

Nautilus

Smart Inspection for Large Pipelines

Wireless, non-intrusive technology for leak detection in large-diameter pipes

Nautilus is an in-line, autonomous, neutrally buoyant system designed to detect and locate leaks, air pockets, and anomalies in pipelines over 250 mm in diameter, all without service interruption. A small sphere equipped with advanced acoustic and motion sensors travels with the water flow, capturing data from inside the pipeline.

The Sphere

- 60 mm diameter, protected by a custom layer of foam or silicone, depending on inspection requirements
- Equipped with high-sensitivity acoustic sensors, pressure, temperature, accelerometer, and gyroscope
- Captures continuous, high-fidelity internal pipeline audio

Key Capabilities

- High-precision leak detection, as low as 0.005 l/s
- Long-distance coverage, up to 35 km per single insertion
- No service disruption, inspection under normal operating conditions
- Compatible with any material, depth, and layout
- Wide operating range: 250 mm to 1600+ mm diameters
- Operates at temperatures up to 80 °C
- Pressure from 1 to 100 bar
- Flow as low as 0.2 m/s

Digital Oversight with NEMO

- Real-time tracking of the sphere via digital map
- Collaborative access for all project stakeholders
- Preliminary reports within 48h, full reports include geolocation, severity, and leak audio
- Incident history for long-term asset management
- Provides accurate results in leak localization (less than a meter of error).

Why Choose Nautilus?

Proven performance in over 60 countries
Maximum inspection efficiency, zero operational disruption
Actionable insights for proactive pipeline management
Ideal for large-diameter potable or raw water transmission systems