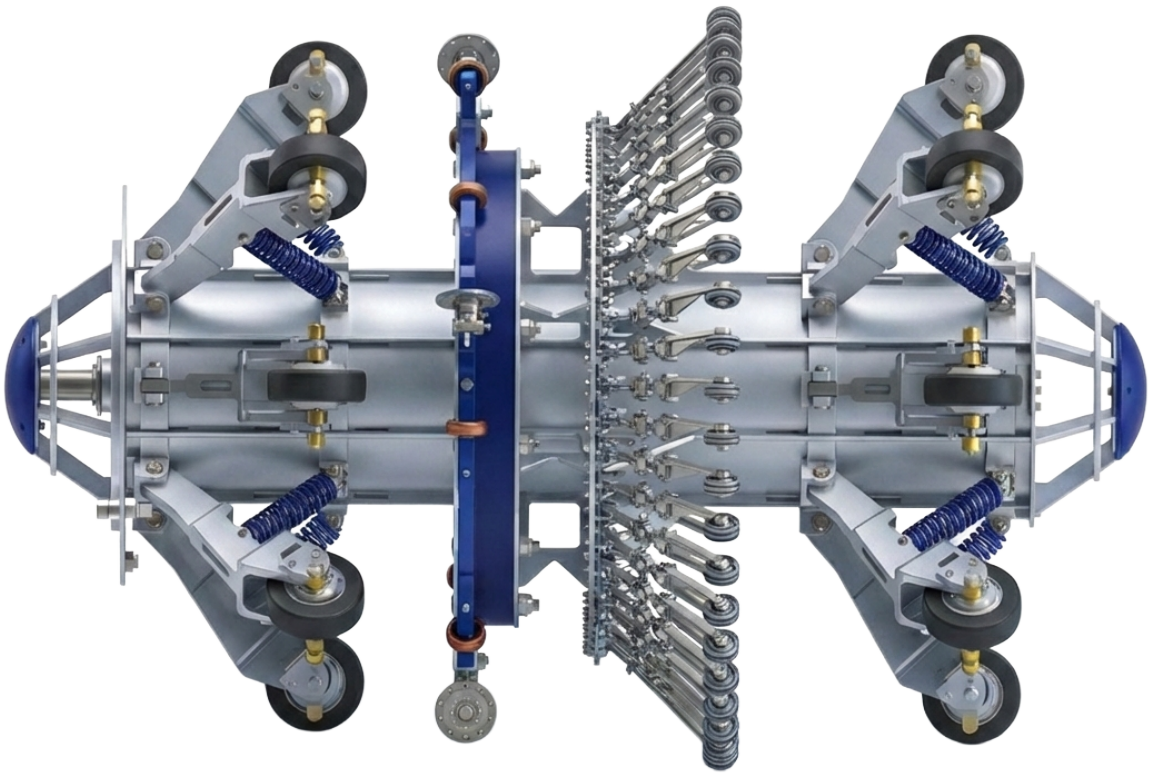
SMART CALIPER CRAWLER



SPECIALIZED TOOL DESIGNED FOR INSPECTING UNPIGGABLE PIPELINES

UTILIZES HIGH-RESOLUTION CALIPER GEOMETRY TECHNOLOGY

SELF-PROPELLED WITH ADVANCED ELECTRONIC SYSTEM

The PIPECARE Caliper Crawler is a specialized, self-propelled inspection tool designed to navigate the most challenging "unpiggable" pipelines where conventional in-line inspection methods fail.

By integrating our proprietary SMART AI CALIPER® software, the world's first AI-powered geometry diagnostic engine, we have transformed data acquisition into an autonomous, high-speed reporting system.

This hybrid solution provides pipeline operators with an unrivaled "self-thinking" crawler capable of performing automated searches for girth welds, bends, and geometry anomalies in real-time.

Integrated with a state of the art IMU-based XYZ mapping system and vibration-damping suspension, the crawler provides more than just depth measurements.

The SMART AI engine utilizes high-definition signal data for precise local stress-strain calculations of geometry anomalies, such as dents and buckles. This is critical for identifying potential rupture zones caused by geohazards like frost heaving, landslides, or river crossings.

Operators can visualize inaccessible assets via automated 3D models and "normal maps," enabling data-driven maintenance decisions for pipelines up to 35 km long.

SMART AI CALIPER integration eliminates processing delays, autonomously producing inspection reports within 9 hours of retrieval following a "Data Quality Assessment". A tethered fiber-optic option allows real-time data access for high-risk operations.

PIPECARE
INNOVATIVE SOLUTIONS

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DETECTION AND SIZING ACCURACY FOR GEOMETRY ANOMALIES

GENERAL SPECIFICATIONS

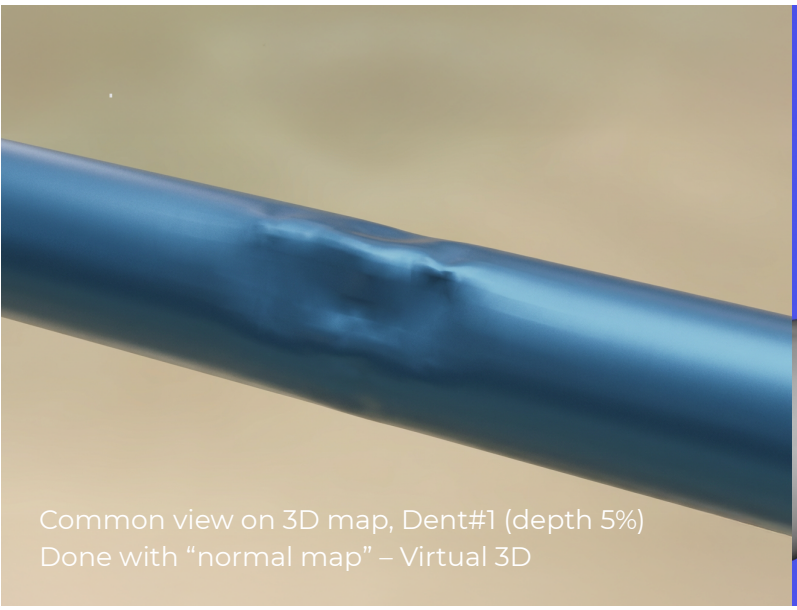
General specifications defining the deployment and operational capabilities of the Caliper Crawler.

Application	Unpiggable pipelines
Operation	Self-propelled, bi-directional
Medium	Empty, liquid, gas
Pipe diameter	20” – 56”
Inspection length	Up to 35 km
Max inspection speed	Up to 0.3 m/s
Bend capability	1.5D @ 90°
Diameter reduction	Up to 85%
Options	HR video recording

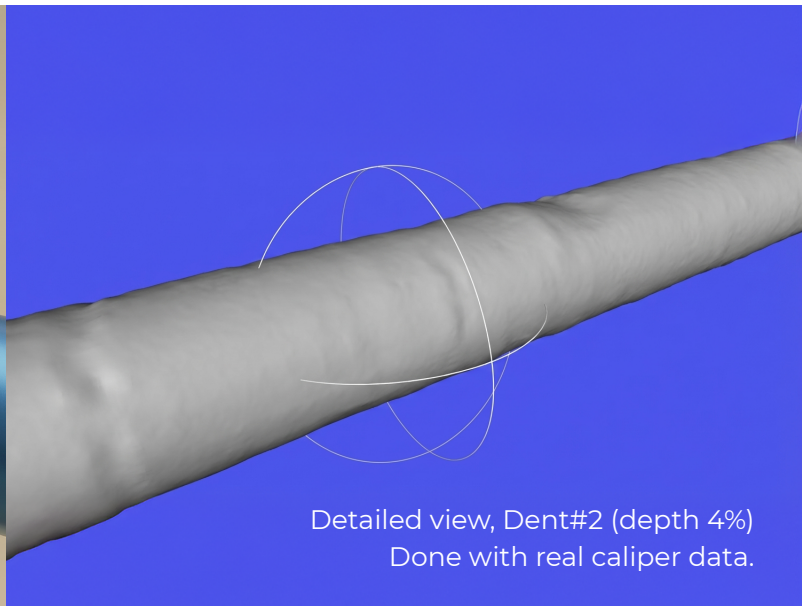
PERFORMANCE SPECIFICATIONS

Key performance parameters of the geometry inspection system of the Caliper Crawler.

Technology	Caliper geometry inspection
Detects	Dents, ovality, wrinkles, bends
Coverage	100% internal circumference
Circumferential resolution	25.4 mm
Axial resolution	5 mm
Number of sensors	48
Mapping	IMU-based XYZ mapping
Output	3D geometry & pipe book
Operating temperature	–20°C to +70°C



Common view on 3D map, Dent#1 (depth 5%)
Done with “normal map” – Virtual 3D



Detailed view, Dent#2 (depth 4%)
Done with real caliper data.