

## Fully automatic leak detection system from Tantec makes a big difference for a customer

This customer required high speed leak detection of a small plastic medical component. The client historically uses a pressure test to check for holes in the plastic injection molding. However, this solution was not quick enough for the project. “Tantec’s LeakTEC-system was not only quick enough but also offered vastly improved hole detection of a size that has never been possible before”, said DB-Automation’s Operations Director Nick Parker.



32 injection molded parts needed to be systematically and simultaneously checked across a single plate. The cycle times and quantity of components undergoing simultaneous testing ruled out the use of conventional flow and pressure decay tests.

Tantec’s LeakTEC can detect pin holes even smaller than 3 microns (0,003 mm) by introducing electrical potential between a detecting electrode and an electrical ground, such as a metal jig or mandrel holding the part, while the plastic part itself acts as the insulator. This detection takes place at micro parts of a second.

### How it works

All 32 components from every mold cycle are inspected for leaks and rejected where necessary. The system is capable of processing almost 16,500 parts per hour at a 100% inspection rate, with little or no operator intervention.



When a crack or pin-hole is detected in the material, an electrical contact is established between the electrode and ground. The pass/fail contact is processed via the integrated generator module, which is interfaced with the main machine control. The machine control can either enable a downstream part-reject function or track trends in the manufacturing process, which can be fed back for early process adjustment or maintenance. Counter electrode measurement ensures that all electrodes are fully working.

### Good cooperation

Visits to other factories with similar technology installed and web search was the deciding factor for Nick Parker, who then contacted the Tantec agent for Dyne Technology in England. During the project, there were some challenges, but all solutions were resolved to everyone’s satisfaction. “There were design challenges, and a number of web-ex meetings to discuss and confirm design choices. During FAT there was an oversight on the self-checking nature of the design; this was positively addressed and rectified in a good time frame. The commissioning engineer from Tantec who visited the UK was efficient, experienced and very knowledgeable”, says Nick Parker.

“The reason for choosing a Tantec solution was initial support, trials and confidence from Dyne technology. Tantec convinced us that the equipment was more than capable. Both Dyne and Tantec were excellent throughout the project, from initial concept, through the design process where we considered numerous design changes to refine the tooling and into the FAT stage where they were professional, helpful, technically experienced and confident. When minor issues were encountered during FAT, the response was always positive and the solution was quickly implemented”, said Nick Parker.

See more information [here](#) or contact [Tantec sales department](#).