

Case Studies: Leak testing

Helium Leak Test Drawer Fixture

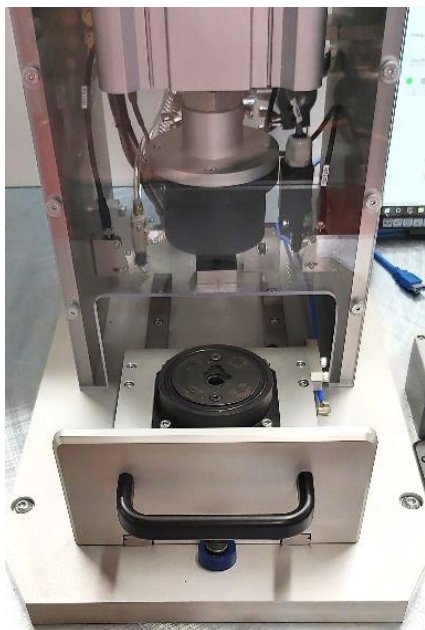
Client: Leading Plastic Moulding Company

Part: Automotive Electrical connector

Machine supplied: Helium leak test system

Overview: Building on the success of supplying numerous air decay leak testing systems that use a drawer type fixture, TQC have supplied a helium leak testing solution to meet an overall cycle time of 60 seconds and a leak limit of 1×10^{-4} mbar.l/sec @ 10 bar differential pressure

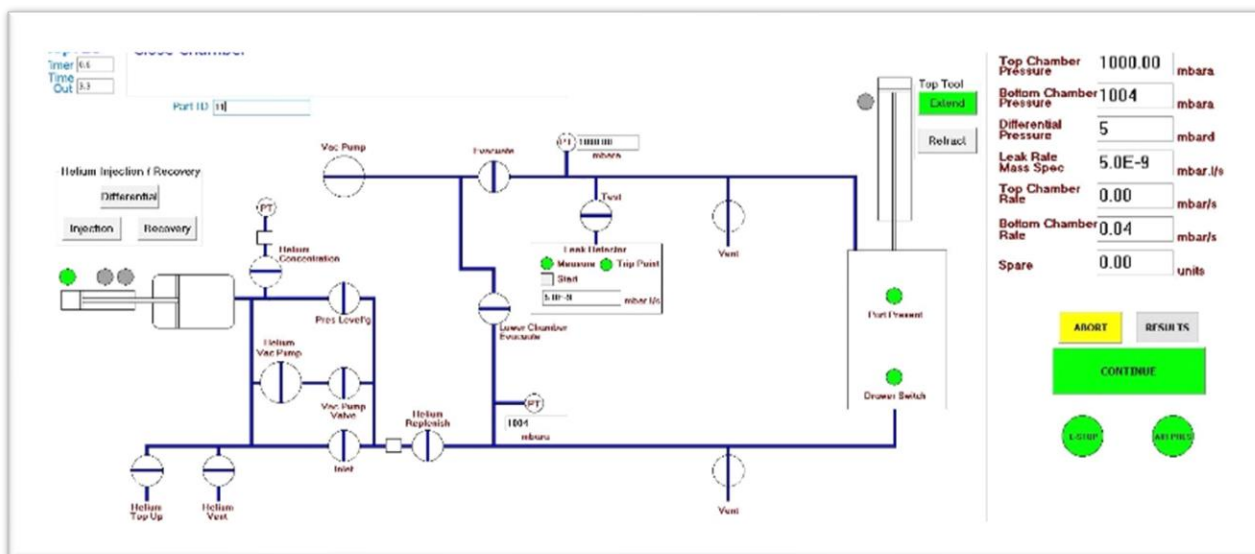
This leak test fixture is a standard Series 20 drawer fixture, this type of solution is suitable for automatic leak testing of small to medium-sized parts. The benefits of using a high vacuum helium leak test are that it is more accurate, more sensitive, a faster test and uses less helium test gas. This system also includes helium recovery and reuse. The helium concentration is monitored and reused if above 90%, once below the test gas is dumped and new gas introduced.



This system allows the operator to load the tooling nest located in the drawer, the drawer is pushed forwards to the closed position to allow automatic leak testing.

The Series 20 drawer fixture is a standard TQC design with bottom tooling in the drawer fixture and top seal tooling positioned on compact cylinders behind the Perspex guard. TQC designed and manufactured custom tooling for the specific part that is leak tested based on an existing proven design.

Operator Display outlining the Test Circuit



Key features:

- Benchtop leak test fixture with manual load/unload
- High Vacuum Helium leak test unit with 10 bar test
- Drawer fixture with load/unload position and test position
- Drawer automatically locked in closed test position on part fail
- Mass spectrometer for leak detection
- Helium gas handling including test gas reuse and gas concentration monitoring
- Greater than 50 test cycles using the same helium test gas.
- PC based control and data handling. Circuit mimic display on touch screen monitor.

TQC has in the past also provided helium leak test solutions for larger parts, for example fuel pipes, fuel tanks, automotive suspension parts and gas fittings

If you have an application that could benefit from TQC’s expertise in helium leak testing, please contact us by email or phone via the contact details

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