



Identify the amount and location of solids build-up or fouling in process piping.

ThruPipe™ Scan. What does it do?

A ThruPipe™ scan of a pipe is a non invasive method to examine the contents of a pipe and identify any localised fouling and blockage in the line. The power of the ThruPipe™ technology is that the scanning is done online, so real time information is obtained about how the flow through the pipe is performing at that instant. The scan “sees through” the pipe wall so a determination of what is happening inside without the need to shut down can be made.

The most common applications include measurement of solids build-up within a pipe, slugging of process material, and the confirmation of multi-phase flow in a piping system.

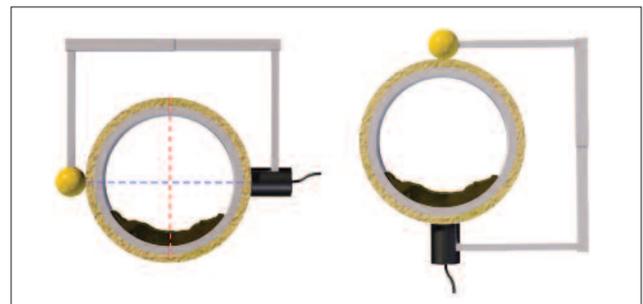
What preparation is needed to the pipe before Tracerco performs a ThruPipe™ scan?

A ThruPipe™ scan is generally performed without any preparation to the pipe as no insulation needs to be removed before testing. The main concern for performing the scan is access to the pipe. Usually a Tracerco lead person will meet the customer onsite before scheduling. They will review access to the piping and determine if scaffolding or access from a man lift or platform is required. If required a set of drawings is usually obtained during the site visit.

How is a ThruPipe™ scan performed?

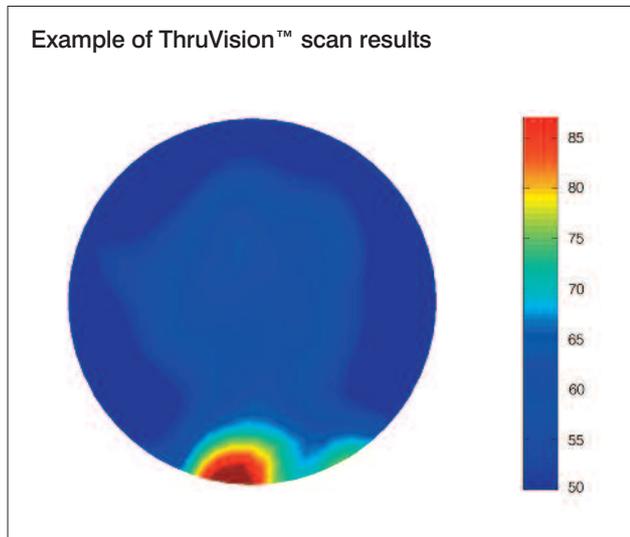
A ThruPipe™ scan is typically performed on long sections of horizontal pipe or a small diameter horizontal vessel. Measurements are made with a yoke assembly placed across the pipe. The yoke is designed to maintain the scan source and radiation detector in a fixed orientation so the radiation beam passes through the mid-section of the pipe, providing consistent data readings. The configuration of Tracerco's system means that long portions of piping can be screened very quickly.

When the measurements indicate a layer of high (or low) density material, the position is marked for further testing. Using the same yoke assembly any suspect section will be tested at two or more different orientations to provide measurements that indicate the extent of the internal layer.



What if I want detailed information on the material density profile?

A supplemental method used by Tracerco to determine the condition of pipe systems is by performing a ThruVision™ scan. ThruVision™ is a 360° scan performed at a single elevation using multiple, overlapping source/detector positions. This scanning method will illustrate the cross sectional relative density profile within a pipe. Scan results can provide visualisation of materials within the piping to optimise maintenance plans.



What are the limitations for scanning a pipe?

The following conditions can sometimes limit the use of a pipe scan:

- Is there access to the pipe?
- Does the pipe have any type of tracing tubing, like steam tracing, wrapped around the pipe? Does the pipe contain a refractory lining?
- Is the pipe wall thickness greater than 13-15 cm (5-6 inches). Very thick walls require larger radioactive sources which may pose a safety issue.

Tracerco is licensed by multiple regulatory agencies to be able to provide products and services to our customers worldwide. Where we are not currently licensed we will work with local authorities to acquire temporary permissions. Based on regulatory and licence conditions within each country there will be imitations on what radiation isotopes and maximum source sizes can be used to perform gamma scan and tracer projects.

A Tracerco representative can discuss any restrictions or limitations that may impact the feasibility of projects within different countries.

Tracerco's online inspection technique enables difficult and sometimes previously thought impossible measurement of pipelines to be made. It is recommended you contact a Tracerco representative to discuss the specific problems you are experiencing and the best method to help provide you with results.

How safe is this procedure?

We offer the safest, highest quality and most accurate Process Diagnostics™ service available. The features of our system include:

- Low-voltage scanning detectors and electronics to minimise risk,
- Wireless detector system means no danger from co-axial cables getting burned or stuck,
- Multi-channel detector system allows more accurate focus on detecting "good" radiation energy for more accurate analysis of process density. This means a more focused diagnosis, detecting subtle, but important problems that might be missed using conventional detector technology.

What about radiation protection?

Compared to industrial radiography (X-rays of welds and piping) we use radiation sources thousands of times smaller in terms of source activity. Still, we strictly abide by our radiation licence requirements to barricade an area around the equipment we are working on to provide a safe boundary for the personnel in your plant. Practically speaking this usually means just restricting access onto the equipment currently being scanned. Our crew members are always very willing to explain these procedures with everyone potentially affected and ensure we do not block access to critical areas.

What information will the ThruPipe™ scan results provide?

After a ThruPipe™ scan has been completed the lead crew member will provide a preliminary report before leaving the plant site. A formal report will be provided soon afterwards.

ThruPipe™ scan technology can be used to quickly identify the amount and location of solids build-up or fouling that restricts process fluid or vapour flow in process piping.

ThruPipe™ scan results can reveal:

- Flow issues that might be easily remedied by a change in operating procedures
- Slugging flow
- Routine pipe scan programmes on a regular basis can help identify the build-up of deposits for better optimisation of treatment programmes or provide an early warning of solids build-up to unacceptable levels.

For further details email: process.diagnostics@tracerco.com or visit: www.tracerco.com/processdiagnostics

For our worldwide offices: www.tracerco.com/processdiagnostics/our-people

Enabling you to make the right decision

