typically installed on large-diameter pipes with distances of up to 750 meters apart.\*

\*Varies based on pipe's material, topology, diameter and water pressure.

## AQS-Sense Acoustic Correlating Sensors

Sensor Type/Model	Above-ground Accelerometer (AG ACC)	Below-ground Accelerometer (BG ACC)	Below-ground Hydrophone (BG HYD)
<b>Cellular</b>			
Cellular Communication	3G/4G		
<b>Analog Recording &amp; Performance</b>			
Frequency range	1-2000Hz		
Dynamic range	20 Bit		
Sensitivity	<1 µg	<1 µg	N/A
Pressure rating			232 psi (16 bar)
Sampling	Typically once per day, configurable up to 3 times per day		
Time synchronization	Less than 1ms using RF		
Self-test	Comprehensive self-test upon installation		
<b>Enclosure</b>			
Water-proof	IP 65	IP 68 – 1 meter for 1 day	
Dimensions	H=23 / W=100 / D=85 mm H=9.05" / W=3.93" / D=3.34"	H=200 / W=80 / D=60 mm H=7.87" / W= 3.14" / D= 2.36"	
Material	GRPA	ABS	
Weight	700g (24.7 oz)	700g (24.7 oz)	
<b>Sensor type</b>	Internal Accelerometer	External Accelerometer	External Hydrophone
Sensor dimensions	N/A	D=53mm / H=200mm D=2.08" / H=7.87"	D=42mm / H=54mm D=1.65" / H=2.12"
Standard Cable length	N/A	2m for ACC (6.5 Ft)	3m for hydrophone (9.8 Ft)
Cable connector	N/A	M12	
Sensor weight	N/A	150g (5.3 oz)	180g (6.3 oz)
Sensor material	N/A	PA6 20%GF	SS316
Sensor threads	N/A	N/A	Male- 1" BSPT or NPT
<b>3G/LTE Antenna</b>			
Type	Internal	External SMA Standard	
Dimensions	N/A	50 x 12 mm (3G/LTE); 102 x 13 mm (FM) 1.9" / 0.47" (3G/LTE); 4" / 0.5" (FM)	
Polarization	Linear, omni directional		
Average / Peak Gain / LTE	2.3 / 3.4 dBi	2.1 / 3.5 dBi	
<b>Interface</b>			
Mobile application support	Android / iOS		
<b>Operating Conditions</b>			
Certification	CE / FCC / Mil810 / WRAS		
Temperature range	-10°C to 60°C / 14°F to 140°F		
Battery type	Replaceable Lithium Metal 3.6V battery size D		
Expected battery life	Up to 8 years of operation at standard conditions and 1 sample per day		

