

Corrosion Detection of Buried Pipeline

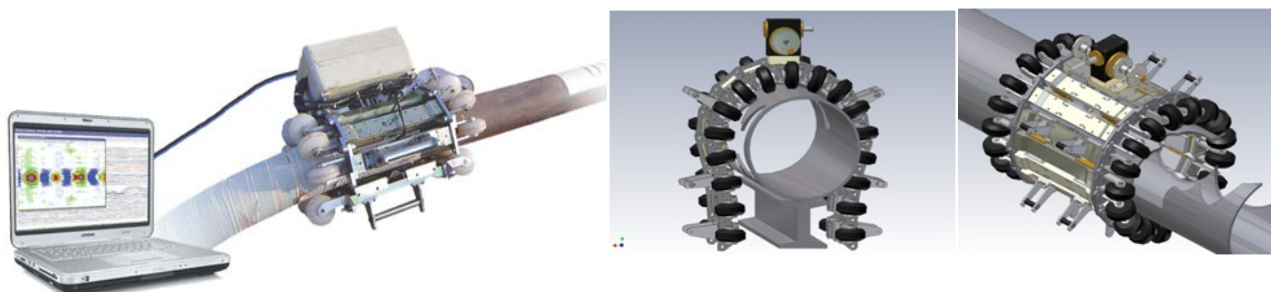
Description

1 Magnetic Flux Leakage Inspection of Pipeline (GIP)

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The outer wall leakage detecting instrument can realize the installation outside the pipe and conduct a comprehensive inspection without destroying the anti-corrosive layer outside the pipeline. It is effective for pipeline defect detection of internal and external wall and obtains the precise location of defects.

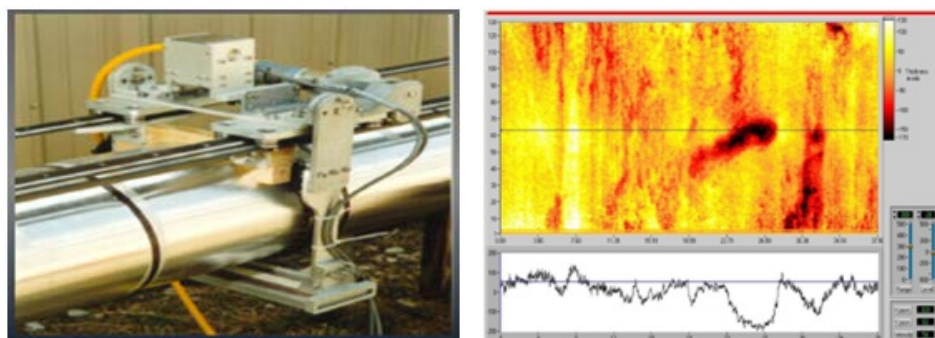
It is mainly aimed at complex pipeline detection environment such as submarine pipelines, oil and gas station pipelines. It is accurate with high resolution, fast detection and easy operation.



2 Non-destructive Inspection of thermal insulation pipe(DRT)

The DRT used in the inspection of thermal insulation pipe conducts a comprehensive inspection rapidly by rail installation without destroying or removing the insulation layer.

The DRT system realizes real-time imaging film with the combination of computer data collection system. In the mean time, it can continue to observe electronic detection images and the panorama of the pipeline or enlarge to observe the details. The seriousness of the part corrosion can be predicted by color plot. The pipeline's thickness loss can be evaluated by section inspection.



3 Magnetic Flux Leakages Inspection

Use excitation source to conduct partial magnetization to the workpiece. After the material is magnetized, its magnetic field lines will constitute magnetic circuit in theory. If the material has defects, the magnetic flux will cause distortion in the defect owing to big magnetic resistance. The distortion flux is divided into three parts:

- 1) One part is through the defect.
- 2) One part gets round the defect through the surrounding magnetic material.
- 3) One part leaves the surface of magnetic material and gets round the defect through air or other medium.

The third part distortion flux so called magnetic flux leakage is the part that the probe can detect. The leakage magnetic flux and size of defects is corresponding. Probe can detect the size of magnetic flux leakage field and obtain information on the defects.

- 1) The magnetic flux leakage detector is running in the pipeline driven by the pipeline transport medium and conducts online non-destructive inspection
- 2) The magnetic flux leakage detector is running on the tank floor and implements online non-destructive testing of tank bottom through manpower.



4 Pipeline deformation detector

The goal of pipeline deformation detector is to detect the geometric distortion by external force and determine the position including the inner diameter changes of the depression or other abnormal geometry change.



5 Acoustic Emission (AE)

Acoustic emission is also called stress wave emission. It is material or components causing deformation, fracture or internal stress exceeding the yield limit and entering irreversible plastic deformation stage in the form of transient elastic wave phenomenon of strain energy release. Obtain the elastic wave energy to analyze the components by sensor and a receiver device. It is mainly used in the inspection of inside and outside wall of large storage tank.

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