

ABSTRACT

AN AUTOMATED INSPECTION APPARATUS FOR NON-DESTRUCTIVE INSPECTION OF WELDS ON A PIPE FOR DETECTING ONE OR MORE ANOMALIES IN A PIPE

The invention relates to an automated inspection apparatus for non-destructive inspection of welds on a pipe for detecting one or more anomalies in a pipe, comprising 1) a cylindrical magnetization unit for generating a magnetic flux external to the pipe and transferring the magnetic flux inside the body of the pipe upon mounting the automated inspection apparatus on the pipe, the cylindrical magnetization unit comprising a) a first set of four magnets, each comprising a steel wheel and each being attached to a first steel flange, b) a second set of four magnets, each comprising a steel wheel, and each being attached to a second steel flange, and c) a set of four axels connecting the first steel flange to the second steel flange to form a cylindrical structure, and 2) a sensor unit configured to detect the changes in the magnetic field upon moving the cylindrical magnetization unit along a length of pipe.

(FIGURE 2)