

# SUPERIOR



# Introduction »

As urban infrastructure ages and water quality expectations rise, utilities face increasing pressure to detect leaks and assess pipeline conditions without disrupting supply. SUPERIOR is an advanced, in-line inspection system specifically engineered for pressurized water pipelines. It enables utilities to gain actionable insights from within the pipeline—without the need for shutdowns.

Designed for deployment through DN80 access points, SUPERIOR offers unmatched versatility and efficiency across a wide range of field scenarios. The system combines high-definition imaging, acoustic leak detection, sonar, and inertial sensors to deliver comprehensive condition assessments. Operators can detect leaks, identify structural defects, locate unauthorized connections, and assess sediment buildup in real time.

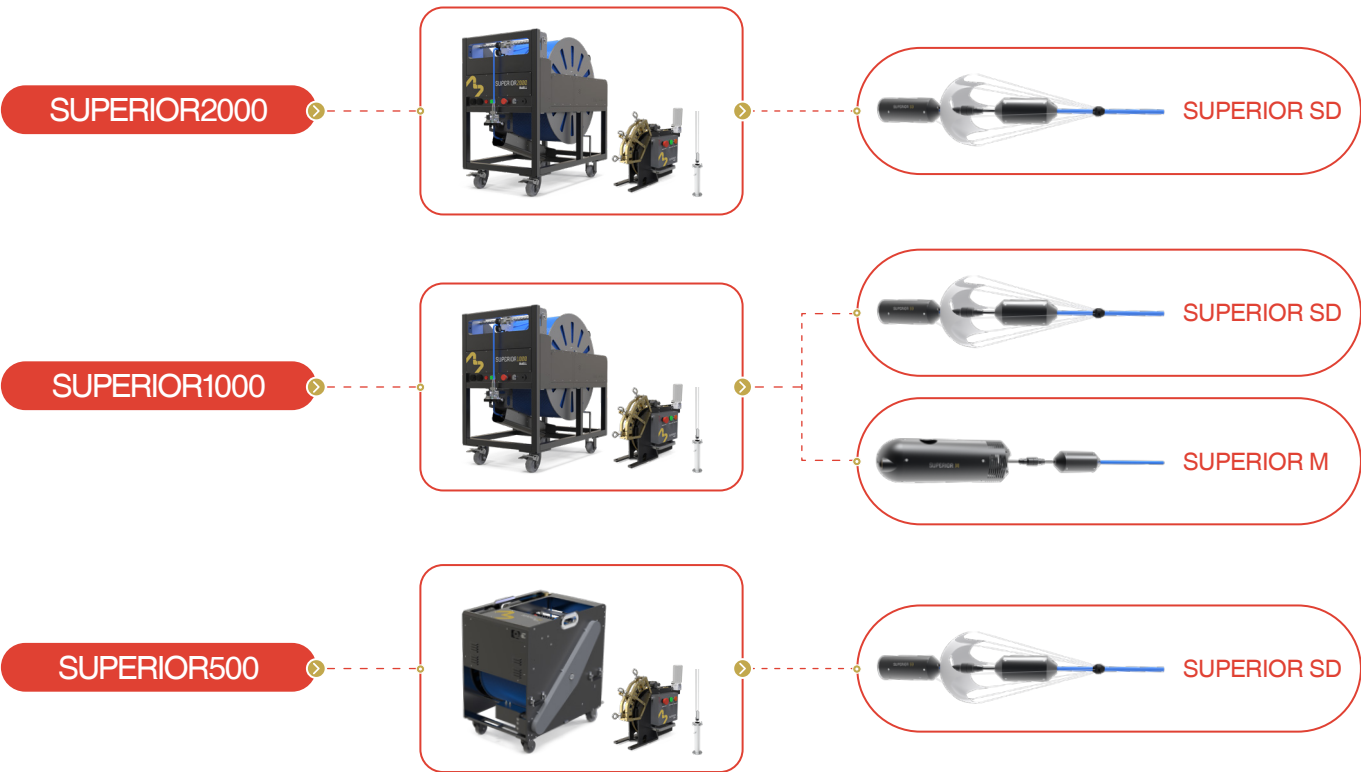
The modular probe design allows users to select between a standard or self-propelled configuration depending on pipe conditions and operational needs. The onboard 1080p HD camera captures detailed visuals of the pipe interior, supporting both structural evaluations and

asset documentation. Cable options of 500m, 1000m, and 2000m are available, with a reinforced, zero-buoyancy design rated for 250kg tensile strength to ensure stability during long-distance inspections.

To support hygienic operation in potable water networks, SUPERIOR features an integrated disinfection unit that sterilizes the cable as it enters the pipeline. All components are certified to meet food-grade safety standards.

Operators manage inspections via a wireless tablet, which provides full control over lighting, cable drum speed, and system status. Real-time data such as water pressure, inspection depth, and sensor outputs are displayed on-screen.

With its precision, reliability, and non-disruptive operation, SUPERIOR™ is setting new standards for the inspection of active water pipelines.



# Features »

## Quick Deployment

Inserting tool for quick setup and enables probe deployment in 5 minutes.

## Non-Stop Inspection

Patented pressurized insertion technology allows internal inspection under 1.7MPa without shutting down water. Food-grade certified for safe pipeline deployment.

## 2000m Reach

Single-run inspections up to 2000m using zero-buoyancy cable for combined power and signal transmission.

## Multi-Sensor Fusion

Supports video, sonar, hydrophone (20Hz–120kHz, >–210dB), and locator modules for accurate defect detection and positioning.

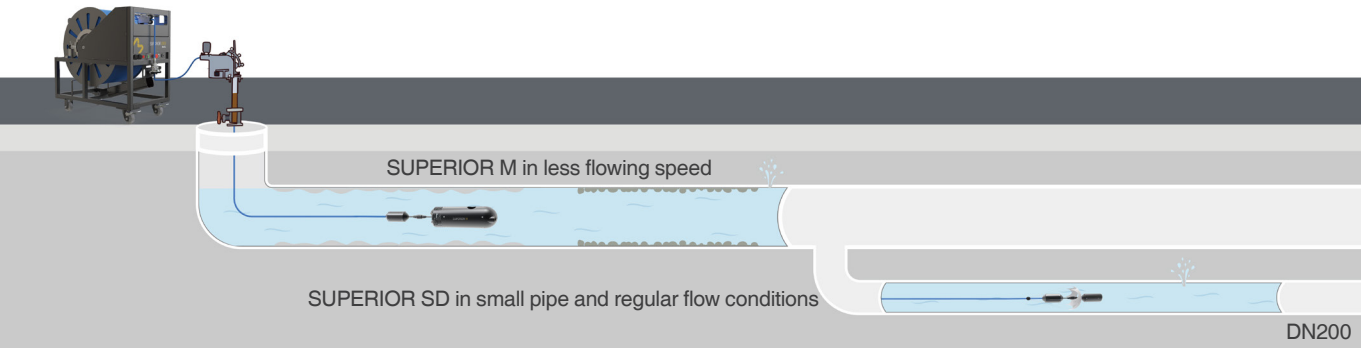
## Agile Control

Compact probe with inertial sensors for real-time attitude display, optimized for complex pressurized pipelines with branches, butterfly valves, and bends.

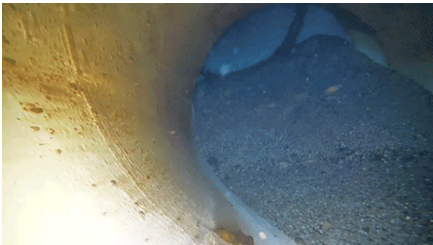
## Application Conditions

SUPERIOR SD for regular flow conditions. SUPERIOR M parachute design enhances movement in zero-flow.

# Applications »



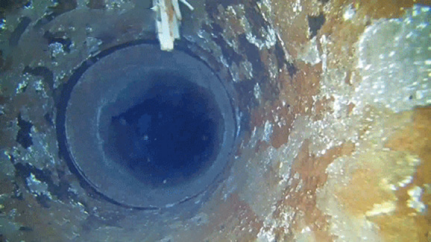
Valve Not Opened



Sediments



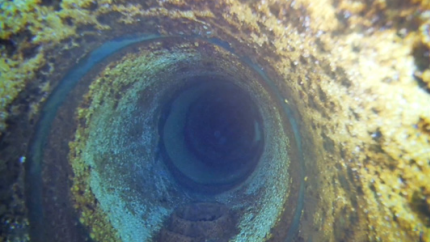
Tuberculation



Obstacles & Obstruction

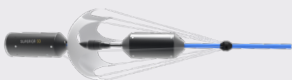



Gas Pocket



Illegal Service Line

# Specifications >>

Probe	SUPERIOR SD 	SUPERIOR M 
Deployment range	DN200 and up	DN500 and up
Dimensions	φ70×175 mm+160mm+φ70×160	φ130×395 mm+160mm+φ70×160
Weight	approx. 1kg	approx. 4kg
Leak detection	Acoustic sensor	Acoustic sensor
Leak location accuracy	±0.5m	±0.5m
Hydrophone	20Hz–120kHz, >–210dB	20Hz–120kHz, >–210dB
Front camera resolution	2.0 Megapixels, 1920×1080P	2.0 Megapixels, 1920×1080P
Front camera lighting	12×3W, LED	6×3W, LED with convex mirror
Required water speed	0.2-2 m/s	0-2 m/s (applied with no water speed)
Required water pressure	1-17 bar	1-17 bar
Integrate sonde	±0.5m accuracy; Max.4m depth	±0.5m accuracy; Max.6m depth
Protection class	IP68	IP68
Cable drum	500/1000/2000m	1000m
Access fitting	≥DN80	≥DN150
Weight, approx.	12kg	30kg
Patent launch system	φ220xH450mm; 8kg	
Pipe material	All pipe	
Bend pipe	Travel single bend ≤45°; travel multi bends≤270°	

Cable Drum (SUPERIOR)	500m 	1000m 	2000m 
Dimensions	695×580×760mm	1085×630×1100mm	1085×630×1100mm
Weight	approx. 90kg	approx. 245kg	approx. 245kg
Motor-driven	✓	✓	✓
Meter counter	✓	✓	✓
Power supply	Battery, 8h	Battery, 8h	Battery, 8h
Protection class	IP65	IP65	IP65
Cable level wind assembly	✓	✓	✓
Emergency stop switch	✓	✓	✓



Control Unit

Dimensions	11 inch
Weight	approx. 480g (excl. pad case)
Operating system	Android
Display resolution	1920×1200P
Display information	date, time, distance, inspection video, text input, water temperature, water pressure
Data storage	128G
Connections	wireless
Data transmission	Wi-Fi

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