

ACQUARIUS

IN-LINE INSPECTION TOOL

The Acquarius is a smart inline untethered inspection tool with numerous ultrasonic sensors that send and collect sound waves to accurately measure the geometry and to detect any anomalies in the wall or joints of a pressure pipeline. It can assess the full condition of pressurized water mains in a single run and delivers an accurate XYZ-mapping. The tool is suited for both drinking water and pressurized wastewater pipelines, starting from an inner diameter of DN200. The intelligent PIG is applicable in (high-risk) pipelines of any material, such as concrete, asbestos cement, cast iron, steel and HDPE/PVC/GRP. Through an interactive and dynamic dashboard, all data and information about the inspected pipeline are presented.



Pipeline Inspection Services - Equipment Info Sheet Acquarius

| Measurement (accuracy) | Metals* (Steel/DI/Ci) | Prestressed Concrete | Asbestos Cement | PCCP | Plastics (PE/ PVC/GRP) |
|------------------------------------|--------------------------|-------------------------|--------------------|------|---------------------------|
| XYZ Mapping (0,5 m) | ✓ | ✓ | ✓ | ✓ | ✓ |
| Wall Thickness (0,49 mm) | ✓ (corrosion) | ✓ | ✓ (leaching) | ✓ | ✓ (delamination) |
| Joint Angular Displacement (0,25°) | ✓ | ✓ | ✓ | ✓ | ✓ |
| Joint Gap Width (4,0 mm) | ✓ (or condition welds) | ✓ | ✓ | ✓ | ✓ |
| Ovality (0,5%-point) | ✓ | ✓ | ✓ | ✓ | ✓ |
| Axial Deformation (0,2 m) | ✓ | ✓ | ✓ | ✓ | ✓ |
| Leaks (>13.0 dB) | ✓ | ✓ | ✓ | ✓ | ✓ |
| Air pockets | ✓ | ✓ | ✓ | ✓ | ✓ |
| Debris | ✓ | ✓ | ✓ | ✓ | ✓ |
| Wire breaks | | ✓ | | ✓ | |

*Ultrasound also measures the thickness of internal liners, such as cement mortar liners

Technical Information

Technical specifications

Max. inspection speed

Varies from 0.2 - 1m/s

Max. inspection length

20 hours / 28.8km (@0.4 m/s)

Max. operating pressure

30-40bars

Pipeline requirements

Min. radius bends

>1.0D

Pressure needed for propelling

0.1 - 0.3bar

Launching and receiving

Possible via 45° or 90° T- or Y-piece

Inner diameter

≥DN200

Bends

Can handle bends of up to 90°

Reductions

Can handle diameter reductions of up to 30%

Other obstacles

Cannot pass butterfly valves

Add-on's

Hydrophone

For leak detection and large obstructions

Magnetic Field Wave (MFW)

Detects wire breaks in Prestressed Concrete Pipes