

Your trusted partner for Pipeline Geometric Inspection

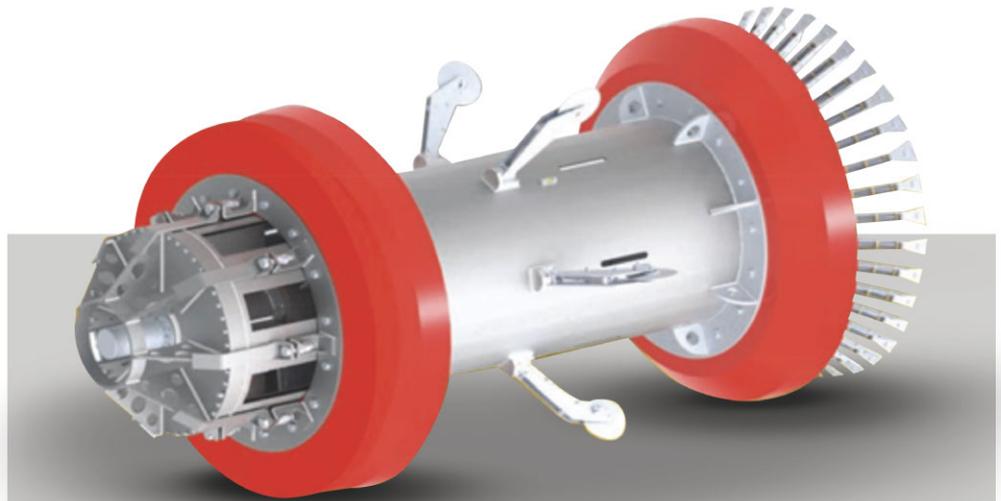


POWERED BY:  PIPE SURVEY
TECHNOLOGY

The Advanced Pipeline Geometry pig

The Advanced Pipeline Geometry pig combines high-accuracy, multi-channel, radial measurement with 3D inertial measurement to provide useful data about the pipeline structural integrity. Each geometry pig is equipped with a data logger that registers dynamic behavior, acceleration and rotation, temperature and pressure. Pipesurvey has developed powerful and user friendly DATsurvey® software. With this diagnostic tool the operator can review pipeline features and anomalies at any scale, distance or clock position and from every perspective as you wish. Data is visualized in line-, color- or 3Dplots. Statistical run data, creating additional dig sheets and on-line support are standard services included in DATsurvey. The Advanced Pipeline Geometry pig combines run data with a time-based benchmarking system in order to provide accurate coordinates of pipeline features.

The Pipesurvey Advanced Geometry Pig is used to detect and measure dents, buckles, wrinkles, ovalities, weld penetration as well as bend radii, misalignments, and pipeline profile.



TOOL SPECIFICATIONS

Pipe sizes	6" – 48"
Inspection distance	Up to 150 miles, consult for longer distances
Pressure range	Up to 3,300 psig
Minimum Bend Radius	1.5D
Velocity range	0.3 – 23 ft/s, (15 miles per hour), Active Speed Control available for higher gasflows
Location accuracy	+/- 1 m [GPS], 0.1 m from girth weld [Odometer]
Dent Detection Threshold	1% of I.D.
Ovality Detection Threshold	2% of I.D.
Depth Resolution	0.5% I.D.
Minimum Bore straight pipe	75% of Nominal Pipeline Diameter

Active Speed Control · Multi-diameter inspection · Bidirectional inspection · Low-flow solutions · Spatial mapping and strain analysis
Small diameter pipelines · Low friction tools · Brushless design for traverse of umbilicals · Short radius bends · Illegal Hot Taps

Your trusted partner for Pipeline Corrosion Inspection



MFL and C-MFL Technology

MFL and C-MFL true XHR resolution tools are used in gas and liquid pipelines to assess pipe wall thickness and metal loss. Pipesurvey magnetic inspection tools use the highest attainable resolution of tri-axial sensors to accurately determine the dimensions of the metal loss. The tools offer a gapless sensor arrangement with integrated ID/OD discrimination sensors for a complete wall coverage. The sensor design offers flexibility to scan the weld and heat affected zone as accurately as possible. The tools are lowfriction, wheel-supported, flexible, bidirectional and tailored for the challenges of both piggable and unpiggable pipelines. All tools pass through 25% diameter reduction and 1.5D radius bends. Pipesurvey International MFL tools have been successfully applied in transmission lines, tank farm lines, risers and flow lines. Pipesurvey has developed powerful and user friendly DATsurvey® software. With this diagnostic tool the operator can review pipeline features and anomalies at any scale, distance or clock position. Data is visualized in line-, color- or 3Dplots. Statistical run data, creating additional dig sheets and on-line support are standard services included in DATsurvey®.

Regular or Axial MFL technology deploys an axially oriented magnetic field and is most often used to detect pipeline anomalies such as general corrosion, pitting, pinholes, circumferential slotting and grooving as well as axial slotting and grooving. However, when the focus is on axially oriented defects, the C-MFL offers the perfect solution. The C-MFL tool deploys a circumferentially oriented magnetic field and will accurately detect and size axially oriented defects, crack-type defects and defects associated with the longitudinal weld.



TOOL SPECIFICATIONS

Pipe sizes	6" – 48"
Minimum bore straight pipe	75% of Pipeline Nominal Diameter
Bend radius	1.5D
Velocity	0.3 – 13 ft/s (9 miles per hour), Active Speed Control available for higher gas flows
Pressure range	Up to 3,300 psig
Magnetization	Minimum of 10 kA/m
Inspection distance	Up to 150 miles, please consult for longer distances
Location accuracy	+/- 1 m [GPS], 0.1 m from girth weld [Odometer]
Detection threshold	5% of wall thickness
Sizing Accuracy	+/- 10% of wall thickness for general corrosion

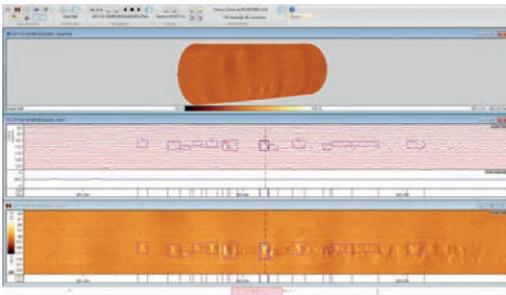
**refer to Tool Data Sheet for Complete Overview of Specification*

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Your trusted partner for Pipeline Integrity Assessment



Pipeline Integrity Assessment



Based on inspection data, pipeline integrity engineers can provide a complete integrity assessment of the pipeline. Individual corrosion features are assessed on their severity and potential risk.

Corrosion growth can be assessed based on comparison with previous inspection data. Inspection data can be integrated in a Fitness for Purpose (FFP) Analysis, which prioritizes the maintenance and repair activities. External factors such as environment, human interference, soil and population are combined with the

results of the Fitness for Purpose report to generate a Risk Based Assessment (RBA).

As part of the service, all inspection reports come with raw processed data and the latest version of DATsurvey®. With this extremely powerful and user-friendly interface the customer can review the inspection data. One can navigate through the pipeline on a variable scale, create custom views, print dig verification sheets and analyze run profiles and anomaly statistics. DATsurvey® has the capability to synchronize results of various inspection

runs. This significantly contributes to the confidence level of the integrity assessment.

Pipeline defect assessments can be delivered in accordance with ASME B31G, DNV RP-F101, or any other defect assessment method as per customer specification, national code or regulation. All services provided by Pipesurvey International are in full compliance with the latest standards of Pipeline Operator Forum, API 1163, ASNT-PQ-ILI-2010 and NACE-SP-102.

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