

Dynamic Response Imaging™ (DRI™)

Pipeline Condition Simplified



Dynamic Response Imaging (DRI™) is an innovative, accessible, and non-invasive technology solution that helps utilities tackle their most pressing pipeline condition assessment and asset management challenges. DRI provides pipeline owners with simple yet powerful data to make informed decisions about their pipelines, optimizing operations and capital expenditures.

ADVANCED EXTERNAL PIPELINE CONDITION ASSESSMENT

Solving key pressure pipe asset data challenges

Prioritizing Pressure Pipeline Capital Replacement

DRI technology provides accurate, actionable data, helping pipeline owners prioritize capital replacement and optimize financial resources. Our condition data enhances desktop models, refining prioritization and predictive maintenance strategies, and syncs with existing decision making.

Condition Assessment of Backbone Pipelines

Gather condition assessment data for essential distribution pipelines and transmission mains. DRI provides a non-invasive, precise evaluation to identify pipes needing immediate and/or short-term repair, predict remaining service life, probability of failure, and provide a structural condition rating.

Assessing Challenging and Hard-to-Inspect Pipelines

DRI's non-invasive approach can assess pipelines where other technologies are too operationally complex and pose an unacceptable service level risk. DRI is deployed without interruption to service and/or system modifications.

What is Dynamic Response Imaging (DRI)?

DRI uses advanced acoustic and vibroacoustic technologies to provide detailed, actionable pipeline condition data. This innovative approach combines advanced hardware, sophisticated software, and proprietary analysis to deliver comprehensive insights into pipeline health and distress level.

DRI detects variations in pipe wall stiffness, which is a direct indicator of a pipe's residual strength, as a result of changes in pipe material properties and pipe wall physical condition, helping pipeline owners optimize operations and extend infrastructure lifespan without invasive procedures.

How DRI Technology Works

KenWave's patent-pending dynamic response-based method simplifies data collection across all standard pipe types, materials, and sizes, offering the highest resolution available for non-invasive assessment technologies.

DRI technology uses acoustic and vibroacoustic analysis to interpret vibration signatures from pipes in service. A Kappa vibration generator emits precisely tuned energy into the pipe wall, and the resulting acoustic response is measured and analyzed to pinpoint the location and severity of wall stiffness variations and leaks simultaneously.

Additionally, the collected data can be interpreted with pipe material characteristics to provide accurate measurements of wall distress, wall loss, composite strength, brittleness, and/or ovality.



FEATURES & BENEFITS

- Pipe material & size agnostic
- Works with lines currently in service
- No risk to water quality or level of service
- Minimal utility operations support
- Easy to deploy
- Simplified external data collection
- Globally validated projects
- Data accepted by asset management regulators
- High resolution external assessment
- Non-destructive testing