RoMat DMG Service
In-line Detection of Volumetric Hard Spots

Understanding the materials properties of your pipeline assets is not only essential for threat management, but a regulatory requirement. We offer a wide variety of pipeline material verification procedures as part of our RoMat service suite. These are based on technologies that are industry proven and produce reliable, high-resolution data that can underpin your holistic pipeline management strategy.

These procedures are designed to work flexibly around the specifications of your network and can be applied across a range of pipe diameters, flow rates, temperatures and pressures. Our capacity to record, process and analyze the acquired material data makes us your ideal pipeline integrity partner from the planning stage through to remedial work.

Data acquisition
and storage for
code compliance

Multiple services
possible in a
single test run

Draws on the
largest tool fleet
in the world

During the manufacturing process, small imperfections are introduced into the crystalline structure of tubular goods used in the construction of pipeline assets. We understand your need and responsibility to manage the risk of these imperfections manifesting as hard spots in your pipeline walls. If left untreated, they can propagate to become cracks.
Our DMG service detects, measures and classifies internal and external hard spots in your pipeline. Magnetic flux leakage and eddy current measurements taken during an in-line inspection are comprehensively analyzed for anomalies.

- Present and future threats are identified to manage asset integrity
- Hard spots are categorized to optimize your response strategy
- Two test technologies in one inspection run for minimum intrusion

Comprehensive multi-sensor data gathering to inform threat management strategies

- Reliable measurement data on location, dimensions and absolute hardness allows for a comprehensive approach to hard spot threat analysis, monitoring and correction
- Technical support available at all phases of the testing, from planning and execution of the inspection to data evaluation and asset integrity review
- A single in-line inspection run can also incorporate metal loss and pipe grade testing at the same time for a multifaceted pipeline integrity test

ROSEN
empowered by technology
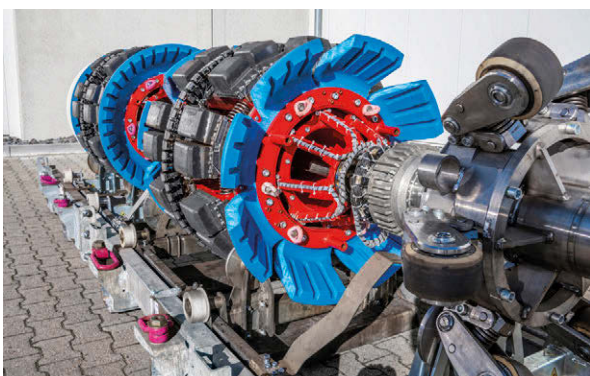
Technical Specifications

Standard Operating Specifications

Tool sizes available	6" – 56"
Pipeline product	Gaseous or liquid
Product temperature range	0°C – 65°C (32°F –149 °F)
Maximum operating pressure	15 MPa (2175 psi) 25 MPa (3625 psi) optional
Operating speed range	up to 2.0 m/s (4.5 mph)*
Product flow range	up to 12 m/s (26.8 mph)**
Minimum pipeline bend radius	1.5D
Wall thickness range	4–25 mm (0.15"–0.98")
Maximum operating time	400 hours
Maximum inspection length	800 km (500 miles)

* Depending on inspection parameters
** Fitted with optional speed control unit
Note: Please contact ROSEN for conditions outside of these specifications.

Wall Thickness Detection

±1 mm (±0.04") or ±0.1t, whichever value is greater
at 80% certainty

Performance Specifications

Differential in material hardness at POD = 90%: ±50HB

Remarks and Features

- API 1163-compliant services
- CE and ATEX certification available
- Tailored solutions with different specifications upon request: multiple tool sizes or multi-diameter tools, higher pressure rating
- Contact ROSEN for more detailed information about the presented service
- Specifications are subject to change, depending on specific requirements or tool configurations

Location and Orientation Capabilities

Axial position accuracy from reference marker 1 m on 1000 m (1 ft on 1000 ft) marker distance	1:1000
Axial position from closest weld	±0.1 m (±4")
Circumferential position accuracy	±5°

The axial positioning accuracy is given at 90 % certainty and is based on following conditions:
1. Distance between upstream (u/s) and downstream (d/s) marker/reference point < 2000m (6500 ft).
2. Actual aboveground distance to both u/s and d/s marker/reference points to be measured and correlated.
3. Marker points are placed correctly according to respective ROSEN marker specification.