

Pipeline Inspection Tool (PIT)

The PIT crawler tool uses ultrasonic measurements to determine the condition of any pipeline. It is a self-propelled crawler and will provide detailed and full coverage measurements of the pipe wall.

The system can discriminate between internal and external corrosion. Also, metal loss due to mechanical damage or manufacturing can be accurately measured. Besides these, deformations, ovalization, dents, buckles, erosion, and lamination type of indications can be clearly identified and measured.



THE Applus+ SOLUTION

The in-house developed UT system is capable of making 960 measurements in the pipe circumference for every 1.0 mm of axial movement of the tool providing extremely detailed information about the condition of the pipeline.

Over 200 PIT projects have been successfully executed across the globe since the 1980s.

We've been the industry's specialist in non-destructive testing, inspection, and certification since 1937. Providing both standard and tailor-made solutions, we're committed to ensuring the quality and efficiency of your assets.

Using PIT, no offshore activities are required when inspecting loading lines. Access to the pipeline is required at one point only. The tool will be launched and received at this point. No liquid pumping/handling/storage is required during the inspection because the tool is self-propelled. Tools can pass 1.5D bends. No cleaning is required. The typical inspection speed is up to 500 meters per hour.

All PIT tools are fitted with reinforced umbilical cable for safe and easy retrieval when required.



Immediately after the inspection, a preliminary report will be made. This report will be made on-site and will contain critical information. The final report will be drafted at the PIT department head office in the Netherlands.

The tools can be setup to be able to detect cracks as well. The PIT system is fitted with a pinger system but can also be fitted with a gyroscopic system to provide XYZ mapping of the pipeline together with the ultrasonic inspection or a video inspection.

Target customers

PIT is an excellent solution for unpiggable pipelines:

- Can inspect pipelines that cannot be inspected by regular systems
- No offshore works are required when inspecting loading lines
- Tools can pass 1.5D bends
- No cleaning required
- Only one side access

It can be used in multiple assets and facilities, including on-shore and off-shore pipelines, tank farm lines, loading lines, product lines, refinery piping, road crossings, river crossings, branch lines, flow lines, slug catchers, city heating grids, water lines, casing pipes, or risers, among others.

Key customer benefits

- Only access on one side of the pipeline is required to perform the inspection.
- No liquid handling or diver support is required.
- The safety aspect of this system is a big benefit because the tool is connected to a special reinforced cable, and it can therefore always be retrieved.
- The measuring principle used is ultrasonics which means that the results are quantitative and available in real-time.
- The self-propelled PIT crawler system is available from 6" to 60".
- These systems can cover 1m up to 30km of pipeline.
- The even smaller PIT can deal with diameters of 4" to 8" and covers distances of 1 m up to 1000 m.
- Applus+ also deploys other systems like the RiserPIT / CasingPIT, which is designed for the inspection of risers (4" and up) using gravity. All systems use the same ultrasonic technology.