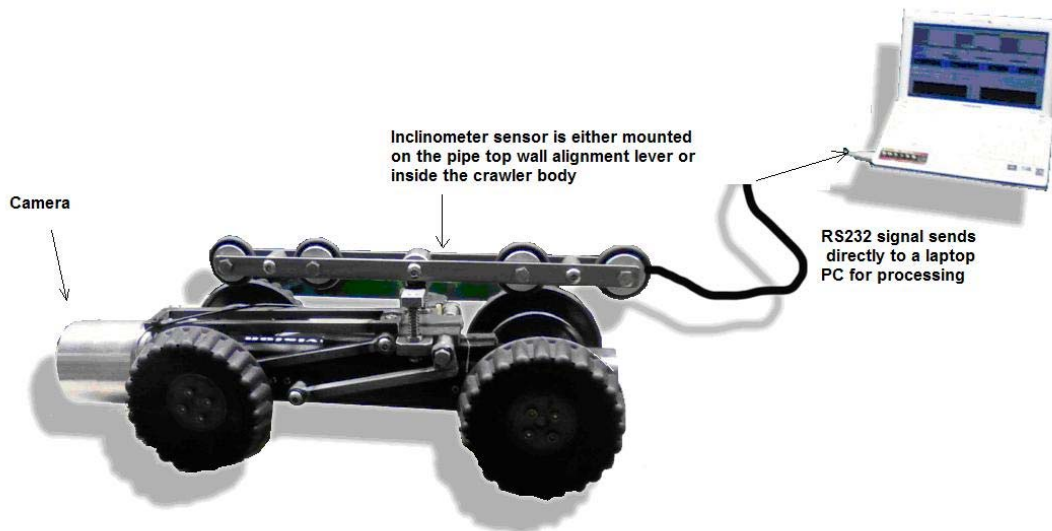


Clean Water

Pipe Inspection Tecnology

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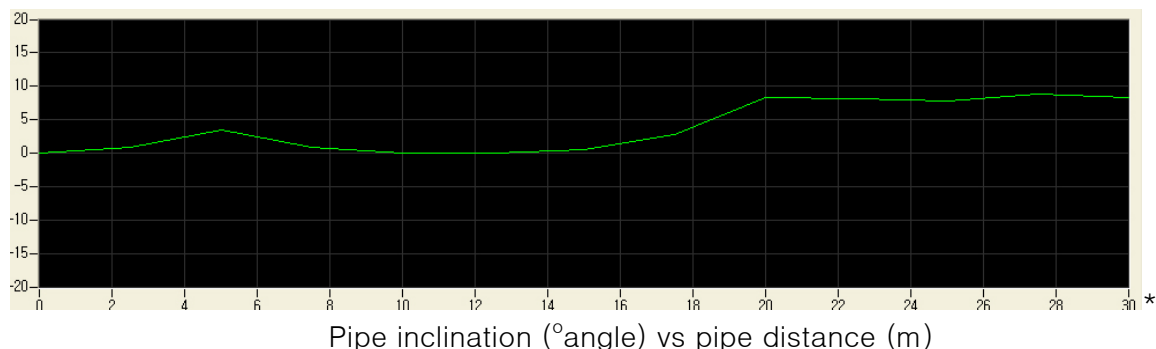
Drain Line Inclination Checker Crawler



A inclination sensor is embedded on top blade of the pipe top alignment lever (another version is to mount directly inside the crawler body without the alignment lever), to allow exact survey data of pipe inclination. Rge signal of the pipe inclination is relayed to the laptop PC loaded with software through a RS232 cable for interpretation and analysis.

Sample test results

Inclination graph :









Interpretation : Negative slope of the test pipe line was found between 0~4.5m. The same negative slope was found from 13~20m These sections of pipe may affect the sewer flow and trap sewer waste when the pipe is running partially dry.

* average inclination of each section

0 ~ 1 M : 0.05
 11 ~ 20 M : 0.04
 21 ~ 30 M : 0.04
 31 ~ 40 M : 0.03

* total average : 0.04.

Comparison : pipe inclination data with CCTV video (the system also equipped with a colour camera with LED light)

 <p>003.34m 11-08-02 17:01:47</p>	 <p>004.64m 11-08-02 17:01:55</p>
<p>1. At 3.34M (water remains at the bottom of the pipe – evidence of reversed inclination)</p>	<p>2. At 4.64M (Positive flow and the pipe is dry)</p>
 <p>008.78m 11-08-02 17:02:28</p>	 <p>014.44m 11-08-02 17:02:51</p>
<p>3. At 8.78M (inclination is OK)</p>	<p>4. At 14.44M (problem in inclination, some soil remained)</p>
 <p>018.00m 11-08-02 17:03:33</p>	 <p>025.44m 11-08-02 17:04:10</p>
<p>5. At 18M (wrong inclination but CCTV looked like Ok. That is why you need inclinometer to review the problem area)</p>	<p>6. At 25.44M (inclination is OK)</p>