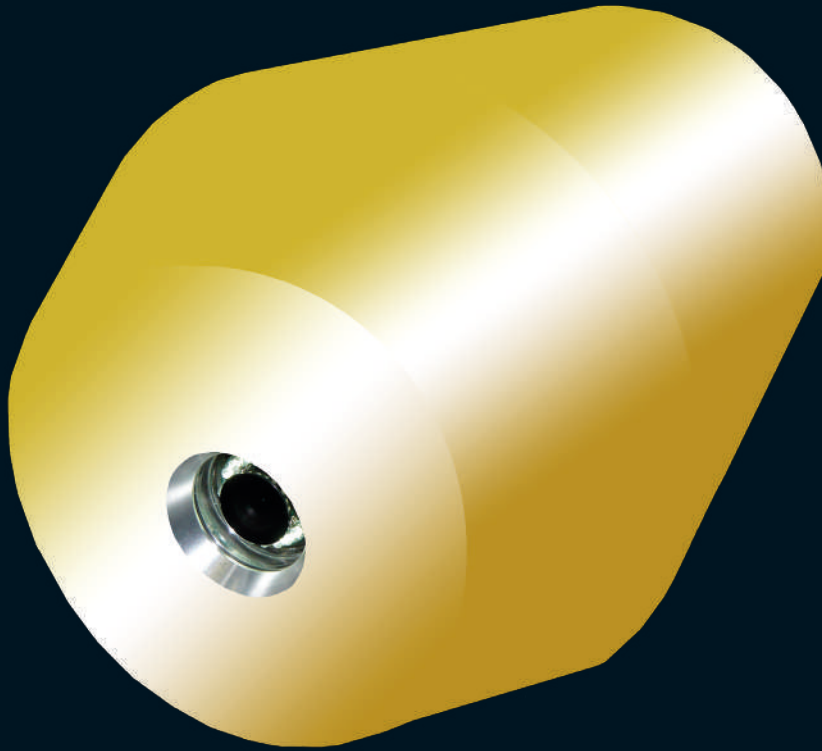




WORLD WIDE WATER



United States Patent:
No. 9,804,102 B2



MTA PIPE-INSPECTOR®

Cable-less Video Inspection of Pipelines
with Integrated Leak Detection





MTA PIPE-INSPECTOR®

CABLE-LESS VIDEO-INSPECTION OF PIPELINES WITH INTEGRATED LEAK DETECTION FOR DRINKING WATER, WASTE WATER, HYDROPOWER AND INDUSTRY

BENEFITS

- Drinking water certified
- Without interruption of operation
- Without excavations or pipe disconnections
- Large daily output
- No pre-cleaning necessary
- Low personnel expenditure
- Environmentally friendly

OPERATION

MTA Pipe-Inspector® allows the pipeline material-independent complete optical, acoustic, pressure inspection and linear location of transport pipelines without interrupting operation.

The procedure works cable-less, which makes the continuous optical inspection of long pipeline sections of up to 50km possible.

The MTA Pipe-Inspector® floats battery-powered in the media flow of the pipeline system and continuously delivers data from the inside of the pipeline to record the condition of the examined pipeline section - without excavation or interruption of operation.



FEATURES

- Optical video inspection
- Noise recording for locating smallest leaks
- pinpoint accuracy up to 5l/h at 5bar operating pressure
- Pressure recording over the entire line length
- Optional turbidity measurement
- Conductivity measurement optional
- Temperature measurement
- Meter measurement
- Video recording in HD quality

APPLICATIONS

MTA Pipe-Inspector® overcomes 90° bends and can be used in pipes from DN 100 to DN 3000, regardless of the pipe material. Even pipelines that are difficult to access, e.g. at airports, motorways, in industrial plants or other access-sensitive areas, can be successfully inspected with MTA Pipe-Inspector®.

POTABLE WATER

As-built data of pressure pipelines are often only incompletely available. Data from installation fittings, connections, high and low points, pressure recordings under operating conditions and condition assessments of the pipe are often completely missing. MTA Pipe-Inspector® enables the visual inspection of drinking water pipes with integrated leak detection over long distances during operation.

In addition, MTA Pipe-Inspector® provides the data for recording the condition of the pipeline and thus a reliable basis for business management decisions, especially in risk management.

LAUNCH AND RETRIEVAL

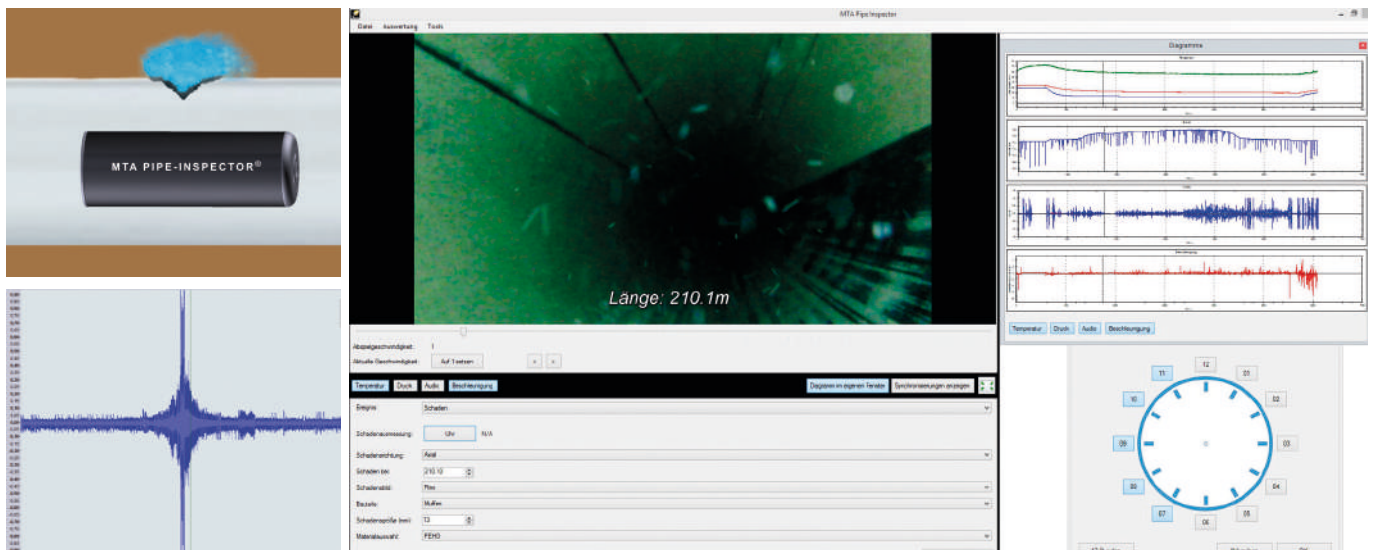
The MTA Pipe-Inspector® is inserted into the pipe via existing fittings or, in the case of pressure applications, by means of a special insertion sluice, and is removed again at a previously defined end point for data evaluation after the inspection run has been completed.

LEAK DETECTION

MTA Pipe-Inspector® is also suitable for leak detection in non-metallic pipes. Leakage noises are recorded at the point of origin - directly at the leakage - independent of the diameter and material of the inspected pipeline.



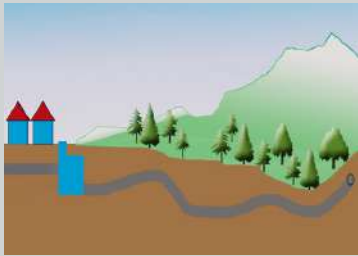
- DN100 (4") - DN 3000 (120")
- Up to 100bar
- Through bends up to 90°
- Up to 50km (30 miles)
- Acoustic leak detection
- Pressure recording
- Damage protocol video records
- Individual pipe segment records



WASTE WATER PRESSURE LINES

Sewage pressure pipes, closed pipelines with few access openings at large distances, with multiple bends, peaks and low points are a real challenge when it comes to their inspection and condition assessment. MTA Pipe-Inspector® offers a whole new spectrum of Multi-Sensor Inspection opportunities for pipeline integrity and maintenance.

- DN 100 (4“) - DN 3000 (120“)
- Up to 100bar (150psi)
- Acoustic leak detection
- Location of deformations and high points
- Damage protocol with images



Locating of peak points

WASTE WATER OPEN CHANNEL

In the optical video inspection of open channels, with daily outputs of 10 to 20km, the MTA Pipe-Inspector® does not require any pre-cleaning and considerably reduces personnel costs due to its self-sufficient concept.

- DN 150 (6“) - DN 3000 (120“)
- Min. 4cm water level in the sewer
- Damage detection
- Sectionwise evaluation acc. to EN standards
- Temperature measurement as infiltration indicator



Open channel



Drinking water pipeline inspection



Removal with collecting net



Length: 2295.6m
Hydropower pipeline inspection: Foreign object „Hammer“

GAS

The inspection of gas pipelines using the MTA Pipe-Inspector® within the context of commissioning new pipelines serves as quality assurance and ensures compliance with existing standards.



MTA Pipe-Inspector® in pipe pig



Insertion into gas pipeline

HYDROPOWER

The MTA Pipe-Inspector® leak detection method detects smallest leaks up to 5l/h at 5bar. The inspection of the pipelines, e.g. in the course of initial commissioning, ensures among other things that the operational safety of the entire system is not endangered by deposits and sediments.



Removal at „Francis“ turbine



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United States Patent
No. 9,804,102 B2
Oct. 31, 2017