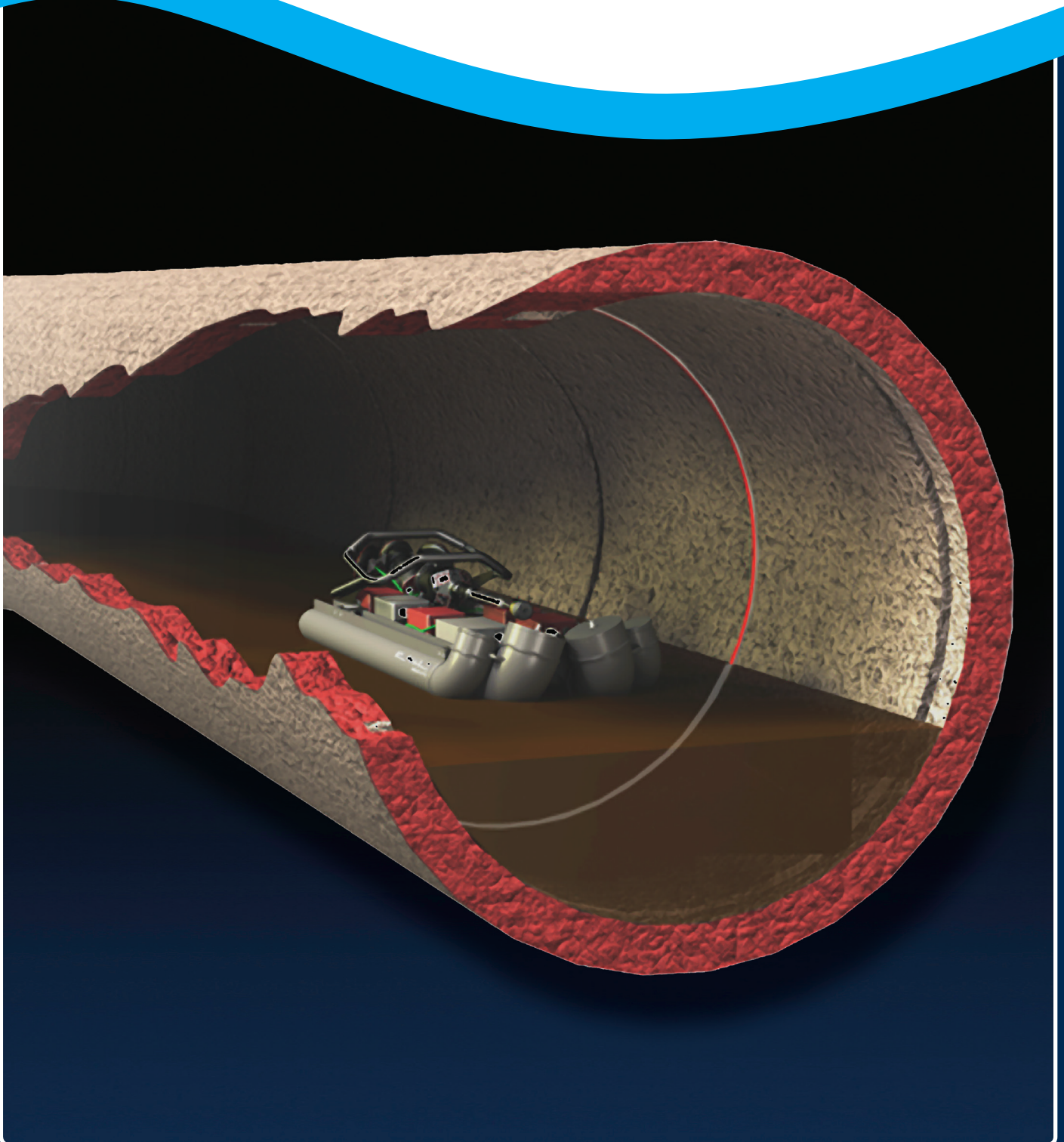


HD Profiler

Large diameter pipeline inspection

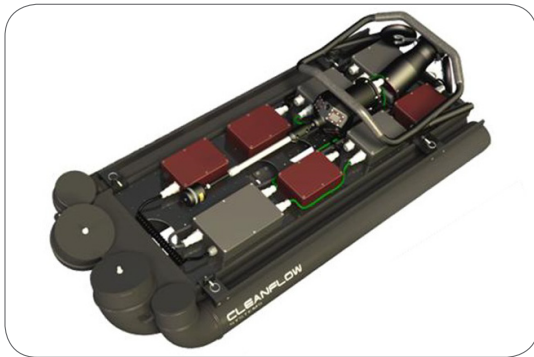


HD Profiler

Introducing the world's most advanced technology for large diameter pipes inspection – The HD Profiler. A combination of camera, sonar and infrared laser which can travel 3 km's into the pipe to provide pipeline engineers and contractors very accurate empirical data on the ovality, capacity, and other conditions in new and existing pipelines.

The HD Profiler allows sewer pipes in the size ranging from 900mm to 3,000mm to be inspected without a person entry. The unit is pulled through the sewer at speeds of up to 15 metres per minute and can survey a pipeline from a single access point up to 3,000m long.

The unit stores all information on-board. Upon retrieval the data is downloaded and sent for analysis and preparation of the reports.



The Need for HD Profiler

The principle inspection tool used normally for small diameter pipes is a camera and from its video footage the condition of the pipeline is interpreted.

In large diameter pipes the size, where there are fast flows, high water levels and long distances between manholes, this prevents traditional CCTV cameras from being effective.

By contrast the HD Profiler floats on the surface and is pulled through the sewer. A 360° profile is created by utilising camera, laser and sonar. The data is stored on the 'on-board' system and provides a fast and objective profile in a 3m pipe on corrosion, debris under the flow line and surface damage on top of the standard systems deliverables -without the need for man-entry.



An Integrated Approach:

The HD Profiler's unique design and software provides an integrated profiling of a pipe using the Laser, CCTV & Sonar as a seamless integrated inspection and reporting tool. The HP Profiler is a major step in safety, speed and objective assessment with minimal environmental impact.

High Resolution Camera:

The HP Profiler camera offers a number of advantages:

- High Resolution - 3 hours
- continuous recording
- No data cable required (recorded on-board)
- High Definition digital video with 2x zoom
- Float / on board mounting



Sonar:

The sonar images are recorded in a video format and combined with the laser profilers are used to generate debris data.

- 360° Sweep in one second
- Data stored directly to an on-board hard drive
- Operates in 25% to 75% depth
- Float / on board mounting



Laser Profiler:

The Laser Profiler produces an accurate profile of the pipe through a ring of laser light projected onto the internal pipe surf a digital pipe profile.

- 360° High Resolution Digital Camera Array
- Full automated measurement at 3mm in a 3m pipe
- Profile pipes from 1m to 3m in diameter
- Float / on board mounting



HD Profiler Benefits:

If you are a municipality, consulting engineer or contractor the HD Profiler is a necessary tool for the analysis of the true pipe condition prior to and after rehabilitation as a safer, faster and accurate tool for objective decision making as it provides:

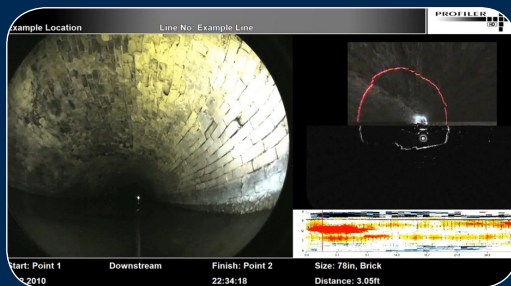
- Fast cross-sectional area calculations for determining flow reduction
- Deformation measured as an out-of-circle percentage
- Corrosion - loss of pipe wall can easily be ascertained
- Silting formation assessment
- Quantifies defects, holes, or other abnormalities
- 360° view of the pipe
- High safety through no man entry into the pipe

Seamless Data Reporting & Analysis

The strength of the system is the integrated and seamless reporting of three different aspects into a comprehensive, understandable and easy to read format for an informed decision.

High Resolution Camera Profiling:

The HD Profiler is equipped with a high resolution camera and as such a video file of the pipeline with digital zoom is provided capturing high density details for visual inspection.

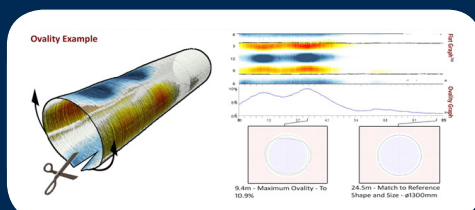


Laser Profiling:

The laser provides an accurate profile of the pipe. This allows the actual shape of the pipe to be shown as well as the extent of deterioration / corrosion. This data is vital in the assessment of the pipelines structural condition.

The Flat Graph™ software is used to topographically map pipe radial variances from the reference shape and size from start to the end. Based on this a Flat Graph™ is drawn with the pipe being split at the 6 o'clock position and flattened out. Colours represent how the data matches the reference shape by:

- Appearing white when the data lies close the reference shape
- Appearing on a yellow to red scale when there is deviation outside the reference shape (e.g. corrosion)
- Appearing on a blue scale where there is deviation inside the reference shape (e.g. debris).
- This can also be used in flexible pipes to show the extent of noncircularity.



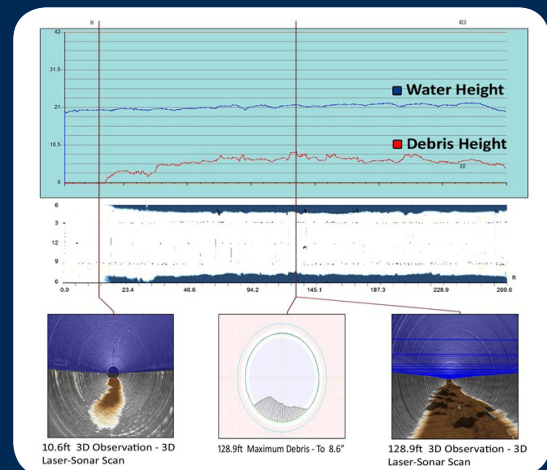
Sonar profiling:

The sonar profiler is able to be used with 25% to 75% of the pipe surcharged. The sonar images are recorded in a video format, combined with the laser profilers and used to generate debris data and complete the 360 degree, 3 dimensional picture of the pipe.



Debris Graph

This shows the debris and water height over the length of the asset and provides an objective measure of potential problem areas and the quantity of debris to be removed.



Reporting

All data collected from the HD Profiler is sent for analysis and generation of comprehensive set of reports. In addition to the CCTV video files, Flat Graph reports, debris reports, laser profiling - a condition assessment report is provided which not only provides an analysis of that moment in time but also allows for subsequent comparisons when future surveys are carried out which in turn can allow for rates of change to be determined.

HD Profiler

the safer, faster and superior way for large diameter pipeline inspection

About Interflow:

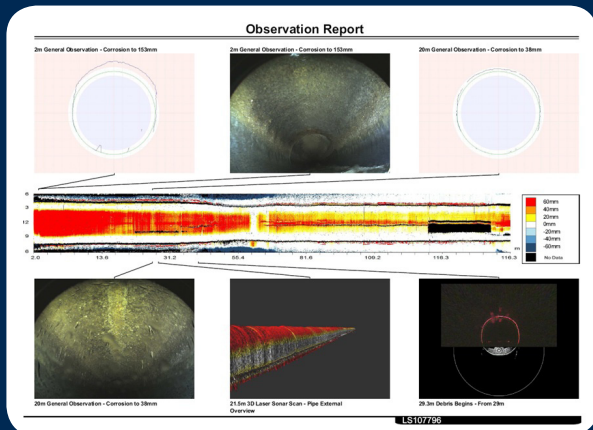
Interflow is Australasia's leading pipeline renewal contractor with an unrivalled record of development and introduction of market leading products and services.

The introduction of HD Profiler reinforces Interflows commitment to remain at the forefront of the pipeline renewal industry and offer the highest value services to its clients. Interflow believes that the HD Profiler represents an advance in pipeline inspection and assessment technology for large diameter sewers.

This technology will allow a rapid, objective and accurate condition assessment to be carried out without the need for person entry or flow diversion or interruption. Not only it represents an advancement in the quality of the report but also a significant step forward in terms of safety and disruption.

Environmental impact

The use of HD Profiler allows for thorough and extensive nonintrusive rapid condition assessment of large diameter pipe. This data can be integrated in management of asset to minimise the risk of spills, overflows and pipe collapses in the future.



Community

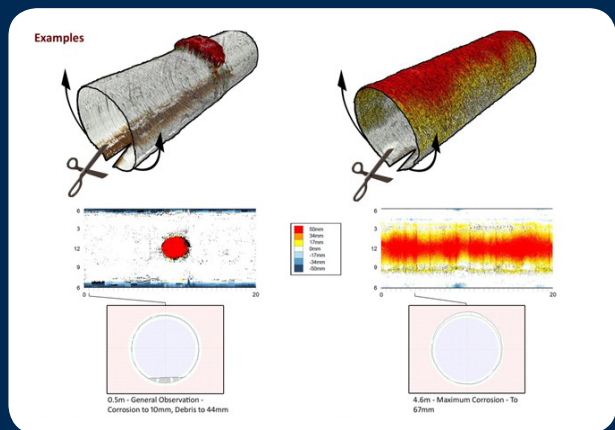
Working in pipelines in built-up residential areas causes community inconvenience and disruption – particularly where every manhole has to be opened and pipeline inspected.

The HD Profiler ensures minimal disruption as it travels through the underground pipelines minimizing the need for opening manholes. It is also performed without the need for any flow controls or by-pass.

Safety

The HD Profiler is a safe available option for inspection of large diameter pipes. A normal man-entry inspection exposes the team to considerable issues like the danger in traversing in confined spaces.

Safety and health factors like Flow Control, Ventilation and OH&S issues are minimized as the HD Profiler can be controlled by a 2 man team for distances of 3 km's in a single day without entering the pipeline.



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