

ROSEN Inspection Technologies, Switzerland

In a world of more stringent regulations and greater public awareness, high quality data and accurate inline inspection results are more important than ever before. Nowhere is this more prevalent than in the overall movement to stricter regulations relating to pipeline geometric anomalies, such as mechanical damage or dents. ROSEN has developed a new eXtended Geometry Pig (XGP) that meets and exceeds the demanding regulatory requirements for dent detection thresholds.

The new XGP technology uses as a measurement foundation touchless eddy current mechatronic caliper sensors to provide a high quality and high resolution pipe wall geometric profile. The design provides exceptionally high accuracy due to the full coverage from dual sensor planes. The sensor itself

represents a revolutionary development of the traditional caliper arm sensor. Contact with the pipe surface is not necessary given the touchless sensor located in each sensor head. In addition, the measured data is compensated for any dynamic behaviour of the caliper arm resulting in any unwanted inertia being fully assimilated by the touchless measurement. The result is a robust sensor able to detect sharp transitions in the pipe wall shape ignoring non-conductive material such as scale or wax. The new mechatronic unit is designed to function at speeds up to 11.2 mph (5m/s) and to provide a dent depth resolution of 0.1 in. (2.5 mm) based on a 16 in. tool.

State-of-the-art high resolution ILI technologies are available and can be combined together with the XGP in a

single inspection tool to detect and accurately measure such pipe defects based on magnetic flux leakage (MFL), circumferential MFL (CMFL) or EMAT crack detection (ECD) technologies. Also, an XYZ mapping electronics component can also be included to determine bend radii, bend length and bend direction. ● ● ●



ROSEN's 16 in. combo tool
(corrosion detection pig and XGP)